



U.S. DEPARTMENT OF
ENERGY

DOE/EIS-0486

Final

PLAINS & EASTERN CLEAN LINE TRANSMISSION PROJECT
ENVIRONMENTAL IMPACT STATEMENT

Volume V of VIII

U.S. DEPARTMENT OF ENERGY
Office of Electricity Delivery and Energy Reliability
Washington, DC

October 2015

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APPENDIX I

ELECTRICAL EFFECTS - FIELD CALCULATIONS



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TECHNICAL APPENDIX

ELECTRICAL EFFECTS – FIELD CALCULATIONS

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DC TRANSMISSION LINE CALCULATION RESULTS

±600kV BI-POLAR MONOPOLE

STANDARD OPERATION

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Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Electric Field

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_M1750
 Date: 6/17/2014 Time: 15:45

Standard DC Monopole Configuration at 1750A

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*****
*                               BUNDLE INFORMATION                               *
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BNDL #	CIRC #	VOLTAGE		CURRENT		# OF COND	BUNDLE COORDINATES			PH
		VOLTAGE (kV)	ANGLE (DEG)	LOAD (A)	ANGLE (DEG)		X (feet)	Y (feet)	SAG (feet)	
1	1	632.0	0.	1750.	0.	3	-23.4	34.0	.0	+
2	1	-632.0	0.	-1750.	0.	3	23.4	34.0	.0	-
3	1	.0	0.	0.	0.	1	-5.3	65.7	.0	NEU
4	1	.0	0.	0.	0.	1	5.3	65.7	.0	NEU
5	1	.0	0.	0.	0.	1	-13.4	78.9	.0	GND
6	1	.0	0.	0.	0.	1	13.4	78.9	.0	GND

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*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY   = 60.   Hz                               *
*                               SOIL RESISTIVITY          = 100.  ohm meter                          *
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*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
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BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

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*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
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BNDL #	CONDUCTOR NAME	COORDINATES		DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
		X (inch)	Y (inch)				
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

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*****
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 Results of AC/DCLINE program EFION (EPRI/HVTRC 7-93) for:

ELECTRIC FIELD & IONS WITHOUT SHIELDING OBJECTS

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_M1750
 Date: 6/17/2014 Time: 15:45

 *
 * DEGREE OF SATURATION *
 *

BNDL #	NORTHEAST CLIMATE										ACTUAL CLIMATE		
	WINTER					SUMMER					WORST-MONTH		AVG.
	FAIR	50%	95%	FOG	50%	95%	RAIN	50%	95%	SNOW	50%	95%	50%
1	.209	.477	.789	.617	.824	.693	.830	.356	.505	.406	.718	.320	
2	.274	.231	.524	.617	.824	.693	.830	.356	.505	.274	.566	.184	

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*****
*
*           ELECTROSTATIC AND SATURATED           *
* DC FIELD, CURRENT, AND ION DENSITY PROFILES *
*
*           wind speed = 0                       *
*           longitudinal distance: 750.00 feet   *
*
*****

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LATERAL DISTANCE		<-- DC ELECTRIC FIELD -->		CURRENT	ION
(feet)	(meters)	ELECTROSTATIC (kV/m)	SATURATED (kV/m)	DENSITY (nA/m2)	DENSITY (1/cm3)
-300.0	-91.44	.11	2.71	.1	1504.
-295.0	-89.92	.12	2.80	.1	1577.
-290.0	-88.39	.12	2.88	.1	1654.
-285.0	-86.87	.13	2.98	.1	1735.
-280.0	-85.34	.14	3.07	.1	1822.
-275.0	-83.82	.15	3.17	.1	1914.
-270.0	-82.30	.15	3.27	.1	2011.
-265.0	-80.77	.16	3.37	.1	2113.
-260.0	-79.25	.17	3.47	.1	2219.
-255.0	-77.72	.18	3.68	.2	2401.
-250.0	-76.20	.19	3.81	.2	2534.
-245.0	-74.68	.21	3.95	.2	2677.
-240.0	-73.15	.22	4.09	.2	2830.
-235.0	-71.63	.23	4.23	.2	2992.
-230.0	-70.10	.25	4.38	.3	3164.
-225.0	-68.58	.26	4.64	.3	3427.
-220.0	-67.06	.28	4.82	.3	3640.
-215.0	-65.53	.30	5.01	.4	3871.
-210.0	-64.01	.32	5.21	.4	4119.
-205.0	-62.48	.35	5.42	.4	4383.
-200.0	-60.96	.37	5.75	.5	4767.
-195.0	-59.44	.40	5.99	.6	5098.
-190.0	-57.91	.44	6.25	.6	5458.
-185.0	-56.39	.47	6.52	.7	5845.
-180.0	-54.86	.51	6.94	.8	6388.
-175.0	-53.34	.55	7.26	.9	6877.
-170.0	-51.82	.60	7.61	1.0	7410.
-165.0	-50.29	.66	7.95	1.2	7972.
-160.0	-48.77	.72	8.51	1.4	8805.
-155.0	-47.24	.79	8.94	1.6	9546.
-150.0	-45.72	.87	9.56	1.9	10542.
-145.0	-44.20	.96	10.09	2.1	11495.
-140.0	-42.67	1.06	10.60	2.4	12507.
-135.0	-41.15	1.18	11.43	2.9	13975.
-130.0	-39.62	1.31	12.28	3.5	15574.
-125.0	-38.10	1.47	13.04	4.1	17182.
-120.0	-36.58	1.64	14.06	5.0	19281.
-115.0	-35.05	1.85	14.94	5.9	21349.
-110.0	-33.53	2.10	16.21	7.2	24189.
-105.0	-32.00	2.38	17.59	8.9	27454.
-100.0	-30.48	2.72	19.12	11.0	31273.
-95.0	-28.96	3.12	20.83	13.7	35778.
-90.0	-27.43	3.60	22.74	17.2	41119.
-85.0	-25.91	4.17	24.87	21.7	47457.
-80.0	-24.38	4.86	27.62	28.3	55772.
-75.0	-22.86	5.69	30.38	36.4	65077.
-70.0	-21.34	6.68	33.84	48.1	77164.
-65.0	-19.81	7.88	37.20	62.0	90513.

-60.0	-18.29	9.30	41.57	82.8	108216.
-55.0	-16.76	10.96	46.29	110.0	129210.
-50.0	-15.24	12.84	52.15	150.0	156281.
-45.0	-13.72	14.86	57.57	196.1	185083.
-40.0	-12.19	16.85	62.84	249.9	216150.
-35.0	-10.67	18.51	67.41	306.1	246773.
-30.0	-9.14	19.41	69.83	347.3	270295.
-25.0	-7.62	19.16	69.85	365.6	284430.
-20.0	-6.10	17.50	65.95	343.8	283360.
-15.0	-4.57	14.43	58.16	288.6	269735.
-10.0	-3.05	10.24	45.19	201.0	241683.
-5.0	-1.52	5.29	27.59	105.1	207057.
.0	.00	.00	-.06	.0	-12.
5.0	1.52	-5.29	-27.59	-137.1	-207057.
10.0	3.05	-10.24	-45.19	-262.1	-241683.
15.0	4.57	-14.43	-58.16	-376.5	-269735.
20.0	6.10	-17.50	-65.95	-448.5	-283360.
25.0	7.62	-19.16	-69.85	-476.8	-284430.
30.0	9.14	-19.41	-69.83	-453.0	-270295.
35.0	10.67	-18.51	-67.41	-399.2	-246773.
40.0	12.19	-16.85	-62.84	-326.0	-216150.
45.0	13.72	-14.86	-57.57	-255.7	-185083.
50.0	15.24	-12.84	-52.15	-195.6	-156281.
55.0	16.76	-10.96	-46.29	-143.5	-129210.
60.0	18.29	-9.30	-41.57	-108.0	-108216.
65.0	19.81	-7.88	-37.20	-80.8	-90513.
70.0	21.34	-6.68	-33.84	-62.7	-77164.
75.0	22.86	-5.69	-30.38	-47.4	-65077.
80.0	24.38	-4.86	-27.62	-37.0	-55772.
85.0	25.91	-4.17	-24.87	-28.3	-47457.
90.0	27.43	-3.60	-22.74	-22.4	-41119.
95.0	28.96	-3.12	-20.83	-17.9	-35778.
100.0	30.48	-2.72	-19.12	-14.4	-31273.
105.0	32.00	-2.38	-17.59	-11.6	-27454.
110.0	33.53	-2.10	-16.21	-9.4	-24189.
115.0	35.05	-1.85	-14.94	-7.7	-21349.
120.0	36.58	-1.64	-14.06	-6.5	-19281.
125.0	38.10	-1.47	-13.04	-5.4	-17182.
130.0	39.62	-1.31	-12.28	-4.6	-15574.
135.0	41.15	-1.18	-11.43	-3.8	-13975.
140.0	42.67	-1.06	-10.60	-3.2	-12507.
145.0	44.20	-.96	-10.09	-2.8	-11495.
150.0	45.72	-.87	-9.56	-2.4	-10542.
155.0	47.24	-.79	-8.94	-2.0	-9546.
160.0	48.77	-.72	-8.51	-1.8	-8805.
165.0	50.29	-.66	-7.95	-1.5	-7972.
170.0	51.82	-.60	-7.61	-1.4	-7410.
175.0	53.34	-.55	-7.26	-1.2	-6877.
180.0	54.86	-.51	-6.94	-1.1	-6388.
185.0	56.39	-.47	-6.52	-.9	-5845.
190.0	57.91	-.44	-6.25	-.8	-5458.
195.0	59.44	-.40	-5.99	-.7	-5098.
200.0	60.96	-.37	-5.75	-.7	-4767.
205.0	62.48	-.35	-5.42	-.6	-4383.
210.0	64.01	-.32	-5.21	-.5	-4119.
215.0	65.53	-.30	-5.01	-.5	-3871.
220.0	67.06	-.28	-4.82	-.4	-3640.
225.0	68.58	-.26	-4.64	-.4	-3427.
230.0	70.10	-.25	-4.38	-.3	-3164.
235.0	71.63	-.23	-4.23	-.3	-2992.
240.0	73.15	-.22	-4.09	-.3	-2830.
245.0	74.68	-.21	-3.95	-.3	-2677.
250.0	76.20	-.19	-3.81	-.2	-2534.

255.0	77.72	-.18	-3.68	-.2	-2401.
260.0	79.25	-.17	-3.47	-.2	-2219.
265.0	80.77	-.16	-3.37	-.2	-2113.
270.0	82.30	-.15	-3.27	-.2	-2011.
275.0	83.82	-.15	-3.17	-.1	-1914.
280.0	85.34	-.14	-3.07	-.1	-1822.
285.0	86.87	-.13	-2.98	-.1	-1735.
290.0	88.39	-.12	-2.88	-.1	-1654.
295.0	89.92	-.12	-2.80	-.1	-1577.
300.0	91.44	-.11	-2.71	-.1	-1504.

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*****
*
* DC FIELD AND ION DENSITY PROFILES AT GROUND LEVEL *
*
*           wind speed = 0
* longitudinal distance: 750.00 feet
*
*****

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		<----- SUMMER FAIR ----->				<----- RAIN ----->			
LATERAL DISTANCE		FIELD 50%	FIELD 95%	IONS 50%	IONS 95%	FIELD 50%	FIELD 95%	IONS 50%	IONS 95%
(feet)	(meters)	(kV/m)	(kV/m)	(1/cc)	(1/cc)	(kV/m)	(kV/m)	(1/cc)	(1/cc)
-300.0	-91.44	1.2	2.0	1419.	1480.	1.9	2.3	1477.	1492.
-295.0	-89.92	1.2	2.0	1485.	1551.	2.0	2.3	1548.	1563.
-290.0	-88.39	1.2	2.1	1556.	1626.	2.0	2.4	1623.	1639.
-285.0	-86.87	1.3	2.2	1630.	1706.	2.1	2.5	1702.	1720.
-280.0	-85.34	1.3	2.2	1710.	1790.	2.2	2.6	1786.	1805.
-275.0	-83.82	1.4	2.3	1793.	1880.	2.2	2.7	1876.	1896.
-270.0	-82.30	1.4	2.4	1881.	1974.	2.3	2.7	1970.	1992.
-265.0	-80.77	1.5	2.5	1974.	2074.	2.4	2.8	2069.	2092.
-260.0	-79.25	1.5	2.5	2068.	2176.	2.5	2.9	2171.	2196.
-255.0	-77.72	1.6	2.7	2239.	2355.	2.6	3.1	2349.	2377.
-250.0	-76.20	1.7	2.8	2359.	2484.	2.7	3.2	2478.	2508.
-245.0	-74.68	1.7	2.9	2488.	2623.	2.8	3.3	2616.	2649.
-240.0	-73.15	1.8	3.0	2624.	2771.	2.9	3.4	2764.	2799.
-235.0	-71.63	1.9	3.1	2770.	2929.	3.0	3.6	2921.	2959.
-230.0	-70.10	1.9	3.2	2922.	3095.	3.1	3.7	3086.	3128.
-225.0	-68.58	2.0	3.4	3163.	3352.	3.3	3.9	3342.	3387.
-220.0	-67.06	2.1	3.5	3353.	3558.	3.4	4.1	3548.	3597.
-215.0	-65.53	2.2	3.7	3557.	3781.	3.6	4.2	3770.	3823.
-210.0	-64.01	2.3	3.8	3775.	4020.	3.7	4.4	4008.	4067.
-205.0	-62.48	2.4	4.0	4006.	4275.	3.9	4.6	4262.	4326.
-200.0	-60.96	2.6	4.2	4352.	4648.	4.1	4.8	4633.	4704.
-195.0	-59.44	2.7	4.4	4641.	4967.	4.3	5.0	4950.	5029.
-190.0	-57.91	2.8	4.6	4954.	5313.	4.5	5.3	5294.	5381.
-185.0	-56.39	2.9	4.8	5287.	5684.	4.7	5.5	5664.	5760.
-180.0	-54.86	3.1	5.1	5767.	6208.	5.0	5.8	6186.	6292.
-175.0	-53.34	3.3	5.4	6186.	6677.	5.2	6.1	6652.	6771.
-170.0	-51.82	3.4	5.6	6640.	7186.	5.5	6.4	7158.	7291.
-165.0	-50.29	3.6	5.9	7111.	7721.	5.7	6.7	7690.	7839.
-160.0	-48.77	3.9	6.3	7836.	8522.	6.1	7.2	8487.	8655.
-155.0	-47.24	4.1	6.6	8455.	9226.	6.4	7.6	9186.	9376.
-150.0	-45.72	4.4	7.1	9306.	10178.	6.9	8.1	10133.	10349.
-145.0	-44.20	4.7	7.5	10094.	11082.	7.3	8.5	11031.	11275.
-140.0	-42.67	4.9	7.9	10913.	12035.	7.7	9.0	11976.	12256.
-135.0	-41.15	5.3	8.5	12148.	13432.	8.3	9.7	13365.	13686.
-130.0	-39.62	5.8	9.2	13473.	14948.	8.9	10.4	14871.	15241.
-125.0	-38.10	6.2	9.8	14759.	16456.	9.5	11.1	16367.	16795.
-120.0	-36.58	6.7	10.6	16469.	18435.	10.2	11.9	18331.	18830.
-115.0	-35.05	7.2	11.2	18075.	20358.	10.9	12.7	20237.	20820.
-110.0	-33.53	7.8	12.2	20347.	23020.	11.9	13.8	22878.	23564.
-105.0	-32.00	8.6	13.3	22920.	26068.	12.9	15.0	25899.	26712.
-100.0	-30.48	9.4	14.5	25893.	29618.	14.1	16.3	29418.	30386.
-95.0	-28.96	10.3	15.8	29353.	33789.	15.4	17.8	33550.	34711.
-90.0	-27.43	11.4	17.3	33398.	38713.	16.9	19.5	38424.	39826.
-85.0	-25.91	12.6	19.0	38118.	44524.	18.5	21.3	44173.	45879.
-80.0	-24.38	14.1	21.2	44370.	52168.	20.6	23.7	51738.	53830.
-75.0	-22.86	15.7	23.4	51101.	60620.	22.8	26.2	60091.	62671.
-70.0	-21.34	17.7	26.2	59887.	71610.	25.5	29.2	70953.	74160.
-65.0	-19.81	19.8	28.9	69126.	83563.	28.2	32.2	82746.	86745.
-60.0	-18.29	22.4	32.5	81560.	99476.	31.7	36.1	98453.	103468.

-55.0	-16.76	25.3	36.3	96002.	118217.	35.4	40.3	116937.	123225.
-50.0	-15.24	28.8	41.1	114934.	142499.	40.1	45.5	140901.	148766.
-45.0	-13.72	32.2	45.5	134388.	168041.	44.5	50.3	166075.	175773.
-40.0	-12.19	35.5	49.9	155300.	195551.	48.7	55.0	193183.	204879.
-35.0	-10.67	38.4	53.6	176127.	222752.	52.4	59.1	219998.	233616.
-30.0	-9.14	39.9	55.6	192224.	243687.	54.3	61.3	240641.	255713.
-25.0	-7.62	39.8	55.6	203045.	256762.	54.3	61.2	253589.	269276.
-20.0	-6.10	37.2	52.3	204200.	256615.	51.1	57.7	253538.	268732.
-15.0	-4.57	32.2	45.8	197961.	245778.	44.7	50.7	243003.	256669.
-10.0	-3.05	24.4	35.3	181591.	221938.	34.5	39.2	219631.	230952.
-5.0	-1.52	14.4	21.3	161716.	192544.	20.7	23.8	190824.	199215.
.0	.00	.0	.0	12.	12.	.0	-.1	12.	12.
5.0	1.52	-11.4	-17.9	137153.	180535.	-20.7	-23.8	190824.	199215.
10.0	3.05	-19.8	-30.0	150905.	205969.	-34.5	-39.2	219631.	230952.
15.0	4.57	-26.4	-39.2	162579.	226672.	-44.7	-50.7	243003.	256669.
20.0	6.10	-30.7	-44.9	166222.	235520.	-51.1	-57.7	253538.	268733.
25.0	7.62	-33.0	-47.9	164539.	235061.	-54.3	-61.2	253590.	269276.
30.0	9.14	-33.2	-48.0	155492.	222866.	-54.3	-61.3	240641.	255713.
35.0	10.67	-31.9	-46.2	142713.	203915.	-52.4	-59.1	219998.	233616.
40.0	12.19	-29.4	-42.9	126235.	179332.	-48.7	-55.0	193183.	204879.
45.0	13.72	-26.5	-39.1	109792.	154537.	-44.5	-50.3	166075.	175773.
50.0	15.24	-23.6	-35.1	94488.	131494.	-40.1	-45.5	140901.	148766.
55.0	16.76	-20.6	-31.0	79328.	109384.	-35.4	-40.3	116937.	123225.
60.0	18.29	-18.1	-27.6	67883.	92393.	-31.7	-36.1	98453.	103468.
65.0	19.81	-15.9	-24.5	57931.	77887.	-28.2	-32.2	82746.	86745.
70.0	21.34	-14.1	-22.1	50617.	67031.	-25.5	-29.2	70953.	74160.
75.0	22.86	-12.4	-19.7	43466.	56920.	-22.8	-26.2	60091.	62671.
80.0	24.38	-11.1	-17.8	38013.	49153.	-20.6	-23.7	51738.	53830.
85.0	25.91	-9.8	-15.9	32833.	42057.	-18.5	-21.3	44173.	45879.
90.0	27.43	-8.8	-14.4	28951.	36676.	-16.9	-19.5	38424.	39826.
95.0	28.96	-8.0	-13.2	25594.	32097.	-15.4	-17.8	33550.	34711.
100.0	30.48	-7.2	-12.0	22699.	28202.	-14.1	-16.3	29418.	30386.
105.0	32.00	-6.5	-11.0	20193.	24876.	-12.9	-15.0	25899.	26712.
110.0	33.53	-6.0	-10.1	18007.	22011.	-11.9	-13.8	22878.	23564.
115.0	35.05	-5.4	-9.3	16061.	19499.	-10.9	-12.7	20237.	20820.
120.0	36.58	-5.0	-8.7	14713.	17698.	-10.2	-11.9	18331.	18830.
125.0	38.10	-4.6	-8.0	13233.	15821.	-9.5	-11.1	16367.	16795.
130.0	39.62	-4.3	-7.5	12135.	14398.	-8.9	-10.4	14871.	15241.
135.0	41.15	-4.0	-7.0	10975.	12954.	-8.3	-9.7	13365.	13686.
140.0	42.67	-3.7	-6.5	9883.	11618.	-7.7	-9.0	11976.	12256.
145.0	44.20	-3.5	-6.1	9179.	10716.	-7.3	-8.5	11031.	11275.
150.0	45.72	-3.2	-5.8	8492.	9856.	-6.9	-8.1	10133.	10349.
155.0	47.24	-3.0	-5.4	7732.	8941.	-6.4	-7.6	9186.	9376.
160.0	48.77	-2.9	-5.1	7189.	8269.	-6.1	-7.2	8487.	8655.
165.0	50.29	-2.7	-4.8	6533.	7496.	-5.7	-6.7	7690.	7839.
170.0	51.82	-2.5	-4.6	6120.	6986.	-5.5	-6.4	7158.	7291.
175.0	53.34	-2.4	-4.4	5717.	6497.	-5.2	-6.1	6652.	6771.
180.0	54.86	-2.3	-4.2	5343.	6047.	-5.0	-5.8	6186.	6292.
185.0	56.39	-2.1	-3.9	4904.	5539.	-4.7	-5.5	5664.	5760.
190.0	57.91	-2.0	-3.7	4605.	5182.	-4.5	-5.3	5294.	5381.
195.0	59.44	-1.9	-3.6	4324.	4848.	-4.3	-5.0	4950.	5029.
200.0	60.96	-1.8	-3.4	4063.	4540.	-4.1	-4.8	4633.	4704.
205.0	62.48	-1.7	-3.2	3743.	4177.	-3.9	-4.6	4262.	4326.
210.0	64.01	-1.7	-3.1	3534.	3931.	-3.7	-4.4	4008.	4067.
215.0	65.53	-1.6	-3.0	3336.	3700.	-3.6	-4.2	3770.	3823.
220.0	67.06	-1.5	-2.9	3150.	3484.	-3.4	-4.1	3548.	3597.
225.0	68.58	-1.5	-2.7	2976.	3283.	-3.3	-3.9	3342.	3387.
230.0	70.10	-1.4	-2.6	2750.	3032.	-3.1	-3.7	3086.	3128.
235.0	71.63	-1.3	-2.5	2611.	2871.	-3.0	-3.6	2921.	2959.
240.0	73.15	-1.3	-2.4	2478.	2718.	-2.9	-3.4	2764.	2799.
245.0	74.68	-1.2	-2.3	2352.	2574.	-2.8	-3.3	2616.	2649.
250.0	76.20	-1.2	-2.2	2233.	2439.	-2.7	-3.2	2478.	2508.
255.0	77.72	-1.1	-2.2	2121.	2313.	-2.6	-3.1	2349.	2377.

260.0	79.25	-1.1	-2.0	1960.	2137.	-2.5	-2.9	2171.	2196.
265.0	80.77	-1.0	-2.0	1873.	2038.	-2.4	-2.8	2069.	2092.
270.0	82.30	-1.0	-1.9	1787.	1941.	-2.3	-2.7	1970.	1992.
275.0	83.82	-1.0	-1.9	1705.	1849.	-2.2	-2.7	1876.	1896.
280.0	85.34	-.9	-1.8	1627.	1761.	-2.2	-2.6	1786.	1805.
285.0	86.87	-.9	-1.7	1553.	1679.	-2.1	-2.5	1702.	1720.
290.0	88.39	-.9	-1.7	1484.	1601.	-2.0	-2.4	1623.	1639.
295.0	89.92	-.9	-1.6	1418.	1527.	-2.0	-2.3	1548.	1563.
300.0	91.44	-.8	-1.6	1355.	1458.	-1.9	-2.3	1477.	1492.

 Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Magnetic Field at 1750A

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_M1750
 Date: 6/17/2014 Time: 15:45

Standard DC Monopole Configuration at 1750A

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*****
*                               BUNDLE INFORMATION                               *
*****
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BNDL #	CIRC #	VOLTAGE (kV)	ANGLE (DEG)	CURRENT LOAD (A)	ANGLE (DEG)	# OF COND	X (feet)	Y (feet)	SAG (feet)	PH
1	1	632.0	0.	1750.	0.	3	-23.4	34.0	.0	+
2	1	-632.0	0.	-1750.	0.	3	23.4	34.0	.0	-
3	1	.0	0.	0.	0.	1	-5.3	65.7	.0	NEU
4	1	.0	0.	0.	0.	1	5.3	65.7	.0	NEU
5	1	.0	0.	0.	0.	1	-13.4	78.9	.0	GND
6	1	.0	0.	0.	0.	1	13.4	78.9	.0	GND

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*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
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*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
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BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

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*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
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BNDL #	CONDUCTOR NAME	COORDINATES (inch)		DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

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*****
*
*          MAGNETIC FIELD PROFILE
*          at 3.28 feet above ground
*
* longitudinal distance: 750.00 feet
*
*****

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<-- DC MAGNETIC FIELD -->

LATERAL DISTANCE		VERTICAL HORIZONTAL		
(feet)	(meters)	TOTAL (mG)	COMP (mG)	COMP (mG)
-300.0	-91.44	5.94	5.81	-1.23
-295.0	-89.92	6.14	6.01	-1.29
-290.0	-88.39	6.36	6.21	-1.36
-285.0	-86.87	6.58	6.42	-1.43
-280.0	-85.34	6.82	6.65	-1.51
-275.0	-83.82	7.07	6.88	-1.59
-270.0	-82.30	7.33	7.13	-1.68
-265.0	-80.77	7.61	7.40	-1.77
-260.0	-79.25	7.90	7.67	-1.88
-255.0	-77.72	8.21	7.97	-1.99
-250.0	-76.20	8.54	8.27	-2.11
-245.0	-74.68	8.89	8.60	-2.24
-240.0	-73.15	9.26	8.95	-2.38
-235.0	-71.63	9.65	9.32	-2.53
-230.0	-70.10	10.08	9.71	-2.70
-225.0	-68.58	10.52	10.12	-2.88
-220.0	-67.06	11.00	10.56	-3.08
-215.0	-65.53	11.52	11.03	-3.30
-210.0	-64.01	12.06	11.53	-3.54
-205.0	-62.48	12.65	12.07	-3.80
-200.0	-60.96	13.29	12.64	-4.09
-195.0	-59.44	13.97	13.26	-4.40
-190.0	-57.91	14.70	13.91	-4.75
-185.0	-56.39	15.50	14.62	-5.14
-180.0	-54.86	16.36	15.38	-5.57
-175.0	-53.34	17.29	16.20	-6.05
-170.0	-51.82	18.31	17.08	-6.59
-165.0	-50.29	19.41	18.03	-7.20
-160.0	-48.77	20.62	19.06	-7.87
-155.0	-47.24	21.95	20.17	-8.64
-150.0	-45.72	23.40	21.38	-9.50
-145.0	-44.20	25.00	22.70	-10.49
-140.0	-42.67	26.77	24.12	-11.61
-135.0	-41.15	28.74	25.68	-12.90
-130.0	-39.62	30.92	27.37	-14.38
-125.0	-38.10	33.36	29.22	-16.10
-120.0	-36.58	36.09	31.23	-18.09
-115.0	-35.05	39.16	33.43	-20.41
-110.0	-33.53	42.64	35.81	-23.14
-105.0	-32.00	46.58	38.40	-26.37
-100.0	-30.48	51.08	41.20	-30.19
-95.0	-28.96	56.24	44.20	-34.77
-90.0	-27.43	62.18	47.38	-40.27
-85.0	-25.91	69.06	50.68	-46.91
-80.0	-24.38	77.07	54.00	-54.99
-75.0	-22.86	86.44	57.16	-64.85
-70.0	-21.34	97.45	59.83	-76.92
-65.0	-19.81	110.42	61.50	-91.71

-60.0	-18.29	125.72	61.34	-109.74
-55.0	-16.76	143.73	58.07	-131.48
-50.0	-15.24	164.76	49.79	-157.05
-45.0	-13.72	188.92	33.92	-185.85
-40.0	-12.19	215.92	7.43	-215.79
-35.0	-10.67	244.76	-32.25	-242.62
-30.0	-9.14	273.61	-85.58	-259.88
-25.0	-7.62	300.05	-148.99	-260.45
-20.0	-6.10	321.82	-214.75	-239.69
-15.0	-4.57	337.70	-273.60	-197.94
-10.0	-3.05	347.83	-318.41	-140.00
-5.0	-1.52	353.22	-345.77	-72.19
.0	.00	354.88	-354.88	.00
5.0	1.52	353.22	-345.77	72.19
10.0	3.05	347.83	-318.41	140.00
15.0	4.57	337.70	-273.60	197.94
20.0	6.10	321.82	-214.75	239.69
25.0	7.62	300.05	-148.99	260.45
30.0	9.14	273.61	-85.58	259.88
35.0	10.67	244.76	-32.25	242.62
40.0	12.19	215.92	7.43	215.79
45.0	13.72	188.92	33.92	185.85
50.0	15.24	164.76	49.79	157.05
55.0	16.76	143.73	58.07	131.48
60.0	18.29	125.72	61.34	109.74
65.0	19.81	110.42	61.50	91.71
70.0	21.34	97.45	59.83	76.92
75.0	22.86	86.44	57.16	64.85
80.0	24.38	77.07	54.00	54.99
85.0	25.91	69.06	50.68	46.91
90.0	27.43	62.18	47.38	40.27
95.0	28.96	56.24	44.20	34.77
100.0	30.48	51.08	41.20	30.19
105.0	32.00	46.58	38.40	26.37
110.0	33.53	42.64	35.81	23.14
115.0	35.05	39.16	33.43	20.41
120.0	36.58	36.09	31.23	18.09
125.0	38.10	33.36	29.22	16.10
130.0	39.62	30.92	27.37	14.38
135.0	41.15	28.74	25.68	12.90
140.0	42.67	26.77	24.12	11.61
145.0	44.20	25.00	22.70	10.49
150.0	45.72	23.40	21.38	9.50
155.0	47.24	21.95	20.17	8.64
160.0	48.77	20.62	19.06	7.87
165.0	50.29	19.41	18.03	7.20
170.0	51.82	18.31	17.08	6.59
175.0	53.34	17.29	16.20	6.05
180.0	54.86	16.36	15.38	5.57
185.0	56.39	15.50	14.62	5.14
190.0	57.91	14.70	13.91	4.75
195.0	59.44	13.97	13.26	4.40
200.0	60.96	13.29	12.64	4.09
205.0	62.48	12.65	12.07	3.80
210.0	64.01	12.06	11.53	3.54
215.0	65.53	11.52	11.03	3.30
220.0	67.06	11.00	10.56	3.08
225.0	68.58	10.52	10.12	2.88
230.0	70.10	10.08	9.71	2.70
235.0	71.63	9.65	9.32	2.53
240.0	73.15	9.26	8.95	2.38
245.0	74.68	8.89	8.60	2.24
250.0	76.20	8.54	8.27	2.11

255.0	77.72	8.21	7.97	1.99
260.0	79.25	7.90	7.67	1.88
265.0	80.77	7.61	7.40	1.77
270.0	82.30	7.33	7.13	1.68
275.0	83.82	7.07	6.88	1.59
280.0	85.34	6.82	6.65	1.51
285.0	86.87	6.58	6.42	1.43
290.0	88.39	6.36	6.21	1.36
295.0	89.92	6.14	6.01	1.29
300.0	91.44	5.94	5.81	1.23

 Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Magnetic Field at 2917A

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_M2917
 Date: 6/17/2014 Time: 15:41

Standard DC Monopole Configuration at 2917A

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*****
*                               BUNDLE INFORMATION                               *
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BNDL #	CIRC #	VOLTAGE (kV)	ANGLE (DEG)	CURRENT LOAD (A)	ANGLE (DEG)	# OF COND	X (feet)	Y (feet)	SAG (feet)	PH
1	1	632.0	0.	2917.	0.	3	-23.4	34.0	.0	+
2	1	-632.0	0.	-2917.	0.	3	23.4	34.0	.0	-
3	1	.0	0.	0.	0.	1	-5.3	65.7	.0	NEU
4	1	.0	0.	0.	0.	1	5.3	65.7	.0	NEU
5	1	.0	0.	0.	0.	1	-13.4	78.9	.0	GND
6	1	.0	0.	0.	0.	1	13.4	78.9	.0	GND

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*****
*                               *
* MINIMUM GROUND CLEARANCE = 34.00 feet *
* POWER SYSTEM FREQUENCY = 60. Hz *
* SOIL RESISTIVITY = 100. ohm meter *
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*****
* SUBCONDUCTOR INFORMATION - REGULAR BUNDLES *
*****
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BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

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*****
* SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES *
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BNDL #	CONDUCTOR NAME	COORDINATES (inch)		DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

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*****
*
*          MAGNETIC FIELD PROFILE
*          at   3.28 feet  above ground
*
* longitudinal distance: 750.00 feet
*
*****

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<-- DC MAGNETIC FIELD -->

LATERAL		VERTICAL HORIZONTAL		
DISTANCE		TOTAL	COMP	COMP
(feet)	(meters)	(mG)	(mG)	(mG)
-300.0	-91.44	9.91	9.69	-2.04
-295.0	-89.92	10.24	10.01	-2.15
-290.0	-88.39	10.60	10.35	-2.26
-285.0	-86.87	10.97	10.71	-2.38
-280.0	-85.34	11.36	11.08	-2.51
-275.0	-83.82	11.78	11.48	-2.65
-270.0	-82.30	12.22	11.89	-2.80
-265.0	-80.77	12.68	12.33	-2.96
-260.0	-79.25	13.17	12.79	-3.13
-255.0	-77.72	13.68	13.28	-3.31
-250.0	-76.20	14.23	13.79	-3.52
-245.0	-74.68	14.82	14.34	-3.73
-240.0	-73.15	15.43	14.92	-3.97
-235.0	-71.63	16.09	15.53	-4.22
-230.0	-70.10	16.79	16.18	-4.50
-225.0	-68.58	17.54	16.87	-4.81
-220.0	-67.06	18.34	17.61	-5.14
-215.0	-65.53	19.20	18.39	-5.50
-210.0	-64.01	20.11	19.23	-5.90
-205.0	-62.48	21.09	20.12	-6.33
-200.0	-60.96	22.15	21.07	-6.81
-195.0	-59.44	23.28	22.10	-7.34
-190.0	-57.91	24.51	23.19	-7.92
-185.0	-56.39	25.83	24.37	-8.57
-180.0	-54.86	27.27	25.64	-9.29
-175.0	-53.34	28.82	27.00	-10.09
-170.0	-51.82	30.51	28.47	-10.99
-165.0	-50.29	32.36	30.05	-11.99
-160.0	-48.77	34.37	31.77	-13.12
-155.0	-47.24	36.58	33.63	-14.40
-150.0	-45.72	39.01	35.64	-15.84
-145.0	-44.20	41.68	37.83	-17.48
-140.0	-42.67	44.63	40.21	-19.36
-135.0	-41.15	47.90	42.80	-21.50
-130.0	-39.62	51.54	45.63	-23.97
-125.0	-38.10	55.60	48.70	-26.83
-120.0	-36.58	60.16	52.06	-30.15
-115.0	-35.05	65.28	55.71	-34.02
-110.0	-33.53	71.07	59.69	-38.57
-105.0	-32.00	77.65	64.01	-43.95
-100.0	-30.48	85.15	68.68	-50.33
-95.0	-28.96	93.74	73.68	-57.95
-90.0	-27.43	103.65	78.98	-67.12
-85.0	-25.91	115.12	84.48	-78.20
-80.0	-24.38	128.47	90.02	-91.66
-75.0	-22.86	144.09	95.27	-108.09
-70.0	-21.34	162.43	99.73	-128.22
-65.0	-19.81	184.06	102.51	-152.86

-60.0	-18.29	209.56	102.25	-182.92
-55.0	-16.76	239.58	96.80	-219.15
-50.0	-15.24	274.63	82.99	-261.79
-45.0	-13.72	314.91	56.53	-309.79
-40.0	-12.19	359.91	12.39	-359.69
-35.0	-10.67	407.98	-53.76	-404.42
-30.0	-9.14	456.07	-142.65	-433.19
-25.0	-7.62	500.14	-248.34	-434.13
-20.0	-6.10	536.43	-357.96	-399.52
-15.0	-4.57	562.90	-456.06	-329.94
-10.0	-3.05	579.79	-530.75	-233.36
-5.0	-1.52	588.77	-576.34	-120.32
.0	.00	591.53	-591.53	.00
5.0	1.52	588.77	-576.34	120.32
10.0	3.05	579.79	-530.75	233.36
15.0	4.57	562.90	-456.06	329.94
20.0	6.10	536.43	-357.96	399.52
25.0	7.62	500.14	-248.34	434.13
30.0	9.14	456.07	-142.65	433.19
35.0	10.67	407.98	-53.76	404.42
40.0	12.19	359.91	12.39	359.69
45.0	13.72	314.91	56.53	309.79
50.0	15.24	274.63	82.99	261.79
55.0	16.76	239.58	96.80	219.15
60.0	18.29	209.56	102.25	182.92
65.0	19.81	184.06	102.51	152.86
70.0	21.34	162.43	99.73	128.22
75.0	22.86	144.09	95.27	108.09
80.0	24.38	128.47	90.02	91.66
85.0	25.91	115.12	84.48	78.20
90.0	27.43	103.65	78.98	67.12
95.0	28.96	93.74	73.68	57.95
100.0	30.48	85.15	68.68	50.33
105.0	32.00	77.65	64.01	43.95
110.0	33.53	71.07	59.69	38.57
115.0	35.05	65.28	55.71	34.02
120.0	36.58	60.16	52.06	30.15
125.0	38.10	55.60	48.70	26.83
130.0	39.62	51.54	45.63	23.97
135.0	41.15	47.90	42.80	21.50
140.0	42.67	44.63	40.21	19.36
145.0	44.20	41.68	37.83	17.48
150.0	45.72	39.01	35.64	15.84
155.0	47.24	36.58	33.63	14.40
160.0	48.77	34.37	31.77	13.12
165.0	50.29	32.36	30.05	11.99
170.0	51.82	30.51	28.47	10.99
175.0	53.34	28.82	27.00	10.09
180.0	54.86	27.27	25.64	9.29
185.0	56.39	25.83	24.37	8.57
190.0	57.91	24.51	23.19	7.92
195.0	59.44	23.28	22.10	7.34
200.0	60.96	22.15	21.07	6.81
205.0	62.48	21.09	20.12	6.33
210.0	64.01	20.11	19.23	5.90
215.0	65.53	19.20	18.39	5.50
220.0	67.06	18.34	17.61	5.14
225.0	68.58	17.54	16.87	4.81
230.0	70.10	16.79	16.18	4.50
235.0	71.63	16.09	15.53	4.22
240.0	73.15	15.43	14.92	3.97
245.0	74.68	14.82	14.34	3.73
250.0	76.20	14.23	13.79	3.52

255.0	77.72	13.68	13.28	3.31
260.0	79.25	13.17	12.79	3.13
265.0	80.77	12.68	12.33	2.96
270.0	82.30	12.22	11.89	2.80
275.0	83.82	11.78	11.48	2.65
280.0	85.34	11.36	11.08	2.51
285.0	86.87	10.97	10.71	2.38
290.0	88.39	10.60	10.35	2.26
295.0	89.92	10.24	10.01	2.15
300.0	91.44	9.91	9.69	2.04

 Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Magnetic Field at 3700A

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_M3700
 Date: 6/17/2014 Time: 15:54

Standard DC Monopole Configuration at 3700A

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*****
*                                     BUNDLE INFORMATION                                     *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | LOAD | ANGLE | # | BUNDLE COORDINATES | PH |
| # | # | (kV) | (DEG) | (A) | (DEG) | COND | (feet) | (feet) | (feet) |
*****
| 1 | 1 | 632.0 | 0. | 3700. | 0. | 3 | -23.4 | 34.0 | .0 | + |
| 2 | 1 | -632.0 | 0. | -3700. | 0. | 3 | 23.4 | 34.0 | .0 | - |
| 3 | 1 | .0 | 0. | 0. | 0. | 1 | -5.3 | 65.7 | .0 | NEU |
| 4 | 1 | .0 | 0. | 0. | 0. | 1 | 5.3 | 65.7 | .0 | NEU |
| 5 | 1 | .0 | 0. | 0. | 0. | 1 | -13.4 | 78.9 | .0 | GND |
| 6 | 1 | .0 | 0. | 0. | 0. | 1 | 13.4 | 78.9 | .0 | GND |
*****
* MINIMUM GROUND CLEARANCE = 34.00 feet *
* POWER SYSTEM FREQUENCY = 60. Hz *
* SOIL RESISTIVITY = 100. ohm meter *
*****
```

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*****
* SUBCONDUCTOR INFORMATION - REGULAR BUNDLES *
*****
| BNDL | CONDUCTOR | DIAMETER | SPACING | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 3 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 4 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 5 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
| 6 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
*****
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*****
* SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES *
*****
| BNDL | CONDUCTOR | COORDINATES | DIAMETER | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 1 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | .00 | 13.42 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | .00 | 13.42 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
*****
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*****
*
*          MAGNETIC FIELD PROFILE
*          at    3.28 feet  above ground
*
* longitudinal distance: 750.00 feet
*
*****

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<-- DC MAGNETIC FIELD -->

LATERAL		VERTICAL HORIZONTAL		
DISTANCE		TOTAL	COMP	COMP
(feet)	(meters)	(mG)	(mG)	(mG)
-300.0	-91.44	12.56	12.29	-2.59
-295.0	-89.92	12.99	12.70	-2.73
-290.0	-88.39	13.44	13.13	-2.87
-285.0	-86.87	13.91	13.58	-3.02
-280.0	-85.34	14.41	14.06	-3.18
-275.0	-83.82	14.94	14.56	-3.36
-270.0	-82.30	15.49	15.08	-3.55
-265.0	-80.77	16.08	15.64	-3.75
-260.0	-79.25	16.70	16.22	-3.97
-255.0	-77.72	17.36	16.84	-4.20
-250.0	-76.20	18.05	17.49	-4.46
-245.0	-74.68	18.79	18.19	-4.74
-240.0	-73.15	19.58	18.92	-5.03
-235.0	-71.63	20.41	19.70	-5.36
-230.0	-70.10	21.30	20.52	-5.71
-225.0	-68.58	22.25	21.40	-6.10
-220.0	-67.06	23.26	22.33	-6.52
-215.0	-65.53	24.35	23.33	-6.98
-210.0	-64.01	25.51	24.39	-7.48
-205.0	-62.48	26.75	25.52	-8.03
-200.0	-60.96	28.09	26.73	-8.64
-195.0	-59.44	29.53	28.03	-9.31
-190.0	-57.91	31.09	29.42	-10.05
-185.0	-56.39	32.77	30.91	-10.87
-180.0	-54.86	34.59	32.52	-11.78
-175.0	-53.34	36.56	34.25	-12.80
-170.0	-51.82	38.71	36.11	-13.94
-165.0	-50.29	41.04	38.12	-15.21
-160.0	-48.77	43.60	40.30	-16.65
-155.0	-47.24	46.40	42.65	-18.26
-150.0	-45.72	49.48	45.21	-20.10
-145.0	-44.20	52.86	47.99	-22.18
-140.0	-42.67	56.61	51.01	-24.55
-135.0	-41.15	60.76	54.29	-27.27
-130.0	-39.62	65.37	57.87	-30.41
-125.0	-38.10	70.53	61.78	-34.03
-120.0	-36.58	76.31	66.03	-38.24
-115.0	-35.05	82.81	70.67	-43.16
-110.0	-33.53	90.15	75.72	-48.93
-105.0	-32.00	98.49	81.20	-55.74
-100.0	-30.48	108.00	87.11	-63.84
-95.0	-28.96	118.91	93.46	-73.51
-90.0	-27.43	131.47	100.18	-85.13
-85.0	-25.91	146.02	107.16	-99.19
-80.0	-24.38	162.95	114.18	-116.26
-75.0	-22.86	182.76	120.85	-137.11
-70.0	-21.34	206.04	126.49	-162.64
-65.0	-19.81	233.46	130.03	-193.90

-60.0	-18.29	265.81	129.70	-232.02
-55.0	-16.76	303.89	122.78	-277.98
-50.0	-15.24	348.34	105.27	-332.06
-45.0	-13.72	399.44	71.71	-392.95
-40.0	-12.19	456.52	15.72	-456.25
-35.0	-10.67	517.49	-68.19	-512.98
-30.0	-9.14	578.49	-180.94	-549.47
-25.0	-7.62	634.39	-315.00	-550.66
-20.0	-6.10	680.42	-454.04	-506.77
-15.0	-4.57	713.99	-578.48	-418.51
-10.0	-3.05	735.42	-673.22	-296.00
-5.0	-1.52	746.81	-731.05	-152.62
.0	.00	750.32	-750.32	.00
5.0	1.52	746.81	-731.05	152.62
10.0	3.05	735.42	-673.22	296.00
15.0	4.57	713.99	-578.48	418.51
20.0	6.10	680.42	-454.04	506.77
25.0	7.62	634.39	-315.00	550.66
30.0	9.14	578.49	-180.94	549.47
35.0	10.67	517.49	-68.19	512.98
40.0	12.19	456.52	15.72	456.24
45.0	13.72	399.44	71.71	392.95
50.0	15.24	348.34	105.27	332.06
55.0	16.76	303.89	122.78	277.98
60.0	18.29	265.81	129.70	232.02
65.0	19.81	233.46	130.03	193.90
70.0	21.34	206.04	126.49	162.64
75.0	22.86	182.76	120.85	137.11
80.0	24.38	162.95	114.18	116.26
85.0	25.91	146.02	107.16	99.19
90.0	27.43	131.47	100.18	85.13
95.0	28.96	118.91	93.46	73.51
100.0	30.48	108.00	87.11	63.84
105.0	32.00	98.49	81.20	55.74
110.0	33.53	90.15	75.72	48.93
115.0	35.05	82.81	70.67	43.16
120.0	36.58	76.31	66.03	38.24
125.0	38.10	70.53	61.78	34.03
130.0	39.62	65.37	57.87	30.41
135.0	41.15	60.76	54.29	27.27
140.0	42.67	56.61	51.01	24.55
145.0	44.20	52.86	47.99	22.18
150.0	45.72	49.48	45.21	20.10
155.0	47.24	46.40	42.65	18.26
160.0	48.77	43.60	40.30	16.65
165.0	50.29	41.04	38.12	15.21
170.0	51.82	38.71	36.11	13.94
175.0	53.34	36.56	34.25	12.80
180.0	54.86	34.59	32.52	11.78
185.0	56.39	32.77	30.91	10.87
190.0	57.91	31.09	29.42	10.05
195.0	59.44	29.53	28.03	9.31
200.0	60.96	28.09	26.73	8.64
205.0	62.48	26.75	25.52	8.03
210.0	64.01	25.51	24.39	7.48
215.0	65.53	24.35	23.33	6.98
220.0	67.06	23.26	22.33	6.52
225.0	68.58	22.25	21.40	6.10
230.0	70.10	21.30	20.52	5.71
235.0	71.63	20.41	19.70	5.36
240.0	73.15	19.58	18.92	5.03
245.0	74.68	18.79	18.19	4.74
250.0	76.20	18.05	17.49	4.46

255.0	77.72	17.36	16.84	4.20
260.0	79.25	16.70	16.22	3.97
265.0	80.77	16.08	15.64	3.75
270.0	82.30	15.49	15.08	3.55
275.0	83.82	14.94	14.56	3.36
280.0	85.34	14.41	14.06	3.18
285.0	86.87	13.91	13.58	3.02
290.0	88.39	13.44	13.13	2.87
295.0	89.92	12.99	12.70	2.73
300.0	91.44	12.56	12.29	2.59

 Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Radio Noise

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_M1750
 Date: 6/17/2014 Time: 15:45

Standard DC Monopole Configuration at 1750A

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*****
*                               BUNDLE INFORMATION                               *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | LOAD | ANGLE | # | BUNDLE COORDINATES | PH |
| # | # | (kV) | (DEG) | (A) | (DEG) | COND | (feet) | (feet) | (feet) |
*****
| 1 | 1 | 632.0 | 0. | 1750. | 0. | 3 | -23.4 | 34.0 | .0 | + |
| 2 | 1 | -632.0 | 0. | -1750. | 0. | 3 | 23.4 | 34.0 | .0 | - |
| 3 | 1 | .0 | 0. | 0. | 0. | 1 | -5.3 | 65.7 | .0 | NEU |
| 4 | 1 | .0 | 0. | 0. | 0. | 1 | 5.3 | 65.7 | .0 | NEU |
| 5 | 1 | .0 | 0. | 0. | 0. | 1 | -13.4 | 78.9 | .0 | GND |
| 6 | 1 | .0 | 0. | 0. | 0. | 1 | 13.4 | 78.9 | .0 | GND |
*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****
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*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
| BNDL | CONDUCTOR | DIAMETER | SPACING | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 3 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 4 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 5 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
| 6 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
*****
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*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
| BNDL | CONDUCTOR | COORDINATES | DIAMETER | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 1 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | .00 | 13.42 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | .00 | 13.42 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
*****
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*****
*
*   RADIO NOISE PROFILES   *
*   at 500.00 kHz         *
*
*   ANSI, loop antenna    *
*   ALTITUDE 3000.0 ft    *
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Lateral Distance (feet) (meters)	Average Stable Foul Weather Noise (1,2) (dB)	Heavy Rain Noise (3) (dB)	Wet Conductor Noise (3) (dB)
-300.0	-91.44	.0	36.3
-295.0	-89.92	.0	36.6
-290.0	-88.39	.0	36.9
-285.0	-86.87	.0	37.1
-280.0	-85.34	.0	37.4
-275.0	-83.82	.0	37.7
-270.0	-82.30	.0	38.0
-265.0	-80.77	.0	38.3
-260.0	-79.25	.0	38.6
-255.0	-77.72	.0	38.9
-250.0	-76.20	.0	39.2
-245.0	-74.68	.0	39.5
-240.0	-73.15	.0	39.8
-235.0	-71.63	.0	40.2
-230.0	-70.10	.0	40.5
-225.0	-68.58	.0	40.8
-220.0	-67.06	.0	41.2
-215.0	-65.53	.0	41.5
-210.0	-64.01	.0	41.9
-205.0	-62.48	.0	42.2
-200.0	-60.96	.0	42.6
-195.0	-59.44	.0	42.9
-190.0	-57.91	.0	43.3
-185.0	-56.39	.0	43.7
-180.0	-54.86	.0	44.1
-175.0	-53.34	.0	44.5
-170.0	-51.82	.0	44.9
-165.0	-50.29	.0	45.3
-160.0	-48.77	.0	45.8
-155.0	-47.24	.0	46.2
-150.0	-45.72	.0	46.7
-145.0	-44.20	.0	47.1
-140.0	-42.67	.0	47.6
-135.0	-41.15	.0	48.1
-130.0	-39.62	.0	48.6
-125.0	-38.10	.0	49.1
-120.0	-36.58	.0	49.7
-115.0	-35.05	.0	50.3
-110.0	-33.53	.0	50.9
-105.0	-32.00	.0	51.5
-100.0	-30.48	.0	52.3
-95.0	-28.96	.0	53.0
-90.0	-27.43	.0	53.9
-85.0	-25.91	.0	54.8
-80.0	-24.38	.0	55.9
-75.0	-22.86	.0	57.0
-70.0	-21.34	.0	58.3
-65.0	-19.81	.0	59.7
-60.0	-18.29	.0	61.2
-55.0	-16.76	.0	62.7

-50.0	-15.24	.0	64.2	64.2
-45.0	-13.72	.0	65.6	65.6
-40.0	-12.19	.0	66.8	66.8
-35.0	-10.67	.0	67.8	67.8
-30.0	-9.14	.0	68.5	68.5
-25.0	-7.62	.0	68.6	68.6
-20.0	-6.10	.0	68.1	68.1
-15.0	-4.57	.0	67.1	67.1
-10.0	-3.05	.0	65.4	65.4
-5.0	-1.52	.0	63.1	63.1
.0	.00	.0	60.3	60.3
5.0	1.52	.0	58.0	58.0
10.0	3.05	.0	57.9	57.9
15.0	4.57	.0	59.4	59.4
20.0	6.10	.0	60.8	60.8
25.0	7.62	.0	61.6	61.6
30.0	9.14	.0	61.9	61.9
35.0	10.67	.0	61.7	61.7
40.0	12.19	.0	61.2	61.2
45.0	13.72	.0	60.5	60.5
50.0	15.24	.0	59.8	59.8
55.0	16.76	.0	59.0	59.0
60.0	18.29	.0	58.2	58.2
65.0	19.81	.0	57.5	57.5
70.0	21.34	.0	56.7	56.7
75.0	22.86	.0	56.0	56.0
80.0	24.38	.0	55.4	55.4
85.0	25.91	.0	54.7	54.7
90.0	27.43	.0	54.1	54.1
95.0	28.96	.0	53.5	53.5
100.0	30.48	.0	52.9	52.9
105.0	32.00	.0	52.3	52.3
110.0	33.53	.0	51.8	51.8
115.0	35.05	.0	51.2	51.2
120.0	36.58	.0	50.7	50.7
125.0	38.10	.0	50.1	50.1
130.0	39.62	.0	49.6	49.6
135.0	41.15	.0	49.1	49.1
140.0	42.67	.0	48.6	48.6
145.0	44.20	.0	48.1	48.1
150.0	45.72	.0	47.6	47.6
155.0	47.24	.0	47.2	47.2
160.0	48.77	.0	46.7	46.7
165.0	50.29	.0	46.3	46.3
170.0	51.82	.0	45.8	45.8
175.0	53.34	.0	45.4	45.4
180.0	54.86	.0	45.0	45.0
185.0	56.39	.0	44.6	44.6
190.0	57.91	.0	44.2	44.2
195.0	59.44	.0	43.8	43.8
200.0	60.96	.0	43.4	43.4
205.0	62.48	.0	43.0	43.0
210.0	64.01	.0	42.6	42.6
215.0	65.53	.0	42.2	42.2
220.0	67.06	.0	41.9	41.9
225.0	68.58	.0	41.5	41.5
230.0	70.10	.0	41.2	41.2
235.0	71.63	.0	40.8	40.8
240.0	73.15	.0	40.5	40.5
245.0	74.68	.0	40.2	40.2
250.0	76.20	.0	39.8	39.8
255.0	77.72	.0	39.5	39.5
260.0	79.25	.0	39.2	39.2

265.0	80.77	.0	38.9	38.9
270.0	82.30	.0	38.6	38.6
275.0	83.82	.0	38.3	38.3
280.0	85.34	.0	38.0	38.0
285.0	86.87	.0	37.7	37.7
290.0	88.39	.0	37.6	37.6
295.0	89.92	.0	37.4	37.4
300.0	91.44	.0	37.3	37.3

- (1) The "Average Stable Foul Weather" noise is calculated using an empirical expression for the radio noise excitation function that was derived (see REF. [A]) to best fit the long term radio noise measurements of existing lines (in the 345 kV to 765 kV range). This generation function is used also in the program RNOISE, which is applicable to AC transmission lines. If AC lines are not present, the "Average Stable Foul Weather" column contains zeros.
- (2) The "Average Fair Weather" radio noise values can be obtained by subtracting 21.6 dB from the "Average Stable Foul Weather" radio noise data.
- (3) The "Heavy Rain" and the "Wet Conductor" radio noise levels, are defined in the EPRI's Transmission Line Reference Book - 345 kV and Above. The equations for the excitation functions for AC conductors are derived from the Reference Book and are applicable for large ranges of surface gradients (from 10 to 25 kV/cm), subconductor diameters (2 to 8 cm) and number of subconductors (1 to 12). The equations for the excitation functions for DC and HYBRID line conductors are derived from the EPRI RP 2472-6. Heavy rain was defined as rain with intensity of the order of 8 - 12 mm/hr. In the Northeastern climate, the "Heavy Rain" noise is exceeded only 1% of the time during periods of rain. "Wet Conductor" noise corresponds to the condition of the conductor saturated with water drops and with little noise caused by the impingement of rain droplets. Experimental data from which the equations for the "Wet Conductor" noise were derived, indicate that the "Wet Conductor" noise is exceeded 50% of the time during natural rain periods. "Wet Conductor" noise also corresponds to the maximum noise that can be produced during fog.

REFERENCES:

- [A] R.G. Olsen, S.D. Schennum and V.L. Chartier, "Comparison of Several Methods for Calculating Power Line Electromagnetic Interference Levels and Calibration with Long Term Data", EPRI report, Project RP-2025, 1991.

=====

Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Audible Noise

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_M_AN
Date: 6/17/2014 Time: 15:52

Standard DC Monopole Configuration for Audible Noise

```
*****
*                               BUNDLE INFORMATION                               *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | CURRENT | # | BUNDLE COORDINATES | | | | |
| # | # | (kV) | (DEG) | LOAD | ANGLE | OF | X | Y | SAG | PH |
| # | # | | | (A) | (DEG) | COND | (feet) | (feet) | (feet) | |
*****
| 1 | 1 | 632.0 | 0. | 2917. | 0. | 3 | -23.4 | 55.7 | .0 | + |
| 2 | 1 | -632.0 | 0. | -2917. | 0. | 3 | 23.4 | 55.7 | .0 | - |
| 3 | 1 | .0 | 0. | 0. | 0. | 1 | -5.3 | 87.4 | .0 | NEU |
| 4 | 1 | .0 | 0. | 0. | 0. | 1 | 5.3 | 87.4 | .0 | NEU |
| 5 | 1 | .0 | 0. | 0. | 0. | 1 | -13.4 | 100.6 | .0 | GND |
| 6 | 1 | .0 | 0. | 0. | 0. | 1 | 13.4 | 100.6 | .0 | GND |
*****
*                               MINIMUM GROUND CLEARANCE = 55.70 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****
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*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
| BNDL | CONDUCTOR | DIAMETER | SPACING | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 3 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 4 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 5 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
| 6 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
*****
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*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
| BNDL | CONDUCTOR | COORDINATES | DIAMETER | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 1 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | .00 | 13.42 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | .00 | 13.42 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
*****
```

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*****
*
*           AUDIBLE NOISE
*
* Microphone is 5.00 feet above ground
* Altitude 3000.0 feet
*
*****

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<----- HVTRC CALCULATION METHOD ----->

LATERAL DISTANCE		L50 FAIR	L5 RAIN	L50 RAIN	Leq(24)	Ldn
(feet)	(meters)	(dB(A))	(dB(A))	(dB(A))	(dB(A))	(dB(A))
-300.0	-91.44	43.0	37.0	37.0	42.2	48.7
-295.0	-89.92	43.1	37.1	37.1	42.3	48.8
-290.0	-88.39	43.2	37.2	37.2	42.4	48.9
-285.0	-86.87	43.3	37.3	37.3	42.5	49.0
-280.0	-85.34	43.4	37.4	37.4	42.6	49.1
-275.0	-83.82	43.5	37.5	37.5	42.7	49.2
-270.0	-82.30	43.7	37.7	37.7	42.9	49.3
-265.0	-80.77	43.8	37.8	37.8	43.0	49.5
-260.0	-79.25	43.9	37.9	37.9	43.1	49.6
-255.0	-77.72	44.0	38.0	38.0	43.2	49.7
-250.0	-76.20	44.1	38.1	38.1	43.3	49.8
-245.0	-74.68	44.2	38.2	38.2	43.4	49.9
-240.0	-73.15	44.4	38.4	38.4	43.6	50.1
-235.0	-71.63	44.5	38.5	38.5	43.7	50.2
-230.0	-70.10	44.6	38.6	38.6	43.8	50.3
-225.0	-68.58	44.8	38.8	38.8	44.0	50.4
-220.0	-67.06	44.9	38.9	38.9	44.1	50.6
-215.0	-65.53	45.0	39.0	39.0	44.2	50.7
-210.0	-64.01	45.2	39.2	39.2	44.4	50.9
-205.0	-62.48	45.3	39.3	39.3	44.5	51.0
-200.0	-60.96	45.4	39.4	39.4	44.6	51.1
-195.0	-59.44	45.6	39.6	39.6	44.8	51.3
-190.0	-57.91	45.7	39.7	39.7	44.9	51.4
-185.0	-56.39	45.9	39.9	39.9	45.1	51.6
-180.0	-54.86	46.0	40.0	40.0	45.2	51.7
-175.0	-53.34	46.2	40.2	40.2	45.4	51.9
-170.0	-51.82	46.3	40.3	40.3	45.5	52.0
-165.0	-50.29	46.5	40.5	40.5	45.7	52.2
-160.0	-48.77	46.7	40.7	40.7	45.9	52.4
-155.0	-47.24	46.8	40.8	40.8	46.0	52.5
-150.0	-45.72	47.0	41.0	41.0	46.2	52.7
-145.0	-44.20	47.2	41.2	41.2	46.4	52.9
-140.0	-42.67	47.4	41.4	41.4	46.6	53.1
-135.0	-41.15	47.6	41.6	41.6	46.8	53.3
-130.0	-39.62	47.8	41.8	41.8	47.0	53.4
-125.0	-38.10	47.9	41.9	41.9	47.1	53.6
-120.0	-36.58	48.1	42.1	42.1	47.3	53.8
-115.0	-35.05	48.4	42.4	42.4	47.6	54.0
-110.0	-33.53	48.6	42.6	42.6	47.8	54.3
-105.0	-32.00	48.8	42.8	42.8	48.0	54.5
-100.0	-30.48	49.0	43.0	43.0	48.2	54.7
-95.0	-28.96	49.2	43.2	43.2	48.4	54.9
-90.0	-27.43	49.4	43.4	43.4	48.6	55.1
-85.0	-25.91	49.7	43.7	43.7	48.9	55.4
-80.0	-24.38	49.9	43.9	43.9	49.1	55.6
-75.0	-22.86	50.1	44.1	44.1	49.3	55.8
-70.0	-21.34	50.4	44.4	44.4	49.6	56.1
-65.0	-19.81	50.6	44.6	44.6	49.8	56.3

-60.0	-18.29	50.8	44.8	44.8	50.0	56.5
-55.0	-16.76	51.0	45.0	45.0	50.2	56.7
-50.0	-15.24	51.2	45.2	45.2	50.4	56.9
-45.0	-13.72	51.4	45.4	45.4	50.6	57.1
-40.0	-12.19	51.6	45.6	45.6	50.8	57.3
-35.0	-10.67	51.7	45.7	45.7	50.9	57.4
-30.0	-9.14	51.8	45.8	45.8	51.0	57.5
-25.0	-7.62	51.8	45.8	45.8	51.0	57.5
-20.0	-6.10	51.8	45.8	45.8	51.0	57.5
-15.0	-4.57	51.7	45.7	45.7	50.9	57.4
-10.0	-3.05	51.7	45.7	45.7	50.9	57.3
-5.0	-1.52	51.5	45.5	45.5	50.7	57.2
.0	.00	51.4	45.4	45.4	50.6	57.1
5.0	1.52	51.2	45.2	45.2	50.4	56.9
10.0	3.05	51.0	45.0	45.0	50.2	56.7
15.0	4.57	50.8	44.8	44.8	50.0	56.5
20.0	6.10	50.5	44.5	44.5	49.7	56.2
25.0	7.62	50.3	44.3	44.3	49.5	56.0
30.0	9.14	50.1	44.1	44.1	49.3	55.8
35.0	10.67	49.8	43.8	43.8	49.0	55.5
40.0	12.19	49.6	43.6	43.6	48.8	55.3
45.0	13.72	49.4	43.4	43.4	48.6	55.1
50.0	15.24	49.1	43.1	43.1	48.3	54.8
55.0	16.76	48.9	42.9	42.9	48.1	54.6
60.0	18.29	48.7	42.7	42.7	47.9	54.4
65.0	19.81	48.5	42.5	42.5	47.7	54.2
70.0	21.34	48.3	42.3	42.3	47.5	54.0
75.0	22.86	48.1	42.1	42.1	47.3	53.8
80.0	24.38	47.9	41.9	41.9	47.1	53.6
85.0	25.91	47.7	41.7	41.7	46.9	53.4
90.0	27.43	47.5	41.5	41.5	46.7	53.2
95.0	28.96	47.3	41.3	41.3	46.5	53.0
100.0	30.48	47.1	41.1	41.1	46.3	52.8
105.0	32.00	47.0	41.0	41.0	46.2	52.6
110.0	33.53	46.8	40.8	40.8	46.0	52.5
115.0	35.05	46.6	40.6	40.6	45.8	52.3
120.0	36.58	46.4	40.4	40.4	45.6	52.1
125.0	38.10	46.3	40.3	40.3	45.5	52.0
130.0	39.62	46.1	40.1	40.1	45.3	51.8
135.0	41.15	46.0	40.0	40.0	45.2	51.7
140.0	42.67	45.8	39.8	39.8	45.0	51.5
145.0	44.20	45.7	39.7	39.7	44.9	51.4
150.0	45.72	45.5	39.5	39.5	44.7	51.2
155.0	47.24	45.4	39.4	39.4	44.6	51.1
160.0	48.77	45.2	39.2	39.2	44.4	50.9
165.0	50.29	45.1	39.1	39.1	44.3	50.8
170.0	51.82	45.0	39.0	39.0	44.2	50.7
175.0	53.34	44.8	38.8	38.8	44.0	50.5
180.0	54.86	44.7	38.7	38.7	43.9	50.4
185.0	56.39	44.6	38.6	38.6	43.8	50.3
190.0	57.91	44.4	38.4	38.4	43.6	50.1
195.0	59.44	44.3	38.3	38.3	43.5	50.0
200.0	60.96	44.2	38.2	38.2	43.4	49.9
205.0	62.48	44.1	38.1	38.1	43.3	49.8
210.0	64.01	44.0	38.0	38.0	43.2	49.7
215.0	65.53	43.8	37.8	37.8	43.0	49.5
220.0	67.06	43.7	37.7	37.7	42.9	49.4
225.0	68.58	43.6	37.6	37.6	42.8	49.3
230.0	70.10	43.5	37.5	37.5	42.7	49.2
235.0	71.63	43.4	37.4	37.4	42.6	49.1
240.0	73.15	43.3	37.3	37.3	42.5	49.0
245.0	74.68	43.2	37.2	37.2	42.4	48.9
250.0	76.20	43.1	37.1	37.1	42.3	48.8

255.0	77.72	43.0	37.0	37.0	42.2	48.7
260.0	79.25	42.9	36.9	36.9	42.1	48.5
265.0	80.77	42.7	36.7	36.7	41.9	48.4
270.0	82.30	42.6	36.6	36.6	41.8	48.3
275.0	83.82	42.5	36.5	36.5	41.7	48.2
280.0	85.34	42.4	36.4	36.4	41.6	48.1
285.0	86.87	42.3	36.3	36.3	41.5	48.0
290.0	88.39	42.2	36.2	36.2	41.4	47.9
295.0	89.92	42.1	36.1	36.1	41.3	47.8
300.0	91.44	42.1	36.1	36.1	41.3	47.7

 *
 * AUDIBLE NOISE *
 * (other methods) *
 *
 * Altitude 3000.0 feet *
 *

LATERAL DISTANCE (feet) (meters)		<----- BPA METHOD ----->				<- CRIEPI -->		EdF	ENEL	IREQ
		FAIR WEATHER	L5 RAIN	L50 RAIN	Ldn	AVERAGE FAIR	L5 RAIN	L5 RAIN	L5 RAIN	L5 RAIN
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
-300.0	-91.44	39.4	36.9	33.4	.0	.0	.0	.0	.0	.0
-295.0	-89.92	39.5	37.0	33.5	.0	.0	.0	.0	.0	.0
-290.0	-88.39	39.6	37.1	33.6	.0	.0	.0	.0	.0	.0
-285.0	-86.87	39.7	37.2	33.7	.0	.0	.0	.0	.0	.0
-280.0	-85.34	39.7	37.2	33.7	.0	.0	.0	.0	.0	.0
-275.0	-83.82	39.8	37.3	33.8	.0	.0	.0	.0	.0	.0
-270.0	-82.30	39.9	37.4	33.9	.0	.0	.0	.0	.0	.0
-265.0	-80.77	40.0	37.5	34.0	.0	.0	.0	.0	.0	.0
-260.0	-79.25	40.1	37.6	34.1	.0	.0	.0	.0	.0	.0
-255.0	-77.72	40.2	37.7	34.2	.0	.0	.0	.0	.0	.0
-250.0	-76.20	40.3	37.8	34.3	.0	.0	.0	.0	.0	.0
-245.0	-74.68	40.4	37.9	34.4	.0	.0	.0	.0	.0	.0
-240.0	-73.15	40.5	38.0	34.5	.0	.0	.0	.0	.0	.0
-235.0	-71.63	40.7	38.2	34.7	.0	.0	.0	.0	.0	.0
-230.0	-70.10	40.8	38.3	34.8	.0	.0	.0	.0	.0	.0
-225.0	-68.58	40.9	38.4	34.9	.0	.0	.0	.0	.0	.0
-220.0	-67.06	41.0	38.5	35.0	.0	.0	.0	.0	.0	.0
-215.0	-65.53	41.1	38.6	35.1	.0	.0	.0	.0	.0	.0
-210.0	-64.01	41.2	38.7	35.2	.0	.0	.0	.0	.0	.0
-205.0	-62.48	41.4	38.9	35.4	.0	.0	.0	.0	.0	.0
-200.0	-60.96	41.5	39.0	35.5	.0	.0	.0	.0	.0	.0
-195.0	-59.44	41.6	39.1	35.6	.0	.0	.0	.0	.0	.0
-190.0	-57.91	41.8	39.3	35.8	.0	.0	.0	.0	.0	.0
-185.0	-56.39	41.9	39.4	35.9	.0	.0	.0	.0	.0	.0
-180.0	-54.86	42.0	39.5	36.0	.0	.0	.0	.0	.0	.0
-175.0	-53.34	42.2	39.7	36.2	.0	.0	.0	.0	.0	.0
-170.0	-51.82	42.3	39.8	36.3	.0	.0	.0	.0	.0	.0
-165.0	-50.29	42.5	40.0	36.5	.0	.0	.0	.0	.0	.0
-160.0	-48.77	42.6	40.1	36.6	.0	.0	.0	.0	.0	.0
-155.0	-47.24	42.8	40.3	36.8	.0	.0	.0	.0	.0	.0
-150.0	-45.72	43.0	40.5	37.0	.0	.0	.0	.0	.0	.0
-145.0	-44.20	43.1	40.6	37.1	.0	.0	.0	.0	.0	.0
-140.0	-42.67	43.3	40.8	37.3	.0	.0	.0	.0	.0	.0
-135.0	-41.15	43.5	41.0	37.5	.0	.0	.0	.0	.0	.0
-130.0	-39.62	43.7	41.2	37.7	.0	.0	.0	.0	.0	.0
-125.0	-38.10	43.9	41.4	37.9	.0	.0	.0	.0	.0	.0
-120.0	-36.58	44.1	41.6	38.1	.0	.0	.0	.0	.0	.0
-115.0	-35.05	44.3	41.8	38.3	.0	.0	.0	.0	.0	.0
-110.0	-33.53	44.5	42.0	38.5	.0	.0	.0	.0	.0	.0
-105.0	-32.00	44.7	42.2	38.7	.0	.0	.0	.0	.0	.0
-100.0	-30.48	44.9	42.4	38.9	.0	.0	.0	.0	.0	.0
-95.0	-28.96	45.1	42.6	39.1	.0	.0	.0	.0	.0	.0
-90.0	-27.43	45.4	42.9	39.4	.0	.0	.0	.0	.0	.0
-85.0	-25.91	45.6	43.1	39.6	.0	.0	.0	.0	.0	.0
-80.0	-24.38	45.9	43.4	39.9	.0	.0	.0	.0	.0	.0
-75.0	-22.86	46.1	43.6	40.1	.0	.0	.0	.0	.0	.0
-70.0	-21.34	46.3	43.8	40.3	.0	.0	.0	.0	.0	.0
-65.0	-19.81	46.6	44.1	40.6	.0	.0	.0	.0	.0	.0
-60.0	-18.29	46.8	44.3	40.8	.0	.0	.0	.0	.0	.0

-55.0	-16.76	47.0	44.5	41.0	.0	.0	.0	.0	.0	.0
-50.0	-15.24	47.2	44.7	41.2	.0	.0	.0	.0	.0	.0
-45.0	-13.72	47.4	44.9	41.4	.0	.0	.0	.0	.0	.0
-40.0	-12.19	47.6	45.1	41.6	.0	.0	.0	.0	.0	.0
-35.0	-10.67	47.7	45.2	41.7	.0	.0	.0	.0	.0	.0
-30.0	-9.14	47.8	45.3	41.8	.0	.0	.0	.0	.0	.0
-25.0	-7.62	47.8	45.3	41.8	.0	.0	.0	.0	.0	.0
-20.0	-6.10	47.8	45.3	41.8	.0	.0	.0	.0	.0	.0
-15.0	-4.57	47.8	45.3	41.8	.0	.0	.0	.0	.0	.0
-10.0	-3.05	47.7	45.2	41.7	.0	.0	.0	.0	.0	.0
-5.0	-1.52	47.5	45.0	41.5	.0	.0	.0	.0	.0	.0
.0	.00	47.4	44.9	41.4	.0	.0	.0	.0	.0	.0
5.0	1.52	47.2	44.7	41.2	.0	.0	.0	.0	.0	.0
10.0	3.05	47.0	44.5	41.0	.0	.0	.0	.0	.0	.0
15.0	4.57	46.7	44.2	40.7	.0	.0	.0	.0	.0	.0
20.0	6.10	46.5	44.0	40.5	.0	.0	.0	.0	.0	.0
25.0	7.62	46.2	43.7	40.2	.0	.0	.0	.0	.0	.0
30.0	9.14	46.0	43.5	40.0	.0	.0	.0	.0	.0	.0
35.0	10.67	45.8	43.3	39.8	.0	.0	.0	.0	.0	.0
40.0	12.19	45.5	43.0	39.5	.0	.0	.0	.0	.0	.0
45.0	13.72	45.3	42.8	39.3	.0	.0	.0	.0	.0	.0
50.0	15.24	45.1	42.6	39.1	.0	.0	.0	.0	.0	.0
55.0	16.76	44.8	42.3	38.8	.0	.0	.0	.0	.0	.0
60.0	18.29	44.6	42.1	38.6	.0	.0	.0	.0	.0	.0
65.0	19.81	44.4	41.9	38.4	.0	.0	.0	.0	.0	.0
70.0	21.34	44.2	41.7	38.2	.0	.0	.0	.0	.0	.0
75.0	22.86	44.0	41.5	38.0	.0	.0	.0	.0	.0	.0
80.0	24.38	43.8	41.3	37.8	.0	.0	.0	.0	.0	.0
85.0	25.91	43.6	41.1	37.6	.0	.0	.0	.0	.0	.0
90.0	27.43	43.4	40.9	37.4	.0	.0	.0	.0	.0	.0
95.0	28.96	43.3	40.8	37.3	.0	.0	.0	.0	.0	.0
100.0	30.48	43.1	40.6	37.1	.0	.0	.0	.0	.0	.0
105.0	32.00	42.9	40.4	36.9	.0	.0	.0	.0	.0	.0
110.0	33.53	42.7	40.2	36.7	.0	.0	.0	.0	.0	.0
115.0	35.05	42.6	40.1	36.6	.0	.0	.0	.0	.0	.0
120.0	36.58	42.4	39.9	36.4	.0	.0	.0	.0	.0	.0
125.0	38.10	42.3	39.8	36.3	.0	.0	.0	.0	.0	.0
130.0	39.62	42.1	39.6	36.1	.0	.0	.0	.0	.0	.0
135.0	41.15	42.0	39.5	36.0	.0	.0	.0	.0	.0	.0
140.0	42.67	41.8	39.3	35.8	.0	.0	.0	.0	.0	.0
145.0	44.20	41.7	39.2	35.7	.0	.0	.0	.0	.0	.0
150.0	45.72	41.6	39.1	35.6	.0	.0	.0	.0	.0	.0
155.0	47.24	41.4	38.9	35.4	.0	.0	.0	.0	.0	.0
160.0	48.77	41.3	38.8	35.3	.0	.0	.0	.0	.0	.0
165.0	50.29	41.2	38.7	35.2	.0	.0	.0	.0	.0	.0
170.0	51.82	41.1	38.6	35.1	.0	.0	.0	.0	.0	.0
175.0	53.34	41.0	38.5	35.0	.0	.0	.0	.0	.0	.0
180.0	54.86	40.8	38.3	34.8	.0	.0	.0	.0	.0	.0
185.0	56.39	40.7	38.2	34.7	.0	.0	.0	.0	.0	.0
190.0	57.91	40.6	38.1	34.6	.0	.0	.0	.0	.0	.0
195.0	59.44	40.5	38.0	34.5	.0	.0	.0	.0	.0	.0
200.0	60.96	40.4	37.9	34.4	.0	.0	.0	.0	.0	.0
205.0	62.48	40.3	37.8	34.3	.0	.0	.0	.0	.0	.0
210.0	64.01	40.2	37.7	34.2	.0	.0	.0	.0	.0	.0
215.0	65.53	40.1	37.6	34.1	.0	.0	.0	.0	.0	.0
220.0	67.06	40.0	37.5	34.0	.0	.0	.0	.0	.0	.0
225.0	68.58	39.9	37.4	33.9	.0	.0	.0	.0	.0	.0
230.0	70.10	39.8	37.3	33.8	.0	.0	.0	.0	.0	.0
235.0	71.63	39.7	37.2	33.7	.0	.0	.0	.0	.0	.0
240.0	73.15	39.6	37.1	33.6	.0	.0	.0	.0	.0	.0
245.0	74.68	39.5	37.0	33.5	.0	.0	.0	.0	.0	.0
250.0	76.20	39.4	36.9	33.4	.0	.0	.0	.0	.0	.0
255.0	77.72	39.4	36.9	33.4	.0	.0	.0	.0	.0	.0

260.0	79.25	39.3	36.8	33.3	.0	.0	.0	.0	.0	.0
265.0	80.77	39.2	36.7	33.2	.0	.0	.0	.0	.0	.0
270.0	82.30	39.1	36.6	33.1	.0	.0	.0	.0	.0	.0
275.0	83.82	39.0	36.5	33.0	.0	.0	.0	.0	.0	.0
280.0	85.34	38.9	36.4	32.9	.0	.0	.0	.0	.0	.0
285.0	86.87	38.9	36.4	32.9	.0	.0	.0	.0	.0	.0
290.0	88.39	38.8	36.3	32.8	.0	.0	.0	.0	.0	.0
295.0	89.92	38.7	36.2	32.7	.0	.0	.0	.0	.0	.0
300.0	91.44	38.6	36.1	32.6	.0	.0	.0	.0	.0	.0

Audible noise prediction methods do not apply to all line geometries, voltages, or weather conditions. If a prediction method does not apply, the appropriate output data column will be zeros.

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DC TRANSMISSION LINE CALCULATION RESULTS
±600kV BI-POLAR MONOPOLE
DEDICATED NEUTRAL RETURN (DNR) OPERATION

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Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Electric Field

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_MDNRA
 Date: 6/17/2014 Time: 17:13

DC Monopole Configuration with DNR

```
*****
*                               BUNDLE INFORMATION                               *
*****
```

BNDL #	CIRC #	VOLTAGE		CURRENT		# OF COND	BUNDLE COORDINATES			PH
		VOLTAGE (kV)	ANGLE (DEG)	LOAD (A)	ANGLE (DEG)		X (feet)	Y (feet)	SAG (feet)	
1	1	632.0	0.	0.	0.	3	-23.4	34.0	.0	+
2	1	.0	0.	0.	0.	3	23.4	34.0	.0	SEC
3	1	.0	0.	0.	0.	1	-5.3	65.7	.0	SEC
4	1	.0	0.	0.	0.	1	5.3	65.7	.0	SEC
5	1	.0	0.	0.	0.	1	-13.4	78.9	.0	GND
6	1	.0	0.	0.	0.	1	13.4	78.9	.0	GND

```
*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****
```

```
*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

```
*****
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*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	COORDINATES		DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
		X (inch)	Y (inch)				
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

```
*****
```

Results of AC/DCLINE program EFION (EPRI/HVTRC 7-93) for:

ELECTRIC FIELD & IONS WITHOUT SHIELDING OBJECTS

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_MDNRA
Date: 6/17/2014 Time: 17:13

*
* DEGREE OF SATURATION *
*

	NORTHEAST CLIMATE								ACTUAL CLIMATE			
	<----->				>-----<				<----->			
	WINTER	SUMMER		FOG		RAIN		SNOW		WORST-MONTH	AVG.	
BNDL #	FAIR	FAIR	95%	50%	95%	50%	95%	50%	95%	FAIR	95%	FAIR
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1	.139	.439	.760	.577	.798	.657	.799	.318	.461	.373	.694	.289


```

*****
*
*           ELECTROSTATIC AND SATURATED           *
* DC FIELD, CURRENT, AND ION DENSITY PROFILES *
*
*           wind speed = 0                       *
*           longitudinal distance: 750.00 feet   *
*
*****

```

LATERAL DISTANCE		<-- DC ELECTRIC FIELD -->		CURRENT	ION
(feet)	(meters)	ELECTROSTATIC (kV/m)	SATURATED (kV/m)	DENSITY (nA/m2)	DENSITY (1/cm3)
-300.0	-91.44	.23	3.31	.1	1849.
-295.0	-89.92	.23	3.46	.1	1968.
-290.0	-88.39	.24	3.55	.1	2060.
-285.0	-86.87	.25	3.64	.1	2155.
-280.0	-85.34	.27	3.80	.2	2296.
-275.0	-83.82	.28	3.90	.2	2409.
-270.0	-82.30	.29	4.00	.2	2525.
-265.0	-80.77	.30	4.18	.2	2697.
-260.0	-79.25	.32	4.30	.2	2836.
-255.0	-77.72	.33	4.41	.2	2978.
-250.0	-76.20	.35	4.62	.3	3191.
-245.0	-74.68	.36	4.76	.3	3363.
-240.0	-73.15	.38	4.97	.3	3601.
-235.0	-71.63	.40	5.13	.4	3806.
-230.0	-70.10	.42	5.27	.4	4016.
-225.0	-68.58	.45	5.53	.4	4323.
-220.0	-67.06	.47	5.70	.5	4578.
-215.0	-65.53	.50	5.98	.5	4932.
-210.0	-64.01	.53	6.18	.6	5238.
-205.0	-62.48	.56	6.48	.7	5654.
-200.0	-60.96	.59	6.71	.7	6023.
-195.0	-59.44	.63	7.05	.8	6518.
-190.0	-57.91	.67	7.30	.9	6964.
-185.0	-56.39	.72	7.68	1.1	7561.
-180.0	-54.86	.77	7.97	1.2	8099.
-175.0	-53.34	.82	8.41	1.4	8830.
-170.0	-51.82	.89	8.72	1.5	9468.
-165.0	-50.29	.95	9.23	1.8	10386.
-160.0	-48.77	1.03	9.76	2.0	11376.
-155.0	-47.24	1.11	10.16	2.3	12292.
-150.0	-45.72	1.21	10.79	2.7	13556.
-145.0	-44.20	1.32	11.45	3.1	14954.
-140.0	-42.67	1.44	12.15	3.7	16529.
-135.0	-41.15	1.57	12.73	4.2	18055.
-130.0	-39.62	1.73	13.59	5.0	20115.
-125.0	-38.10	1.91	14.51	6.0	22455.
-120.0	-36.58	2.12	15.52	7.2	25142.
-115.0	-35.05	2.35	16.63	8.6	28247.
-110.0	-33.53	2.63	17.85	10.5	31851.
-105.0	-32.00	2.95	19.20	12.7	36042.
-100.0	-30.48	3.33	20.97	16.0	41503.
-95.0	-28.96	3.78	22.69	19.8	47449.
-90.0	-27.43	4.31	24.58	24.6	54443.
-85.0	-25.91	4.94	27.05	31.7	63600.
-80.0	-24.38	5.69	29.40	39.8	73560.
-75.0	-22.86	6.59	32.56	52.1	86952.
-70.0	-21.34	7.68	36.08	68.4	103075.
-65.0	-19.81	8.98	39.98	90.2	122562.

-60.0	-18.29	10.53	44.95	122.6	148176.
-55.0	-16.76	12.34	49.92	162.7	177190.
-50.0	-15.24	14.42	55.86	219.5	213577.
-45.0	-13.72	16.70	61.62	287.0	253147.
-40.0	-12.19	19.05	67.27	365.6	295319.
-35.0	-10.67	21.19	72.61	450.6	337258.
-30.0	-9.14	22.79	76.94	527.5	372616.
-25.0	-7.62	23.48	78.82	566.6	390664.
-20.0	-6.10	23.07	78.28	560.4	389080.
-15.0	-4.57	21.60	74.81	504.0	366133.
-10.0	-3.05	19.36	69.69	425.1	331498.
-5.0	-1.52	16.72	62.90	334.3	288858.
.0	.00	13.99	55.48	251.2	246077.
5.0	1.52	11.42	48.85	189.3	210592.
10.0	3.05	9.13	42.22	138.8	178612.
15.0	4.57	7.17	36.02	100.0	150835.
20.0	6.10	5.57	30.94	73.2	128645.
25.0	7.62	4.32	26.34	52.3	107903.
30.0	9.14	3.37	23.19	39.1	91646.
35.0	10.67	2.69	20.78	29.3	76540.
40.0	12.19	2.19	19.09	22.1	62797.
45.0	13.72	1.84	18.25	17.0	50722.
50.0	15.24	1.58	20.27	11.3	30404.
55.0	16.76	1.38	14.46	7.3	27428.
60.0	18.29	1.23	14.62	7.3	26962.
65.0	19.81	1.10	13.92	6.3	24453.
70.0	21.34	1.00	13.08	5.2	21672.
75.0	22.86	.91	12.35	4.4	19235.
80.0	24.38	.83	11.77	3.7	17172.
85.0	25.91	.77	11.30	3.2	15434.
90.0	27.43	.71	10.89	2.8	13907.
95.0	28.96	.66	10.34	2.3	12349.
100.0	30.48	.61	10.03	2.1	11204.
105.0	32.00	.57	9.60	1.8	10026.
110.0	33.53	.53	8.64	1.3	8432.
115.0	35.05	.50	7.88	1.0	7153.
120.0	36.58	.47	6.93	.7	5774.
125.0	38.10	.44	3.69	.2	2572.
130.0	39.62	.42	3.59	.2	2552.
135.0	41.15	.40	3.45	.2	2425.
140.0	42.67	.38	3.33	.1	2300.
145.0	44.20	.36	3.17	.1	2149.
150.0	45.72	.34	3.08	.1	2049.
155.0	47.24	.32	2.99	.1	1950.
160.0	48.77	.31	2.88	.1	1834.
165.0	50.29	.29	2.80	.1	1749.
170.0	51.82	.28	2.70	.1	1650.
175.0	53.34	.27	2.59	.1	1554.
180.0	54.86	.26	2.54	.1	1491.
185.0	56.39	.25	2.45	.1	1411.
190.0	57.91	.24	2.35	.1	1332.
195.0	59.44	.23	2.31	.1	1284.
200.0	60.96	.22	2.24	.1	1218.
205.0	62.48	.21	2.16	.0	1154.
210.0	64.01	.20	2.12	.0	1115.
215.0	65.53	.19	2.06	.0	1061.
220.0	67.06	.19	1.99	.0	1010.
225.0	68.58	.18	1.93	.0	959.
230.0	70.10	.18	1.90	.0	931.
235.0	71.63	.17	1.85	.0	889.
240.0	73.15	.16	1.79	.0	848.
245.0	74.68	.16	1.74	.0	809.
250.0	76.20	.15	1.72	.0	787.

255.0	77.72	.15	1.67	.0	753.
260.0	79.25	.14	1.63	.0	721.
265.0	80.77	.14	1.58	.0	690.
270.0	82.30	.13	1.54	.0	661.
275.0	83.82	.13	1.49	.0	631.
280.0	85.34	.13	1.48	.0	619.
285.0	86.87	.12	1.44	.0	594.
290.0	88.39	.12	1.41	.0	570.
295.0	89.92	.12	1.37	.0	548.
300.0	91.44	.11	1.34	.0	526.

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*****
*
* DC FIELD AND ION DENSITY PROFILES AT GROUND LEVEL *
*
*           wind speed = 0
* longitudinal distance: 750.00 feet
*
*****

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		<----- SUMMER FAIR ----->				<----- RAIN ----->			
LATERAL DISTANCE		FIELD 50%	FIELD 95%	IONS 50%	IONS 95%	FIELD 50%	FIELD 95%	IONS 50%	IONS 95%
(feet)	(meters)	(kV/m)	(kV/m)	(1/cc)	(1/cc)	(kV/m)	(kV/m)	(1/cc)	(1/cc)
-300.0	-91.44	1.4	2.4	1659.	1795.	2.3	2.7	1785.	1817.
-295.0	-89.92	1.4	2.5	1767.	1911.	2.4	2.8	1901.	1935.
-290.0	-88.39	1.5	2.5	1847.	2000.	2.4	2.9	1989.	2025.
-285.0	-86.87	1.5	2.6	1928.	2090.	2.5	3.0	2079.	2118.
-280.0	-85.34	1.6	2.7	2055.	2228.	2.6	3.1	2216.	2257.
-275.0	-83.82	1.6	2.8	2153.	2336.	2.7	3.2	2323.	2367.
-270.0	-82.30	1.7	2.9	2252.	2448.	2.7	3.3	2434.	2480.
-265.0	-80.77	1.8	3.0	2406.	2614.	2.9	3.4	2599.	2649.
-260.0	-79.25	1.8	3.1	2525.	2747.	2.9	3.5	2732.	2785.
-255.0	-77.72	1.9	3.2	2645.	2883.	3.0	3.6	2866.	2923.
-250.0	-76.20	1.9	3.3	2834.	3089.	3.2	3.8	3071.	3132.
-245.0	-74.68	2.0	3.4	2980.	3253.	3.3	3.9	3234.	3299.
-240.0	-73.15	2.1	3.6	3190.	3483.	3.4	4.0	3463.	3533.
-235.0	-71.63	2.2	3.7	3363.	3679.	3.5	4.2	3657.	3733.
-230.0	-70.10	2.2	3.8	3539.	3879.	3.6	4.3	3854.	3936.
-225.0	-68.58	2.3	4.0	3808.	4175.	3.8	4.5	4149.	4237.
-220.0	-67.06	2.4	4.1	4020.	4417.	3.9	4.7	4389.	4485.
-215.0	-65.53	2.5	4.3	4327.	4758.	4.1	4.9	4727.	4831.
-210.0	-64.01	2.6	4.5	4582.	5049.	4.2	5.0	5015.	5129.
-205.0	-62.48	2.8	4.7	4939.	5447.	4.5	5.3	5411.	5534.
-200.0	-60.96	2.9	4.8	5244.	5798.	4.6	5.5	5758.	5892.
-195.0	-59.44	3.0	5.1	5666.	6271.	4.8	5.8	6227.	6375.
-190.0	-57.91	3.1	5.3	6031.	6692.	5.0	6.0	6645.	6806.
-185.0	-56.39	3.3	5.6	6535.	7262.	5.3	6.3	7209.	7387.
-180.0	-54.86	3.5	5.8	6970.	7769.	5.5	6.5	7711.	7907.
-175.0	-53.34	3.7	6.1	7582.	8464.	5.8	6.9	8400.	8618.
-170.0	-51.82	3.8	6.3	8089.	9063.	6.0	7.1	8992.	9233.
-165.0	-50.29	4.0	6.7	8851.	9934.	6.4	7.6	9855.	10123.
-160.0	-48.77	4.3	7.1	9664.	10871.	6.8	8.0	10782.	11082.
-155.0	-47.24	4.5	7.4	10381.	11726.	7.1	8.3	11627.	11963.
-150.0	-45.72	4.8	7.9	11409.	12919.	7.5	8.9	12808.	13185.
-145.0	-44.20	5.1	8.3	12535.	14234.	8.0	9.4	14108.	14535.
-140.0	-42.67	5.4	8.9	13791.	15711.	8.5	10.0	15569.	16053.
-135.0	-41.15	5.7	9.3	14951.	17123.	8.9	10.5	16961.	17511.
-130.0	-39.62	6.2	10.0	16572.	19047.	9.5	11.2	18862.	19492.
-125.0	-38.10	6.6	10.7	18392.	21225.	10.2	12.0	21013.	21737.
-120.0	-36.58	7.1	11.4	20460.	23719.	10.9	12.8	23473.	24310.
-115.0	-35.05	7.7	12.3	22824.	26590.	11.7	13.8	26305.	27277.
-110.0	-33.53	8.3	13.2	25535.	29911.	12.6	14.8	29578.	30715.
-105.0	-32.00	9.0	14.2	28645.	33756.	13.6	15.9	33365.	34702.
-100.0	-30.48	9.9	15.6	32763.	38789.	14.9	17.4	38326.	39910.
-95.0	-28.96	10.8	16.9	37083.	44208.	16.2	18.9	43658.	45545.
-90.0	-27.43	11.9	18.4	42068.	50544.	17.6	20.5	49884.	52148.
-85.0	-25.91	13.2	20.3	48681.	58869.	19.5	22.6	58071.	60812.
-80.0	-24.38	14.5	22.2	55517.	67783.	21.3	24.6	66814.	70150.
-75.0	-22.86	16.3	24.6	64889.	79833.	23.7	27.4	78644.	82744.
-70.0	-21.34	18.3	27.4	75935.	94242.	26.3	30.4	92774.	97845.
-65.0	-19.81	20.6	30.5	89004.	111534.	29.4	33.8	109711.	116020.
-60.0	-18.29	23.4	34.4	106359.	134326.	33.1	38.0	132046.	139946.

-55.0	-16.76	26.4	38.4	125213.	159794.	37.0	42.4	156949.	166832.
-50.0	-15.24	29.9	43.2	148996.	191778.	41.7	47.5	188230.	200574.
-45.0	-13.72	33.5	47.9	173963.	226151.	46.2	52.6	221783.	237011.
-40.0	-12.19	37.0	52.5	200162.	262582.	50.7	57.6	257314.	275715.
-35.0	-10.67	40.4	56.9	226344.	298853.	55.0	62.3	292697.	314228.
-30.0	-9.14	43.0	60.4	248864.	329630.	58.4	66.1	322753.	346821.
-25.0	-7.62	44.1	61.9	260414.	345364.	59.9	67.7	338123.	363473.
-20.0	-6.10	43.7	61.4	260279.	344387.	59.4	67.2	337233.	362267.
-15.0	-4.57	41.5	58.5	246566.	324824.	56.6	64.1	318194.	341373.
-10.0	-3.05	38.1	54.3	226049.	295364.	52.4	59.6	289535.	309877.
-5.0	-1.52	34.0	48.8	199740.	258600.	47.1	53.6	253692.	270787.
.0	.00	29.5	42.8	172874.	221482.	41.3	47.2	217467.	231420.
5.0	1.52	25.4	37.4	151225.	190935.	36.0	41.3	187699.	198913.
10.0	3.05	21.5	32.1	131048.	163089.	30.9	35.6	160512.	169415.
15.0	4.57	17.9	27.2	113046.	138678.	26.1	30.2	136644.	143653.
20.0	6.10	15.0	23.2	98774.	119192.	22.2	25.8	117596.	123078.
25.0	7.62	12.5	19.6	84610.	100637.	18.8	21.9	99401.	103636.
30.0	9.14	10.8	17.1	73652.	86128.	16.4	19.2	85180.	88415.
35.0	10.67	9.4	15.2	62884.	72416.	14.6	17.1	71702.	74132.
40.0	12.19	8.5	13.9	52636.	59771.	13.3	15.7	59244.	61035.
45.0	13.72	8.0	13.2	43377.	48565.	12.6	15.0	48187.	49469.
50.0	15.24	8.6	14.6	26885.	29395.	13.9	16.5	29216.	29820.
55.0	16.76	6.3	10.5	23635.	26320.	10.0	11.8	26125.	26785.
60.0	18.29	6.2	10.5	23632.	26001.	10.0	11.9	25831.	26406.
65.0	19.81	5.9	10.0	21588.	23630.	9.5	11.4	23485.	23977.
70.0	21.34	5.5	9.4	19214.	20968.	8.9	10.7	20844.	21265.
75.0	22.86	5.2	8.9	17122.	18632.	8.4	10.1	18525.	18886.
80.0	24.38	4.9	8.4	15350.	16654.	8.0	9.6	16561.	16873.
85.0	25.91	4.7	8.1	13857.	14986.	7.7	9.2	14907.	15175.
90.0	27.43	4.5	7.8	12538.	13520.	7.4	8.8	13451.	13684.
95.0	28.96	4.3	7.4	11158.	12013.	7.0	8.4	11953.	12155.
100.0	30.48	4.1	7.1	10163.	10911.	6.8	8.1	10858.	11035.
105.0	32.00	3.9	6.8	9115.	9770.	6.5	7.8	9724.	9878.
110.0	33.53	3.6	6.2	7638.	8208.	5.9	7.0	8168.	8303.
115.0	35.05	3.3	5.6	6463.	6958.	5.4	6.4	6924.	7041.
120.0	36.58	2.9	5.0	5182.	5606.	4.7	5.6	5576.	5677.
125.0	38.10	1.7	2.7	2140.	2443.	2.6	3.0	2420.	2497.
130.0	39.62	1.6	2.6	2133.	2427.	2.5	3.0	2405.	2479.
135.0	41.15	1.5	2.5	2032.	2308.	2.4	2.8	2287.	2357.
140.0	42.67	1.5	2.4	1933.	2191.	2.3	2.7	2172.	2237.
145.0	44.20	1.4	2.3	1807.	2048.	2.2	2.6	2030.	2090.
150.0	45.72	1.4	2.2	1729.	1954.	2.1	2.5	1938.	1994.
155.0	47.24	1.3	2.2	1650.	1861.	2.1	2.5	1846.	1898.
160.0	48.77	1.3	2.1	1554.	1751.	2.0	2.4	1737.	1786.
165.0	50.29	1.2	2.0	1487.	1672.	1.9	2.3	1658.	1704.
170.0	51.82	1.2	2.0	1404.	1578.	1.9	2.2	1565.	1608.
175.0	53.34	1.1	1.9	1324.	1486.	1.8	2.1	1474.	1515.
180.0	54.86	1.1	1.8	1274.	1427.	1.8	2.1	1416.	1454.
185.0	56.39	1.1	1.8	1206.	1351.	1.7	2.0	1340.	1376.
190.0	57.91	1.0	1.7	1139.	1275.	1.6	1.9	1265.	1299.
195.0	59.44	1.0	1.7	1102.	1231.	1.6	1.9	1221.	1253.
200.0	60.96	1.0	1.6	1046.	1168.	1.5	1.8	1159.	1189.
205.0	62.48	.9	1.6	992.	1107.	1.5	1.8	1099.	1127.
210.0	64.01	.9	1.5	961.	1070.	1.5	1.7	1062.	1089.
215.0	65.53	.9	1.5	915.	1019.	1.4	1.7	1011.	1036.
220.0	67.06	.9	1.4	872.	969.	1.4	1.6	962.	986.
225.0	68.58	.8	1.4	828.	921.	1.3	1.6	914.	937.
230.0	70.10	.8	1.4	807.	895.	1.3	1.6	888.	910.
235.0	71.63	.8	1.3	770.	854.	1.3	1.5	848.	869.
240.0	73.15	.8	1.3	736.	816.	1.2	1.5	810.	829.
245.0	74.68	.7	1.3	702.	778.	1.2	1.4	773.	791.
250.0	76.20	.7	1.2	685.	757.	1.2	1.4	752.	770.
255.0	77.72	.7	1.2	656.	725.	1.1	1.4	720.	737.

260.0	79.25	.7	1.2	628.	694.	1.1	1.3	689.	705.
265.0	80.77	.7	1.1	602.	665.	1.1	1.3	660.	675.
270.0	82.30	.7	1.1	576.	636.	1.1	1.3	632.	646.
275.0	83.82	.6	1.1	550.	608.	1.0	1.2	604.	618.
280.0	85.34	.6	1.1	541.	596.	1.0	1.2	592.	606.
285.0	86.87	.6	1.0	520.	573.	1.0	1.2	569.	582.
290.0	88.39	.6	1.0	499.	550.	1.0	1.1	546.	559.
295.0	89.92	.6	1.0	480.	528.	.9	1.1	525.	537.
300.0	91.44	.6	1.0	461.	507.	.9	1.1	504.	515.

 Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Magnetic Field at 1750A

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_MDNRC
 Date: 6/17/2014 Time: 15:49

DC Monopole with DNR and Load = 1750A

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*****
*                               BUNDLE INFORMATION                               *
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BNDL #	CIRC #	VOLTAGE		CURRENT		# OF COND	BUNDLE COORDINATES			
		(kV)	(DEG)	(A)	(DEG)		X (feet)	Y (feet)	SAG (feet)	PH
1	1	632.0	0.	1750.	0.	3	-23.4	34.0	.0	+
2	1	0.0	0.	0.	0.	3	23.4	34.0	.0	-
3	1	0.0	0.	-875.	0.	1	-5.3	65.7	.0	-
4	1	0.0	0.	-875.	0.	1	5.3	65.7	.0	-
5	1	.0	0.	0.	0.	1	-13.4	78.9	.0	GND
6	1	.0	0.	0.	0.	1	13.4	78.9	.0	GND

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*****
*                               *
* MINIMUM GROUND CLEARANCE = 34.00 feet *
* POWER SYSTEM FREQUENCY = 60. Hz *
* SOIL RESISTIVITY = 100. ohm meter *
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*****
* SUBCONDUCTOR INFORMATION - REGULAR BUNDLES *
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BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

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*****
* SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES *
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BNDL #	CONDUCTOR NAME	COORDINATES		DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
		X (inch)	Y (inch)				
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

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*
*      MAGNETIC FIELD PROFILE      *
*      at 3.28 feet above ground  *
*
* longitudinal distance: 750.00 feet *
*
*****

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<-- DC MAGNETIC FIELD -->

LATERAL DISTANCE		VERTICAL HORIZONTAL		
(feet)	(meters)	TOTAL (mG)	COMP (mG)	COMP (mG)
-300.0	-91.44	5.26	4.30	3.03
-295.0	-89.92	5.44	4.46	3.11
-290.0	-88.39	5.63	4.64	3.20
-285.0	-86.87	5.84	4.83	3.28
-280.0	-85.34	6.05	5.02	3.37
-275.0	-83.82	6.28	5.23	3.47
-270.0	-82.30	6.51	5.45	3.56
-265.0	-80.77	6.76	5.69	3.66
-260.0	-79.25	7.03	5.94	3.76
-255.0	-77.72	7.31	6.20	3.87
-250.0	-76.20	7.61	6.49	3.98
-245.0	-74.68	7.93	6.79	4.09
-240.0	-73.15	8.27	7.11	4.21
-235.0	-71.63	8.63	7.46	4.33
-230.0	-70.10	9.01	7.83	4.46
-225.0	-68.58	9.42	8.23	4.58
-220.0	-67.06	9.86	8.66	4.71
-215.0	-65.53	10.32	9.12	4.84
-210.0	-64.01	10.83	9.61	4.98
-205.0	-62.48	11.36	10.15	5.11
-200.0	-60.96	11.94	10.73	5.25
-195.0	-59.44	12.57	11.35	5.39
-190.0	-57.91	13.24	12.03	5.52
-185.0	-56.39	13.96	12.77	5.65
-180.0	-54.86	14.75	13.57	5.78
-175.0	-53.34	15.60	14.45	5.90
-170.0	-51.82	16.53	15.41	6.00
-165.0	-50.29	17.55	16.45	6.09
-160.0	-48.77	18.65	17.60	6.16
-155.0	-47.24	19.86	18.87	6.20
-150.0	-45.72	21.19	20.26	6.21
-145.0	-44.20	22.65	21.79	6.17
-140.0	-42.67	24.26	23.49	6.07
-135.0	-41.15	26.05	25.37	5.89
-130.0	-39.62	28.03	27.46	5.61
-125.0	-38.10	30.24	29.79	5.20
-120.0	-36.58	32.71	32.38	4.63
-115.0	-35.05	35.47	35.26	3.85
-110.0	-33.53	38.58	38.48	2.79
-105.0	-32.00	42.10	42.08	1.39
-100.0	-30.48	46.08	46.08	-.47
-95.0	-28.96	50.62	50.54	-2.91
-90.0	-27.43	55.80	55.46	-6.11
-85.0	-25.91	61.74	60.88	-10.28
-80.0	-24.38	68.57	66.74	-15.72
-75.0	-22.86	76.44	72.96	-22.80
-70.0	-21.34	85.54	79.34	-31.97

-65.0	-19.81	96.03	85.47	-43.78
-60.0	-18.29	108.10	90.67	-58.87
-55.0	-16.76	121.88	93.83	-77.80
-50.0	-15.24	137.37	93.21	-100.91
-45.0	-13.72	154.31	86.43	-127.84
-40.0	-12.19	172.04	70.62	-156.87
-35.0	-10.67	189.28	43.32	-184.26
-30.0	-9.14	204.19	4.10	-204.15
-25.0	-7.62	214.70	-43.61	-210.22
-20.0	-6.10	219.23	-92.48	-198.77
-15.0	-4.57	217.39	-134.02	-171.16
-10.0	-3.05	210.03	-162.40	-133.19
-5.0	-1.52	198.76	-176.21	-91.96
.0	.00	185.21	-177.44	-53.08
5.0	1.52	170.71	-169.56	-19.77
10.0	3.05	156.16	-156.01	6.81
15.0	4.57	142.13	-139.59	26.78
20.0	6.10	128.94	-122.27	40.92
25.0	7.62	116.74	-105.38	50.23
30.0	9.14	105.59	-89.68	55.73
35.0	10.67	95.49	-75.57	58.37
40.0	12.19	86.40	-63.19	58.92
45.0	13.72	78.25	-52.51	58.02
50.0	15.24	70.98	-43.42	56.15
55.0	16.76	64.50	-35.75	53.68
60.0	18.29	58.72	-29.33	50.87
65.0	19.81	53.58	-23.97	47.92
70.0	21.34	49.01	-19.51	44.95
75.0	22.86	44.92	-15.81	42.05
80.0	24.38	41.28	-12.74	39.27
85.0	25.91	38.02	-10.19	36.63
90.0	27.43	35.10	-8.08	34.16
95.0	28.96	32.48	-6.33	31.86
100.0	30.48	30.12	-4.88	29.72
105.0	32.00	27.99	-3.67	27.75
110.0	33.53	26.07	-2.67	25.93
115.0	35.05	24.33	-1.84	24.26
120.0	36.58	22.75	-1.15	22.72
125.0	38.10	21.31	-.57	21.30
130.0	39.62	19.99	-.09	19.99
135.0	41.15	18.79	.30	18.79
140.0	42.67	17.69	.63	17.68
145.0	44.20	16.68	.90	16.66
150.0	45.72	15.76	1.13	15.72
155.0	47.24	14.90	1.31	14.84
160.0	48.77	14.11	1.46	14.04
165.0	50.29	13.38	1.58	13.29
170.0	51.82	12.70	1.67	12.59
175.0	53.34	12.08	1.75	11.95
180.0	54.86	11.49	1.81	11.35
185.0	56.39	10.95	1.85	10.79
190.0	57.91	10.44	1.88	10.27
195.0	59.44	9.97	1.90	9.79
200.0	60.96	9.53	1.92	9.34
205.0	62.48	9.12	1.92	8.91
210.0	64.01	8.73	1.92	8.52
215.0	65.53	8.37	1.92	8.14
220.0	67.06	8.02	1.91	7.79
225.0	68.58	7.70	1.89	7.47
230.0	70.10	7.40	1.88	7.16
235.0	71.63	7.11	1.86	6.87
240.0	73.15	6.84	1.83	6.59
245.0	74.68	6.59	1.81	6.33

250.0	76.20	6.35	1.79	6.09
255.0	77.72	6.12	1.76	5.86
260.0	79.25	5.90	1.74	5.64
265.0	80.77	5.70	1.71	5.44
270.0	82.30	5.50	1.68	5.24
275.0	83.82	5.32	1.65	5.05
280.0	85.34	5.14	1.63	4.88
285.0	86.87	4.97	1.60	4.71
290.0	88.39	4.82	1.57	4.55
295.0	89.92	4.66	1.54	4.40
300.0	91.44	4.52	1.52	4.26

 Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Magnetic Field at 2917A

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_MDNRD
 Date: 6/17/2014 Time: 15:57

DC Monopole Configuration with DNR and Load = 2917A

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*****
*                               BUNDLE INFORMATION                               *
*****
```

BNDL #	CIRC #	VOLTAGE		CURRENT		# OF COND	BUNDLE COORDINATES			PH
		VOLTAGE (kV)	ANGLE (DEG)	LOAD (A)	ANGLE (DEG)		X (feet)	Y (feet)	SAG (feet)	
1	1	632.0	0.	2917.	0.	3	-23.4	34.0	.0	+
2	1	0.0	0.	0.	0.	3	23.4	34.0	.0	-
3	1	0.0	0.	-1459.	0.	1	-5.3	65.7	.0	-
4	1	0.0	0.	-1459.	0.	1	5.3	65.7	.0	-
5	1	.0	0.	0.	0.	1	-13.4	78.9	.0	GND
6	1	.0	0.	0.	0.	1	13.4	78.9	.0	GND

```
*****
*                               *
* MINIMUM GROUND CLEARANCE = 34.00 feet                               *
* POWER SYSTEM FREQUENCY   = 60. Hz                                   *
* SOIL RESISTIVITY          = 100. ohm meter                          *
*                               *
*****
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```
*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

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*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	COORDINATES		DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
		X (inch)	Y (inch)				
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

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*****
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*****
*
*           MAGNETIC FIELD PROFILE           *
*           at 3.28 feet above ground       *
*
* longitudinal distance: 750.00 feet      *
*
*****

```

<-- DC MAGNETIC FIELD -->

LATERAL DISTANCE		VERTICAL HORIZONTAL		
(feet)	(meters)	TOTAL (mG)	COMP (mG)	COMP (mG)
-300.0	-91.44	8.77	7.17	5.05
-295.0	-89.92	9.07	7.44	5.19
-290.0	-88.39	9.39	7.73	5.33
-285.0	-86.87	9.73	8.04	5.47
-280.0	-85.34	10.08	8.37	5.62
-275.0	-83.82	10.46	8.72	5.78
-270.0	-82.30	10.86	9.09	5.94
-265.0	-80.77	11.28	9.48	6.10
-260.0	-79.25	11.72	9.90	6.28
-255.0	-77.72	12.19	10.34	6.45
-250.0	-76.20	12.69	10.81	6.64
-245.0	-74.68	13.22	11.32	6.83
-240.0	-73.15	13.78	11.86	7.02
-235.0	-71.63	14.38	12.44	7.22
-230.0	-70.10	15.02	13.05	7.43
-225.0	-68.58	15.70	13.72	7.64
-220.0	-67.06	16.43	14.43	7.85
-215.0	-65.53	17.21	15.20	8.07
-210.0	-64.01	18.04	16.02	8.30
-205.0	-62.48	18.94	16.91	8.52
-200.0	-60.96	19.91	17.88	8.75
-195.0	-59.44	20.94	18.92	8.98
-190.0	-57.91	22.06	20.05	9.20
-185.0	-56.39	23.28	21.28	9.42
-180.0	-54.86	24.59	22.62	9.63
-175.0	-53.34	26.01	24.08	9.83
-170.0	-51.82	27.56	25.68	10.00
-165.0	-50.29	29.25	27.43	10.15
-160.0	-48.77	31.09	29.34	10.27
-155.0	-47.24	33.10	31.45	10.34
-150.0	-45.72	35.32	33.77	10.35
-145.0	-44.20	37.76	36.33	10.28
-140.0	-42.67	40.44	39.16	10.12
-135.0	-41.15	43.42	42.30	9.82
-130.0	-39.62	46.72	45.78	9.35
-125.0	-38.10	50.40	49.65	8.67
-120.0	-36.58	54.52	53.97	7.72
-115.0	-35.05	59.13	58.78	6.41
-110.0	-33.53	64.31	64.15	4.65
-105.0	-32.00	70.17	70.14	2.31
-100.0	-30.48	76.82	76.81	-.79
-95.0	-28.96	84.38	84.24	-4.85
-90.0	-27.43	93.01	92.45	-10.18
-85.0	-25.91	102.91	101.47	-17.14
-80.0	-24.38	114.29	111.25	-26.21
-75.0	-22.86	127.42	121.62	-38.00
-70.0	-21.34	142.58	132.24	-53.29
-65.0	-19.81	160.07	142.46	-72.98
-60.0	-18.29	180.19	151.14	-98.12

-55.0	-16.76	203.16	156.39	-129.68
-50.0	-15.24	228.97	155.37	-168.20
-45.0	-13.72	257.22	144.07	-213.08
-40.0	-12.19	286.76	117.72	-261.48
-35.0	-10.67	315.50	72.21	-307.13
-30.0	-9.14	340.36	6.84	-340.29
-25.0	-7.62	357.87	-72.69	-350.41
-20.0	-6.10	365.42	-154.15	-331.32
-15.0	-4.57	362.35	-223.39	-285.30
-10.0	-3.05	350.10	-270.70	-222.01
-5.0	-1.52	331.30	-293.71	-153.28
.0	.00	308.72	-295.77	-88.48
5.0	1.52	284.55	-282.63	-32.96
10.0	3.05	260.30	-260.05	11.35
15.0	4.57	236.92	-232.67	44.64
20.0	6.10	214.92	-203.81	68.20
25.0	7.62	194.58	-175.65	83.72
30.0	9.14	176.00	-149.48	92.90
35.0	10.67	159.16	-125.96	97.29
40.0	12.19	144.01	-105.33	98.21
45.0	13.72	130.44	-87.53	96.71
50.0	15.24	118.31	-72.38	93.59
55.0	16.76	107.51	-59.60	89.47
60.0	18.29	97.88	-48.88	84.80
65.0	19.81	89.32	-39.95	79.88
70.0	21.34	81.68	-32.52	74.93
75.0	22.86	74.88	-26.35	70.09
80.0	24.38	68.81	-21.23	65.45
85.0	25.91	63.38	-16.99	61.06
90.0	27.43	58.51	-13.47	56.94
95.0	28.96	54.14	-10.55	53.10
100.0	30.48	50.21	-8.13	49.54
105.0	32.00	46.66	-6.12	46.26
110.0	33.53	43.46	-4.45	43.23
115.0	35.05	40.55	-3.06	40.44
120.0	36.58	37.91	-1.91	37.87
125.0	38.10	35.51	-.95	35.50
130.0	39.62	33.32	-.15	33.32
135.0	41.15	31.32	.51	31.32
140.0	42.67	29.49	1.05	29.47
145.0	44.20	27.81	1.50	27.77
150.0	45.72	26.26	1.88	26.20
155.0	47.24	24.84	2.18	24.74
160.0	48.77	23.52	2.43	23.40
165.0	50.29	22.30	2.63	22.15
170.0	51.82	21.18	2.79	20.99
175.0	53.34	20.13	2.91	19.92
180.0	54.86	19.16	3.01	18.92
185.0	56.39	18.25	3.09	17.99
190.0	57.91	17.41	3.14	17.13
195.0	59.44	16.62	3.17	16.32
200.0	60.96	15.89	3.20	15.56
205.0	62.48	15.20	3.21	14.86
210.0	64.01	14.55	3.20	14.19
215.0	65.53	13.94	3.19	13.57
220.0	67.06	13.37	3.18	12.99
225.0	68.58	12.84	3.15	12.44
230.0	70.10	12.33	3.13	11.93
235.0	71.63	11.86	3.09	11.45
240.0	73.15	11.41	3.06	10.99
245.0	74.68	10.98	3.02	10.56
250.0	76.20	10.58	2.98	10.15
255.0	77.72	10.20	2.94	9.77

260.0	79.25	9.84	2.89	9.40
265.0	80.77	9.50	2.85	9.06
270.0	82.30	9.17	2.80	8.73
275.0	83.82	8.86	2.76	8.42
280.0	85.34	8.57	2.71	8.13
285.0	86.87	8.29	2.66	7.85
290.0	88.39	8.03	2.62	7.59
295.0	89.92	7.77	2.57	7.33
300.0	91.44	7.53	2.53	7.09

 Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Magnetic Field at 3700A

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_MDNRB
 Date: 6/17/2014 Time: 17:16

DC Monopole Configuration with DNR and Load = 3700A

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*****
*                               BUNDLE INFORMATION                               *
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BNDL #	CIRC #	VOLTAGE		CURRENT		# OF COND	BUNDLE COORDINATES			PH
		VOLTAGE (kV)	ANGLE (DEG)	LOAD (A)	ANGLE (DEG)		X (feet)	Y (feet)	SAG (feet)	
1	1	632.0	0.	3700.	0.	3	-23.4	34.0	.0	+
2	1	.0	0.	0.	0.	3	23.4	34.0	.0	SEC
3	1	.0	0.	-1850.	0.	1	-5.3	65.7	.0	-
4	1	.0	0.	-1850.	0.	1	5.3	65.7	.0	-
5	1	.0	0.	0.	0.	1	-13.4	78.9	.0	GND
6	1	.0	0.	0.	0.	1	13.4	78.9	.0	GND

```
*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****
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```
*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

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*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
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BNDL #	CONDUCTOR NAME	COORDINATES		DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
		X (inch)	Y (inch)				
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

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*****
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*****
*
*           MAGNETIC FIELD PROFILE           *
*           at 3.28 feet above ground       *
*
* longitudinal distance: 750.00 feet      *
*
*****

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<-- DC MAGNETIC FIELD -->

LATERAL DISTANCE		VERTICAL HORIZONTAL		
(feet)	(meters)	TOTAL (mG)	COMP (mG)	COMP (mG)
-300.0	-91.44	11.12	9.09	6.41
-295.0	-89.92	11.51	9.44	6.58
-290.0	-88.39	11.91	9.81	6.76
-285.0	-86.87	12.34	10.20	6.94
-280.0	-85.34	12.79	10.62	7.13
-275.0	-83.82	13.27	11.06	7.33
-270.0	-82.30	13.77	11.53	7.53
-265.0	-80.77	14.30	12.02	7.74
-260.0	-79.25	14.86	12.55	7.96
-255.0	-77.72	15.46	13.12	8.19
-250.0	-76.20	16.09	13.72	8.42
-245.0	-74.68	16.76	14.36	8.66
-240.0	-73.15	17.48	15.04	8.90
-235.0	-71.63	18.24	15.77	9.16
-230.0	-70.10	19.05	16.56	9.42
-225.0	-68.58	19.91	17.40	9.69
-220.0	-67.06	20.84	18.30	9.96
-215.0	-65.53	21.83	19.28	10.24
-210.0	-64.01	22.89	20.32	10.52
-205.0	-62.48	24.03	21.45	10.81
-200.0	-60.96	25.25	22.68	11.10
-195.0	-59.44	26.57	24.00	11.39
-190.0	-57.91	27.99	25.44	11.67
-185.0	-56.39	29.52	27.00	11.95
-180.0	-54.86	31.19	28.70	12.21
-175.0	-53.34	32.99	30.55	12.46
-170.0	-51.82	34.96	32.57	12.69
-165.0	-50.29	37.10	34.79	12.88
-160.0	-48.77	39.43	37.22	13.03
-155.0	-47.24	41.99	39.89	13.12
-150.0	-45.72	44.80	42.83	13.13
-145.0	-44.20	47.89	46.08	13.05
-140.0	-42.67	51.30	49.67	12.83
-135.0	-41.15	55.08	53.65	12.45
-130.0	-39.62	59.27	58.07	11.86
-125.0	-38.10	63.93	62.98	11.00
-120.0	-36.58	69.15	68.45	9.79
-115.0	-35.05	75.00	74.56	8.13
-110.0	-33.53	81.58	81.36	5.90
-105.0	-32.00	89.01	88.96	2.93
-100.0	-30.48	97.44	97.43	-1.00
-95.0	-28.96	107.02	106.85	-6.16
-90.0	-27.43	117.98	117.27	-12.91
-85.0	-25.91	130.53	128.71	-21.74
-80.0	-24.38	144.97	141.11	-33.24
-75.0	-22.86	161.62	154.27	-48.20
-70.0	-21.34	180.85	167.74	-67.59
-65.0	-19.81	203.04	180.70	-92.57
-60.0	-18.29	228.56	191.71	-124.46

-55.0	-16.76	257.70	198.37	-164.49
-50.0	-15.24	290.44	197.07	-213.35
-45.0	-13.72	326.26	182.74	-270.28
-40.0	-12.19	363.73	149.32	-331.67
-35.0	-10.67	400.19	91.59	-389.57
-30.0	-9.14	431.72	8.67	-431.63
-25.0	-7.62	453.93	-92.20	-444.47
-20.0	-6.10	463.51	-195.52	-420.25
-15.0	-4.57	459.61	-283.35	-361.88
-10.0	-3.05	444.07	-343.36	-281.61
-5.0	-1.52	420.23	-372.55	-194.43
.0	.00	391.59	-375.16	-112.23
5.0	1.52	360.93	-358.50	-41.81
10.0	3.05	330.17	-329.86	14.40
15.0	4.57	300.51	-295.13	56.63
20.0	6.10	272.61	-258.52	86.51
25.0	7.62	246.81	-222.80	106.19
30.0	9.14	223.24	-189.61	117.83
35.0	10.67	201.89	-159.78	123.41
40.0	12.19	182.67	-133.60	124.57
45.0	13.72	165.45	-111.03	122.66
50.0	15.24	150.07	-91.81	118.71
55.0	16.76	136.36	-75.59	113.49
60.0	18.29	124.16	-62.01	107.56
65.0	19.81	113.29	-50.67	101.33
70.0	21.34	103.61	-41.25	95.05
75.0	22.86	94.98	-33.42	88.91
80.0	24.38	87.28	-26.93	83.02
85.0	25.91	80.39	-21.55	77.45
90.0	27.43	74.21	-17.09	72.22
95.0	28.96	68.67	-13.39	67.35
100.0	30.48	63.68	-10.32	62.84
105.0	32.00	59.19	-7.77	58.67
110.0	33.53	55.12	-5.65	54.83
115.0	35.05	51.44	-3.89	51.29
120.0	36.58	48.09	-2.42	48.03
125.0	38.10	45.05	-1.21	45.03
130.0	39.62	42.27	-.20	42.27
135.0	41.15	39.73	.64	39.73
140.0	42.67	37.41	1.33	37.38
145.0	44.20	35.27	1.91	35.22
150.0	45.72	33.31	2.38	33.23
155.0	47.24	31.50	2.76	31.38
160.0	48.77	29.83	3.08	29.68
165.0	50.29	28.29	3.33	28.09
170.0	51.82	26.86	3.54	26.63
175.0	53.34	25.53	3.70	25.27
180.0	54.86	24.30	3.82	24.00
185.0	56.39	23.15	3.91	22.82
190.0	57.91	22.08	3.98	21.72
195.0	59.44	21.08	4.03	20.70
200.0	60.96	20.15	4.05	19.74
205.0	62.48	19.28	4.07	18.84
210.0	64.01	18.46	4.06	18.00
215.0	65.53	17.69	4.05	17.22
220.0	67.06	16.96	4.03	16.48
225.0	68.58	16.28	4.00	15.78
230.0	70.10	15.64	3.96	15.13
235.0	71.63	15.04	3.92	14.52
240.0	73.15	14.47	3.88	13.94
245.0	74.68	13.93	3.83	13.39
250.0	76.20	13.42	3.78	12.88
255.0	77.72	12.94	3.72	12.39

260.0	79.25	12.48	3.67	11.93
265.0	80.77	12.05	3.61	11.49
270.0	82.30	11.63	3.55	11.08
275.0	83.82	11.24	3.50	10.69
280.0	85.34	10.87	3.44	10.31
285.0	86.87	10.52	3.38	9.96
290.0	88.39	10.18	3.32	9.62
295.0	89.92	9.86	3.26	9.30
300.0	91.44	9.55	3.21	9.00

 Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Radio Noise

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_MDNRB
 Date: 6/17/2014 Time: 17:16

DC Monopole Configuration with DNR and Load = 3700A

```
*****
*                               BUNDLE INFORMATION                               *
*****
```

BNDL #	CIRC #	VOLTAGE		CURRENT		# OF COND	BUNDLE COORDINATES			PH
		VOLTAGE (kV)	ANGLE (DEG)	LOAD (A)	ANGLE (DEG)		X (feet)	Y (feet)	SAG (feet)	
1	1	632.0	0.	3700.	0.	3	-23.4	34.0	.0	+
2	1	.0	0.	0.	0.	3	23.4	34.0	.0	SEC
3	1	.0	0.	-1850.	0.	1	-5.3	65.7	.0	-
4	1	.0	0.	-1850.	0.	1	5.3	65.7	.0	-
5	1	.0	0.	0.	0.	1	-13.4	78.9	.0	GND
6	1	.0	0.	0.	0.	1	13.4	78.9	.0	GND

```
*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****
```

```
*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

```
*****
```

```
*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	COORDINATES		DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
		X (inch)	Y (inch)				
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

```
*****
```

```

*****
*
*   RADIO NOISE PROFILES   *
*   at 500.00 kHz         *
*
*   ANSI, loop antenna    *
*   ALTITUDE 3000.0 ft    *
*****

```

Lateral Distance (feet) (meters)	Average Stable Foul Weather Noise (1,2) (dB)	Heavy Rain Noise (3) (dB)	Wet Conductor Noise (3) (dB)
-300.0	-91.44	.0	33.3
-295.0	-89.92	.0	33.6
-290.0	-88.39	.0	33.9
-285.0	-86.87	.0	34.1
-280.0	-85.34	.0	34.4
-275.0	-83.82	.0	34.7
-270.0	-82.30	.0	34.9
-265.0	-80.77	.0	35.2
-260.0	-79.25	.0	35.5
-255.0	-77.72	.0	35.8
-250.0	-76.20	.0	36.1
-245.0	-74.68	.0	36.4
-240.0	-73.15	.0	36.7
-235.0	-71.63	.0	37.0
-230.0	-70.10	.0	37.3
-225.0	-68.58	.0	37.6
-220.0	-67.06	.0	37.9
-215.0	-65.53	.0	38.3
-210.0	-64.01	.0	38.6
-205.0	-62.48	.0	38.9
-200.0	-60.96	.0	39.3
-195.0	-59.44	.0	39.6
-190.0	-57.91	.0	40.0
-185.0	-56.39	.0	40.3
-180.0	-54.86	.0	40.7
-175.0	-53.34	.0	41.0
-170.0	-51.82	.0	41.4
-165.0	-50.29	.0	41.8
-160.0	-48.77	.0	42.2
-155.0	-47.24	.0	42.6
-150.0	-45.72	.0	43.0
-145.0	-44.20	.0	43.4
-140.0	-42.67	.0	43.8
-135.0	-41.15	.0	44.2
-130.0	-39.62	.0	44.7
-125.0	-38.10	.0	45.1
-120.0	-36.58	.0	45.6
-115.0	-35.05	.0	46.1
-110.0	-33.53	.0	46.7
-105.0	-32.00	.0	47.3
-100.0	-30.48	.0	47.9
-95.0	-28.96	.0	48.6
-90.0	-27.43	.0	49.5
-85.0	-25.91	.0	50.4
-80.0	-24.38	.0	51.5
-75.0	-22.86	.0	52.8
-70.0	-21.34	.0	54.1
-65.0	-19.81	.0	55.6
-60.0	-18.29	.0	57.2
-55.0	-16.76	.0	58.9

-50.0	-15.24	.0	60.5	60.5
-45.0	-13.72	.0	62.0	62.0
-40.0	-12.19	.0	63.4	63.4
-35.0	-10.67	.0	64.4	64.4
-30.0	-9.14	.0	65.1	65.1
-25.0	-7.62	.0	65.3	65.3
-20.0	-6.10	.0	65.0	65.0
-15.0	-4.57	.0	64.1	64.1
-10.0	-3.05	.0	62.8	62.8
-5.0	-1.52	.0	61.2	61.2
.0	.00	.0	59.7	59.7
5.0	1.52	.0	58.6	58.6
10.0	3.05	.0	58.0	58.0
15.0	4.57	.0	58.0	58.0
20.0	6.10	.0	58.1	58.1
25.0	7.62	.0	58.2	58.2
30.0	9.14	.0	58.2	58.2
35.0	10.67	.0	58.0	58.0
40.0	12.19	.0	57.8	57.8
45.0	13.72	.0	57.4	57.4
50.0	15.24	.0	57.0	57.0
55.0	16.76	.0	56.5	56.5
60.0	18.29	.0	56.0	56.0
65.0	19.81	.0	55.5	55.5
70.0	21.34	.0	54.9	54.9
75.0	22.86	.0	54.3	54.3
80.0	24.38	.0	53.7	53.7
85.0	25.91	.0	53.1	53.1
90.0	27.43	.0	52.5	52.5
95.0	28.96	.0	51.9	51.9
100.0	30.48	.0	51.3	51.3
105.0	32.00	.0	50.7	50.7
110.0	33.53	.0	50.2	50.2
115.0	35.05	.0	49.6	49.6
120.0	36.58	.0	49.0	49.0
125.0	38.10	.0	48.5	48.5
130.0	39.62	.0	48.0	48.0
135.0	41.15	.0	47.4	47.4
140.0	42.67	.0	46.9	46.9
145.0	44.20	.0	46.4	46.4
150.0	45.72	.0	45.9	45.9
155.0	47.24	.0	45.4	45.4
160.0	48.77	.0	45.0	45.0
165.0	50.29	.0	44.5	44.5
170.0	51.82	.0	44.0	44.0
175.0	53.34	.0	43.6	43.6
180.0	54.86	.0	43.2	43.2
185.0	56.39	.0	42.7	42.7
190.0	57.91	.0	42.3	42.3
195.0	59.44	.0	41.9	41.9
200.0	60.96	.0	41.5	41.5
205.0	62.48	.0	41.1	41.1
210.0	64.01	.0	40.7	40.7
215.0	65.53	.0	40.3	40.3
220.0	67.06	.0	40.0	40.0
225.0	68.58	.0	39.6	39.6
230.0	70.10	.0	39.2	39.2
235.0	71.63	.0	38.9	38.9
240.0	73.15	.0	38.5	38.5
245.0	74.68	.0	38.2	38.2
250.0	76.20	.0	37.9	37.9
255.0	77.72	.0	37.5	37.5
260.0	79.25	.0	37.2	37.2

265.0	80.77	.0	36.9	36.9
270.0	82.30	.0	36.6	36.6
275.0	83.82	.0	36.3	36.3
280.0	85.34	.0	36.0	36.0
285.0	86.87	.0	35.7	35.7
290.0	88.39	.0	35.5	35.5
295.0	89.92	.0	35.4	35.4
300.0	91.44	.0	35.2	35.2

- (1) The "Average Stable Foul Weather" noise is calculated using an empirical expression for the radio noise excitation function that was derived (see REF. [A]) to best fit the long term radio noise measurements of existing lines (in the 345 kV to 765 kV range). This generation function is used also in the program RNOISE, which is applicable to AC transmission lines. If AC lines are not present, the "Average Stable Foul Weather" column contains zeros.
- (2) The "Average Fair Weather" radio noise values can be obtained by subtracting 21.6 dB from the "Average Stable Foul Weather" radio noise data.
- (3) The "Heavy Rain" and the "Wet Conductor" radio noise levels, are defined in the EPRI's Transmission Line Reference Book - 345 kV and Above. The equations for the excitation functions for AC conductors are derived from the Reference Book and are applicable for large ranges of surface gradients (from 10 to 25 kV/cm), subconductor diameters (2 to 8 cm) and number of subconductors (1 to 12). The equations for the excitation functions for DC and HYBRID line conductors are derived from the EPRI RP 2472-6. Heavy rain was defined as rain with intensity of the order of 8 - 12 mm/hr. In the Northeastern climate, the "Heavy Rain" noise is exceeded only 1% of the time during periods of rain. "Wet Conductor" noise corresponds to the condition of the conductor saturated with water drops and with little noise caused by the impingement of rain droplets. Experimental data from which the equations for the "Wet Conductor" noise were derived, indicate that the "Wet Conductor" noise is exceeded 50% of the time during natural rain periods. "Wet Conductor" noise also corresponds to the maximum noise that can be produced during fog.

REFERENCES:

[A] R.G. Olsen, S.D. Schennum and V.L. Chartier, "Comparison of Several Methods for Calculating Power Line Electromagnetic Interference Levels and Calibration with Long Term Data", EPRI report, Project RP-2025, 1991.

=====

Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Audible Noise

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_MDNRE
 Date: 6/17/2014 Time: 16: 5

DC Monopole Configuration with DNR at AN Ground Clearance

```

*****
*                               BUNDLE INFORMATION                               *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | CURRENT | ANGLE | # | BUNDLE COORDINATES | PH |
| # | # | (kV) | (DEG) | (A) | (DEG) | COND | (feet) | (feet) | (feet) |
*****
| 1 | 1 | 632.0 | 0. | 0. | 0. | 3 | -23.4 | 55.7 | .0 | + |
| 2 | 1 | .0 | 0. | 0. | 0. | 3 | 23.4 | 55.7 | .0 | SEC |
| 3 | 1 | .0 | 0. | 0. | 0. | 1 | -5.3 | 87.4 | .0 | GND |
| 4 | 1 | .0 | 0. | 0. | 0. | 1 | 5.3 | 87.4 | .0 | GND |
| 5 | 1 | .0 | 0. | 0. | 0. | 1 | -13.4 | 100.6 | .0 | GND |
| 6 | 1 | .0 | 0. | 0. | 0. | 1 | 13.4 | 100.6 | .0 | GND |
*****
*                               MINIMUM GROUND CLEARANCE = 55.70 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****

```

```

*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
| BNDL | CONDUCTOR | DIAMETER | SPACING | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 3 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 4 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 5 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
| 6 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
*****

```

```

*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
| BNDL | CONDUCTOR | COORDINATES | DIAMETER | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 1 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | .00 | 13.42 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | .00 | 13.42 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
*****

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*****
*
*           AUDIBLE NOISE
*
* Microphone is 5.00 feet above ground
* Altitude 3000.0 feet
*
*****

```

<----- HVTRC CALCULATION METHOD ----->

LATERAL DISTANCE		L50 FAIR	L5 RAIN	L50 RAIN	Leq(24)	Ldn
(feet)	(meters)	(dB(A))	(dB(A))	(dB(A))	(dB(A))	(dB(A))
-300.0	-91.44	37.0	31.0	31.0	36.2	42.7
-295.0	-89.92	37.1	31.1	31.1	36.3	42.8
-290.0	-88.39	37.2	31.2	31.2	36.4	42.9
-285.0	-86.87	37.3	31.3	31.3	36.5	43.0
-280.0	-85.34	37.4	31.4	31.4	36.6	43.1
-275.0	-83.82	37.6	31.6	31.6	36.8	43.3
-270.0	-82.30	37.7	31.7	31.7	36.9	43.4
-265.0	-80.77	37.8	31.8	31.8	37.0	43.5
-260.0	-79.25	37.9	31.9	31.9	37.1	43.6
-255.0	-77.72	38.0	32.0	32.0	37.2	43.7
-250.0	-76.20	38.1	32.1	32.1	37.3	43.8
-245.0	-74.68	38.3	32.3	32.3	37.5	44.0
-240.0	-73.15	38.4	32.4	32.4	37.6	44.1
-235.0	-71.63	38.5	32.5	32.5	37.7	44.2
-230.0	-70.10	38.6	32.6	32.6	37.8	44.3
-225.0	-68.58	38.8	32.8	32.8	38.0	44.5
-220.0	-67.06	38.9	32.9	32.9	38.1	44.6
-215.0	-65.53	39.0	33.0	33.0	38.2	44.7
-210.0	-64.01	39.2	33.2	33.2	38.4	44.9
-205.0	-62.48	39.3	33.3	33.3	38.5	45.0
-200.0	-60.96	39.5	33.5	33.5	38.7	45.2
-195.0	-59.44	39.6	33.6	33.6	38.8	45.3
-190.0	-57.91	39.7	33.7	33.7	38.9	45.4
-185.0	-56.39	39.9	33.9	33.9	39.1	45.6
-180.0	-54.86	40.0	34.0	34.0	39.2	45.7
-175.0	-53.34	40.2	34.2	34.2	39.4	45.9
-170.0	-51.82	40.4	34.4	34.4	39.6	46.1
-165.0	-50.29	40.5	34.5	34.5	39.7	46.2
-160.0	-48.77	40.7	34.7	34.7	39.9	46.4
-155.0	-47.24	40.9	34.9	34.9	40.1	46.6
-150.0	-45.72	41.0	35.0	35.0	40.2	46.7
-145.0	-44.20	41.2	35.2	35.2	40.4	46.9
-140.0	-42.67	41.4	35.4	35.4	40.6	47.1
-135.0	-41.15	41.6	35.6	35.6	40.8	47.3
-130.0	-39.62	41.8	35.8	35.8	41.0	47.5
-125.0	-38.10	42.0	36.0	36.0	41.2	47.7
-120.0	-36.58	42.2	36.2	36.2	41.4	47.9
-115.0	-35.05	42.4	36.4	36.4	41.6	48.1
-110.0	-33.53	42.6	36.6	36.6	41.8	48.3
-105.0	-32.00	42.8	36.8	36.8	42.0	48.5
-100.0	-30.48	43.0	37.0	37.0	42.2	48.7
-95.0	-28.96	43.2	37.2	37.2	42.4	48.9
-90.0	-27.43	43.5	37.5	37.5	42.7	49.2
-85.0	-25.91	43.7	37.7	37.7	42.9	49.4
-80.0	-24.38	43.9	37.9	37.9	43.1	49.6
-75.0	-22.86	44.2	38.2	38.2	43.4	49.9
-70.0	-21.34	44.4	38.4	38.4	43.6	50.1
-65.0	-19.81	44.6	38.6	38.6	43.8	50.3

-60.0	-18.29	44.9	38.9	38.9	44.1	50.6
-55.0	-16.76	45.1	39.1	39.1	44.3	50.8
-50.0	-15.24	45.3	39.3	39.3	44.5	51.0
-45.0	-13.72	45.4	39.4	39.4	44.6	51.1
-40.0	-12.19	45.6	39.6	39.6	44.8	51.3
-35.0	-10.67	45.7	39.7	39.7	44.9	51.4
-30.0	-9.14	45.8	39.8	39.8	45.0	51.5
-25.0	-7.62	45.8	39.8	39.8	45.0	51.5
-20.0	-6.10	45.8	39.8	39.8	45.0	51.5
-15.0	-4.57	45.8	39.8	39.8	45.0	51.5
-10.0	-3.05	45.7	39.7	39.7	44.9	51.4
-5.0	-1.52	45.5	39.5	39.5	44.7	51.2
.0	.00	45.4	39.4	39.4	44.6	51.1
5.0	1.52	45.2	39.2	39.2	44.4	50.9
10.0	3.05	45.0	39.0	39.0	44.2	50.7
15.0	4.57	44.8	38.8	38.8	44.0	50.5
20.0	6.10	44.6	38.6	38.6	43.8	50.2
25.0	7.62	44.3	38.3	38.3	43.5	50.0
30.0	9.14	44.1	38.1	38.1	43.3	49.8
35.0	10.67	43.9	37.9	37.9	43.1	49.5
40.0	12.19	43.6	37.6	37.6	42.8	49.3
45.0	13.72	43.4	37.4	37.4	42.6	49.1
50.0	15.24	43.2	37.2	37.2	42.4	48.9
55.0	16.76	42.9	36.9	36.9	42.1	48.6
60.0	18.29	42.7	36.7	36.7	41.9	48.4
65.0	19.81	42.5	36.5	36.5	41.7	48.2
70.0	21.34	42.3	36.3	36.3	41.5	48.0
75.0	22.86	42.1	36.1	36.1	41.3	47.8
80.0	24.38	41.9	35.9	35.9	41.1	47.6
85.0	25.91	41.7	35.7	35.7	40.9	47.4
90.0	27.43	41.5	35.5	35.5	40.7	47.2
95.0	28.96	41.3	35.3	35.3	40.5	47.0
100.0	30.48	41.2	35.2	35.2	40.4	46.8
105.0	32.00	41.0	35.0	35.0	40.2	46.7
110.0	33.53	40.8	34.8	34.8	40.0	46.5
115.0	35.05	40.6	34.6	34.6	39.8	46.3
120.0	36.58	40.5	34.5	34.5	39.7	46.2
125.0	38.10	40.3	34.3	34.3	39.5	46.0
130.0	39.62	40.1	34.1	34.1	39.3	45.8
135.0	41.15	40.0	34.0	34.0	39.2	45.7
140.0	42.67	39.8	33.8	33.8	39.0	45.5
145.0	44.20	39.7	33.7	33.7	38.9	45.4
150.0	45.72	39.5	33.5	33.5	38.7	45.2
155.0	47.24	39.4	33.4	33.4	38.6	45.1
160.0	48.77	39.3	33.3	33.3	38.5	45.0
165.0	50.29	39.1	33.1	33.1	38.3	44.8
170.0	51.82	39.0	33.0	33.0	38.2	44.7
175.0	53.34	38.9	32.9	32.9	38.1	44.6
180.0	54.86	38.7	32.7	32.7	37.9	44.4
185.0	56.39	38.6	32.6	32.6	37.8	44.3
190.0	57.91	38.5	32.5	32.5	37.7	44.2
195.0	59.44	38.3	32.3	32.3	37.5	44.0
200.0	60.96	38.2	32.2	32.2	37.4	43.9
205.0	62.48	38.1	32.1	32.1	37.3	43.8
210.0	64.01	38.0	32.0	32.0	37.2	43.7
215.0	65.53	37.9	31.9	31.9	37.1	43.6
220.0	67.06	37.7	31.7	31.7	36.9	43.4
225.0	68.58	37.6	31.6	31.6	36.8	43.3
230.0	70.10	37.5	31.5	31.5	36.7	43.2
235.0	71.63	37.4	31.4	31.4	36.6	43.1
240.0	73.15	37.3	31.3	31.3	36.5	43.0
245.0	74.68	37.2	31.2	31.2	36.4	42.9
250.0	76.20	37.1	31.1	31.1	36.3	42.8

255.0	77.72	37.0	31.0	31.0	36.2	42.7
260.0	79.25	36.9	30.9	30.9	36.1	42.6
265.0	80.77	36.8	30.8	30.8	36.0	42.5
270.0	82.30	36.7	30.7	30.7	35.9	42.4
275.0	83.82	36.6	30.6	30.6	35.8	42.3
280.0	85.34	36.5	30.5	30.5	35.7	42.2
285.0	86.87	36.4	30.4	30.4	35.6	42.1
290.0	88.39	36.3	30.3	30.3	35.5	42.0
295.0	89.92	36.2	30.2	30.2	35.4	41.9
300.0	91.44	36.1	30.1	30.1	35.3	41.8

 *
 * AUDIBLE NOISE *
 * (other methods) *
 *
 * Altitude 3000.0 feet *
 *

LATERAL DISTANCE (feet) (meters)		<----- BPA METHOD ----->				<- CRIEPI -->		EdF	ENEL	IREQ
		FAIR WEATHER	L5 RAIN	L50 RAIN	Ldn	AVERAGE FAIR	L5 RAIN	L5 RAIN	L5 RAIN	L5 RAIN
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
-300.0	-91.44	35.2	32.7	29.2	.0	.0	.0	.0	.0	.0
-295.0	-89.92	35.3	32.8	29.3	.0	.0	.0	.0	.0	.0
-290.0	-88.39	35.4	32.9	29.4	.0	.0	.0	.0	.0	.0
-285.0	-86.87	35.5	33.0	29.5	.0	.0	.0	.0	.0	.0
-280.0	-85.34	35.6	33.1	29.6	.0	.0	.0	.0	.0	.0
-275.0	-83.82	35.7	33.2	29.7	.0	.0	.0	.0	.0	.0
-270.0	-82.30	35.8	33.3	29.8	.0	.0	.0	.0	.0	.0
-265.0	-80.77	35.9	33.4	29.9	.0	.0	.0	.0	.0	.0
-260.0	-79.25	36.0	33.5	30.0	.0	.0	.0	.0	.0	.0
-255.0	-77.72	36.1	33.6	30.1	.0	.0	.0	.0	.0	.0
-250.0	-76.20	36.2	33.7	30.2	.0	.0	.0	.0	.0	.0
-245.0	-74.68	36.3	33.8	30.3	.0	.0	.0	.0	.0	.0
-240.0	-73.15	36.4	33.9	30.4	.0	.0	.0	.0	.0	.0
-235.0	-71.63	36.5	34.0	30.5	.0	.0	.0	.0	.0	.0
-230.0	-70.10	36.6	34.1	30.6	.0	.0	.0	.0	.0	.0
-225.0	-68.58	36.7	34.2	30.7	.0	.0	.0	.0	.0	.0
-220.0	-67.06	36.9	34.4	30.9	.0	.0	.0	.0	.0	.0
-215.0	-65.53	37.0	34.5	31.0	.0	.0	.0	.0	.0	.0
-210.0	-64.01	37.1	34.6	31.1	.0	.0	.0	.0	.0	.0
-205.0	-62.48	37.2	34.7	31.2	.0	.0	.0	.0	.0	.0
-200.0	-60.96	37.3	34.8	31.3	.0	.0	.0	.0	.0	.0
-195.0	-59.44	37.5	35.0	31.5	.0	.0	.0	.0	.0	.0
-190.0	-57.91	37.6	35.1	31.6	.0	.0	.0	.0	.0	.0
-185.0	-56.39	37.7	35.2	31.7	.0	.0	.0	.0	.0	.0
-180.0	-54.86	37.9	35.4	31.9	.0	.0	.0	.0	.0	.0
-175.0	-53.34	38.0	35.5	32.0	.0	.0	.0	.0	.0	.0
-170.0	-51.82	38.2	35.7	32.2	.0	.0	.0	.0	.0	.0
-165.0	-50.29	38.3	35.8	32.3	.0	.0	.0	.0	.0	.0
-160.0	-48.77	38.5	36.0	32.5	.0	.0	.0	.0	.0	.0
-155.0	-47.24	38.7	36.2	32.7	.0	.0	.0	.0	.0	.0
-150.0	-45.72	38.8	36.3	32.8	.0	.0	.0	.0	.0	.0
-145.0	-44.20	39.0	36.5	33.0	.0	.0	.0	.0	.0	.0
-140.0	-42.67	39.2	36.7	33.2	.0	.0	.0	.0	.0	.0
-135.0	-41.15	39.3	36.8	33.3	.0	.0	.0	.0	.0	.0
-130.0	-39.62	39.5	37.0	33.5	.0	.0	.0	.0	.0	.0
-125.0	-38.10	39.7	37.2	33.7	.0	.0	.0	.0	.0	.0
-120.0	-36.58	39.9	37.4	33.9	.0	.0	.0	.0	.0	.0
-115.0	-35.05	40.1	37.6	34.1	.0	.0	.0	.0	.0	.0
-110.0	-33.53	40.3	37.8	34.3	.0	.0	.0	.0	.0	.0
-105.0	-32.00	40.6	38.1	34.6	.0	.0	.0	.0	.0	.0
-100.0	-30.48	40.8	38.3	34.8	.0	.0	.0	.0	.0	.0
-95.0	-28.96	41.0	38.5	35.0	.0	.0	.0	.0	.0	.0
-90.0	-27.43	41.2	38.7	35.2	.0	.0	.0	.0	.0	.0
-85.0	-25.91	41.5	39.0	35.5	.0	.0	.0	.0	.0	.0
-80.0	-24.38	41.7	39.2	35.7	.0	.0	.0	.0	.0	.0
-75.0	-22.86	41.9	39.4	35.9	.0	.0	.0	.0	.0	.0
-70.0	-21.34	42.2	39.7	36.2	.0	.0	.0	.0	.0	.0
-65.0	-19.81	42.4	39.9	36.4	.0	.0	.0	.0	.0	.0
-60.0	-18.29	42.7	40.2	36.7	.0	.0	.0	.0	.0	.0

-55.0	-16.76	42.9	40.4	36.9	.0	.0	.0	.0	.0	.0
-50.0	-15.24	43.1	40.6	37.1	.0	.0	.0	.0	.0	.0
-45.0	-13.72	43.3	40.8	37.3	.0	.0	.0	.0	.0	.0
-40.0	-12.19	43.4	40.9	37.4	.0	.0	.0	.0	.0	.0
-35.0	-10.67	43.6	41.1	37.6	.0	.0	.0	.0	.0	.0
-30.0	-9.14	43.6	41.1	37.6	.0	.0	.0	.0	.0	.0
-25.0	-7.62	43.7	41.2	37.7	.0	.0	.0	.0	.0	.0
-20.0	-6.10	43.7	41.2	37.7	.0	.0	.0	.0	.0	.0
-15.0	-4.57	43.6	41.1	37.6	.0	.0	.0	.0	.0	.0
-10.0	-3.05	43.5	41.0	37.5	.0	.0	.0	.0	.0	.0
-5.0	-1.52	43.4	40.9	37.4	.0	.0	.0	.0	.0	.0
.0	.00	43.2	40.7	37.2	.0	.0	.0	.0	.0	.0
5.0	1.52	43.0	40.5	37.0	.0	.0	.0	.0	.0	.0
10.0	3.05	42.8	40.3	36.8	.0	.0	.0	.0	.0	.0
15.0	4.57	42.6	40.1	36.6	.0	.0	.0	.0	.0	.0
20.0	6.10	42.3	39.8	36.3	.0	.0	.0	.0	.0	.0
25.0	7.62	42.1	39.6	36.1	.0	.0	.0	.0	.0	.0
30.0	9.14	41.9	39.4	35.9	.0	.0	.0	.0	.0	.0
35.0	10.67	41.6	39.1	35.6	.0	.0	.0	.0	.0	.0
40.0	12.19	41.4	38.9	35.4	.0	.0	.0	.0	.0	.0
45.0	13.72	41.1	38.6	35.1	.0	.0	.0	.0	.0	.0
50.0	15.24	40.9	38.4	34.9	.0	.0	.0	.0	.0	.0
55.0	16.76	40.7	38.2	34.7	.0	.0	.0	.0	.0	.0
60.0	18.29	40.5	38.0	34.5	.0	.0	.0	.0	.0	.0
65.0	19.81	40.3	37.8	34.3	.0	.0	.0	.0	.0	.0
70.0	21.34	40.1	37.6	34.1	.0	.0	.0	.0	.0	.0
75.0	22.86	39.9	37.4	33.9	.0	.0	.0	.0	.0	.0
80.0	24.38	39.7	37.2	33.7	.0	.0	.0	.0	.0	.0
85.0	25.91	39.5	37.0	33.5	.0	.0	.0	.0	.0	.0
90.0	27.43	39.3	36.8	33.3	.0	.0	.0	.0	.0	.0
95.0	28.96	39.1	36.6	33.1	.0	.0	.0	.0	.0	.0
100.0	30.48	38.9	36.4	32.9	.0	.0	.0	.0	.0	.0
105.0	32.00	38.8	36.3	32.8	.0	.0	.0	.0	.0	.0
110.0	33.53	38.6	36.1	32.6	.0	.0	.0	.0	.0	.0
115.0	35.05	38.4	35.9	32.4	.0	.0	.0	.0	.0	.0
120.0	36.58	38.3	35.8	32.3	.0	.0	.0	.0	.0	.0
125.0	38.10	38.1	35.6	32.1	.0	.0	.0	.0	.0	.0
130.0	39.62	38.0	35.5	32.0	.0	.0	.0	.0	.0	.0
135.0	41.15	37.8	35.3	31.8	.0	.0	.0	.0	.0	.0
140.0	42.67	37.7	35.2	31.7	.0	.0	.0	.0	.0	.0
145.0	44.20	37.6	35.1	31.6	.0	.0	.0	.0	.0	.0
150.0	45.72	37.4	34.9	31.4	.0	.0	.0	.0	.0	.0
155.0	47.24	37.3	34.8	31.3	.0	.0	.0	.0	.0	.0
160.0	48.77	37.2	34.7	31.2	.0	.0	.0	.0	.0	.0
165.0	50.29	37.1	34.6	31.1	.0	.0	.0	.0	.0	.0
170.0	51.82	36.9	34.4	30.9	.0	.0	.0	.0	.0	.0
175.0	53.34	36.8	34.3	30.8	.0	.0	.0	.0	.0	.0
180.0	54.86	36.7	34.2	30.7	.0	.0	.0	.0	.0	.0
185.0	56.39	36.6	34.1	30.6	.0	.0	.0	.0	.0	.0
190.0	57.91	36.5	34.0	30.5	.0	.0	.0	.0	.0	.0
195.0	59.44	36.4	33.9	30.4	.0	.0	.0	.0	.0	.0
200.0	60.96	36.3	33.8	30.3	.0	.0	.0	.0	.0	.0
205.0	62.48	36.2	33.7	30.2	.0	.0	.0	.0	.0	.0
210.0	64.01	36.0	33.5	30.0	.0	.0	.0	.0	.0	.0
215.0	65.53	35.9	33.4	29.9	.0	.0	.0	.0	.0	.0
220.0	67.06	35.9	33.4	29.9	.0	.0	.0	.0	.0	.0
225.0	68.58	35.8	33.3	29.8	.0	.0	.0	.0	.0	.0
230.0	70.10	35.7	33.2	29.7	.0	.0	.0	.0	.0	.0
235.0	71.63	35.6	33.1	29.6	.0	.0	.0	.0	.0	.0
240.0	73.15	35.5	33.0	29.5	.0	.0	.0	.0	.0	.0
245.0	74.68	35.4	32.9	29.4	.0	.0	.0	.0	.0	.0
250.0	76.20	35.3	32.8	29.3	.0	.0	.0	.0	.0	.0
255.0	77.72	35.2	32.7	29.2	.0	.0	.0	.0	.0	.0

260.0	79.25	35.1	32.6	29.1	.0	.0	.0	.0	.0	.0
265.0	80.77	35.0	32.5	29.0	.0	.0	.0	.0	.0	.0
270.0	82.30	35.0	32.5	29.0	.0	.0	.0	.0	.0	.0
275.0	83.82	34.9	32.4	28.9	.0	.0	.0	.0	.0	.0
280.0	85.34	34.8	32.3	28.8	.0	.0	.0	.0	.0	.0
285.0	86.87	34.7	32.2	28.7	.0	.0	.0	.0	.0	.0
290.0	88.39	34.6	32.1	28.6	.0	.0	.0	.0	.0	.0
295.0	89.92	34.6	32.1	28.6	.0	.0	.0	.0	.0	.0
300.0	91.44	34.5	32.0	28.5	.0	.0	.0	.0	.0	.0

Audible noise prediction methods do not apply to all line geometries, voltages, or weather conditions. If a prediction method does not apply, the appropriate output data column will be zeros.

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DC TRANSMISSION LINE CALCULATION RESULTS

±600kV BI-POLAR LATTICE

STANDARD OPERATION

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Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Electric Field

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_L1750
 Date: 6/17/2014 Time: 16:22

Standard DC Lattice Configuration at 1750A

```

*****
*                               BUNDLE INFORMATION                               *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | CURRENT | # | BUNDLE COORDINATES | PH | | | | | |
| # | # | (kV) | (DEG) | (A) | (DEG) | OF | X | Y | SAG | (feet) | (feet) | (feet) |
| 1 | 1 | 632.0 | 0. | 1750. | 0. | 3 | -22.2 | 34.0 | .0 | + |
| 2 | 1 | -632.0 | 0. | -1750. | 0. | 3 | 22.2 | 34.0 | .0 | - |
| 3 | 1 | .0 | 0. | 0. | 0. | 1 | 8.1 | 74.1 | .0 | NEU |
| 4 | 1 | .0 | 0. | 0. | 0. | 1 | -8.1 | 74.1 | .0 | NEU |
| 5 | 1 | .0 | 0. | 0. | 0. | 1 | -12.8 | 88.8 | .0 | GND |
| 6 | 1 | .0 | 0. | 0. | 0. | 1 | 12.8 | 88.8 | .0 | GND |
*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****

*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
| BNDL | CONDUCTOR | DIAMETER | SPACING | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
| 3 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 4 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 5 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
| 6 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
*****

*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
| BNDL | CONDUCTOR | COORDINATES | DIAMETER | DC RESIST | AC RESIST | AC REACT | |
| # | NAME | (inch) | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
| 1 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | .00 | -13.42 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | .00 | -13.42 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
*****

```

 Results of AC/DCLINE program EFION (EPRI/HVTRC 7-93) for:

ELECTRIC FIELD & IONS WITHOUT SHIELDING OBJECTS

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_L1750
 Date: 6/17/2014 Time: 16:22

 *
 * DEGREE OF SATURATION *
 *

BNDL #	NORTHEAST CLIMATE										ACTUAL CLIMATE		
	WINTER					SUMMER					WORST-MONTH		AVG.
	FAIR	50%	95%	FOG	50%	95%	50%	95%	50%	95%	SNOW	50%	95%
1	.218	.482	.792	.622	.828	.697	.833	.361	.510		.411	.721	.324
2	.278	.234	.528	.622	.828	.697	.833	.361	.510		.278	.572	.187

```

*****
*
*           ELECTROSTATIC AND SATURATED           *
* DC FIELD, CURRENT, AND ION DENSITY PROFILES *
*
*           wind speed = 0                       *
*           longitudinal distance: 750.00 feet   *
*
*****

```

LATERAL DISTANCE		<-- DC ELECTRIC FIELD -->		CURRENT	ION
(feet)	(meters)	ELECTROSTATIC (kV/m)	SATURATED (kV/m)	DENSITY (nA/m2)	DENSITY (1/cm3)
-300.0	-91.44	.11	2.63	.1	1455.
-295.0	-89.92	.11	2.71	.1	1525.
-290.0	-88.39	.12	2.80	.1	1600.
-285.0	-86.87	.12	2.88	.1	1679.
-280.0	-85.34	.13	2.98	.1	1763.
-275.0	-83.82	.14	3.07	.1	1852.
-270.0	-82.30	.14	3.17	.1	1946.
-265.0	-80.77	.15	3.27	.1	2045.
-260.0	-79.25	.16	3.37	.1	2147.
-255.0	-77.72	.17	3.58	.2	2324.
-250.0	-76.20	.18	3.70	.2	2453.
-245.0	-74.68	.19	3.83	.2	2592.
-240.0	-73.15	.21	3.97	.2	2740.
-235.0	-71.63	.22	4.11	.2	2898.
-230.0	-70.10	.23	4.26	.2	3065.
-225.0	-68.58	.25	4.40	.3	3238.
-220.0	-67.06	.27	4.68	.3	3526.
-215.0	-65.53	.28	4.87	.3	3750.
-210.0	-64.01	.31	5.06	.4	3991.
-205.0	-62.48	.33	5.26	.4	4249.
-200.0	-60.96	.35	5.46	.5	4519.
-195.0	-59.44	.38	5.82	.5	4940.
-190.0	-57.91	.41	6.08	.6	5290.
-185.0	-56.39	.44	6.34	.7	5668.
-180.0	-54.86	.48	6.61	.7	6068.
-175.0	-53.34	.52	7.06	.9	6665.
-170.0	-51.82	.57	7.40	1.0	7185.
-165.0	-50.29	.62	7.74	1.1	7746.
-160.0	-48.77	.68	8.28	1.3	8534.
-155.0	-47.24	.74	8.71	1.5	9258.
-150.0	-45.72	.82	9.14	1.7	10037.
-145.0	-44.20	.90	9.81	2.0	11143.
-140.0	-42.67	1.00	10.35	2.3	12164.
-135.0	-41.15	1.11	11.13	2.8	13544.
-130.0	-39.62	1.23	11.78	3.2	14875.
-125.0	-38.10	1.38	12.70	3.9	16657.
-120.0	-36.58	1.55	13.47	4.6	18376.
-115.0	-35.05	1.75	14.59	5.6	20751.
-110.0	-33.53	1.98	15.80	6.8	23452.
-105.0	-32.00	2.25	17.14	8.4	26594.
-100.0	-30.48	2.57	18.33	10.1	29805.
-95.0	-28.96	2.94	20.00	12.6	34136.
-90.0	-27.43	3.40	21.83	15.7	39207.
-85.0	-25.91	3.94	24.29	20.6	46027.
-80.0	-24.38	4.60	26.67	26.2	53464.
-75.0	-22.86	5.39	29.29	33.6	62285.
-70.0	-21.34	6.34	32.75	44.7	74102.
-65.0	-19.81	7.50	36.59	59.5	88357.

-60.0	-18.29	8.88	40.90	79.6	105732.
-55.0	-16.76	10.52	45.71	106.7	126801.
-50.0	-15.24	12.40	50.97	142.5	151951.
-45.0	-13.72	14.47	56.50	188.3	181083.
-40.0	-12.19	16.57	62.01	243.3	213225.
-35.0	-10.67	18.43	67.00	303.4	246125.
-30.0	-9.14	19.60	69.67	348.3	271685.
-25.0	-7.62	19.63	70.33	374.8	289668.
-20.0	-6.10	18.16	67.84	369.1	295680.
-15.0	-4.57	15.15	60.29	314.9	283833.
-10.0	-3.05	10.83	47.21	222.4	255979.
-5.0	-1.52	5.63	28.98	117.2	219752.
.0	.00	.00	.06	.0	50.
5.0	1.52	-5.63	-28.98	-152.9	-219752.
10.0	3.05	-10.83	-47.21	-290.1	-255979.
15.0	4.57	-15.15	-60.29	-410.7	-283833.
20.0	6.10	-18.16	-67.84	-481.4	-295681.
25.0	7.62	-19.63	-70.33	-488.9	-289668.
30.0	9.14	-19.60	-69.67	-454.2	-271685.
35.0	10.67	-18.43	-67.00	-395.8	-246125.
40.0	12.19	-16.57	-62.01	-317.3	-213224.
45.0	13.72	-14.47	-56.50	-245.6	-181083.
50.0	15.24	-12.40	-50.97	-185.9	-151951.
55.0	16.76	-10.52	-45.71	-139.1	-126801.
60.0	18.29	-8.88	-40.90	-103.8	-105732.
65.0	19.81	-7.50	-36.59	-77.6	-88357.
70.0	21.34	-6.34	-32.75	-58.2	-74102.
75.0	22.86	-5.39	-29.29	-43.8	-62285.
80.0	24.38	-4.60	-26.67	-34.2	-53464.
85.0	25.91	-3.94	-24.29	-26.8	-46027.
90.0	27.43	-3.40	-21.83	-20.5	-39207.
95.0	28.96	-2.94	-20.00	-16.4	-34136.
100.0	30.48	-2.57	-18.33	-13.1	-29805.
105.0	32.00	-2.25	-17.14	-10.9	-26594.
110.0	33.53	-1.98	-15.80	-8.9	-23452.
115.0	35.05	-1.75	-14.59	-7.3	-20751.
120.0	36.58	-1.55	-13.47	-5.9	-18376.
125.0	38.10	-1.38	-12.70	-5.1	-16657.
130.0	39.62	-1.23	-11.78	-4.2	-14875.
135.0	41.15	-1.11	-11.13	-3.6	-13544.
140.0	42.67	-1.00	-10.35	-3.0	-12164.
145.0	44.20	-.90	-9.81	-2.6	-11143.
150.0	45.72	-.82	-9.14	-2.2	-10037.
155.0	47.24	-.74	-8.71	-1.9	-9259.
160.0	48.77	-.68	-8.28	-1.7	-8534.
165.0	50.29	-.62	-7.74	-1.4	-7746.
170.0	51.82	-.57	-7.40	-1.3	-7185.
175.0	53.34	-.52	-7.06	-1.1	-6665.
180.0	54.86	-.48	-6.61	-1.0	-6068.
185.0	56.39	-.44	-6.34	-.9	-5668.
190.0	57.91	-.41	-6.08	-.8	-5290.
195.0	59.44	-.38	-5.82	-.7	-4940.
200.0	60.96	-.35	-5.46	-.6	-4519.
205.0	62.48	-.33	-5.26	-.5	-4249.
210.0	64.01	-.31	-5.06	-.5	-3991.
215.0	65.53	-.28	-4.87	-.4	-3750.
220.0	67.06	-.27	-4.68	-.4	-3526.
225.0	68.58	-.25	-4.40	-.3	-3238.
230.0	70.10	-.23	-4.26	-.3	-3065.
235.0	71.63	-.22	-4.11	-.3	-2898.
240.0	73.15	-.21	-3.97	-.3	-2740.
245.0	74.68	-.19	-3.83	-.2	-2592.
250.0	76.20	-.18	-3.70	-.2	-2453.

255.0	77.72	-.17	-3.58	-.2	-2324.
260.0	79.25	-.16	-3.37	-.2	-2147.
265.0	80.77	-.15	-3.27	-.2	-2045.
270.0	82.30	-.14	-3.17	-.1	-1946.
275.0	83.82	-.14	-3.07	-.1	-1852.
280.0	85.34	-.13	-2.98	-.1	-1763.
285.0	86.87	-.12	-2.88	-.1	-1679.
290.0	88.39	-.12	-2.80	-.1	-1600.
295.0	89.92	-.11	-2.71	-.1	-1525.
300.0	91.44	-.11	-2.63	-.1	-1455.

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*
* DC FIELD AND ION DENSITY PROFILES AT GROUND LEVEL *
*
*           wind speed = 0
* longitudinal distance: 750.00 feet
*
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		<----- SUMMER FAIR ----->				<----- RAIN ----->			
LATERAL DISTANCE		FIELD 50%	FIELD 95%	IONS 50%	IONS 95%	FIELD 50%	FIELD 95%	IONS 50%	IONS 95%
(feet)	(meters)	(kV/m)	(kV/m)	(1/cc)	(1/cc)	(kV/m)	(kV/m)	(1/cc)	(1/cc)
-300.0	-91.44	1.1	1.9	1376.	1433.	1.9	2.2	1430.	1444.
-295.0	-89.92	1.2	2.0	1440.	1501.	1.9	2.3	1499.	1513.
-290.0	-88.39	1.2	2.0	1509.	1574.	2.0	2.4	1571.	1587.
-285.0	-86.87	1.3	2.1	1582.	1652.	2.0	2.4	1648.	1665.
-280.0	-85.34	1.3	2.2	1659.	1733.	2.1	2.5	1730.	1748.
-275.0	-83.82	1.3	2.3	1740.	1820.	2.2	2.6	1817.	1835.
-270.0	-82.30	1.4	2.3	1826.	1912.	2.3	2.7	1908.	1928.
-265.0	-80.77	1.4	2.4	1916.	2008.	2.3	2.7	2004.	2026.
-260.0	-79.25	1.5	2.5	2008.	2108.	2.4	2.8	2103.	2127.
-255.0	-77.72	1.6	2.6	2174.	2282.	2.5	3.0	2277.	2302.
-250.0	-76.20	1.6	2.7	2291.	2408.	2.6	3.1	2402.	2430.
-245.0	-74.68	1.7	2.8	2417.	2542.	2.7	3.2	2536.	2566.
-240.0	-73.15	1.8	2.9	2550.	2686.	2.8	3.3	2680.	2712.
-235.0	-71.63	1.8	3.0	2692.	2839.	2.9	3.5	2832.	2867.
-230.0	-70.10	1.9	3.1	2841.	3001.	3.0	3.6	2994.	3032.
-225.0	-68.58	2.0	3.2	2995.	3169.	3.1	3.7	3160.	3202.
-220.0	-67.06	2.1	3.5	3260.	3450.	3.3	3.9	3441.	3487.
-215.0	-65.53	2.2	3.6	3459.	3667.	3.5	4.1	3657.	3707.
-210.0	-64.01	2.3	3.7	3673.	3900.	3.6	4.3	3889.	3943.
-205.0	-62.48	2.4	3.9	3900.	4149.	3.8	4.4	4137.	4197.
-200.0	-60.96	2.5	4.0	4136.	4409.	3.9	4.6	4396.	4462.
-195.0	-59.44	2.6	4.3	4517.	4818.	4.2	4.9	4804.	4877.
-190.0	-57.91	2.7	4.5	4822.	5155.	4.4	5.1	5139.	5219.
-185.0	-56.39	2.9	4.7	5151.	5519.	4.6	5.4	5501.	5590.
-180.0	-54.86	3.0	4.9	5494.	5902.	4.8	5.6	5882.	5981.
-175.0	-53.34	3.2	5.2	6025.	6479.	5.1	6.0	6457.	6568.
-170.0	-51.82	3.4	5.5	6471.	6977.	5.3	6.3	6953.	7076.
-165.0	-50.29	3.5	5.8	6947.	7513.	5.6	6.6	7486.	7624.
-160.0	-48.77	3.8	6.2	7635.	8271.	6.0	7.0	8240.	8396.
-155.0	-47.24	4.0	6.5	8246.	8962.	6.3	7.4	8927.	9103.
-150.0	-45.72	4.2	6.8	8894.	9701.	6.6	7.8	9661.	9861.
-145.0	-44.20	4.6	7.3	9843.	10760.	7.1	8.3	10715.	10942.
-140.0	-42.67	4.8	7.7	10685.	11727.	7.5	8.8	11676.	11934.
-135.0	-41.15	5.2	8.3	11849.	13041.	8.1	9.5	12983.	13280.
-130.0	-39.62	5.6	8.8	12929.	14294.	8.6	10.0	14227.	14569.
-125.0	-38.10	6.0	9.5	14408.	15984.	9.3	10.8	15906.	16302.
-120.0	-36.58	6.4	10.1	15771.	17592.	9.9	11.5	17502.	17963.
-115.0	-35.05	7.0	11.0	17710.	19832.	10.7	12.5	19727.	20266.
-110.0	-33.53	7.7	11.9	19884.	22370.	11.6	13.5	22245.	22881.
-105.0	-32.00	8.4	13.0	22383.	25310.	12.6	14.7	25162.	25915.
-100.0	-30.48	9.0	13.9	24819.	28273.	13.6	15.7	28098.	28994.
-95.0	-28.96	9.9	15.2	28179.	32295.	14.8	17.2	32085.	33161.
-90.0	-27.43	11.0	16.7	32044.	36978.	16.2	18.8	36725.	38024.
-85.0	-25.91	12.3	18.6	37328.	43306.	18.1	20.9	42997.	44581.
-80.0	-24.38	13.7	20.5	42858.	50119.	20.0	23.0	49742.	51684.
-75.0	-22.86	15.2	22.6	49272.	58144.	22.1	25.3	57679.	60077.
-70.0	-21.34	17.2	25.4	57976.	68931.	24.8	28.4	68353.	71340.
-65.0	-19.81	19.4	28.5	68268.	81861.	27.8	31.7	81138.	84881.
-60.0	-18.29	22.0	32.0	80601.	97532.	31.2	35.6	96623.	101334.

-55.0	-16.76	25.0	35.9	95316.	116430.	35.1	39.9	115287.	121228.
-50.0	-15.24	28.2	40.2	112615.	138871.	39.3	44.5	137436.	144906.
-45.0	-13.72	31.7	44.8	132399.	164747.	43.8	49.5	162965.	172267.
-40.0	-12.19	35.2	49.3	154085.	193226.	48.3	54.4	191053.	202412.
-35.0	-10.67	38.4	53.4	176446.	222438.	52.3	58.9	219872.	233302.
-30.0	-9.14	40.2	55.7	193508.	244994.	54.5	61.3	242110.	257221.
-25.0	-7.62	40.4	56.2	206794.	261417.	55.0	61.9	258361.	274365.
-20.0	-6.10	38.6	54.0	213571.	267906.	52.8	59.6	264888.	280662.
-15.0	-4.57	33.7	47.7	208580.	258667.	46.6	52.8	255916.	270262.
-10.0	-3.05	25.8	37.1	192569.	235103.	36.2	41.2	232801.	244762.
-5.0	-1.52	15.2	22.5	171845.	204387.	21.9	25.1	202668.	211544.
.0	.00	.0	.0	50.	50.	.0	.1	50.	50.
5.0	1.52	-12.1	-19.0	146100.	191860.	-21.9	-25.1	202668.	211544.
10.0	3.05	-20.9	-31.6	160443.	218466.	-36.2	-41.2	232801.	244762.
15.0	4.57	-27.7	-41.0	171769.	238889.	-46.6	-52.8	255916.	270262.
20.0	6.10	-32.0	-46.6	174421.	246301.	-52.8	-59.6	264888.	280662.
25.0	7.62	-33.7	-48.6	167954.	239596.	-55.0	-61.9	258362.	274365.
30.0	9.14	-33.5	-48.2	156993.	224408.	-54.5	-61.3	242110.	257221.
35.0	10.67	-31.9	-46.2	143588.	204095.	-52.3	-58.9	219872.	233302.
40.0	12.19	-29.2	-42.6	125867.	177665.	-48.3	-54.4	191053.	202412.
45.0	13.72	-26.2	-38.5	108764.	151947.	-43.8	-49.5	162965.	172267.
50.0	15.24	-23.1	-34.5	93129.	128538.	-39.3	-44.5	137436.	144906.
55.0	16.76	-20.3	-30.6	79384.	108169.	-35.1	-39.9	115287.	121228.
60.0	18.29	-17.8	-27.2	67612.	90945.	-31.2	-35.6	96623.	101334.
65.0	19.81	-15.6	-24.1	57669.	76602.	-27.8	-31.7	81138.	84881.
70.0	21.34	-13.7	-21.4	49303.	64715.	-24.8	-28.4	68353.	71340.
75.0	22.86	-12.0	-19.1	42153.	54745.	-22.1	-25.3	57679.	60077.
80.0	24.38	-10.7	-17.2	36935.	47353.	-20.0	-23.0	49742.	51684.
85.0	25.91	-9.6	-15.6	32382.	41040.	-18.1	-20.9	42997.	44581.
90.0	27.43	-8.5	-13.9	27921.	35114.	-16.2	-18.8	36725.	38024.
95.0	28.96	-7.7	-12.7	24695.	30747.	-14.8	-17.2	32085.	33161.
100.0	30.48	-6.9	-11.6	21863.	26979.	-13.6	-15.7	28098.	28994.
105.0	32.00	-6.4	-10.8	19843.	24218.	-12.6	-14.7	25162.	25915.
110.0	33.53	-5.8	-9.9	17706.	21445.	-11.6	-13.5	22245.	22881.
115.0	35.05	-5.3	-9.1	15834.	19045.	-10.7	-12.5	19727.	20266.
120.0	36.58	-4.9	-8.4	14150.	16919.	-9.9	-11.5	17502.	17963.
125.0	38.10	-4.5	-7.9	12990.	15403.	-9.3	-10.8	15906.	16302.
130.0	39.62	-4.2	-7.3	11692.	13792.	-8.6	-10.0	14227.	14569.
135.0	41.15	-3.9	-6.8	10761.	12604.	-8.1	-9.5	12983.	13280.
140.0	42.67	-3.6	-6.3	9728.	11345.	-7.5	-8.8	11676.	11934.
145.0	44.20	-3.4	-6.0	8995.	10425.	-7.1	-8.3	10715.	10942.
150.0	45.72	-3.1	-5.6	8144.	9406.	-6.6	-7.8	9661.	9861.
155.0	47.24	-3.0	-5.3	7577.	8702.	-6.3	-7.4	8927.	9103.
160.0	48.77	-2.8	-5.0	7036.	8040.	-6.0	-7.0	8240.	8396.
165.0	50.29	-2.6	-4.7	6412.	7308.	-5.6	-6.6	7486.	7624.
170.0	51.82	-2.5	-4.5	5990.	6794.	-5.3	-6.3	6953.	7076.
175.0	53.34	-2.3	-4.3	5591.	6315.	-5.1	-6.0	6457.	6568.
180.0	54.86	-2.2	-4.0	5104.	5755.	-4.8	-5.6	5882.	5981.
185.0	56.39	-2.1	-3.8	4797.	5386.	-4.6	-5.4	5501.	5590.
190.0	57.91	-2.0	-3.7	4501.	5035.	-4.4	-5.1	5139.	5219.
195.0	59.44	-1.9	-3.5	4224.	4710.	-4.2	-4.9	4804.	4877.
200.0	60.96	-1.8	-3.3	3870.	4311.	-3.9	-4.6	4396.	4462.
205.0	62.48	-1.7	-3.2	3657.	4060.	-3.8	-4.4	4137.	4197.
210.0	64.01	-1.6	-3.0	3451.	3819.	-3.6	-4.3	3889.	3943.
215.0	65.53	-1.6	-2.9	3255.	3593.	-3.5	-4.1	3657.	3707.
220.0	67.06	-1.5	-2.8	3073.	3382.	-3.3	-3.9	3441.	3487.
225.0	68.58	-1.4	-2.6	2823.	3106.	-3.1	-3.7	3160.	3202.
230.0	70.10	-1.4	-2.5	2683.	2944.	-3.0	-3.6	2994.	3032.
235.0	71.63	-1.3	-2.4	2546.	2787.	-2.9	-3.5	2832.	2867.
240.0	73.15	-1.3	-2.4	2415.	2638.	-2.8	-3.3	2680.	2712.
245.0	74.68	-1.2	-2.3	2291.	2497.	-2.7	-3.2	2536.	2566.
250.0	76.20	-1.2	-2.2	2175.	2366.	-2.6	-3.1	2402.	2430.
255.0	77.72	-1.1	-2.1	2066.	2243.	-2.5	-3.0	2277.	2302.

260.0	79.25	-1.1	-2.0	1908.	2072.	-2.4	-2.8	2103.	2127.
265.0	80.77	-1.0	-1.9	1823.	1975.	-2.3	-2.7	2004.	2026.
270.0	82.30	-1.0	-1.9	1739.	1881.	-2.3	-2.7	1908.	1928.
275.0	83.82	-1.0	-1.8	1659.	1792.	-2.2	-2.6	1817.	1835.
280.0	85.34	-.9	-1.8	1583.	1707.	-2.1	-2.5	1730.	1748.
285.0	86.87	-.9	-1.7	1511.	1627.	-2.0	-2.4	1648.	1665.
290.0	88.39	-.9	-1.6	1443.	1551.	-2.0	-2.4	1571.	1587.
295.0	89.92	-.8	-1.6	1378.	1480.	-1.9	-2.3	1499.	1513.
300.0	91.44	-.8	-1.6	1318.	1413.	-1.9	-2.2	1430.	1444.

Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Magnetic Field at 1750A

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_L1750
 Date: 6/17/2014 Time: 16:22

Standard DC Lattice Configuration at 1750A

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*****
*                                     BUNDLE INFORMATION                                     *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | CURRENT | # | BUNDLE COORDINATES | | | | |
| # | # | (kV) | (DEG) | LOAD | ANGLE | OF | X | Y | SAG | PH |
| # | # | | | (A) | (DEG) | COND | (feet) | (feet) | (feet) | |
*****
| 1 | 1 | 632.0 | 0. | 1750. | 0. | 3 | -22.2 | 34.0 | .0 | + |
| 2 | 1 | -632.0 | 0. | -1750. | 0. | 3 | 22.2 | 34.0 | .0 | - |
| 3 | 1 | .0 | 0. | 0. | 0. | 1 | 8.1 | 74.1 | .0 | NEU |
| 4 | 1 | .0 | 0. | 0. | 0. | 1 | -8.1 | 74.1 | .0 | NEU |
| 5 | 1 | .0 | 0. | 0. | 0. | 1 | -12.8 | 88.8 | .0 | GND |
| 6 | 1 | .0 | 0. | 0. | 0. | 1 | 12.8 | 88.8 | .0 | GND |
*****
* MINIMUM GROUND CLEARANCE = 34.00 feet *
* POWER SYSTEM FREQUENCY = 60. Hz *
* SOIL RESISTIVITY = 100. ohm meter *
*****

*****
* SUBCONDUCTOR INFORMATION - REGULAR BUNDLES *
*****
| BNDL | CONDUCTOR | DIAMETER | SPACING | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 3 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 4 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 5 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
| 6 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
*****

*****
* SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES *
*****
| BNDL | CONDUCTOR | COORDINATES | DIAMETER | DC RESIST | AC RESIST | AC REACT | |
| # | NAME | X | Y | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
| (inch) | (inch) | | | | | |
*****
| 1 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | .00 | -13.42 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | .00 | -13.42 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
*****

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*****
*
*           MAGNETIC FIELD PROFILE           *
*           at 3.28 feet above ground        *
*
* longitudinal distance: 750.00 feet      *
*
*****

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<-- DC MAGNETIC FIELD -->

```

LATERAL DISTANCE		VERTICAL HORIZONTAL		
(feet)	(meters)	TOTAL (mG)	COMP (mG)	COMP (mG)
-300.0	-91.44	5.64	5.52	-1.14
-295.0	-89.92	5.83	5.71	-1.19
-290.0	-88.39	6.03	5.90	-1.26
-285.0	-86.87	6.25	6.10	-1.32
-280.0	-85.34	6.47	6.32	-1.39
-275.0	-83.82	6.71	6.54	-1.47
-270.0	-82.30	6.95	6.78	-1.55
-265.0	-80.77	7.22	7.03	-1.64
-260.0	-79.25	7.50	7.29	-1.74
-255.0	-77.72	7.79	7.57	-1.84
-250.0	-76.20	8.10	7.86	-1.95
-245.0	-74.68	8.44	8.18	-2.07
-240.0	-73.15	8.79	8.51	-2.21
-235.0	-71.63	9.16	8.86	-2.35
-230.0	-70.10	9.56	9.23	-2.50
-225.0	-68.58	9.99	9.62	-2.67
-220.0	-67.06	10.44	10.04	-2.85
-215.0	-65.53	10.93	10.49	-3.06
-210.0	-64.01	11.45	10.97	-3.28
-205.0	-62.48	12.01	11.48	-3.52
-200.0	-60.96	12.61	12.03	-3.78
-195.0	-59.44	13.26	12.61	-4.08
-190.0	-57.91	13.95	13.24	-4.40
-185.0	-56.39	14.71	13.92	-4.76
-180.0	-54.86	15.52	14.64	-5.16
-175.0	-53.34	16.41	15.42	-5.61
-170.0	-51.82	17.37	16.27	-6.11
-165.0	-50.29	18.42	17.18	-6.66
-160.0	-48.77	19.57	18.16	-7.29
-155.0	-47.24	20.83	19.23	-8.00
-150.0	-45.72	22.21	20.39	-8.80
-145.0	-44.20	23.73	21.65	-9.72
-140.0	-42.67	25.41	23.02	-10.76
-135.0	-41.15	27.27	24.52	-11.95
-130.0	-39.62	29.35	26.15	-13.32
-125.0	-38.10	31.66	27.93	-14.91
-120.0	-36.58	34.26	29.88	-16.76
-115.0	-35.05	37.18	32.01	-18.92
-110.0	-33.53	40.48	34.33	-21.45
-105.0	-32.00	44.23	36.86	-24.44
-100.0	-30.48	48.51	39.61	-28.00
-95.0	-28.96	53.42	42.58	-32.26
-90.0	-27.43	59.08	45.75	-37.38
-85.0	-25.91	65.64	49.09	-43.58
-80.0	-24.38	73.29	52.51	-51.13
-75.0	-22.86	82.26	55.86	-60.38
-70.0	-21.34	92.82	58.87	-71.76
-65.0	-19.81	105.30	61.10	-85.76
-60.0	-18.29	120.09	61.80	-102.97

-55.0	-16.76	137.62	59.80	-123.94
-50.0	-15.24	158.25	53.31	-149.01
-45.0	-13.72	182.25	39.77	-177.86
-40.0	-12.19	209.49	15.98	-208.88
-35.0	-10.67	239.17	-21.22	-238.22
-30.0	-9.14	269.59	-73.27	-259.44
-25.0	-7.62	298.23	-137.62	-264.58
-20.0	-6.10	322.46	-206.75	-247.45
-15.0	-4.57	340.57	-270.42	-207.02
-10.0	-3.05	352.35	-319.89	-147.73
-5.0	-1.52	358.70	-350.44	-76.55
.0	.00	360.67	-360.67	.00
5.0	1.52	358.70	-350.44	76.55
10.0	3.05	352.35	-319.89	147.73
15.0	4.57	340.57	-270.42	207.02
20.0	6.10	322.46	-206.75	247.45
25.0	7.62	298.23	-137.62	264.58
30.0	9.14	269.59	-73.27	259.44
35.0	10.67	239.17	-21.22	238.22
40.0	12.19	209.49	15.98	208.88
45.0	13.72	182.25	39.77	177.86
50.0	15.24	158.25	53.31	149.01
55.0	16.76	137.62	59.80	123.94
60.0	18.29	120.09	61.80	102.97
65.0	19.81	105.30	61.10	85.76
70.0	21.34	92.82	58.87	71.76
75.0	22.86	82.26	55.86	60.38
80.0	24.38	73.29	52.51	51.13
85.0	25.91	65.64	49.09	43.58
90.0	27.43	59.08	45.75	37.38
95.0	28.96	53.42	42.58	32.26
100.0	30.48	48.51	39.61	28.00
105.0	32.00	44.23	36.86	24.44
110.0	33.53	40.48	34.33	21.45
115.0	35.05	37.18	32.01	18.92
120.0	36.58	34.26	29.88	16.76
125.0	38.10	31.66	27.93	14.91
130.0	39.62	29.35	26.15	13.32
135.0	41.15	27.27	24.52	11.95
140.0	42.67	25.41	23.02	10.76
145.0	44.20	23.73	21.65	9.72
150.0	45.72	22.21	20.39	8.80
155.0	47.24	20.83	19.23	8.00
160.0	48.77	19.57	18.16	7.29
165.0	50.29	18.42	17.18	6.66
170.0	51.82	17.37	16.27	6.11
175.0	53.34	16.41	15.42	5.61
180.0	54.86	15.52	14.64	5.16
185.0	56.39	14.71	13.92	4.76
190.0	57.91	13.95	13.24	4.40
195.0	59.44	13.26	12.61	4.08
200.0	60.96	12.61	12.03	3.78
205.0	62.48	12.01	11.48	3.52
210.0	64.01	11.45	10.97	3.28
215.0	65.53	10.93	10.49	3.06
220.0	67.06	10.44	10.04	2.85
225.0	68.58	9.99	9.62	2.67
230.0	70.10	9.56	9.23	2.50
235.0	71.63	9.16	8.86	2.35
240.0	73.15	8.79	8.51	2.21
245.0	74.68	8.44	8.18	2.07
250.0	76.20	8.10	7.86	1.95
255.0	77.72	7.79	7.57	1.84

260.0	79.25	7.50	7.29	1.74
265.0	80.77	7.22	7.03	1.64
270.0	82.30	6.95	6.78	1.55
275.0	83.82	6.71	6.54	1.47
280.0	85.34	6.47	6.32	1.39
285.0	86.87	6.25	6.10	1.32
290.0	88.39	6.03	5.90	1.26
295.0	89.92	5.83	5.71	1.19
300.0	91.44	5.64	5.52	1.14

 Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Magnetic Field at 2917A

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_L2917
 Date: 6/17/2014 Time: 16:21

Standard DC Lattice Configuration at 2917A

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*****
*                               BUNDLE INFORMATION                               *
*****
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BNDL #	CIRC #	VOLTAGE		CURRENT		# OF COND	BUNDLE COORDINATES			PH
		VOLTAGE (kV)	ANGLE (DEG)	LOAD (A)	ANGLE (DEG)		X (feet)	Y (feet)	SAG (feet)	
1	1	632.0	0.	2917.	0.	3	-22.2	34.0	.0	+
2	1	-632.0	0.	-2917.	0.	3	22.2	34.0	.0	-
3	1	.0	0.	0.	0.	1	8.1	74.1	.0	NEU
4	1	.0	0.	0.	0.	1	-8.1	74.1	.0	NEU
5	1	.0	0.	0.	0.	1	-12.8	88.8	.0	GND
6	1	.0	0.	0.	0.	1	12.8	88.8	.0	GND

```
*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****
```

```
*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

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*****
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*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	COORDINATES		DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
		X (inch)	Y (inch)				
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	-13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	-13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

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*****
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*****
*
*      MAGNETIC FIELD PROFILE      *
*      at 3.28 feet above ground   *
*
* longitudinal distance: 750.00 feet *
*
*****

```

<-- DC MAGNETIC FIELD -->

LATERAL DISTANCE		VERTICAL HORIZONTAL		
(feet)	(meters)	TOTAL (mG)	COMP (mG)	COMP (mG)
-300.0	-91.44	9.40	9.21	-1.89
-295.0	-89.92	9.72	9.52	-1.99
-290.0	-88.39	10.06	9.84	-2.09
-285.0	-86.87	10.41	10.17	-2.21
-280.0	-85.34	10.78	10.53	-2.32
-275.0	-83.82	11.18	10.91	-2.45
-270.0	-82.30	11.59	11.30	-2.59
-265.0	-80.77	12.03	11.72	-2.74
-260.0	-79.25	12.50	12.15	-2.90
-255.0	-77.72	12.99	12.62	-3.07
-250.0	-76.20	13.51	13.11	-3.26
-245.0	-74.68	14.06	13.63	-3.46
-240.0	-73.15	14.65	14.18	-3.68
-235.0	-71.63	15.27	14.76	-3.91
-230.0	-70.10	15.94	15.38	-4.17
-225.0	-68.58	16.65	16.04	-4.45
-220.0	-67.06	17.41	16.74	-4.76
-215.0	-65.53	18.22	17.49	-5.09
-210.0	-64.01	19.09	18.29	-5.46
-205.0	-62.48	20.02	19.14	-5.86
-200.0	-60.96	21.02	20.05	-6.31
-195.0	-59.44	22.10	21.03	-6.80
-190.0	-57.91	23.26	22.07	-7.34
-185.0	-56.39	24.52	23.20	-7.94
-180.0	-54.86	25.88	24.41	-8.60
-175.0	-53.34	27.35	25.71	-9.35
-170.0	-51.82	28.96	27.11	-10.18
-165.0	-50.29	30.71	28.63	-11.11
-160.0	-48.77	32.62	30.27	-12.16
-155.0	-47.24	34.72	32.05	-13.34
-150.0	-45.72	37.02	33.99	-14.67
-145.0	-44.20	39.55	36.09	-16.19
-140.0	-42.67	42.36	38.37	-17.93
-135.0	-41.15	45.46	40.87	-19.92
-130.0	-39.62	48.92	43.59	-22.21
-125.0	-38.10	52.78	46.56	-24.86
-120.0	-36.58	57.10	49.81	-27.93
-115.0	-35.05	61.97	53.35	-31.53
-110.0	-33.53	67.48	57.23	-35.75
-105.0	-32.00	73.73	61.45	-40.75
-100.0	-30.48	80.86	66.03	-46.68
-95.0	-28.96	89.04	70.98	-53.77
-90.0	-27.43	98.48	76.26	-62.31
-85.0	-25.91	109.42	81.82	-72.64
-80.0	-24.38	122.17	87.52	-85.23
-75.0	-22.86	137.11	93.10	-100.65
-70.0	-21.34	154.71	98.13	-119.61
-65.0	-19.81	175.52	101.85	-142.95
-60.0	-18.29	200.18	103.02	-171.64

-55.0	-16.76	229.39	99.69	-206.59
-50.0	-15.24	263.79	88.86	-248.37
-45.0	-13.72	303.79	66.30	-296.47
-40.0	-12.19	349.18	26.64	-348.17
-35.0	-10.67	398.65	-35.37	-397.08
-30.0	-9.14	449.36	-122.13	-432.45
-25.0	-7.62	497.10	-229.39	-441.01
-20.0	-6.10	537.49	-344.63	-412.46
-15.0	-4.57	567.68	-450.76	-345.07
-10.0	-3.05	587.32	-533.21	-246.25
-5.0	-1.52	597.90	-584.13	-127.60
.0	.00	601.18	-601.18	.00
5.0	1.52	597.90	-584.13	127.60
10.0	3.05	587.32	-533.21	246.25
15.0	4.57	567.68	-450.76	345.07
20.0	6.10	537.49	-344.63	412.46
25.0	7.62	497.10	-229.39	441.01
30.0	9.14	449.36	-122.13	432.45
35.0	10.67	398.65	-35.37	397.08
40.0	12.19	349.18	26.64	348.17
45.0	13.72	303.79	66.30	296.47
50.0	15.24	263.79	88.86	248.37
55.0	16.76	229.39	99.69	206.59
60.0	18.29	200.18	103.02	171.64
65.0	19.81	175.52	101.85	142.95
70.0	21.34	154.71	98.13	119.61
75.0	22.86	137.11	93.10	100.65
80.0	24.38	122.17	87.52	85.23
85.0	25.91	109.42	81.82	72.64
90.0	27.43	98.48	76.26	62.31
95.0	28.96	89.04	70.97	53.77
100.0	30.48	80.86	66.03	46.68
105.0	32.00	73.73	61.45	40.75
110.0	33.53	67.48	57.23	35.75
115.0	35.05	61.97	53.35	31.53
120.0	36.58	57.10	49.81	27.93
125.0	38.10	52.78	46.56	24.86
130.0	39.62	48.92	43.59	22.21
135.0	41.15	45.46	40.87	19.92
140.0	42.67	42.36	38.37	17.93
145.0	44.20	39.55	36.09	16.19
150.0	45.72	37.02	33.99	14.67
155.0	47.24	34.72	32.05	13.34
160.0	48.77	32.62	30.27	12.16
165.0	50.29	30.71	28.63	11.11
170.0	51.82	28.96	27.11	10.18
175.0	53.34	27.35	25.71	9.35
180.0	54.86	25.88	24.41	8.60
185.0	56.39	24.52	23.20	7.94
190.0	57.91	23.26	22.07	7.34
195.0	59.44	22.10	21.03	6.80
200.0	60.96	21.02	20.05	6.31
205.0	62.48	20.02	19.14	5.86
210.0	64.01	19.09	18.29	5.46
215.0	65.53	18.22	17.49	5.09
220.0	67.06	17.41	16.74	4.76
225.0	68.58	16.65	16.04	4.45
230.0	70.10	15.94	15.38	4.17
235.0	71.63	15.27	14.76	3.91
240.0	73.15	14.65	14.18	3.68
245.0	74.68	14.06	13.63	3.46
250.0	76.20	13.51	13.11	3.26
255.0	77.72	12.99	12.62	3.07

260.0	79.25	12.50	12.15	2.90
265.0	80.77	12.03	11.72	2.74
270.0	82.30	11.59	11.30	2.59
275.0	83.82	11.18	10.91	2.45
280.0	85.34	10.78	10.53	2.32
285.0	86.87	10.41	10.17	2.21
290.0	88.39	10.06	9.84	2.09
295.0	89.92	9.72	9.51	1.99
300.0	91.44	9.40	9.21	1.89

Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Magnetic Field at 3700A

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_L3700
 Date: 6/17/2014 Time: 16:24

Standard DC Lattice Configuration at 3700A

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*****
*                               BUNDLE INFORMATION                               *
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BNDL #	CIRC #	VOLTAGE		CURRENT		# OF COND	BUNDLE COORDINATES			PH
		VOLTAGE (kV)	ANGLE (DEG)	LOAD (A)	ANGLE (DEG)		X (feet)	Y (feet)	SAG (feet)	
1	1	632.0	0.	3700.	0.	3	-22.2	34.0	.0	+
2	1	-632.0	0.	-3700.	0.	3	22.2	34.0	.0	-
3	1	.0	0.	0.	0.	1	8.1	74.1	.0	NEU
4	1	.0	0.	0.	0.	1	-8.1	74.1	.0	NEU
5	1	.0	0.	0.	0.	1	-12.8	88.8	.0	GND
6	1	.0	0.	0.	0.	1	12.8	88.8	.0	GND

```
*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****
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*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

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*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
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BNDL #	CONDUCTOR NAME	COORDINATES		DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
		X (inch)	Y (inch)				
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	-13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	-13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

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*****
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*****
*
*           MAGNETIC FIELD PROFILE           *
*           at 3.28 feet above ground       *
*
* longitudinal distance: 750.00 feet      *
*
*****

```

<-- DC MAGNETIC FIELD -->

LATERAL DISTANCE		VERTICAL HORIZONTAL		
(feet)	(meters)	TOTAL (mG)	COMP (mG)	COMP (mG)
-300.0	-91.44	11.92	11.68	-2.40
-295.0	-89.92	12.33	12.07	-2.52
-290.0	-88.39	12.76	12.48	-2.66
-285.0	-86.87	13.21	12.91	-2.80
-280.0	-85.34	13.68	13.36	-2.95
-275.0	-83.82	14.18	13.83	-3.11
-270.0	-82.30	14.70	14.33	-3.29
-265.0	-80.77	15.26	14.86	-3.47
-260.0	-79.25	15.85	15.42	-3.68
-255.0	-77.72	16.47	16.01	-3.89
-250.0	-76.20	17.13	16.63	-4.13
-245.0	-74.68	17.83	17.29	-4.39
-240.0	-73.15	18.58	17.99	-4.66
-235.0	-71.63	19.37	18.73	-4.96
-230.0	-70.10	20.22	19.51	-5.29
-225.0	-68.58	21.12	20.35	-5.65
-220.0	-67.06	22.08	21.24	-6.04
-215.0	-65.53	23.11	22.19	-6.46
-210.0	-64.01	24.21	23.20	-6.93
-205.0	-62.48	25.39	24.28	-7.44
-200.0	-60.96	26.66	25.43	-8.00
-195.0	-59.44	28.03	26.67	-8.62
-190.0	-57.91	29.50	28.00	-9.31
-185.0	-56.39	31.10	29.42	-10.07
-180.0	-54.86	32.82	30.96	-10.91
-175.0	-53.34	34.70	32.61	-11.86
-170.0	-51.82	36.73	34.39	-12.91
-165.0	-50.29	38.95	36.32	-14.09
-160.0	-48.77	41.38	38.40	-15.42
-155.0	-47.24	44.04	40.66	-16.92
-150.0	-45.72	46.96	43.11	-18.61
-145.0	-44.20	50.17	45.77	-20.54
-140.0	-42.67	53.73	48.67	-22.74
-135.0	-41.15	57.67	51.84	-25.27
-130.0	-39.62	62.05	55.29	-28.17
-125.0	-38.10	66.95	59.06	-31.53
-120.0	-36.58	72.43	63.17	-35.43
-115.0	-35.05	78.61	67.67	-39.99
-110.0	-33.53	85.59	72.59	-45.35
-105.0	-32.00	93.52	77.94	-51.68
-100.0	-30.48	102.57	83.75	-59.21
-95.0	-28.96	112.95	90.03	-68.20
-90.0	-27.43	124.91	96.73	-79.03
-85.0	-25.91	138.79	103.78	-92.14
-80.0	-24.38	154.96	111.01	-108.11
-75.0	-22.86	173.91	118.10	-127.67
-70.0	-21.34	196.24	124.47	-151.71
-65.0	-19.81	222.63	129.18	-181.32
-60.0	-18.29	253.91	130.67	-217.71

-55.0	-16.76	290.96	126.44	-262.05
-50.0	-15.24	334.60	112.71	-315.04
-45.0	-13.72	385.33	84.09	-376.05
-40.0	-12.19	442.91	33.79	-441.62
-35.0	-10.67	505.66	-44.87	-503.67
-30.0	-9.14	569.98	-154.91	-548.53
-25.0	-7.62	630.54	-290.96	-559.39
-20.0	-6.10	681.76	-437.13	-523.18
-15.0	-4.57	720.06	-571.75	-437.70
-10.0	-3.05	744.97	-676.33	-312.35
-5.0	-1.52	758.40	-740.92	-161.85
.0	.00	762.56	-762.56	.00
5.0	1.52	758.40	-740.92	161.85
10.0	3.05	744.97	-676.33	312.35
15.0	4.57	720.06	-571.75	437.70
20.0	6.10	681.76	-437.13	523.18
25.0	7.62	630.54	-290.96	559.39
30.0	9.14	569.98	-154.91	548.53
35.0	10.67	505.66	-44.87	503.67
40.0	12.19	442.91	33.79	441.62
45.0	13.72	385.33	84.09	376.05
50.0	15.24	334.60	112.71	315.04
55.0	16.76	290.96	126.44	262.05
60.0	18.29	253.91	130.67	217.71
65.0	19.81	222.63	129.18	181.32
70.0	21.34	196.24	124.47	151.71
75.0	22.86	173.91	118.10	127.67
80.0	24.38	154.96	111.01	108.11
85.0	25.91	138.79	103.78	92.14
90.0	27.43	124.91	96.73	79.03
95.0	28.96	112.95	90.03	68.20
100.0	30.48	102.57	83.75	59.21
105.0	32.00	93.52	77.94	51.68
110.0	33.53	85.59	72.59	45.35
115.0	35.05	78.61	67.67	39.99
120.0	36.58	72.43	63.17	35.43
125.0	38.10	66.95	59.06	31.53
130.0	39.62	62.05	55.29	28.17
135.0	41.15	57.67	51.84	25.27
140.0	42.67	53.73	48.67	22.74
145.0	44.20	50.17	45.77	20.54
150.0	45.72	46.96	43.11	18.61
155.0	47.24	44.04	40.66	16.92
160.0	48.77	41.38	38.40	15.42
165.0	50.29	38.95	36.32	14.09
170.0	51.82	36.73	34.39	12.91
175.0	53.34	34.70	32.61	11.86
180.0	54.86	32.82	30.96	10.91
185.0	56.39	31.10	29.42	10.07
190.0	57.91	29.50	28.00	9.31
195.0	59.44	28.03	26.67	8.62
200.0	60.96	26.66	25.43	8.00
205.0	62.48	25.39	24.28	7.44
210.0	64.01	24.21	23.20	6.93
215.0	65.53	23.11	22.19	6.46
220.0	67.06	22.08	21.24	6.04
225.0	68.58	21.12	20.35	5.65
230.0	70.10	20.22	19.51	5.29
235.0	71.63	19.37	18.73	4.96
240.0	73.15	18.58	17.99	4.66
245.0	74.68	17.83	17.29	4.39
250.0	76.20	17.13	16.63	4.13
255.0	77.72	16.47	16.01	3.89

260.0	79.25	15.85	15.42	3.68
265.0	80.77	15.26	14.86	3.47
270.0	82.30	14.70	14.33	3.29
275.0	83.82	14.18	13.83	3.11
280.0	85.34	13.68	13.36	2.95
285.0	86.87	13.21	12.91	2.80
290.0	88.39	12.76	12.48	2.66
295.0	89.92	12.33	12.07	2.52
300.0	91.44	11.92	11.68	2.40

Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Radio Noise

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_L1750
Date: 6/17/2014 Time: 16:22

Standard DC Lattice Configuration at 1750A

```
*****
*                               BUNDLE INFORMATION                               *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | CURRENT | ANGLE | # | BUNDLE COORDINATES | PH |
| # | # | (kV) | (DEG) | (A) | (DEG) | COND | (feet) | (feet) | (feet) |
*****
| 1 | 1 | 632.0 | 0. | 1750. | 0. | 3 | -22.2 | 34.0 | .0 | + |
| 2 | 1 | -632.0 | 0. | -1750. | 0. | 3 | 22.2 | 34.0 | .0 | - |
| 3 | 1 | .0 | 0. | 0. | 0. | 1 | 8.1 | 74.1 | .0 | NEU |
| 4 | 1 | .0 | 0. | 0. | 0. | 1 | -8.1 | 74.1 | .0 | NEU |
| 5 | 1 | .0 | 0. | 0. | 0. | 1 | -12.8 | 88.8 | .0 | GND |
| 6 | 1 | .0 | 0. | 0. | 0. | 1 | 12.8 | 88.8 | .0 | GND |
*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****

*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
| BNDL | CONDUCTOR | DIAMETER | SPACING | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 3 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 4 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 5 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
| 6 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
*****

*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
| BNDL | CONDUCTOR | COORDINATES | DIAMETER | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 1 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | .00 | -13.42 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | .00 | -13.42 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
*****
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*****
*
*   RADIO NOISE PROFILES   *
*   at 500.00 kHz         *
*
*   ANSI, loop antenna    *
*   ALTITUDE 3000.0 ft    *
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Lateral Distance (feet) (meters)	Average Stable Foul Weather Noise (1,2) (dB)	Heavy Rain Noise (3) (dB)	Wet Conductor Noise (3) (dB)
-300.0	-91.44	.0	36.6
-295.0	-89.92	.0	36.8
-290.0	-88.39	.0	37.1
-285.0	-86.87	.0	37.4
-280.0	-85.34	.0	37.7
-275.0	-83.82	.0	37.9
-270.0	-82.30	.0	38.2
-265.0	-80.77	.0	38.5
-260.0	-79.25	.0	38.8
-255.0	-77.72	.0	39.1
-250.0	-76.20	.0	39.4
-245.0	-74.68	.0	39.7
-240.0	-73.15	.0	40.0
-235.0	-71.63	.0	40.4
-230.0	-70.10	.0	40.7
-225.0	-68.58	.0	41.0
-220.0	-67.06	.0	41.4
-215.0	-65.53	.0	41.7
-210.0	-64.01	.0	42.0
-205.0	-62.48	.0	42.4
-200.0	-60.96	.0	42.7
-195.0	-59.44	.0	43.1
-190.0	-57.91	.0	43.5
-185.0	-56.39	.0	43.9
-180.0	-54.86	.0	44.2
-175.0	-53.34	.0	44.6
-170.0	-51.82	.0	45.0
-165.0	-50.29	.0	45.4
-160.0	-48.77	.0	45.9
-155.0	-47.24	.0	46.3
-150.0	-45.72	.0	46.7
-145.0	-44.20	.0	47.1
-140.0	-42.67	.0	47.6
-135.0	-41.15	.0	48.1
-130.0	-39.62	.0	48.5
-125.0	-38.10	.0	49.0
-120.0	-36.58	.0	49.6
-115.0	-35.05	.0	50.1
-110.0	-33.53	.0	50.7
-105.0	-32.00	.0	51.3
-100.0	-30.48	.0	52.0
-95.0	-28.96	.0	52.7
-90.0	-27.43	.0	53.5
-85.0	-25.91	.0	54.4
-80.0	-24.38	.0	55.5
-75.0	-22.86	.0	56.6
-70.0	-21.34	.0	57.9
-65.0	-19.81	.0	59.3
-60.0	-18.29	.0	60.8
-55.0	-16.76	.0	62.4

-50.0	-15.24	.0	63.9	63.9
-45.0	-13.72	.0	65.5	65.5
-40.0	-12.19	.0	66.8	66.8
-35.0	-10.67	.0	67.9	67.9
-30.0	-9.14	.0	68.7	68.7
-25.0	-7.62	.0	69.0	69.0
-20.0	-6.10	.0	68.7	68.7
-15.0	-4.57	.0	67.8	67.8
-10.0	-3.05	.0	66.2	66.2
-5.0	-1.52	.0	63.9	63.9
.0	.00	.0	61.1	61.1
5.0	1.52	.0	58.6	58.6
10.0	3.05	.0	58.5	58.5
15.0	4.57	.0	60.1	60.1
20.0	6.10	.0	61.6	61.6
25.0	7.62	.0	62.5	62.5
30.0	9.14	.0	62.7	62.7
35.0	10.67	.0	62.5	62.5
40.0	12.19	.0	61.9	61.9
45.0	13.72	.0	61.2	61.2
50.0	15.24	.0	60.4	60.4
55.0	16.76	.0	59.5	59.5
60.0	18.29	.0	58.6	58.6
65.0	19.81	.0	57.8	57.8
70.0	21.34	.0	57.0	57.0
75.0	22.86	.0	56.3	56.3
80.0	24.38	.0	55.5	55.5
85.0	25.91	.0	54.9	54.9
90.0	27.43	.0	54.2	54.2
95.0	28.96	.0	53.5	53.5
100.0	30.48	.0	52.9	52.9
105.0	32.00	.0	52.3	52.3
110.0	33.53	.0	51.7	51.7
115.0	35.05	.0	51.2	51.2
120.0	36.58	.0	50.6	50.6
125.0	38.10	.0	50.1	50.1
130.0	39.62	.0	49.6	49.6
135.0	41.15	.0	49.0	49.0
140.0	42.67	.0	48.5	48.5
145.0	44.20	.0	48.1	48.1
150.0	45.72	.0	47.6	47.6
155.0	47.24	.0	47.1	47.1
160.0	48.77	.0	46.7	46.7
165.0	50.29	.0	46.2	46.2
170.0	51.82	.0	45.8	45.8
175.0	53.34	.0	45.3	45.3
180.0	54.86	.0	44.9	44.9
185.0	56.39	.0	44.5	44.5
190.0	57.91	.0	44.1	44.1
195.0	59.44	.0	43.7	43.7
200.0	60.96	.0	43.3	43.3
205.0	62.48	.0	43.0	43.0
210.0	64.01	.0	42.6	42.6
215.0	65.53	.0	42.2	42.2
220.0	67.06	.0	41.9	41.9
225.0	68.58	.0	41.5	41.5
230.0	70.10	.0	41.2	41.2
235.0	71.63	.0	40.8	40.8
240.0	73.15	.0	40.5	40.5
245.0	74.68	.0	40.2	40.2
250.0	76.20	.0	39.8	39.8
255.0	77.72	.0	39.5	39.5
260.0	79.25	.0	39.2	39.2

265.0	80.77	.0	38.9	38.9
270.0	82.30	.0	38.6	38.6
275.0	83.82	.0	38.3	38.3
280.0	85.34	.0	38.0	38.0
285.0	86.87	.0	37.7	37.7
290.0	88.39	.0	37.5	37.5
295.0	89.92	.0	37.4	37.4
300.0	91.44	.0	37.3	37.3

- (1) The "Average Stable Foul Weather" noise is calculated using an empirical expression for the radio noise excitation function that was derived (see REF. [A]) to best fit the long term radio noise measurements of existing lines (in the 345 kV to 765 kV range). This generation function is used also in the program RNOISE, which is applicable to AC transmission lines. If AC lines are not present, the "Average Stable Foul Weather" column contains zeros.
- (2) The "Average Fair Weather" radio noise values can be obtained by subtracting 21.6 dB from the "Average Stable Foul Weather" radio noise data.
- (3) The "Heavy Rain" and the "Wet Conductor" radio noise levels, are defined in the EPRI's Transmission Line Reference Book - 345 kV and Above. The equations for the excitation functions for AC conductors are derived from the Reference Book and are applicable for large ranges of surface gradients (from 10 to 25 kV/cm), subconductor diameters (2 to 8 cm) and number of subconductors (1 to 12). The equations for the excitation functions for DC and HYBRID line conductors are derived from the EPRI RP 2472-6. Heavy rain was defined as rain with intensity of the order of 8 - 12 mm/hr. In the Northeastern climate, the "Heavy Rain" noise is exceeded only 1% of the time during periods of rain. "Wet Conductor" noise corresponds to the condition of the conductor saturated with water drops and with little noise caused by the impingement of rain droplets. Experimental data from which the equations for the "Wet Conductor" noise were derived, indicate that the "Wet Conductor" noise is exceeded 50% of the time during natural rain periods. "Wet Conductor" noise also corresponds to the maximum noise that can be produced during fog.

REFERENCES:

- [A] R.G. Olsen, S.D. Schennum and V.L. Chartier, "Comparison of Several Methods for Calculating Power Line Electromagnetic Interference Levels and Calibration with Long Term Data", EPRI report, Project RP-2025, 1991.

=====

Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Audible Noise

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_L_AN
 Date: 6/17/2014 Time: 16:18

Standard DC Lattice Configuration for Audible Noise

```

*****
*                               BUNDLE INFORMATION                               *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | LOAD | ANGLE | # | BUNDLE COORDINATES | PH |
| # | # | (kV) | (DEG) | (A) | (DEG) | COND | (feet) | (feet) | (feet) |
*****
| 1 | 1 | 632.0 | 0. | 1750. | 0. | 3 | -22.2 | 55.7 | .0 | + |
| 2 | 1 | -632.0 | 0. | -1750. | 0. | 3 | 22.2 | 55.7 | .0 | - |
| 3 | 1 | .0 | 0. | 0. | 0. | 1 | 8.1 | 95.8 | .0 | NEU |
| 4 | 1 | .0 | 0. | 0. | 0. | 1 | -8.1 | 95.8 | .0 | NEU |
| 5 | 1 | .0 | 0. | 0. | 0. | 1 | -12.8 | 110.5 | .0 | GND |
| 6 | 1 | .0 | 0. | 0. | 0. | 1 | 12.8 | 110.5 | .0 | GND |
*****
*                               MINIMUM GROUND CLEARANCE = 55.70 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****

*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
| BNDL | CONDUCTOR | DIAMETER | SPACING | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 3 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 4 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 5 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
| 6 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
*****

*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
| BNDL | CONDUCTOR | COORDINATES | DIAMETER | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 1 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | .00 | -13.42 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | .00 | -13.42 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
*****

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```

*****
*
*           AUDIBLE NOISE
*
* Microphone is 5.00 feet above ground
* Altitude 3000.0 feet
*
*****

```

<----- HVTRC CALCULATION METHOD ----->

LATERAL DISTANCE (feet) (meters)		L50 FAIR (dB(A))	L5 RAIN (dB(A))	L50 RAIN (dB(A))	Leq(24) (dB(A))	Ldn (dB(A))
-300.0	-91.44	43.5	37.5	37.5	42.7	49.2
-295.0	-89.92	43.6	37.6	37.6	42.8	49.3
-290.0	-88.39	43.7	37.7	37.7	42.9	49.4
-285.0	-86.87	43.8	37.8	37.8	43.0	49.5
-280.0	-85.34	43.9	37.9	37.9	43.1	49.6
-275.0	-83.82	44.1	38.1	38.1	43.3	49.8
-270.0	-82.30	44.2	38.2	38.2	43.4	49.9
-265.0	-80.77	44.3	38.3	38.3	43.5	50.0
-260.0	-79.25	44.4	38.4	38.4	43.6	50.1
-255.0	-77.72	44.5	38.5	38.5	43.7	50.2
-250.0	-76.20	44.6	38.6	38.6	43.8	50.3
-245.0	-74.68	44.8	38.8	38.8	44.0	50.5
-240.0	-73.15	44.9	38.9	38.9	44.1	50.6
-235.0	-71.63	45.0	39.0	39.0	44.2	50.7
-230.0	-70.10	45.1	39.1	39.1	44.3	50.8
-225.0	-68.58	45.3	39.3	39.3	44.5	51.0
-220.0	-67.06	45.4	39.4	39.4	44.6	51.1
-215.0	-65.53	45.5	39.5	39.5	44.7	51.2
-210.0	-64.01	45.7	39.7	39.7	44.9	51.4
-205.0	-62.48	45.8	39.8	39.8	45.0	51.5
-200.0	-60.96	45.9	39.9	39.9	45.2	51.6
-195.0	-59.44	46.1	40.1	40.1	45.3	51.8
-190.0	-57.91	46.2	40.2	40.2	45.4	51.9
-185.0	-56.39	46.4	40.4	40.4	45.6	52.1
-180.0	-54.86	46.5	40.5	40.5	45.7	52.2
-175.0	-53.34	46.7	40.7	40.7	45.9	52.4
-170.0	-51.82	46.9	40.9	40.9	46.1	52.6
-165.0	-50.29	47.0	41.0	41.0	46.2	52.7
-160.0	-48.77	47.2	41.2	41.2	46.4	52.9
-155.0	-47.24	47.4	41.4	41.4	46.6	53.0
-150.0	-45.72	47.5	41.5	41.5	46.7	53.2
-145.0	-44.20	47.7	41.7	41.7	46.9	53.4
-140.0	-42.67	47.9	41.9	41.9	47.1	53.6
-135.0	-41.15	48.1	42.1	42.1	47.3	53.8
-130.0	-39.62	48.3	42.3	42.3	47.5	54.0
-125.0	-38.10	48.5	42.5	42.5	47.7	54.2
-120.0	-36.58	48.7	42.7	42.7	47.9	54.4
-115.0	-35.05	48.9	42.9	42.9	48.1	54.6
-110.0	-33.53	49.1	43.1	43.1	48.3	54.8
-105.0	-32.00	49.3	43.3	43.3	48.5	55.0
-100.0	-30.48	49.5	43.5	43.5	48.7	55.2
-95.0	-28.96	49.7	43.7	43.7	48.9	55.4
-90.0	-27.43	50.0	44.0	44.0	49.2	55.7
-85.0	-25.91	50.2	44.2	44.2	49.4	55.9
-80.0	-24.38	50.4	44.4	44.4	49.6	56.1
-75.0	-22.86	50.7	44.7	44.7	49.9	56.4
-70.0	-21.34	50.9	44.9	44.9	50.1	56.6
-65.0	-19.81	51.1	45.1	45.1	50.3	56.8

-60.0	-18.29	51.4	45.4	45.4	50.6	57.1
-55.0	-16.76	51.6	45.6	45.6	50.8	57.3
-50.0	-15.24	51.8	45.8	45.8	51.0	57.5
-45.0	-13.72	52.0	46.0	46.0	51.2	57.7
-40.0	-12.19	52.1	46.1	46.1	51.3	57.8
-35.0	-10.67	52.3	46.3	46.3	51.5	58.0
-30.0	-9.14	52.4	46.4	46.4	51.6	58.1
-25.0	-7.62	52.4	46.4	46.4	51.6	58.1
-20.0	-6.10	52.4	46.4	46.4	51.6	58.1
-15.0	-4.57	52.4	46.4	46.4	51.6	58.1
-10.0	-3.05	52.3	46.3	46.3	51.5	58.0
-5.0	-1.52	52.2	46.2	46.2	51.4	57.9
.0	.00	52.0	46.0	46.0	51.2	57.7
5.0	1.52	51.8	45.8	45.8	51.0	57.5
10.0	3.05	51.6	45.6	45.6	50.8	57.3
15.0	4.57	51.4	45.4	45.4	50.6	57.1
20.0	6.10	51.2	45.2	45.2	50.4	56.9
25.0	7.62	50.9	44.9	44.9	50.1	56.6
30.0	9.14	50.7	44.7	44.7	49.9	56.4
35.0	10.67	50.5	44.5	44.5	49.7	56.2
40.0	12.19	50.2	44.2	44.2	49.4	55.9
45.0	13.72	50.0	44.0	44.0	49.2	55.7
50.0	15.24	49.8	43.8	43.8	49.0	55.5
55.0	16.76	49.5	43.5	43.5	48.7	55.2
60.0	18.29	49.3	43.3	43.3	48.5	55.0
65.0	19.81	49.1	43.1	43.1	48.3	54.8
70.0	21.34	48.9	42.9	42.9	48.1	54.6
75.0	22.86	48.7	42.7	42.7	47.9	54.4
80.0	24.38	48.5	42.5	42.5	47.7	54.2
85.0	25.91	48.3	42.3	42.3	47.5	54.0
90.0	27.43	48.1	42.1	42.1	47.3	53.8
95.0	28.96	47.9	41.9	41.9	47.1	53.6
100.0	30.48	47.7	41.7	41.7	46.9	53.4
105.0	32.00	47.5	41.5	41.5	46.7	53.2
110.0	33.53	47.4	41.4	41.4	46.6	53.1
115.0	35.05	47.2	41.2	41.2	46.4	52.9
120.0	36.58	47.0	41.0	41.0	46.2	52.7
125.0	38.10	46.9	40.9	40.9	46.1	52.6
130.0	39.62	46.7	40.7	40.7	45.9	52.4
135.0	41.15	46.6	40.6	40.6	45.8	52.3
140.0	42.67	46.4	40.4	40.4	45.6	52.1
145.0	44.20	46.3	40.3	40.3	45.5	52.0
150.0	45.72	46.1	40.1	40.1	45.3	51.8
155.0	47.24	46.0	40.0	40.0	45.2	51.7
160.0	48.77	45.8	39.8	39.8	45.0	51.5
165.0	50.29	45.7	39.7	39.7	44.9	51.4
170.0	51.82	45.5	39.5	39.5	44.7	51.2
175.0	53.34	45.4	39.4	39.4	44.6	51.1
180.0	54.86	45.3	39.3	39.3	44.5	51.0
185.0	56.39	45.2	39.2	39.2	44.4	50.9
190.0	57.91	45.0	39.0	39.0	44.2	50.7
195.0	59.44	44.9	38.9	38.9	44.1	50.6
200.0	60.96	44.8	38.8	38.8	44.0	50.5
205.0	62.48	44.7	38.7	38.7	43.9	50.4
210.0	64.01	44.5	38.5	38.5	43.7	50.2
215.0	65.53	44.4	38.4	38.4	43.6	50.1
220.0	67.06	44.3	38.3	38.3	43.5	50.0
225.0	68.58	44.2	38.2	38.2	43.4	49.9
230.0	70.10	44.1	38.1	38.1	43.3	49.8
235.0	71.63	44.0	38.0	38.0	43.2	49.7
240.0	73.15	43.9	37.9	37.9	43.1	49.5
245.0	74.68	43.7	37.7	37.7	42.9	49.4
250.0	76.20	43.6	37.6	37.6	42.8	49.3

255.0	77.72	43.5	37.5	37.5	42.7	49.2
260.0	79.25	43.4	37.4	37.4	42.6	49.1
265.0	80.77	43.3	37.3	37.3	42.5	49.0
270.0	82.30	43.2	37.2	37.2	42.4	48.9
275.0	83.82	43.1	37.1	37.1	42.3	48.8
280.0	85.34	43.0	37.0	37.0	42.2	48.7
285.0	86.87	42.9	36.9	36.9	42.1	48.6
290.0	88.39	42.8	36.8	36.8	42.0	48.5
295.0	89.92	42.7	36.7	36.7	41.9	48.4
300.0	91.44	42.6	36.6	36.6	41.8	48.3

 *
 * AUDIBLE NOISE *
 * (other methods) *
 *
 * Altitude 3000.0 feet *
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LATERAL DISTANCE		<----- BPA METHOD ----->				<- CRIEPI -->		EdF	ENEL	IREQ
(feet)	(meters)	FAIR WEATHER	L5 RAIN	L50 RAIN	Ldn	AVERAGE	L5 RAIN	L5 RAIN	L5 RAIN	L5 RAIN
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
-300.0	-91.44	39.7	37.2	33.7	.0	.0	.0	.0	.0	.0
-295.0	-89.92	39.8	37.3	33.8	.0	.0	.0	.0	.0	.0
-290.0	-88.39	39.9	37.4	33.9	.0	.0	.0	.0	.0	.0
-285.0	-86.87	40.0	37.5	34.0	.0	.0	.0	.0	.0	.0
-280.0	-85.34	40.1	37.6	34.1	.0	.0	.0	.0	.0	.0
-275.0	-83.82	40.2	37.7	34.2	.0	.0	.0	.0	.0	.0
-270.0	-82.30	40.3	37.8	34.3	.0	.0	.0	.0	.0	.0
-265.0	-80.77	40.4	37.9	34.4	.0	.0	.0	.0	.0	.0
-260.0	-79.25	40.5	38.0	34.5	.0	.0	.0	.0	.0	.0
-255.0	-77.72	40.6	38.1	34.6	.0	.0	.0	.0	.0	.0
-250.0	-76.20	40.7	38.2	34.7	.0	.0	.0	.0	.0	.0
-245.0	-74.68	40.8	38.3	34.8	.0	.0	.0	.0	.0	.0
-240.0	-73.15	40.9	38.4	34.9	.0	.0	.0	.0	.0	.0
-235.0	-71.63	41.0	38.5	35.0	.0	.0	.0	.0	.0	.0
-230.0	-70.10	41.1	38.6	35.1	.0	.0	.0	.0	.0	.0
-225.0	-68.58	41.2	38.7	35.2	.0	.0	.0	.0	.0	.0
-220.0	-67.06	41.4	38.9	35.4	.0	.0	.0	.0	.0	.0
-215.0	-65.53	41.5	39.0	35.5	.0	.0	.0	.0	.0	.0
-210.0	-64.01	41.6	39.1	35.6	.0	.0	.0	.0	.0	.0
-205.0	-62.48	41.7	39.2	35.7	.0	.0	.0	.0	.0	.0
-200.0	-60.96	41.8	39.3	35.8	.0	.0	.0	.0	.0	.0
-195.0	-59.44	42.0	39.5	36.0	.0	.0	.0	.0	.0	.0
-190.0	-57.91	42.1	39.6	36.1	.0	.0	.0	.0	.0	.0
-185.0	-56.39	42.2	39.7	36.2	.0	.0	.0	.0	.0	.0
-180.0	-54.86	42.4	39.9	36.4	.0	.0	.0	.0	.0	.0
-175.0	-53.34	42.5	40.0	36.5	.0	.0	.0	.0	.0	.0
-170.0	-51.82	42.7	40.2	36.7	.0	.0	.0	.0	.0	.0
-165.0	-50.29	42.8	40.3	36.8	.0	.0	.0	.0	.0	.0
-160.0	-48.77	43.0	40.5	37.0	.0	.0	.0	.0	.0	.0
-155.0	-47.24	43.1	40.6	37.1	.0	.0	.0	.0	.0	.0
-150.0	-45.72	43.3	40.8	37.3	.0	.0	.0	.0	.0	.0
-145.0	-44.20	43.5	41.0	37.5	.0	.0	.0	.0	.0	.0
-140.0	-42.67	43.7	41.2	37.7	.0	.0	.0	.0	.0	.0
-135.0	-41.15	43.8	41.3	37.8	.0	.0	.0	.0	.0	.0
-130.0	-39.62	44.0	41.5	38.0	.0	.0	.0	.0	.0	.0
-125.0	-38.10	44.2	41.7	38.2	.0	.0	.0	.0	.0	.0
-120.0	-36.58	44.4	41.9	38.4	.0	.0	.0	.0	.0	.0
-115.0	-35.05	44.6	42.1	38.6	.0	.0	.0	.0	.0	.0
-110.0	-33.53	44.8	42.3	38.8	.0	.0	.0	.0	.0	.0
-105.0	-32.00	45.0	42.5	39.0	.0	.0	.0	.0	.0	.0
-100.0	-30.48	45.3	42.8	39.3	.0	.0	.0	.0	.0	.0
-95.0	-28.96	45.5	43.0	39.5	.0	.0	.0	.0	.0	.0
-90.0	-27.43	45.7	43.2	39.7	.0	.0	.0	.0	.0	.0
-85.0	-25.91	46.0	43.5	40.0	.0	.0	.0	.0	.0	.0
-80.0	-24.38	46.2	43.7	40.2	.0	.0	.0	.0	.0	.0
-75.0	-22.86	46.4	43.9	40.4	.0	.0	.0	.0	.0	.0
-70.0	-21.34	46.7	44.2	40.7	.0	.0	.0	.0	.0	.0
-65.0	-19.81	46.9	44.4	40.9	.0	.0	.0	.0	.0	.0
-60.0	-18.29	47.2	44.7	41.2	.0	.0	.0	.0	.0	.0

-55.0	-16.76	47.4	44.9	41.4	.0	.0	.0	.0	.0	.0
-50.0	-15.24	47.6	45.1	41.6	.0	.0	.0	.0	.0	.0
-45.0	-13.72	47.8	45.3	41.8	.0	.0	.0	.0	.0	.0
-40.0	-12.19	48.0	45.5	42.0	.0	.0	.0	.0	.0	.0
-35.0	-10.67	48.1	45.6	42.1	.0	.0	.0	.0	.0	.0
-30.0	-9.14	48.2	45.7	42.2	.0	.0	.0	.0	.0	.0
-25.0	-7.62	48.3	45.8	42.3	.0	.0	.0	.0	.0	.0
-20.0	-6.10	48.3	45.8	42.3	.0	.0	.0	.0	.0	.0
-15.0	-4.57	48.2	45.7	42.2	.0	.0	.0	.0	.0	.0
-10.0	-3.05	48.1	45.6	42.1	.0	.0	.0	.0	.0	.0
-5.0	-1.52	48.0	45.5	42.0	.0	.0	.0	.0	.0	.0
.0	.00	47.8	45.3	41.8	.0	.0	.0	.0	.0	.0
5.0	1.52	47.6	45.1	41.6	.0	.0	.0	.0	.0	.0
10.0	3.05	47.4	44.9	41.4	.0	.0	.0	.0	.0	.0
15.0	4.57	47.2	44.7	41.2	.0	.0	.0	.0	.0	.0
20.0	6.10	47.0	44.5	41.0	.0	.0	.0	.0	.0	.0
25.0	7.62	46.7	44.2	40.7	.0	.0	.0	.0	.0	.0
30.0	9.14	46.5	44.0	40.5	.0	.0	.0	.0	.0	.0
35.0	10.67	46.2	43.7	40.2	.0	.0	.0	.0	.0	.0
40.0	12.19	46.0	43.5	40.0	.0	.0	.0	.0	.0	.0
45.0	13.72	45.8	43.3	39.8	.0	.0	.0	.0	.0	.0
50.0	15.24	45.5	43.0	39.5	.0	.0	.0	.0	.0	.0
55.0	16.76	45.3	42.8	39.3	.0	.0	.0	.0	.0	.0
60.0	18.29	45.1	42.6	39.1	.0	.0	.0	.0	.0	.0
65.0	19.81	44.9	42.4	38.9	.0	.0	.0	.0	.0	.0
70.0	21.34	44.6	42.1	38.6	.0	.0	.0	.0	.0	.0
75.0	22.86	44.4	41.9	38.4	.0	.0	.0	.0	.0	.0
80.0	24.38	44.2	41.7	38.2	.0	.0	.0	.0	.0	.0
85.0	25.91	44.0	41.5	38.0	.0	.0	.0	.0	.0	.0
90.0	27.43	43.9	41.4	37.9	.0	.0	.0	.0	.0	.0
95.0	28.96	43.7	41.2	37.7	.0	.0	.0	.0	.0	.0
100.0	30.48	43.5	41.0	37.5	.0	.0	.0	.0	.0	.0
105.0	32.00	43.3	40.8	37.3	.0	.0	.0	.0	.0	.0
110.0	33.53	43.2	40.7	37.2	.0	.0	.0	.0	.0	.0
115.0	35.05	43.0	40.5	37.0	.0	.0	.0	.0	.0	.0
120.0	36.58	42.8	40.3	36.8	.0	.0	.0	.0	.0	.0
125.0	38.10	42.7	40.2	36.7	.0	.0	.0	.0	.0	.0
130.0	39.62	42.5	40.0	36.5	.0	.0	.0	.0	.0	.0
135.0	41.15	42.4	39.9	36.4	.0	.0	.0	.0	.0	.0
140.0	42.67	42.3	39.8	36.3	.0	.0	.0	.0	.0	.0
145.0	44.20	42.1	39.6	36.1	.0	.0	.0	.0	.0	.0
150.0	45.72	42.0	39.5	36.0	.0	.0	.0	.0	.0	.0
155.0	47.24	41.9	39.4	35.9	.0	.0	.0	.0	.0	.0
160.0	48.77	41.7	39.2	35.7	.0	.0	.0	.0	.0	.0
165.0	50.29	41.6	39.1	35.6	.0	.0	.0	.0	.0	.0
170.0	51.82	41.5	39.0	35.5	.0	.0	.0	.0	.0	.0
175.0	53.34	41.4	38.9	35.4	.0	.0	.0	.0	.0	.0
180.0	54.86	41.3	38.8	35.3	.0	.0	.0	.0	.0	.0
185.0	56.39	41.1	38.6	35.1	.0	.0	.0	.0	.0	.0
190.0	57.91	41.0	38.5	35.0	.0	.0	.0	.0	.0	.0
195.0	59.44	40.9	38.4	34.9	.0	.0	.0	.0	.0	.0
200.0	60.96	40.8	38.3	34.8	.0	.0	.0	.0	.0	.0
205.0	62.48	40.7	38.2	34.7	.0	.0	.0	.0	.0	.0
210.0	64.01	40.6	38.1	34.6	.0	.0	.0	.0	.0	.0
215.0	65.53	40.5	38.0	34.5	.0	.0	.0	.0	.0	.0
220.0	67.06	40.4	37.9	34.4	.0	.0	.0	.0	.0	.0
225.0	68.58	40.3	37.8	34.3	.0	.0	.0	.0	.0	.0
230.0	70.10	40.2	37.7	34.2	.0	.0	.0	.0	.0	.0
235.0	71.63	40.1	37.6	34.1	.0	.0	.0	.0	.0	.0
240.0	73.15	40.0	37.5	34.0	.0	.0	.0	.0	.0	.0
245.0	74.68	39.9	37.4	33.9	.0	.0	.0	.0	.0	.0
250.0	76.20	39.8	37.3	33.8	.0	.0	.0	.0	.0	.0
255.0	77.72	39.8	37.3	33.8	.0	.0	.0	.0	.0	.0

260.0	79.25	39.7	37.2	33.7	.0	.0	.0	.0	.0	.0
265.0	80.77	39.6	37.1	33.6	.0	.0	.0	.0	.0	.0
270.0	82.30	39.5	37.0	33.5	.0	.0	.0	.0	.0	.0
275.0	83.82	39.4	36.9	33.4	.0	.0	.0	.0	.0	.0
280.0	85.34	39.3	36.8	33.3	.0	.0	.0	.0	.0	.0
285.0	86.87	39.3	36.8	33.3	.0	.0	.0	.0	.0	.0
290.0	88.39	39.2	36.7	33.2	.0	.0	.0	.0	.0	.0
295.0	89.92	39.1	36.6	33.1	.0	.0	.0	.0	.0	.0
300.0	91.44	39.0	36.5	33.0	.0	.0	.0	.0	.0	.0

Audible noise prediction methods do not apply to all line geometries, voltages, or weather conditions. If a prediction method does not apply, the appropriate output data column will be zeros.

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DC TRANSMISSION LINE CALCULATION RESULTS

±600kV BI-POLAR LATTICE

DEDICATED NEUTRAL RETURN (DNR) OPERATION

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 Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Electric Field

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_LDNRC
 Date: 6/17/2014 Time: 16:10

DC Lattice Configuration with DNR and Load = 3700A

```
*****
*                               BUNDLE INFORMATION                               *
*****
```

BNDL #	CIRC #	VOLTAGE		CURRENT		# OF COND	BUNDLE COORDINATES			PH
		VOLTAGE (kV)	ANGLE (DEG)	LOAD (A)	ANGLE (DEG)		X (feet)	Y (feet)	SAG (feet)	
1	1	632.0	0.	3700.	0.	3	-22.2	34.0	.0	+
2	1	.0	0.	0.	0.	3	22.2	34.0	.0	SEC
3	1	.0	0.	-1850.	0.	1	8.1	74.1	.0	GND
4	1	.0	0.	-1850.	0.	1	-8.1	74.1	.0	GND
5	1	.0	0.	0.	0.	1	-12.8	88.8	.0	GND
6	1	.0	0.	0.	0.	1	12.8	88.8	.0	GND

```
*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****
```

```
*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

```
*****
```

```
*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	COORDINATES		DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
		X (inch)	Y (inch)				
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	-13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	-13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

```
*****
```

 Results of AC/DCLINE program EFION (EPRI/HVTRC 7-93) for:

ELECTRIC FIELD & IONS WITHOUT SHIELDING OBJECTS

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_LDNRC
 Date: 6/17/2014 Time: 16:10

 *
 * DEGREE OF SATURATION *
 *

BNDL #	NORTHEAST CLIMATE									ACTUAL CLIMATE		
	WINTER		SUMMER							WORST-MONTH	AVG.	
	FAIR		FAIR	FOG	RAIN	SNOW				FAIR	FAIR	
	50%		50% 95%	50% 95%	50% 95%	50% 95%	50% 95%			50%	95%	50%
1	.135		.437 .759	.576 .796	.656 .798	.317 .459			.372	.693	.287	

```

*****
*
*           ELECTROSTATIC AND SATURATED           *
* DC FIELD, CURRENT, AND ION DENSITY PROFILES *
*
*           wind speed = 0                       *
*           longitudinal distance: 750.00 feet   *
*
*****

```

LATERAL DISTANCE		<-- DC ELECTRIC FIELD -->		CURRENT	ION
(feet)	(meters)	ELECTROSTATIC (kV/m)	SATURATED (kV/m)	DENSITY (nA/m2)	DENSITY (1/cm3)
-300.0	-91.44	.22	3.25	.1	1826.
-295.0	-89.92	.22	3.33	.1	1908.
-290.0	-88.39	.23	3.47	.1	2031.
-285.0	-86.87	.24	3.57	.1	2128.
-280.0	-85.34	.25	3.66	.2	2229.
-275.0	-83.82	.26	3.82	.2	2376.
-270.0	-82.30	.28	3.93	.2	2496.
-265.0	-80.77	.29	4.03	.2	2619.
-260.0	-79.25	.30	4.21	.2	2799.
-255.0	-77.72	.32	4.33	.2	2946.
-250.0	-76.20	.33	4.45	.3	3098.
-245.0	-74.68	.35	4.66	.3	3322.
-240.0	-73.15	.37	4.80	.3	3506.
-235.0	-71.63	.38	4.93	.3	3689.
-230.0	-70.10	.40	5.18	.4	3976.
-225.0	-68.58	.43	5.34	.4	4204.
-220.0	-67.06	.45	5.60	.5	4528.
-215.0	-65.53	.48	5.78	.5	4804.
-210.0	-64.01	.50	6.06	.6	5179.
-205.0	-62.48	.54	6.27	.6	5512.
-200.0	-60.96	.57	6.46	.7	5847.
-195.0	-59.44	.61	6.82	.8	6358.
-190.0	-57.91	.65	7.04	.9	6768.
-185.0	-56.39	.69	7.44	1.0	7377.
-180.0	-54.86	.74	7.69	1.1	7874.
-175.0	-53.34	.79	8.15	1.3	8617.
-170.0	-51.82	.85	8.60	1.5	9399.
-165.0	-50.29	.92	8.96	1.7	10136.
-160.0	-48.77	.99	9.47	1.9	11109.
-155.0	-47.24	1.07	9.87	2.2	12003.
-150.0	-45.72	1.16	10.49	2.6	13242.
-145.0	-44.20	1.27	11.13	3.0	14605.
-140.0	-42.67	1.38	11.65	3.4	15895.
-135.0	-41.15	1.52	12.43	4.0	17674.
-130.0	-39.62	1.67	13.27	4.8	19667.
-125.0	-38.10	1.84	14.17	5.7	21939.
-120.0	-36.58	2.04	15.16	6.8	24552.
-115.0	-35.05	2.27	16.26	8.2	27576.
-110.0	-33.53	2.54	17.47	10.0	31095.
-105.0	-32.00	2.85	18.82	12.2	35213.
-100.0	-30.48	3.22	20.33	15.0	40054.
-95.0	-28.96	3.65	22.01	18.5	45763.
-90.0	-27.43	4.17	23.84	23.0	52432.
-85.0	-25.91	4.78	26.31	29.7	61350.
-80.0	-24.38	5.51	29.02	38.4	71946.
-75.0	-22.86	6.39	31.75	49.0	83941.
-70.0	-21.34	7.45	35.23	64.6	99605.
-65.0	-19.81	8.73	39.13	85.4	118658.

-60.0	-18.29	10.25	44.03	116.3	143622.
-55.0	-16.76	12.06	49.02	155.4	172351.
-50.0	-15.24	14.16	55.01	211.2	208706.
-45.0	-13.72	16.51	60.89	278.9	248956.
-40.0	-12.19	18.99	67.57	368.5	296408.
-35.0	-10.67	21.35	73.36	461.9	342197.
-30.0	-9.14	23.25	77.27	537.2	377840.
-25.0	-7.62	24.27	79.64	587.3	400762.
-20.0	-6.10	24.15	80.59	605.8	408571.
-15.0	-4.57	22.85	77.44	552.2	387556.
-10.0	-3.05	20.64	72.47	470.2	352615.
-5.0	-1.52	17.92	65.56	371.0	307583.
.0	.00	15.04	57.89	278.8	261796.
5.0	1.52	12.29	50.99	209.9	223759.
10.0	3.05	9.82	44.02	153.3	189282.
15.0	4.57	7.71	37.53	110.1	159495.
20.0	6.10	5.98	31.75	78.0	133576.
25.0	7.62	4.65	27.56	57.6	113506.
30.0	9.14	3.65	24.07	41.9	94518.
35.0	10.67	2.93	21.86	31.7	78734.
40.0	12.19	2.41	20.50	24.3	64500.
45.0	13.72	2.04	20.00	18.6	50644.
50.0	15.24	1.76	13.84	7.0	27506.
55.0	16.76	1.54	13.82	7.0	27715.
60.0	18.29	1.37	13.68	6.7	26626.
65.0	19.81	1.23	13.71	6.5	25565.
70.0	21.34	1.11	12.90	5.4	22900.
75.0	22.86	1.00	12.23	4.6	20596.
80.0	24.38	.91	11.66	4.0	18598.
85.0	25.91	.84	10.97	3.3	16556.
90.0	27.43	.77	10.58	2.9	15115.
95.0	28.96	.71	10.05	2.5	13577.
100.0	30.48	.66	9.74	2.2	12452.
105.0	32.00	.61	9.32	1.9	11278.
110.0	33.53	.57	8.93	1.7	10243.
115.0	35.05	.53	8.58	1.5	9328.
120.0	36.58	.49	8.25	1.3	8515.
125.0	38.10	.46	7.81	1.1	7658.
130.0	39.62	.43	7.55	1.0	7042.
135.0	41.15	.41	7.30	.9	6477.
140.0	42.67	.39	6.93	.7	5862.
145.0	44.20	.37	6.72	.7	5423.
150.0	45.72	.35	6.40	.6	4927.
155.0	47.24	.33	6.22	.5	4570.
160.0	48.77	.31	5.73	.4	4018.
165.0	50.29	.30	5.23	.3	3495.
170.0	51.82	.28	4.67	.3	2958.
175.0	53.34	.27	4.05	.2	2272.
180.0	54.86	.26	2.48	.1	1382.
185.0	56.39	.25	2.44	.1	1360.
190.0	57.91	.24	2.35	.1	1292.
195.0	59.44	.23	2.30	.1	1246.
200.0	60.96	.22	2.21	.0	1182.
205.0	62.48	.21	2.17	.0	1141.
210.0	64.01	.20	2.10	.0	1085.
215.0	65.53	.19	2.02	.0	1030.
220.0	67.06	.18	1.99	.0	998.
225.0	68.58	.18	1.93	.0	951.
230.0	70.10	.17	1.87	.0	906.
235.0	71.63	.17	1.81	.0	861.
240.0	73.15	.16	1.79	.0	838.
245.0	74.68	.15	1.73	.0	801.
250.0	76.20	.15	1.68	.0	766.

255.0	77.72	.14	1.63	.0	731.
260.0	79.25	.14	1.61	.0	712.
265.0	80.77	.13	1.57	.0	682.
270.0	82.30	.13	1.53	.0	653.
275.0	83.82	.13	1.48	.0	626.
280.0	85.34	.12	1.44	.0	600.
285.0	86.87	.12	1.40	.0	575.
290.0	88.39	.12	1.39	.0	562.
295.0	89.92	.11	1.36	.0	540.
300.0	91.44	.11	1.32	.0	519.

```

*****
*
* DC FIELD AND ION DENSITY PROFILES AT GROUND LEVEL *
*
*           wind speed = 0           *
*           longitudinal distance: 750.00 feet *
*
*****

```

		<----- SUMMER FAIR ----->				<----- RAIN ----->			
LATERAL DISTANCE		FIELD 50%	FIELD 95%	IONS 50%	IONS 95%	FIELD 50%	FIELD 95%	IONS 50%	IONS 95%
(feet)	(meters)	(kV/m)	(kV/m)	(1/cc)	(1/cc)	(kV/m)	(kV/m)	(1/cc)	(1/cc)
-300.0	-91.44	1.3	2.3	1643.	1774.	2.2	2.6	1765.	1796.
-295.0	-89.92	1.4	2.4	1713.	1853.	2.3	2.7	1843.	1876.
-290.0	-88.39	1.4	2.5	1825.	1973.	2.4	2.8	1962.	1997.
-285.0	-86.87	1.5	2.5	1909.	2066.	2.4	2.9	2055.	2092.
-280.0	-85.34	1.5	2.6	1996.	2163.	2.5	3.0	2151.	2190.
-275.0	-83.82	1.6	2.7	2128.	2306.	2.6	3.1	2293.	2335.
-270.0	-82.30	1.6	2.8	2231.	2420.	2.7	3.2	2407.	2452.
-265.0	-80.77	1.7	2.9	2337.	2539.	2.7	3.3	2524.	2573.
-260.0	-79.25	1.8	3.0	2497.	2713.	2.9	3.4	2697.	2749.
-255.0	-77.72	1.8	3.1	2623.	2854.	2.9	3.5	2838.	2893.
-250.0	-76.20	1.9	3.2	2752.	3000.	3.0	3.6	2982.	3041.
-245.0	-74.68	2.0	3.3	2950.	3216.	3.2	3.8	3196.	3260.
-240.0	-73.15	2.0	3.4	3106.	3391.	3.3	3.9	3371.	3439.
-235.0	-71.63	2.1	3.5	3260.	3566.	3.4	4.0	3544.	3618.
-230.0	-70.10	2.2	3.7	3512.	3843.	3.5	4.2	3819.	3899.
-225.0	-68.58	2.3	3.8	3704.	4061.	3.6	4.3	4035.	4121.
-220.0	-67.06	2.4	4.0	3985.	4372.	3.8	4.6	4344.	4437.
-215.0	-65.53	2.4	4.2	4216.	4635.	4.0	4.7	4604.	4706.
-210.0	-64.01	2.6	4.4	4540.	4995.	4.1	4.9	4962.	5072.
-205.0	-62.48	2.7	4.5	4817.	5312.	4.3	5.1	5276.	5396.
-200.0	-60.96	2.8	4.7	5090.	5628.	4.4	5.3	5588.	5719.
-195.0	-59.44	2.9	4.9	5529.	6118.	4.7	5.6	6075.	6218.
-190.0	-57.91	3.0	5.1	5861.	6505.	4.8	5.8	6458.	6615.
-185.0	-56.39	3.2	5.4	6379.	7087.	5.1	6.1	7035.	7208.
-180.0	-54.86	3.3	5.6	6776.	7553.	5.3	6.3	7496.	7687.
-175.0	-53.34	3.5	5.9	7402.	8262.	5.6	6.7	8198.	8410.
-170.0	-51.82	3.7	6.2	8053.	9005.	5.9	7.0	8935.	9170.
-165.0	-50.29	3.9	6.5	8641.	9697.	6.2	7.3	9619.	9880.
-160.0	-48.77	4.1	6.9	9442.	10618.	6.6	7.8	10531.	10822.
-155.0	-47.24	4.3	7.2	10142.	11453.	6.8	8.1	11355.	11682.
-150.0	-45.72	4.6	7.6	11151.	12622.	7.3	8.6	12512.	12880.
-145.0	-44.20	4.9	8.1	12249.	13905.	7.7	9.1	13781.	14196.
-140.0	-42.67	5.2	8.5	13236.	15100.	8.1	9.6	14960.	15430.
-135.0	-41.15	5.6	9.1	14652.	16768.	8.7	10.2	16609.	17144.
-130.0	-39.62	6.0	9.7	16218.	18629.	9.3	10.9	18447.	19059.
-125.0	-38.10	6.4	10.4	17986.	20745.	9.9	11.7	20536.	21239.
-120.0	-36.58	6.9	11.1	20000.	23171.	10.6	12.5	22929.	23742.
-115.0	-35.05	7.5	12.0	22306.	25969.	11.4	13.4	25689.	26633.
-110.0	-33.53	8.1	12.9	24961.	29215.	12.3	14.5	28888.	29990.
-105.0	-32.00	8.8	13.9	28032.	32998.	13.3	15.6	32615.	33910.
-100.0	-30.48	9.6	15.1	31597.	37430.	14.4	16.9	36976.	38508.
-95.0	-28.96	10.5	16.4	35740.	42631.	15.7	18.3	42092.	43916.
-90.0	-27.43	11.5	17.8	40479.	48668.	17.1	19.9	48023.	50209.
-85.0	-25.91	12.8	19.7	46942.	56785.	18.9	22.0	56005.	58651.
-80.0	-24.38	14.2	21.8	54466.	66367.	20.9	24.3	65417.	68643.
-75.0	-22.86	15.8	24.0	62636.	77074.	23.0	26.6	75912.	79867.
-70.0	-21.34	17.8	26.7	73380.	91079.	25.7	29.6	89642.	94538.
-65.0	-19.81	20.0	29.8	86183.	107998.	28.7	33.0	106212.	112312.
-60.0	-18.29	22.8	33.7	103067.	130202.	32.4	37.2	127964.	135620.

-55.0	-16.76	25.8	37.7	121737.	155424.	36.3	41.5	152619.	162236.
-50.0	-15.24	29.3	42.5	145444.	187360.	40.9	46.7	183840.	195926.
-45.0	-13.72	33.0	47.3	170736.	222281.	45.6	51.9	217911.	232951.
-40.0	-12.19	37.0	52.7	200972.	263617.	50.8	57.7	258269.	276703.
-35.0	-10.67	40.7	57.4	229368.	303137.	55.4	62.8	296796.	318688.
-30.0	-9.14	43.3	60.7	250477.	333429.	58.7	66.3	326252.	351070.
-25.0	-7.62	44.9	62.7	264519.	353121.	60.6	68.4	345435.	372027.
-20.0	-6.10	45.1	63.3	271223.	360722.	61.1	69.2	352985.	379734.
-15.0	-4.57	43.1	60.7	258590.	342776.	58.6	66.4	335520.	360587.
-10.0	-3.05	39.9	56.6	238030.	313131.	54.6	62.0	306703.	328874.
-5.0	-1.52	35.6	50.9	210415.	274392.	49.1	55.9	268959.	287662.
.0	.00	31.0	44.7	181918.	234791.	43.1	49.2	230344.	245623.
5.0	1.52	26.7	39.1	159003.	202189.	37.7	43.2	198606.	210879.
10.0	3.05	22.5	33.5	137474.	172276.	32.2	37.1	169427.	179157.
15.0	4.57	18.8	28.4	118409.	146207.	27.3	31.5	143962.	151607.
20.0	6.10	15.6	23.8	101306.	123289.	22.9	26.5	121537.	127486.
25.0	7.62	13.2	20.5	88339.	105624.	19.7	22.9	104269.	108856.
30.0	9.14	11.2	17.8	75240.	88573.	17.0	19.9	87543.	91020.
35.0	10.67	10.0	16.0	64199.	74326.	15.3	18.0	73556.	76149.
40.0	12.19	9.1	14.9	53798.	61305.	14.3	16.8	60742.	62632.
45.0	13.72	8.7	14.5	43201.	48457.	13.8	16.4	48069.	49369.
50.0	15.24	6.3	10.1	22640.	26040.	9.7	11.4	25783.	26647.
55.0	16.76	6.1	10.1	23314.	26409.	9.6	11.3	26178.	26952.
60.0	18.29	5.9	9.9	22773.	25496.	9.4	11.2	25295.	25967.
65.0	19.81	5.9	9.9	22207.	24591.	9.4	11.2	24417.	24998.
70.0	21.34	5.5	9.3	20002.	22063.	8.8	10.5	21913.	22413.
75.0	22.86	5.2	8.8	18089.	19875.	8.4	10.0	19745.	20177.
80.0	24.38	4.9	8.4	16421.	17974.	8.0	9.5	17861.	18235.
85.0	25.91	4.6	7.9	14666.	16015.	7.5	8.9	15918.	16242.
90.0	27.43	4.4	7.6	13463.	14644.	7.2	8.6	14559.	14842.
95.0	28.96	4.2	7.2	12132.	13166.	6.8	8.2	13092.	13339.
100.0	30.48	4.0	7.0	11181.	12092.	6.6	7.9	12027.	12243.
105.0	32.00	3.8	6.6	10159.	10962.	6.3	7.6	10905.	11095.
110.0	33.53	3.7	6.4	9253.	9964.	6.1	7.2	9913.	10081.
115.0	35.05	3.5	6.1	8450.	9081.	5.8	7.0	9036.	9185.
120.0	36.58	3.4	5.9	7734.	8296.	5.6	6.7	8256.	8388.
125.0	38.10	3.2	5.6	6962.	7463.	5.3	6.3	7427.	7545.
130.0	39.62	3.1	5.4	6417.	6867.	5.1	6.1	6835.	6940.
135.0	41.15	3.0	5.2	5916.	6320.	4.9	5.9	6292.	6386.
140.0	42.67	2.8	4.9	5357.	5720.	4.7	5.6	5695.	5780.
145.0	44.20	2.7	4.8	4967.	5296.	4.5	5.4	5273.	5350.
150.0	45.72	2.6	4.5	4515.	4812.	4.3	5.2	4791.	4861.
155.0	47.24	2.5	4.4	4196.	4465.	4.2	5.0	4446.	4509.
160.0	48.77	2.3	4.1	3679.	3923.	3.9	4.6	3906.	3963.
165.0	50.29	2.1	3.7	3189.	3409.	3.5	4.2	3394.	3445.
170.0	51.82	1.9	3.3	2684.	2881.	3.2	3.8	2867.	2913.
175.0	53.34	1.7	2.9	2042.	2207.	2.7	3.3	2195.	2234.
180.0	54.86	1.1	1.8	1175.	1321.	1.7	2.0	1310.	1346.
185.0	56.39	1.1	1.8	1162.	1302.	1.7	2.0	1291.	1326.
190.0	57.91	1.0	1.7	1105.	1237.	1.6	1.9	1227.	1260.
195.0	59.44	1.0	1.7	1069.	1194.	1.6	1.9	1185.	1216.
200.0	60.96	1.0	1.6	1014.	1133.	1.5	1.8	1124.	1153.
205.0	62.48	.9	1.6	982.	1095.	1.5	1.8	1087.	1114.
210.0	64.01	.9	1.5	935.	1041.	1.4	1.7	1034.	1060.
215.0	65.53	.9	1.5	888.	988.	1.4	1.7	981.	1006.
220.0	67.06	.9	1.4	863.	959.	1.4	1.6	952.	975.
225.0	68.58	.8	1.4	823.	914.	1.3	1.6	907.	929.
230.0	70.10	.8	1.3	784.	871.	1.3	1.5	864.	885.
235.0	71.63	.8	1.3	746.	828.	1.2	1.5	822.	842.
240.0	73.15	.8	1.3	728.	807.	1.2	1.5	801.	820.
245.0	74.68	.7	1.2	697.	771.	1.2	1.4	765.	784.
250.0	76.20	.7	1.2	666.	737.	1.2	1.4	732.	749.
255.0	77.72	.7	1.2	636.	704.	1.1	1.3	699.	715.

260.0	79.25	.7	1.2	621.	685.	1.1	1.3	681.	696.
265.0	80.77	.7	1.1	595.	657.	1.1	1.3	652.	667.
270.0	82.30	.6	1.1	571.	630.	1.0	1.2	625.	640.
275.0	83.82	.6	1.1	547.	603.	1.0	1.2	599.	613.
280.0	85.34	.6	1.0	525.	578.	1.0	1.2	575.	588.
285.0	86.87	.6	1.0	503.	554.	1.0	1.1	550.	563.
290.0	88.39	.6	1.0	493.	542.	1.0	1.1	539.	551.
295.0	89.92	.6	1.0	474.	521.	.9	1.1	518.	529.
300.0	91.44	.6	.9	456.	501.	.9	1.1	498.	509.

 Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Magnetic Field at 1750A

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_LDNRF
 Date: 6/17/2014 Time: 16:28

DC Lattice Configuration with DNR and Load = 1750A

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*****
*                               BUNDLE INFORMATION                               *
*****
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BNDL #	CIRC #	VOLTAGE		CURRENT		# OF COND	BUNDLE COORDINATES			PH
		VOLTAGE (kV)	ANGLE (DEG)	LOAD (A)	ANGLE (DEG)		X (feet)	Y (feet)	SAG (feet)	
1	1	632.0	0.	1750.	0.	3	-22.2	34.0	.0	+
2	1	0.0	0.	0.	0.	3	22.2	34.0	.0	-
3	1	0.0	0.	-875.	0.	1	8.1	74.1	.0	-
4	1	0.0	0.	-875.	0.	1	-8.1	74.1	.0	-
5	1	.0	0.	0.	0.	1	-12.8	88.8	.0	GND
6	1	.0	0.	0.	0.	1	12.8	88.8	.0	GND

```
*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****
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*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

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*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
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BNDL #	CONDUCTOR NAME	COORDINATES		DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
		X (inch)	Y (inch)				
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	-13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	-13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

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*****
*
*           MAGNETIC FIELD PROFILE           *
*           at 3.28 feet above ground       *
*
* longitudinal distance: 750.00 feet      *
*
*****

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<-- DC MAGNETIC FIELD -->

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LATERAL DISTANCE		VERTICAL HORIZONTAL		
(feet)	(meters)	TOTAL (mG)	COMP (mG)	COMP (mG)
-300.0	-91.44	6.15	4.57	4.11
-295.0	-89.92	6.36	4.75	4.22
-290.0	-88.39	6.58	4.95	4.34
-285.0	-86.87	6.82	5.15	4.47
-280.0	-85.34	7.06	5.37	4.59
-275.0	-83.82	7.32	5.59	4.73
-270.0	-82.30	7.60	5.84	4.87
-265.0	-80.77	7.89	6.10	5.01
-260.0	-79.25	8.20	6.37	5.16
-255.0	-77.72	8.52	6.67	5.31
-250.0	-76.20	8.87	6.98	5.47
-245.0	-74.68	9.24	7.31	5.64
-240.0	-73.15	9.63	7.67	5.81
-235.0	-71.63	10.04	8.06	5.99
-230.0	-70.10	10.48	8.47	6.18
-225.0	-68.58	10.95	8.91	6.37
-220.0	-67.06	11.45	9.39	6.57
-215.0	-65.53	11.99	9.90	6.77
-210.0	-64.01	12.57	10.45	6.98
-205.0	-62.48	13.18	11.05	7.19
-200.0	-60.96	13.85	11.69	7.41
-195.0	-59.44	14.56	12.40	7.64
-190.0	-57.91	15.33	13.16	7.87
-185.0	-56.39	16.16	13.98	8.10
-180.0	-54.86	17.05	14.88	8.32
-175.0	-53.34	18.03	15.87	8.55
-170.0	-51.82	19.08	16.94	8.77
-165.0	-50.29	20.23	18.12	8.99
-160.0	-48.77	21.48	19.42	9.18
-155.0	-47.24	22.85	20.84	9.36
-150.0	-45.72	24.34	22.41	9.51
-145.0	-44.20	25.99	24.15	9.61
-140.0	-42.67	27.80	26.07	9.67
-135.0	-41.15	29.80	28.20	9.65
-130.0	-39.62	32.02	30.56	9.54
-125.0	-38.10	34.47	33.19	9.31
-120.0	-36.58	37.21	36.13	8.91
-115.0	-35.05	40.28	39.41	8.32
-110.0	-33.53	43.71	43.07	7.45
-105.0	-32.00	47.57	47.16	6.23
-100.0	-30.48	51.93	51.73	4.56
-95.0	-28.96	56.88	56.83	2.31
-90.0	-27.43	62.50	62.50	-.72
-85.0	-25.91	68.92	68.76	-4.74
-80.0	-24.38	76.26	75.60	-10.05
-75.0	-22.86	84.70	82.96	-17.04
-70.0	-21.34	94.39	90.68	-26.19
-65.0	-19.81	105.53	98.41	-38.11
-60.0	-18.29	118.31	105.53	-53.48

-55.0	-16.76	132.86	110.99	-73.02
-50.0	-15.24	149.21	113.13	-97.28
-45.0	-13.72	167.13	109.51	-126.26
-40.0	-12.19	186.00	97.00	-158.71
-35.0	-10.67	204.53	72.45	-191.27
-30.0	-9.14	220.77	34.37	-218.08
-25.0	-7.62	232.40	-14.95	-231.92
-20.0	-6.10	237.53	-68.49	-227.44
-15.0	-4.57	235.55	-116.85	-204.52
-10.0	-3.05	227.37	-152.67	-168.48
-5.0	-1.52	214.84	-173.33	-126.93
.0	.00	199.91	-180.33	-86.28
5.0	1.52	184.13	-177.10	-50.38
10.0	3.05	168.50	-167.21	-20.75
15.0	4.57	153.59	-153.57	2.50
20.0	6.10	139.70	-138.26	20.01
25.0	7.62	126.94	-122.67	32.66
30.0	9.14	115.31	-107.64	41.36
35.0	10.67	104.78	-93.68	46.95
40.0	12.19	95.29	-81.01	50.17
45.0	13.72	86.75	-69.74	51.60
50.0	15.24	79.08	-59.82	51.72
55.0	16.76	72.21	-51.19	50.93
60.0	18.29	66.04	-43.73	49.49
65.0	19.81	60.52	-37.31	47.65
70.0	21.34	55.57	-31.81	45.56
75.0	22.86	51.12	-27.11	43.34
80.0	24.38	47.13	-23.09	41.09
85.0	25.91	43.54	-19.67	38.84
90.0	27.43	40.31	-16.75	36.66
95.0	28.96	37.39	-14.25	34.56
100.0	30.48	34.75	-12.12	32.57
105.0	32.00	32.36	-10.30	30.68
110.0	33.53	30.19	-8.74	28.90
115.0	35.05	28.22	-7.40	27.23
120.0	36.58	26.42	-6.25	25.67
125.0	38.10	24.78	-5.26	24.22
130.0	39.62	23.29	-4.41	22.86
135.0	41.15	21.91	-3.68	21.60
140.0	42.67	20.65	-3.04	20.42
145.0	44.20	19.49	-2.50	19.33
150.0	45.72	18.42	-2.02	18.31
155.0	47.24	17.44	-1.61	17.36
160.0	48.77	16.52	-1.26	16.48
165.0	50.29	15.68	-.95	15.65
170.0	51.82	14.89	-.68	14.88
175.0	53.34	14.17	-.45	14.16
180.0	54.86	13.49	-.24	13.49
185.0	56.39	12.86	-.07	12.86
190.0	57.91	12.27	.09	12.27
195.0	59.44	11.72	.22	11.72
200.0	60.96	11.20	.33	11.20
205.0	62.48	10.72	.43	10.71
210.0	64.01	10.27	.52	10.25
215.0	65.53	9.84	.59	9.82
220.0	67.06	9.44	.66	9.42
225.0	68.58	9.07	.71	9.04
230.0	70.10	8.71	.76	8.68
235.0	71.63	8.38	.80	8.34
240.0	73.15	8.06	.83	8.02
245.0	74.68	7.76	.86	7.71
250.0	76.20	7.48	.88	7.43
255.0	77.72	7.21	.90	7.15

260.0	79.25	6.96	.92	6.90
265.0	80.77	6.72	.93	6.65
270.0	82.30	6.49	.94	6.42
275.0	83.82	6.27	.95	6.20
280.0	85.34	6.06	.95	5.99
285.0	86.87	5.87	.95	5.79
290.0	88.39	5.68	.96	5.60
295.0	89.92	5.50	.95	5.42
300.0	91.44	5.33	.95	5.24

Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Magnetic Field at 2917A

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_LDNRG
 Date: 6/17/2014 Time: 16:29

DC Lattice Configuration with DNR and Load = 2917A

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*****
*                               BUNDLE INFORMATION                               *
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BNDL #	CIRC #	VOLTAGE		CURRENT		# OF COND	BUNDLE COORDINATES			
		VOLTAGE (kV)	ANGLE (DEG)	LOAD (A)	ANGLE (DEG)		X (feet)	Y (feet)	SAG (feet)	PH
1	1	632.0	0.	2917.	0.	3	-22.2	34.0	.0	+
2	1	0.0	0.	0.	0.	3	22.2	34.0	.0	-
3	1	0.0	0.	-1459.	0.	1	8.1	74.1	.0	-
4	1	0.0	0.	-1459.	0.	1	-8.1	74.1	.0	-
5	1	.0	0.	0.	0.	1	-12.8	88.8	.0	GND
6	1	.0	0.	0.	0.	1	12.8	88.8	.0	GND

```
*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****
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*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

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*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
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BNDL #	CONDUCTOR NAME	COORDINATES		DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
		X (inch)	Y (inch)				
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	-13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	-13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

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*****
*
*           MAGNETIC FIELD PROFILE           *
*           at 3.28 feet above ground       *
*
* longitudinal distance: 750.00 feet      *
*
*****

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<-- DC MAGNETIC FIELD -->

LATERAL DISTANCE		VERTICAL HORIZONTAL		
(feet)	(meters)	TOTAL (mG)	COMP (mG)	COMP (mG)
-300.0	-91.44	10.25	7.62	6.85
-295.0	-89.92	10.60	7.92	7.04
-290.0	-88.39	10.97	8.24	7.24
-285.0	-86.87	11.36	8.58	7.44
-280.0	-85.34	11.77	8.94	7.66
-275.0	-83.82	12.21	9.33	7.88
-270.0	-82.30	12.67	9.73	8.11
-265.0	-80.77	13.15	10.16	8.35
-260.0	-79.25	13.67	10.62	8.60
-255.0	-77.72	14.21	11.11	8.86
-250.0	-76.20	14.78	11.63	9.12
-245.0	-74.68	15.40	12.19	9.40
-240.0	-73.15	16.05	12.79	9.69
-235.0	-71.63	16.74	13.43	9.99
-230.0	-70.10	17.47	14.12	10.30
-225.0	-68.58	18.26	14.85	10.61
-220.0	-67.06	19.09	15.65	10.94
-215.0	-65.53	19.99	16.50	11.28
-210.0	-64.01	20.95	17.42	11.63
-205.0	-62.48	21.98	18.42	11.99
-200.0	-60.96	23.08	19.49	12.36
-195.0	-59.44	24.27	20.66	12.73
-190.0	-57.91	25.55	21.93	13.11
-185.0	-56.39	26.93	23.31	13.49
-180.0	-54.86	28.43	24.81	13.88
-175.0	-53.34	30.05	26.45	14.25
-170.0	-51.82	31.80	28.24	14.62
-165.0	-50.29	33.72	30.21	14.98
-160.0	-48.77	35.80	32.37	15.31
-155.0	-47.24	38.08	34.74	15.60
-150.0	-45.72	40.58	37.36	15.85
-145.0	-44.20	43.32	40.25	16.03
-140.0	-42.67	46.34	43.45	16.11
-135.0	-41.15	49.67	47.00	16.09
-130.0	-39.62	53.37	50.94	15.90
-125.0	-38.10	57.46	55.33	15.51
-120.0	-36.58	62.03	60.22	14.86
-115.0	-35.05	67.13	65.69	13.86
-110.0	-33.53	72.86	71.79	12.42
-105.0	-32.00	79.30	78.61	10.39
-100.0	-30.48	86.57	86.23	7.61
-95.0	-28.96	94.81	94.73	3.84
-90.0	-27.43	104.18	104.17	-1.20
-85.0	-25.91	114.88	114.61	-7.90
-80.0	-24.38	127.12	126.01	-16.75
-75.0	-22.86	141.18	138.29	-28.40
-70.0	-21.34	157.33	151.15	-43.66
-65.0	-19.81	175.90	164.03	-63.52
-60.0	-18.29	197.20	175.90	-89.14

-55.0	-16.76	221.45	185.01	-121.71
-50.0	-15.24	248.70	188.57	-162.15
-45.0	-13.72	278.59	182.53	-210.46
-40.0	-12.19	310.03	161.68	-264.54
-35.0	-10.67	340.92	120.77	-318.82
-30.0	-9.14	368.00	57.29	-363.51
-25.0	-7.62	387.38	-24.92	-386.58
-20.0	-6.10	395.93	-114.16	-379.11
-15.0	-4.57	392.62	-194.77	-340.90
-10.0	-3.05	378.99	-254.49	-280.83
-5.0	-1.52	358.10	-288.92	-211.57
.0	.00	333.22	-300.59	-143.82
5.0	1.52	306.91	-295.20	-83.97
10.0	3.05	280.86	-278.72	-34.59
15.0	4.57	256.02	-255.98	4.17
20.0	6.10	232.87	-230.46	33.35
25.0	7.62	211.59	-204.47	54.43
30.0	9.14	192.21	-179.42	68.94
35.0	10.67	174.66	-156.14	78.27
40.0	12.19	158.83	-135.04	83.62
45.0	13.72	144.60	-116.24	86.01
50.0	15.24	131.82	-99.71	86.22
55.0	16.76	120.36	-85.32	84.89
60.0	18.29	110.08	-72.89	82.50
65.0	19.81	100.88	-62.19	79.43
70.0	21.34	92.62	-53.02	75.94
75.0	22.86	85.21	-45.18	72.25
80.0	24.38	78.56	-38.49	68.48
85.0	25.91	72.58	-32.79	64.75
90.0	27.43	67.18	-27.91	61.11
95.0	28.96	62.32	-23.76	57.61
100.0	30.48	57.92	-20.20	54.28
105.0	32.00	53.94	-17.17	51.13
110.0	33.53	50.32	-14.56	48.17
115.0	35.05	47.04	-12.33	45.39
120.0	36.58	44.04	-10.42	42.79
125.0	38.10	41.31	-8.77	40.37
130.0	39.62	38.81	-7.35	38.11
135.0	41.15	36.52	-6.13	36.00
140.0	42.67	34.42	-5.07	34.04
145.0	44.20	32.49	-4.16	32.22
150.0	45.72	30.71	-3.37	30.52
155.0	47.24	29.06	-2.69	28.94
160.0	48.77	27.54	-2.09	27.46
165.0	50.29	26.13	-1.58	26.09
170.0	51.82	24.83	-1.13	24.80
175.0	53.34	23.61	-.74	23.60
180.0	54.86	22.48	-.40	22.48
185.0	56.39	21.43	-.11	21.43
190.0	57.91	20.45	.14	20.45
195.0	59.44	19.53	.36	19.53
200.0	60.96	18.67	.56	18.67
205.0	62.48	17.87	.72	17.86
210.0	64.01	17.12	.87	17.09
215.0	65.53	16.41	.99	16.38
220.0	67.06	15.74	1.10	15.70
225.0	68.58	15.11	1.19	15.07
230.0	70.10	14.52	1.27	14.47
235.0	71.63	13.96	1.33	13.90
240.0	73.15	13.44	1.39	13.36
245.0	74.68	12.94	1.44	12.86
250.0	76.20	12.47	1.48	12.38
255.0	77.72	12.02	1.51	11.93

260.0	79.25	11.60	1.53	11.50
265.0	80.77	11.20	1.55	11.09
270.0	82.30	10.82	1.57	10.70
275.0	83.82	10.45	1.58	10.33
280.0	85.34	10.11	1.59	9.98
285.0	86.87	9.78	1.59	9.65
290.0	88.39	9.47	1.59	9.33
295.0	89.92	9.17	1.59	9.03
300.0	91.44	8.89	1.59	8.74

Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Magnetic Field at 3700A

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_LDNRJ
 Date: 6/18/2014 Time: 16:30

DC Lattice Configuration with DNR at 3700A

```
*****
*                               BUNDLE INFORMATION                               *
*****
```

BNDL #	CIRC #	VOLTAGE		CURRENT		# OF COND	BUNDLE COORDINATES			PH
		VOLTAGE (kV)	ANGLE (DEG)	LOAD (A)	ANGLE (DEG)		X (feet)	Y (feet)	SAG (feet)	
1	1	632.0	0.	3700.	0.	3	-22.2	34.0	.0	+
2	1	0.0	0.	0.	0.	3	22.2	34.0	.0	-
3	1	0.0	0.	-1850.	0.	1	8.1	74.1	.0	-
4	1	0.0	0.	-1850.	0.	1	-8.1	74.1	.0	-
5	1	.0	0.	0.	0.	1	-12.8	88.8	.0	GND
6	1	.0	0.	0.	0.	1	12.8	88.8	.0	GND

```
*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY   = 60. Hz                               *
*                               SOIL RESISTIVITY          = 100. ohm meter                               *
*****
```

```
*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
```

BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

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*****
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*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
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BNDL #	CONDUCTOR NAME	COORDINATES		DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
		X (inch)	Y (inch)				
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	-13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	-13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

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*****
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*****
*
*      MAGNETIC FIELD PROFILE      *
*      at 3.28 feet above ground   *
*
* longitudinal distance: 750.00 feet *
*
*****

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<-- DC MAGNETIC FIELD -->

```

LATERAL DISTANCE		VERTICAL HORIZONTAL		
(meters)	(feet)	TOTAL (mG)	COMP (mG)	COMP (mG)
-300.0	-91.44	13.00	9.67	8.69
-295.0	-89.92	13.44	10.05	8.93
-290.0	-88.39	13.92	10.46	9.18
-285.0	-86.87	14.41	10.89	9.44
-280.0	-85.34	14.93	11.34	9.71
-275.0	-83.82	15.49	11.83	10.00
-270.0	-82.30	16.07	12.34	10.29
-265.0	-80.77	16.68	12.89	10.59
-260.0	-79.25	17.33	13.47	10.91
-255.0	-77.72	18.02	14.09	11.23
-250.0	-76.20	18.75	14.76	11.57
-245.0	-74.68	19.53	15.47	11.92
-240.0	-73.15	20.35	16.22	12.29
-235.0	-71.63	21.23	17.04	12.67
-230.0	-70.10	22.16	17.91	13.06
-225.0	-68.58	23.16	18.84	13.46
-220.0	-67.06	24.22	19.85	13.88
-215.0	-65.53	25.35	20.93	14.31
-210.0	-64.01	26.57	22.10	14.76
-205.0	-62.48	27.88	23.36	15.21
-200.0	-60.96	29.28	24.73	15.68
-195.0	-59.44	30.78	26.21	16.15
-190.0	-57.91	32.41	27.82	16.63
-185.0	-56.39	34.16	29.56	17.12
-180.0	-54.86	36.06	31.47	17.60
-175.0	-53.34	38.11	33.55	18.08
-170.0	-51.82	40.34	35.82	18.55
-165.0	-50.29	42.77	38.32	19.00
-160.0	-48.77	45.41	41.05	19.42
-155.0	-47.24	48.31	44.07	19.79
-150.0	-45.72	51.47	47.39	20.10
-145.0	-44.20	54.95	51.05	20.33
-140.0	-42.67	58.78	55.11	20.44
-135.0	-41.15	63.01	59.61	20.40
-130.0	-39.62	67.69	64.62	20.17
-125.0	-38.10	72.89	70.18	19.68
-120.0	-36.58	78.68	76.39	18.85
-115.0	-35.05	85.15	83.32	17.58
-110.0	-33.53	92.41	91.06	15.75
-105.0	-32.00	100.58	99.71	13.18
-100.0	-30.48	109.81	109.38	9.65
-95.0	-28.96	120.26	120.16	4.87
-90.0	-27.43	132.15	132.14	-1.52
-85.0	-25.91	145.71	145.37	-10.01
-80.0	-24.38	161.25	159.84	-21.25
-75.0	-22.86	179.07	175.41	-36.03
-70.0	-21.34	199.56	191.72	-55.38

-65.0	-19.81	223.12	208.06	-80.57
-60.0	-18.29	250.13	223.12	-113.06
-55.0	-16.76	280.90	234.67	-154.38
-50.0	-15.24	315.46	239.19	-205.68
-45.0	-13.72	353.37	231.53	-266.95
-40.0	-12.19	393.26	205.08	-335.55
-35.0	-10.67	432.44	153.19	-404.39
-30.0	-9.14	466.78	72.67	-461.09
-25.0	-7.62	491.37	-31.61	-490.35
-20.0	-6.10	502.20	-144.80	-480.87
-15.0	-4.57	498.01	-247.06	-432.41
-10.0	-3.05	480.72	-322.80	-356.22
-5.0	-1.52	454.23	-366.48	-268.36
.0	.00	422.67	-381.28	-182.42
5.0	1.52	389.30	-374.45	-106.51
10.0	3.05	356.25	-353.54	-43.87
15.0	4.57	324.74	-324.69	5.29
20.0	6.10	295.37	-292.33	42.31
25.0	7.62	268.39	-259.35	69.04
30.0	9.14	243.80	-227.58	87.44
35.0	10.67	221.54	-198.06	99.28
40.0	12.19	201.47	-171.29	106.07
45.0	13.72	183.41	-147.44	109.09
50.0	15.24	167.20	-126.48	109.36
55.0	16.76	152.66	-108.23	107.67
60.0	18.29	139.63	-92.45	104.64
65.0	19.81	127.96	-78.88	100.75
70.0	21.34	117.48	-67.25	96.33
75.0	22.86	108.09	-57.31	91.64
80.0	24.38	99.65	-48.83	86.87
85.0	25.91	92.06	-41.59	82.13
90.0	27.43	85.22	-35.41	77.51
95.0	28.96	79.05	-30.13	73.08
100.0	30.48	73.47	-25.63	68.85
105.0	32.00	68.42	-21.77	64.86
110.0	33.53	63.83	-18.47	61.10
115.0	35.05	59.66	-15.65	57.58
120.0	36.58	55.87	-13.22	54.28
125.0	38.10	52.40	-11.13	51.21
130.0	39.62	49.23	-9.33	48.34
135.0	41.15	46.33	-7.78	45.67
140.0	42.67	43.66	-6.44	43.18
145.0	44.20	41.21	-5.28	40.87
150.0	45.72	38.95	-4.28	38.71
155.0	47.24	36.86	-3.41	36.70
160.0	48.77	34.93	-2.66	34.83
165.0	50.29	33.15	-2.00	33.09
170.0	51.82	31.49	-1.43	31.46
175.0	53.34	29.95	-.94	29.94
180.0	54.86	28.52	-.51	28.52
185.0	56.39	27.19	-.14	27.18
190.0	57.91	25.94	.18	25.94
195.0	59.44	24.78	.46	24.77
200.0	60.96	23.69	.71	23.68
205.0	62.48	22.67	.92	22.65
210.0	64.01	21.71	1.10	21.68
215.0	65.53	20.81	1.26	20.77
220.0	67.06	19.96	1.39	19.92
225.0	68.58	19.17	1.51	19.11
230.0	70.10	18.42	1.61	18.35
235.0	71.63	17.71	1.69	17.63
240.0	73.15	17.04	1.76	16.95
245.0	74.68	16.41	1.82	16.31

250.0	76.20	15.81	1.87	15.70
255.0	77.72	15.25	1.91	15.13
260.0	79.25	14.71	1.94	14.58
265.0	80.77	14.20	1.97	14.06
270.0	82.30	13.72	1.99	13.57
275.0	83.82	13.26	2.00	13.11
280.0	85.34	12.82	2.01	12.66
285.0	86.87	12.41	2.02	12.24
290.0	88.39	12.01	2.02	11.84
295.0	89.92	11.63	2.02	11.45
300.0	91.44	11.27	2.01	11.09

Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Radio Noise

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_LDNR
 Date: 6/17/2014 Time: 16:13

DC Lattice Configuration with DNR - Radio Noise

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*****
*                               BUNDLE INFORMATION                               *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | CURRENT | # | BUNDLE COORDINATES | | | | |
| # | # | (kV) | (DEG) | LOAD | ANGLE | OF | X | Y | SAG | PH |
| # | # | | | (A) | (DEG) | COND | (feet) | (feet) | (feet) | |
*****
| 1 | 1 | 632.0 | 0. | 0. | 0. | 3 | -22.2 | 34.0 | .0 | + |
| 2 | 1 | .0 | 0. | 0. | 0. | 3 | 22.2 | 34.0 | .0 | SEC |
| 3 | 1 | .0 | 0. | 0. | 0. | 1 | 8.1 | 74.1 | .0 | + |
| 4 | 1 | .0 | 0. | 0. | 0. | 1 | -8.1 | 74.1 | .0 | + |
| 5 | 1 | .0 | 0. | 0. | 0. | 1 | -12.8 | 88.8 | .0 | GND |
| 6 | 1 | .0 | 0. | 0. | 0. | 1 | 12.8 | 88.8 | .0 | GND |
*****
*                               MINIMUM GROUND CLEARANCE = 34.00 feet                               *
*                               POWER SYSTEM FREQUENCY = 60. Hz                               *
*                               SOIL RESISTIVITY = 100. ohm meter                               *
*****

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*****
*                               SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                               *
*****
| BNDL | CONDUCTOR | DIAMETER | SPACING | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 3 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 4 | CHUKAR/AW | 1.600 | .000 | .0520 | .0550 | .3550 |
| 5 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
| 6 | LAUREL | .590 | .000 | .3490 | .3500 | .4830 |
*****

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*****
*                               SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES                               *
*****
| BNDL | CONDUCTOR | COORDINATES | DIAMETER | DC RESIST | AC RESIST | AC REACT |
| # | NAME | (inch) | (inch) | (inch) | (ohm/mile) | (ohm/mile) | (ohm/mile) |
*****
| 1 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | .00 | -13.42 | 1.760 | .0400 | .0500 | .3400 |
| 1 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | -12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | .00 | -13.42 | 1.760 | .0400 | .0500 | .3400 |
| 2 | BLUEBIRD/AW | 12.00 | .00 | 1.760 | .0400 | .0500 | .3400 |
*****

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*****
*
*   RADIO NOISE PROFILES   *
*   at 500.00 kHz         *
*
*   ANSI, loop antenna    *
*   ALTITUDE 3000.0 ft    *
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Lateral Distance (feet) (meters)	Average Stable Foul Weather Noise (1,2) (dB)	Heavy Rain Noise (3) (dB)	Wet Conductor Noise (3) (dB)
-300.0	-91.44	.0	34.9
-295.0	-89.92	.0	35.2
-290.0	-88.39	.0	35.4
-285.0	-86.87	.0	35.7
-280.0	-85.34	.0	36.0
-275.0	-83.82	.0	36.2
-270.0	-82.30	.0	36.5
-265.0	-80.77	.0	36.8
-260.0	-79.25	.0	37.1
-255.0	-77.72	.0	37.4
-250.0	-76.20	.0	37.7
-245.0	-74.68	.0	37.9
-240.0	-73.15	.0	38.2
-235.0	-71.63	.0	38.6
-230.0	-70.10	.0	38.9
-225.0	-68.58	.0	39.2
-220.0	-67.06	.0	39.5
-215.0	-65.53	.0	39.8
-210.0	-64.01	.0	40.1
-205.0	-62.48	.0	40.5
-200.0	-60.96	.0	40.8
-195.0	-59.44	.0	41.2
-190.0	-57.91	.0	41.5
-185.0	-56.39	.0	41.8
-180.0	-54.86	.0	42.2
-175.0	-53.34	.0	42.6
-170.0	-51.82	.0	42.9
-165.0	-50.29	.0	43.3
-160.0	-48.77	.0	43.7
-155.0	-47.24	.0	44.0
-150.0	-45.72	.0	44.4
-145.0	-44.20	.0	44.8
-140.0	-42.67	.0	45.2
-135.0	-41.15	.0	45.6
-130.0	-39.62	.0	46.0
-125.0	-38.10	.0	46.4
-120.0	-36.58	.0	46.8
-115.0	-35.05	.0	47.2
-110.0	-33.53	.0	47.6
-105.0	-32.00	.0	48.1
-100.0	-30.48	.0	48.6
-95.0	-28.96	.0	49.1
-90.0	-27.43	.0	49.7
-85.0	-25.91	.0	50.4
-80.0	-24.38	.0	51.2
-75.0	-22.86	.0	52.2
-70.0	-21.34	.0	53.3
-65.0	-19.81	.0	54.7
-60.0	-18.29	.0	56.2
-55.0	-16.76	.0	57.8

-50.0	-15.24	.0	59.4	59.4
-45.0	-13.72	.0	61.0	61.0
-40.0	-12.19	.0	62.5	62.5
-35.0	-10.67	.0	63.7	63.7
-30.0	-9.14	.0	64.6	64.6
-25.0	-7.62	.0	65.0	65.0
-20.0	-6.10	.0	64.9	64.9
-15.0	-4.57	.0	64.2	64.2
-10.0	-3.05	.0	63.1	63.1
-5.0	-1.52	.0	61.6	61.6
.0	.00	.0	60.0	60.0
5.0	1.52	.0	58.6	58.6
10.0	3.05	.0	57.6	57.6
15.0	4.57	.0	57.1	57.1
20.0	6.10	.0	57.0	57.0
25.0	7.62	.0	57.0	57.0
30.0	9.14	.0	57.0	57.0
35.0	10.67	.0	57.0	57.0
40.0	12.19	.0	56.8	56.8
45.0	13.72	.0	56.6	56.6
50.0	15.24	.0	56.3	56.3
55.0	16.76	.0	56.0	56.0
60.0	18.29	.0	55.6	55.6
65.0	19.81	.0	55.2	55.2
70.0	21.34	.0	54.7	54.7
75.0	22.86	.0	54.2	54.2
80.0	24.38	.0	53.7	53.7
85.0	25.91	.0	53.2	53.2
90.0	27.43	.0	52.7	52.7
95.0	28.96	.0	52.2	52.2
100.0	30.48	.0	51.6	51.6
105.0	32.00	.0	51.1	51.1
110.0	33.53	.0	50.6	50.6
115.0	35.05	.0	50.1	50.1
120.0	36.58	.0	49.6	49.6
125.0	38.10	.0	49.1	49.1
130.0	39.62	.0	48.6	48.6
135.0	41.15	.0	48.1	48.1
140.0	42.67	.0	47.6	47.6
145.0	44.20	.0	47.1	47.1
150.0	45.72	.0	46.7	46.7
155.0	47.24	.0	46.2	46.2
160.0	48.77	.0	45.7	45.7
165.0	50.29	.0	45.3	45.3
170.0	51.82	.0	44.9	44.9
175.0	53.34	.0	44.4	44.4
180.0	54.86	.0	44.0	44.0
185.0	56.39	.0	43.6	43.6
190.0	57.91	.0	43.2	43.2
195.0	59.44	.0	42.8	42.8
200.0	60.96	.0	42.4	42.4
205.0	62.48	.0	42.1	42.1
210.0	64.01	.0	41.7	41.7
215.0	65.53	.0	41.3	41.3
220.0	67.06	.0	41.0	41.0
225.0	68.58	.0	40.6	40.6
230.0	70.10	.0	40.3	40.3
235.0	71.63	.0	39.9	39.9
240.0	73.15	.0	39.6	39.6
245.0	74.68	.0	39.3	39.3
250.0	76.20	.0	38.9	38.9
255.0	77.72	.0	38.6	38.6
260.0	79.25	.0	38.3	38.3

265.0	80.77	.0	38.0	38.0
270.0	82.30	.0	37.7	37.7
275.0	83.82	.0	37.4	37.4
280.0	85.34	.0	37.1	37.1
285.0	86.87	.0	36.8	36.8
290.0	88.39	.0	36.6	36.6
295.0	89.92	.0	36.5	36.5
300.0	91.44	.0	36.3	36.3

- (1) The "Average Stable Foul Weather" noise is calculated using an empirical expression for the radio noise excitation function that was derived (see REF. [A]) to best fit the long term radio noise measurements of existing lines (in the 345 kV to 765 kV range). This generation function is used also in the program RNOISE, which is applicable to AC transmission lines. If AC lines are not present, the "Average Stable Foul Weather" column contains zeros.
- (2) The "Average Fair Weather" radio noise values can be obtained by subtracting 21.6 dB from the "Average Stable Foul Weather" radio noise data.
- (3) The "Heavy Rain" and the "Wet Conductor" radio noise levels, are defined in the EPRI's Transmission Line Reference Book - 345 kV and Above. The equations for the excitation functions for AC conductors are derived from the Reference Book and are applicable for large ranges of surface gradients (from 10 to 25 kV/cm), subconductor diameters (2 to 8 cm) and number of subconductors (1 to 12). The equations for the excitation functions for DC and HYBRID line conductors are derived from the EPRI RP 2472-6. Heavy rain was defined as rain with intensity of the order of 8 - 12 mm/hr. In the Northeastern climate, the "Heavy Rain" noise is exceeded only 1% of the time during periods of rain. "Wet Conductor" noise corresponds to the condition of the conductor saturated with water drops and with little noise caused by the impingement of rain droplets. Experimental data from which the equations for the "Wet Conductor" noise were derived, indicate that the "Wet Conductor" noise is exceeded 50% of the time during natural rain periods. "Wet Conductor" noise also corresponds to the maximum noise that can be produced during fog.

REFERENCES:

- [A] R.G. Olsen, S.D. Schennum and V.L. Chartier, "Comparison of Several Methods for Calculating Power Line Electromagnetic Interference Levels and Calibration with Long Term Data", EPRI report, Project RP-2025, 1991.

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Results of AC/DCLINE program CORONA (EPRI/HVTRC 7-93) for:

Audible Noise

Configuration file name: C:\TLW30\ACDCLINE\DATA\AC_LDNRE
Date: 6/17/2014 Time: 16:16

DC Lattice Configuration with DNR and AN Ground Clearance

* BUNDLE INFORMATION *

BNDL #	CIRC #	VOLTAGE (kV)	ANGLE (DEG)	CURRENT LOAD (A)	ANGLE (DEG)	# OF COND	BUNDLE COORDINATES X (feet)	Y (feet)	SAG (feet)	PH
1	1	632.0	0.	0.	0.	3	-22.2	55.7	.0	+
2	1	.0	0.	0.	0.	3	22.2	55.7	.0	SEC
3	1	.0	0.	0.	0.	1	8.1	95.8	.0	SEC
4	1	.0	0.	0.	0.	1	-8.1	95.8	.0	SEC
5	1	.0	0.	0.	0.	1	-12.8	110.5	.0	GND
6	1	.0	0.	0.	0.	1	12.8	110.5	.0	GND

* MINIMUM GROUND CLEARANCE = 55.70 feet *
* POWER SYSTEM FREQUENCY = 60. Hz *
* SOIL RESISTIVITY = 100. ohm meter *

* SUBCONDUCTOR INFORMATION - REGULAR BUNDLES *

BNDL #	CONDUCTOR NAME	DIAMETER (inch)	SPACING (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
3	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
4	CHUKAR/AW	1.600	.000	.0520	.0550	.3550
5	LAUREL	.590	.000	.3490	.3500	.4830
6	LAUREL	.590	.000	.3490	.3500	.4830

* SUBCONDUCTOR INFORMATION - IRREGULAR BUNDLES *

BNDL #	CONDUCTOR NAME	COORDINATES X (inch)	Y (inch)	DIAMETER (inch)	DC RESIST (ohm/mile)	AC RESIST (ohm/mile)	AC REACT (ohm/mile)
1	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	.00	-13.42	1.760	.0400	.0500	.3400
1	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	-12.00	.00	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	.00	-13.42	1.760	.0400	.0500	.3400
2	BLUEBIRD/AW	12.00	.00	1.760	.0400	.0500	.3400

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*
*           AUDIBLE NOISE
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* Microphone is 5.00 feet above ground
* Altitude 3000.0 feet
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<----- HVTRC CALCULATION METHOD ----->

LATERAL DISTANCE (feet) (meters)		L50 FAIR (dB(A))	L5 RAIN (dB(A))	L50 RAIN (dB(A))	Leq(24) (dB(A))	Ldn (dB(A))
-300.0	-91.44	36.6	30.6	30.6	35.8	42.3
-295.0	-89.92	36.7	30.7	30.7	35.9	42.4
-290.0	-88.39	36.8	30.8	30.8	36.0	42.5
-285.0	-86.87	36.9	30.9	30.9	36.1	42.6
-280.0	-85.34	37.0	31.0	31.0	36.2	42.7
-275.0	-83.82	37.2	31.2	31.2	36.4	42.9
-270.0	-82.30	37.3	31.3	31.3	36.5	43.0
-265.0	-80.77	37.4	31.4	31.4	36.6	43.1
-260.0	-79.25	37.5	31.5	31.5	36.7	43.2
-255.0	-77.72	37.6	31.6	31.6	36.8	43.3
-250.0	-76.20	37.7	31.7	31.7	36.9	43.4
-245.0	-74.68	37.9	31.9	31.9	37.1	43.6
-240.0	-73.15	38.0	32.0	32.0	37.2	43.7
-235.0	-71.63	38.1	32.1	32.1	37.3	43.8
-230.0	-70.10	38.2	32.2	32.2	37.4	43.9
-225.0	-68.58	38.4	32.4	32.4	37.6	44.1
-220.0	-67.06	38.5	32.5	32.5	37.7	44.2
-215.0	-65.53	38.6	32.6	32.6	37.8	44.3
-210.0	-64.01	38.8	32.8	32.8	38.0	44.5
-205.0	-62.48	38.9	32.9	32.9	38.1	44.6
-200.0	-60.96	39.1	33.1	33.1	38.3	44.7
-195.0	-59.44	39.2	33.2	33.2	38.4	44.9
-190.0	-57.91	39.3	33.3	33.3	38.5	45.0
-185.0	-56.39	39.5	33.5	33.5	38.7	45.2
-180.0	-54.86	39.6	33.6	33.6	38.8	45.3
-175.0	-53.34	39.8	33.8	33.8	39.0	45.5
-170.0	-51.82	40.0	34.0	34.0	39.2	45.7
-165.0	-50.29	40.1	34.1	34.1	39.3	45.8
-160.0	-48.77	40.3	34.3	34.3	39.5	46.0
-155.0	-47.24	40.5	34.5	34.5	39.7	46.2
-150.0	-45.72	40.6	34.6	34.6	39.8	46.3
-145.0	-44.20	40.8	34.8	34.8	40.0	46.5
-140.0	-42.67	41.0	35.0	35.0	40.2	46.7
-135.0	-41.15	41.2	35.2	35.2	40.4	46.9
-130.0	-39.62	41.4	35.4	35.4	40.6	47.1
-125.0	-38.10	41.6	35.6	35.6	40.8	47.3
-120.0	-36.58	41.8	35.8	35.8	41.0	47.5
-115.0	-35.05	42.0	36.0	36.0	41.2	47.7
-110.0	-33.53	42.2	36.2	36.2	41.4	47.9
-105.0	-32.00	42.4	36.4	36.4	41.6	48.1
-100.0	-30.48	42.6	36.6	36.6	41.8	48.3
-95.0	-28.96	42.8	36.8	36.8	42.0	48.5
-90.0	-27.43	43.1	37.1	37.1	42.3	48.8
-85.0	-25.91	43.3	37.3	37.3	42.5	49.0
-80.0	-24.38	43.5	37.5	37.5	42.7	49.2
-75.0	-22.86	43.8	37.8	37.8	43.0	49.5
-70.0	-21.34	44.0	38.0	38.0	43.2	49.7
-65.0	-19.81	44.2	38.2	38.2	43.4	49.9

-60.0	-18.29	44.5	38.5	38.5	43.7	50.2
-55.0	-16.76	44.7	38.7	38.7	43.9	50.4
-50.0	-15.24	44.9	38.9	38.9	44.1	50.6
-45.0	-13.72	45.1	39.1	39.1	44.3	50.8
-40.0	-12.19	45.2	39.2	39.2	44.4	50.9
-35.0	-10.67	45.4	39.4	39.4	44.6	51.1
-30.0	-9.14	45.5	39.5	39.5	44.7	51.2
-25.0	-7.62	45.5	39.5	39.5	44.7	51.2
-20.0	-6.10	45.5	39.5	39.5	44.7	51.2
-15.0	-4.57	45.5	39.5	39.5	44.7	51.2
-10.0	-3.05	45.4	39.4	39.4	44.6	51.1
-5.0	-1.52	45.3	39.3	39.3	44.5	51.0
.0	.00	45.1	39.1	39.1	44.3	50.8
5.0	1.52	44.9	38.9	38.9	44.1	50.6
10.0	3.05	44.7	38.7	38.7	43.9	50.4
15.0	4.57	44.5	38.5	38.5	43.7	50.2
20.0	6.10	44.3	38.3	38.3	43.5	50.0
25.0	7.62	44.0	38.0	38.0	43.2	49.7
30.0	9.14	43.8	37.8	37.8	43.0	49.5
35.0	10.67	43.6	37.6	37.6	42.8	49.3
40.0	12.19	43.3	37.3	37.3	42.5	49.0
45.0	13.72	43.1	37.1	37.1	42.3	48.8
50.0	15.24	42.9	36.9	36.9	42.1	48.6
55.0	16.76	42.6	36.6	36.6	41.8	48.3
60.0	18.29	42.4	36.4	36.4	41.6	48.1
65.0	19.81	42.2	36.2	36.2	41.4	47.9
70.0	21.34	42.0	36.0	36.0	41.2	47.7
75.0	22.86	41.8	35.8	35.8	41.0	47.5
80.0	24.38	41.6	35.6	35.6	40.8	47.3
85.0	25.91	41.4	35.4	35.4	40.6	47.1
90.0	27.43	41.2	35.2	35.2	40.4	46.9
95.0	28.96	41.0	35.0	35.0	40.2	46.7
100.0	30.48	40.8	34.8	34.8	40.0	46.5
105.0	32.00	40.6	34.6	34.6	39.8	46.3
110.0	33.53	40.5	34.5	34.5	39.7	46.2
115.0	35.05	40.3	34.3	34.3	39.5	46.0
120.0	36.58	40.1	34.1	34.1	39.3	45.8
125.0	38.10	40.0	34.0	34.0	39.2	45.7
130.0	39.62	39.8	33.8	33.8	39.0	45.5
135.0	41.15	39.7	33.7	33.7	38.9	45.4
140.0	42.67	39.5	33.5	33.5	38.7	45.2
145.0	44.20	39.4	33.4	33.4	38.6	45.1
150.0	45.72	39.2	33.2	33.2	38.4	44.9
155.0	47.24	39.1	33.1	33.1	38.3	44.8
160.0	48.77	38.9	32.9	32.9	38.1	44.6
165.0	50.29	38.8	32.8	32.8	38.0	44.5
170.0	51.82	38.7	32.7	32.7	37.9	44.3
175.0	53.34	38.5	32.5	32.5	37.7	44.2
180.0	54.86	38.4	32.4	32.4	37.6	44.1
185.0	56.39	38.3	32.3	32.3	37.5	44.0
190.0	57.91	38.1	32.1	32.1	37.3	43.8
195.0	59.44	38.0	32.0	32.0	37.2	43.7
200.0	60.96	37.9	31.9	31.9	37.1	43.6
205.0	62.48	37.8	31.8	31.8	37.0	43.5
210.0	64.01	37.6	31.6	31.6	36.8	43.3
215.0	65.53	37.5	31.5	31.5	36.7	43.2
220.0	67.06	37.4	31.4	31.4	36.6	43.1
225.0	68.58	37.3	31.3	31.3	36.5	43.0
230.0	70.10	37.2	31.2	31.2	36.4	42.9
235.0	71.63	37.1	31.1	31.1	36.3	42.8
240.0	73.15	37.0	31.0	31.0	36.2	42.6
245.0	74.68	36.8	30.8	30.8	36.0	42.5
250.0	76.20	36.7	30.7	30.7	35.9	42.4

255.0	77.72	36.6	30.6	30.6	35.8	42.3
260.0	79.25	36.5	30.5	30.5	35.7	42.2
265.0	80.77	36.4	30.4	30.4	35.6	42.1
270.0	82.30	36.3	30.3	30.3	35.5	42.0
275.0	83.82	36.2	30.2	30.2	35.4	41.9
280.0	85.34	36.1	30.1	30.1	35.3	41.8
285.0	86.87	36.0	30.0	30.0	35.2	41.7
290.0	88.39	35.9	29.9	29.9	35.1	41.6
295.0	89.92	35.8	29.8	29.8	35.0	41.5
300.0	91.44	35.7	29.7	29.7	34.9	41.4

 *
 * AUDIBLE NOISE *
 * (other methods) *
 *
 * Altitude 3000.0 feet *
 *

LATERAL DISTANCE		<----- BPA METHOD ----->				<- CRIEPI -->		EdF	ENEL	IREQ
(feet)	(meters)	FAIR WEATHER	L5 RAIN	L50 RAIN	Ldn	AVERAGE	L5 RAIN	L5 RAIN	L5 RAIN	L5 RAIN
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
-300.0	-91.44	35.0	32.5	29.0	.0	.0	.0	.0	.0	.0
-295.0	-89.92	35.0	32.5	29.0	.0	.0	.0	.0	.0	.0
-290.0	-88.39	35.1	32.6	29.1	.0	.0	.0	.0	.0	.0
-285.0	-86.87	35.2	32.7	29.2	.0	.0	.0	.0	.0	.0
-280.0	-85.34	35.3	32.8	29.3	.0	.0	.0	.0	.0	.0
-275.0	-83.82	35.4	32.9	29.4	.0	.0	.0	.0	.0	.0
-270.0	-82.30	35.5	33.0	29.5	.0	.0	.0	.0	.0	.0
-265.0	-80.77	35.6	33.1	29.6	.0	.0	.0	.0	.0	.0
-260.0	-79.25	35.7	33.2	29.7	.0	.0	.0	.0	.0	.0
-255.0	-77.72	35.8	33.3	29.8	.0	.0	.0	.0	.0	.0
-250.0	-76.20	35.9	33.4	29.9	.0	.0	.0	.0	.0	.0
-245.0	-74.68	36.0	33.5	30.0	.0	.0	.0	.0	.0	.0
-240.0	-73.15	36.1	33.6	30.1	.0	.0	.0	.0	.0	.0
-235.0	-71.63	36.2	33.7	30.2	.0	.0	.0	.0	.0	.0
-230.0	-70.10	36.3	33.8	30.3	.0	.0	.0	.0	.0	.0
-225.0	-68.58	36.5	34.0	30.5	.0	.0	.0	.0	.0	.0
-220.0	-67.06	36.6	34.1	30.6	.0	.0	.0	.0	.0	.0
-215.0	-65.53	36.7	34.2	30.7	.0	.0	.0	.0	.0	.0
-210.0	-64.01	36.8	34.3	30.8	.0	.0	.0	.0	.0	.0
-205.0	-62.48	36.9	34.4	30.9	.0	.0	.0	.0	.0	.0
-200.0	-60.96	37.1	34.6	31.1	.0	.0	.0	.0	.0	.0
-195.0	-59.44	37.2	34.7	31.2	.0	.0	.0	.0	.0	.0
-190.0	-57.91	37.3	34.8	31.3	.0	.0	.0	.0	.0	.0
-185.0	-56.39	37.5	35.0	31.5	.0	.0	.0	.0	.0	.0
-180.0	-54.86	37.6	35.1	31.6	.0	.0	.0	.0	.0	.0
-175.0	-53.34	37.7	35.2	31.7	.0	.0	.0	.0	.0	.0
-170.0	-51.82	37.9	35.4	31.9	.0	.0	.0	.0	.0	.0
-165.0	-50.29	38.0	35.5	32.0	.0	.0	.0	.0	.0	.0
-160.0	-48.77	38.2	35.7	32.2	.0	.0	.0	.0	.0	.0
-155.0	-47.24	38.4	35.9	32.4	.0	.0	.0	.0	.0	.0
-150.0	-45.72	38.5	36.0	32.5	.0	.0	.0	.0	.0	.0
-145.0	-44.20	38.7	36.2	32.7	.0	.0	.0	.0	.0	.0
-140.0	-42.67	38.9	36.4	32.9	.0	.0	.0	.0	.0	.0
-135.0	-41.15	39.1	36.6	33.1	.0	.0	.0	.0	.0	.0
-130.0	-39.62	39.2	36.7	33.2	.0	.0	.0	.0	.0	.0
-125.0	-38.10	39.4	36.9	33.4	.0	.0	.0	.0	.0	.0
-120.0	-36.58	39.6	37.1	33.6	.0	.0	.0	.0	.0	.0
-115.0	-35.05	39.8	37.3	33.8	.0	.0	.0	.0	.0	.0
-110.0	-33.53	40.0	37.5	34.0	.0	.0	.0	.0	.0	.0
-105.0	-32.00	40.3	37.8	34.3	.0	.0	.0	.0	.0	.0
-100.0	-30.48	40.5	38.0	34.5	.0	.0	.0	.0	.0	.0
-95.0	-28.96	40.7	38.2	34.7	.0	.0	.0	.0	.0	.0
-90.0	-27.43	40.9	38.4	34.9	.0	.0	.0	.0	.0	.0
-85.0	-25.91	41.2	38.7	35.2	.0	.0	.0	.0	.0	.0
-80.0	-24.38	41.4	38.9	35.4	.0	.0	.0	.0	.0	.0
-75.0	-22.86	41.7	39.2	35.7	.0	.0	.0	.0	.0	.0
-70.0	-21.34	41.9	39.4	35.9	.0	.0	.0	.0	.0	.0
-65.0	-19.81	42.2	39.7	36.2	.0	.0	.0	.0	.0	.0
-60.0	-18.29	42.4	39.9	36.4	.0	.0	.0	.0	.0	.0

-55.0	-16.76	42.6	40.1	36.6	.0	.0	.0	.0	.0	.0
-50.0	-15.24	42.8	40.3	36.8	.0	.0	.0	.0	.0	.0
-45.0	-13.72	43.0	40.5	37.0	.0	.0	.0	.0	.0	.0
-40.0	-12.19	43.2	40.7	37.2	.0	.0	.0	.0	.0	.0
-35.0	-10.67	43.3	40.8	37.3	.0	.0	.0	.0	.0	.0
-30.0	-9.14	43.4	40.9	37.4	.0	.0	.0	.0	.0	.0
-25.0	-7.62	43.5	41.0	37.5	.0	.0	.0	.0	.0	.0
-20.0	-6.10	43.5	41.0	37.5	.0	.0	.0	.0	.0	.0
-15.0	-4.57	43.4	40.9	37.4	.0	.0	.0	.0	.0	.0
-10.0	-3.05	43.4	40.9	37.4	.0	.0	.0	.0	.0	.0
-5.0	-1.52	43.2	40.7	37.2	.0	.0	.0	.0	.0	.0
.0	.00	43.1	40.6	37.1	.0	.0	.0	.0	.0	.0
5.0	1.52	42.9	40.4	36.9	.0	.0	.0	.0	.0	.0
10.0	3.05	42.7	40.2	36.7	.0	.0	.0	.0	.0	.0
15.0	4.57	42.4	39.9	36.4	.0	.0	.0	.0	.0	.0
20.0	6.10	42.2	39.7	36.2	.0	.0	.0	.0	.0	.0
25.0	7.62	41.9	39.4	35.9	.0	.0	.0	.0	.0	.0
30.0	9.14	41.7	39.2	35.7	.0	.0	.0	.0	.0	.0
35.0	10.67	41.4	38.9	35.4	.0	.0	.0	.0	.0	.0
40.0	12.19	41.2	38.7	35.2	.0	.0	.0	.0	.0	.0
45.0	13.72	41.0	38.5	35.0	.0	.0	.0	.0	.0	.0
50.0	15.24	40.7	38.2	34.7	.0	.0	.0	.0	.0	.0
55.0	16.76	40.5	38.0	34.5	.0	.0	.0	.0	.0	.0
60.0	18.29	40.3	37.8	34.3	.0	.0	.0	.0	.0	.0
65.0	19.81	40.1	37.6	34.1	.0	.0	.0	.0	.0	.0
70.0	21.34	39.9	37.4	33.9	.0	.0	.0	.0	.0	.0
75.0	22.86	39.7	37.2	33.7	.0	.0	.0	.0	.0	.0
80.0	24.38	39.5	37.0	33.5	.0	.0	.0	.0	.0	.0
85.0	25.91	39.3	36.8	33.3	.0	.0	.0	.0	.0	.0
90.0	27.43	39.1	36.6	33.1	.0	.0	.0	.0	.0	.0
95.0	28.96	38.9	36.4	32.9	.0	.0	.0	.0	.0	.0
100.0	30.48	38.7	36.2	32.7	.0	.0	.0	.0	.0	.0
105.0	32.00	38.5	36.0	32.5	.0	.0	.0	.0	.0	.0
110.0	33.53	38.4	35.9	32.4	.0	.0	.0	.0	.0	.0
115.0	35.05	38.2	35.7	32.2	.0	.0	.0	.0	.0	.0
120.0	36.58	38.1	35.6	32.1	.0	.0	.0	.0	.0	.0
125.0	38.10	37.9	35.4	31.9	.0	.0	.0	.0	.0	.0
130.0	39.62	37.8	35.3	31.8	.0	.0	.0	.0	.0	.0
135.0	41.15	37.6	35.1	31.6	.0	.0	.0	.0	.0	.0
140.0	42.67	37.5	35.0	31.5	.0	.0	.0	.0	.0	.0
145.0	44.20	37.3	34.8	31.3	.0	.0	.0	.0	.0	.0
150.0	45.72	37.2	34.7	31.2	.0	.0	.0	.0	.0	.0
155.0	47.24	37.1	34.6	31.1	.0	.0	.0	.0	.0	.0
160.0	48.77	36.9	34.4	30.9	.0	.0	.0	.0	.0	.0
165.0	50.29	36.8	34.3	30.8	.0	.0	.0	.0	.0	.0
170.0	51.82	36.7	34.2	30.7	.0	.0	.0	.0	.0	.0
175.0	53.34	36.6	34.1	30.6	.0	.0	.0	.0	.0	.0
180.0	54.86	36.5	34.0	30.5	.0	.0	.0	.0	.0	.0
185.0	56.39	36.4	33.9	30.4	.0	.0	.0	.0	.0	.0
190.0	57.91	36.2	33.7	30.2	.0	.0	.0	.0	.0	.0
195.0	59.44	36.1	33.6	30.1	.0	.0	.0	.0	.0	.0
200.0	60.96	36.0	33.5	30.0	.0	.0	.0	.0	.0	.0
205.0	62.48	35.9	33.4	29.9	.0	.0	.0	.0	.0	.0
210.0	64.01	35.8	33.3	29.8	.0	.0	.0	.0	.0	.0
215.0	65.53	35.7	33.2	29.7	.0	.0	.0	.0	.0	.0
220.0	67.06	35.6	33.1	29.6	.0	.0	.0	.0	.0	.0
225.0	68.58	35.5	33.0	29.5	.0	.0	.0	.0	.0	.0
230.0	70.10	35.4	32.9	29.4	.0	.0	.0	.0	.0	.0
235.0	71.63	35.3	32.8	29.3	.0	.0	.0	.0	.0	.0
240.0	73.15	35.2	32.7	29.2	.0	.0	.0	.0	.0	.0
245.0	74.68	35.1	32.6	29.1	.0	.0	.0	.0	.0	.0
250.0	76.20	35.1	32.6	29.1	.0	.0	.0	.0	.0	.0
255.0	77.72	35.0	32.5	29.0	.0	.0	.0	.0	.0	.0

260.0	79.25	34.9	32.4	28.9	.0	.0	.0	.0	.0	.0
265.0	80.77	34.8	32.3	28.8	.0	.0	.0	.0	.0	.0
270.0	82.30	34.7	32.2	28.7	.0	.0	.0	.0	.0	.0
275.0	83.82	34.6	32.1	28.6	.0	.0	.0	.0	.0	.0
280.0	85.34	34.6	32.1	28.6	.0	.0	.0	.0	.0	.0
285.0	86.87	34.5	32.0	28.5	.0	.0	.0	.0	.0	.0
290.0	88.39	34.4	31.9	28.4	.0	.0	.0	.0	.0	.0
295.0	89.92	34.3	31.8	28.3	.0	.0	.0	.0	.0	.0
300.0	91.44	34.2	31.7	28.2	.0	.0	.0	.0	.0	.0

Audible noise prediction methods do not apply to all line geometries, voltages, or weather conditions. If a prediction method does not apply, the appropriate output data column will be zeros.

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AC TRANSMISSION LINE CALCULATION RESULTS
345kV DOUBLE CIRCUIT MONOPOLE

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XS-1: 345 kV Double Circuit Monopole - Electric and Magnetic Field Calculations
 Emf Workstation Conductor Data

Total # of Conductors: 8

-6025.00	-10.58	80.00	6825.00	-10.58	80.00	0.10	0.00
-6025.00	-10.58	55.00	6825.00	-10.58	55.00	0.10	-120.00
-6025.00	-10.58	30.00	6825.00	-10.58	30.00	0.10	120.00
-6025.00	10.58	30.00	6825.00	10.58	30.00	0.10	0.00
-6025.00	10.58	55.00	6825.00	10.58	55.00	0.10	-120.00
-6025.00	10.58	80.00	6825.00	10.58	80.00	0.10	120.00
-6025.00	-6.00	106.15	6825.00	-6.00	106.15	0.00	-81.72
-6025.00	6.00	106.15	6825.00	6.00	106.15	0.00	-23.25

E-Field HORIZONTAL Profile Chart: "Lateral Profile Electric Field - Model Load 1(EF)"

Field Components = Resultant
 Distance units = (ft)
 Electric field units = KV/m

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	EF (KV/m)
0	0.00	400.00	-300.00	3.28	0.02
1	1.00	400.00	-299.00	3.28	0.02
2	2.00	400.00	-298.00	3.28	0.02
3	3.00	400.00	-297.00	3.28	0.02
4	4.00	400.00	-296.00	3.28	0.02
5	5.00	400.00	-295.00	3.28	0.02
6	6.00	400.00	-294.00	3.28	0.02
7	7.00	400.00	-293.00	3.28	0.02
8	8.00	400.00	-292.00	3.28	0.02
9	9.00	400.00	-291.00	3.28	0.02
10	10.00	400.00	-290.00	3.28	0.02
11	11.00	400.00	-289.00	3.28	0.02
12	12.00	400.00	-288.00	3.28	0.02
13	13.00	400.00	-287.00	3.28	0.02
14	14.00	400.00	-286.00	3.28	0.02
15	15.00	400.00	-285.00	3.28	0.02
16	16.00	400.00	-284.00	3.28	0.02
17	17.00	400.00	-283.00	3.28	0.02
18	18.00	400.00	-282.00	3.28	0.02
19	19.00	400.00	-281.00	3.28	0.02
20	20.00	400.00	-280.00	3.28	0.02
21	21.00	400.00	-279.00	3.28	0.03
22	22.00	400.00	-278.00	3.28	0.03
23	23.00	400.00	-277.00	3.28	0.03
24	24.00	400.00	-276.00	3.28	0.03
25	25.00	400.00	-275.00	3.28	0.03
26	26.00	400.00	-274.00	3.28	0.03
27	27.00	400.00	-273.00	3.28	0.03
28	28.00	400.00	-272.00	3.28	0.03
29	29.00	400.00	-271.00	3.28	0.03
30	30.00	400.00	-270.00	3.28	0.03
31	31.00	400.00	-269.00	3.28	0.03
32	32.00	400.00	-268.00	3.28	0.03
33	33.00	400.00	-267.00	3.28	0.03
34	34.00	400.00	-266.00	3.28	0.03
35	35.00	400.00	-265.00	3.28	0.03

36	36.00	400.00	-264.00	3.28	0.03
37	37.00	400.00	-263.00	3.28	0.03
38	38.00	400.00	-262.00	3.28	0.03
39	39.00	400.00	-261.00	3.28	0.03
40	40.00	400.00	-260.00	3.28	0.03
41	41.00	400.00	-259.00	3.28	0.03
42	42.00	400.00	-258.00	3.28	0.03
43	43.00	400.00	-257.00	3.28	0.03
44	44.00	400.00	-256.00	3.28	0.03
45	45.00	400.00	-255.00	3.28	0.03
46	46.00	400.00	-254.00	3.28	0.03
47	47.00	400.00	-253.00	3.28	0.03
48	48.00	400.00	-252.00	3.28	0.03
49	49.00	400.00	-251.00	3.28	0.03
50	50.00	400.00	-250.00	3.28	0.03
51	51.00	400.00	-249.00	3.28	0.03
52	52.00	400.00	-248.00	3.28	0.03
53	53.00	400.00	-247.00	3.28	0.03
54	54.00	400.00	-246.00	3.28	0.03
55	55.00	400.00	-245.00	3.28	0.03
56	56.00	400.00	-244.00	3.28	0.03
57	57.00	400.00	-243.00	3.28	0.03
58	58.00	400.00	-242.00	3.28	0.03
59	59.00	400.00	-241.00	3.28	0.03
60	60.00	400.00	-240.00	3.28	0.03
61	61.00	400.00	-239.00	3.28	0.03
62	62.00	400.00	-238.00	3.28	0.03
63	63.00	400.00	-237.00	3.28	0.03
64	64.00	400.00	-236.00	3.28	0.03
65	65.00	400.00	-235.00	3.28	0.04
66	66.00	400.00	-234.00	3.28	0.04
67	67.00	400.00	-233.00	3.28	0.04
68	68.00	400.00	-232.00	3.28	0.04
69	69.00	400.00	-231.00	3.28	0.04
70	70.00	400.00	-230.00	3.28	0.04
71	71.00	400.00	-229.00	3.28	0.04
72	72.00	400.00	-228.00	3.28	0.04
73	73.00	400.00	-227.00	3.28	0.04
74	74.00	400.00	-226.00	3.28	0.04
75	75.00	400.00	-225.00	3.28	0.04
76	76.00	400.00	-224.00	3.28	0.04
77	77.00	400.00	-223.00	3.28	0.04
78	78.00	400.00	-222.00	3.28	0.04
79	79.00	400.00	-221.00	3.28	0.04
80	80.00	400.00	-220.00	3.28	0.04
81	81.00	400.00	-219.00	3.28	0.04
82	82.00	400.00	-218.00	3.28	0.04
83	83.00	400.00	-217.00	3.28	0.04
84	84.00	400.00	-216.00	3.28	0.04
85	85.00	400.00	-215.00	3.28	0.04
86	86.00	400.00	-214.00	3.28	0.04
87	87.00	400.00	-213.00	3.28	0.04
88	88.00	400.00	-212.00	3.28	0.04
89	89.00	400.00	-211.00	3.28	0.04
90	90.00	400.00	-210.00	3.28	0.04
91	91.00	400.00	-209.00	3.28	0.04
92	92.00	400.00	-208.00	3.28	0.04
93	93.00	400.00	-207.00	3.28	0.04
94	94.00	400.00	-206.00	3.28	0.04
95	95.00	400.00	-205.00	3.28	0.05
96	96.00	400.00	-204.00	3.28	0.05
97	97.00	400.00	-203.00	3.28	0.05
98	98.00	400.00	-202.00	3.28	0.05

99	99.00	400.00	-201.00	3.28	0.05
100	100.00	400.00	-200.00	3.28	0.05
101	101.00	400.00	-199.00	3.28	0.05
102	102.00	400.00	-198.00	3.28	0.05
103	103.00	400.00	-197.00	3.28	0.05
104	104.00	400.00	-196.00	3.28	0.05
105	105.00	400.00	-195.00	3.28	0.05
106	106.00	400.00	-194.00	3.28	0.05
107	107.00	400.00	-193.00	3.28	0.05
108	108.00	400.00	-192.00	3.28	0.05
109	109.00	400.00	-191.00	3.28	0.05
110	110.00	400.00	-190.00	3.28	0.05
111	111.00	400.00	-189.00	3.28	0.05
112	112.00	400.00	-188.00	3.28	0.05
113	113.00	400.00	-187.00	3.28	0.05
114	114.00	400.00	-186.00	3.28	0.05
115	115.00	400.00	-185.00	3.28	0.05
116	116.00	400.00	-184.00	3.28	0.05
117	117.00	400.00	-183.00	3.28	0.05
118	118.00	400.00	-182.00	3.28	0.05
119	119.00	400.00	-181.00	3.28	0.06
120	120.00	400.00	-180.00	3.28	0.06
121	121.00	400.00	-179.00	3.28	0.06
122	122.00	400.00	-178.00	3.28	0.06
123	123.00	400.00	-177.00	3.28	0.06
124	124.00	400.00	-176.00	3.28	0.06
125	125.00	400.00	-175.00	3.28	0.06
126	126.00	400.00	-174.00	3.28	0.06
127	127.00	400.00	-173.00	3.28	0.06
128	128.00	400.00	-172.00	3.28	0.06
129	129.00	400.00	-171.00	3.28	0.06
130	130.00	400.00	-170.00	3.28	0.06
131	131.00	400.00	-169.00	3.28	0.06
132	132.00	400.00	-168.00	3.28	0.06
133	133.00	400.00	-167.00	3.28	0.06
134	134.00	400.00	-166.00	3.28	0.06
135	135.00	400.00	-165.00	3.28	0.06
136	136.00	400.00	-164.00	3.28	0.06
137	137.00	400.00	-163.00	3.28	0.06
138	138.00	400.00	-162.00	3.28	0.06
139	139.00	400.00	-161.00	3.28	0.06
140	140.00	400.00	-160.00	3.28	0.07
141	141.00	400.00	-159.00	3.28	0.07
142	142.00	400.00	-158.00	3.28	0.07
143	143.00	400.00	-157.00	3.28	0.07
144	144.00	400.00	-156.00	3.28	0.07
145	145.00	400.00	-155.00	3.28	0.07
146	146.00	400.00	-154.00	3.28	0.07
147	147.00	400.00	-153.00	3.28	0.07
148	148.00	400.00	-152.00	3.28	0.07
149	149.00	400.00	-151.00	3.28	0.07
150	150.00	400.00	-150.00	3.28	0.07
151	151.00	400.00	-149.00	3.28	0.07
152	152.00	400.00	-148.00	3.28	0.07
153	153.00	400.00	-147.00	3.28	0.07
154	154.00	400.00	-146.00	3.28	0.07
155	155.00	400.00	-145.00	3.28	0.07
156	156.00	400.00	-144.00	3.28	0.07
157	157.00	400.00	-143.00	3.28	0.07
158	158.00	400.00	-142.00	3.28	0.07
159	159.00	400.00	-141.00	3.28	0.07
160	160.00	400.00	-140.00	3.28	0.07
161	161.00	400.00	-139.00	3.28	0.07

162	162.00	400.00	-138.00	3.28	0.07
163	163.00	400.00	-137.00	3.28	0.07
164	164.00	400.00	-136.00	3.28	0.07
165	165.00	400.00	-135.00	3.28	0.08
166	166.00	400.00	-134.00	3.28	0.08
167	167.00	400.00	-133.00	3.28	0.08
168	168.00	400.00	-132.00	3.28	0.08
169	169.00	400.00	-131.00	3.28	0.08
170	170.00	400.00	-130.00	3.28	0.08
171	171.00	400.00	-129.00	3.28	0.08
172	172.00	400.00	-128.00	3.28	0.08
173	173.00	400.00	-127.00	3.28	0.08
174	174.00	400.00	-126.00	3.28	0.08
175	175.00	400.00	-125.00	3.28	0.08
176	176.00	400.00	-124.00	3.28	0.08
177	177.00	400.00	-123.00	3.28	0.08
178	178.00	400.00	-122.00	3.28	0.08
179	179.00	400.00	-121.00	3.28	0.08
180	180.00	400.00	-120.00	3.28	0.08
181	181.00	400.00	-119.00	3.28	0.08
182	182.00	400.00	-118.00	3.28	0.08
183	183.00	400.00	-117.00	3.28	0.08
184	184.00	400.00	-116.00	3.28	0.08
185	185.00	400.00	-115.00	3.28	0.08
186	186.00	400.00	-114.00	3.28	0.08
187	187.00	400.00	-113.00	3.28	0.07
188	188.00	400.00	-112.00	3.28	0.07
189	189.00	400.00	-111.00	3.28	0.07
190	190.00	400.00	-110.00	3.28	0.07
191	191.00	400.00	-109.00	3.28	0.07
192	192.00	400.00	-108.00	3.28	0.07
193	193.00	400.00	-107.00	3.28	0.07
194	194.00	400.00	-106.00	3.28	0.07
195	195.00	400.00	-105.00	3.28	0.07
196	196.00	400.00	-104.00	3.28	0.07
197	197.00	400.00	-103.00	3.28	0.07
198	198.00	400.00	-102.00	3.28	0.07
199	199.00	400.00	-101.00	3.28	0.07
200	200.00	400.00	-100.00	3.28	0.07
201	201.00	400.00	-99.00	3.28	0.07
202	202.00	400.00	-98.00	3.28	0.07
203	203.00	400.00	-97.00	3.28	0.07
204	204.00	400.00	-96.00	3.28	0.07
205	205.00	400.00	-95.00	3.28	0.07
206	206.00	400.00	-94.00	3.28	0.07
207	207.00	400.00	-93.00	3.28	0.07
208	208.00	400.00	-92.00	3.28	0.08
209	209.00	400.00	-91.00	3.28	0.08
210	210.00	400.00	-90.00	3.28	0.08
211	211.00	400.00	-89.00	3.28	0.09
212	212.00	400.00	-88.00	3.28	0.09
213	213.00	400.00	-87.00	3.28	0.09
214	214.00	400.00	-86.00	3.28	0.10
215	215.00	400.00	-85.00	3.28	0.11
216	216.00	400.00	-84.00	3.28	0.11
217	217.00	400.00	-83.00	3.28	0.12
218	218.00	400.00	-82.00	3.28	0.13
219	219.00	400.00	-81.00	3.28	0.14
220	220.00	400.00	-80.00	3.28	0.14
221	221.00	400.00	-79.00	3.28	0.15
222	222.00	400.00	-78.00	3.28	0.17
223	223.00	400.00	-77.00	3.28	0.18
224	224.00	400.00	-76.00	3.28	0.19

225	225.00	400.00	-75.00	3.28	0.20
226	226.00	400.00	-74.00	3.28	0.22
227	227.00	400.00	-73.00	3.28	0.23
228	228.00	400.00	-72.00	3.28	0.25
229	229.00	400.00	-71.00	3.28	0.27
230	230.00	400.00	-70.00	3.28	0.29
231	231.00	400.00	-69.00	3.28	0.31
232	232.00	400.00	-68.00	3.28	0.33
233	233.00	400.00	-67.00	3.28	0.35
234	234.00	400.00	-66.00	3.28	0.37
235	235.00	400.00	-65.00	3.28	0.40
236	236.00	400.00	-64.00	3.28	0.43
237	237.00	400.00	-63.00	3.28	0.45
238	238.00	400.00	-62.00	3.28	0.48
239	239.00	400.00	-61.00	3.28	0.52
240	240.00	400.00	-60.00	3.28	0.55
241	241.00	400.00	-59.00	3.28	0.59
242	242.00	400.00	-58.00	3.28	0.63
243	243.00	400.00	-57.00	3.28	0.67
244	244.00	400.00	-56.00	3.28	0.71
245	245.00	400.00	-55.00	3.28	0.76
246	246.00	400.00	-54.00	3.28	0.80
247	247.00	400.00	-53.00	3.28	0.85
248	248.00	400.00	-52.00	3.28	0.91
249	249.00	400.00	-51.00	3.28	0.97
250	250.00	400.00	-50.00	3.28	1.03
251	251.00	400.00	-49.00	3.28	1.09
252	252.00	400.00	-48.00	3.28	1.16
253	253.00	400.00	-47.00	3.28	1.23
254	254.00	400.00	-46.00	3.28	1.31
255	255.00	400.00	-45.00	3.28	1.38
256	256.00	400.00	-44.00	3.28	1.47
257	257.00	400.00	-43.00	3.28	1.56
258	258.00	400.00	-42.00	3.28	1.65
259	259.00	400.00	-41.00	3.28	1.74
260	260.00	400.00	-40.00	3.28	1.84
261	261.00	400.00	-39.00	3.28	1.95
262	262.00	400.00	-38.00	3.28	2.06
263	263.00	400.00	-37.00	3.28	2.17
264	264.00	400.00	-36.00	3.28	2.29
265	265.00	400.00	-35.00	3.28	2.42
266	266.00	400.00	-34.00	3.28	2.54
267	267.00	400.00	-33.00	3.28	2.67
268	268.00	400.00	-32.00	3.28	2.81
269	269.00	400.00	-31.00	3.28	2.94
270	270.00	400.00	-30.00	3.28	3.08
271	271.00	400.00	-29.00	3.28	3.22
272	272.00	400.00	-28.00	3.28	3.36
273	273.00	400.00	-27.00	3.28	3.50
274	274.00	400.00	-26.00	3.28	3.64
275	275.00	400.00	-25.00	3.28	3.77
276	276.00	400.00	-24.00	3.28	3.90
277	277.00	400.00	-23.00	3.28	4.02
278	278.00	400.00	-22.00	3.28	4.14
279	279.00	400.00	-21.00	3.28	4.25
280	280.00	400.00	-20.00	3.28	4.35
281	281.00	400.00	-19.00	3.28	4.43
282	282.00	400.00	-18.00	3.28	4.50
283	283.00	400.00	-17.00	3.28	4.56
284	284.00	400.00	-16.00	3.28	4.60
285	285.00	400.00	-15.00	3.28	4.62
286	286.00	400.00	-14.00	3.28	4.63
287	287.00	400.00	-13.00	3.28	4.62

288	288.00	400.00	-12.00	3.28	4.59
289	289.00	400.00	-11.00	3.28	4.55
290	290.00	400.00	-10.00	3.28	4.49
291	291.00	400.00	-9.00	3.28	4.41
292	292.00	400.00	-8.00	3.28	4.33
293	293.00	400.00	-7.00	3.28	4.25
294	294.00	400.00	-6.00	3.28	4.16
295	295.00	400.00	-5.00	3.28	4.07
296	296.00	400.00	-4.00	3.28	3.99
297	297.00	400.00	-3.00	3.28	3.92
298	298.00	400.00	-2.00	3.28	3.87
299	299.00	400.00	-1.00	3.28	3.84
300	300.00	400.00	0.00	3.28	3.83
301	301.00	400.00	1.00	3.28	3.84
302	302.00	400.00	2.00	3.28	3.87
303	303.00	400.00	3.00	3.28	3.92
304	304.00	400.00	4.00	3.28	3.99
305	305.00	400.00	5.00	3.28	4.07
306	306.00	400.00	6.00	3.28	4.16
307	307.00	400.00	7.00	3.28	4.25
308	308.00	400.00	8.00	3.28	4.33
309	309.00	400.00	9.00	3.28	4.41
310	310.00	400.00	10.00	3.28	4.49
311	311.00	400.00	11.00	3.28	4.55
312	312.00	400.00	12.00	3.28	4.59
313	313.00	400.00	13.00	3.28	4.62
314	314.00	400.00	14.00	3.28	4.63
315	315.00	400.00	15.00	3.28	4.62
316	316.00	400.00	16.00	3.28	4.60
317	317.00	400.00	17.00	3.28	4.56
318	318.00	400.00	18.00	3.28	4.50
319	319.00	400.00	19.00	3.28	4.43
320	320.00	400.00	20.00	3.28	4.35
321	321.00	400.00	21.00	3.28	4.25
322	322.00	400.00	22.00	3.28	4.14
323	323.00	400.00	23.00	3.28	4.02
324	324.00	400.00	24.00	3.28	3.90
325	325.00	400.00	25.00	3.28	3.77
326	326.00	400.00	26.00	3.28	3.64
327	327.00	400.00	27.00	3.28	3.50
328	328.00	400.00	28.00	3.28	3.36
329	329.00	400.00	29.00	3.28	3.22
330	330.00	400.00	30.00	3.28	3.08
331	331.00	400.00	31.00	3.28	2.94
332	332.00	400.00	32.00	3.28	2.81
333	333.00	400.00	33.00	3.28	2.67
334	334.00	400.00	34.00	3.28	2.54
335	335.00	400.00	35.00	3.28	2.42
336	336.00	400.00	36.00	3.28	2.29
337	337.00	400.00	37.00	3.28	2.17
338	338.00	400.00	38.00	3.28	2.06
339	339.00	400.00	39.00	3.28	1.95
340	340.00	400.00	40.00	3.28	1.84
341	341.00	400.00	41.00	3.28	1.74
342	342.00	400.00	42.00	3.28	1.65
343	343.00	400.00	43.00	3.28	1.56
344	344.00	400.00	44.00	3.28	1.47
345	345.00	400.00	45.00	3.28	1.38
346	346.00	400.00	46.00	3.28	1.31
347	347.00	400.00	47.00	3.28	1.23
348	348.00	400.00	48.00	3.28	1.16
349	349.00	400.00	49.00	3.28	1.09
350	350.00	400.00	50.00	3.28	1.03

351	351.00	400.00	51.00	3.28	0.97
352	352.00	400.00	52.00	3.28	0.91
353	353.00	400.00	53.00	3.28	0.85
354	354.00	400.00	54.00	3.28	0.80
355	355.00	400.00	55.00	3.28	0.76
356	356.00	400.00	56.00	3.28	0.71
357	357.00	400.00	57.00	3.28	0.67
358	358.00	400.00	58.00	3.28	0.63
359	359.00	400.00	59.00	3.28	0.59
360	360.00	400.00	60.00	3.28	0.55
361	361.00	400.00	61.00	3.28	0.52
362	362.00	400.00	62.00	3.28	0.48
363	363.00	400.00	63.00	3.28	0.45
364	364.00	400.00	64.00	3.28	0.43
365	365.00	400.00	65.00	3.28	0.40
366	366.00	400.00	66.00	3.28	0.37
367	367.00	400.00	67.00	3.28	0.35
368	368.00	400.00	68.00	3.28	0.33
369	369.00	400.00	69.00	3.28	0.31
370	370.00	400.00	70.00	3.28	0.29
371	371.00	400.00	71.00	3.28	0.27
372	372.00	400.00	72.00	3.28	0.25
373	373.00	400.00	73.00	3.28	0.23
374	374.00	400.00	74.00	3.28	0.22
375	375.00	400.00	75.00	3.28	0.20
376	376.00	400.00	76.00	3.28	0.19
377	377.00	400.00	77.00	3.28	0.18
378	378.00	400.00	78.00	3.28	0.17
379	379.00	400.00	79.00	3.28	0.15
380	380.00	400.00	80.00	3.28	0.14
381	381.00	400.00	81.00	3.28	0.14
382	382.00	400.00	82.00	3.28	0.13
383	383.00	400.00	83.00	3.28	0.12
384	384.00	400.00	84.00	3.28	0.11
385	385.00	400.00	85.00	3.28	0.11
386	386.00	400.00	86.00	3.28	0.10
387	387.00	400.00	87.00	3.28	0.09
388	388.00	400.00	88.00	3.28	0.09
389	389.00	400.00	89.00	3.28	0.09
390	390.00	400.00	90.00	3.28	0.08
391	391.00	400.00	91.00	3.28	0.08
392	392.00	400.00	92.00	3.28	0.08
393	393.00	400.00	93.00	3.28	0.07
394	394.00	400.00	94.00	3.28	0.07
395	395.00	400.00	95.00	3.28	0.07
396	396.00	400.00	96.00	3.28	0.07
397	397.00	400.00	97.00	3.28	0.07
398	398.00	400.00	98.00	3.28	0.07
399	399.00	400.00	99.00	3.28	0.07
400	400.00	400.00	100.00	3.28	0.07
401	401.00	400.00	101.00	3.28	0.07
402	402.00	400.00	102.00	3.28	0.07
403	403.00	400.00	103.00	3.28	0.07
404	404.00	400.00	104.00	3.28	0.07
405	405.00	400.00	105.00	3.28	0.07
406	406.00	400.00	106.00	3.28	0.07
407	407.00	400.00	107.00	3.28	0.07
408	408.00	400.00	108.00	3.28	0.07
409	409.00	400.00	109.00	3.28	0.07
410	410.00	400.00	110.00	3.28	0.07
411	411.00	400.00	111.00	3.28	0.07
412	412.00	400.00	112.00	3.28	0.07
413	413.00	400.00	113.00	3.28	0.07

414	414.00	400.00	114.00	3.28	0.08
415	415.00	400.00	115.00	3.28	0.08
416	416.00	400.00	116.00	3.28	0.08
417	417.00	400.00	117.00	3.28	0.08
418	418.00	400.00	118.00	3.28	0.08
419	419.00	400.00	119.00	3.28	0.08
420	420.00	400.00	120.00	3.28	0.08
421	421.00	400.00	121.00	3.28	0.08
422	422.00	400.00	122.00	3.28	0.08
423	423.00	400.00	123.00	3.28	0.08
424	424.00	400.00	124.00	3.28	0.08
425	425.00	400.00	125.00	3.28	0.08
426	426.00	400.00	126.00	3.28	0.08
427	427.00	400.00	127.00	3.28	0.08
428	428.00	400.00	128.00	3.28	0.08
429	429.00	400.00	129.00	3.28	0.08
430	430.00	400.00	130.00	3.28	0.08
431	431.00	400.00	131.00	3.28	0.08
432	432.00	400.00	132.00	3.28	0.08
433	433.00	400.00	133.00	3.28	0.08
434	434.00	400.00	134.00	3.28	0.08
435	435.00	400.00	135.00	3.28	0.08
436	436.00	400.00	136.00	3.28	0.07
437	437.00	400.00	137.00	3.28	0.07
438	438.00	400.00	138.00	3.28	0.07
439	439.00	400.00	139.00	3.28	0.07
440	440.00	400.00	140.00	3.28	0.07
441	441.00	400.00	141.00	3.28	0.07
442	442.00	400.00	142.00	3.28	0.07
443	443.00	400.00	143.00	3.28	0.07
444	444.00	400.00	144.00	3.28	0.07
445	445.00	400.00	145.00	3.28	0.07
446	446.00	400.00	146.00	3.28	0.07
447	447.00	400.00	147.00	3.28	0.07
448	448.00	400.00	148.00	3.28	0.07
449	449.00	400.00	149.00	3.28	0.07
450	450.00	400.00	150.00	3.28	0.07
451	451.00	400.00	151.00	3.28	0.07
452	452.00	400.00	152.00	3.28	0.07
453	453.00	400.00	153.00	3.28	0.07
454	454.00	400.00	154.00	3.28	0.07
455	455.00	400.00	155.00	3.28	0.07
456	456.00	400.00	156.00	3.28	0.07
457	457.00	400.00	157.00	3.28	0.07
458	458.00	400.00	158.00	3.28	0.07
459	459.00	400.00	159.00	3.28	0.07
460	460.00	400.00	160.00	3.28	0.07
461	461.00	400.00	161.00	3.28	0.06
462	462.00	400.00	162.00	3.28	0.06
463	463.00	400.00	163.00	3.28	0.06
464	464.00	400.00	164.00	3.28	0.06
465	465.00	400.00	165.00	3.28	0.06
466	466.00	400.00	166.00	3.28	0.06
467	467.00	400.00	167.00	3.28	0.06
468	468.00	400.00	168.00	3.28	0.06
469	469.00	400.00	169.00	3.28	0.06
470	470.00	400.00	170.00	3.28	0.06
471	471.00	400.00	171.00	3.28	0.06
472	472.00	400.00	172.00	3.28	0.06
473	473.00	400.00	173.00	3.28	0.06
474	474.00	400.00	174.00	3.28	0.06
475	475.00	400.00	175.00	3.28	0.06
476	476.00	400.00	176.00	3.28	0.06

477	477.00	400.00	177.00	3.28	0.06
478	478.00	400.00	178.00	3.28	0.06
479	479.00	400.00	179.00	3.28	0.06
480	480.00	400.00	180.00	3.28	0.06
481	481.00	400.00	181.00	3.28	0.06
482	482.00	400.00	182.00	3.28	0.05
483	483.00	400.00	183.00	3.28	0.05
484	484.00	400.00	184.00	3.28	0.05
485	485.00	400.00	185.00	3.28	0.05
486	486.00	400.00	186.00	3.28	0.05
487	487.00	400.00	187.00	3.28	0.05
488	488.00	400.00	188.00	3.28	0.05
489	489.00	400.00	189.00	3.28	0.05
490	490.00	400.00	190.00	3.28	0.05
491	491.00	400.00	191.00	3.28	0.05
492	492.00	400.00	192.00	3.28	0.05
493	493.00	400.00	193.00	3.28	0.05
494	494.00	400.00	194.00	3.28	0.05
495	495.00	400.00	195.00	3.28	0.05
496	496.00	400.00	196.00	3.28	0.05
497	497.00	400.00	197.00	3.28	0.05
498	498.00	400.00	198.00	3.28	0.05
499	499.00	400.00	199.00	3.28	0.05
500	500.00	400.00	200.00	3.28	0.05
501	501.00	400.00	201.00	3.28	0.05
502	502.00	400.00	202.00	3.28	0.05
503	503.00	400.00	203.00	3.28	0.05
504	504.00	400.00	204.00	3.28	0.05
505	505.00	400.00	205.00	3.28	0.05
506	506.00	400.00	206.00	3.28	0.04
507	507.00	400.00	207.00	3.28	0.04
508	508.00	400.00	208.00	3.28	0.04
509	509.00	400.00	209.00	3.28	0.04
510	510.00	400.00	210.00	3.28	0.04
511	511.00	400.00	211.00	3.28	0.04
512	512.00	400.00	212.00	3.28	0.04
513	513.00	400.00	213.00	3.28	0.04
514	514.00	400.00	214.00	3.28	0.04
515	515.00	400.00	215.00	3.28	0.04
516	516.00	400.00	216.00	3.28	0.04
517	517.00	400.00	217.00	3.28	0.04
518	518.00	400.00	218.00	3.28	0.04
519	519.00	400.00	219.00	3.28	0.04
520	520.00	400.00	220.00	3.28	0.04
521	521.00	400.00	221.00	3.28	0.04
522	522.00	400.00	222.00	3.28	0.04
523	523.00	400.00	223.00	3.28	0.04
524	524.00	400.00	224.00	3.28	0.04
525	525.00	400.00	225.00	3.28	0.04
526	526.00	400.00	226.00	3.28	0.04
527	527.00	400.00	227.00	3.28	0.04
528	528.00	400.00	228.00	3.28	0.04
529	529.00	400.00	229.00	3.28	0.04
530	530.00	400.00	230.00	3.28	0.04
531	531.00	400.00	231.00	3.28	0.04
532	532.00	400.00	232.00	3.28	0.04
533	533.00	400.00	233.00	3.28	0.04
534	534.00	400.00	234.00	3.28	0.04
535	535.00	400.00	235.00	3.28	0.04
536	536.00	400.00	236.00	3.28	0.03
537	537.00	400.00	237.00	3.28	0.03
538	538.00	400.00	238.00	3.28	0.03
539	539.00	400.00	239.00	3.28	0.03

540	540.00	400.00	240.00	3.28	0.03
541	541.00	400.00	241.00	3.28	0.03
542	542.00	400.00	242.00	3.28	0.03
543	543.00	400.00	243.00	3.28	0.03
544	544.00	400.00	244.00	3.28	0.03
545	545.00	400.00	245.00	3.28	0.03
546	546.00	400.00	246.00	3.28	0.03
547	547.00	400.00	247.00	3.28	0.03
548	548.00	400.00	248.00	3.28	0.03
549	549.00	400.00	249.00	3.28	0.03
550	550.00	400.00	250.00	3.28	0.03
551	551.00	400.00	251.00	3.28	0.03
552	552.00	400.00	252.00	3.28	0.03
553	553.00	400.00	253.00	3.28	0.03
554	554.00	400.00	254.00	3.28	0.03
555	555.00	400.00	255.00	3.28	0.03
556	556.00	400.00	256.00	3.28	0.03
557	557.00	400.00	257.00	3.28	0.03
558	558.00	400.00	258.00	3.28	0.03
559	559.00	400.00	259.00	3.28	0.03
560	560.00	400.00	260.00	3.28	0.03
561	561.00	400.00	261.00	3.28	0.03
562	562.00	400.00	262.00	3.28	0.03
563	563.00	400.00	263.00	3.28	0.03
564	564.00	400.00	264.00	3.28	0.03
565	565.00	400.00	265.00	3.28	0.03
566	566.00	400.00	266.00	3.28	0.03
567	567.00	400.00	267.00	3.28	0.03
568	568.00	400.00	268.00	3.28	0.03
569	569.00	400.00	269.00	3.28	0.03
570	570.00	400.00	270.00	3.28	0.03
571	571.00	400.00	271.00	3.28	0.03
572	572.00	400.00	272.00	3.28	0.03
573	573.00	400.00	273.00	3.28	0.03
574	574.00	400.00	274.00	3.28	0.03
575	575.00	400.00	275.00	3.28	0.03
576	576.00	400.00	276.00	3.28	0.03
577	577.00	400.00	277.00	3.28	0.03
578	578.00	400.00	278.00	3.28	0.03
579	579.00	400.00	279.00	3.28	0.03
580	580.00	400.00	280.00	3.28	0.02
581	581.00	400.00	281.00	3.28	0.02
582	582.00	400.00	282.00	3.28	0.02
583	583.00	400.00	283.00	3.28	0.02
584	584.00	400.00	284.00	3.28	0.02
585	585.00	400.00	285.00	3.28	0.02
586	586.00	400.00	286.00	3.28	0.02
587	587.00	400.00	287.00	3.28	0.02
588	588.00	400.00	288.00	3.28	0.02
589	589.00	400.00	289.00	3.28	0.02
590	590.00	400.00	290.00	3.28	0.02
591	591.00	400.00	291.00	3.28	0.02
592	592.00	400.00	292.00	3.28	0.02
593	593.00	400.00	293.00	3.28	0.02
594	594.00	400.00	294.00	3.28	0.02
595	595.00	400.00	295.00	3.28	0.02
596	596.00	400.00	296.00	3.28	0.02
597	597.00	400.00	297.00	3.28	0.02
598	598.00	400.00	298.00	3.28	0.02
599	599.00	400.00	299.00	3.28	0.02
600	600.00	400.00	300.00	3.28	0.02

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Model Load 1"

Field Components = Resultant
 Distance units = (ft)
 Magnetic field units = mG

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	0.00
1	1.00	400.00	-299.00	3.28	0.00
2	2.00	400.00	-298.00	3.28	0.00
3	3.00	400.00	-297.00	3.28	0.00
4	4.00	400.00	-296.00	3.28	0.00
5	5.00	400.00	-295.00	3.28	0.00
6	6.00	400.00	-294.00	3.28	0.00
7	7.00	400.00	-293.00	3.28	0.00
8	8.00	400.00	-292.00	3.28	0.00
9	9.00	400.00	-291.00	3.28	0.00
10	10.00	400.00	-290.00	3.28	0.00
11	11.00	400.00	-289.00	3.28	0.00
12	12.00	400.00	-288.00	3.28	0.00
13	13.00	400.00	-287.00	3.28	0.00
14	14.00	400.00	-286.00	3.28	0.00
15	15.00	400.00	-285.00	3.28	0.00
16	16.00	400.00	-284.00	3.28	0.00
17	17.00	400.00	-283.00	3.28	0.00
18	18.00	400.00	-282.00	3.28	0.00
19	19.00	400.00	-281.00	3.28	0.00
20	20.00	400.00	-280.00	3.28	0.00
21	21.00	400.00	-279.00	3.28	0.00
22	22.00	400.00	-278.00	3.28	0.00
23	23.00	400.00	-277.00	3.28	0.00
24	24.00	400.00	-276.00	3.28	0.00
25	25.00	400.00	-275.00	3.28	0.00
26	26.00	400.00	-274.00	3.28	0.00
27	27.00	400.00	-273.00	3.28	0.00
28	28.00	400.00	-272.00	3.28	0.00
29	29.00	400.00	-271.00	3.28	0.00
30	30.00	400.00	-270.00	3.28	0.00
31	31.00	400.00	-269.00	3.28	0.00
32	32.00	400.00	-268.00	3.28	0.00
33	33.00	400.00	-267.00	3.28	0.00
34	34.00	400.00	-266.00	3.28	0.00
35	35.00	400.00	-265.00	3.28	0.00
36	36.00	400.00	-264.00	3.28	0.00
37	37.00	400.00	-263.00	3.28	0.00
38	38.00	400.00	-262.00	3.28	0.00
39	39.00	400.00	-261.00	3.28	0.00
40	40.00	400.00	-260.00	3.28	0.00
41	41.00	400.00	-259.00	3.28	0.00
42	42.00	400.00	-258.00	3.28	0.00
43	43.00	400.00	-257.00	3.28	0.00
44	44.00	400.00	-256.00	3.28	0.00
45	45.00	400.00	-255.00	3.28	0.00
46	46.00	400.00	-254.00	3.28	0.00
47	47.00	400.00	-253.00	3.28	0.00
48	48.00	400.00	-252.00	3.28	0.00
49	49.00	400.00	-251.00	3.28	0.00
50	50.00	400.00	-250.00	3.28	0.00
51	51.00	400.00	-249.00	3.28	0.00

52	52.00	400.00	-248.00	3.28	0.00
53	53.00	400.00	-247.00	3.28	0.00
54	54.00	400.00	-246.00	3.28	0.00
55	55.00	400.00	-245.00	3.28	0.00
56	56.00	400.00	-244.00	3.28	0.00
57	57.00	400.00	-243.00	3.28	0.00
58	58.00	400.00	-242.00	3.28	0.00
59	59.00	400.00	-241.00	3.28	0.00
60	60.00	400.00	-240.00	3.28	0.00
61	61.00	400.00	-239.00	3.28	0.00
62	62.00	400.00	-238.00	3.28	0.00
63	63.00	400.00	-237.00	3.28	0.00
64	64.00	400.00	-236.00	3.28	0.00
65	65.00	400.00	-235.00	3.28	0.00
66	66.00	400.00	-234.00	3.28	0.00
67	67.00	400.00	-233.00	3.28	0.00
68	68.00	400.00	-232.00	3.28	0.00
69	69.00	400.00	-231.00	3.28	0.00
70	70.00	400.00	-230.00	3.28	0.00
71	71.00	400.00	-229.00	3.28	0.00
72	72.00	400.00	-228.00	3.28	0.00
73	73.00	400.00	-227.00	3.28	0.00
74	74.00	400.00	-226.00	3.28	0.00
75	75.00	400.00	-225.00	3.28	0.00
76	76.00	400.00	-224.00	3.28	0.00
77	77.00	400.00	-223.00	3.28	0.00
78	78.00	400.00	-222.00	3.28	0.00
79	79.00	400.00	-221.00	3.28	0.00
80	80.00	400.00	-220.00	3.28	0.00
81	81.00	400.00	-219.00	3.28	0.00
82	82.00	400.00	-218.00	3.28	0.00
83	83.00	400.00	-217.00	3.28	0.00
84	84.00	400.00	-216.00	3.28	0.00
85	85.00	400.00	-215.00	3.28	0.00
86	86.00	400.00	-214.00	3.28	0.00
87	87.00	400.00	-213.00	3.28	0.00
88	88.00	400.00	-212.00	3.28	0.00
89	89.00	400.00	-211.00	3.28	0.00
90	90.00	400.00	-210.00	3.28	0.00
91	91.00	400.00	-209.00	3.28	0.00
92	92.00	400.00	-208.00	3.28	0.00
93	93.00	400.00	-207.00	3.28	0.00
94	94.00	400.00	-206.00	3.28	0.00
95	95.00	400.00	-205.00	3.28	0.00
96	96.00	400.00	-204.00	3.28	0.00
97	97.00	400.00	-203.00	3.28	0.00
98	98.00	400.00	-202.00	3.28	0.00
99	99.00	400.00	-201.00	3.28	0.00
100	100.00	400.00	-200.00	3.28	0.00
101	101.00	400.00	-199.00	3.28	0.00
102	102.00	400.00	-198.00	3.28	0.00
103	103.00	400.00	-197.00	3.28	0.00
104	104.00	400.00	-196.00	3.28	0.00
105	105.00	400.00	-195.00	3.28	0.00
106	106.00	400.00	-194.00	3.28	0.00
107	107.00	400.00	-193.00	3.28	0.00
108	108.00	400.00	-192.00	3.28	0.00
109	109.00	400.00	-191.00	3.28	0.00
110	110.00	400.00	-190.00	3.28	0.00
111	111.00	400.00	-189.00	3.28	0.00
112	112.00	400.00	-188.00	3.28	0.00
113	113.00	400.00	-187.00	3.28	0.00
114	114.00	400.00	-186.00	3.28	0.00

115	115.00	400.00	-185.00	3.28	0.00
116	116.00	400.00	-184.00	3.28	0.00
117	117.00	400.00	-183.00	3.28	0.00
118	118.00	400.00	-182.00	3.28	0.00
119	119.00	400.00	-181.00	3.28	0.00
120	120.00	400.00	-180.00	3.28	0.00
121	121.00	400.00	-179.00	3.28	0.00
122	122.00	400.00	-178.00	3.28	0.00
123	123.00	400.00	-177.00	3.28	0.00
124	124.00	400.00	-176.00	3.28	0.00
125	125.00	400.00	-175.00	3.28	0.00
126	126.00	400.00	-174.00	3.28	0.00
127	127.00	400.00	-173.00	3.28	0.00
128	128.00	400.00	-172.00	3.28	0.00
129	129.00	400.00	-171.00	3.28	0.00
130	130.00	400.00	-170.00	3.28	0.00
131	131.00	400.00	-169.00	3.28	0.00
132	132.00	400.00	-168.00	3.28	0.00
133	133.00	400.00	-167.00	3.28	0.00
134	134.00	400.00	-166.00	3.28	0.00
135	135.00	400.00	-165.00	3.28	0.00
136	136.00	400.00	-164.00	3.28	0.00
137	137.00	400.00	-163.00	3.28	0.00
138	138.00	400.00	-162.00	3.28	0.00
139	139.00	400.00	-161.00	3.28	0.00
140	140.00	400.00	-160.00	3.28	0.00
141	141.00	400.00	-159.00	3.28	0.00
142	142.00	400.00	-158.00	3.28	0.00
143	143.00	400.00	-157.00	3.28	0.00
144	144.00	400.00	-156.00	3.28	0.00
145	145.00	400.00	-155.00	3.28	0.00
146	146.00	400.00	-154.00	3.28	0.00
147	147.00	400.00	-153.00	3.28	0.00
148	148.00	400.00	-152.00	3.28	0.00
149	149.00	400.00	-151.00	3.28	0.00
150	150.00	400.00	-150.00	3.28	0.00
151	151.00	400.00	-149.00	3.28	0.00
152	152.00	400.00	-148.00	3.28	0.00
153	153.00	400.00	-147.00	3.28	0.00
154	154.00	400.00	-146.00	3.28	0.00
155	155.00	400.00	-145.00	3.28	0.00
156	156.00	400.00	-144.00	3.28	0.00
157	157.00	400.00	-143.00	3.28	0.00
158	158.00	400.00	-142.00	3.28	0.00
159	159.00	400.00	-141.00	3.28	0.00
160	160.00	400.00	-140.00	3.28	0.00
161	161.00	400.00	-139.00	3.28	0.00
162	162.00	400.00	-138.00	3.28	0.00
163	163.00	400.00	-137.00	3.28	0.00
164	164.00	400.00	-136.00	3.28	0.00
165	165.00	400.00	-135.00	3.28	0.00
166	166.00	400.00	-134.00	3.28	0.00
167	167.00	400.00	-133.00	3.28	0.00
168	168.00	400.00	-132.00	3.28	0.00
169	169.00	400.00	-131.00	3.28	0.00
170	170.00	400.00	-130.00	3.28	0.00
171	171.00	400.00	-129.00	3.28	0.00
172	172.00	400.00	-128.00	3.28	0.00
173	173.00	400.00	-127.00	3.28	0.00
174	174.00	400.00	-126.00	3.28	0.00
175	175.00	400.00	-125.00	3.28	0.00
176	176.00	400.00	-124.00	3.28	0.00
177	177.00	400.00	-123.00	3.28	0.00

178	178.00	400.00	-122.00	3.28	0.00
179	179.00	400.00	-121.00	3.28	0.00
180	180.00	400.00	-120.00	3.28	0.00
181	181.00	400.00	-119.00	3.28	0.00
182	182.00	400.00	-118.00	3.28	0.00
183	183.00	400.00	-117.00	3.28	0.00
184	184.00	400.00	-116.00	3.28	0.00
185	185.00	400.00	-115.00	3.28	0.00
186	186.00	400.00	-114.00	3.28	0.00
187	187.00	400.00	-113.00	3.28	0.00
188	188.00	400.00	-112.00	3.28	0.00
189	189.00	400.00	-111.00	3.28	0.00
190	190.00	400.00	-110.00	3.28	0.00
191	191.00	400.00	-109.00	3.28	0.00
192	192.00	400.00	-108.00	3.28	0.00
193	193.00	400.00	-107.00	3.28	0.00
194	194.00	400.00	-106.00	3.28	0.00
195	195.00	400.00	-105.00	3.28	0.00
196	196.00	400.00	-104.00	3.28	0.00
197	197.00	400.00	-103.00	3.28	0.00
198	198.00	400.00	-102.00	3.28	0.00
199	199.00	400.00	-101.00	3.28	0.00
200	200.00	400.00	-100.00	3.28	0.00
201	201.00	400.00	-99.00	3.28	0.00
202	202.00	400.00	-98.00	3.28	0.00
203	203.00	400.00	-97.00	3.28	0.00
204	204.00	400.00	-96.00	3.28	0.00
205	205.00	400.00	-95.00	3.28	0.00
206	206.00	400.00	-94.00	3.28	0.00
207	207.00	400.00	-93.00	3.28	0.00
208	208.00	400.00	-92.00	3.28	0.00
209	209.00	400.00	-91.00	3.28	0.00
210	210.00	400.00	-90.00	3.28	0.00
211	211.00	400.00	-89.00	3.28	0.00
212	212.00	400.00	-88.00	3.28	0.00
213	213.00	400.00	-87.00	3.28	0.00
214	214.00	400.00	-86.00	3.28	0.00
215	215.00	400.00	-85.00	3.28	0.00
216	216.00	400.00	-84.00	3.28	0.00
217	217.00	400.00	-83.00	3.28	0.00
218	218.00	400.00	-82.00	3.28	0.00
219	219.00	400.00	-81.00	3.28	0.00
220	220.00	400.00	-80.00	3.28	0.00
221	221.00	400.00	-79.00	3.28	0.00
222	222.00	400.00	-78.00	3.28	0.00
223	223.00	400.00	-77.00	3.28	0.00
224	224.00	400.00	-76.00	3.28	0.00
225	225.00	400.00	-75.00	3.28	0.00
226	226.00	400.00	-74.00	3.28	0.00
227	227.00	400.00	-73.00	3.28	0.00
228	228.00	400.00	-72.00	3.28	0.00
229	229.00	400.00	-71.00	3.28	0.00
230	230.00	400.00	-70.00	3.28	0.00
231	231.00	400.00	-69.00	3.28	0.00
232	232.00	400.00	-68.00	3.28	0.00
233	233.00	400.00	-67.00	3.28	0.00
234	234.00	400.00	-66.00	3.28	0.00
235	235.00	400.00	-65.00	3.28	0.00
236	236.00	400.00	-64.00	3.28	0.00
237	237.00	400.00	-63.00	3.28	0.00
238	238.00	400.00	-62.00	3.28	0.00
239	239.00	400.00	-61.00	3.28	0.00
240	240.00	400.00	-60.00	3.28	0.00

241	241.00	400.00	-59.00	3.28	0.00
242	242.00	400.00	-58.00	3.28	0.00
243	243.00	400.00	-57.00	3.28	0.00
244	244.00	400.00	-56.00	3.28	0.00
245	245.00	400.00	-55.00	3.28	0.00
246	246.00	400.00	-54.00	3.28	0.00
247	247.00	400.00	-53.00	3.28	0.00
248	248.00	400.00	-52.00	3.28	0.00
249	249.00	400.00	-51.00	3.28	0.00
250	250.00	400.00	-50.00	3.28	0.00
251	251.00	400.00	-49.00	3.28	0.00
252	252.00	400.00	-48.00	3.28	0.00
253	253.00	400.00	-47.00	3.28	0.00
254	254.00	400.00	-46.00	3.28	0.00
255	255.00	400.00	-45.00	3.28	0.00
256	256.00	400.00	-44.00	3.28	0.00
257	257.00	400.00	-43.00	3.28	0.00
258	258.00	400.00	-42.00	3.28	0.00
259	259.00	400.00	-41.00	3.28	0.00
260	260.00	400.00	-40.00	3.28	0.00
261	261.00	400.00	-39.00	3.28	0.00
262	262.00	400.00	-38.00	3.28	0.00
263	263.00	400.00	-37.00	3.28	0.00
264	264.00	400.00	-36.00	3.28	0.00
265	265.00	400.00	-35.00	3.28	0.00
266	266.00	400.00	-34.00	3.28	0.00
267	267.00	400.00	-33.00	3.28	0.00
268	268.00	400.00	-32.00	3.28	0.00
269	269.00	400.00	-31.00	3.28	0.00
270	270.00	400.00	-30.00	3.28	0.00
271	271.00	400.00	-29.00	3.28	0.00
272	272.00	400.00	-28.00	3.28	0.00
273	273.00	400.00	-27.00	3.28	0.00
274	274.00	400.00	-26.00	3.28	0.00
275	275.00	400.00	-25.00	3.28	0.00
276	276.00	400.00	-24.00	3.28	0.00
277	277.00	400.00	-23.00	3.28	0.00
278	278.00	400.00	-22.00	3.28	0.00
279	279.00	400.00	-21.00	3.28	0.00
280	280.00	400.00	-20.00	3.28	0.00
281	281.00	400.00	-19.00	3.28	0.00
282	282.00	400.00	-18.00	3.28	0.00
283	283.00	400.00	-17.00	3.28	0.00
284	284.00	400.00	-16.00	3.28	0.00
285	285.00	400.00	-15.00	3.28	0.00
286	286.00	400.00	-14.00	3.28	0.00
287	287.00	400.00	-13.00	3.28	0.00
288	288.00	400.00	-12.00	3.28	0.00
289	289.00	400.00	-11.00	3.28	0.00
290	290.00	400.00	-10.00	3.28	0.00
291	291.00	400.00	-9.00	3.28	0.00
292	292.00	400.00	-8.00	3.28	0.00
293	293.00	400.00	-7.00	3.28	0.00
294	294.00	400.00	-6.00	3.28	0.00
295	295.00	400.00	-5.00	3.28	0.00
296	296.00	400.00	-4.00	3.28	0.00
297	297.00	400.00	-3.00	3.28	0.00
298	298.00	400.00	-2.00	3.28	0.00
299	299.00	400.00	-1.00	3.28	0.00
300	300.00	400.00	0.00	3.28	0.00
301	301.00	400.00	1.00	3.28	0.00
302	302.00	400.00	2.00	3.28	0.00
303	303.00	400.00	3.00	3.28	0.00

304	304.00	400.00	4.00	3.28	0.00
305	305.00	400.00	5.00	3.28	0.00
306	306.00	400.00	6.00	3.28	0.00
307	307.00	400.00	7.00	3.28	0.00
308	308.00	400.00	8.00	3.28	0.00
309	309.00	400.00	9.00	3.28	0.00
310	310.00	400.00	10.00	3.28	0.00
311	311.00	400.00	11.00	3.28	0.00
312	312.00	400.00	12.00	3.28	0.00
313	313.00	400.00	13.00	3.28	0.00
314	314.00	400.00	14.00	3.28	0.00
315	315.00	400.00	15.00	3.28	0.00
316	316.00	400.00	16.00	3.28	0.00
317	317.00	400.00	17.00	3.28	0.00
318	318.00	400.00	18.00	3.28	0.00
319	319.00	400.00	19.00	3.28	0.00
320	320.00	400.00	20.00	3.28	0.00
321	321.00	400.00	21.00	3.28	0.00
322	322.00	400.00	22.00	3.28	0.00
323	323.00	400.00	23.00	3.28	0.00
324	324.00	400.00	24.00	3.28	0.00
325	325.00	400.00	25.00	3.28	0.00
326	326.00	400.00	26.00	3.28	0.00
327	327.00	400.00	27.00	3.28	0.00
328	328.00	400.00	28.00	3.28	0.00
329	329.00	400.00	29.00	3.28	0.00
330	330.00	400.00	30.00	3.28	0.00
331	331.00	400.00	31.00	3.28	0.00
332	332.00	400.00	32.00	3.28	0.00
333	333.00	400.00	33.00	3.28	0.00
334	334.00	400.00	34.00	3.28	0.00
335	335.00	400.00	35.00	3.28	0.00
336	336.00	400.00	36.00	3.28	0.00
337	337.00	400.00	37.00	3.28	0.00
338	338.00	400.00	38.00	3.28	0.00
339	339.00	400.00	39.00	3.28	0.00
340	340.00	400.00	40.00	3.28	0.00
341	341.00	400.00	41.00	3.28	0.00
342	342.00	400.00	42.00	3.28	0.00
343	343.00	400.00	43.00	3.28	0.00
344	344.00	400.00	44.00	3.28	0.00
345	345.00	400.00	45.00	3.28	0.00
346	346.00	400.00	46.00	3.28	0.00
347	347.00	400.00	47.00	3.28	0.00
348	348.00	400.00	48.00	3.28	0.00
349	349.00	400.00	49.00	3.28	0.00
350	350.00	400.00	50.00	3.28	0.00
351	351.00	400.00	51.00	3.28	0.00
352	352.00	400.00	52.00	3.28	0.00
353	353.00	400.00	53.00	3.28	0.00
354	354.00	400.00	54.00	3.28	0.00
355	355.00	400.00	55.00	3.28	0.00
356	356.00	400.00	56.00	3.28	0.00
357	357.00	400.00	57.00	3.28	0.00
358	358.00	400.00	58.00	3.28	0.00
359	359.00	400.00	59.00	3.28	0.00
360	360.00	400.00	60.00	3.28	0.00
361	361.00	400.00	61.00	3.28	0.00
362	362.00	400.00	62.00	3.28	0.00
363	363.00	400.00	63.00	3.28	0.00
364	364.00	400.00	64.00	3.28	0.00
365	365.00	400.00	65.00	3.28	0.00
366	366.00	400.00	66.00	3.28	0.00

367	367.00	400.00	67.00	3.28	0.00
368	368.00	400.00	68.00	3.28	0.00
369	369.00	400.00	69.00	3.28	0.00
370	370.00	400.00	70.00	3.28	0.00
371	371.00	400.00	71.00	3.28	0.00
372	372.00	400.00	72.00	3.28	0.00
373	373.00	400.00	73.00	3.28	0.00
374	374.00	400.00	74.00	3.28	0.00
375	375.00	400.00	75.00	3.28	0.00
376	376.00	400.00	76.00	3.28	0.00
377	377.00	400.00	77.00	3.28	0.00
378	378.00	400.00	78.00	3.28	0.00
379	379.00	400.00	79.00	3.28	0.00
380	380.00	400.00	80.00	3.28	0.00
381	381.00	400.00	81.00	3.28	0.00
382	382.00	400.00	82.00	3.28	0.00
383	383.00	400.00	83.00	3.28	0.00
384	384.00	400.00	84.00	3.28	0.00
385	385.00	400.00	85.00	3.28	0.00
386	386.00	400.00	86.00	3.28	0.00
387	387.00	400.00	87.00	3.28	0.00
388	388.00	400.00	88.00	3.28	0.00
389	389.00	400.00	89.00	3.28	0.00
390	390.00	400.00	90.00	3.28	0.00
391	391.00	400.00	91.00	3.28	0.00
392	392.00	400.00	92.00	3.28	0.00
393	393.00	400.00	93.00	3.28	0.00
394	394.00	400.00	94.00	3.28	0.00
395	395.00	400.00	95.00	3.28	0.00
396	396.00	400.00	96.00	3.28	0.00
397	397.00	400.00	97.00	3.28	0.00
398	398.00	400.00	98.00	3.28	0.00
399	399.00	400.00	99.00	3.28	0.00
400	400.00	400.00	100.00	3.28	0.00
401	401.00	400.00	101.00	3.28	0.00
402	402.00	400.00	102.00	3.28	0.00
403	403.00	400.00	103.00	3.28	0.00
404	404.00	400.00	104.00	3.28	0.00
405	405.00	400.00	105.00	3.28	0.00
406	406.00	400.00	106.00	3.28	0.00
407	407.00	400.00	107.00	3.28	0.00
408	408.00	400.00	108.00	3.28	0.00
409	409.00	400.00	109.00	3.28	0.00
410	410.00	400.00	110.00	3.28	0.00
411	411.00	400.00	111.00	3.28	0.00
412	412.00	400.00	112.00	3.28	0.00
413	413.00	400.00	113.00	3.28	0.00
414	414.00	400.00	114.00	3.28	0.00
415	415.00	400.00	115.00	3.28	0.00
416	416.00	400.00	116.00	3.28	0.00
417	417.00	400.00	117.00	3.28	0.00
418	418.00	400.00	118.00	3.28	0.00
419	419.00	400.00	119.00	3.28	0.00
420	420.00	400.00	120.00	3.28	0.00
421	421.00	400.00	121.00	3.28	0.00
422	422.00	400.00	122.00	3.28	0.00
423	423.00	400.00	123.00	3.28	0.00
424	424.00	400.00	124.00	3.28	0.00
425	425.00	400.00	125.00	3.28	0.00
426	426.00	400.00	126.00	3.28	0.00
427	427.00	400.00	127.00	3.28	0.00
428	428.00	400.00	128.00	3.28	0.00
429	429.00	400.00	129.00	3.28	0.00

430	430.00	400.00	130.00	3.28	0.00
431	431.00	400.00	131.00	3.28	0.00
432	432.00	400.00	132.00	3.28	0.00
433	433.00	400.00	133.00	3.28	0.00
434	434.00	400.00	134.00	3.28	0.00
435	435.00	400.00	135.00	3.28	0.00
436	436.00	400.00	136.00	3.28	0.00
437	437.00	400.00	137.00	3.28	0.00
438	438.00	400.00	138.00	3.28	0.00
439	439.00	400.00	139.00	3.28	0.00
440	440.00	400.00	140.00	3.28	0.00
441	441.00	400.00	141.00	3.28	0.00
442	442.00	400.00	142.00	3.28	0.00
443	443.00	400.00	143.00	3.28	0.00
444	444.00	400.00	144.00	3.28	0.00
445	445.00	400.00	145.00	3.28	0.00
446	446.00	400.00	146.00	3.28	0.00
447	447.00	400.00	147.00	3.28	0.00
448	448.00	400.00	148.00	3.28	0.00
449	449.00	400.00	149.00	3.28	0.00
450	450.00	400.00	150.00	3.28	0.00
451	451.00	400.00	151.00	3.28	0.00
452	452.00	400.00	152.00	3.28	0.00
453	453.00	400.00	153.00	3.28	0.00
454	454.00	400.00	154.00	3.28	0.00
455	455.00	400.00	155.00	3.28	0.00
456	456.00	400.00	156.00	3.28	0.00
457	457.00	400.00	157.00	3.28	0.00
458	458.00	400.00	158.00	3.28	0.00
459	459.00	400.00	159.00	3.28	0.00
460	460.00	400.00	160.00	3.28	0.00
461	461.00	400.00	161.00	3.28	0.00
462	462.00	400.00	162.00	3.28	0.00
463	463.00	400.00	163.00	3.28	0.00
464	464.00	400.00	164.00	3.28	0.00
465	465.00	400.00	165.00	3.28	0.00
466	466.00	400.00	166.00	3.28	0.00
467	467.00	400.00	167.00	3.28	0.00
468	468.00	400.00	168.00	3.28	0.00
469	469.00	400.00	169.00	3.28	0.00
470	470.00	400.00	170.00	3.28	0.00
471	471.00	400.00	171.00	3.28	0.00
472	472.00	400.00	172.00	3.28	0.00
473	473.00	400.00	173.00	3.28	0.00
474	474.00	400.00	174.00	3.28	0.00
475	475.00	400.00	175.00	3.28	0.00
476	476.00	400.00	176.00	3.28	0.00
477	477.00	400.00	177.00	3.28	0.00
478	478.00	400.00	178.00	3.28	0.00
479	479.00	400.00	179.00	3.28	0.00
480	480.00	400.00	180.00	3.28	0.00
481	481.00	400.00	181.00	3.28	0.00
482	482.00	400.00	182.00	3.28	0.00
483	483.00	400.00	183.00	3.28	0.00
484	484.00	400.00	184.00	3.28	0.00
485	485.00	400.00	185.00	3.28	0.00
486	486.00	400.00	186.00	3.28	0.00
487	487.00	400.00	187.00	3.28	0.00
488	488.00	400.00	188.00	3.28	0.00
489	489.00	400.00	189.00	3.28	0.00
490	490.00	400.00	190.00	3.28	0.00
491	491.00	400.00	191.00	3.28	0.00
492	492.00	400.00	192.00	3.28	0.00

493	493.00	400.00	193.00	3.28	0.00
494	494.00	400.00	194.00	3.28	0.00
495	495.00	400.00	195.00	3.28	0.00
496	496.00	400.00	196.00	3.28	0.00
497	497.00	400.00	197.00	3.28	0.00
498	498.00	400.00	198.00	3.28	0.00
499	499.00	400.00	199.00	3.28	0.00
500	500.00	400.00	200.00	3.28	0.00
501	501.00	400.00	201.00	3.28	0.00
502	502.00	400.00	202.00	3.28	0.00
503	503.00	400.00	203.00	3.28	0.00
504	504.00	400.00	204.00	3.28	0.00
505	505.00	400.00	205.00	3.28	0.00
506	506.00	400.00	206.00	3.28	0.00
507	507.00	400.00	207.00	3.28	0.00
508	508.00	400.00	208.00	3.28	0.00
509	509.00	400.00	209.00	3.28	0.00
510	510.00	400.00	210.00	3.28	0.00
511	511.00	400.00	211.00	3.28	0.00
512	512.00	400.00	212.00	3.28	0.00
513	513.00	400.00	213.00	3.28	0.00
514	514.00	400.00	214.00	3.28	0.00
515	515.00	400.00	215.00	3.28	0.00
516	516.00	400.00	216.00	3.28	0.00
517	517.00	400.00	217.00	3.28	0.00
518	518.00	400.00	218.00	3.28	0.00
519	519.00	400.00	219.00	3.28	0.00
520	520.00	400.00	220.00	3.28	0.00
521	521.00	400.00	221.00	3.28	0.00
522	522.00	400.00	222.00	3.28	0.00
523	523.00	400.00	223.00	3.28	0.00
524	524.00	400.00	224.00	3.28	0.00
525	525.00	400.00	225.00	3.28	0.00
526	526.00	400.00	226.00	3.28	0.00
527	527.00	400.00	227.00	3.28	0.00
528	528.00	400.00	228.00	3.28	0.00
529	529.00	400.00	229.00	3.28	0.00
530	530.00	400.00	230.00	3.28	0.00
531	531.00	400.00	231.00	3.28	0.00
532	532.00	400.00	232.00	3.28	0.00
533	533.00	400.00	233.00	3.28	0.00
534	534.00	400.00	234.00	3.28	0.00
535	535.00	400.00	235.00	3.28	0.00
536	536.00	400.00	236.00	3.28	0.00
537	537.00	400.00	237.00	3.28	0.00
538	538.00	400.00	238.00	3.28	0.00
539	539.00	400.00	239.00	3.28	0.00
540	540.00	400.00	240.00	3.28	0.00
541	541.00	400.00	241.00	3.28	0.00
542	542.00	400.00	242.00	3.28	0.00
543	543.00	400.00	243.00	3.28	0.00
544	544.00	400.00	244.00	3.28	0.00
545	545.00	400.00	245.00	3.28	0.00
546	546.00	400.00	246.00	3.28	0.00
547	547.00	400.00	247.00	3.28	0.00
548	548.00	400.00	248.00	3.28	0.00
549	549.00	400.00	249.00	3.28	0.00
550	550.00	400.00	250.00	3.28	0.00
551	551.00	400.00	251.00	3.28	0.00
552	552.00	400.00	252.00	3.28	0.00
553	553.00	400.00	253.00	3.28	0.00
554	554.00	400.00	254.00	3.28	0.00
555	555.00	400.00	255.00	3.28	0.00

556	556.00	400.00	256.00	3.28	0.00
557	557.00	400.00	257.00	3.28	0.00
558	558.00	400.00	258.00	3.28	0.00
559	559.00	400.00	259.00	3.28	0.00
560	560.00	400.00	260.00	3.28	0.00
561	561.00	400.00	261.00	3.28	0.00
562	562.00	400.00	262.00	3.28	0.00
563	563.00	400.00	263.00	3.28	0.00
564	564.00	400.00	264.00	3.28	0.00
565	565.00	400.00	265.00	3.28	0.00
566	566.00	400.00	266.00	3.28	0.00
567	567.00	400.00	267.00	3.28	0.00
568	568.00	400.00	268.00	3.28	0.00
569	569.00	400.00	269.00	3.28	0.00
570	570.00	400.00	270.00	3.28	0.00
571	571.00	400.00	271.00	3.28	0.00
572	572.00	400.00	272.00	3.28	0.00
573	573.00	400.00	273.00	3.28	0.00
574	574.00	400.00	274.00	3.28	0.00
575	575.00	400.00	275.00	3.28	0.00
576	576.00	400.00	276.00	3.28	0.00
577	577.00	400.00	277.00	3.28	0.00
578	578.00	400.00	278.00	3.28	0.00
579	579.00	400.00	279.00	3.28	0.00
580	580.00	400.00	280.00	3.28	0.00
581	581.00	400.00	281.00	3.28	0.00
582	582.00	400.00	282.00	3.28	0.00
583	583.00	400.00	283.00	3.28	0.00
584	584.00	400.00	284.00	3.28	0.00
585	585.00	400.00	285.00	3.28	0.00
586	586.00	400.00	286.00	3.28	0.00
587	587.00	400.00	287.00	3.28	0.00
588	588.00	400.00	288.00	3.28	0.00
589	589.00	400.00	289.00	3.28	0.00
590	590.00	400.00	290.00	3.28	0.00
591	591.00	400.00	291.00	3.28	0.00
592	592.00	400.00	292.00	3.28	0.00
593	593.00	400.00	293.00	3.28	0.00
594	594.00	400.00	294.00	3.28	0.00
595	595.00	400.00	295.00	3.28	0.00
596	596.00	400.00	296.00	3.28	0.00
597	597.00	400.00	297.00	3.28	0.00
598	598.00	400.00	298.00	3.28	0.00
599	599.00	400.00	299.00	3.28	0.00
600	600.00	400.00	300.00	3.28	0.00

RESULTS OF ENVIRO PROGRAM

STUDY FILE NAME: C:\PROGRA~1\EPRI\EMFW_251\ENVIRO\CLEANL~1\345DMONO.I01
 DATE: 3/ 5/2014 TIME: 17:33

345 kV Double Monopole (XS-1)

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*****
*                                     BUNDLE INFORMATION                                     *
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BNDL #	CIRC #	VOLTAGE (kV)	ANGLE (DEG)	LOAD (AMPS)	CURRENT ANGLE (DEG)	# OF COND	X (FT)	Y (FT)	PHASE
1	1	362.0	.0	.1	.0	2	-10.6	95.3	A
2	1	362.0	240.0	.1	240.0	2	-10.6	70.3	B
3	1	362.0	120.0	.1	120.0	2	-10.6	45.3	C
4	2	362.0	.0	.1	.0	2	10.6	45.3	A
5	2	362.0	240.0	.1	240.0	2	10.6	70.3	B
6	2	362.0	120.0	.1	120.0	2	10.6	95.3	C
7	1	.0	.0	.0	.0	1	-6.0	121.5	GND
8	2	.0	.0	.0	.0	1	6.0	121.5	GND

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*****
*                                     MINIMUM GROUND CLEARANCE = 45.330 FT.                                     *
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*****
*                                     SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                                     *
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BNDL #	DIAMETER (IN)	SPACING (IN)	DC RESIST. (OHMS/MI)	AC RESIST. (OHMS/MI)	AC REACT. (OHMS/MI)
1	1.293	18.000	.08300	.08510	.380000
2	1.293	18.000	.08300	.08510	.380000
3	1.293	18.000	.08300	.08510	.380000
4	1.293	18.000	.08300	.08510	.380000
5	1.293	18.000	.08300	.08510	.380000
6	1.293	18.000	.08300	.08510	.380000
7	.776	.000	.19270	.19400	.432000
8	.776	.000	.19270	.19400	.432000

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* MAXIMUM SURFACE GRADIENT (kV/cm) *
*                                     *
*****
```

BNDL #	Type	ACrms	PEAK(+)	PEAK(-)
1	AC	16.23	22.95	-22.95
2	AC	14.63	20.69	-20.69
3	AC	16.27	23.01	-23.01
4	AC	16.27	23.01	-23.01
5	AC	14.63	20.69	-20.69
6	AC	16.23	22.95	-22.95
7	Ground Wire	2.37	3.35	-3.35
8	Ground Wire	2.37	3.35	-3.35

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*****
*
*           AUDIBLE NOISE
*
* Microphone is 5.00 feet above ground *
*           Altitude 3000. ft
*
*****

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<----- HVTRC CALCULATION METHOD ----->

LATERAL DISTANCE		L50 FAIR	L5 RAIN	L50 RAIN	Leq(24)	Ldn
(feet)	(meters)	(dB(A))	(dB(A))	(dB(A))	(dB(A))	(dB(A))
-300.0	-91.44	36.2	53.1	45.0	42.1	49.0
-275.0	-83.82	36.7	53.6	45.5	42.6	49.5
-250.0	-76.20	37.2	54.1	46.1	43.2	50.0
-225.0	-68.58	37.8	54.7	46.7	43.7	50.6
-200.0	-60.96	38.4	55.3	47.3	44.4	51.2
-175.0	-53.34	39.1	56.0	47.9	45.0	51.9
-150.0	-45.72	39.8	56.7	48.6	45.7	52.6
-125.0	-38.10	40.6	57.5	49.4	46.5	53.4
-100.0	-30.48	41.5	58.4	50.3	47.4	54.2
-75.0	-22.86	42.4	59.3	51.3	48.4	55.2
-50.0	-15.24	43.5	60.4	52.3	49.4	56.3
-25.0	-7.62	44.5	61.4	53.4	50.5	57.3
.0	.00	45.0	61.9	53.8	50.9	57.8
25.0	7.62	44.5	61.4	53.4	50.5	57.3
50.0	15.24	43.5	60.4	52.3	49.4	56.3
75.0	22.86	42.4	59.3	51.3	48.4	55.2
100.0	30.48	41.5	58.4	50.3	47.4	54.2
125.0	38.10	40.6	57.5	49.4	46.5	53.4
150.0	45.72	39.8	56.7	48.6	45.7	52.6
175.0	53.34	39.1	56.0	47.9	45.0	51.9
200.0	60.96	38.4	55.3	47.3	44.4	51.2
225.0	68.58	37.8	54.7	46.7	43.7	50.6
250.0	76.20	37.2	54.1	46.1	43.2	50.0
275.0	83.82	36.7	53.6	45.5	42.6	49.5
300.0	91.44	36.2	53.1	45.0	42.1	49.0

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*****
*
*   AUDIBLE NOISE   *
*   (other methods) *
*
* Altitude    3000. ft *
*
*****

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LATERAL DISTANCE (feet) (meters)		<----- BPA METHOD ----->				<- CRIEPI -->		EdF	ENEL	IREQ
		FAIR WEATHER	L5 RAIN	L50 RAIN	Ldn	AVERAGE FAIR	L5 RAIN	L5 RAIN	L5 RAIN	L5 RAIN
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
-300.0	-91.44	20.5	49.0	45.5	.0	.0	.0	.0	.0	.0
-275.0	-83.82	20.9	49.4	45.9	.0	.0	.0	.0	.0	.0
-250.0	-76.20	21.3	49.8	46.3	.0	.0	.0	.0	.0	.0
-225.0	-68.58	21.8	50.3	46.8	.0	.0	.0	.0	.0	.0
-200.0	-60.96	22.3	50.8	47.3	.0	.0	.0	.0	.0	.0
-175.0	-53.34	22.9	51.4	47.9	.0	.0	.0	.0	.0	.0
-150.0	-45.72	23.6	52.1	48.6	.0	.0	.0	.0	.0	.0
-125.0	-38.10	24.3	52.8	49.3	.0	.0	.0	.0	.0	.0
-100.0	-30.48	25.2	53.7	50.2	.0	.0	.0	.0	.0	.0
-75.0	-22.86	26.1	54.6	51.1	.0	.0	.0	.0	.0	.0
-50.0	-15.24	27.2	55.7	52.2	.0	.0	.0	.0	.0	.0
-25.0	-7.62	28.3	56.8	53.3	.0	.0	.0	.0	.0	.0
.0	.00	28.8	57.3	53.8	.0	.0	.0	.0	.0	.0
25.0	7.62	28.3	56.8	53.3	.0	.0	.0	.0	.0	.0
50.0	15.24	27.2	55.7	52.2	.0	.0	.0	.0	.0	.0
75.0	22.86	26.1	54.6	51.1	.0	.0	.0	.0	.0	.0
100.0	30.48	25.2	53.7	50.2	.0	.0	.0	.0	.0	.0
125.0	38.10	24.3	52.8	49.3	.0	.0	.0	.0	.0	.0
150.0	45.72	23.6	52.1	48.6	.0	.0	.0	.0	.0	.0
175.0	53.34	22.9	51.4	47.9	.0	.0	.0	.0	.0	.0
200.0	60.96	22.3	50.8	47.3	.0	.0	.0	.0	.0	.0
225.0	68.58	21.8	50.3	46.8	.0	.0	.0	.0	.0	.0
250.0	76.20	21.3	49.8	46.3	.0	.0	.0	.0	.0	.0
275.0	83.82	20.9	49.4	45.9	.0	.0	.0	.0	.0	.0
300.0	91.44	20.5	49.0	45.5	.0	.0	.0	.0	.0	.0

Audible noise prediction methods do not apply to all line geometries, voltages, or weather conditions. If a prediction method does not apply, the appropriate output data column will be zeros.

Clean Line - Plains & Eastern
 Config. XS-1: Radio Noise, TVI, and Ozone

Ground Clearance: 30.00 ft

	DIST. FROM CENTER OF TOWER (FEET)	COND. HEIGHT (FEET)	MAXIMUM GRADIENT (KV/CM)	SUBCON. DIAM. (IN)	NO. OF SUBCON.	SUBCON SPACING (IN)	VOLTAGE L-N (KV)	CURRENT (AMPS)	PHASE ANGLE (DEGREES)	CORONA LOSSES (KW/MI)
Phase A1	-10.58	80.00	16.23	1.29	2.	18.00	209.00	.00	.00	15.490
Phase B1	-10.58	55.00	14.57	1.29	2.	18.00	209.00	.00	120.00	7.699
Phase C1	-10.58	30.00	16.44	1.29	2.	18.00	209.00	.00	240.00	16.842
Phase C2	10.58	80.00	16.23	1.29	2.	18.00	209.00	.00	240.00	15.490
Phase B2	10.58	55.00	14.57	1.29	2.	18.00	209.00	.00	120.00	7.699
Phase A2	10.58	30.00	16.44	1.29	2.	18.00	209.00	.00	.00	16.842
SW-1	-6.00	106.15	2.34	.77	1.	.00	.00	.00	.00	.000
SW-2	6.00	106.15	2.34	.77	1.	.00	.00	.00	.00	.000

AN MICROPHONE HT.= 4.9 FT. RI ANT. HT.= 6.6 FT, TV ANT. HT.= 9.8 FT, ALTITUDE= 3000. FT
 RI FREQ= 1.000 MHZ, TV FREQ= 75.000 MHZ, WIND VEL.(OZ) = 8.500 MPH, GROUND CONDUCTIVITY = .0 MMHOS/M
 E-FIELD TRANSDUCER HT.= 3.28 FT, B-FIELD TRANSDUCER HT.= 3.28 FT

LATERAL DIST FROM REFERENCE (FEET)	ELECTRIC FIELD KV/M	MAGNETIC FIELD MILLIGAUSS	AUDIBLE NOISE (RAIN) (FAIR)		RADIO INTERFERENCE (RAIN) (FAIR)		TVI TOTAL RAIN DBUV/M	OZONE FOR RAIN RATE OF .10 IN/HR AT GND. PPB
			L50 DBA	L50 DBA	L50 DBUV/M	L50 DBUV/M		
-300.0	.022	.00	45.7	20.7	42.2	25.2	11.0	.000000
-298.0	.022	.00	45.8	20.8	42.3	25.3	11.1	.000000
-296.0	.022	.00	45.8	20.8	42.4	25.4	11.2	.000000
-294.0	.023	.00	45.8	20.8	42.5	25.5	11.3	.000000
-292.0	.023	.00	45.9	20.9	42.6	25.6	11.5	.000000
-290.0	.023	.00	45.9	20.9	42.7	25.7	11.6	.000000
-288.0	.024	.00	45.9	20.9	42.8	25.8	11.7	.000000
-286.0	.024	.00	46.0	21.0	43.0	26.0	11.8	.000000
-284.0	.024	.00	46.0	21.0	43.1	26.1	12.0	.000000
-282.0	.025	.00	46.0	21.0	43.2	26.2	12.1	.000000
-280.0	.025	.00	46.1	21.1	43.3	26.3	12.2	.000000
-278.0	.025	.00	46.1	21.1	43.4	26.4	12.3	.000000
-276.0	.026	.00	46.1	21.1	43.6	26.6	12.4	.000000
-274.0	.026	.00	46.2	21.2	43.7	26.7	12.4	.000000
-272.0	.026	.00	46.2	21.2	43.8	26.8	12.5	.000000
-270.0	.027	.00	46.3	21.3	43.9	26.9	12.6	.000000
-268.0	.027	.00	46.3	21.3	44.0	27.0	12.6	.000000
-266.0	.028	.00	46.3	21.3	44.2	27.2	12.7	.000000
-264.0	.028	.00	46.4	21.4	44.3	27.3	12.8	.000000
-262.0	.029	.00	46.4	21.4	44.4	27.4	12.8	.000000
-260.0	.029	.00	46.4	21.4	44.5	27.5	12.9	.000000
-258.0	.029	.00	46.5	21.5	44.7	27.7	13.0	.000000
-256.0	.030	.00	46.5	21.5	44.8	27.8	13.0	.000000
-254.0	.030	.00	46.5	21.5	44.9	27.9	13.1	.000000
-252.0	.031	.00	46.6	21.6	45.1	28.1	13.2	.000000
-250.0	.031	.00	46.6	21.6	45.2	28.2	13.2	.000000
-248.0	.032	.00	46.7	21.7	45.3	28.3	13.3	.000000
-246.0	.032	.00	46.7	21.7	45.5	28.5	13.4	.000000
-244.0	.033	.00	46.7	21.7	45.6	28.6	13.5	.000000
-242.0	.033	.00	46.8	21.8	45.7	28.7	13.5	.000000
-240.0	.034	.00	46.8	21.8	45.9	28.9	13.6	.000000
-238.0	.034	.00	46.9	21.9	46.0	29.0	13.7	.000000
-236.0	.035	.00	46.9	21.9	46.1	29.1	13.8	.000000
-234.0	.036	.00	46.9	21.9	46.3	29.3	13.8	.000000
-232.0	.036	.00	47.0	22.0	46.4	29.4	13.9	.000000
-230.0	.037	.00	47.0	22.0	46.5	29.5	14.0	.000000
-228.0	.037	.00	47.1	22.1	46.7	29.7	14.1	.000000
-226.0	.038	.00	47.1	22.1	46.8	29.8	14.2	.000000
-224.0	.039	.00	47.1	22.1	47.0	30.0	14.2	.000000
-222.0	.039	.00	47.2	22.2	47.1	30.1	14.3	.000000
-220.0	.040	.00	47.2	22.2	47.3	30.3	14.4	.000000
-218.0	.041	.00	47.3	22.3	47.4	30.4	14.5	.000000
-216.0	.041	.00	47.3	22.3	47.6	30.6	14.6	.000000
-214.0	.042	.00	47.4	22.4	47.7	30.7	14.6	.000000
-212.0	.043	.00	47.4	22.4	47.9	30.9	14.7	.000000
-210.0	.043	.00	47.4	22.4	48.0	31.0	14.8	.000000
-208.0	.044	.00	47.5	22.5	48.2	31.2	14.9	.000000
-206.0	.045	.00	47.5	22.5	48.3	31.3	15.0	.000000
-204.0	.046	.00	47.6	22.6	48.5	31.5	15.1	.000000
-202.0	.046	.00	47.6	22.6	48.6	31.6	15.2	.000000
-200.0	.047	.00	47.7	22.7	48.8	31.8	15.3	.000000

-198.0	.048	.00	47.7	22.7	48.9	31.9	15.4	.000000
-196.0	.049	.00	47.8	22.8	49.1	32.1	15.4	.000000
-194.0	.050	.00	47.8	22.8	49.2	32.2	15.5	.000000
-192.0	.050	.00	47.9	22.9	49.4	32.4	15.6	.000000
-190.0	.051	.00	47.9	22.9	49.6	32.6	15.7	.000000
-188.0	.052	.00	48.0	23.0	49.7	32.7	15.8	.000000
-186.0	.053	.00	48.0	23.0	49.9	32.9	15.9	.000000
-184.0	.054	.00	48.1	23.1	50.1	33.1	16.0	.000000
-182.0	.055	.00	48.1	23.1	50.2	33.2	16.1	.000000
-180.0	.056	.00	48.2	23.2	50.4	33.4	16.2	.000000
-178.0	.057	.00	48.2	23.2	50.6	33.6	16.3	.000000
-176.0	.058	.00	48.3	23.3	50.7	33.7	16.4	.000000
-174.0	.059	.00	48.3	23.3	50.9	33.9	16.5	.000000
-172.0	.059	.00	48.4	23.4	51.1	34.1	16.6	.000000
-170.0	.060	.00	48.4	23.4	51.2	34.2	16.7	.000000
-168.0	.061	.00	48.5	23.5	51.4	34.4	16.8	.000000
-166.0	.062	.00	48.5	23.5	51.6	34.6	17.0	.000000
-164.0	.063	.00	48.6	23.6	51.8	34.8	17.1	.000000
-162.0	.064	.00	48.6	23.6	51.9	34.9	17.2	.000000
-160.0	.065	.00	48.7	23.7	52.1	35.1	17.3	.000000
-158.0	.066	.00	48.8	23.8	52.3	35.3	17.4	.000000
-156.0	.067	.00	48.8	23.8	52.5	35.5	17.5	.000000
-154.0	.068	.00	48.9	23.9	52.7	35.7	17.6	.000000
-152.0	.069	.00	48.9	23.9	52.9	35.9	17.8	.000000
-150.0	.070	.00	49.0	24.0	53.1	36.1	17.9	.000000
-148.0	.071	.00	49.0	24.0	53.2	36.2	18.0	.000000
-146.0	.071	.00	49.1	24.1	53.4	36.4	18.1	.000000
-144.0	.072	.00	49.2	24.2	53.6	36.6	18.3	.000000
-142.0	.073	.00	49.2	24.2	53.8	36.8	18.4	.000000
-140.0	.074	.00	49.3	24.3	54.0	37.0	18.5	.000000
-138.0	.074	.00	49.4	24.4	54.2	37.2	18.6	.000000
-136.0	.075	.00	49.4	24.4	54.4	37.4	18.8	.000000
-134.0	.075	.00	49.5	24.5	54.6	37.6	18.9	.000000
-132.0	.076	.00	49.6	24.6	54.8	37.8	19.1	.000000
-130.0	.076	.00	49.6	24.6	55.0	38.0	19.2	.000000
-128.0	.076	.00	49.7	24.7	55.2	38.2	19.3	.000000
-126.0	.077	.00	49.8	24.8	55.4	38.4	19.5	.000000
-124.0	.077	.00	49.8	24.8	55.6	38.6	19.6	.000000
-122.0	.077	.00	49.9	24.9	55.8	38.8	19.8	.000000
-120.0	.076	.00	50.0	25.0	56.0	39.0	19.9	.000000
-118.0	.076	.00	50.0	25.0	56.3	39.3	20.1	.000000
-116.0	.075	.00	50.1	25.1	56.5	39.5	20.2	.000000
-114.0	.075	.00	50.2	25.2	56.7	39.7	20.4	.000000
-112.0	.074	.00	50.3	25.3	56.9	39.9	20.6	.000000
-110.0	.073	.00	50.3	25.3	57.1	40.1	20.7	.000000
-108.0	.072	.00	50.4	25.4	57.3	40.3	20.9	.000000
-106.0	.071	.00	50.5	25.5	57.5	40.5	21.1	.000000
-104.0	.070	.00	50.6	25.6	57.8	40.8	21.3	.000000
-102.0	.069	.00	50.6	25.6	58.0	41.0	21.4	.000000
-100.0	.069	.00	50.7	25.7	58.2	41.2	21.6	.000000
-98.0	.069	.00	50.8	25.8	58.4	41.4	21.8	.000000
-96.0	.069	.00	50.9	25.9	58.7	41.7	22.0	.000000
-94.0	.071	.00	51.0	26.0	58.9	41.9	22.2	.000000
-92.0	.075	.00	51.1	26.1	59.1	42.1	22.4	.000000
-90.0	.080	.00	51.2	26.2	59.3	42.3	22.6	.000000
-88.0	.087	.00	51.2	26.2	59.6	42.6	22.8	.000000
-86.0	.097	.00	51.3	26.3	59.8	42.8	23.0	.000000
-84.0	.109	.00	51.4	26.4	60.0	43.0	23.2	.000000
-82.0	.125	.00	51.5	26.5	60.2	43.2	23.4	.000000
-80.0	.143	.00	51.6	26.6	60.5	43.5	23.7	.000000
-78.0	.164	.00	51.7	26.7	60.7	43.7	23.9	.000000
-76.0	.188	.00	51.8	26.8	60.9	43.9	24.1	.000000
-74.0	.216	.00	51.9	26.9	61.1	44.1	24.4	.000000
-72.0	.248	.00	52.0	27.0	61.4	44.4	24.6	.000000
-70.0	.284	.00	52.1	27.1	61.6	44.6	24.9	.000000
-68.0	.325	.00	52.2	27.2	61.8	44.8	25.2	.000000
-66.0	.372	.00	52.3	27.3	62.0	45.0	25.4	.000000
-64.0	.424	.00	52.4	27.4	62.2	45.2	25.7	.000000
-62.0	.483	.00	52.5	27.5	62.5	45.5	26.0	.000000
-60.0	.549	.00	52.7	27.7	62.9	45.9	26.3	.000000
-58.0	.624	.00	52.8	27.8	63.5	46.5	26.6	.000000
-56.0	.708	.00	52.9	27.9	64.0	47.0	26.9	.000000
-54.0	.802	.00	53.0	28.0	64.6	47.6	27.3	.000000
-52.0	.907	.00	53.1	28.1	65.2	48.2	27.6	.000000
-50.0	1.025	.00	53.3	28.3	65.9	48.9	27.9	.000000
-48.0	1.156	.00	53.4	28.4	66.5	49.5	28.3	.000000
-46.0	1.303	.00	53.5	28.5	67.2	50.2	28.7	.000000
-44.0	1.465	.00	53.6	28.6	67.9	50.9	29.0	.000000
-42.0	1.645	.00	53.8	28.8	68.5	51.5	29.4	.000000
-40.0	1.842	.00	53.9	28.9	69.3	52.3	29.8	.000000
-38.0	2.057	.00	54.0	29.0	70.0	53.0	30.2	.000000

-36.0	2.290	.00	54.2	29.2	70.7	53.7	30.6	.000000
-34.0	2.540	.00	54.3	29.3	71.4	54.4	31.1	.000000
-32.0	2.803	.00	54.5	29.5	72.1	55.1	31.5	.000000
-30.0	3.077	.00	54.6	29.6	72.9	55.9	31.9	.000000
-28.0	3.355	.00	54.8	29.8	73.6	56.6	32.3	.000000
-26.0	3.631	.00	54.9	29.9	74.3	57.3	32.8	.000000
-24.0	3.895	.00	55.0	30.0	74.9	57.9	33.2	.000000
-22.0	4.134	.00	55.2	30.2	75.5	58.5	33.6	.000000
-20.0	4.338	.00	55.3	30.3	76.1	59.1	33.9	.000000
-18.0	4.492	.00	55.4	30.4	76.5	59.5	34.2	.000000
-16.0	4.585	.00	55.5	30.5	76.9	59.9	34.5	.000000
-14.0	4.609	.00	55.6	30.6	77.2	60.2	34.6	.000000
-12.0	4.560	.00	55.7	30.7	77.3	60.3	34.7	.000000
-10.0	4.442	.00	55.7	30.7	77.4	60.4	34.8	.000000
-8.0	4.270	.00	55.8	30.8	77.3	60.3	34.7	.000000
-6.0	4.067	.00	55.8	30.8	77.0	60.0	34.5	.000000
-4.0	3.869	.00	55.9	30.9	76.7	59.7	34.3	.000000
-2.0	3.722	.00	55.9	30.9	76.3	59.3	34.0	.000000
.0	3.666	.00	55.9	30.9	75.8	58.8	33.7	.000000
2.0	3.722	.00	55.9	30.9	76.3	59.3	34.0	.000000
4.0	3.869	.00	55.9	30.9	76.7	59.7	34.3	.000000
6.0	4.067	.00	55.8	30.8	77.0	60.0	34.5	.000003
8.0	4.270	.00	55.8	30.8	77.3	60.3	34.7	.000020
10.0	4.442	.00	55.7	30.7	77.4	60.4	34.8	.000089
12.0	4.560	.00	55.7	30.7	77.3	60.3	34.7	.000279
14.0	4.609	.00	55.6	30.6	77.2	60.2	34.6	.000677
16.0	4.585	.00	55.5	30.5	76.9	59.9	34.5	.001366
18.0	4.492	.00	55.4	30.4	76.5	59.5	34.2	.002403
20.0	4.338	.00	55.3	30.3	76.1	59.1	33.9	.003806
22.0	4.134	.00	55.2	30.2	75.5	58.5	33.6	.005559
24.0	3.895	.00	55.0	30.0	74.9	57.9	33.2	.007621
26.0	3.631	.00	54.9	29.9	74.3	57.3	32.8	.009934
28.0	3.355	.00	54.8	29.8	73.6	56.6	32.3	.012436
30.0	3.077	.00	54.6	29.6	72.9	55.9	31.9	.015085
32.0	2.803	.00	54.5	29.5	72.1	55.1	31.5	.017872
34.0	2.540	.00	54.3	29.3	71.4	54.4	31.1	.020824
36.0	2.290	.00	54.2	29.2	70.7	53.7	30.6	.023989
38.0	2.057	.00	54.0	29.0	70.0	53.0	30.2	.027407
40.0	1.842	.00	53.9	28.9	69.3	52.3	29.8	.031093
42.0	1.645	.00	53.8	28.8	68.5	51.5	29.4	.035036
44.0	1.465	.00	53.6	28.6	67.9	50.9	29.0	.039195
46.0	1.303	.00	53.5	28.5	67.2	50.2	28.7	.043513
48.0	1.156	.00	53.4	28.4	66.5	49.5	28.3	.047926
50.0	1.025	.00	53.3	28.3	65.9	48.9	27.9	.052368
52.0	.907	.00	53.1	28.1	65.2	48.2	27.6	.056779
54.0	.802	.00	53.0	28.0	64.6	47.6	27.3	.061106
56.0	.708	.00	52.9	27.9	64.0	47.0	26.9	.065307
58.0	.624	.00	52.8	27.8	63.5	46.5	26.6	.069351
60.0	.549	.00	52.7	27.7	62.9	45.9	26.3	.073213
62.0	.483	.00	52.5	27.5	62.5	45.5	26.0	.076879
64.0	.424	.00	52.4	27.4	62.2	45.2	25.7	.080341
66.0	.372	.00	52.3	27.3	62.0	45.0	25.4	.083595
68.0	.325	.00	52.2	27.2	61.8	44.8	25.2	.086643
70.0	.284	.00	52.1	27.1	61.6	44.6	24.9	.089489
72.0	.248	.00	52.0	27.0	61.4	44.4	24.6	.092141
74.0	.216	.00	51.9	26.9	61.1	44.1	24.4	.094608
76.0	.188	.00	51.8	26.8	60.9	43.9	24.1	.096898
78.0	.164	.00	51.7	26.7	60.7	43.7	23.9	.099023
80.0	.143	.00	51.6	26.6	60.5	43.5	23.7	.100992
82.0	.125	.00	51.5	26.5	60.2	43.2	23.4	.102816
84.0	.109	.00	51.4	26.4	60.0	43.0	23.2	.104505
86.0	.097	.00	51.3	26.3	59.8	42.8	23.0	.106069
88.0	.087	.00	51.2	26.2	59.6	42.6	22.8	.107517
90.0	.080	.00	51.2	26.2	59.3	42.3	22.6	.108859
92.0	.075	.00	51.1	26.1	59.1	42.1	22.4	.110103
94.0	.071	.00	51.0	26.0	58.9	41.9	22.2	.111256
96.0	.069	.00	50.9	25.9	58.7	41.7	22.0	.112327
98.0	.069	.00	50.8	25.8	58.4	41.4	21.8	.113321
100.0	.069	.00	50.7	25.7	58.2	41.2	21.6	.114247
102.0	.069	.00	50.6	25.6	58.0	41.0	21.4	.115108
104.0	.070	.00	50.6	25.6	57.8	40.8	21.3	.115912
106.0	.071	.00	50.5	25.5	57.5	40.5	21.1	.116662
108.0	.072	.00	50.4	25.4	57.3	40.3	20.9	.117364
110.0	.073	.00	50.3	25.3	57.1	40.1	20.7	.118021
112.0	.074	.00	50.3	25.3	56.9	39.9	20.6	.118637
114.0	.075	.00	50.2	25.2	56.7	39.7	20.4	.119216
116.0	.075	.00	50.1	25.1	56.5	39.5	20.2	.119760
118.0	.076	.00	50.0	25.0	56.3	39.3	20.1	.120273
120.0	.076	.00	50.0	25.0	56.0	39.0	19.9	.120757
122.0	.077	.00	49.9	24.9	55.8	38.8	19.8	.121213
124.0	.077	.00	49.8	24.8	55.6	38.6	19.6	.121645

126.0	.077	.00	49.8	24.8	55.4	38.4	19.5	.122054
128.0	.076	.00	49.7	24.7	55.2	38.2	19.3	.122441
130.0	.076	.00	49.6	24.6	55.0	38.0	19.2	.122808
132.0	.076	.00	49.6	24.6	54.8	37.8	19.1	.123156
134.0	.075	.00	49.5	24.5	54.6	37.6	18.9	.123487
136.0	.075	.00	49.4	24.4	54.4	37.4	18.8	.123800
138.0	.074	.00	49.4	24.4	54.2	37.2	18.6	.124097
140.0	.074	.00	49.3	24.3	54.0	37.0	18.5	.124380
142.0	.073	.00	49.2	24.2	53.8	36.8	18.4	.124647
144.0	.072	.00	49.2	24.2	53.6	36.6	18.3	.124901
146.0	.071	.00	49.1	24.1	53.4	36.4	18.1	.125141
148.0	.071	.00	49.0	24.0	53.2	36.2	18.0	.125368
150.0	.070	.00	49.0	24.0	53.1	36.1	17.9	.125583
152.0	.069	.00	48.9	23.9	52.9	35.9	17.8	.125785
154.0	.068	.00	48.9	23.9	52.7	35.7	17.6	.125975
156.0	.067	.00	48.8	23.8	52.5	35.5	17.5	.126154
158.0	.066	.00	48.8	23.8	52.3	35.3	17.4	.126322
160.0	.065	.00	48.7	23.7	52.1	35.1	17.3	.126478
162.0	.064	.00	48.6	23.6	51.9	34.9	17.2	.126623
164.0	.063	.00	48.6	23.6	51.8	34.8	17.1	.126758
166.0	.062	.00	48.5	23.5	51.6	34.6	17.0	.126882
168.0	.061	.00	48.5	23.5	51.4	34.4	16.8	.126996
170.0	.060	.00	48.4	23.4	51.2	34.2	16.7	.127100
172.0	.059	.00	48.4	23.4	51.1	34.1	16.6	.127194
174.0	.059	.00	48.3	23.3	50.9	33.9	16.5	.127278
176.0	.058	.00	48.3	23.3	50.7	33.7	16.4	.127352
178.0	.057	.00	48.2	23.2	50.6	33.6	16.3	.127417
180.0	.056	.00	48.2	23.2	50.4	33.4	16.2	.127472
182.0	.055	.00	48.1	23.1	50.2	33.2	16.1	.127518
184.0	.054	.00	48.1	23.1	50.1	33.1	16.0	.127555
186.0	.053	.00	48.0	23.0	49.9	32.9	15.9	.127583
188.0	.052	.00	48.0	23.0	49.7	32.7	15.8	.127603
190.0	.051	.00	47.9	22.9	49.6	32.6	15.7	.127613
192.0	.050	.00	47.9	22.9	49.4	32.4	15.6	.127616
194.0	.050	.00	47.8	22.8	49.2	32.2	15.5	.127610
196.0	.049	.00	47.8	22.8	49.1	32.1	15.4	.127595
198.0	.048	.00	47.7	22.7	48.9	31.9	15.4	.127573
200.0	.047	.00	47.7	22.7	48.8	31.8	15.3	.127543
202.0	.046	.00	47.6	22.6	48.6	31.6	15.2	.127505
204.0	.046	.00	47.6	22.6	48.5	31.5	15.1	.127460
206.0	.045	.00	47.5	22.5	48.3	31.3	15.0	.127407
208.0	.044	.00	47.5	22.5	48.2	31.2	14.9	.127347
210.0	.043	.00	47.4	22.4	48.0	31.0	14.8	.127280
212.0	.043	.00	47.4	22.4	47.9	30.9	14.7	.127206
214.0	.042	.00	47.4	22.4	47.7	30.7	14.6	.127125
216.0	.041	.00	47.3	22.3	47.6	30.6	14.6	.127037
218.0	.041	.00	47.3	22.3	47.4	30.4	14.5	.126943
220.0	.040	.00	47.2	22.2	47.3	30.3	14.4	.126843
222.0	.039	.00	47.2	22.2	47.1	30.1	14.3	.126736
224.0	.039	.00	47.1	22.1	47.0	30.0	14.2	.126624
226.0	.038	.00	47.1	22.1	46.8	29.8	14.2	.126505
228.0	.037	.00	47.1	22.1	46.7	29.7	14.1	.126381
230.0	.037	.00	47.0	22.0	46.5	29.5	14.0	.126251
232.0	.036	.00	47.0	22.0	46.4	29.4	13.9	.126116
234.0	.036	.00	46.9	21.9	46.3	29.3	13.8	.125976
236.0	.035	.00	46.9	21.9	46.1	29.1	13.8	.125830
238.0	.034	.00	46.9	21.9	46.0	29.0	13.7	.125680
240.0	.034	.00	46.8	21.8	45.9	28.9	13.6	.125524
242.0	.033	.00	46.8	21.8	45.7	28.7	13.5	.125364
244.0	.033	.00	46.7	21.7	45.6	28.6	13.5	.125199
246.0	.032	.00	46.7	21.7	45.5	28.5	13.4	.125030
248.0	.032	.00	46.7	21.7	45.3	28.3	13.3	.124857
250.0	.031	.00	46.6	21.6	45.2	28.2	13.2	.124679
252.0	.031	.00	46.6	21.6	45.1	28.1	13.2	.124498
254.0	.030	.00	46.5	21.5	44.9	27.9	13.1	.124312
256.0	.030	.00	46.5	21.5	44.8	27.8	13.0	.124123
258.0	.029	.00	46.5	21.5	44.7	27.7	13.0	.123930
260.0	.029	.00	46.4	21.4	44.5	27.5	12.9	.123734
262.0	.029	.00	46.4	21.4	44.4	27.4	12.8	.123534
264.0	.028	.00	46.4	21.4	44.3	27.3	12.8	.123331
266.0	.028	.00	46.3	21.3	44.2	27.2	12.7	.123125
268.0	.027	.00	46.3	21.3	44.0	27.0	12.6	.122915
270.0	.027	.00	46.3	21.3	43.9	26.9	12.6	.122703
272.0	.026	.00	46.2	21.2	43.8	26.8	12.5	.122488
274.0	.026	.00	46.2	21.2	43.7	26.7	12.4	.122270
276.0	.026	.00	46.1	21.1	43.6	26.6	12.4	.122049
278.0	.025	.00	46.1	21.1	43.4	26.4	12.3	.121826
280.0	.025	.00	46.1	21.1	43.3	26.3	12.2	.121601
282.0	.025	.00	46.0	21.0	43.2	26.2	12.1	.121373
284.0	.024	.00	46.0	21.0	43.1	26.1	12.0	.121143
286.0	.024	.00	46.0	21.0	43.0	26.0	11.8	.120911

288.0	.024	.00	45.9	20.9	42.8	25.8	11.7	.120676
290.0	.023	.00	45.9	20.9	42.7	25.7	11.6	.120440
292.0	.023	.00	45.9	20.9	42.6	25.6	11.5	.120202
294.0	.023	.00	45.8	20.8	42.5	25.5	11.3	.119962
296.0	.022	.00	45.8	20.8	42.4	25.4	11.2	.119720
298.0	.022	.00	45.8	20.8	42.3	25.3	11.1	.119477
300.0	.022	.00	45.7	20.7	42.2	25.2	11.0	.119232

AC TRANSMISSION LINE CALCULATION RESULTS
345kV DOUBLE CIRCUIT LATTICE

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XS-2: 345 kV Double Circuit Lattice - Electric and Magnetic Field Calculations
 Emf Workstation Conductor Data

Total # of Conductors: 8

-6025.00	-14.00	90.00	6825.00	-14.00	90.00	0.10	0.00
-6025.00	-25.00	55.00	6825.00	-25.00	55.00	0.10	-120.00
-6025.00	-15.50	30.00	6825.00	-15.50	30.00	0.10	120.00
-6025.00	15.50	30.00	6825.00	15.50	30.00	0.10	0.00
-6025.00	25.00	55.00	6825.00	25.00	55.00	0.10	-120.00
-6025.00	14.00	90.00	6825.00	14.00	90.00	0.10	120.00
-6025.00	-11.50	119.45	6825.00	-11.50	119.45	0.00	-78.37
-6025.00	11.50	119.45	6825.00	11.50	119.45	0.00	-26.89

E-Field HORIZONTAL Profile Chart: "Lateral Profile Electric Field - Model Load 1(EF)"

Field Components = Resultant
 Distance units = (ft)
 Electric field units = KV/m

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	EF (KV/m)
0	0.00	400.00	-300.00	3.28	0.02
1	1.00	400.00	-299.00	3.28	0.02
2	2.00	400.00	-298.00	3.28	0.02
3	3.00	400.00	-297.00	3.28	0.02
4	4.00	400.00	-296.00	3.28	0.02
5	5.00	400.00	-295.00	3.28	0.02
6	6.00	400.00	-294.00	3.28	0.03
7	7.00	400.00	-293.00	3.28	0.03
8	8.00	400.00	-292.00	3.28	0.03
9	9.00	400.00	-291.00	3.28	0.03
10	10.00	400.00	-290.00	3.28	0.03
11	11.00	400.00	-289.00	3.28	0.03
12	12.00	400.00	-288.00	3.28	0.03
13	13.00	400.00	-287.00	3.28	0.03
14	14.00	400.00	-286.00	3.28	0.03
15	15.00	400.00	-285.00	3.28	0.03
16	16.00	400.00	-284.00	3.28	0.03
17	17.00	400.00	-283.00	3.28	0.03
18	18.00	400.00	-282.00	3.28	0.03
19	19.00	400.00	-281.00	3.28	0.03
20	20.00	400.00	-280.00	3.28	0.03
21	21.00	400.00	-279.00	3.28	0.03
22	22.00	400.00	-278.00	3.28	0.03
23	23.00	400.00	-277.00	3.28	0.03
24	24.00	400.00	-276.00	3.28	0.03
25	25.00	400.00	-275.00	3.28	0.03
26	26.00	400.00	-274.00	3.28	0.03
27	27.00	400.00	-273.00	3.28	0.03
28	28.00	400.00	-272.00	3.28	0.03
29	29.00	400.00	-271.00	3.28	0.03
30	30.00	400.00	-270.00	3.28	0.03
31	31.00	400.00	-269.00	3.28	0.03
32	32.00	400.00	-268.00	3.28	0.03
33	33.00	400.00	-267.00	3.28	0.03
34	34.00	400.00	-266.00	3.28	0.03
35	35.00	400.00	-265.00	3.28	0.03
36	36.00	400.00	-264.00	3.28	0.03
37	37.00	400.00	-263.00	3.28	0.03

38	38.00	400.00	-262.00	3.28	0.03
39	39.00	400.00	-261.00	3.28	0.03
40	40.00	400.00	-260.00	3.28	0.03
41	41.00	400.00	-259.00	3.28	0.03
42	42.00	400.00	-258.00	3.28	0.04
43	43.00	400.00	-257.00	3.28	0.04
44	44.00	400.00	-256.00	3.28	0.04
45	45.00	400.00	-255.00	3.28	0.04
46	46.00	400.00	-254.00	3.28	0.04
47	47.00	400.00	-253.00	3.28	0.04
48	48.00	400.00	-252.00	3.28	0.04
49	49.00	400.00	-251.00	3.28	0.04
50	50.00	400.00	-250.00	3.28	0.04
51	51.00	400.00	-249.00	3.28	0.04
52	52.00	400.00	-248.00	3.28	0.04
53	53.00	400.00	-247.00	3.28	0.04
54	54.00	400.00	-246.00	3.28	0.04
55	55.00	400.00	-245.00	3.28	0.04
56	56.00	400.00	-244.00	3.28	0.04
57	57.00	400.00	-243.00	3.28	0.04
58	58.00	400.00	-242.00	3.28	0.04
59	59.00	400.00	-241.00	3.28	0.04
60	60.00	400.00	-240.00	3.28	0.04
61	61.00	400.00	-239.00	3.28	0.04
62	62.00	400.00	-238.00	3.28	0.04
63	63.00	400.00	-237.00	3.28	0.04
64	64.00	400.00	-236.00	3.28	0.04
65	65.00	400.00	-235.00	3.28	0.04
66	66.00	400.00	-234.00	3.28	0.04
67	67.00	400.00	-233.00	3.28	0.05
68	68.00	400.00	-232.00	3.28	0.05
69	69.00	400.00	-231.00	3.28	0.05
70	70.00	400.00	-230.00	3.28	0.05
71	71.00	400.00	-229.00	3.28	0.05
72	72.00	400.00	-228.00	3.28	0.05
73	73.00	400.00	-227.00	3.28	0.05
74	74.00	400.00	-226.00	3.28	0.05
75	75.00	400.00	-225.00	3.28	0.05
76	76.00	400.00	-224.00	3.28	0.05
77	77.00	400.00	-223.00	3.28	0.05
78	78.00	400.00	-222.00	3.28	0.05
79	79.00	400.00	-221.00	3.28	0.05
80	80.00	400.00	-220.00	3.28	0.05
81	81.00	400.00	-219.00	3.28	0.05
82	82.00	400.00	-218.00	3.28	0.05
83	83.00	400.00	-217.00	3.28	0.05
84	84.00	400.00	-216.00	3.28	0.06
85	85.00	400.00	-215.00	3.28	0.06
86	86.00	400.00	-214.00	3.28	0.06
87	87.00	400.00	-213.00	3.28	0.06
88	88.00	400.00	-212.00	3.28	0.06
89	89.00	400.00	-211.00	3.28	0.06
90	90.00	400.00	-210.00	3.28	0.06
91	91.00	400.00	-209.00	3.28	0.06
92	92.00	400.00	-208.00	3.28	0.06
93	93.00	400.00	-207.00	3.28	0.06
94	94.00	400.00	-206.00	3.28	0.06
95	95.00	400.00	-205.00	3.28	0.06
96	96.00	400.00	-204.00	3.28	0.06
97	97.00	400.00	-203.00	3.28	0.06
98	98.00	400.00	-202.00	3.28	0.07
99	99.00	400.00	-201.00	3.28	0.07
100	100.00	400.00	-200.00	3.28	0.07

101	101.00	400.00	-199.00	3.28	0.07
102	102.00	400.00	-198.00	3.28	0.07
103	103.00	400.00	-197.00	3.28	0.07
104	104.00	400.00	-196.00	3.28	0.07
105	105.00	400.00	-195.00	3.28	0.07
106	106.00	400.00	-194.00	3.28	0.07
107	107.00	400.00	-193.00	3.28	0.07
108	108.00	400.00	-192.00	3.28	0.07
109	109.00	400.00	-191.00	3.28	0.08
110	110.00	400.00	-190.00	3.28	0.08
111	111.00	400.00	-189.00	3.28	0.08
112	112.00	400.00	-188.00	3.28	0.08
113	113.00	400.00	-187.00	3.28	0.08
114	114.00	400.00	-186.00	3.28	0.08
115	115.00	400.00	-185.00	3.28	0.08
116	116.00	400.00	-184.00	3.28	0.08
117	117.00	400.00	-183.00	3.28	0.08
118	118.00	400.00	-182.00	3.28	0.09
119	119.00	400.00	-181.00	3.28	0.09
120	120.00	400.00	-180.00	3.28	0.09
121	121.00	400.00	-179.00	3.28	0.09
122	122.00	400.00	-178.00	3.28	0.09
123	123.00	400.00	-177.00	3.28	0.09
124	124.00	400.00	-176.00	3.28	0.09
125	125.00	400.00	-175.00	3.28	0.09
126	126.00	400.00	-174.00	3.28	0.10
127	127.00	400.00	-173.00	3.28	0.10
128	128.00	400.00	-172.00	3.28	0.10
129	129.00	400.00	-171.00	3.28	0.10
130	130.00	400.00	-170.00	3.28	0.10
131	131.00	400.00	-169.00	3.28	0.10
132	132.00	400.00	-168.00	3.28	0.10
133	133.00	400.00	-167.00	3.28	0.11
134	134.00	400.00	-166.00	3.28	0.11
135	135.00	400.00	-165.00	3.28	0.11
136	136.00	400.00	-164.00	3.28	0.11
137	137.00	400.00	-163.00	3.28	0.11
138	138.00	400.00	-162.00	3.28	0.11
139	139.00	400.00	-161.00	3.28	0.12
140	140.00	400.00	-160.00	3.28	0.12
141	141.00	400.00	-159.00	3.28	0.12
142	142.00	400.00	-158.00	3.28	0.12
143	143.00	400.00	-157.00	3.28	0.12
144	144.00	400.00	-156.00	3.28	0.13
145	145.00	400.00	-155.00	3.28	0.13
146	146.00	400.00	-154.00	3.28	0.13
147	147.00	400.00	-153.00	3.28	0.13
148	148.00	400.00	-152.00	3.28	0.14
149	149.00	400.00	-151.00	3.28	0.14
150	150.00	400.00	-150.00	3.28	0.14
151	151.00	400.00	-149.00	3.28	0.14
152	152.00	400.00	-148.00	3.28	0.15
153	153.00	400.00	-147.00	3.28	0.15
154	154.00	400.00	-146.00	3.28	0.15
155	155.00	400.00	-145.00	3.28	0.15
156	156.00	400.00	-144.00	3.28	0.16
157	157.00	400.00	-143.00	3.28	0.16
158	158.00	400.00	-142.00	3.28	0.16
159	159.00	400.00	-141.00	3.28	0.17
160	160.00	400.00	-140.00	3.28	0.17
161	161.00	400.00	-139.00	3.28	0.17
162	162.00	400.00	-138.00	3.28	0.17
163	163.00	400.00	-137.00	3.28	0.18

164	164.00	400.00	-136.00	3.28	0.18
165	165.00	400.00	-135.00	3.28	0.19
166	166.00	400.00	-134.00	3.28	0.19
167	167.00	400.00	-133.00	3.28	0.19
168	168.00	400.00	-132.00	3.28	0.20
169	169.00	400.00	-131.00	3.28	0.20
170	170.00	400.00	-130.00	3.28	0.20
171	171.00	400.00	-129.00	3.28	0.21
172	172.00	400.00	-128.00	3.28	0.21
173	173.00	400.00	-127.00	3.28	0.22
174	174.00	400.00	-126.00	3.28	0.22
175	175.00	400.00	-125.00	3.28	0.23
176	176.00	400.00	-124.00	3.28	0.23
177	177.00	400.00	-123.00	3.28	0.24
178	178.00	400.00	-122.00	3.28	0.24
179	179.00	400.00	-121.00	3.28	0.25
180	180.00	400.00	-120.00	3.28	0.25
181	181.00	400.00	-119.00	3.28	0.26
182	182.00	400.00	-118.00	3.28	0.26
183	183.00	400.00	-117.00	3.28	0.27
184	184.00	400.00	-116.00	3.28	0.28
185	185.00	400.00	-115.00	3.28	0.28
186	186.00	400.00	-114.00	3.28	0.29
187	187.00	400.00	-113.00	3.28	0.29
188	188.00	400.00	-112.00	3.28	0.30
189	189.00	400.00	-111.00	3.28	0.31
190	190.00	400.00	-110.00	3.28	0.32
191	191.00	400.00	-109.00	3.28	0.32
192	192.00	400.00	-108.00	3.28	0.33
193	193.00	400.00	-107.00	3.28	0.34
194	194.00	400.00	-106.00	3.28	0.35
195	195.00	400.00	-105.00	3.28	0.35
196	196.00	400.00	-104.00	3.28	0.36
197	197.00	400.00	-103.00	3.28	0.37
198	198.00	400.00	-102.00	3.28	0.38
199	199.00	400.00	-101.00	3.28	0.39
200	200.00	400.00	-100.00	3.28	0.40
201	201.00	400.00	-99.00	3.28	0.41
202	202.00	400.00	-98.00	3.28	0.42
203	203.00	400.00	-97.00	3.28	0.43
204	204.00	400.00	-96.00	3.28	0.44
205	205.00	400.00	-95.00	3.28	0.45
206	206.00	400.00	-94.00	3.28	0.47
207	207.00	400.00	-93.00	3.28	0.48
208	208.00	400.00	-92.00	3.28	0.49
209	209.00	400.00	-91.00	3.28	0.50
210	210.00	400.00	-90.00	3.28	0.52
211	211.00	400.00	-89.00	3.28	0.53
212	212.00	400.00	-88.00	3.28	0.54
213	213.00	400.00	-87.00	3.28	0.56
214	214.00	400.00	-86.00	3.28	0.57
215	215.00	400.00	-85.00	3.28	0.59
216	216.00	400.00	-84.00	3.28	0.60
217	217.00	400.00	-83.00	3.28	0.62
218	218.00	400.00	-82.00	3.28	0.64
219	219.00	400.00	-81.00	3.28	0.65
220	220.00	400.00	-80.00	3.28	0.67
221	221.00	400.00	-79.00	3.28	0.69
222	222.00	400.00	-78.00	3.28	0.71
223	223.00	400.00	-77.00	3.28	0.73
224	224.00	400.00	-76.00	3.28	0.75
225	225.00	400.00	-75.00	3.28	0.77
226	226.00	400.00	-74.00	3.28	0.79

227	227.00	400.00	-73.00	3.28	0.81
228	228.00	400.00	-72.00	3.28	0.83
229	229.00	400.00	-71.00	3.28	0.86
230	230.00	400.00	-70.00	3.28	0.88
231	231.00	400.00	-69.00	3.28	0.91
232	232.00	400.00	-68.00	3.28	0.94
233	233.00	400.00	-67.00	3.28	0.96
234	234.00	400.00	-66.00	3.28	0.99
235	235.00	400.00	-65.00	3.28	1.02
236	236.00	400.00	-64.00	3.28	1.06
237	237.00	400.00	-63.00	3.28	1.09
238	238.00	400.00	-62.00	3.28	1.12
239	239.00	400.00	-61.00	3.28	1.16
240	240.00	400.00	-60.00	3.28	1.20
241	241.00	400.00	-59.00	3.28	1.24
242	242.00	400.00	-58.00	3.28	1.29
243	243.00	400.00	-57.00	3.28	1.33
244	244.00	400.00	-56.00	3.28	1.38
245	245.00	400.00	-55.00	3.28	1.43
246	246.00	400.00	-54.00	3.28	1.49
247	247.00	400.00	-53.00	3.28	1.54
248	248.00	400.00	-52.00	3.28	1.61
249	249.00	400.00	-51.00	3.28	1.67
250	250.00	400.00	-50.00	3.28	1.74
251	251.00	400.00	-49.00	3.28	1.81
252	252.00	400.00	-48.00	3.28	1.89
253	253.00	400.00	-47.00	3.28	1.98
254	254.00	400.00	-46.00	3.28	2.06
255	255.00	400.00	-45.00	3.28	2.16
256	256.00	400.00	-44.00	3.28	2.26
257	257.00	400.00	-43.00	3.28	2.36
258	258.00	400.00	-42.00	3.28	2.47
259	259.00	400.00	-41.00	3.28	2.59
260	260.00	400.00	-40.00	3.28	2.71
261	261.00	400.00	-39.00	3.28	2.84
262	262.00	400.00	-38.00	3.28	2.97
263	263.00	400.00	-37.00	3.28	3.11
264	264.00	400.00	-36.00	3.28	3.25
265	265.00	400.00	-35.00	3.28	3.39
266	266.00	400.00	-34.00	3.28	3.54
267	267.00	400.00	-33.00	3.28	3.69
268	268.00	400.00	-32.00	3.28	3.84
269	269.00	400.00	-31.00	3.28	3.99
270	270.00	400.00	-30.00	3.28	4.14
271	271.00	400.00	-29.00	3.28	4.29
272	272.00	400.00	-28.00	3.28	4.43
273	273.00	400.00	-27.00	3.28	4.57
274	274.00	400.00	-26.00	3.28	4.70
275	275.00	400.00	-25.00	3.28	4.82
276	276.00	400.00	-24.00	3.28	4.93
277	277.00	400.00	-23.00	3.28	5.03
278	278.00	400.00	-22.00	3.28	5.11
279	279.00	400.00	-21.00	3.28	5.17
280	280.00	400.00	-20.00	3.28	5.21
281	281.00	400.00	-19.00	3.28	5.24
282	282.00	400.00	-18.00	3.28	5.25
283	283.00	400.00	-17.00	3.28	5.23
284	284.00	400.00	-16.00	3.28	5.19
285	285.00	400.00	-15.00	3.28	5.13
286	286.00	400.00	-14.00	3.28	5.05
287	287.00	400.00	-13.00	3.28	4.95
288	288.00	400.00	-12.00	3.28	4.83
289	289.00	400.00	-11.00	3.28	4.69

290	290.00	400.00 -10.00	3.28	4.54
291	291.00	400.00 -9.00	3.28	4.38
292	292.00	400.00 -8.00	3.28	4.22
293	293.00	400.00 -7.00	3.28	4.05
294	294.00	400.00 -6.00	3.28	3.89
295	295.00	400.00 -5.00	3.28	3.73
296	296.00	400.00 -4.00	3.28	3.60
297	297.00	400.00 -3.00	3.28	3.48
298	298.00	400.00 -2.00	3.28	3.39
299	299.00	400.00 -1.00	3.28	3.34
300	300.00	400.00 0.00	3.28	3.32
301	301.00	400.00 1.00	3.28	3.34
302	302.00	400.00 2.00	3.28	3.39
303	303.00	400.00 3.00	3.28	3.48
304	304.00	400.00 4.00	3.28	3.60
305	305.00	400.00 5.00	3.28	3.73
306	306.00	400.00 6.00	3.28	3.89
307	307.00	400.00 7.00	3.28	4.05
308	308.00	400.00 8.00	3.28	4.22
309	309.00	400.00 9.00	3.28	4.38
310	310.00	400.00 10.00	3.28	4.54
311	311.00	400.00 11.00	3.28	4.69
312	312.00	400.00 12.00	3.28	4.83
313	313.00	400.00 13.00	3.28	4.95
314	314.00	400.00 14.00	3.28	5.05
315	315.00	400.00 15.00	3.28	5.13
316	316.00	400.00 16.00	3.28	5.19
317	317.00	400.00 17.00	3.28	5.23
318	318.00	400.00 18.00	3.28	5.25
319	319.00	400.00 19.00	3.28	5.24
320	320.00	400.00 20.00	3.28	5.21
321	321.00	400.00 21.00	3.28	5.17
322	322.00	400.00 22.00	3.28	5.11
323	323.00	400.00 23.00	3.28	5.03
324	324.00	400.00 24.00	3.28	4.93
325	325.00	400.00 25.00	3.28	4.82
326	326.00	400.00 26.00	3.28	4.70
327	327.00	400.00 27.00	3.28	4.57
328	328.00	400.00 28.00	3.28	4.43
329	329.00	400.00 29.00	3.28	4.29
330	330.00	400.00 30.00	3.28	4.14
331	331.00	400.00 31.00	3.28	3.99
332	332.00	400.00 32.00	3.28	3.84
333	333.00	400.00 33.00	3.28	3.69
334	334.00	400.00 34.00	3.28	3.54
335	335.00	400.00 35.00	3.28	3.39
336	336.00	400.00 36.00	3.28	3.25
337	337.00	400.00 37.00	3.28	3.11
338	338.00	400.00 38.00	3.28	2.97
339	339.00	400.00 39.00	3.28	2.84
340	340.00	400.00 40.00	3.28	2.71
341	341.00	400.00 41.00	3.28	2.59
342	342.00	400.00 42.00	3.28	2.47
343	343.00	400.00 43.00	3.28	2.36
344	344.00	400.00 44.00	3.28	2.26
345	345.00	400.00 45.00	3.28	2.16
346	346.00	400.00 46.00	3.28	2.06
347	347.00	400.00 47.00	3.28	1.98
348	348.00	400.00 48.00	3.28	1.89
349	349.00	400.00 49.00	3.28	1.81
350	350.00	400.00 50.00	3.28	1.74
351	351.00	400.00 51.00	3.28	1.67
352	352.00	400.00 52.00	3.28	1.61

353	353.00	400.00	53.00	3.28	1.54
354	354.00	400.00	54.00	3.28	1.49
355	355.00	400.00	55.00	3.28	1.43
356	356.00	400.00	56.00	3.28	1.38
357	357.00	400.00	57.00	3.28	1.33
358	358.00	400.00	58.00	3.28	1.29
359	359.00	400.00	59.00	3.28	1.24
360	360.00	400.00	60.00	3.28	1.20
361	361.00	400.00	61.00	3.28	1.16
362	362.00	400.00	62.00	3.28	1.12
363	363.00	400.00	63.00	3.28	1.09
364	364.00	400.00	64.00	3.28	1.06
365	365.00	400.00	65.00	3.28	1.02
366	366.00	400.00	66.00	3.28	0.99
367	367.00	400.00	67.00	3.28	0.96
368	368.00	400.00	68.00	3.28	0.94
369	369.00	400.00	69.00	3.28	0.91
370	370.00	400.00	70.00	3.28	0.88
371	371.00	400.00	71.00	3.28	0.86
372	372.00	400.00	72.00	3.28	0.83
373	373.00	400.00	73.00	3.28	0.81
374	374.00	400.00	74.00	3.28	0.79
375	375.00	400.00	75.00	3.28	0.77
376	376.00	400.00	76.00	3.28	0.75
377	377.00	400.00	77.00	3.28	0.73
378	378.00	400.00	78.00	3.28	0.71
379	379.00	400.00	79.00	3.28	0.69
380	380.00	400.00	80.00	3.28	0.67
381	381.00	400.00	81.00	3.28	0.65
382	382.00	400.00	82.00	3.28	0.64
383	383.00	400.00	83.00	3.28	0.62
384	384.00	400.00	84.00	3.28	0.60
385	385.00	400.00	85.00	3.28	0.59
386	386.00	400.00	86.00	3.28	0.57
387	387.00	400.00	87.00	3.28	0.56
388	388.00	400.00	88.00	3.28	0.54
389	389.00	400.00	89.00	3.28	0.53
390	390.00	400.00	90.00	3.28	0.52
391	391.00	400.00	91.00	3.28	0.50
392	392.00	400.00	92.00	3.28	0.49
393	393.00	400.00	93.00	3.28	0.48
394	394.00	400.00	94.00	3.28	0.47
395	395.00	400.00	95.00	3.28	0.45
396	396.00	400.00	96.00	3.28	0.44
397	397.00	400.00	97.00	3.28	0.43
398	398.00	400.00	98.00	3.28	0.42
399	399.00	400.00	99.00	3.28	0.41
400	400.00	400.00	100.00	3.28	0.40
401	401.00	400.00	101.00	3.28	0.39
402	402.00	400.00	102.00	3.28	0.38
403	403.00	400.00	103.00	3.28	0.37
404	404.00	400.00	104.00	3.28	0.36
405	405.00	400.00	105.00	3.28	0.35
406	406.00	400.00	106.00	3.28	0.35
407	407.00	400.00	107.00	3.28	0.34
408	408.00	400.00	108.00	3.28	0.33
409	409.00	400.00	109.00	3.28	0.32
410	410.00	400.00	110.00	3.28	0.32
411	411.00	400.00	111.00	3.28	0.31
412	412.00	400.00	112.00	3.28	0.30
413	413.00	400.00	113.00	3.28	0.29
414	414.00	400.00	114.00	3.28	0.29
415	415.00	400.00	115.00	3.28	0.28

416	416.00	400.00	116.00	3.28	0.28
417	417.00	400.00	117.00	3.28	0.27
418	418.00	400.00	118.00	3.28	0.26
419	419.00	400.00	119.00	3.28	0.26
420	420.00	400.00	120.00	3.28	0.25
421	421.00	400.00	121.00	3.28	0.25
422	422.00	400.00	122.00	3.28	0.24
423	423.00	400.00	123.00	3.28	0.24
424	424.00	400.00	124.00	3.28	0.23
425	425.00	400.00	125.00	3.28	0.23
426	426.00	400.00	126.00	3.28	0.22
427	427.00	400.00	127.00	3.28	0.22
428	428.00	400.00	128.00	3.28	0.21
429	429.00	400.00	129.00	3.28	0.21
430	430.00	400.00	130.00	3.28	0.20
431	431.00	400.00	131.00	3.28	0.20
432	432.00	400.00	132.00	3.28	0.20
433	433.00	400.00	133.00	3.28	0.19
434	434.00	400.00	134.00	3.28	0.19
435	435.00	400.00	135.00	3.28	0.19
436	436.00	400.00	136.00	3.28	0.18
437	437.00	400.00	137.00	3.28	0.18
438	438.00	400.00	138.00	3.28	0.17
439	439.00	400.00	139.00	3.28	0.17
440	440.00	400.00	140.00	3.28	0.17
441	441.00	400.00	141.00	3.28	0.17
442	442.00	400.00	142.00	3.28	0.16
443	443.00	400.00	143.00	3.28	0.16
444	444.00	400.00	144.00	3.28	0.16
445	445.00	400.00	145.00	3.28	0.15
446	446.00	400.00	146.00	3.28	0.15
447	447.00	400.00	147.00	3.28	0.15
448	448.00	400.00	148.00	3.28	0.15
449	449.00	400.00	149.00	3.28	0.14
450	450.00	400.00	150.00	3.28	0.14
451	451.00	400.00	151.00	3.28	0.14
452	452.00	400.00	152.00	3.28	0.14
453	453.00	400.00	153.00	3.28	0.13
454	454.00	400.00	154.00	3.28	0.13
455	455.00	400.00	155.00	3.28	0.13
456	456.00	400.00	156.00	3.28	0.13
457	457.00	400.00	157.00	3.28	0.12
458	458.00	400.00	158.00	3.28	0.12
459	459.00	400.00	159.00	3.28	0.12
460	460.00	400.00	160.00	3.28	0.12
461	461.00	400.00	161.00	3.28	0.12
462	462.00	400.00	162.00	3.28	0.11
463	463.00	400.00	163.00	3.28	0.11
464	464.00	400.00	164.00	3.28	0.11
465	465.00	400.00	165.00	3.28	0.11
466	466.00	400.00	166.00	3.28	0.11
467	467.00	400.00	167.00	3.28	0.11
468	468.00	400.00	168.00	3.28	0.10
469	469.00	400.00	169.00	3.28	0.10
470	470.00	400.00	170.00	3.28	0.10
471	471.00	400.00	171.00	3.28	0.10
472	472.00	400.00	172.00	3.28	0.10
473	473.00	400.00	173.00	3.28	0.10
474	474.00	400.00	174.00	3.28	0.10
475	475.00	400.00	175.00	3.28	0.09
476	476.00	400.00	176.00	3.28	0.09
477	477.00	400.00	177.00	3.28	0.09
478	478.00	400.00	178.00	3.28	0.09

479	479.00	400.00	179.00	3.28	0.09
480	480.00	400.00	180.00	3.28	0.09
481	481.00	400.00	181.00	3.28	0.09
482	482.00	400.00	182.00	3.28	0.09
483	483.00	400.00	183.00	3.28	0.08
484	484.00	400.00	184.00	3.28	0.08
485	485.00	400.00	185.00	3.28	0.08
486	486.00	400.00	186.00	3.28	0.08
487	487.00	400.00	187.00	3.28	0.08
488	488.00	400.00	188.00	3.28	0.08
489	489.00	400.00	189.00	3.28	0.08
490	490.00	400.00	190.00	3.28	0.08
491	491.00	400.00	191.00	3.28	0.08
492	492.00	400.00	192.00	3.28	0.07
493	493.00	400.00	193.00	3.28	0.07
494	494.00	400.00	194.00	3.28	0.07
495	495.00	400.00	195.00	3.28	0.07
496	496.00	400.00	196.00	3.28	0.07
497	497.00	400.00	197.00	3.28	0.07
498	498.00	400.00	198.00	3.28	0.07
499	499.00	400.00	199.00	3.28	0.07
500	500.00	400.00	200.00	3.28	0.07
501	501.00	400.00	201.00	3.28	0.07
502	502.00	400.00	202.00	3.28	0.07
503	503.00	400.00	203.00	3.28	0.06
504	504.00	400.00	204.00	3.28	0.06
505	505.00	400.00	205.00	3.28	0.06
506	506.00	400.00	206.00	3.28	0.06
507	507.00	400.00	207.00	3.28	0.06
508	508.00	400.00	208.00	3.28	0.06
509	509.00	400.00	209.00	3.28	0.06
510	510.00	400.00	210.00	3.28	0.06
511	511.00	400.00	211.00	3.28	0.06
512	512.00	400.00	212.00	3.28	0.06
513	513.00	400.00	213.00	3.28	0.06
514	514.00	400.00	214.00	3.28	0.06
515	515.00	400.00	215.00	3.28	0.06
516	516.00	400.00	216.00	3.28	0.06
517	517.00	400.00	217.00	3.28	0.05
518	518.00	400.00	218.00	3.28	0.05
519	519.00	400.00	219.00	3.28	0.05
520	520.00	400.00	220.00	3.28	0.05
521	521.00	400.00	221.00	3.28	0.05
522	522.00	400.00	222.00	3.28	0.05
523	523.00	400.00	223.00	3.28	0.05
524	524.00	400.00	224.00	3.28	0.05
525	525.00	400.00	225.00	3.28	0.05
526	526.00	400.00	226.00	3.28	0.05
527	527.00	400.00	227.00	3.28	0.05
528	528.00	400.00	228.00	3.28	0.05
529	529.00	400.00	229.00	3.28	0.05
530	530.00	400.00	230.00	3.28	0.05
531	531.00	400.00	231.00	3.28	0.05
532	532.00	400.00	232.00	3.28	0.05
533	533.00	400.00	233.00	3.28	0.05
534	534.00	400.00	234.00	3.28	0.04
535	535.00	400.00	235.00	3.28	0.04
536	536.00	400.00	236.00	3.28	0.04
537	537.00	400.00	237.00	3.28	0.04
538	538.00	400.00	238.00	3.28	0.04
539	539.00	400.00	239.00	3.28	0.04
540	540.00	400.00	240.00	3.28	0.04
541	541.00	400.00	241.00	3.28	0.04

542	542.00	400.00	242.00	3.28	0.04
543	543.00	400.00	243.00	3.28	0.04
544	544.00	400.00	244.00	3.28	0.04
545	545.00	400.00	245.00	3.28	0.04
546	546.00	400.00	246.00	3.28	0.04
547	547.00	400.00	247.00	3.28	0.04
548	548.00	400.00	248.00	3.28	0.04
549	549.00	400.00	249.00	3.28	0.04
550	550.00	400.00	250.00	3.28	0.04
551	551.00	400.00	251.00	3.28	0.04
552	552.00	400.00	252.00	3.28	0.04
553	553.00	400.00	253.00	3.28	0.04
554	554.00	400.00	254.00	3.28	0.04
555	555.00	400.00	255.00	3.28	0.04
556	556.00	400.00	256.00	3.28	0.04
557	557.00	400.00	257.00	3.28	0.04
558	558.00	400.00	258.00	3.28	0.04
559	559.00	400.00	259.00	3.28	0.03
560	560.00	400.00	260.00	3.28	0.03
561	561.00	400.00	261.00	3.28	0.03
562	562.00	400.00	262.00	3.28	0.03
563	563.00	400.00	263.00	3.28	0.03
564	564.00	400.00	264.00	3.28	0.03
565	565.00	400.00	265.00	3.28	0.03
566	566.00	400.00	266.00	3.28	0.03
567	567.00	400.00	267.00	3.28	0.03
568	568.00	400.00	268.00	3.28	0.03
569	569.00	400.00	269.00	3.28	0.03
570	570.00	400.00	270.00	3.28	0.03
571	571.00	400.00	271.00	3.28	0.03
572	572.00	400.00	272.00	3.28	0.03
573	573.00	400.00	273.00	3.28	0.03
574	574.00	400.00	274.00	3.28	0.03
575	575.00	400.00	275.00	3.28	0.03
576	576.00	400.00	276.00	3.28	0.03
577	577.00	400.00	277.00	3.28	0.03
578	578.00	400.00	278.00	3.28	0.03
579	579.00	400.00	279.00	3.28	0.03
580	580.00	400.00	280.00	3.28	0.03
581	581.00	400.00	281.00	3.28	0.03
582	582.00	400.00	282.00	3.28	0.03
583	583.00	400.00	283.00	3.28	0.03
584	584.00	400.00	284.00	3.28	0.03
585	585.00	400.00	285.00	3.28	0.03
586	586.00	400.00	286.00	3.28	0.03
587	587.00	400.00	287.00	3.28	0.03
588	588.00	400.00	288.00	3.28	0.03
589	589.00	400.00	289.00	3.28	0.03
590	590.00	400.00	290.00	3.28	0.03
591	591.00	400.00	291.00	3.28	0.03
592	592.00	400.00	292.00	3.28	0.03
593	593.00	400.00	293.00	3.28	0.03
594	594.00	400.00	294.00	3.28	0.03
595	595.00	400.00	295.00	3.28	0.02
596	596.00	400.00	296.00	3.28	0.02
597	597.00	400.00	297.00	3.28	0.02
598	598.00	400.00	298.00	3.28	0.02
599	599.00	400.00	299.00	3.28	0.02
600	600.00	400.00	300.00	3.28	0.02

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Model Load 1"

Field Components = Resultant
 Distance units = (ft)
 Magnetic field units = mG

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	0.00
1	1.00	400.00	-299.00	3.28	0.00
2	2.00	400.00	-298.00	3.28	0.00
3	3.00	400.00	-297.00	3.28	0.00
4	4.00	400.00	-296.00	3.28	0.00
5	5.00	400.00	-295.00	3.28	0.00
6	6.00	400.00	-294.00	3.28	0.00
7	7.00	400.00	-293.00	3.28	0.00
8	8.00	400.00	-292.00	3.28	0.00
9	9.00	400.00	-291.00	3.28	0.00
10	10.00	400.00	-290.00	3.28	0.00
11	11.00	400.00	-289.00	3.28	0.00
12	12.00	400.00	-288.00	3.28	0.00
13	13.00	400.00	-287.00	3.28	0.00
14	14.00	400.00	-286.00	3.28	0.00
15	15.00	400.00	-285.00	3.28	0.00
16	16.00	400.00	-284.00	3.28	0.00
17	17.00	400.00	-283.00	3.28	0.00
18	18.00	400.00	-282.00	3.28	0.00
19	19.00	400.00	-281.00	3.28	0.00
20	20.00	400.00	-280.00	3.28	0.00
21	21.00	400.00	-279.00	3.28	0.00
22	22.00	400.00	-278.00	3.28	0.00
23	23.00	400.00	-277.00	3.28	0.00
24	24.00	400.00	-276.00	3.28	0.00
25	25.00	400.00	-275.00	3.28	0.00
26	26.00	400.00	-274.00	3.28	0.00
27	27.00	400.00	-273.00	3.28	0.00
28	28.00	400.00	-272.00	3.28	0.00
29	29.00	400.00	-271.00	3.28	0.00
30	30.00	400.00	-270.00	3.28	0.00
31	31.00	400.00	-269.00	3.28	0.00
32	32.00	400.00	-268.00	3.28	0.00
33	33.00	400.00	-267.00	3.28	0.00
34	34.00	400.00	-266.00	3.28	0.00
35	35.00	400.00	-265.00	3.28	0.00
36	36.00	400.00	-264.00	3.28	0.00
37	37.00	400.00	-263.00	3.28	0.00
38	38.00	400.00	-262.00	3.28	0.00
39	39.00	400.00	-261.00	3.28	0.00
40	40.00	400.00	-260.00	3.28	0.00
41	41.00	400.00	-259.00	3.28	0.00
42	42.00	400.00	-258.00	3.28	0.00
43	43.00	400.00	-257.00	3.28	0.00
44	44.00	400.00	-256.00	3.28	0.00
45	45.00	400.00	-255.00	3.28	0.00
46	46.00	400.00	-254.00	3.28	0.00
47	47.00	400.00	-253.00	3.28	0.00
48	48.00	400.00	-252.00	3.28	0.00
49	49.00	400.00	-251.00	3.28	0.00
50	50.00	400.00	-250.00	3.28	0.00
51	51.00	400.00	-249.00	3.28	0.00

52	52.00	400.00	-248.00	3.28	0.00
53	53.00	400.00	-247.00	3.28	0.00
54	54.00	400.00	-246.00	3.28	0.00
55	55.00	400.00	-245.00	3.28	0.00
56	56.00	400.00	-244.00	3.28	0.00
57	57.00	400.00	-243.00	3.28	0.00
58	58.00	400.00	-242.00	3.28	0.00
59	59.00	400.00	-241.00	3.28	0.00
60	60.00	400.00	-240.00	3.28	0.00
61	61.00	400.00	-239.00	3.28	0.00
62	62.00	400.00	-238.00	3.28	0.00
63	63.00	400.00	-237.00	3.28	0.00
64	64.00	400.00	-236.00	3.28	0.00
65	65.00	400.00	-235.00	3.28	0.00
66	66.00	400.00	-234.00	3.28	0.00
67	67.00	400.00	-233.00	3.28	0.00
68	68.00	400.00	-232.00	3.28	0.00
69	69.00	400.00	-231.00	3.28	0.00
70	70.00	400.00	-230.00	3.28	0.00
71	71.00	400.00	-229.00	3.28	0.00
72	72.00	400.00	-228.00	3.28	0.00
73	73.00	400.00	-227.00	3.28	0.00
74	74.00	400.00	-226.00	3.28	0.00
75	75.00	400.00	-225.00	3.28	0.00
76	76.00	400.00	-224.00	3.28	0.00
77	77.00	400.00	-223.00	3.28	0.00
78	78.00	400.00	-222.00	3.28	0.00
79	79.00	400.00	-221.00	3.28	0.00
80	80.00	400.00	-220.00	3.28	0.00
81	81.00	400.00	-219.00	3.28	0.00
82	82.00	400.00	-218.00	3.28	0.00
83	83.00	400.00	-217.00	3.28	0.00
84	84.00	400.00	-216.00	3.28	0.00
85	85.00	400.00	-215.00	3.28	0.00
86	86.00	400.00	-214.00	3.28	0.00
87	87.00	400.00	-213.00	3.28	0.00
88	88.00	400.00	-212.00	3.28	0.00
89	89.00	400.00	-211.00	3.28	0.00
90	90.00	400.00	-210.00	3.28	0.00
91	91.00	400.00	-209.00	3.28	0.00
92	92.00	400.00	-208.00	3.28	0.00
93	93.00	400.00	-207.00	3.28	0.00
94	94.00	400.00	-206.00	3.28	0.00
95	95.00	400.00	-205.00	3.28	0.00
96	96.00	400.00	-204.00	3.28	0.00
97	97.00	400.00	-203.00	3.28	0.00
98	98.00	400.00	-202.00	3.28	0.00
99	99.00	400.00	-201.00	3.28	0.00
100	100.00	400.00	-200.00	3.28	0.00
101	101.00	400.00	-199.00	3.28	0.00
102	102.00	400.00	-198.00	3.28	0.00
103	103.00	400.00	-197.00	3.28	0.00
104	104.00	400.00	-196.00	3.28	0.00
105	105.00	400.00	-195.00	3.28	0.00
106	106.00	400.00	-194.00	3.28	0.00
107	107.00	400.00	-193.00	3.28	0.00
108	108.00	400.00	-192.00	3.28	0.00
109	109.00	400.00	-191.00	3.28	0.00
110	110.00	400.00	-190.00	3.28	0.00
111	111.00	400.00	-189.00	3.28	0.00
112	112.00	400.00	-188.00	3.28	0.00
113	113.00	400.00	-187.00	3.28	0.00
114	114.00	400.00	-186.00	3.28	0.00

115	115.00	400.00	-185.00	3.28	0.00
116	116.00	400.00	-184.00	3.28	0.00
117	117.00	400.00	-183.00	3.28	0.00
118	118.00	400.00	-182.00	3.28	0.00
119	119.00	400.00	-181.00	3.28	0.00
120	120.00	400.00	-180.00	3.28	0.00
121	121.00	400.00	-179.00	3.28	0.00
122	122.00	400.00	-178.00	3.28	0.00
123	123.00	400.00	-177.00	3.28	0.00
124	124.00	400.00	-176.00	3.28	0.00
125	125.00	400.00	-175.00	3.28	0.00
126	126.00	400.00	-174.00	3.28	0.00
127	127.00	400.00	-173.00	3.28	0.00
128	128.00	400.00	-172.00	3.28	0.00
129	129.00	400.00	-171.00	3.28	0.00
130	130.00	400.00	-170.00	3.28	0.00
131	131.00	400.00	-169.00	3.28	0.00
132	132.00	400.00	-168.00	3.28	0.00
133	133.00	400.00	-167.00	3.28	0.00
134	134.00	400.00	-166.00	3.28	0.00
135	135.00	400.00	-165.00	3.28	0.00
136	136.00	400.00	-164.00	3.28	0.00
137	137.00	400.00	-163.00	3.28	0.00
138	138.00	400.00	-162.00	3.28	0.00
139	139.00	400.00	-161.00	3.28	0.00
140	140.00	400.00	-160.00	3.28	0.00
141	141.00	400.00	-159.00	3.28	0.00
142	142.00	400.00	-158.00	3.28	0.00
143	143.00	400.00	-157.00	3.28	0.00
144	144.00	400.00	-156.00	3.28	0.00
145	145.00	400.00	-155.00	3.28	0.00
146	146.00	400.00	-154.00	3.28	0.00
147	147.00	400.00	-153.00	3.28	0.00
148	148.00	400.00	-152.00	3.28	0.00
149	149.00	400.00	-151.00	3.28	0.00
150	150.00	400.00	-150.00	3.28	0.00
151	151.00	400.00	-149.00	3.28	0.00
152	152.00	400.00	-148.00	3.28	0.00
153	153.00	400.00	-147.00	3.28	0.00
154	154.00	400.00	-146.00	3.28	0.00
155	155.00	400.00	-145.00	3.28	0.00
156	156.00	400.00	-144.00	3.28	0.00
157	157.00	400.00	-143.00	3.28	0.00
158	158.00	400.00	-142.00	3.28	0.00
159	159.00	400.00	-141.00	3.28	0.00
160	160.00	400.00	-140.00	3.28	0.00
161	161.00	400.00	-139.00	3.28	0.00
162	162.00	400.00	-138.00	3.28	0.00
163	163.00	400.00	-137.00	3.28	0.00
164	164.00	400.00	-136.00	3.28	0.00
165	165.00	400.00	-135.00	3.28	0.00
166	166.00	400.00	-134.00	3.28	0.00
167	167.00	400.00	-133.00	3.28	0.00
168	168.00	400.00	-132.00	3.28	0.00
169	169.00	400.00	-131.00	3.28	0.00
170	170.00	400.00	-130.00	3.28	0.00
171	171.00	400.00	-129.00	3.28	0.00
172	172.00	400.00	-128.00	3.28	0.00
173	173.00	400.00	-127.00	3.28	0.00
174	174.00	400.00	-126.00	3.28	0.00
175	175.00	400.00	-125.00	3.28	0.00
176	176.00	400.00	-124.00	3.28	0.00
177	177.00	400.00	-123.00	3.28	0.00

178	178.00	400.00	-122.00	3.28	0.00
179	179.00	400.00	-121.00	3.28	0.00
180	180.00	400.00	-120.00	3.28	0.00
181	181.00	400.00	-119.00	3.28	0.00
182	182.00	400.00	-118.00	3.28	0.00
183	183.00	400.00	-117.00	3.28	0.00
184	184.00	400.00	-116.00	3.28	0.00
185	185.00	400.00	-115.00	3.28	0.00
186	186.00	400.00	-114.00	3.28	0.00
187	187.00	400.00	-113.00	3.28	0.00
188	188.00	400.00	-112.00	3.28	0.00
189	189.00	400.00	-111.00	3.28	0.00
190	190.00	400.00	-110.00	3.28	0.00
191	191.00	400.00	-109.00	3.28	0.00
192	192.00	400.00	-108.00	3.28	0.00
193	193.00	400.00	-107.00	3.28	0.00
194	194.00	400.00	-106.00	3.28	0.00
195	195.00	400.00	-105.00	3.28	0.00
196	196.00	400.00	-104.00	3.28	0.00
197	197.00	400.00	-103.00	3.28	0.00
198	198.00	400.00	-102.00	3.28	0.00
199	199.00	400.00	-101.00	3.28	0.00
200	200.00	400.00	-100.00	3.28	0.00
201	201.00	400.00	-99.00	3.28	0.00
202	202.00	400.00	-98.00	3.28	0.00
203	203.00	400.00	-97.00	3.28	0.00
204	204.00	400.00	-96.00	3.28	0.00
205	205.00	400.00	-95.00	3.28	0.00
206	206.00	400.00	-94.00	3.28	0.00
207	207.00	400.00	-93.00	3.28	0.00
208	208.00	400.00	-92.00	3.28	0.00
209	209.00	400.00	-91.00	3.28	0.00
210	210.00	400.00	-90.00	3.28	0.00
211	211.00	400.00	-89.00	3.28	0.00
212	212.00	400.00	-88.00	3.28	0.00
213	213.00	400.00	-87.00	3.28	0.00
214	214.00	400.00	-86.00	3.28	0.00
215	215.00	400.00	-85.00	3.28	0.00
216	216.00	400.00	-84.00	3.28	0.00
217	217.00	400.00	-83.00	3.28	0.00
218	218.00	400.00	-82.00	3.28	0.00
219	219.00	400.00	-81.00	3.28	0.00
220	220.00	400.00	-80.00	3.28	0.00
221	221.00	400.00	-79.00	3.28	0.00
222	222.00	400.00	-78.00	3.28	0.00
223	223.00	400.00	-77.00	3.28	0.00
224	224.00	400.00	-76.00	3.28	0.00
225	225.00	400.00	-75.00	3.28	0.00
226	226.00	400.00	-74.00	3.28	0.00
227	227.00	400.00	-73.00	3.28	0.00
228	228.00	400.00	-72.00	3.28	0.00
229	229.00	400.00	-71.00	3.28	0.00
230	230.00	400.00	-70.00	3.28	0.00
231	231.00	400.00	-69.00	3.28	0.00
232	232.00	400.00	-68.00	3.28	0.00
233	233.00	400.00	-67.00	3.28	0.00
234	234.00	400.00	-66.00	3.28	0.00
235	235.00	400.00	-65.00	3.28	0.00
236	236.00	400.00	-64.00	3.28	0.00
237	237.00	400.00	-63.00	3.28	0.00
238	238.00	400.00	-62.00	3.28	0.00
239	239.00	400.00	-61.00	3.28	0.00
240	240.00	400.00	-60.00	3.28	0.00

241	241.00	400.00	-59.00	3.28	0.00
242	242.00	400.00	-58.00	3.28	0.00
243	243.00	400.00	-57.00	3.28	0.00
244	244.00	400.00	-56.00	3.28	0.00
245	245.00	400.00	-55.00	3.28	0.00
246	246.00	400.00	-54.00	3.28	0.00
247	247.00	400.00	-53.00	3.28	0.00
248	248.00	400.00	-52.00	3.28	0.00
249	249.00	400.00	-51.00	3.28	0.00
250	250.00	400.00	-50.00	3.28	0.00
251	251.00	400.00	-49.00	3.28	0.00
252	252.00	400.00	-48.00	3.28	0.00
253	253.00	400.00	-47.00	3.28	0.00
254	254.00	400.00	-46.00	3.28	0.00
255	255.00	400.00	-45.00	3.28	0.00
256	256.00	400.00	-44.00	3.28	0.00
257	257.00	400.00	-43.00	3.28	0.00
258	258.00	400.00	-42.00	3.28	0.00
259	259.00	400.00	-41.00	3.28	0.00
260	260.00	400.00	-40.00	3.28	0.00
261	261.00	400.00	-39.00	3.28	0.00
262	262.00	400.00	-38.00	3.28	0.00
263	263.00	400.00	-37.00	3.28	0.00
264	264.00	400.00	-36.00	3.28	0.00
265	265.00	400.00	-35.00	3.28	0.00
266	266.00	400.00	-34.00	3.28	0.00
267	267.00	400.00	-33.00	3.28	0.00
268	268.00	400.00	-32.00	3.28	0.00
269	269.00	400.00	-31.00	3.28	0.00
270	270.00	400.00	-30.00	3.28	0.00
271	271.00	400.00	-29.00	3.28	0.00
272	272.00	400.00	-28.00	3.28	0.00
273	273.00	400.00	-27.00	3.28	0.00
274	274.00	400.00	-26.00	3.28	0.00
275	275.00	400.00	-25.00	3.28	0.00
276	276.00	400.00	-24.00	3.28	0.00
277	277.00	400.00	-23.00	3.28	0.00
278	278.00	400.00	-22.00	3.28	0.00
279	279.00	400.00	-21.00	3.28	0.00
280	280.00	400.00	-20.00	3.28	0.00
281	281.00	400.00	-19.00	3.28	0.00
282	282.00	400.00	-18.00	3.28	0.00
283	283.00	400.00	-17.00	3.28	0.00
284	284.00	400.00	-16.00	3.28	0.00
285	285.00	400.00	-15.00	3.28	0.00
286	286.00	400.00	-14.00	3.28	0.00
287	287.00	400.00	-13.00	3.28	0.00
288	288.00	400.00	-12.00	3.28	0.00
289	289.00	400.00	-11.00	3.28	0.00
290	290.00	400.00	-10.00	3.28	0.00
291	291.00	400.00	-9.00	3.28	0.00
292	292.00	400.00	-8.00	3.28	0.00
293	293.00	400.00	-7.00	3.28	0.00
294	294.00	400.00	-6.00	3.28	0.00
295	295.00	400.00	-5.00	3.28	0.00
296	296.00	400.00	-4.00	3.28	0.00
297	297.00	400.00	-3.00	3.28	0.00
298	298.00	400.00	-2.00	3.28	0.00
299	299.00	400.00	-1.00	3.28	0.00
300	300.00	400.00	0.00	3.28	0.00
301	301.00	400.00	1.00	3.28	0.00
302	302.00	400.00	2.00	3.28	0.00
303	303.00	400.00	3.00	3.28	0.00

304	304.00	400.00	4.00	3.28	0.00
305	305.00	400.00	5.00	3.28	0.00
306	306.00	400.00	6.00	3.28	0.00
307	307.00	400.00	7.00	3.28	0.00
308	308.00	400.00	8.00	3.28	0.00
309	309.00	400.00	9.00	3.28	0.00
310	310.00	400.00	10.00	3.28	0.00
311	311.00	400.00	11.00	3.28	0.00
312	312.00	400.00	12.00	3.28	0.00
313	313.00	400.00	13.00	3.28	0.00
314	314.00	400.00	14.00	3.28	0.00
315	315.00	400.00	15.00	3.28	0.00
316	316.00	400.00	16.00	3.28	0.00
317	317.00	400.00	17.00	3.28	0.00
318	318.00	400.00	18.00	3.28	0.00
319	319.00	400.00	19.00	3.28	0.00
320	320.00	400.00	20.00	3.28	0.00
321	321.00	400.00	21.00	3.28	0.00
322	322.00	400.00	22.00	3.28	0.00
323	323.00	400.00	23.00	3.28	0.00
324	324.00	400.00	24.00	3.28	0.00
325	325.00	400.00	25.00	3.28	0.00
326	326.00	400.00	26.00	3.28	0.00
327	327.00	400.00	27.00	3.28	0.00
328	328.00	400.00	28.00	3.28	0.00
329	329.00	400.00	29.00	3.28	0.00
330	330.00	400.00	30.00	3.28	0.00
331	331.00	400.00	31.00	3.28	0.00
332	332.00	400.00	32.00	3.28	0.00
333	333.00	400.00	33.00	3.28	0.00
334	334.00	400.00	34.00	3.28	0.00
335	335.00	400.00	35.00	3.28	0.00
336	336.00	400.00	36.00	3.28	0.00
337	337.00	400.00	37.00	3.28	0.00
338	338.00	400.00	38.00	3.28	0.00
339	339.00	400.00	39.00	3.28	0.00
340	340.00	400.00	40.00	3.28	0.00
341	341.00	400.00	41.00	3.28	0.00
342	342.00	400.00	42.00	3.28	0.00
343	343.00	400.00	43.00	3.28	0.00
344	344.00	400.00	44.00	3.28	0.00
345	345.00	400.00	45.00	3.28	0.00
346	346.00	400.00	46.00	3.28	0.00
347	347.00	400.00	47.00	3.28	0.00
348	348.00	400.00	48.00	3.28	0.00
349	349.00	400.00	49.00	3.28	0.00
350	350.00	400.00	50.00	3.28	0.00
351	351.00	400.00	51.00	3.28	0.00
352	352.00	400.00	52.00	3.28	0.00
353	353.00	400.00	53.00	3.28	0.00
354	354.00	400.00	54.00	3.28	0.00
355	355.00	400.00	55.00	3.28	0.00
356	356.00	400.00	56.00	3.28	0.00
357	357.00	400.00	57.00	3.28	0.00
358	358.00	400.00	58.00	3.28	0.00
359	359.00	400.00	59.00	3.28	0.00
360	360.00	400.00	60.00	3.28	0.00
361	361.00	400.00	61.00	3.28	0.00
362	362.00	400.00	62.00	3.28	0.00
363	363.00	400.00	63.00	3.28	0.00
364	364.00	400.00	64.00	3.28	0.00
365	365.00	400.00	65.00	3.28	0.00
366	366.00	400.00	66.00	3.28	0.00

367	367.00	400.00	67.00	3.28	0.00
368	368.00	400.00	68.00	3.28	0.00
369	369.00	400.00	69.00	3.28	0.00
370	370.00	400.00	70.00	3.28	0.00
371	371.00	400.00	71.00	3.28	0.00
372	372.00	400.00	72.00	3.28	0.00
373	373.00	400.00	73.00	3.28	0.00
374	374.00	400.00	74.00	3.28	0.00
375	375.00	400.00	75.00	3.28	0.00
376	376.00	400.00	76.00	3.28	0.00
377	377.00	400.00	77.00	3.28	0.00
378	378.00	400.00	78.00	3.28	0.00
379	379.00	400.00	79.00	3.28	0.00
380	380.00	400.00	80.00	3.28	0.00
381	381.00	400.00	81.00	3.28	0.00
382	382.00	400.00	82.00	3.28	0.00
383	383.00	400.00	83.00	3.28	0.00
384	384.00	400.00	84.00	3.28	0.00
385	385.00	400.00	85.00	3.28	0.00
386	386.00	400.00	86.00	3.28	0.00
387	387.00	400.00	87.00	3.28	0.00
388	388.00	400.00	88.00	3.28	0.00
389	389.00	400.00	89.00	3.28	0.00
390	390.00	400.00	90.00	3.28	0.00
391	391.00	400.00	91.00	3.28	0.00
392	392.00	400.00	92.00	3.28	0.00
393	393.00	400.00	93.00	3.28	0.00
394	394.00	400.00	94.00	3.28	0.00
395	395.00	400.00	95.00	3.28	0.00
396	396.00	400.00	96.00	3.28	0.00
397	397.00	400.00	97.00	3.28	0.00
398	398.00	400.00	98.00	3.28	0.00
399	399.00	400.00	99.00	3.28	0.00
400	400.00	400.00	100.00	3.28	0.00
401	401.00	400.00	101.00	3.28	0.00
402	402.00	400.00	102.00	3.28	0.00
403	403.00	400.00	103.00	3.28	0.00
404	404.00	400.00	104.00	3.28	0.00
405	405.00	400.00	105.00	3.28	0.00
406	406.00	400.00	106.00	3.28	0.00
407	407.00	400.00	107.00	3.28	0.00
408	408.00	400.00	108.00	3.28	0.00
409	409.00	400.00	109.00	3.28	0.00
410	410.00	400.00	110.00	3.28	0.00
411	411.00	400.00	111.00	3.28	0.00
412	412.00	400.00	112.00	3.28	0.00
413	413.00	400.00	113.00	3.28	0.00
414	414.00	400.00	114.00	3.28	0.00
415	415.00	400.00	115.00	3.28	0.00
416	416.00	400.00	116.00	3.28	0.00
417	417.00	400.00	117.00	3.28	0.00
418	418.00	400.00	118.00	3.28	0.00
419	419.00	400.00	119.00	3.28	0.00
420	420.00	400.00	120.00	3.28	0.00
421	421.00	400.00	121.00	3.28	0.00
422	422.00	400.00	122.00	3.28	0.00
423	423.00	400.00	123.00	3.28	0.00
424	424.00	400.00	124.00	3.28	0.00
425	425.00	400.00	125.00	3.28	0.00
426	426.00	400.00	126.00	3.28	0.00
427	427.00	400.00	127.00	3.28	0.00
428	428.00	400.00	128.00	3.28	0.00
429	429.00	400.00	129.00	3.28	0.00

430	430.00	400.00	130.00	3.28	0.00
431	431.00	400.00	131.00	3.28	0.00
432	432.00	400.00	132.00	3.28	0.00
433	433.00	400.00	133.00	3.28	0.00
434	434.00	400.00	134.00	3.28	0.00
435	435.00	400.00	135.00	3.28	0.00
436	436.00	400.00	136.00	3.28	0.00
437	437.00	400.00	137.00	3.28	0.00
438	438.00	400.00	138.00	3.28	0.00
439	439.00	400.00	139.00	3.28	0.00
440	440.00	400.00	140.00	3.28	0.00
441	441.00	400.00	141.00	3.28	0.00
442	442.00	400.00	142.00	3.28	0.00
443	443.00	400.00	143.00	3.28	0.00
444	444.00	400.00	144.00	3.28	0.00
445	445.00	400.00	145.00	3.28	0.00
446	446.00	400.00	146.00	3.28	0.00
447	447.00	400.00	147.00	3.28	0.00
448	448.00	400.00	148.00	3.28	0.00
449	449.00	400.00	149.00	3.28	0.00
450	450.00	400.00	150.00	3.28	0.00
451	451.00	400.00	151.00	3.28	0.00
452	452.00	400.00	152.00	3.28	0.00
453	453.00	400.00	153.00	3.28	0.00
454	454.00	400.00	154.00	3.28	0.00
455	455.00	400.00	155.00	3.28	0.00
456	456.00	400.00	156.00	3.28	0.00
457	457.00	400.00	157.00	3.28	0.00
458	458.00	400.00	158.00	3.28	0.00
459	459.00	400.00	159.00	3.28	0.00
460	460.00	400.00	160.00	3.28	0.00
461	461.00	400.00	161.00	3.28	0.00
462	462.00	400.00	162.00	3.28	0.00
463	463.00	400.00	163.00	3.28	0.00
464	464.00	400.00	164.00	3.28	0.00
465	465.00	400.00	165.00	3.28	0.00
466	466.00	400.00	166.00	3.28	0.00
467	467.00	400.00	167.00	3.28	0.00
468	468.00	400.00	168.00	3.28	0.00
469	469.00	400.00	169.00	3.28	0.00
470	470.00	400.00	170.00	3.28	0.00
471	471.00	400.00	171.00	3.28	0.00
472	472.00	400.00	172.00	3.28	0.00
473	473.00	400.00	173.00	3.28	0.00
474	474.00	400.00	174.00	3.28	0.00
475	475.00	400.00	175.00	3.28	0.00
476	476.00	400.00	176.00	3.28	0.00
477	477.00	400.00	177.00	3.28	0.00
478	478.00	400.00	178.00	3.28	0.00
479	479.00	400.00	179.00	3.28	0.00
480	480.00	400.00	180.00	3.28	0.00
481	481.00	400.00	181.00	3.28	0.00
482	482.00	400.00	182.00	3.28	0.00
483	483.00	400.00	183.00	3.28	0.00
484	484.00	400.00	184.00	3.28	0.00
485	485.00	400.00	185.00	3.28	0.00
486	486.00	400.00	186.00	3.28	0.00
487	487.00	400.00	187.00	3.28	0.00
488	488.00	400.00	188.00	3.28	0.00
489	489.00	400.00	189.00	3.28	0.00
490	490.00	400.00	190.00	3.28	0.00
491	491.00	400.00	191.00	3.28	0.00
492	492.00	400.00	192.00	3.28	0.00

493	493.00	400.00	193.00	3.28	0.00
494	494.00	400.00	194.00	3.28	0.00
495	495.00	400.00	195.00	3.28	0.00
496	496.00	400.00	196.00	3.28	0.00
497	497.00	400.00	197.00	3.28	0.00
498	498.00	400.00	198.00	3.28	0.00
499	499.00	400.00	199.00	3.28	0.00
500	500.00	400.00	200.00	3.28	0.00
501	501.00	400.00	201.00	3.28	0.00
502	502.00	400.00	202.00	3.28	0.00
503	503.00	400.00	203.00	3.28	0.00
504	504.00	400.00	204.00	3.28	0.00
505	505.00	400.00	205.00	3.28	0.00
506	506.00	400.00	206.00	3.28	0.00
507	507.00	400.00	207.00	3.28	0.00
508	508.00	400.00	208.00	3.28	0.00
509	509.00	400.00	209.00	3.28	0.00
510	510.00	400.00	210.00	3.28	0.00
511	511.00	400.00	211.00	3.28	0.00
512	512.00	400.00	212.00	3.28	0.00
513	513.00	400.00	213.00	3.28	0.00
514	514.00	400.00	214.00	3.28	0.00
515	515.00	400.00	215.00	3.28	0.00
516	516.00	400.00	216.00	3.28	0.00
517	517.00	400.00	217.00	3.28	0.00
518	518.00	400.00	218.00	3.28	0.00
519	519.00	400.00	219.00	3.28	0.00
520	520.00	400.00	220.00	3.28	0.00
521	521.00	400.00	221.00	3.28	0.00
522	522.00	400.00	222.00	3.28	0.00
523	523.00	400.00	223.00	3.28	0.00
524	524.00	400.00	224.00	3.28	0.00
525	525.00	400.00	225.00	3.28	0.00
526	526.00	400.00	226.00	3.28	0.00
527	527.00	400.00	227.00	3.28	0.00
528	528.00	400.00	228.00	3.28	0.00
529	529.00	400.00	229.00	3.28	0.00
530	530.00	400.00	230.00	3.28	0.00
531	531.00	400.00	231.00	3.28	0.00
532	532.00	400.00	232.00	3.28	0.00
533	533.00	400.00	233.00	3.28	0.00
534	534.00	400.00	234.00	3.28	0.00
535	535.00	400.00	235.00	3.28	0.00
536	536.00	400.00	236.00	3.28	0.00
537	537.00	400.00	237.00	3.28	0.00
538	538.00	400.00	238.00	3.28	0.00
539	539.00	400.00	239.00	3.28	0.00
540	540.00	400.00	240.00	3.28	0.00
541	541.00	400.00	241.00	3.28	0.00
542	542.00	400.00	242.00	3.28	0.00
543	543.00	400.00	243.00	3.28	0.00
544	544.00	400.00	244.00	3.28	0.00
545	545.00	400.00	245.00	3.28	0.00
546	546.00	400.00	246.00	3.28	0.00
547	547.00	400.00	247.00	3.28	0.00
548	548.00	400.00	248.00	3.28	0.00
549	549.00	400.00	249.00	3.28	0.00
550	550.00	400.00	250.00	3.28	0.00
551	551.00	400.00	251.00	3.28	0.00
552	552.00	400.00	252.00	3.28	0.00
553	553.00	400.00	253.00	3.28	0.00
554	554.00	400.00	254.00	3.28	0.00
555	555.00	400.00	255.00	3.28	0.00

556	556.00	400.00	256.00	3.28	0.00
557	557.00	400.00	257.00	3.28	0.00
558	558.00	400.00	258.00	3.28	0.00
559	559.00	400.00	259.00	3.28	0.00
560	560.00	400.00	260.00	3.28	0.00
561	561.00	400.00	261.00	3.28	0.00
562	562.00	400.00	262.00	3.28	0.00
563	563.00	400.00	263.00	3.28	0.00
564	564.00	400.00	264.00	3.28	0.00
565	565.00	400.00	265.00	3.28	0.00
566	566.00	400.00	266.00	3.28	0.00
567	567.00	400.00	267.00	3.28	0.00
568	568.00	400.00	268.00	3.28	0.00
569	569.00	400.00	269.00	3.28	0.00
570	570.00	400.00	270.00	3.28	0.00
571	571.00	400.00	271.00	3.28	0.00
572	572.00	400.00	272.00	3.28	0.00
573	573.00	400.00	273.00	3.28	0.00
574	574.00	400.00	274.00	3.28	0.00
575	575.00	400.00	275.00	3.28	0.00
576	576.00	400.00	276.00	3.28	0.00
577	577.00	400.00	277.00	3.28	0.00
578	578.00	400.00	278.00	3.28	0.00
579	579.00	400.00	279.00	3.28	0.00
580	580.00	400.00	280.00	3.28	0.00
581	581.00	400.00	281.00	3.28	0.00
582	582.00	400.00	282.00	3.28	0.00
583	583.00	400.00	283.00	3.28	0.00
584	584.00	400.00	284.00	3.28	0.00
585	585.00	400.00	285.00	3.28	0.00
586	586.00	400.00	286.00	3.28	0.00
587	587.00	400.00	287.00	3.28	0.00
588	588.00	400.00	288.00	3.28	0.00
589	589.00	400.00	289.00	3.28	0.00
590	590.00	400.00	290.00	3.28	0.00
591	591.00	400.00	291.00	3.28	0.00
592	592.00	400.00	292.00	3.28	0.00
593	593.00	400.00	293.00	3.28	0.00
594	594.00	400.00	294.00	3.28	0.00
595	595.00	400.00	295.00	3.28	0.00
596	596.00	400.00	296.00	3.28	0.00
597	597.00	400.00	297.00	3.28	0.00
598	598.00	400.00	298.00	3.28	0.00
599	599.00	400.00	299.00	3.28	0.00
600	600.00	400.00	300.00	3.28	0.00

RESULTS OF ENVIRO PROGRAM

STUDY FILE NAME: C:\PROGRA~1\EPRI\EMFW_251\ENVIRO\CLEANL~1\345DLATT.I01
 DATE: 3/ 5/2014 TIME: 17:33

345 kV Double Lattice (XS-2)

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*****
*                                     BUNDLE INFORMATION                                     *
*****
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BNDL #	CIRC #	VOLTAGE (kV)	ANGLE (DEG)	LOAD (AMPS)	CURRENT ANGLE (DEG)	# OF COND	X (FT)	Y (FT)	PHASE
1	1	362.0	.0	.1	.0	2	-14.0	112.7	A
2	1	362.0	240.0	.1	240.0	2	-25.0	77.7	B
3	1	362.0	120.0	.1	120.0	2	-15.5	52.7	C
4	2	362.0	.0	.1	.0	2	15.5	52.7	A
5	2	362.0	240.0	.1	240.0	2	25.0	77.7	B
6	2	362.0	120.0	.1	120.0	2	14.0	112.7	C
7	1	.0	.0	.0	.0	1	-11.5	142.1	GND
8	2	.0	.0	.0	.0	1	11.5	142.1	GND

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*****
*                                     MINIMUM GROUND CLEARANCE = 52.660 FT.                                     *
*****
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*****
*                                     SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                                     *
*****
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BNDL #	DIAMETER (IN)	SPACING (IN)	DC RESIST. (OHMS/MI)	AC RESIST. (OHMS/MI)	AC REACT. (OHMS/MI)
1	1.293	18.000	.08300	.08510	.380000
2	1.293	18.000	.08300	.08510	.380000
3	1.293	18.000	.08300	.08510	.380000
4	1.293	18.000	.08300	.08510	.380000
5	1.293	18.000	.08300	.08510	.380000
6	1.293	18.000	.08300	.08510	.380000
7	.776	.000	.19270	.19400	.432000
8	.776	.000	.19270	.19400	.432000

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*****
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*****
*                                     *
* MAXIMUM SURFACE GRADIENT (kV/cm) *
*                                     *
*****
```

BNDL #	Type	ACrms	PEAK(+)	PEAK(-)
1	AC	15.06	21.30	-21.30
2	AC	14.74	20.85	-20.85
3	AC	15.46	21.86	-21.86
4	AC	15.46	21.86	-21.86
5	AC	14.74	20.85	-20.85
6	AC	15.06	21.30	-21.30
7	Ground Wire	2.70	3.82	-3.82
8	Ground Wire	2.70	3.82	-3.82

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*****
*
*           AUDIBLE NOISE           *
*
* Microphone is 5.00 feet above ground *
*           Altitude 3000. ft       *
*
*****

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<----- HVTRC CALCULATION METHOD ----->

LATERAL DISTANCE (feet) (meters)		L50 FAIR (dB(A))	L5 RAIN (dB(A))	L50 RAIN (dB(A))	Leq(24) (dB(A))	Ldn (dB(A))
-300.0	-91.44	32.8	51.2	42.2	39.2	46.1
-275.0	-83.82	33.3	51.7	42.7	39.7	46.6
-250.0	-76.20	33.9	52.2	43.2	40.3	47.2
-225.0	-68.58	34.4	52.8	43.8	40.8	47.7
-200.0	-60.96	35.0	53.4	44.4	41.4	48.3
-175.0	-53.34	35.7	54.0	45.1	42.1	49.0
-150.0	-45.72	36.4	54.7	45.8	42.8	49.7
-125.0	-38.10	37.2	55.5	46.5	43.6	50.5
-100.0	-30.48	38.0	56.3	47.4	44.4	51.3
-75.0	-22.86	38.9	57.2	48.3	45.3	52.2
-50.0	-15.24	39.9	58.1	49.2	46.3	53.2
-25.0	-7.62	40.7	58.9	50.0	47.0	53.9
.0	.00	41.0	59.2	50.3	47.3	54.2
25.0	7.62	40.7	58.9	50.0	47.0	53.9
50.0	15.24	39.9	58.1	49.2	46.3	53.2
75.0	22.86	38.9	57.2	48.3	45.3	52.2
100.0	30.48	38.0	56.3	47.4	44.4	51.3
125.0	38.10	37.2	55.5	46.5	43.6	50.5
150.0	45.72	36.4	54.7	45.8	42.8	49.7
175.0	53.34	35.7	54.0	45.1	42.1	49.0
200.0	60.96	35.0	53.4	44.4	41.4	48.3
225.0	68.58	34.4	52.8	43.8	40.8	47.7
250.0	76.20	33.9	52.2	43.2	40.3	47.2
275.0	83.82	33.3	51.7	42.7	39.7	46.6
300.0	91.44	32.8	51.2	42.2	39.2	46.1


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*****
*
*   AUDIBLE NOISE   *
*   (other methods) *
*
* Altitude      3000. ft *
*
*****

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LATERAL DISTANCE		<----- BPA METHOD ----->				<- CRIEPI -->		EdF	ENEL	IREQ
(feet)	(meters)	FAIR WEATHER	L5 RAIN	L50 RAIN	Ldn	AVERAGE	L5 RAIN	L5 RAIN	L5 RAIN	L5 RAIN
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
-300.0	-91.44	17.9	46.4	42.9	.0	.0	.0	.0	.0	.0
-275.0	-83.82	18.3	46.8	43.3	.0	.0	.0	.0	.0	.0
-250.0	-76.20	18.7	47.2	43.7	.0	.0	.0	.0	.0	.0
-225.0	-68.58	19.2	47.7	44.2	.0	.0	.0	.0	.0	.0
-200.0	-60.96	19.7	48.2	44.7	.0	.0	.0	.0	.0	.0
-175.0	-53.34	20.3	48.8	45.3	.0	.0	.0	.0	.0	.0
-150.0	-45.72	21.0	49.5	46.0	.0	.0	.0	.0	.0	.0
-125.0	-38.10	21.7	50.2	46.7	.0	.0	.0	.0	.0	.0
-100.0	-30.48	22.5	51.0	47.5	.0	.0	.0	.0	.0	.0
-75.0	-22.86	23.4	51.9	48.4	.0	.0	.0	.0	.0	.0
-50.0	-15.24	24.3	52.8	49.3	.0	.0	.0	.0	.0	.0
-25.0	-7.62	25.1	53.6	50.1	.0	.0	.0	.0	.0	.0
.0	.00	25.4	53.9	50.4	.0	.0	.0	.0	.0	.0
25.0	7.62	25.1	53.6	50.1	.0	.0	.0	.0	.0	.0
50.0	15.24	24.3	52.8	49.3	.0	.0	.0	.0	.0	.0
75.0	22.86	23.4	51.9	48.4	.0	.0	.0	.0	.0	.0
100.0	30.48	22.5	51.0	47.5	.0	.0	.0	.0	.0	.0
125.0	38.10	21.7	50.2	46.7	.0	.0	.0	.0	.0	.0
150.0	45.72	21.0	49.5	46.0	.0	.0	.0	.0	.0	.0
175.0	53.34	20.3	48.8	45.3	.0	.0	.0	.0	.0	.0
200.0	60.96	19.7	48.2	44.7	.0	.0	.0	.0	.0	.0
225.0	68.58	19.2	47.7	44.2	.0	.0	.0	.0	.0	.0
250.0	76.20	18.7	47.2	43.7	.0	.0	.0	.0	.0	.0
275.0	83.82	18.3	46.8	43.3	.0	.0	.0	.0	.0	.0
300.0	91.44	17.9	46.4	42.9	.0	.0	.0	.0	.0	.0

Audible noise prediction methods do not apply to all line geometries, voltages, or weather conditions. If a prediction method does not apply, the appropriate output data column will be zeros.

Clean Line - Plains & Eastern
 Config. XS-2: Radio Noise, TVI, and Ozone

Ground Clearance: 30.00 ft

	DIST. FROM CENTER OF TOWER (FEET)	COND. HEIGHT (FEET)	MAXIMUM GRADIENT (KV/CM)	SUBCON. DIAM. (IN)	NO. OF SUBCON.	SUBCON SPACING (IN)	VOLTAGE L-N (KV)	CURRENT (AMPS)	PHASE ANGLE (DEGREES)	CORONA LOSSES (KW/MI)
Phase A1	-14.00	90.00	15.05	1.29	2.	18.00	209.00	.00	.00	9.495
Phase B1	-25.00	55.00	14.70	1.29	2.	18.00	209.00	.00	120.00	8.131
Phase C1	-15.50	30.00	15.70	1.29	2.	18.00	209.00	.00	240.00	12.498
Phase C2	14.00	90.00	15.05	1.29	2.	18.00	209.00	.00	240.00	9.495
Phase B2	25.00	55.00	14.70	1.29	2.	18.00	209.00	.00	120.00	8.131
Phase A2	15.50	30.00	15.70	1.29	2.	18.00	209.00	.00	.00	12.498
SW-1	-11.50	119.45	2.71	.77	1.	.00	.00	.00	.00	.000
SW-2	11.50	119.45	2.71	.77	1.	.00	.00	.00	.00	.000

AN MICROPHONE HT.= 4.9 FT. RI ANT. HT.= 6.6 FT, TV ANT. HT.= 9.8 FT, ALTITUDE= 3000. FT
 RI FREQ= 1.000 MHZ, TV FREQ= 75.000 MHZ, WIND VEL.(OZ) = 8.500 MPH, GROUND CONDUCTIVITY = .0 MMHOS/M
 E-FIELD TRANSDUCER HT.= 3.28 FT, B-FIELD TRANSDUCER HT.= 3.28 FT

LATERAL DIST FROM REFERENCE (FEET)	ELECTRIC FIELD KV/M	MAGNETIC FIELD MILLIGAUSS	AUDIBLE NOISE (RAIN) (FAIR)		RADIO INTERFERENCE (RAIN) (FAIR)		TVI TOTAL RAIN DBUV/M	OZONE FOR RAIN RATE OF .10 IN/HR AT GND. PPB
			L50 DBA	L50 DBA	L50 DBUV/M	L50 DBUV/M		
-300.0	.024	.00	43.3	18.3	39.3	22.3	8.9	.000000
-298.0	.024	.00	43.3	18.3	39.4	22.4	9.0	.000000
-296.0	.025	.00	43.3	18.3	39.5	22.5	9.1	.000000
-294.0	.025	.00	43.4	18.4	39.6	22.6	9.3	.000000
-292.0	.026	.00	43.4	18.4	39.7	22.7	9.4	.000000
-290.0	.026	.00	43.4	18.4	39.9	22.9	9.5	.000000
-288.0	.026	.00	43.5	18.5	40.0	23.0	9.6	.000000
-286.0	.027	.00	43.5	18.5	40.1	23.1	9.8	.000000
-284.0	.027	.00	43.5	18.5	40.2	23.2	9.9	.000000
-282.0	.028	.00	43.6	18.6	40.3	23.3	9.9	.000000
-280.0	.028	.00	43.6	18.6	40.4	23.4	10.0	.000000
-278.0	.029	.00	43.6	18.6	40.6	23.6	10.1	.000000
-276.0	.030	.00	43.7	18.7	40.7	23.7	10.1	.000000
-274.0	.030	.00	43.7	18.7	40.8	23.8	10.2	.000000
-272.0	.031	.00	43.8	18.8	40.9	23.9	10.3	.000000
-270.0	.031	.00	43.8	18.8	41.0	24.0	10.3	.000000
-268.0	.032	.00	43.8	18.8	41.2	24.2	10.4	.000000
-266.0	.032	.00	43.9	18.9	41.3	24.3	10.5	.000000
-264.0	.033	.00	43.9	18.9	41.4	24.4	10.5	.000000
-262.0	.034	.00	43.9	18.9	41.5	24.5	10.6	.000000
-260.0	.034	.00	44.0	19.0	41.7	24.7	10.7	.000000
-258.0	.035	.00	44.0	19.0	41.8	24.8	10.7	.000000
-256.0	.036	.00	44.0	19.0	41.9	24.9	10.8	.000000
-254.0	.036	.00	44.1	19.1	42.0	25.0	10.9	.000000
-252.0	.037	.00	44.1	19.1	42.2	25.2	11.0	.000000
-250.0	.038	.00	44.2	19.2	42.3	25.3	11.0	.000000
-248.0	.039	.00	44.2	19.2	42.4	25.4	11.1	.000000
-246.0	.040	.00	44.2	19.2	42.6	25.6	11.2	.000000
-244.0	.040	.00	44.3	19.3	42.7	25.7	11.3	.000000
-242.0	.041	.00	44.3	19.3	42.8	25.8	11.3	.000000
-240.0	.042	.00	44.4	19.4	43.0	26.0	11.4	.000000
-238.0	.043	.00	44.4	19.4	43.1	26.1	11.5	.000000
-236.0	.044	.00	44.4	19.4	43.2	26.2	11.6	.000000
-234.0	.045	.00	44.5	19.5	43.4	26.4	11.6	.000000
-232.0	.046	.00	44.5	19.5	43.5	26.5	11.7	.000000
-230.0	.047	.00	44.6	19.6	43.6	26.6	11.8	.000000
-228.0	.048	.00	44.6	19.6	43.8	26.8	11.9	.000000
-226.0	.049	.00	44.6	19.6	43.9	26.9	12.0	.000000
-224.0	.050	.00	44.7	19.7	44.1	27.1	12.0	.000000
-222.0	.051	.00	44.7	19.7	44.2	27.2	12.1	.000000
-220.0	.053	.00	44.8	19.8	44.3	27.3	12.2	.000000
-218.0	.054	.00	44.8	19.8	44.5	27.5	12.3	.000000
-216.0	.055	.00	44.9	19.9	44.6	27.6	12.4	.000000
-214.0	.056	.00	44.9	19.9	44.8	27.8	12.5	.000000
-212.0	.058	.00	44.9	19.9	44.9	27.9	12.6	.000000
-210.0	.059	.00	45.0	20.0	45.1	28.1	12.6	.000000
-208.0	.061	.00	45.0	20.0	45.2	28.2	12.7	.000000
-206.0	.062	.00	45.1	20.1	45.4	28.4	12.8	.000000
-204.0	.064	.00	45.1	20.1	45.5	28.5	12.9	.000000
-202.0	.065	.00	45.2	20.2	45.7	28.7	13.0	.000000
-200.0	.067	.00	45.2	20.2	45.8	28.8	13.1	.000000

-198.0	.069	.00	45.3	20.3	46.0	29.0	13.2	.000000
-196.0	.071	.00	45.3	20.3	46.1	29.1	13.3	.000000
-194.0	.072	.00	45.4	20.4	46.3	29.3	13.4	.000000
-192.0	.074	.00	45.4	20.4	46.4	29.4	13.5	.000000
-190.0	.076	.00	45.5	20.5	46.6	29.6	13.6	.000000
-188.0	.078	.00	45.5	20.5	46.7	29.7	13.7	.000000
-186.0	.081	.00	45.6	20.6	46.9	29.9	13.8	.000000
-184.0	.083	.00	45.6	20.6	47.1	30.1	13.9	.000000
-182.0	.085	.00	45.7	20.7	47.2	30.2	14.0	.000000
-180.0	.088	.00	45.7	20.7	47.4	30.4	14.1	.000000
-178.0	.090	.00	45.8	20.8	47.5	30.5	14.2	.000000
-176.0	.093	.00	45.8	20.8	47.7	30.7	14.3	.000000
-174.0	.096	.00	45.9	20.9	47.9	30.9	14.4	.000000
-172.0	.098	.00	45.9	20.9	48.0	31.0	14.5	.000000
-170.0	.101	.00	46.0	21.0	48.2	31.2	14.6	.000000
-168.0	.105	.00	46.0	21.0	48.4	31.4	14.7	.000000
-166.0	.108	.00	46.1	21.1	48.5	31.5	14.8	.000000
-164.0	.111	.00	46.1	21.1	48.7	31.7	15.0	.000000
-162.0	.115	.00	46.2	21.2	48.9	31.9	15.1	.000000
-160.0	.119	.00	46.3	21.3	49.1	32.1	15.2	.000000
-158.0	.123	.00	46.3	21.3	49.2	32.2	15.3	.000000
-156.0	.127	.00	46.4	21.4	49.4	32.4	15.4	.000000
-154.0	.131	.00	46.4	21.4	49.6	32.6	15.5	.000000
-152.0	.136	.00	46.5	21.5	49.8	32.8	15.7	.000000
-150.0	.140	.00	46.5	21.5	49.9	32.9	15.8	.000000
-148.0	.145	.00	46.6	21.6	50.1	33.1	15.9	.000000
-146.0	.151	.00	46.7	21.7	50.3	33.3	16.1	.000000
-144.0	.156	.00	46.7	21.7	50.5	33.5	16.2	.000000
-142.0	.162	.00	46.8	21.8	50.7	33.7	16.3	.000000
-140.0	.168	.00	46.9	21.9	50.9	33.9	16.4	.000000
-138.0	.175	.00	46.9	21.9	51.0	34.0	16.6	.000000
-136.0	.181	.00	47.0	22.0	51.2	34.2	16.7	.000000
-134.0	.189	.00	47.1	22.1	51.4	34.4	16.9	.000000
-132.0	.196	.00	47.1	22.1	51.6	34.6	17.0	.000000
-130.0	.204	.00	47.2	22.2	51.8	34.8	17.2	.000000
-128.0	.213	.00	47.3	22.3	52.0	35.0	17.3	.000000
-126.0	.222	.00	47.3	22.3	52.2	35.2	17.5	.000000
-124.0	.231	.00	47.4	22.4	52.4	35.4	17.6	.000000
-122.0	.241	.00	47.5	22.5	52.6	35.6	17.8	.000000
-120.0	.252	.00	47.5	22.5	52.8	35.8	17.9	.000000
-118.0	.263	.00	47.6	22.6	52.9	35.9	18.1	.000000
-116.0	.275	.00	47.7	22.7	53.1	36.1	18.3	.000000
-114.0	.287	.00	47.8	22.8	53.3	36.3	18.4	.000000
-112.0	.301	.00	47.8	22.8	53.5	36.5	18.6	.000000
-110.0	.315	.00	47.9	22.9	53.7	36.7	18.8	.000000
-108.0	.330	.00	48.0	23.0	53.9	36.9	18.9	.000000
-106.0	.346	.00	48.1	23.1	54.1	37.1	19.1	.000000
-104.0	.363	.00	48.2	23.2	54.3	37.3	19.3	.000000
-102.0	.381	.00	48.2	23.2	54.5	37.5	19.5	.000000
-100.0	.400	.00	48.3	23.3	54.7	37.7	19.7	.000000
-98.0	.420	.00	48.4	23.4	54.9	37.9	19.9	.000000
-96.0	.442	.00	48.5	23.5	55.1	38.1	20.1	.000000
-94.0	.464	.00	48.6	23.6	55.3	38.3	20.3	.000000
-92.0	.489	.00	48.7	23.7	55.5	38.5	20.5	.000000
-90.0	.514	.00	48.8	23.8	55.7	38.7	20.7	.000000
-88.0	.542	.00	48.9	23.9	56.0	39.0	20.9	.000000
-86.0	.570	.00	48.9	23.9	56.4	39.4	21.2	.000000
-84.0	.601	.00	49.0	24.0	56.7	39.7	21.4	.000000
-82.0	.634	.00	49.1	24.1	57.1	40.1	21.6	.000000
-80.0	.668	.00	49.2	24.2	57.4	40.4	21.9	.000000
-78.0	.705	.00	49.3	24.3	57.7	40.7	22.1	.000000
-76.0	.745	.00	49.4	24.4	58.1	41.1	22.4	.000000
-74.0	.787	.00	49.5	24.5	58.4	41.4	22.6	.000000
-72.0	.832	.00	49.6	24.6	58.8	41.8	22.9	.000000
-70.0	.880	.00	49.8	24.8	59.1	42.1	23.2	.000000
-68.0	.932	.00	49.9	24.9	59.7	42.7	23.5	.000000
-66.0	.989	.00	50.0	25.0	60.2	43.2	23.8	.000000
-64.0	1.051	.00	50.1	25.1	60.8	43.8	24.1	.000000
-62.0	1.119	.00	50.2	25.2	61.3	44.3	24.4	.000000
-60.0	1.194	.00	50.3	25.3	61.9	44.9	24.7	.000000
-58.0	1.278	.00	50.4	25.4	62.5	45.5	25.0	.000000
-56.0	1.371	.00	50.6	25.6	63.1	46.1	25.4	.000000
-54.0	1.476	.00	50.7	25.7	63.8	46.8	25.7	.000000
-52.0	1.595	.00	50.8	25.8	64.4	47.4	26.1	.000000
-50.0	1.729	.00	50.9	25.9	65.1	48.1	26.4	.000000
-48.0	1.881	.00	51.1	26.1	65.8	48.8	26.8	.000000
-46.0	2.052	.00	51.2	26.2	66.5	49.5	27.2	.000000
-44.0	2.245	.00	51.3	26.3	67.2	50.2	27.6	.000000
-42.0	2.459	.00	51.5	26.5	67.9	50.9	28.0	.000000
-40.0	2.697	.00	51.6	26.6	68.6	51.6	28.4	.000000
-38.0	2.956	.00	51.7	26.7	69.4	52.4	28.9	.000000

-36.0	3.234	.00	51.9	26.9	70.1	53.1	29.3	.000000
-34.0	3.527	.00	52.0	27.0	70.8	53.8	29.7	.000000
-32.0	3.829	.00	52.1	27.1	71.5	54.5	30.1	.000000
-30.0	4.131	.00	52.3	27.3	72.2	55.2	30.6	.000000
-28.0	4.423	.00	52.4	27.4	72.8	55.8	31.0	.000000
-26.0	4.691	.00	52.5	27.5	73.4	56.4	31.3	.000000
-24.0	4.920	.00	52.6	27.6	73.9	56.9	31.7	.000000
-22.0	5.096	.00	52.7	27.7	74.3	57.3	31.9	.000000
-20.0	5.204	.00	52.8	27.8	74.7	57.7	32.2	.000000
-18.0	5.232	.00	52.9	27.9	74.9	57.9	32.3	.000000
-16.0	5.174	.00	53.0	28.0	75.0	58.0	32.4	.000000
-14.0	5.027	.00	53.0	28.0	74.9	57.9	32.4	.000000
-12.0	4.797	.00	53.1	28.1	74.8	57.8	32.2	.000000
-10.0	4.498	.00	53.1	28.1	74.5	57.5	32.1	.000000
-8.0	4.151	.00	53.1	28.1	74.1	57.1	31.8	.000000
-6.0	3.787	.00	53.1	28.1	73.7	56.7	31.5	.000000
-4.0	3.450	.00	53.1	28.1	73.1	56.1	31.2	.000000
-2.0	3.198	.00	53.1	28.1	72.5	55.5	30.8	.000000
.0	3.102	.00	53.1	28.1	71.9	54.9	30.4	.000000
2.0	3.198	.00	53.1	28.1	72.5	55.5	30.8	.000005
4.0	3.450	.00	53.1	28.1	73.1	56.1	31.2	.000028
6.0	3.787	.00	53.1	28.1	73.7	56.7	31.5	.000106
8.0	4.151	.00	53.1	28.1	74.1	57.1	31.8	.000292
10.0	4.498	.00	53.1	28.1	74.5	57.5	32.1	.000646
12.0	4.797	.00	53.1	28.1	74.8	57.8	32.2	.001218
14.0	5.027	.00	53.0	28.0	74.9	57.9	32.4	.002034
16.0	5.174	.00	53.0	28.0	75.0	58.0	32.4	.003098
18.0	5.232	.00	52.9	27.9	74.9	57.9	32.3	.004389
20.0	5.204	.00	52.8	27.8	74.7	57.7	32.2	.005875
22.0	5.096	.00	52.7	27.7	74.3	57.3	31.9	.007514
24.0	4.920	.00	52.6	27.6	73.9	56.9	31.7	.009262
26.0	4.691	.00	52.5	27.5	73.4	56.4	31.3	.011080
28.0	4.423	.00	52.4	27.4	72.8	55.8	31.0	.012929
30.0	4.131	.00	52.3	27.3	72.2	55.2	30.6	.014780
32.0	3.829	.00	52.1	27.1	71.5	54.5	30.1	.016608
34.0	3.527	.00	52.0	27.0	70.8	53.8	29.7	.018403
36.0	3.234	.00	51.9	26.9	70.1	53.1	29.3	.020173
38.0	2.956	.00	51.7	26.7	69.4	52.4	28.9	.021955
40.0	2.697	.00	51.6	26.6	68.6	51.6	28.4	.023801
42.0	2.459	.00	51.5	26.5	67.9	50.9	28.0	.025764
44.0	2.245	.00	51.3	26.3	67.2	50.2	27.6	.027879
46.0	2.052	.00	51.2	26.2	66.5	49.5	27.2	.030162
48.0	1.881	.00	51.1	26.1	65.8	48.8	26.8	.032604
50.0	1.729	.00	50.9	25.9	65.1	48.1	26.4	.035177
52.0	1.595	.00	50.8	25.8	64.4	47.4	26.1	.037847
54.0	1.476	.00	50.7	25.7	63.8	46.8	25.7	.040571
56.0	1.371	.00	50.6	25.6	63.1	46.1	25.4	.043308
58.0	1.278	.00	50.4	25.4	62.5	45.5	25.0	.046020
60.0	1.194	.00	50.3	25.3	61.9	44.9	24.7	.048677
62.0	1.119	.00	50.2	25.2	61.3	44.3	24.4	.051251
64.0	1.051	.00	50.1	25.1	60.8	43.8	24.1	.053723
66.0	.989	.00	50.0	25.0	60.2	43.2	23.8	.056078
68.0	.932	.00	49.9	24.9	59.7	42.7	23.5	.058307
70.0	.880	.00	49.8	24.8	59.1	42.1	23.2	.060406
72.0	.832	.00	49.6	24.6	58.8	41.8	22.9	.062373
74.0	.787	.00	49.5	24.5	58.4	41.4	22.6	.064210
76.0	.745	.00	49.4	24.4	58.1	41.1	22.4	.065920
78.0	.705	.00	49.3	24.3	57.7	40.7	22.1	.067509
80.0	.668	.00	49.2	24.2	57.4	40.4	21.9	.068983
82.0	.634	.00	49.1	24.1	57.1	40.1	21.6	.070350
84.0	.601	.00	49.0	24.0	56.7	39.7	21.4	.071616
86.0	.570	.00	48.9	23.9	56.4	39.4	21.2	.072789
88.0	.542	.00	48.9	23.9	56.0	39.0	20.9	.073875
90.0	.514	.00	48.8	23.8	55.7	38.7	20.7	.074882
92.0	.489	.00	48.7	23.7	55.5	38.5	20.5	.075816
94.0	.464	.00	48.6	23.6	55.3	38.3	20.3	.076682
96.0	.442	.00	48.5	23.5	55.1	38.1	20.1	.077487
98.0	.420	.00	48.4	23.4	54.9	37.9	19.9	.078234
100.0	.400	.00	48.3	23.3	54.7	37.7	19.7	.078929
102.0	.381	.00	48.2	23.2	54.5	37.5	19.5	.079575
104.0	.363	.00	48.2	23.2	54.3	37.3	19.3	.080177
106.0	.346	.00	48.1	23.1	54.1	37.1	19.1	.080737
108.0	.330	.00	48.0	23.0	53.9	36.9	18.9	.081258
110.0	.315	.00	47.9	22.9	53.7	36.7	18.8	.081744
112.0	.301	.00	47.8	22.8	53.5	36.5	18.6	.082196
114.0	.287	.00	47.8	22.8	53.3	36.3	18.4	.082617
116.0	.275	.00	47.7	22.7	53.1	36.1	18.3	.083009
118.0	.263	.00	47.6	22.6	52.9	35.9	18.1	.083374
120.0	.252	.00	47.5	22.5	52.8	35.8	17.9	.083714
122.0	.241	.00	47.5	22.5	52.6	35.6	17.8	.084029
124.0	.231	.00	47.4	22.4	52.4	35.4	17.6	.084323

126.0	.222	.00	47.3	22.3	52.2	35.2	17.5	.084595
128.0	.213	.00	47.3	22.3	52.0	35.0	17.3	.084848
130.0	.204	.00	47.2	22.2	51.8	34.8	17.2	.085082
132.0	.196	.00	47.1	22.1	51.6	34.6	17.0	.085299
134.0	.189	.00	47.1	22.1	51.4	34.4	16.9	.085500
136.0	.181	.00	47.0	22.0	51.2	34.2	16.7	.085684
138.0	.175	.00	46.9	21.9	51.0	34.0	16.6	.085854
140.0	.168	.00	46.9	21.9	50.9	33.9	16.4	.086011
142.0	.162	.00	46.8	21.8	50.7	33.7	16.3	.086154
144.0	.156	.00	46.7	21.7	50.5	33.5	16.2	.086284
146.0	.151	.00	46.7	21.7	50.3	33.3	16.1	.086403
148.0	.145	.00	46.6	21.6	50.1	33.1	15.9	.086511
150.0	.140	.00	46.5	21.5	49.9	32.9	15.8	.086608
152.0	.136	.00	46.5	21.5	49.8	32.8	15.7	.086694
154.0	.131	.00	46.4	21.4	49.6	32.6	15.5	.086771
156.0	.127	.00	46.4	21.4	49.4	32.4	15.4	.086839
158.0	.123	.00	46.3	21.3	49.2	32.2	15.3	.086899
160.0	.119	.00	46.3	21.3	49.1	32.1	15.2	.086949
162.0	.115	.00	46.2	21.2	48.9	31.9	15.1	.086992
164.0	.111	.00	46.1	21.1	48.7	31.7	15.0	.087027
166.0	.108	.00	46.1	21.1	48.5	31.5	14.8	.087055
168.0	.105	.00	46.0	21.0	48.4	31.4	14.7	.087075
170.0	.101	.00	46.0	21.0	48.2	31.2	14.6	.087089
172.0	.098	.00	45.9	20.9	48.0	31.0	14.5	.087096
174.0	.096	.00	45.9	20.9	47.9	30.9	14.4	.087097
176.0	.093	.00	45.8	20.8	47.7	30.7	14.3	.087091
178.0	.090	.00	45.8	20.8	47.5	30.5	14.2	.087080
180.0	.088	.00	45.7	20.7	47.4	30.4	14.1	.087063
182.0	.085	.00	45.7	20.7	47.2	30.2	14.0	.087041
184.0	.083	.00	45.6	20.6	47.1	30.1	13.9	.087014
186.0	.081	.00	45.6	20.6	46.9	29.9	13.8	.086981
188.0	.078	.00	45.5	20.5	46.7	29.7	13.7	.086943
190.0	.076	.00	45.5	20.5	46.6	29.6	13.6	.086901
192.0	.074	.00	45.4	20.4	46.4	29.4	13.5	.086854
194.0	.072	.00	45.4	20.4	46.3	29.3	13.4	.086802
196.0	.071	.00	45.3	20.3	46.1	29.1	13.3	.086746
198.0	.069	.00	45.3	20.3	46.0	29.0	13.2	.086686
200.0	.067	.00	45.2	20.2	45.8	28.8	13.1	.086621
202.0	.065	.00	45.2	20.2	45.7	28.7	13.0	.086553
204.0	.064	.00	45.1	20.1	45.5	28.5	12.9	.086481
206.0	.062	.00	45.1	20.1	45.4	28.4	12.8	.086404
208.0	.061	.00	45.0	20.0	45.2	28.2	12.7	.086325
210.0	.059	.00	45.0	20.0	45.1	28.1	12.6	.086241
212.0	.058	.00	44.9	19.9	44.9	27.9	12.6	.086154
214.0	.056	.00	44.9	19.9	44.8	27.8	12.5	.086064
216.0	.055	.00	44.9	19.9	44.6	27.6	12.4	.085971
218.0	.054	.00	44.8	19.8	44.5	27.5	12.3	.085874
220.0	.053	.00	44.8	19.8	44.3	27.3	12.2	.085774
222.0	.051	.00	44.7	19.7	44.2	27.2	12.1	.085671
224.0	.050	.00	44.7	19.7	44.1	27.1	12.0	.085566
226.0	.049	.00	44.6	19.6	43.9	26.9	12.0	.085457
228.0	.048	.00	44.6	19.6	43.8	26.8	11.9	.085346
230.0	.047	.00	44.6	19.6	43.6	26.6	11.8	.085232
232.0	.046	.00	44.5	19.5	43.5	26.5	11.7	.085115
234.0	.045	.00	44.5	19.5	43.4	26.4	11.6	.084996
236.0	.044	.00	44.4	19.4	43.2	26.2	11.6	.084875
238.0	.043	.00	44.4	19.4	43.1	26.1	11.5	.084751
240.0	.042	.00	44.4	19.4	43.0	26.0	11.4	.084624
242.0	.041	.00	44.3	19.3	42.8	25.8	11.3	.084496
244.0	.040	.00	44.3	19.3	42.7	25.7	11.3	.084365
246.0	.040	.00	44.2	19.2	42.6	25.6	11.2	.084232
248.0	.039	.00	44.2	19.2	42.4	25.4	11.1	.084098
250.0	.038	.00	44.2	19.2	42.3	25.3	11.0	.083961
252.0	.037	.00	44.1	19.1	42.2	25.2	11.0	.083822
254.0	.036	.00	44.1	19.1	42.0	25.0	10.9	.083682
256.0	.036	.00	44.0	19.0	41.9	24.9	10.8	.083540
258.0	.035	.00	44.0	19.0	41.8	24.8	10.7	.083396
260.0	.034	.00	44.0	19.0	41.7	24.7	10.7	.083250
262.0	.034	.00	43.9	18.9	41.5	24.5	10.6	.083103
264.0	.033	.00	43.9	18.9	41.4	24.4	10.5	.082954
266.0	.032	.00	43.9	18.9	41.3	24.3	10.5	.082804
268.0	.032	.00	43.8	18.8	41.2	24.2	10.4	.082652
270.0	.031	.00	43.8	18.8	41.0	24.0	10.3	.082499
272.0	.031	.00	43.8	18.8	40.9	23.9	10.3	.082345
274.0	.030	.00	43.7	18.7	40.8	23.8	10.2	.082189
276.0	.030	.00	43.7	18.7	40.7	23.7	10.1	.082032
278.0	.029	.00	43.6	18.6	40.6	23.6	10.1	.081874
280.0	.028	.00	43.6	18.6	40.4	23.4	10.0	.081715
282.0	.028	.00	43.6	18.6	40.3	23.3	9.9	.081555
284.0	.027	.00	43.5	18.5	40.2	23.2	9.9	.081394
286.0	.027	.00	43.5	18.5	40.1	23.1	9.8	.081231

288.0	.026	.00	43.5	18.5	40.0	23.0	9.6	.081068
290.0	.026	.00	43.4	18.4	39.9	22.9	9.5	.080904
292.0	.026	.00	43.4	18.4	39.7	22.7	9.4	.080739
294.0	.025	.00	43.4	18.4	39.6	22.6	9.3	.080573
296.0	.025	.00	43.3	18.3	39.5	22.5	9.1	.080407
298.0	.024	.00	43.3	18.3	39.4	22.4	9.0	.080239
300.0	.024	.00	43.3	18.3	39.3	22.3	8.9	.080071

AC TRANSMISSION LINE CALCULATION RESULTS
345kV DOUBLE CIRCUIT DANUBE

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XS-3; 345 kV Double Circuit Danube - Electric and Magnetic Field Calculations
 Emf Workstation Conductor Data

Total # of Conductors: 8

-6025.00	-25.75	53.50	6825.00	-25.75	53.50	0.10	0.00
-6025.00	-36.83	28.50	6825.00	-36.83	28.50	0.10	-120.00
-6025.00	-14.38	28.50	6825.00	-14.38	28.50	0.10	120.00
-6025.00	14.38	28.50	6825.00	14.38	28.50	0.10	0.00
-6025.00	36.83	28.50	6825.00	36.83	28.50	0.10	-120.00
-6025.00	25.75	53.50	6825.00	25.75	53.50	0.10	120.00
-6025.00	-17.00	84.10	6825.00	-17.00	84.10	0.00	-80.55
-6025.00	17.00	84.10	6825.00	17.00	84.10	0.00	-23.75

E-Field HORIZONTAL Profile Chart: "Lateral Profile Electric Field - Model Load 1(EF)"

Field Components = Resultant
 Distance units = (ft)
 Electric field units = KV/m

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	EF (KV/m)
0	0.00	400.00	-300.00	3.28	0.04
1	1.00	400.00	-299.00	3.28	0.04
2	2.00	400.00	-298.00	3.28	0.04
3	3.00	400.00	-297.00	3.28	0.04
4	4.00	400.00	-296.00	3.28	0.04
5	5.00	400.00	-295.00	3.28	0.04
6	6.00	400.00	-294.00	3.28	0.04
7	7.00	400.00	-293.00	3.28	0.04
8	8.00	400.00	-292.00	3.28	0.04
9	9.00	400.00	-291.00	3.28	0.04
10	10.00	400.00	-290.00	3.28	0.04
11	11.00	400.00	-289.00	3.28	0.04
12	12.00	400.00	-288.00	3.28	0.04
13	13.00	400.00	-287.00	3.28	0.04
14	14.00	400.00	-286.00	3.28	0.04
15	15.00	400.00	-285.00	3.28	0.04
16	16.00	400.00	-284.00	3.28	0.04
17	17.00	400.00	-283.00	3.28	0.04
18	18.00	400.00	-282.00	3.28	0.04
19	19.00	400.00	-281.00	3.28	0.04
20	20.00	400.00	-280.00	3.28	0.04
21	21.00	400.00	-279.00	3.28	0.04
22	22.00	400.00	-278.00	3.28	0.04
23	23.00	400.00	-277.00	3.28	0.04
24	24.00	400.00	-276.00	3.28	0.05
25	25.00	400.00	-275.00	3.28	0.05
26	26.00	400.00	-274.00	3.28	0.05
27	27.00	400.00	-273.00	3.28	0.05
28	28.00	400.00	-272.00	3.28	0.05
29	29.00	400.00	-271.00	3.28	0.05
30	30.00	400.00	-270.00	3.28	0.05
31	31.00	400.00	-269.00	3.28	0.05
32	32.00	400.00	-268.00	3.28	0.05
33	33.00	400.00	-267.00	3.28	0.05
34	34.00	400.00	-266.00	3.28	0.05
35	35.00	400.00	-265.00	3.28	0.05
36	36.00	400.00	-264.00	3.28	0.05

37	37.00	400.00	-263.00	3.28	0.05
38	38.00	400.00	-262.00	3.28	0.05
39	39.00	400.00	-261.00	3.28	0.05
40	40.00	400.00	-260.00	3.28	0.05
41	41.00	400.00	-259.00	3.28	0.05
42	42.00	400.00	-258.00	3.28	0.05
43	43.00	400.00	-257.00	3.28	0.05
44	44.00	400.00	-256.00	3.28	0.05
45	45.00	400.00	-255.00	3.28	0.05
46	46.00	400.00	-254.00	3.28	0.06
47	47.00	400.00	-253.00	3.28	0.06
48	48.00	400.00	-252.00	3.28	0.06
49	49.00	400.00	-251.00	3.28	0.06
50	50.00	400.00	-250.00	3.28	0.06
51	51.00	400.00	-249.00	3.28	0.06
52	52.00	400.00	-248.00	3.28	0.06
53	53.00	400.00	-247.00	3.28	0.06
54	54.00	400.00	-246.00	3.28	0.06
55	55.00	400.00	-245.00	3.28	0.06
56	56.00	400.00	-244.00	3.28	0.06
57	57.00	400.00	-243.00	3.28	0.06
58	58.00	400.00	-242.00	3.28	0.06
59	59.00	400.00	-241.00	3.28	0.06
60	60.00	400.00	-240.00	3.28	0.06
61	61.00	400.00	-239.00	3.28	0.06
62	62.00	400.00	-238.00	3.28	0.06
63	63.00	400.00	-237.00	3.28	0.07
64	64.00	400.00	-236.00	3.28	0.07
65	65.00	400.00	-235.00	3.28	0.07
66	66.00	400.00	-234.00	3.28	0.07
67	67.00	400.00	-233.00	3.28	0.07
68	68.00	400.00	-232.00	3.28	0.07
69	69.00	400.00	-231.00	3.28	0.07
70	70.00	400.00	-230.00	3.28	0.07
71	71.00	400.00	-229.00	3.28	0.07
72	72.00	400.00	-228.00	3.28	0.07
73	73.00	400.00	-227.00	3.28	0.07
74	74.00	400.00	-226.00	3.28	0.07
75	75.00	400.00	-225.00	3.28	0.07
76	76.00	400.00	-224.00	3.28	0.08
77	77.00	400.00	-223.00	3.28	0.08
78	78.00	400.00	-222.00	3.28	0.08
79	79.00	400.00	-221.00	3.28	0.08
80	80.00	400.00	-220.00	3.28	0.08
81	81.00	400.00	-219.00	3.28	0.08
82	82.00	400.00	-218.00	3.28	0.08
83	83.00	400.00	-217.00	3.28	0.08
84	84.00	400.00	-216.00	3.28	0.08
85	85.00	400.00	-215.00	3.28	0.08
86	86.00	400.00	-214.00	3.28	0.08
87	87.00	400.00	-213.00	3.28	0.09
88	88.00	400.00	-212.00	3.28	0.09
89	89.00	400.00	-211.00	3.28	0.09
90	90.00	400.00	-210.00	3.28	0.09
91	91.00	400.00	-209.00	3.28	0.09
92	92.00	400.00	-208.00	3.28	0.09
93	93.00	400.00	-207.00	3.28	0.09
94	94.00	400.00	-206.00	3.28	0.09
95	95.00	400.00	-205.00	3.28	0.09
96	96.00	400.00	-204.00	3.28	0.10
97	97.00	400.00	-203.00	3.28	0.10
98	98.00	400.00	-202.00	3.28	0.10
99	99.00	400.00	-201.00	3.28	0.10

100	100.00	400.00	-200.00	3.28	0.10
101	101.00	400.00	-199.00	3.28	0.10
102	102.00	400.00	-198.00	3.28	0.10
103	103.00	400.00	-197.00	3.28	0.10
104	104.00	400.00	-196.00	3.28	0.11
105	105.00	400.00	-195.00	3.28	0.11
106	106.00	400.00	-194.00	3.28	0.11
107	107.00	400.00	-193.00	3.28	0.11
108	108.00	400.00	-192.00	3.28	0.11
109	109.00	400.00	-191.00	3.28	0.11
110	110.00	400.00	-190.00	3.28	0.11
111	111.00	400.00	-189.00	3.28	0.12
112	112.00	400.00	-188.00	3.28	0.12
113	113.00	400.00	-187.00	3.28	0.12
114	114.00	400.00	-186.00	3.28	0.12
115	115.00	400.00	-185.00	3.28	0.12
116	116.00	400.00	-184.00	3.28	0.12
117	117.00	400.00	-183.00	3.28	0.12
118	118.00	400.00	-182.00	3.28	0.13
119	119.00	400.00	-181.00	3.28	0.13
120	120.00	400.00	-180.00	3.28	0.13
121	121.00	400.00	-179.00	3.28	0.13
122	122.00	400.00	-178.00	3.28	0.13
123	123.00	400.00	-177.00	3.28	0.14
124	124.00	400.00	-176.00	3.28	0.14
125	125.00	400.00	-175.00	3.28	0.14
126	126.00	400.00	-174.00	3.28	0.14
127	127.00	400.00	-173.00	3.28	0.14
128	128.00	400.00	-172.00	3.28	0.15
129	129.00	400.00	-171.00	3.28	0.15
130	130.00	400.00	-170.00	3.28	0.15
131	131.00	400.00	-169.00	3.28	0.15
132	132.00	400.00	-168.00	3.28	0.15
133	133.00	400.00	-167.00	3.28	0.16
134	134.00	400.00	-166.00	3.28	0.16
135	135.00	400.00	-165.00	3.28	0.16
136	136.00	400.00	-164.00	3.28	0.16
137	137.00	400.00	-163.00	3.28	0.17
138	138.00	400.00	-162.00	3.28	0.17
139	139.00	400.00	-161.00	3.28	0.17
140	140.00	400.00	-160.00	3.28	0.17
141	141.00	400.00	-159.00	3.28	0.18
142	142.00	400.00	-158.00	3.28	0.18
143	143.00	400.00	-157.00	3.28	0.18
144	144.00	400.00	-156.00	3.28	0.19
145	145.00	400.00	-155.00	3.28	0.19
146	146.00	400.00	-154.00	3.28	0.19
147	147.00	400.00	-153.00	3.28	0.20
148	148.00	400.00	-152.00	3.28	0.20
149	149.00	400.00	-151.00	3.28	0.20
150	150.00	400.00	-150.00	3.28	0.21
151	151.00	400.00	-149.00	3.28	0.21
152	152.00	400.00	-148.00	3.28	0.21
153	153.00	400.00	-147.00	3.28	0.22
154	154.00	400.00	-146.00	3.28	0.22
155	155.00	400.00	-145.00	3.28	0.22
156	156.00	400.00	-144.00	3.28	0.23
157	157.00	400.00	-143.00	3.28	0.23
158	158.00	400.00	-142.00	3.28	0.24
159	159.00	400.00	-141.00	3.28	0.24
160	160.00	400.00	-140.00	3.28	0.25
161	161.00	400.00	-139.00	3.28	0.25
162	162.00	400.00	-138.00	3.28	0.26

163	163.00	400.00	-137.00	3.28	0.26
164	164.00	400.00	-136.00	3.28	0.27
165	165.00	400.00	-135.00	3.28	0.27
166	166.00	400.00	-134.00	3.28	0.28
167	167.00	400.00	-133.00	3.28	0.28
168	168.00	400.00	-132.00	3.28	0.29
169	169.00	400.00	-131.00	3.28	0.29
170	170.00	400.00	-130.00	3.28	0.30
171	171.00	400.00	-129.00	3.28	0.31
172	172.00	400.00	-128.00	3.28	0.31
173	173.00	400.00	-127.00	3.28	0.32
174	174.00	400.00	-126.00	3.28	0.33
175	175.00	400.00	-125.00	3.28	0.33
176	176.00	400.00	-124.00	3.28	0.34
177	177.00	400.00	-123.00	3.28	0.35
178	178.00	400.00	-122.00	3.28	0.36
179	179.00	400.00	-121.00	3.28	0.36
180	180.00	400.00	-120.00	3.28	0.37
181	181.00	400.00	-119.00	3.28	0.38
182	182.00	400.00	-118.00	3.28	0.39
183	183.00	400.00	-117.00	3.28	0.40
184	184.00	400.00	-116.00	3.28	0.41
185	185.00	400.00	-115.00	3.28	0.42
186	186.00	400.00	-114.00	3.28	0.43
187	187.00	400.00	-113.00	3.28	0.44
188	188.00	400.00	-112.00	3.28	0.45
189	189.00	400.00	-111.00	3.28	0.47
190	190.00	400.00	-110.00	3.28	0.48
191	191.00	400.00	-109.00	3.28	0.49
192	192.00	400.00	-108.00	3.28	0.50
193	193.00	400.00	-107.00	3.28	0.52
194	194.00	400.00	-106.00	3.28	0.53
195	195.00	400.00	-105.00	3.28	0.55
196	196.00	400.00	-104.00	3.28	0.57
197	197.00	400.00	-103.00	3.28	0.58
198	198.00	400.00	-102.00	3.28	0.60
199	199.00	400.00	-101.00	3.28	0.62
200	200.00	400.00	-100.00	3.28	0.64
201	201.00	400.00	-99.00	3.28	0.66
202	202.00	400.00	-98.00	3.28	0.68
203	203.00	400.00	-97.00	3.28	0.70
204	204.00	400.00	-96.00	3.28	0.73
205	205.00	400.00	-95.00	3.28	0.75
206	206.00	400.00	-94.00	3.28	0.78
207	207.00	400.00	-93.00	3.28	0.81
208	208.00	400.00	-92.00	3.28	0.84
209	209.00	400.00	-91.00	3.28	0.87
210	210.00	400.00	-90.00	3.28	0.90
211	211.00	400.00	-89.00	3.28	0.93
212	212.00	400.00	-88.00	3.28	0.97
213	213.00	400.00	-87.00	3.28	1.01
214	214.00	400.00	-86.00	3.28	1.05
215	215.00	400.00	-85.00	3.28	1.09
216	216.00	400.00	-84.00	3.28	1.14
217	217.00	400.00	-83.00	3.28	1.18
218	218.00	400.00	-82.00	3.28	1.23
219	219.00	400.00	-81.00	3.28	1.29
220	220.00	400.00	-80.00	3.28	1.34
221	221.00	400.00	-79.00	3.28	1.40
222	222.00	400.00	-78.00	3.28	1.46
223	223.00	400.00	-77.00	3.28	1.53
224	224.00	400.00	-76.00	3.28	1.60
225	225.00	400.00	-75.00	3.28	1.67

226	226.00	400.00	-74.00	3.28	1.75
227	227.00	400.00	-73.00	3.28	1.83
228	228.00	400.00	-72.00	3.28	1.92
229	229.00	400.00	-71.00	3.28	2.01
230	230.00	400.00	-70.00	3.28	2.10
231	231.00	400.00	-69.00	3.28	2.20
232	232.00	400.00	-68.00	3.28	2.31
233	233.00	400.00	-67.00	3.28	2.42
234	234.00	400.00	-66.00	3.28	2.53
235	235.00	400.00	-65.00	3.28	2.65
236	236.00	400.00	-64.00	3.28	2.78
237	237.00	400.00	-63.00	3.28	2.91
238	238.00	400.00	-62.00	3.28	3.05
239	239.00	400.00	-61.00	3.28	3.19
240	240.00	400.00	-60.00	3.28	3.33
241	241.00	400.00	-59.00	3.28	3.48
242	242.00	400.00	-58.00	3.28	3.63
243	243.00	400.00	-57.00	3.28	3.79
244	244.00	400.00	-56.00	3.28	3.95
245	245.00	400.00	-55.00	3.28	4.11
246	246.00	400.00	-54.00	3.28	4.27
247	247.00	400.00	-53.00	3.28	4.43
248	248.00	400.00	-52.00	3.28	4.59
249	249.00	400.00	-51.00	3.28	4.74
250	250.00	400.00	-50.00	3.28	4.89
251	251.00	400.00	-49.00	3.28	5.03
252	252.00	400.00	-48.00	3.28	5.16
253	253.00	400.00	-47.00	3.28	5.28
254	254.00	400.00	-46.00	3.28	5.39
255	255.00	400.00	-45.00	3.28	5.48
256	256.00	400.00	-44.00	3.28	5.56
257	257.00	400.00	-43.00	3.28	5.61
258	258.00	400.00	-42.00	3.28	5.64
259	259.00	400.00	-41.00	3.28	5.65
260	260.00	400.00	-40.00	3.28	5.64
261	261.00	400.00	-39.00	3.28	5.60
262	262.00	400.00	-38.00	3.28	5.54
263	263.00	400.00	-37.00	3.28	5.45
264	264.00	400.00	-36.00	3.28	5.34
265	265.00	400.00	-35.00	3.28	5.22
266	266.00	400.00	-34.00	3.28	5.07
267	267.00	400.00	-33.00	3.28	4.92
268	268.00	400.00	-32.00	3.28	4.75
269	269.00	400.00	-31.00	3.28	4.58
270	270.00	400.00	-30.00	3.28	4.42
271	271.00	400.00	-29.00	3.28	4.27
272	272.00	400.00	-28.00	3.28	4.13
273	273.00	400.00	-27.00	3.28	4.02
274	274.00	400.00	-26.00	3.28	3.94
275	275.00	400.00	-25.00	3.28	3.89
276	276.00	400.00	-24.00	3.28	3.87
277	277.00	400.00	-23.00	3.28	3.88
278	278.00	400.00	-22.00	3.28	3.92
279	279.00	400.00	-21.00	3.28	3.99
280	280.00	400.00	-20.00	3.28	4.07
281	281.00	400.00	-19.00	3.28	4.16
282	282.00	400.00	-18.00	3.28	4.25
283	283.00	400.00	-17.00	3.28	4.33
284	284.00	400.00	-16.00	3.28	4.41
285	285.00	400.00	-15.00	3.28	4.48
286	286.00	400.00	-14.00	3.28	4.53
287	287.00	400.00	-13.00	3.28	4.56
288	288.00	400.00	-12.00	3.28	4.58

289	289.00	400.00	-11.00	3.28	4.58
290	290.00	400.00	-10.00	3.28	4.56
291	291.00	400.00	-9.00	3.28	4.52
292	292.00	400.00	-8.00	3.28	4.48
293	293.00	400.00	-7.00	3.28	4.42
294	294.00	400.00	-6.00	3.28	4.36
295	295.00	400.00	-5.00	3.28	4.30
296	296.00	400.00	-4.00	3.28	4.25
297	297.00	400.00	-3.00	3.28	4.20
298	298.00	400.00	-2.00	3.28	4.16
299	299.00	400.00	-1.00	3.28	4.14
300	300.00	400.00	0.00	3.28	4.13
301	301.00	400.00	1.00	3.28	4.14
302	302.00	400.00	2.00	3.28	4.16
303	303.00	400.00	3.00	3.28	4.20
304	304.00	400.00	4.00	3.28	4.25
305	305.00	400.00	5.00	3.28	4.30
306	306.00	400.00	6.00	3.28	4.36
307	307.00	400.00	7.00	3.28	4.42
308	308.00	400.00	8.00	3.28	4.48
309	309.00	400.00	9.00	3.28	4.52
310	310.00	400.00	10.00	3.28	4.56
311	311.00	400.00	11.00	3.28	4.58
312	312.00	400.00	12.00	3.28	4.58
313	313.00	400.00	13.00	3.28	4.56
314	314.00	400.00	14.00	3.28	4.53
315	315.00	400.00	15.00	3.28	4.48
316	316.00	400.00	16.00	3.28	4.41
317	317.00	400.00	17.00	3.28	4.34
318	318.00	400.00	18.00	3.28	4.25
319	319.00	400.00	19.00	3.28	4.16
320	320.00	400.00	20.00	3.28	4.07
321	321.00	400.00	21.00	3.28	3.99
322	322.00	400.00	22.00	3.28	3.92
323	323.00	400.00	23.00	3.28	3.88
324	324.00	400.00	24.00	3.28	3.87
325	325.00	400.00	25.00	3.28	3.89
326	326.00	400.00	26.00	3.28	3.94
327	327.00	400.00	27.00	3.28	4.02
328	328.00	400.00	28.00	3.28	4.13
329	329.00	400.00	29.00	3.28	4.27
330	330.00	400.00	30.00	3.28	4.42
331	331.00	400.00	31.00	3.28	4.58
332	332.00	400.00	32.00	3.28	4.75
333	333.00	400.00	33.00	3.28	4.92
334	334.00	400.00	34.00	3.28	5.07
335	335.00	400.00	35.00	3.28	5.22
336	336.00	400.00	36.00	3.28	5.34
337	337.00	400.00	37.00	3.28	5.45
338	338.00	400.00	38.00	3.28	5.54
339	339.00	400.00	39.00	3.28	5.60
340	340.00	400.00	40.00	3.28	5.64
341	341.00	400.00	41.00	3.28	5.65
342	342.00	400.00	42.00	3.28	5.64
343	343.00	400.00	43.00	3.28	5.61
344	344.00	400.00	44.00	3.28	5.56
345	345.00	400.00	45.00	3.28	5.48
346	346.00	400.00	46.00	3.28	5.39
347	347.00	400.00	47.00	3.28	5.28
348	348.00	400.00	48.00	3.28	5.16
349	349.00	400.00	49.00	3.28	5.03
350	350.00	400.00	50.00	3.28	4.89
351	351.00	400.00	51.00	3.28	4.74

352	352.00	400.00	52.00	3.28	4.59
353	353.00	400.00	53.00	3.28	4.43
354	354.00	400.00	54.00	3.28	4.27
355	355.00	400.00	55.00	3.28	4.11
356	356.00	400.00	56.00	3.28	3.95
357	357.00	400.00	57.00	3.28	3.79
358	358.00	400.00	58.00	3.28	3.63
359	359.00	400.00	59.00	3.28	3.48
360	360.00	400.00	60.00	3.28	3.33
361	361.00	400.00	61.00	3.28	3.19
362	362.00	400.00	62.00	3.28	3.05
363	363.00	400.00	63.00	3.28	2.91
364	364.00	400.00	64.00	3.28	2.78
365	365.00	400.00	65.00	3.28	2.65
366	366.00	400.00	66.00	3.28	2.53
367	367.00	400.00	67.00	3.28	2.42
368	368.00	400.00	68.00	3.28	2.31
369	369.00	400.00	69.00	3.28	2.20
370	370.00	400.00	70.00	3.28	2.10
371	371.00	400.00	71.00	3.28	2.01
372	372.00	400.00	72.00	3.28	1.92
373	373.00	400.00	73.00	3.28	1.83
374	374.00	400.00	74.00	3.28	1.75
375	375.00	400.00	75.00	3.28	1.67
376	376.00	400.00	76.00	3.28	1.60
377	377.00	400.00	77.00	3.28	1.53
378	378.00	400.00	78.00	3.28	1.47
379	379.00	400.00	79.00	3.28	1.40
380	380.00	400.00	80.00	3.28	1.34
381	381.00	400.00	81.00	3.28	1.29
382	382.00	400.00	82.00	3.28	1.23
383	383.00	400.00	83.00	3.28	1.18
384	384.00	400.00	84.00	3.28	1.14
385	385.00	400.00	85.00	3.28	1.09
386	386.00	400.00	86.00	3.28	1.05
387	387.00	400.00	87.00	3.28	1.01
388	388.00	400.00	88.00	3.28	0.97
389	389.00	400.00	89.00	3.28	0.93
390	390.00	400.00	90.00	3.28	0.90
391	391.00	400.00	91.00	3.28	0.87
392	392.00	400.00	92.00	3.28	0.84
393	393.00	400.00	93.00	3.28	0.81
394	394.00	400.00	94.00	3.28	0.78
395	395.00	400.00	95.00	3.28	0.75
396	396.00	400.00	96.00	3.28	0.73
397	397.00	400.00	97.00	3.28	0.70
398	398.00	400.00	98.00	3.28	0.68
399	399.00	400.00	99.00	3.28	0.66
400	400.00	400.00	100.00	3.28	0.64
401	401.00	400.00	101.00	3.28	0.62
402	402.00	400.00	102.00	3.28	0.60
403	403.00	400.00	103.00	3.28	0.58
404	404.00	400.00	104.00	3.28	0.57
405	405.00	400.00	105.00	3.28	0.55
406	406.00	400.00	106.00	3.28	0.53
407	407.00	400.00	107.00	3.28	0.52
408	408.00	400.00	108.00	3.28	0.50
409	409.00	400.00	109.00	3.28	0.49
410	410.00	400.00	110.00	3.28	0.48
411	411.00	400.00	111.00	3.28	0.47
412	412.00	400.00	112.00	3.28	0.45
413	413.00	400.00	113.00	3.28	0.44
414	414.00	400.00	114.00	3.28	0.43

415	415.00	400.00	115.00	3.28	0.42
416	416.00	400.00	116.00	3.28	0.41
417	417.00	400.00	117.00	3.28	0.40
418	418.00	400.00	118.00	3.28	0.39
419	419.00	400.00	119.00	3.28	0.38
420	420.00	400.00	120.00	3.28	0.37
421	421.00	400.00	121.00	3.28	0.36
422	422.00	400.00	122.00	3.28	0.36
423	423.00	400.00	123.00	3.28	0.35
424	424.00	400.00	124.00	3.28	0.34
425	425.00	400.00	125.00	3.28	0.33
426	426.00	400.00	126.00	3.28	0.33
427	427.00	400.00	127.00	3.28	0.32
428	428.00	400.00	128.00	3.28	0.31
429	429.00	400.00	129.00	3.28	0.31
430	430.00	400.00	130.00	3.28	0.30
431	431.00	400.00	131.00	3.28	0.29
432	432.00	400.00	132.00	3.28	0.29
433	433.00	400.00	133.00	3.28	0.28
434	434.00	400.00	134.00	3.28	0.28
435	435.00	400.00	135.00	3.28	0.27
436	436.00	400.00	136.00	3.28	0.27
437	437.00	400.00	137.00	3.28	0.26
438	438.00	400.00	138.00	3.28	0.26
439	439.00	400.00	139.00	3.28	0.25
440	440.00	400.00	140.00	3.28	0.25
441	441.00	400.00	141.00	3.28	0.24
442	442.00	400.00	142.00	3.28	0.24
443	443.00	400.00	143.00	3.28	0.23
444	444.00	400.00	144.00	3.28	0.23
445	445.00	400.00	145.00	3.28	0.22
446	446.00	400.00	146.00	3.28	0.22
447	447.00	400.00	147.00	3.28	0.22
448	448.00	400.00	148.00	3.28	0.21
449	449.00	400.00	149.00	3.28	0.21
450	450.00	400.00	150.00	3.28	0.21
451	451.00	400.00	151.00	3.28	0.20
452	452.00	400.00	152.00	3.28	0.20
453	453.00	400.00	153.00	3.28	0.20
454	454.00	400.00	154.00	3.28	0.19
455	455.00	400.00	155.00	3.28	0.19
456	456.00	400.00	156.00	3.28	0.19
457	457.00	400.00	157.00	3.28	0.18
458	458.00	400.00	158.00	3.28	0.18
459	459.00	400.00	159.00	3.28	0.18
460	460.00	400.00	160.00	3.28	0.17
461	461.00	400.00	161.00	3.28	0.17
462	462.00	400.00	162.00	3.28	0.17
463	463.00	400.00	163.00	3.28	0.17
464	464.00	400.00	164.00	3.28	0.16
465	465.00	400.00	165.00	3.28	0.16
466	466.00	400.00	166.00	3.28	0.16
467	467.00	400.00	167.00	3.28	0.16
468	468.00	400.00	168.00	3.28	0.15
469	469.00	400.00	169.00	3.28	0.15
470	470.00	400.00	170.00	3.28	0.15
471	471.00	400.00	171.00	3.28	0.15
472	472.00	400.00	172.00	3.28	0.15
473	473.00	400.00	173.00	3.28	0.14
474	474.00	400.00	174.00	3.28	0.14
475	475.00	400.00	175.00	3.28	0.14
476	476.00	400.00	176.00	3.28	0.14
477	477.00	400.00	177.00	3.28	0.14

478	478.00	400.00	178.00	3.28	0.13
479	479.00	400.00	179.00	3.28	0.13
480	480.00	400.00	180.00	3.28	0.13
481	481.00	400.00	181.00	3.28	0.13
482	482.00	400.00	182.00	3.28	0.13
483	483.00	400.00	183.00	3.28	0.12
484	484.00	400.00	184.00	3.28	0.12
485	485.00	400.00	185.00	3.28	0.12
486	486.00	400.00	186.00	3.28	0.12
487	487.00	400.00	187.00	3.28	0.12
488	488.00	400.00	188.00	3.28	0.12
489	489.00	400.00	189.00	3.28	0.12
490	490.00	400.00	190.00	3.28	0.11
491	491.00	400.00	191.00	3.28	0.11
492	492.00	400.00	192.00	3.28	0.11
493	493.00	400.00	193.00	3.28	0.11
494	494.00	400.00	194.00	3.28	0.11
495	495.00	400.00	195.00	3.28	0.11
496	496.00	400.00	196.00	3.28	0.11
497	497.00	400.00	197.00	3.28	0.10
498	498.00	400.00	198.00	3.28	0.10
499	499.00	400.00	199.00	3.28	0.10
500	500.00	400.00	200.00	3.28	0.10
501	501.00	400.00	201.00	3.28	0.10
502	502.00	400.00	202.00	3.28	0.10
503	503.00	400.00	203.00	3.28	0.10
504	504.00	400.00	204.00	3.28	0.10
505	505.00	400.00	205.00	3.28	0.09
506	506.00	400.00	206.00	3.28	0.09
507	507.00	400.00	207.00	3.28	0.09
508	508.00	400.00	208.00	3.28	0.09
509	509.00	400.00	209.00	3.28	0.09
510	510.00	400.00	210.00	3.28	0.09
511	511.00	400.00	211.00	3.28	0.09
512	512.00	400.00	212.00	3.28	0.09
513	513.00	400.00	213.00	3.28	0.09
514	514.00	400.00	214.00	3.28	0.08
515	515.00	400.00	215.00	3.28	0.08
516	516.00	400.00	216.00	3.28	0.08
517	517.00	400.00	217.00	3.28	0.08
518	518.00	400.00	218.00	3.28	0.08
519	519.00	400.00	219.00	3.28	0.08
520	520.00	400.00	220.00	3.28	0.08
521	521.00	400.00	221.00	3.28	0.08
522	522.00	400.00	222.00	3.28	0.08
523	523.00	400.00	223.00	3.28	0.08
524	524.00	400.00	224.00	3.28	0.08
525	525.00	400.00	225.00	3.28	0.07
526	526.00	400.00	226.00	3.28	0.07
527	527.00	400.00	227.00	3.28	0.07
528	528.00	400.00	228.00	3.28	0.07
529	529.00	400.00	229.00	3.28	0.07
530	530.00	400.00	230.00	3.28	0.07
531	531.00	400.00	231.00	3.28	0.07
532	532.00	400.00	232.00	3.28	0.07
533	533.00	400.00	233.00	3.28	0.07
534	534.00	400.00	234.00	3.28	0.07
535	535.00	400.00	235.00	3.28	0.07
536	536.00	400.00	236.00	3.28	0.07
537	537.00	400.00	237.00	3.28	0.07
538	538.00	400.00	238.00	3.28	0.06
539	539.00	400.00	239.00	3.28	0.06
540	540.00	400.00	240.00	3.28	0.06

541	541.00	400.00	241.00	3.28	0.06
542	542.00	400.00	242.00	3.28	0.06
543	543.00	400.00	243.00	3.28	0.06
544	544.00	400.00	244.00	3.28	0.06
545	545.00	400.00	245.00	3.28	0.06
546	546.00	400.00	246.00	3.28	0.06
547	547.00	400.00	247.00	3.28	0.06
548	548.00	400.00	248.00	3.28	0.06
549	549.00	400.00	249.00	3.28	0.06
550	550.00	400.00	250.00	3.28	0.06
551	551.00	400.00	251.00	3.28	0.06
552	552.00	400.00	252.00	3.28	0.06
553	553.00	400.00	253.00	3.28	0.06
554	554.00	400.00	254.00	3.28	0.06
555	555.00	400.00	255.00	3.28	0.05
556	556.00	400.00	256.00	3.28	0.05
557	557.00	400.00	257.00	3.28	0.05
558	558.00	400.00	258.00	3.28	0.05
559	559.00	400.00	259.00	3.28	0.05
560	560.00	400.00	260.00	3.28	0.05
561	561.00	400.00	261.00	3.28	0.05
562	562.00	400.00	262.00	3.28	0.05
563	563.00	400.00	263.00	3.28	0.05
564	564.00	400.00	264.00	3.28	0.05
565	565.00	400.00	265.00	3.28	0.05
566	566.00	400.00	266.00	3.28	0.05
567	567.00	400.00	267.00	3.28	0.05
568	568.00	400.00	268.00	3.28	0.05
569	569.00	400.00	269.00	3.28	0.05
570	570.00	400.00	270.00	3.28	0.05
571	571.00	400.00	271.00	3.28	0.05
572	572.00	400.00	272.00	3.28	0.05
573	573.00	400.00	273.00	3.28	0.05
574	574.00	400.00	274.00	3.28	0.05
575	575.00	400.00	275.00	3.28	0.05
576	576.00	400.00	276.00	3.28	0.05
577	577.00	400.00	277.00	3.28	0.04
578	578.00	400.00	278.00	3.28	0.04
579	579.00	400.00	279.00	3.28	0.04
580	580.00	400.00	280.00	3.28	0.04
581	581.00	400.00	281.00	3.28	0.04
582	582.00	400.00	282.00	3.28	0.04
583	583.00	400.00	283.00	3.28	0.04
584	584.00	400.00	284.00	3.28	0.04
585	585.00	400.00	285.00	3.28	0.04
586	586.00	400.00	286.00	3.28	0.04
587	587.00	400.00	287.00	3.28	0.04
588	588.00	400.00	288.00	3.28	0.04
589	589.00	400.00	289.00	3.28	0.04
590	590.00	400.00	290.00	3.28	0.04
591	591.00	400.00	291.00	3.28	0.04
592	592.00	400.00	292.00	3.28	0.04
593	593.00	400.00	293.00	3.28	0.04
594	594.00	400.00	294.00	3.28	0.04
595	595.00	400.00	295.00	3.28	0.04
596	596.00	400.00	296.00	3.28	0.04
597	597.00	400.00	297.00	3.28	0.04
598	598.00	400.00	298.00	3.28	0.04
599	599.00	400.00	299.00	3.28	0.04
600	600.00	400.00	300.00	3.28	0.04

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Model Load 1"

Field Components = Resultant
Distance units = (ft)
Magnetic field units = mG

Spacing = 1.00(ft)
Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	0.00
1	1.00	400.00	-299.00	3.28	0.00
2	2.00	400.00	-298.00	3.28	0.00
3	3.00	400.00	-297.00	3.28	0.00
4	4.00	400.00	-296.00	3.28	0.00
5	5.00	400.00	-295.00	3.28	0.00
6	6.00	400.00	-294.00	3.28	0.00
7	7.00	400.00	-293.00	3.28	0.00
8	8.00	400.00	-292.00	3.28	0.00
9	9.00	400.00	-291.00	3.28	0.00
10	10.00	400.00	-290.00	3.28	0.00
11	11.00	400.00	-289.00	3.28	0.00
12	12.00	400.00	-288.00	3.28	0.00
13	13.00	400.00	-287.00	3.28	0.00
14	14.00	400.00	-286.00	3.28	0.00
15	15.00	400.00	-285.00	3.28	0.00
16	16.00	400.00	-284.00	3.28	0.00
17	17.00	400.00	-283.00	3.28	0.00
18	18.00	400.00	-282.00	3.28	0.00
19	19.00	400.00	-281.00	3.28	0.00
20	20.00	400.00	-280.00	3.28	0.00
21	21.00	400.00	-279.00	3.28	0.00
22	22.00	400.00	-278.00	3.28	0.00
23	23.00	400.00	-277.00	3.28	0.00
24	24.00	400.00	-276.00	3.28	0.00
25	25.00	400.00	-275.00	3.28	0.00
26	26.00	400.00	-274.00	3.28	0.00
27	27.00	400.00	-273.00	3.28	0.00
28	28.00	400.00	-272.00	3.28	0.00
29	29.00	400.00	-271.00	3.28	0.00
30	30.00	400.00	-270.00	3.28	0.00
31	31.00	400.00	-269.00	3.28	0.00
32	32.00	400.00	-268.00	3.28	0.00
33	33.00	400.00	-267.00	3.28	0.00
34	34.00	400.00	-266.00	3.28	0.00
35	35.00	400.00	-265.00	3.28	0.00
36	36.00	400.00	-264.00	3.28	0.00
37	37.00	400.00	-263.00	3.28	0.00
38	38.00	400.00	-262.00	3.28	0.00
39	39.00	400.00	-261.00	3.28	0.00
40	40.00	400.00	-260.00	3.28	0.00
41	41.00	400.00	-259.00	3.28	0.00
42	42.00	400.00	-258.00	3.28	0.00
43	43.00	400.00	-257.00	3.28	0.00
44	44.00	400.00	-256.00	3.28	0.00
45	45.00	400.00	-255.00	3.28	0.00
46	46.00	400.00	-254.00	3.28	0.00
47	47.00	400.00	-253.00	3.28	0.00
48	48.00	400.00	-252.00	3.28	0.00
49	49.00	400.00	-251.00	3.28	0.00
50	50.00	400.00	-250.00	3.28	0.00
51	51.00	400.00	-249.00	3.28	0.00
52	52.00	400.00	-248.00	3.28	0.00

53	53.00	400.00	-247.00	3.28	0.00
54	54.00	400.00	-246.00	3.28	0.00
55	55.00	400.00	-245.00	3.28	0.00
56	56.00	400.00	-244.00	3.28	0.00
57	57.00	400.00	-243.00	3.28	0.00
58	58.00	400.00	-242.00	3.28	0.00
59	59.00	400.00	-241.00	3.28	0.00
60	60.00	400.00	-240.00	3.28	0.00
61	61.00	400.00	-239.00	3.28	0.00
62	62.00	400.00	-238.00	3.28	0.00
63	63.00	400.00	-237.00	3.28	0.00
64	64.00	400.00	-236.00	3.28	0.00
65	65.00	400.00	-235.00	3.28	0.00
66	66.00	400.00	-234.00	3.28	0.00
67	67.00	400.00	-233.00	3.28	0.00
68	68.00	400.00	-232.00	3.28	0.00
69	69.00	400.00	-231.00	3.28	0.00
70	70.00	400.00	-230.00	3.28	0.00
71	71.00	400.00	-229.00	3.28	0.00
72	72.00	400.00	-228.00	3.28	0.00
73	73.00	400.00	-227.00	3.28	0.00
74	74.00	400.00	-226.00	3.28	0.00
75	75.00	400.00	-225.00	3.28	0.00
76	76.00	400.00	-224.00	3.28	0.00
77	77.00	400.00	-223.00	3.28	0.00
78	78.00	400.00	-222.00	3.28	0.00
79	79.00	400.00	-221.00	3.28	0.00
80	80.00	400.00	-220.00	3.28	0.00
81	81.00	400.00	-219.00	3.28	0.00
82	82.00	400.00	-218.00	3.28	0.00
83	83.00	400.00	-217.00	3.28	0.00
84	84.00	400.00	-216.00	3.28	0.00
85	85.00	400.00	-215.00	3.28	0.00
86	86.00	400.00	-214.00	3.28	0.00
87	87.00	400.00	-213.00	3.28	0.00
88	88.00	400.00	-212.00	3.28	0.00
89	89.00	400.00	-211.00	3.28	0.00
90	90.00	400.00	-210.00	3.28	0.00
91	91.00	400.00	-209.00	3.28	0.00
92	92.00	400.00	-208.00	3.28	0.00
93	93.00	400.00	-207.00	3.28	0.00
94	94.00	400.00	-206.00	3.28	0.00
95	95.00	400.00	-205.00	3.28	0.00
96	96.00	400.00	-204.00	3.28	0.00
97	97.00	400.00	-203.00	3.28	0.00
98	98.00	400.00	-202.00	3.28	0.00
99	99.00	400.00	-201.00	3.28	0.00
100	100.00	400.00	-200.00	3.28	0.00
101	101.00	400.00	-199.00	3.28	0.00
102	102.00	400.00	-198.00	3.28	0.00
103	103.00	400.00	-197.00	3.28	0.00
104	104.00	400.00	-196.00	3.28	0.00
105	105.00	400.00	-195.00	3.28	0.00
106	106.00	400.00	-194.00	3.28	0.00
107	107.00	400.00	-193.00	3.28	0.00
108	108.00	400.00	-192.00	3.28	0.00
109	109.00	400.00	-191.00	3.28	0.00
110	110.00	400.00	-190.00	3.28	0.00
111	111.00	400.00	-189.00	3.28	0.00
112	112.00	400.00	-188.00	3.28	0.00
113	113.00	400.00	-187.00	3.28	0.00
114	114.00	400.00	-186.00	3.28	0.00
115	115.00	400.00	-185.00	3.28	0.00

116	116.00	400.00	-184.00	3.28	0.00
117	117.00	400.00	-183.00	3.28	0.00
118	118.00	400.00	-182.00	3.28	0.00
119	119.00	400.00	-181.00	3.28	0.00
120	120.00	400.00	-180.00	3.28	0.00
121	121.00	400.00	-179.00	3.28	0.00
122	122.00	400.00	-178.00	3.28	0.00
123	123.00	400.00	-177.00	3.28	0.00
124	124.00	400.00	-176.00	3.28	0.00
125	125.00	400.00	-175.00	3.28	0.00
126	126.00	400.00	-174.00	3.28	0.00
127	127.00	400.00	-173.00	3.28	0.00
128	128.00	400.00	-172.00	3.28	0.00
129	129.00	400.00	-171.00	3.28	0.00
130	130.00	400.00	-170.00	3.28	0.00
131	131.00	400.00	-169.00	3.28	0.00
132	132.00	400.00	-168.00	3.28	0.00
133	133.00	400.00	-167.00	3.28	0.00
134	134.00	400.00	-166.00	3.28	0.00
135	135.00	400.00	-165.00	3.28	0.00
136	136.00	400.00	-164.00	3.28	0.00
137	137.00	400.00	-163.00	3.28	0.00
138	138.00	400.00	-162.00	3.28	0.00
139	139.00	400.00	-161.00	3.28	0.00
140	140.00	400.00	-160.00	3.28	0.00
141	141.00	400.00	-159.00	3.28	0.00
142	142.00	400.00	-158.00	3.28	0.00
143	143.00	400.00	-157.00	3.28	0.00
144	144.00	400.00	-156.00	3.28	0.00
145	145.00	400.00	-155.00	3.28	0.00
146	146.00	400.00	-154.00	3.28	0.00
147	147.00	400.00	-153.00	3.28	0.00
148	148.00	400.00	-152.00	3.28	0.00
149	149.00	400.00	-151.00	3.28	0.00
150	150.00	400.00	-150.00	3.28	0.00
151	151.00	400.00	-149.00	3.28	0.00
152	152.00	400.00	-148.00	3.28	0.00
153	153.00	400.00	-147.00	3.28	0.00
154	154.00	400.00	-146.00	3.28	0.00
155	155.00	400.00	-145.00	3.28	0.00
156	156.00	400.00	-144.00	3.28	0.00
157	157.00	400.00	-143.00	3.28	0.00
158	158.00	400.00	-142.00	3.28	0.00
159	159.00	400.00	-141.00	3.28	0.00
160	160.00	400.00	-140.00	3.28	0.00
161	161.00	400.00	-139.00	3.28	0.00
162	162.00	400.00	-138.00	3.28	0.00
163	163.00	400.00	-137.00	3.28	0.00
164	164.00	400.00	-136.00	3.28	0.00
165	165.00	400.00	-135.00	3.28	0.00
166	166.00	400.00	-134.00	3.28	0.00
167	167.00	400.00	-133.00	3.28	0.00
168	168.00	400.00	-132.00	3.28	0.00
169	169.00	400.00	-131.00	3.28	0.00
170	170.00	400.00	-130.00	3.28	0.00
171	171.00	400.00	-129.00	3.28	0.00
172	172.00	400.00	-128.00	3.28	0.00
173	173.00	400.00	-127.00	3.28	0.00
174	174.00	400.00	-126.00	3.28	0.00
175	175.00	400.00	-125.00	3.28	0.00
176	176.00	400.00	-124.00	3.28	0.00
177	177.00	400.00	-123.00	3.28	0.00
178	178.00	400.00	-122.00	3.28	0.00

179	179.00	400.00	-121.00	3.28	0.00
180	180.00	400.00	-120.00	3.28	0.00
181	181.00	400.00	-119.00	3.28	0.00
182	182.00	400.00	-118.00	3.28	0.00
183	183.00	400.00	-117.00	3.28	0.00
184	184.00	400.00	-116.00	3.28	0.00
185	185.00	400.00	-115.00	3.28	0.00
186	186.00	400.00	-114.00	3.28	0.00
187	187.00	400.00	-113.00	3.28	0.00
188	188.00	400.00	-112.00	3.28	0.00
189	189.00	400.00	-111.00	3.28	0.00
190	190.00	400.00	-110.00	3.28	0.00
191	191.00	400.00	-109.00	3.28	0.00
192	192.00	400.00	-108.00	3.28	0.00
193	193.00	400.00	-107.00	3.28	0.00
194	194.00	400.00	-106.00	3.28	0.00
195	195.00	400.00	-105.00	3.28	0.00
196	196.00	400.00	-104.00	3.28	0.00
197	197.00	400.00	-103.00	3.28	0.00
198	198.00	400.00	-102.00	3.28	0.00
199	199.00	400.00	-101.00	3.28	0.00
200	200.00	400.00	-100.00	3.28	0.00
201	201.00	400.00	-99.00	3.28	0.00
202	202.00	400.00	-98.00	3.28	0.00
203	203.00	400.00	-97.00	3.28	0.00
204	204.00	400.00	-96.00	3.28	0.00
205	205.00	400.00	-95.00	3.28	0.00
206	206.00	400.00	-94.00	3.28	0.00
207	207.00	400.00	-93.00	3.28	0.00
208	208.00	400.00	-92.00	3.28	0.00
209	209.00	400.00	-91.00	3.28	0.00
210	210.00	400.00	-90.00	3.28	0.00
211	211.00	400.00	-89.00	3.28	0.00
212	212.00	400.00	-88.00	3.28	0.00
213	213.00	400.00	-87.00	3.28	0.00
214	214.00	400.00	-86.00	3.28	0.00
215	215.00	400.00	-85.00	3.28	0.00
216	216.00	400.00	-84.00	3.28	0.00
217	217.00	400.00	-83.00	3.28	0.00
218	218.00	400.00	-82.00	3.28	0.00
219	219.00	400.00	-81.00	3.28	0.00
220	220.00	400.00	-80.00	3.28	0.00
221	221.00	400.00	-79.00	3.28	0.00
222	222.00	400.00	-78.00	3.28	0.00
223	223.00	400.00	-77.00	3.28	0.00
224	224.00	400.00	-76.00	3.28	0.00
225	225.00	400.00	-75.00	3.28	0.00
226	226.00	400.00	-74.00	3.28	0.00
227	227.00	400.00	-73.00	3.28	0.00
228	228.00	400.00	-72.00	3.28	0.00
229	229.00	400.00	-71.00	3.28	0.00
230	230.00	400.00	-70.00	3.28	0.00
231	231.00	400.00	-69.00	3.28	0.00
232	232.00	400.00	-68.00	3.28	0.00
233	233.00	400.00	-67.00	3.28	0.00
234	234.00	400.00	-66.00	3.28	0.00
235	235.00	400.00	-65.00	3.28	0.00
236	236.00	400.00	-64.00	3.28	0.00
237	237.00	400.00	-63.00	3.28	0.00
238	238.00	400.00	-62.00	3.28	0.00
239	239.00	400.00	-61.00	3.28	0.00
240	240.00	400.00	-60.00	3.28	0.00
241	241.00	400.00	-59.00	3.28	0.00

242	242.00	400.00	-58.00	3.28	0.00
243	243.00	400.00	-57.00	3.28	0.00
244	244.00	400.00	-56.00	3.28	0.00
245	245.00	400.00	-55.00	3.28	0.00
246	246.00	400.00	-54.00	3.28	0.00
247	247.00	400.00	-53.00	3.28	0.00
248	248.00	400.00	-52.00	3.28	0.00
249	249.00	400.00	-51.00	3.28	0.00
250	250.00	400.00	-50.00	3.28	0.00
251	251.00	400.00	-49.00	3.28	0.00
252	252.00	400.00	-48.00	3.28	0.00
253	253.00	400.00	-47.00	3.28	0.00
254	254.00	400.00	-46.00	3.28	0.00
255	255.00	400.00	-45.00	3.28	0.00
256	256.00	400.00	-44.00	3.28	0.00
257	257.00	400.00	-43.00	3.28	0.00
258	258.00	400.00	-42.00	3.28	0.00
259	259.00	400.00	-41.00	3.28	0.00
260	260.00	400.00	-40.00	3.28	0.00
261	261.00	400.00	-39.00	3.28	0.00
262	262.00	400.00	-38.00	3.28	0.00
263	263.00	400.00	-37.00	3.28	0.00
264	264.00	400.00	-36.00	3.28	0.00
265	265.00	400.00	-35.00	3.28	0.00
266	266.00	400.00	-34.00	3.28	0.00
267	267.00	400.00	-33.00	3.28	0.00
268	268.00	400.00	-32.00	3.28	0.00
269	269.00	400.00	-31.00	3.28	0.00
270	270.00	400.00	-30.00	3.28	0.00
271	271.00	400.00	-29.00	3.28	0.00
272	272.00	400.00	-28.00	3.28	0.00
273	273.00	400.00	-27.00	3.28	0.00
274	274.00	400.00	-26.00	3.28	0.00
275	275.00	400.00	-25.00	3.28	0.00
276	276.00	400.00	-24.00	3.28	0.00
277	277.00	400.00	-23.00	3.28	0.00
278	278.00	400.00	-22.00	3.28	0.00
279	279.00	400.00	-21.00	3.28	0.00
280	280.00	400.00	-20.00	3.28	0.00
281	281.00	400.00	-19.00	3.28	0.00
282	282.00	400.00	-18.00	3.28	0.00
283	283.00	400.00	-17.00	3.28	0.00
284	284.00	400.00	-16.00	3.28	0.00
285	285.00	400.00	-15.00	3.28	0.00
286	286.00	400.00	-14.00	3.28	0.00
287	287.00	400.00	-13.00	3.28	0.00
288	288.00	400.00	-12.00	3.28	0.00
289	289.00	400.00	-11.00	3.28	0.00
290	290.00	400.00	-10.00	3.28	0.00
291	291.00	400.00	-9.00	3.28	0.00
292	292.00	400.00	-8.00	3.28	0.00
293	293.00	400.00	-7.00	3.28	0.00
294	294.00	400.00	-6.00	3.28	0.00
295	295.00	400.00	-5.00	3.28	0.00
296	296.00	400.00	-4.00	3.28	0.00
297	297.00	400.00	-3.00	3.28	0.00
298	298.00	400.00	-2.00	3.28	0.00
299	299.00	400.00	-1.00	3.28	0.00
300	300.00	400.00	0.00	3.28	0.00
301	301.00	400.00	1.00	3.28	0.00
302	302.00	400.00	2.00	3.28	0.00
303	303.00	400.00	3.00	3.28	0.00
304	304.00	400.00	4.00	3.28	0.00

305	305.00	400.00	5.00	3.28	0.00
306	306.00	400.00	6.00	3.28	0.00
307	307.00	400.00	7.00	3.28	0.00
308	308.00	400.00	8.00	3.28	0.00
309	309.00	400.00	9.00	3.28	0.00
310	310.00	400.00	10.00	3.28	0.00
311	311.00	400.00	11.00	3.28	0.00
312	312.00	400.00	12.00	3.28	0.00
313	313.00	400.00	13.00	3.28	0.00
314	314.00	400.00	14.00	3.28	0.00
315	315.00	400.00	15.00	3.28	0.00
316	316.00	400.00	16.00	3.28	0.00
317	317.00	400.00	17.00	3.28	0.00
318	318.00	400.00	18.00	3.28	0.00
319	319.00	400.00	19.00	3.28	0.00
320	320.00	400.00	20.00	3.28	0.00
321	321.00	400.00	21.00	3.28	0.00
322	322.00	400.00	22.00	3.28	0.00
323	323.00	400.00	23.00	3.28	0.00
324	324.00	400.00	24.00	3.28	0.00
325	325.00	400.00	25.00	3.28	0.00
326	326.00	400.00	26.00	3.28	0.00
327	327.00	400.00	27.00	3.28	0.00
328	328.00	400.00	28.00	3.28	0.00
329	329.00	400.00	29.00	3.28	0.00
330	330.00	400.00	30.00	3.28	0.00
331	331.00	400.00	31.00	3.28	0.00
332	332.00	400.00	32.00	3.28	0.00
333	333.00	400.00	33.00	3.28	0.00
334	334.00	400.00	34.00	3.28	0.00
335	335.00	400.00	35.00	3.28	0.00
336	336.00	400.00	36.00	3.28	0.00
337	337.00	400.00	37.00	3.28	0.00
338	338.00	400.00	38.00	3.28	0.00
339	339.00	400.00	39.00	3.28	0.00
340	340.00	400.00	40.00	3.28	0.00
341	341.00	400.00	41.00	3.28	0.00
342	342.00	400.00	42.00	3.28	0.00
343	343.00	400.00	43.00	3.28	0.00
344	344.00	400.00	44.00	3.28	0.00
345	345.00	400.00	45.00	3.28	0.00
346	346.00	400.00	46.00	3.28	0.00
347	347.00	400.00	47.00	3.28	0.00
348	348.00	400.00	48.00	3.28	0.00
349	349.00	400.00	49.00	3.28	0.00
350	350.00	400.00	50.00	3.28	0.00
351	351.00	400.00	51.00	3.28	0.00
352	352.00	400.00	52.00	3.28	0.00
353	353.00	400.00	53.00	3.28	0.00
354	354.00	400.00	54.00	3.28	0.00
355	355.00	400.00	55.00	3.28	0.00
356	356.00	400.00	56.00	3.28	0.00
357	357.00	400.00	57.00	3.28	0.00
358	358.00	400.00	58.00	3.28	0.00
359	359.00	400.00	59.00	3.28	0.00
360	360.00	400.00	60.00	3.28	0.00
361	361.00	400.00	61.00	3.28	0.00
362	362.00	400.00	62.00	3.28	0.00
363	363.00	400.00	63.00	3.28	0.00
364	364.00	400.00	64.00	3.28	0.00
365	365.00	400.00	65.00	3.28	0.00
366	366.00	400.00	66.00	3.28	0.00
367	367.00	400.00	67.00	3.28	0.00

368	368.00	400.00	68.00	3.28	0.00
369	369.00	400.00	69.00	3.28	0.00
370	370.00	400.00	70.00	3.28	0.00
371	371.00	400.00	71.00	3.28	0.00
372	372.00	400.00	72.00	3.28	0.00
373	373.00	400.00	73.00	3.28	0.00
374	374.00	400.00	74.00	3.28	0.00
375	375.00	400.00	75.00	3.28	0.00
376	376.00	400.00	76.00	3.28	0.00
377	377.00	400.00	77.00	3.28	0.00
378	378.00	400.00	78.00	3.28	0.00
379	379.00	400.00	79.00	3.28	0.00
380	380.00	400.00	80.00	3.28	0.00
381	381.00	400.00	81.00	3.28	0.00
382	382.00	400.00	82.00	3.28	0.00
383	383.00	400.00	83.00	3.28	0.00
384	384.00	400.00	84.00	3.28	0.00
385	385.00	400.00	85.00	3.28	0.00
386	386.00	400.00	86.00	3.28	0.00
387	387.00	400.00	87.00	3.28	0.00
388	388.00	400.00	88.00	3.28	0.00
389	389.00	400.00	89.00	3.28	0.00
390	390.00	400.00	90.00	3.28	0.00
391	391.00	400.00	91.00	3.28	0.00
392	392.00	400.00	92.00	3.28	0.00
393	393.00	400.00	93.00	3.28	0.00
394	394.00	400.00	94.00	3.28	0.00
395	395.00	400.00	95.00	3.28	0.00
396	396.00	400.00	96.00	3.28	0.00
397	397.00	400.00	97.00	3.28	0.00
398	398.00	400.00	98.00	3.28	0.00
399	399.00	400.00	99.00	3.28	0.00
400	400.00	400.00	100.00	3.28	0.00
401	401.00	400.00	101.00	3.28	0.00
402	402.00	400.00	102.00	3.28	0.00
403	403.00	400.00	103.00	3.28	0.00
404	404.00	400.00	104.00	3.28	0.00
405	405.00	400.00	105.00	3.28	0.00
406	406.00	400.00	106.00	3.28	0.00
407	407.00	400.00	107.00	3.28	0.00
408	408.00	400.00	108.00	3.28	0.00
409	409.00	400.00	109.00	3.28	0.00
410	410.00	400.00	110.00	3.28	0.00
411	411.00	400.00	111.00	3.28	0.00
412	412.00	400.00	112.00	3.28	0.00
413	413.00	400.00	113.00	3.28	0.00
414	414.00	400.00	114.00	3.28	0.00
415	415.00	400.00	115.00	3.28	0.00
416	416.00	400.00	116.00	3.28	0.00
417	417.00	400.00	117.00	3.28	0.00
418	418.00	400.00	118.00	3.28	0.00
419	419.00	400.00	119.00	3.28	0.00
420	420.00	400.00	120.00	3.28	0.00
421	421.00	400.00	121.00	3.28	0.00
422	422.00	400.00	122.00	3.28	0.00
423	423.00	400.00	123.00	3.28	0.00
424	424.00	400.00	124.00	3.28	0.00
425	425.00	400.00	125.00	3.28	0.00
426	426.00	400.00	126.00	3.28	0.00
427	427.00	400.00	127.00	3.28	0.00
428	428.00	400.00	128.00	3.28	0.00
429	429.00	400.00	129.00	3.28	0.00
430	430.00	400.00	130.00	3.28	0.00

431	431.00	400.00	131.00	3.28	0.00
432	432.00	400.00	132.00	3.28	0.00
433	433.00	400.00	133.00	3.28	0.00
434	434.00	400.00	134.00	3.28	0.00
435	435.00	400.00	135.00	3.28	0.00
436	436.00	400.00	136.00	3.28	0.00
437	437.00	400.00	137.00	3.28	0.00
438	438.00	400.00	138.00	3.28	0.00
439	439.00	400.00	139.00	3.28	0.00
440	440.00	400.00	140.00	3.28	0.00
441	441.00	400.00	141.00	3.28	0.00
442	442.00	400.00	142.00	3.28	0.00
443	443.00	400.00	143.00	3.28	0.00
444	444.00	400.00	144.00	3.28	0.00
445	445.00	400.00	145.00	3.28	0.00
446	446.00	400.00	146.00	3.28	0.00
447	447.00	400.00	147.00	3.28	0.00
448	448.00	400.00	148.00	3.28	0.00
449	449.00	400.00	149.00	3.28	0.00
450	450.00	400.00	150.00	3.28	0.00
451	451.00	400.00	151.00	3.28	0.00
452	452.00	400.00	152.00	3.28	0.00
453	453.00	400.00	153.00	3.28	0.00
454	454.00	400.00	154.00	3.28	0.00
455	455.00	400.00	155.00	3.28	0.00
456	456.00	400.00	156.00	3.28	0.00
457	457.00	400.00	157.00	3.28	0.00
458	458.00	400.00	158.00	3.28	0.00
459	459.00	400.00	159.00	3.28	0.00
460	460.00	400.00	160.00	3.28	0.00
461	461.00	400.00	161.00	3.28	0.00
462	462.00	400.00	162.00	3.28	0.00
463	463.00	400.00	163.00	3.28	0.00
464	464.00	400.00	164.00	3.28	0.00
465	465.00	400.00	165.00	3.28	0.00
466	466.00	400.00	166.00	3.28	0.00
467	467.00	400.00	167.00	3.28	0.00
468	468.00	400.00	168.00	3.28	0.00
469	469.00	400.00	169.00	3.28	0.00
470	470.00	400.00	170.00	3.28	0.00
471	471.00	400.00	171.00	3.28	0.00
472	472.00	400.00	172.00	3.28	0.00
473	473.00	400.00	173.00	3.28	0.00
474	474.00	400.00	174.00	3.28	0.00
475	475.00	400.00	175.00	3.28	0.00
476	476.00	400.00	176.00	3.28	0.00
477	477.00	400.00	177.00	3.28	0.00
478	478.00	400.00	178.00	3.28	0.00
479	479.00	400.00	179.00	3.28	0.00
480	480.00	400.00	180.00	3.28	0.00
481	481.00	400.00	181.00	3.28	0.00
482	482.00	400.00	182.00	3.28	0.00
483	483.00	400.00	183.00	3.28	0.00
484	484.00	400.00	184.00	3.28	0.00
485	485.00	400.00	185.00	3.28	0.00
486	486.00	400.00	186.00	3.28	0.00
487	487.00	400.00	187.00	3.28	0.00
488	488.00	400.00	188.00	3.28	0.00
489	489.00	400.00	189.00	3.28	0.00
490	490.00	400.00	190.00	3.28	0.00
491	491.00	400.00	191.00	3.28	0.00
492	492.00	400.00	192.00	3.28	0.00
493	493.00	400.00	193.00	3.28	0.00

494	494.00	400.00	194.00	3.28	0.00
495	495.00	400.00	195.00	3.28	0.00
496	496.00	400.00	196.00	3.28	0.00
497	497.00	400.00	197.00	3.28	0.00
498	498.00	400.00	198.00	3.28	0.00
499	499.00	400.00	199.00	3.28	0.00
500	500.00	400.00	200.00	3.28	0.00
501	501.00	400.00	201.00	3.28	0.00
502	502.00	400.00	202.00	3.28	0.00
503	503.00	400.00	203.00	3.28	0.00
504	504.00	400.00	204.00	3.28	0.00
505	505.00	400.00	205.00	3.28	0.00
506	506.00	400.00	206.00	3.28	0.00
507	507.00	400.00	207.00	3.28	0.00
508	508.00	400.00	208.00	3.28	0.00
509	509.00	400.00	209.00	3.28	0.00
510	510.00	400.00	210.00	3.28	0.00
511	511.00	400.00	211.00	3.28	0.00
512	512.00	400.00	212.00	3.28	0.00
513	513.00	400.00	213.00	3.28	0.00
514	514.00	400.00	214.00	3.28	0.00
515	515.00	400.00	215.00	3.28	0.00
516	516.00	400.00	216.00	3.28	0.00
517	517.00	400.00	217.00	3.28	0.00
518	518.00	400.00	218.00	3.28	0.00
519	519.00	400.00	219.00	3.28	0.00
520	520.00	400.00	220.00	3.28	0.00
521	521.00	400.00	221.00	3.28	0.00
522	522.00	400.00	222.00	3.28	0.00
523	523.00	400.00	223.00	3.28	0.00
524	524.00	400.00	224.00	3.28	0.00
525	525.00	400.00	225.00	3.28	0.00
526	526.00	400.00	226.00	3.28	0.00
527	527.00	400.00	227.00	3.28	0.00
528	528.00	400.00	228.00	3.28	0.00
529	529.00	400.00	229.00	3.28	0.00
530	530.00	400.00	230.00	3.28	0.00
531	531.00	400.00	231.00	3.28	0.00
532	532.00	400.00	232.00	3.28	0.00
533	533.00	400.00	233.00	3.28	0.00
534	534.00	400.00	234.00	3.28	0.00
535	535.00	400.00	235.00	3.28	0.00
536	536.00	400.00	236.00	3.28	0.00
537	537.00	400.00	237.00	3.28	0.00
538	538.00	400.00	238.00	3.28	0.00
539	539.00	400.00	239.00	3.28	0.00
540	540.00	400.00	240.00	3.28	0.00
541	541.00	400.00	241.00	3.28	0.00
542	542.00	400.00	242.00	3.28	0.00
543	543.00	400.00	243.00	3.28	0.00
544	544.00	400.00	244.00	3.28	0.00
545	545.00	400.00	245.00	3.28	0.00
546	546.00	400.00	246.00	3.28	0.00
547	547.00	400.00	247.00	3.28	0.00
548	548.00	400.00	248.00	3.28	0.00
549	549.00	400.00	249.00	3.28	0.00
550	550.00	400.00	250.00	3.28	0.00
551	551.00	400.00	251.00	3.28	0.00
552	552.00	400.00	252.00	3.28	0.00
553	553.00	400.00	253.00	3.28	0.00
554	554.00	400.00	254.00	3.28	0.00
555	555.00	400.00	255.00	3.28	0.00
556	556.00	400.00	256.00	3.28	0.00

557	557.00	400.00	257.00	3.28	0.00
558	558.00	400.00	258.00	3.28	0.00
559	559.00	400.00	259.00	3.28	0.00
560	560.00	400.00	260.00	3.28	0.00
561	561.00	400.00	261.00	3.28	0.00
562	562.00	400.00	262.00	3.28	0.00
563	563.00	400.00	263.00	3.28	0.00
564	564.00	400.00	264.00	3.28	0.00
565	565.00	400.00	265.00	3.28	0.00
566	566.00	400.00	266.00	3.28	0.00
567	567.00	400.00	267.00	3.28	0.00
568	568.00	400.00	268.00	3.28	0.00
569	569.00	400.00	269.00	3.28	0.00
570	570.00	400.00	270.00	3.28	0.00
571	571.00	400.00	271.00	3.28	0.00
572	572.00	400.00	272.00	3.28	0.00
573	573.00	400.00	273.00	3.28	0.00
574	574.00	400.00	274.00	3.28	0.00
575	575.00	400.00	275.00	3.28	0.00
576	576.00	400.00	276.00	3.28	0.00
577	577.00	400.00	277.00	3.28	0.00
578	578.00	400.00	278.00	3.28	0.00
579	579.00	400.00	279.00	3.28	0.00
580	580.00	400.00	280.00	3.28	0.00
581	581.00	400.00	281.00	3.28	0.00
582	582.00	400.00	282.00	3.28	0.00
583	583.00	400.00	283.00	3.28	0.00
584	584.00	400.00	284.00	3.28	0.00
585	585.00	400.00	285.00	3.28	0.00
586	586.00	400.00	286.00	3.28	0.00
587	587.00	400.00	287.00	3.28	0.00
588	588.00	400.00	288.00	3.28	0.00
589	589.00	400.00	289.00	3.28	0.00
590	590.00	400.00	290.00	3.28	0.00
591	591.00	400.00	291.00	3.28	0.00
592	592.00	400.00	292.00	3.28	0.00
593	593.00	400.00	293.00	3.28	0.00
594	594.00	400.00	294.00	3.28	0.00
595	595.00	400.00	295.00	3.28	0.00
596	596.00	400.00	296.00	3.28	0.00
597	597.00	400.00	297.00	3.28	0.00
598	598.00	400.00	298.00	3.28	0.00
599	599.00	400.00	299.00	3.28	0.00
600	600.00	400.00	300.00	3.28	0.00

RESULTS OF ENVIRO PROGRAM

STUDY FILE NAME: C:\PROGRA~1\EPRI\EMFW_251\ENVIRO\CLEANL~1\345DDANU.I01
 DATE: 3/ 5/2014 TIME: 17:36

345 kV Double Danube (XS-3)

```
*****
*                                     BUNDLE INFORMATION                                     *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | LOAD | CURRENT | # | COORDINATES | PHASE |
|  #   |  #   | (kV)   | (DEG) | (AMPS) | (DEG) | OF | X | Y |
|      |      |        |        |        |        | COND | (FT) | (FT) |
*****
| 1 | 1 | 362.0 | .0 | .1 | .0 | 2 | -25.8 | 66.5 | A |
| 2 | 1 | 362.0 | 240.0 | .1 | 240.0 | 2 | -36.8 | 41.5 | B |
| 3 | 1 | 362.0 | 120.0 | .1 | 120.0 | 2 | -14.4 | 41.5 | C |
| 4 | 2 | 362.0 | .0 | .1 | .0 | 2 | 14.4 | 41.5 | A |
| 5 | 2 | 362.0 | 240.0 | .1 | 240.0 | 2 | 36.8 | 41.5 | B |
| 6 | 2 | 362.0 | 120.0 | .1 | 120.0 | 2 | 25.8 | 66.5 | C |
| 7 | 1 | .0 | .0 | .0 | .0 | 1 | -17.0 | 97.1 | GND |
| 8 | 2 | .0 | .0 | .0 | .0 | 1 | 17.0 | 97.1 | GND |
*****
*                                     MINIMUM GROUND CLEARANCE = 41.500 FT.                                     *
*****
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*****
*                                     SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                                     *
*****
| BNDL | DIAMETER | SPACING | DC RESIST. | AC RESIST. | AC REACT. |
|  #   | (IN)     | (IN)    | (OHMS/MI) | (OHMS/MI) | (OHMS/MI) |
*****
| 1 | 1.545 | 18.000 | .05810 | .06110 | .358000 |
| 2 | 1.545 | 18.000 | .05810 | .06110 | .358000 |
| 3 | 1.545 | 18.000 | .05810 | .06110 | .358000 |
| 4 | 1.545 | 18.000 | .05810 | .06110 | .358000 |
| 5 | 1.545 | 18.000 | .05810 | .06110 | .358000 |
| 6 | 1.545 | 18.000 | .05810 | .06110 | .358000 |
| 7 | .776 | .000 | .19270 | .19400 | .432000 |
| 8 | .776 | .000 | .19270 | .19400 | .432000 |
*****
```

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*****
*                                     *
* MAXIMUM SURFACE GRADIENT (kV/cm) *
*                                     *
*****
```

BNDL #	Type	ACrms	PEAK(+)	PEAK(-)
1	AC	12.75	18.04	-18.04
2	AC	13.65	19.30	-19.30
3	AC	13.99	19.78	-19.78
4	AC	13.99	19.78	-19.78
5	AC	13.65	19.30	-19.30
6	AC	12.75	18.04	-18.04
7	Ground Wire	3.37	4.77	-4.77
8	Ground Wire	3.37	4.77	-4.77

```

*****
*
*           AUDIBLE NOISE
*
* Microphone is 5.00 feet above ground
*           Altitude 3000. ft
*
*****

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<----- HVTRC CALCULATION METHOD ----->

LATERAL DISTANCE		L50 FAIR	L5 RAIN	L50 RAIN	Leq(24)	Ldn
(feet)	(meters)	(dB(A))	(dB(A))	(dB(A))	(dB(A))	(dB(A))
-300.0	-91.44	29.5	50.0	39.9	36.9	43.9
-275.0	-83.82	30.1	50.5	40.4	37.4	44.4
-250.0	-76.20	30.6	51.1	41.0	38.0	44.9
-225.0	-68.58	31.2	51.7	41.6	38.6	45.5
-200.0	-60.96	31.9	52.3	42.3	39.2	46.2
-175.0	-53.34	32.6	53.0	43.0	40.0	46.9
-150.0	-45.72	33.4	53.8	43.8	40.8	47.7
-125.0	-38.10	34.4	54.8	44.7	41.7	48.7
-100.0	-30.48	35.4	55.8	45.8	42.8	49.7
-75.0	-22.86	36.7	57.0	47.0	44.0	51.0
-50.0	-15.24	38.0	58.4	48.4	45.3	52.3
-25.0	-7.62	39.0	59.3	49.3	46.3	53.3
.0	.00	39.3	59.6	49.6	46.6	53.6
25.0	7.62	39.0	59.3	49.3	46.3	53.3
50.0	15.24	38.0	58.4	48.4	45.3	52.3
75.0	22.86	36.7	57.0	47.0	44.0	51.0
100.0	30.48	35.4	55.8	45.8	42.8	49.7
125.0	38.10	34.4	54.8	44.7	41.7	48.7
150.0	45.72	33.4	53.8	43.8	40.8	47.7
175.0	53.34	32.6	53.0	43.0	40.0	46.9
200.0	60.96	31.9	52.3	42.3	39.2	46.2
225.0	68.58	31.2	51.7	41.6	38.6	45.5
250.0	76.20	30.6	51.1	41.0	38.0	44.9
275.0	83.82	30.1	50.5	40.4	37.4	44.4
300.0	91.44	29.5	50.0	39.9	36.9	43.9

```

*****
*
*   AUDIBLE NOISE   *
*   (other methods) *
*
* Altitude    3000. ft *
*
*****

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LATERAL DISTANCE (feet) (meters)		<----- BPA METHOD ----->				<- CRIEPI -->		EdF	ENEL	IREQ
		FAIR WEATHER	L5 RAIN	L50 RAIN	Ldn	AVERAGE FAIR	L5 RAIN	L5 RAIN	L5 RAIN	L5 RAIN
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
-300.0	-91.44	16.6	45.1	41.6	.0	.0	.0	.0	.0	.0
-275.0	-83.82	17.0	45.5	42.0	.0	.0	.0	.0	.0	.0
-250.0	-76.20	17.5	46.0	42.5	.0	.0	.0	.0	.0	.0
-225.0	-68.58	18.0	46.5	43.0	.0	.0	.0	.0	.0	.0
-200.0	-60.96	18.6	47.1	43.6	.0	.0	.0	.0	.0	.0
-175.0	-53.34	19.3	47.8	44.3	.0	.0	.0	.0	.0	.0
-150.0	-45.72	20.0	48.5	45.0	.0	.0	.0	.0	.0	.0
-125.0	-38.10	20.9	49.4	45.9	.0	.0	.0	.0	.0	.0
-100.0	-30.48	21.9	50.4	46.9	.0	.0	.0	.0	.0	.0
-75.0	-22.86	23.2	51.7	48.2	.0	.0	.0	.0	.0	.0
-50.0	-15.24	24.6	53.1	49.6	.0	.0	.0	.0	.0	.0
-25.0	-7.62	25.6	54.1	50.6	.0	.0	.0	.0	.0	.0
.0	.00	25.9	54.4	50.9	.0	.0	.0	.0	.0	.0
25.0	7.62	25.6	54.1	50.6	.0	.0	.0	.0	.0	.0
50.0	15.24	24.6	53.1	49.6	.0	.0	.0	.0	.0	.0
75.0	22.86	23.2	51.7	48.2	.0	.0	.0	.0	.0	.0
100.0	30.48	21.9	50.4	46.9	.0	.0	.0	.0	.0	.0
125.0	38.10	20.9	49.4	45.9	.0	.0	.0	.0	.0	.0
150.0	45.72	20.0	48.5	45.0	.0	.0	.0	.0	.0	.0
175.0	53.34	19.3	47.8	44.3	.0	.0	.0	.0	.0	.0
200.0	60.96	18.6	47.1	43.6	.0	.0	.0	.0	.0	.0
225.0	68.58	18.0	46.5	43.0	.0	.0	.0	.0	.0	.0
250.0	76.20	17.5	46.0	42.5	.0	.0	.0	.0	.0	.0
275.0	83.82	17.0	45.5	42.0	.0	.0	.0	.0	.0	.0
300.0	91.44	16.6	45.1	41.6	.0	.0	.0	.0	.0	.0

Audible noise prediction methods do not apply to all line geometries, voltages, or weather conditions. If a prediction method does not apply, the appropriate output data column will be zeros.

Clean Line - Plains & Eastern
 Config. XS-3: Radio Noise, TVI, and Ozone

Ground Clearance: 28.50 ft

	DIST. FROM CENTER OF TOWER (FEET)	COND. HEIGHT (FEET)	MAXIMUM GRADIENT (KV/CM)	SUBCON. DIAM. (IN)	NO. OF SUBCON.	SUBCON SPACING (IN)	VOLTAGE L-N (KV)	CURRENT (AMPS)	PHASE ANGLE (DEGREES)	CORONA LOSSES (KW/MI)
Phase A1	-25.75	53.50	12.72	1.55	2.	18.00	209.00	.00	.00	6.474
Phase B1	-36.83	28.50	13.83	1.55	2.	18.00	209.00	.00	120.00	11.188
Phase C1	-14.39	28.50	14.02	1.55	2.	18.00	209.00	.00	240.00	12.197
Phase C2	25.75	53.50	12.72	1.55	2.	18.00	209.00	.00	240.00	6.474
Phase B2	36.83	28.50	13.83	1.55	2.	18.00	209.00	.00	120.00	11.188
Phase A2	14.39	28.50	14.02	1.55	2.	18.00	209.00	.00	.00	12.197
SW-1	-17.00	84.10	3.46	.77	1.	.00	.00	.00	.00	.000
SW-2	17.00	84.10	3.46	.77	1.	.00	.00	.00	.00	.000

AN MICROPHONE HT.= 4.9 FT. RI ANT. HT.= 6.6 FT, TV ANT. HT.= 9.8 FT, ALTITUDE= 3000. FT
 RI FREQ= 1.000 MHZ, TV FREQ= 75.000 MHZ, WIND VEL.(OZ) = 8.500 MPH, GROUND CONDUCTIVITY = .0 MMHOS/M
 E-FIELD TRANSDUCER HT.= 3.28 FT, B-FIELD TRANSDUCER HT.= 3.28 FT

LATERAL DIST FROM REFERENCE (FEET)	ELECTRIC FIELD KV/M	MAGNETIC FIELD MILLIGAUSS	AUDIBLE NOISE (RAIN) (FAIR)		RADIO INTERFERENCE (RAIN) (FAIR)		TVI TOTAL RAIN DBUV/M	OZONE FOR RAIN RATE OF .10 IN/HR AT GND. PPB
			L50 DBA	L50 DBA	L50 DBUV/M	L50 DBUV/M		
-300.0	.037	.00	41.9	16.9	30.3	13.3	6.3	.000000
-298.0	.037	.00	42.0	17.0	30.4	13.4	6.4	.000000
-296.0	.038	.00	42.0	17.0	30.5	13.5	6.6	.000000
-294.0	.039	.00	42.0	17.0	30.6	13.6	6.7	.000000
-292.0	.039	.00	42.1	17.1	30.8	13.8	6.8	.000000
-290.0	.040	.00	42.1	17.1	30.9	13.9	6.9	.000000
-288.0	.041	.00	42.1	17.1	31.0	14.0	6.9	.000000
-286.0	.041	.00	42.2	17.2	31.1	14.1	7.0	.000000
-284.0	.042	.00	42.2	17.2	31.3	14.3	7.1	.000000
-282.0	.043	.00	42.2	17.2	31.4	14.4	7.1	.000000
-280.0	.044	.00	42.3	17.3	31.5	14.5	7.2	.000000
-278.0	.044	.00	42.3	17.3	31.7	14.7	7.3	.000000
-276.0	.045	.00	42.4	17.4	31.8	14.8	7.4	.000000
-274.0	.046	.00	42.4	17.4	31.9	14.9	7.4	.000000
-272.0	.047	.00	42.4	17.4	32.1	15.1	7.5	.000000
-270.0	.048	.00	42.5	17.5	32.2	15.2	7.6	.000000
-268.0	.048	.00	42.5	17.5	32.3	15.3	7.7	.000000
-266.0	.049	.00	42.5	17.5	32.5	15.5	7.7	.000000
-264.0	.050	.00	42.6	17.6	32.6	15.6	7.8	.000000
-262.0	.051	.00	42.6	17.6	32.7	15.7	7.9	.000000
-260.0	.052	.00	42.7	17.7	32.9	15.9	8.0	.000000
-258.0	.053	.00	42.7	17.7	33.0	16.0	8.0	.000000
-256.0	.054	.00	42.7	17.7	33.2	16.2	8.1	.000000
-254.0	.055	.00	42.8	17.8	33.3	16.3	8.2	.000000
-252.0	.056	.00	42.8	17.8	33.5	16.5	8.3	.000000
-250.0	.057	.00	42.8	17.8	33.7	16.7	8.4	.000000
-248.0	.059	.00	42.9	17.9	33.8	16.8	8.4	.000000
-246.0	.060	.00	42.9	17.9	34.0	17.0	8.5	.000000
-244.0	.061	.00	43.0	18.0	34.1	17.1	8.6	.000000
-242.0	.062	.00	43.0	18.0	34.3	17.3	8.7	.000000
-240.0	.064	.00	43.1	18.1	34.5	17.5	8.8	.000000
-238.0	.065	.00	43.1	18.1	34.6	17.6	8.9	.000000
-236.0	.066	.00	43.1	18.1	34.8	17.8	8.9	.000000
-234.0	.068	.00	43.2	18.2	35.0	18.0	9.0	.000000
-232.0	.069	.00	43.2	18.2	35.1	18.1	9.1	.000000
-230.0	.071	.00	43.3	18.3	35.3	18.3	9.2	.000000
-228.0	.072	.00	43.3	18.3	35.5	18.5	9.3	.000000
-226.0	.074	.00	43.4	18.4	35.7	18.7	9.4	.000000
-224.0	.075	.00	43.4	18.4	35.8	18.8	9.5	.000000
-222.0	.077	.00	43.4	18.4	36.0	19.0	9.6	.000000
-220.0	.079	.00	43.5	18.5	36.2	19.2	9.7	.000000
-218.0	.081	.00	43.5	18.5	36.4	19.4	9.8	.000000
-216.0	.082	.00	43.6	18.6	36.6	19.6	9.8	.000000
-214.0	.084	.00	43.6	18.6	36.8	19.8	9.9	.000000
-212.0	.086	.00	43.7	18.7	36.9	19.9	10.0	.000000
-210.0	.088	.00	43.7	18.7	37.1	20.1	10.1	.000000
-208.0	.091	.00	43.8	18.8	37.3	20.3	10.2	.000000
-206.0	.093	.00	43.8	18.8	37.5	20.5	10.3	.000000
-204.0	.095	.00	43.9	18.9	37.7	20.7	10.4	.000000
-202.0	.097	.00	43.9	18.9	37.9	20.9	10.5	.000000
-200.0	.100	.00	44.0	19.0	38.1	21.1	10.7	.000000

-198.0	.102	.00	44.0	19.0	38.3	21.3	10.8	.000000
-196.0	.105	.00	44.1	19.1	38.5	21.5	10.9	.000000
-194.0	.108	.00	44.1	19.1	38.7	21.7	11.0	.000000
-192.0	.111	.00	44.2	19.2	38.9	21.9	11.1	.000000
-190.0	.113	.00	44.2	19.2	39.2	22.2	11.2	.000000
-188.0	.117	.00	44.3	19.3	39.4	22.4	11.3	.000000
-186.0	.120	.00	44.3	19.3	39.6	22.6	11.4	.000000
-184.0	.123	.00	44.4	19.4	39.8	22.8	11.5	.000000
-182.0	.126	.00	44.4	19.4	40.0	23.0	11.7	.000000
-180.0	.130	.00	44.5	19.5	40.3	23.3	11.8	.000000
-178.0	.134	.00	44.6	19.6	40.5	23.5	11.9	.000000
-176.0	.137	.00	44.6	19.6	40.7	23.7	12.0	.000000
-174.0	.141	.00	44.7	19.7	41.0	24.0	12.1	.000000
-172.0	.146	.00	44.7	19.7	41.2	24.2	12.3	.000000
-170.0	.150	.00	44.8	19.8	41.4	24.4	12.4	.000000
-168.0	.154	.00	44.8	19.8	41.7	24.7	12.5	.000000
-166.0	.159	.00	44.9	19.9	41.9	24.9	12.6	.000000
-164.0	.164	.00	45.0	20.0	42.2	25.2	12.8	.000000
-162.0	.169	.00	45.0	20.0	42.5	25.5	12.9	.000000
-160.0	.175	.00	45.1	20.1	42.7	25.7	13.1	.000000
-158.0	.180	.00	45.2	20.2	43.0	26.0	13.2	.000000
-156.0	.186	.00	45.2	20.2	43.2	26.2	13.3	.000000
-154.0	.193	.00	45.3	20.3	43.5	26.5	13.5	.000000
-152.0	.199	.00	45.4	20.4	43.8	26.8	13.6	.000000
-150.0	.206	.00	45.4	20.4	44.1	27.1	13.8	.000000
-148.0	.213	.00	45.5	20.5	44.4	27.4	13.9	.000000
-146.0	.221	.00	45.6	20.6	44.7	27.7	14.1	.000000
-144.0	.229	.00	45.6	20.6	45.0	28.0	14.2	.000000
-142.0	.237	.00	45.7	20.7	45.3	28.3	14.4	.000000
-140.0	.246	.00	45.8	20.8	45.6	28.6	14.6	.000000
-138.0	.255	.00	45.8	20.8	45.9	28.9	14.7	.000000
-136.0	.265	.00	45.9	20.9	46.2	29.2	14.9	.000000
-134.0	.276	.00	46.0	21.0	46.5	29.5	15.1	.000000
-132.0	.287	.00	46.1	21.1	46.8	29.8	15.2	.000000
-130.0	.299	.00	46.2	21.2	47.2	30.2	15.4	.000000
-128.0	.312	.00	46.2	21.2	47.5	30.5	15.6	.000000
-126.0	.325	.00	46.3	21.3	47.9	30.9	15.8	.000000
-124.0	.340	.00	46.4	21.4	48.2	31.2	16.0	.000000
-122.0	.355	.00	46.5	21.5	48.6	31.6	16.2	.000000
-120.0	.372	.00	46.6	21.6	49.0	32.0	16.3	.000000
-118.0	.390	.00	46.7	21.7	49.3	32.3	16.5	.000000
-116.0	.409	.00	46.7	21.7	49.7	32.7	16.8	.000000
-114.0	.430	.00	46.8	21.8	50.1	33.1	17.0	.000000
-112.0	.453	.00	46.9	21.9	50.5	33.5	17.2	.000000
-110.0	.477	.00	47.0	22.0	50.9	33.9	17.4	.000000
-108.0	.504	.00	47.1	22.1	51.4	34.4	17.6	.000000
-106.0	.533	.00	47.2	22.2	51.8	34.8	17.9	.000000
-104.0	.565	.00	47.3	22.3	52.2	35.2	18.1	.000000
-102.0	.600	.00	47.4	22.4	52.7	35.7	18.3	.000000
-100.0	.638	.00	47.5	22.5	53.2	36.2	18.6	.000000
-98.0	.680	.00	47.6	22.6	53.6	36.6	18.8	.000000
-96.0	.727	.00	47.7	22.7	54.1	37.1	19.1	.000000
-94.0	.778	.00	47.8	22.8	54.6	37.6	19.4	.000000
-92.0	.835	.00	47.9	22.9	55.2	38.2	19.7	.000000
-90.0	.899	.00	48.1	23.1	55.7	38.7	19.9	.000000
-88.0	.969	.00	48.2	23.2	56.3	39.3	20.2	.000000
-86.0	1.047	.00	48.3	23.3	56.8	39.8	20.5	.000000
-84.0	1.135	.00	48.4	23.4	57.4	40.4	20.9	.000000
-82.0	1.232	.00	48.5	23.5	58.0	41.0	21.2	.000000
-80.0	1.341	.00	48.7	23.7	58.6	41.6	21.5	.000000
-78.0	1.462	.00	48.8	23.8	59.2	42.2	21.9	.000000
-76.0	1.598	.00	48.9	23.9	59.9	42.9	22.2	.000000
-74.0	1.748	.00	49.1	24.1	60.6	43.6	22.6	.000000
-72.0	1.916	.00	49.2	24.2	61.3	44.3	23.0	.000000
-70.0	2.101	.00	49.4	24.4	62.0	45.0	23.4	.000000
-68.0	2.306	.00	49.5	24.5	62.7	45.7	23.8	.000000
-66.0	2.531	.00	49.7	24.7	63.4	46.4	24.2	.000000
-64.0	2.777	.00	49.8	24.8	64.2	47.2	24.6	.000000
-62.0	3.043	.00	50.0	25.0	64.9	47.9	25.0	.000000
-60.0	3.329	.00	50.1	25.1	65.7	48.7	25.5	.000000
-58.0	3.631	.00	50.3	25.3	66.5	49.5	26.0	.000000
-56.0	3.946	.00	50.5	25.5	67.3	50.3	26.4	.000000
-54.0	4.266	.00	50.6	25.6	68.1	51.1	26.9	.000000
-52.0	4.583	.00	50.8	25.8	68.8	51.8	27.3	.000000
-50.0	4.885	.00	51.0	26.0	69.5	52.5	27.8	.000000
-48.0	5.157	.00	51.1	26.1	70.2	53.2	28.2	.000000
-46.0	5.384	.00	51.3	26.3	70.8	53.8	28.6	.000000
-44.0	5.547	.00	51.4	26.4	71.3	54.3	28.9	.000000
-42.0	5.631	.00	51.5	26.5	71.7	54.7	29.2	.000000
-40.0	5.622	.00	51.7	26.7	72.0	55.0	29.4	.000000
-38.0	5.513	.00	51.8	26.8	72.1	55.1	29.5	.000000

-36.0	5.306	.00	51.9	26.9	72.2	55.2	29.5	.000000
-34.0	5.014	.00	52.0	27.0	72.0	55.0	29.4	.000000
-32.0	4.661	.00	52.1	27.1	71.8	54.8	29.3	.000000
-30.0	4.287	.00	52.1	27.1	71.4	54.4	29.0	.000000
-28.0	3.947	.00	52.2	27.2	70.9	53.9	28.7	.000000
-26.0	3.708	.00	52.3	27.3	70.7	53.7	28.8	.000000
-24.0	3.629	.00	52.3	27.3	71.3	54.3	29.2	.000000
-22.0	3.714	.00	52.4	27.4	71.9	54.9	29.6	.000001
-20.0	3.902	.00	52.4	27.4	72.3	55.3	29.9	.000006
-18.0	4.121	.00	52.5	27.5	72.6	55.6	30.1	.000033
-16.0	4.314	.00	52.5	27.5	72.8	55.8	30.2	.000120
-14.0	4.444	.00	52.5	27.5	72.9	55.9	30.2	.000318
-12.0	4.496	.00	52.5	27.5	72.8	55.8	30.2	.000679
-10.0	4.468	.00	52.5	27.5	72.5	55.5	30.0	.001236
-8.0	4.375	.00	52.5	27.5	72.2	55.2	29.8	.002001
-6.0	4.242	.00	52.5	27.5	71.7	54.7	29.4	.002963
-4.0	4.104	.00	52.5	27.5	71.1	54.1	29.1	.004092
-2.0	4.000	.00	52.5	27.5	70.5	53.5	28.6	.005354
.0	3.961	.00	52.5	27.5	69.8	52.8	28.2	.006706
2.0	4.000	.00	52.5	27.5	70.5	53.5	28.6	.008115
4.0	4.104	.00	52.5	27.5	71.1	54.1	29.1	.009560
6.0	4.242	.00	52.5	27.5	71.7	54.7	29.4	.011050
8.0	4.375	.00	52.5	27.5	72.2	55.2	29.8	.012617
10.0	4.468	.00	52.5	27.5	72.5	55.5	30.0	.014304
12.0	4.496	.00	52.5	27.5	72.8	55.8	30.2	.016141
14.0	4.444	.00	52.5	27.5	72.9	55.9	30.2	.018139
16.0	4.314	.00	52.5	27.5	72.8	55.8	30.2	.020285
18.0	4.121	.00	52.5	27.5	72.6	55.6	30.1	.022549
20.0	3.902	.00	52.4	27.4	72.3	55.3	29.9	.024893
22.0	3.714	.00	52.4	27.4	71.9	54.9	29.6	.027274
24.0	3.629	.00	52.3	27.3	71.3	54.3	29.2	.029651
26.0	3.708	.00	52.3	27.3	70.7	53.7	28.8	.031989
28.0	3.947	.00	52.2	27.2	70.9	53.9	28.7	.034259
30.0	4.287	.00	52.1	27.1	71.4	54.4	29.0	.036440
32.0	4.661	.00	52.1	27.1	71.8	54.8	29.3	.038526
34.0	5.014	.00	52.0	27.0	72.0	55.0	29.4	.040533
36.0	5.306	.00	51.9	26.9	72.2	55.2	29.5	.042505
38.0	5.513	.00	51.8	26.8	72.1	55.1	29.5	.044500
40.0	5.622	.00	51.7	26.7	72.0	55.0	29.4	.046569
42.0	5.631	.00	51.5	26.5	71.7	54.7	29.2	.048744
44.0	5.547	.00	51.4	26.4	71.3	54.3	28.9	.051031
46.0	5.384	.00	51.3	26.3	70.8	53.8	28.6	.053414
48.0	5.157	.00	51.1	26.1	70.2	53.2	28.2	.055861
50.0	4.885	.00	51.0	26.0	69.5	52.5	27.8	.058336
52.0	4.583	.00	50.8	25.8	68.8	51.8	27.3	.060801
54.0	4.266	.00	50.6	25.6	68.1	51.1	26.9	.063225
56.0	3.946	.00	50.5	25.5	67.3	50.3	26.4	.065599
58.0	3.631	.00	50.3	25.3	66.5	49.5	26.0	.067939
60.0	3.329	.00	50.1	25.1	65.7	48.7	25.5	.070281
62.0	3.043	.00	50.0	25.0	64.9	47.9	25.0	.072662
64.0	2.777	.00	49.8	24.8	64.2	47.2	24.6	.075106
66.0	2.531	.00	49.7	24.7	63.4	46.4	24.2	.077616
68.0	2.306	.00	49.5	24.5	62.7	45.7	23.8	.080178
70.0	2.101	.00	49.4	24.4	62.0	45.0	23.4	.082766
72.0	1.916	.00	49.2	24.2	61.3	44.3	23.0	.085345
74.0	1.748	.00	49.1	24.1	60.6	43.6	22.6	.087884
76.0	1.598	.00	48.9	23.9	59.9	42.9	22.2	.090350
78.0	1.462	.00	48.8	23.8	59.2	42.2	21.9	.092719
80.0	1.341	.00	48.7	23.7	58.6	41.6	21.5	.094970
82.0	1.232	.00	48.5	23.5	58.0	41.0	21.2	.097090
84.0	1.135	.00	48.4	23.4	57.4	40.4	20.9	.099069
86.0	1.047	.00	48.3	23.3	56.8	39.8	20.5	.100903
88.0	.969	.00	48.2	23.2	56.3	39.3	20.2	.102591
90.0	.899	.00	48.1	23.1	55.7	38.7	19.9	.104135
92.0	.835	.00	47.9	22.9	55.2	38.2	19.7	.105538
94.0	.778	.00	47.8	22.8	54.6	37.6	19.4	.106806
96.0	.727	.00	47.7	22.7	54.1	37.1	19.1	.107944
98.0	.680	.00	47.6	22.6	53.6	36.6	18.8	.108959
100.0	.638	.00	47.5	22.5	53.2	36.2	18.6	.109859
102.0	.600	.00	47.4	22.4	52.7	35.7	18.3	.110651
104.0	.565	.00	47.3	22.3	52.2	35.2	18.1	.111340
106.0	.533	.00	47.2	22.2	51.8	34.8	17.9	.111936
108.0	.504	.00	47.1	22.1	51.4	34.4	17.6	.112443
110.0	.477	.00	47.0	22.0	50.9	33.9	17.4	.112869
112.0	.453	.00	46.9	21.9	50.5	33.5	17.2	.113218
114.0	.430	.00	46.8	21.8	50.1	33.1	17.0	.113498
116.0	.409	.00	46.7	21.7	49.7	32.7	16.8	.113713
118.0	.390	.00	46.7	21.7	49.3	32.3	16.5	.113867
120.0	.372	.00	46.6	21.6	49.0	32.0	16.3	.113967
122.0	.355	.00	46.5	21.5	48.6	31.6	16.2	.114015
124.0	.340	.00	46.4	21.4	48.2	31.2	16.0	.114016

126.0	.325	.00	46.3	21.3	47.9	30.9	15.8	.113973
128.0	.312	.00	46.2	21.2	47.5	30.5	15.6	.113891
130.0	.299	.00	46.2	21.2	47.2	30.2	15.4	.113771
132.0	.287	.00	46.1	21.1	46.8	29.8	15.2	.113617
134.0	.276	.00	46.0	21.0	46.5	29.5	15.1	.113432
136.0	.265	.00	45.9	20.9	46.2	29.2	14.9	.113219
138.0	.255	.00	45.8	20.8	45.9	28.9	14.7	.112978
140.0	.246	.00	45.8	20.8	45.6	28.6	14.6	.112714
142.0	.237	.00	45.7	20.7	45.3	28.3	14.4	.112427
144.0	.229	.00	45.6	20.6	45.0	28.0	14.2	.112119
146.0	.221	.00	45.6	20.6	44.7	27.7	14.1	.111793
148.0	.213	.00	45.5	20.5	44.4	27.4	13.9	.111450
150.0	.206	.00	45.4	20.4	44.1	27.1	13.8	.111091
152.0	.199	.00	45.4	20.4	43.8	26.8	13.6	.110718
154.0	.193	.00	45.3	20.3	43.5	26.5	13.5	.110331
156.0	.186	.00	45.2	20.2	43.2	26.2	13.3	.109933
158.0	.180	.00	45.2	20.2	43.0	26.0	13.2	.109524
160.0	.175	.00	45.1	20.1	42.7	25.7	13.1	.109106
162.0	.169	.00	45.0	20.0	42.5	25.5	12.9	.108678
164.0	.164	.00	45.0	20.0	42.2	25.2	12.8	.108243
166.0	.159	.00	44.9	19.9	41.9	24.9	12.6	.107801
168.0	.154	.00	44.8	19.8	41.7	24.7	12.5	.107352
170.0	.150	.00	44.8	19.8	41.4	24.4	12.4	.106898
172.0	.146	.00	44.7	19.7	41.2	24.2	12.3	.106438
174.0	.141	.00	44.7	19.7	41.0	24.0	12.1	.105975
176.0	.137	.00	44.6	19.6	40.7	23.7	12.0	.105507
178.0	.134	.00	44.6	19.6	40.5	23.5	11.9	.105037
180.0	.130	.00	44.5	19.5	40.3	23.3	11.8	.104563
182.0	.126	.00	44.4	19.4	40.0	23.0	11.7	.104088
184.0	.123	.00	44.4	19.4	39.8	22.8	11.5	.103610
186.0	.120	.00	44.3	19.3	39.6	22.6	11.4	.103131
188.0	.117	.00	44.3	19.3	39.4	22.4	11.3	.102651
190.0	.113	.00	44.2	19.2	39.2	22.2	11.2	.102170
192.0	.111	.00	44.2	19.2	38.9	21.9	11.1	.101689
194.0	.108	.00	44.1	19.1	38.7	21.7	11.0	.101207
196.0	.105	.00	44.1	19.1	38.5	21.5	10.9	.100726
198.0	.102	.00	44.0	19.0	38.3	21.3	10.8	.100245
200.0	.100	.00	44.0	19.0	38.1	21.1	10.7	.099764
202.0	.097	.00	43.9	18.9	37.9	20.9	10.5	.099284
204.0	.095	.00	43.9	18.9	37.7	20.7	10.4	.098806
206.0	.093	.00	43.8	18.8	37.5	20.5	10.3	.098328
208.0	.091	.00	43.8	18.8	37.3	20.3	10.2	.097852
210.0	.088	.00	43.7	18.7	37.1	20.1	10.1	.097378
212.0	.086	.00	43.7	18.7	36.9	19.9	10.0	.096905
214.0	.084	.00	43.6	18.6	36.8	19.8	9.9	.096434
216.0	.082	.00	43.6	18.6	36.6	19.6	9.8	.095964
218.0	.081	.00	43.5	18.5	36.4	19.4	9.8	.095497
220.0	.079	.00	43.5	18.5	36.2	19.2	9.7	.095032
222.0	.077	.00	43.4	18.4	36.0	19.0	9.6	.094569
224.0	.075	.00	43.4	18.4	35.8	18.8	9.5	.094109
226.0	.074	.00	43.4	18.4	35.7	18.7	9.4	.093651
228.0	.072	.00	43.3	18.3	35.5	18.5	9.3	.093196
230.0	.071	.00	43.3	18.3	35.3	18.3	9.2	.092743
232.0	.069	.00	43.2	18.2	35.1	18.1	9.1	.092292
234.0	.068	.00	43.2	18.2	35.0	18.0	9.0	.091844
236.0	.066	.00	43.1	18.1	34.8	17.8	8.9	.091399
238.0	.065	.00	43.1	18.1	34.6	17.6	8.9	.090957
240.0	.064	.00	43.1	18.1	34.5	17.5	8.8	.090518
242.0	.062	.00	43.0	18.0	34.3	17.3	8.7	.090081
244.0	.061	.00	43.0	18.0	34.1	17.1	8.6	.089647
246.0	.060	.00	42.9	17.9	34.0	17.0	8.5	.089217
248.0	.059	.00	42.9	17.9	33.8	16.8	8.4	.088789
250.0	.057	.00	42.8	17.8	33.7	16.7	8.4	.088364
252.0	.056	.00	42.8	17.8	33.5	16.5	8.3	.087942
254.0	.055	.00	42.8	17.8	33.3	16.3	8.2	.087522
256.0	.054	.00	42.7	17.7	33.2	16.2	8.1	.087106
258.0	.053	.00	42.7	17.7	33.0	16.0	8.0	.086693
260.0	.052	.00	42.7	17.7	32.9	15.9	8.0	.086283
262.0	.051	.00	42.6	17.6	32.7	15.7	7.9	.085876
264.0	.050	.00	42.6	17.6	32.6	15.6	7.8	.085472
266.0	.049	.00	42.5	17.5	32.5	15.5	7.7	.085070
268.0	.048	.00	42.5	17.5	32.3	15.3	7.7	.084672
270.0	.048	.00	42.5	17.5	32.2	15.2	7.6	.084277
272.0	.047	.00	42.4	17.4	32.1	15.1	7.5	.083885
274.0	.046	.00	42.4	17.4	31.9	14.9	7.4	.083495
276.0	.045	.00	42.4	17.4	31.8	14.8	7.4	.083109
278.0	.044	.00	42.3	17.3	31.7	14.7	7.3	.082726
280.0	.044	.00	42.3	17.3	31.5	14.5	7.2	.082345
282.0	.043	.00	42.2	17.2	31.4	14.4	7.1	.081968
284.0	.042	.00	42.2	17.2	31.3	14.3	7.1	.081593
286.0	.041	.00	42.2	17.2	31.1	14.1	7.0	.081222

288.0	.041	.00	42.1	17.1	31.0	14.0	6.9	.080853
290.0	.040	.00	42.1	17.1	30.9	13.9	6.9	.080487
292.0	.039	.00	42.1	17.1	30.8	13.8	6.8	.080124
294.0	.039	.00	42.0	17.0	30.6	13.6	6.7	.079764
296.0	.038	.00	42.0	17.0	30.5	13.5	6.6	.079406
298.0	.037	.00	42.0	17.0	30.4	13.4	6.4	.079052
300.0	.037	.00	41.9	16.9	30.3	13.3	6.3	.078700

AC TRANSMISSION LINE CALCULATION RESULTS
345kV SINGLE CIRCUIT MONOPOLE

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XS-4: 345 kV Single Circuit Monopole - Electric and Magnetic Field Calculations
 Emf Workstation Conductor Data

Total # of Conductors: 5

-6025.00	10.58	64.00	6825.00	10.58	64.00	953.90	0.00
-6025.00	-10.58	47.00	6825.00	-10.58	47.00	953.90	-120.00
-6025.00	10.58	30.00	6825.00	10.58	30.00	953.90	120.00
-6025.00	-10.50	93.15	6825.00	-10.50	93.15	8.57	-152.39
-6025.00	10.50	93.15	6825.00	10.50	93.15	10.61	-128.38

E-Field HORIZONTAL Profile Chart: "Lateral Profile Electric Field - Average Load(EF)"

Field Components = Resultant
 Distance units = (ft)
 Electric field units = KV/m

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	EF (KV/m)
0	0.00	400.00	-300.00	3.28	0.04
1	1.00	400.00	-299.00	3.28	0.04
2	2.00	400.00	-298.00	3.28	0.04
3	3.00	400.00	-297.00	3.28	0.04
4	4.00	400.00	-296.00	3.28	0.04
5	5.00	400.00	-295.00	3.28	0.04
6	6.00	400.00	-294.00	3.28	0.04
7	7.00	400.00	-293.00	3.28	0.04
8	8.00	400.00	-292.00	3.28	0.05
9	9.00	400.00	-291.00	3.28	0.05
10	10.00	400.00	-290.00	3.28	0.05
11	11.00	400.00	-289.00	3.28	0.05
12	12.00	400.00	-288.00	3.28	0.05
13	13.00	400.00	-287.00	3.28	0.05
14	14.00	400.00	-286.00	3.28	0.05
15	15.00	400.00	-285.00	3.28	0.05
16	16.00	400.00	-284.00	3.28	0.05
17	17.00	400.00	-283.00	3.28	0.05
18	18.00	400.00	-282.00	3.28	0.05
19	19.00	400.00	-281.00	3.28	0.05
20	20.00	400.00	-280.00	3.28	0.05
21	21.00	400.00	-279.00	3.28	0.05
22	22.00	400.00	-278.00	3.28	0.05
23	23.00	400.00	-277.00	3.28	0.05
24	24.00	400.00	-276.00	3.28	0.05
25	25.00	400.00	-275.00	3.28	0.05
26	26.00	400.00	-274.00	3.28	0.05
27	27.00	400.00	-273.00	3.28	0.05
28	28.00	400.00	-272.00	3.28	0.05
29	29.00	400.00	-271.00	3.28	0.05
30	30.00	400.00	-270.00	3.28	0.05
31	31.00	400.00	-269.00	3.28	0.05
32	32.00	400.00	-268.00	3.28	0.05
33	33.00	400.00	-267.00	3.28	0.05
34	34.00	400.00	-266.00	3.28	0.05
35	35.00	400.00	-265.00	3.28	0.06
36	36.00	400.00	-264.00	3.28	0.06
37	37.00	400.00	-263.00	3.28	0.06
38	38.00	400.00	-262.00	3.28	0.06
39	39.00	400.00	-261.00	3.28	0.06

40	40.00	400.00	-260.00	3.28	0.06
41	41.00	400.00	-259.00	3.28	0.06
42	42.00	400.00	-258.00	3.28	0.06
43	43.00	400.00	-257.00	3.28	0.06
44	44.00	400.00	-256.00	3.28	0.06
45	45.00	400.00	-255.00	3.28	0.06
46	46.00	400.00	-254.00	3.28	0.06
47	47.00	400.00	-253.00	3.28	0.06
48	48.00	400.00	-252.00	3.28	0.06
49	49.00	400.00	-251.00	3.28	0.06
50	50.00	400.00	-250.00	3.28	0.06
51	51.00	400.00	-249.00	3.28	0.06
52	52.00	400.00	-248.00	3.28	0.06
53	53.00	400.00	-247.00	3.28	0.06
54	54.00	400.00	-246.00	3.28	0.06
55	55.00	400.00	-245.00	3.28	0.06
56	56.00	400.00	-244.00	3.28	0.07
57	57.00	400.00	-243.00	3.28	0.07
58	58.00	400.00	-242.00	3.28	0.07
59	59.00	400.00	-241.00	3.28	0.07
60	60.00	400.00	-240.00	3.28	0.07
61	61.00	400.00	-239.00	3.28	0.07
62	62.00	400.00	-238.00	3.28	0.07
63	63.00	400.00	-237.00	3.28	0.07
64	64.00	400.00	-236.00	3.28	0.07
65	65.00	400.00	-235.00	3.28	0.07
66	66.00	400.00	-234.00	3.28	0.07
67	67.00	400.00	-233.00	3.28	0.07
68	68.00	400.00	-232.00	3.28	0.07
69	69.00	400.00	-231.00	3.28	0.07
70	70.00	400.00	-230.00	3.28	0.07
71	71.00	400.00	-229.00	3.28	0.07
72	72.00	400.00	-228.00	3.28	0.08
73	73.00	400.00	-227.00	3.28	0.08
74	74.00	400.00	-226.00	3.28	0.08
75	75.00	400.00	-225.00	3.28	0.08
76	76.00	400.00	-224.00	3.28	0.08
77	77.00	400.00	-223.00	3.28	0.08
78	78.00	400.00	-222.00	3.28	0.08
79	79.00	400.00	-221.00	3.28	0.08
80	80.00	400.00	-220.00	3.28	0.08
81	81.00	400.00	-219.00	3.28	0.08
82	82.00	400.00	-218.00	3.28	0.08
83	83.00	400.00	-217.00	3.28	0.08
84	84.00	400.00	-216.00	3.28	0.08
85	85.00	400.00	-215.00	3.28	0.09
86	86.00	400.00	-214.00	3.28	0.09
87	87.00	400.00	-213.00	3.28	0.09
88	88.00	400.00	-212.00	3.28	0.09
89	89.00	400.00	-211.00	3.28	0.09
90	90.00	400.00	-210.00	3.28	0.09
91	91.00	400.00	-209.00	3.28	0.09
92	92.00	400.00	-208.00	3.28	0.09
93	93.00	400.00	-207.00	3.28	0.09
94	94.00	400.00	-206.00	3.28	0.09
95	95.00	400.00	-205.00	3.28	0.09
96	96.00	400.00	-204.00	3.28	0.10
97	97.00	400.00	-203.00	3.28	0.10
98	98.00	400.00	-202.00	3.28	0.10
99	99.00	400.00	-201.00	3.28	0.10
100	100.00	400.00	-200.00	3.28	0.10
101	101.00	400.00	-199.00	3.28	0.10
102	102.00	400.00	-198.00	3.28	0.10

103	103.00	400.00	-197.00	3.28	0.10
104	104.00	400.00	-196.00	3.28	0.10
105	105.00	400.00	-195.00	3.28	0.11
106	106.00	400.00	-194.00	3.28	0.11
107	107.00	400.00	-193.00	3.28	0.11
108	108.00	400.00	-192.00	3.28	0.11
109	109.00	400.00	-191.00	3.28	0.11
110	110.00	400.00	-190.00	3.28	0.11
111	111.00	400.00	-189.00	3.28	0.11
112	112.00	400.00	-188.00	3.28	0.11
113	113.00	400.00	-187.00	3.28	0.12
114	114.00	400.00	-186.00	3.28	0.12
115	115.00	400.00	-185.00	3.28	0.12
116	116.00	400.00	-184.00	3.28	0.12
117	117.00	400.00	-183.00	3.28	0.12
118	118.00	400.00	-182.00	3.28	0.12
119	119.00	400.00	-181.00	3.28	0.12
120	120.00	400.00	-180.00	3.28	0.13
121	121.00	400.00	-179.00	3.28	0.13
122	122.00	400.00	-178.00	3.28	0.13
123	123.00	400.00	-177.00	3.28	0.13
124	124.00	400.00	-176.00	3.28	0.13
125	125.00	400.00	-175.00	3.28	0.13
126	126.00	400.00	-174.00	3.28	0.14
127	127.00	400.00	-173.00	3.28	0.14
128	128.00	400.00	-172.00	3.28	0.14
129	129.00	400.00	-171.00	3.28	0.14
130	130.00	400.00	-170.00	3.28	0.14
131	131.00	400.00	-169.00	3.28	0.14
132	132.00	400.00	-168.00	3.28	0.15
133	133.00	400.00	-167.00	3.28	0.15
134	134.00	400.00	-166.00	3.28	0.15
135	135.00	400.00	-165.00	3.28	0.15
136	136.00	400.00	-164.00	3.28	0.15
137	137.00	400.00	-163.00	3.28	0.16
138	138.00	400.00	-162.00	3.28	0.16
139	139.00	400.00	-161.00	3.28	0.16
140	140.00	400.00	-160.00	3.28	0.16
141	141.00	400.00	-159.00	3.28	0.17
142	142.00	400.00	-158.00	3.28	0.17
143	143.00	400.00	-157.00	3.28	0.17
144	144.00	400.00	-156.00	3.28	0.17
145	145.00	400.00	-155.00	3.28	0.18
146	146.00	400.00	-154.00	3.28	0.18
147	147.00	400.00	-153.00	3.28	0.18
148	148.00	400.00	-152.00	3.28	0.18
149	149.00	400.00	-151.00	3.28	0.19
150	150.00	400.00	-150.00	3.28	0.19
151	151.00	400.00	-149.00	3.28	0.19
152	152.00	400.00	-148.00	3.28	0.19
153	153.00	400.00	-147.00	3.28	0.20
154	154.00	400.00	-146.00	3.28	0.20
155	155.00	400.00	-145.00	3.28	0.20
156	156.00	400.00	-144.00	3.28	0.21
157	157.00	400.00	-143.00	3.28	0.21
158	158.00	400.00	-142.00	3.28	0.21
159	159.00	400.00	-141.00	3.28	0.22
160	160.00	400.00	-140.00	3.28	0.22
161	161.00	400.00	-139.00	3.28	0.22
162	162.00	400.00	-138.00	3.28	0.23
163	163.00	400.00	-137.00	3.28	0.23
164	164.00	400.00	-136.00	3.28	0.24
165	165.00	400.00	-135.00	3.28	0.24

166	166.00	400.00	-134.00	3.28	0.24
167	167.00	400.00	-133.00	3.28	0.25
168	168.00	400.00	-132.00	3.28	0.25
169	169.00	400.00	-131.00	3.28	0.26
170	170.00	400.00	-130.00	3.28	0.26
171	171.00	400.00	-129.00	3.28	0.26
172	172.00	400.00	-128.00	3.28	0.27
173	173.00	400.00	-127.00	3.28	0.27
174	174.00	400.00	-126.00	3.28	0.28
175	175.00	400.00	-125.00	3.28	0.28
176	176.00	400.00	-124.00	3.28	0.29
177	177.00	400.00	-123.00	3.28	0.29
178	178.00	400.00	-122.00	3.28	0.30
179	179.00	400.00	-121.00	3.28	0.31
180	180.00	400.00	-120.00	3.28	0.31
181	181.00	400.00	-119.00	3.28	0.32
182	182.00	400.00	-118.00	3.28	0.32
183	183.00	400.00	-117.00	3.28	0.33
184	184.00	400.00	-116.00	3.28	0.34
185	185.00	400.00	-115.00	3.28	0.34
186	186.00	400.00	-114.00	3.28	0.35
187	187.00	400.00	-113.00	3.28	0.36
188	188.00	400.00	-112.00	3.28	0.36
189	189.00	400.00	-111.00	3.28	0.37
190	190.00	400.00	-110.00	3.28	0.38
191	191.00	400.00	-109.00	3.28	0.38
192	192.00	400.00	-108.00	3.28	0.39
193	193.00	400.00	-107.00	3.28	0.40
194	194.00	400.00	-106.00	3.28	0.41
195	195.00	400.00	-105.00	3.28	0.42
196	196.00	400.00	-104.00	3.28	0.43
197	197.00	400.00	-103.00	3.28	0.43
198	198.00	400.00	-102.00	3.28	0.44
199	199.00	400.00	-101.00	3.28	0.45
200	200.00	400.00	-100.00	3.28	0.46
201	201.00	400.00	-99.00	3.28	0.47
202	202.00	400.00	-98.00	3.28	0.48
203	203.00	400.00	-97.00	3.28	0.49
204	204.00	400.00	-96.00	3.28	0.50
205	205.00	400.00	-95.00	3.28	0.52
206	206.00	400.00	-94.00	3.28	0.53
207	207.00	400.00	-93.00	3.28	0.54
208	208.00	400.00	-92.00	3.28	0.55
209	209.00	400.00	-91.00	3.28	0.56
210	210.00	400.00	-90.00	3.28	0.58
211	211.00	400.00	-89.00	3.28	0.59
212	212.00	400.00	-88.00	3.28	0.60
213	213.00	400.00	-87.00	3.28	0.62
214	214.00	400.00	-86.00	3.28	0.63
215	215.00	400.00	-85.00	3.28	0.65
216	216.00	400.00	-84.00	3.28	0.66
217	217.00	400.00	-83.00	3.28	0.68
218	218.00	400.00	-82.00	3.28	0.69
219	219.00	400.00	-81.00	3.28	0.71
220	220.00	400.00	-80.00	3.28	0.73
221	221.00	400.00	-79.00	3.28	0.74
222	222.00	400.00	-78.00	3.28	0.76
223	223.00	400.00	-77.00	3.28	0.78
224	224.00	400.00	-76.00	3.28	0.80
225	225.00	400.00	-75.00	3.28	0.82
226	226.00	400.00	-74.00	3.28	0.84
227	227.00	400.00	-73.00	3.28	0.86
228	228.00	400.00	-72.00	3.28	0.88

229	229.00	400.00	-71.00	3.28	0.90
230	230.00	400.00	-70.00	3.28	0.92
231	231.00	400.00	-69.00	3.28	0.95
232	232.00	400.00	-68.00	3.28	0.97
233	233.00	400.00	-67.00	3.28	0.99
234	234.00	400.00	-66.00	3.28	1.02
235	235.00	400.00	-65.00	3.28	1.04
236	236.00	400.00	-64.00	3.28	1.07
237	237.00	400.00	-63.00	3.28	1.10
238	238.00	400.00	-62.00	3.28	1.12
239	239.00	400.00	-61.00	3.28	1.15
240	240.00	400.00	-60.00	3.28	1.18
241	241.00	400.00	-59.00	3.28	1.21
242	242.00	400.00	-58.00	3.28	1.24
243	243.00	400.00	-57.00	3.28	1.27
244	244.00	400.00	-56.00	3.28	1.30
245	245.00	400.00	-55.00	3.28	1.33
246	246.00	400.00	-54.00	3.28	1.36
247	247.00	400.00	-53.00	3.28	1.39
248	248.00	400.00	-52.00	3.28	1.42
249	249.00	400.00	-51.00	3.28	1.45
250	250.00	400.00	-50.00	3.28	1.49
251	251.00	400.00	-49.00	3.28	1.52
252	252.00	400.00	-48.00	3.28	1.55
253	253.00	400.00	-47.00	3.28	1.59
254	254.00	400.00	-46.00	3.28	1.62
255	255.00	400.00	-45.00	3.28	1.65
256	256.00	400.00	-44.00	3.28	1.69
257	257.00	400.00	-43.00	3.28	1.72
258	258.00	400.00	-42.00	3.28	1.75
259	259.00	400.00	-41.00	3.28	1.79
260	260.00	400.00	-40.00	3.28	1.82
261	261.00	400.00	-39.00	3.28	1.85
262	262.00	400.00	-38.00	3.28	1.88
263	263.00	400.00	-37.00	3.28	1.91
264	264.00	400.00	-36.00	3.28	1.94
265	265.00	400.00	-35.00	3.28	1.97
266	266.00	400.00	-34.00	3.28	2.00
267	267.00	400.00	-33.00	3.28	2.03
268	268.00	400.00	-32.00	3.28	2.06
269	269.00	400.00	-31.00	3.28	2.08
270	270.00	400.00	-30.00	3.28	2.11
271	271.00	400.00	-29.00	3.28	2.13
272	272.00	400.00	-28.00	3.28	2.15
273	273.00	400.00	-27.00	3.28	2.18
274	274.00	400.00	-26.00	3.28	2.20
275	275.00	400.00	-25.00	3.28	2.22
276	276.00	400.00	-24.00	3.28	2.25
277	277.00	400.00	-23.00	3.28	2.27
278	278.00	400.00	-22.00	3.28	2.30
279	279.00	400.00	-21.00	3.28	2.33
280	280.00	400.00	-20.00	3.28	2.36
281	281.00	400.00	-19.00	3.28	2.40
282	282.00	400.00	-18.00	3.28	2.44
283	283.00	400.00	-17.00	3.28	2.49
284	284.00	400.00	-16.00	3.28	2.55
285	285.00	400.00	-15.00	3.28	2.62
286	286.00	400.00	-14.00	3.28	2.69
287	287.00	400.00	-13.00	3.28	2.78
288	288.00	400.00	-12.00	3.28	2.87
289	289.00	400.00	-11.00	3.28	2.98
290	290.00	400.00	-10.00	3.28	3.10
291	291.00	400.00	-9.00	3.28	3.23

292	292.00	400.00	-8.00	3.28	3.37
293	293.00	400.00	-7.00	3.28	3.52
294	294.00	400.00	-6.00	3.28	3.67
295	295.00	400.00	-5.00	3.28	3.84
296	296.00	400.00	-4.00	3.28	4.01
297	297.00	400.00	-3.00	3.28	4.19
298	298.00	400.00	-2.00	3.28	4.37
299	299.00	400.00	-1.00	3.28	4.55
300	300.00	400.00	0.00	3.28	4.73
301	301.00	400.00	1.00	3.28	4.91
302	302.00	400.00	2.00	3.28	5.08
303	303.00	400.00	3.00	3.28	5.24
304	304.00	400.00	4.00	3.28	5.39
305	305.00	400.00	5.00	3.28	5.53
306	306.00	400.00	6.00	3.28	5.66
307	307.00	400.00	7.00	3.28	5.77
308	308.00	400.00	8.00	3.28	5.86
309	309.00	400.00	9.00	3.28	5.93
310	310.00	400.00	10.00	3.28	5.98
311	311.00	400.00	11.00	3.28	6.02
312	312.00	400.00	12.00	3.28	6.03
313	313.00	400.00	13.00	3.28	6.02
314	314.00	400.00	14.00	3.28	5.99
315	315.00	400.00	15.00	3.28	5.94
316	316.00	400.00	16.00	3.28	5.88
317	317.00	400.00	17.00	3.28	5.79
318	318.00	400.00	18.00	3.28	5.69
319	319.00	400.00	19.00	3.28	5.58
320	320.00	400.00	20.00	3.28	5.45
321	321.00	400.00	21.00	3.28	5.31
322	322.00	400.00	22.00	3.28	5.16
323	323.00	400.00	23.00	3.28	5.01
324	324.00	400.00	24.00	3.28	4.85
325	325.00	400.00	25.00	3.28	4.68
326	326.00	400.00	26.00	3.28	4.52
327	327.00	400.00	27.00	3.28	4.35
328	328.00	400.00	28.00	3.28	4.18
329	329.00	400.00	29.00	3.28	4.01
330	330.00	400.00	30.00	3.28	3.84
331	331.00	400.00	31.00	3.28	3.68
332	332.00	400.00	32.00	3.28	3.51
333	333.00	400.00	33.00	3.28	3.36
334	334.00	400.00	34.00	3.28	3.20
335	335.00	400.00	35.00	3.28	3.06
336	336.00	400.00	36.00	3.28	2.91
337	337.00	400.00	37.00	3.28	2.78
338	338.00	400.00	38.00	3.28	2.64
339	339.00	400.00	39.00	3.28	2.52
340	340.00	400.00	40.00	3.28	2.40
341	341.00	400.00	41.00	3.28	2.28
342	342.00	400.00	42.00	3.28	2.17
343	343.00	400.00	43.00	3.28	2.07
344	344.00	400.00	44.00	3.28	1.97
345	345.00	400.00	45.00	3.28	1.88
346	346.00	400.00	46.00	3.28	1.79
347	347.00	400.00	47.00	3.28	1.71
348	348.00	400.00	48.00	3.28	1.63
349	349.00	400.00	49.00	3.28	1.55
350	350.00	400.00	50.00	3.28	1.49
351	351.00	400.00	51.00	3.28	1.42
352	352.00	400.00	52.00	3.28	1.36
353	353.00	400.00	53.00	3.28	1.30
354	354.00	400.00	54.00	3.28	1.25

355	355.00	400.00	55.00	3.28	1.20
356	356.00	400.00	56.00	3.28	1.15
357	357.00	400.00	57.00	3.28	1.10
358	358.00	400.00	58.00	3.28	1.06
359	359.00	400.00	59.00	3.28	1.02
360	360.00	400.00	60.00	3.28	0.99
361	361.00	400.00	61.00	3.28	0.95
362	362.00	400.00	62.00	3.28	0.92
363	363.00	400.00	63.00	3.28	0.89
364	364.00	400.00	64.00	3.28	0.86
365	365.00	400.00	65.00	3.28	0.84
366	366.00	400.00	66.00	3.28	0.81
367	367.00	400.00	67.00	3.28	0.79
368	368.00	400.00	68.00	3.28	0.77
369	369.00	400.00	69.00	3.28	0.75
370	370.00	400.00	70.00	3.28	0.73
371	371.00	400.00	71.00	3.28	0.71
372	372.00	400.00	72.00	3.28	0.69
373	373.00	400.00	73.00	3.28	0.67
374	374.00	400.00	74.00	3.28	0.66
375	375.00	400.00	75.00	3.28	0.64
376	376.00	400.00	76.00	3.28	0.63
377	377.00	400.00	77.00	3.28	0.62
378	378.00	400.00	78.00	3.28	0.60
379	379.00	400.00	79.00	3.28	0.59
380	380.00	400.00	80.00	3.28	0.58
381	381.00	400.00	81.00	3.28	0.57
382	382.00	400.00	82.00	3.28	0.56
383	383.00	400.00	83.00	3.28	0.55
384	384.00	400.00	84.00	3.28	0.54
385	385.00	400.00	85.00	3.28	0.53
386	386.00	400.00	86.00	3.28	0.52
387	387.00	400.00	87.00	3.28	0.51
388	388.00	400.00	88.00	3.28	0.50
389	389.00	400.00	89.00	3.28	0.49
390	390.00	400.00	90.00	3.28	0.48
391	391.00	400.00	91.00	3.28	0.48
392	392.00	400.00	92.00	3.28	0.47
393	393.00	400.00	93.00	3.28	0.46
394	394.00	400.00	94.00	3.28	0.45
395	395.00	400.00	95.00	3.28	0.45
396	396.00	400.00	96.00	3.28	0.44
397	397.00	400.00	97.00	3.28	0.43
398	398.00	400.00	98.00	3.28	0.43
399	399.00	400.00	99.00	3.28	0.42
400	400.00	400.00	100.00	3.28	0.41
401	401.00	400.00	101.00	3.28	0.41
402	402.00	400.00	102.00	3.28	0.40
403	403.00	400.00	103.00	3.28	0.39
404	404.00	400.00	104.00	3.28	0.39
405	405.00	400.00	105.00	3.28	0.38
406	406.00	400.00	106.00	3.28	0.38
407	407.00	400.00	107.00	3.28	0.37
408	408.00	400.00	108.00	3.28	0.37
409	409.00	400.00	109.00	3.28	0.36
410	410.00	400.00	110.00	3.28	0.36
411	411.00	400.00	111.00	3.28	0.35
412	412.00	400.00	112.00	3.28	0.35
413	413.00	400.00	113.00	3.28	0.34
414	414.00	400.00	114.00	3.28	0.34
415	415.00	400.00	115.00	3.28	0.33
416	416.00	400.00	116.00	3.28	0.33
417	417.00	400.00	117.00	3.28	0.32

418	418.00	400.00	118.00	3.28	0.32
419	419.00	400.00	119.00	3.28	0.31
420	420.00	400.00	120.00	3.28	0.31
421	421.00	400.00	121.00	3.28	0.31
422	422.00	400.00	122.00	3.28	0.30
423	423.00	400.00	123.00	3.28	0.30
424	424.00	400.00	124.00	3.28	0.29
425	425.00	400.00	125.00	3.28	0.29
426	426.00	400.00	126.00	3.28	0.29
427	427.00	400.00	127.00	3.28	0.28
428	428.00	400.00	128.00	3.28	0.28
429	429.00	400.00	129.00	3.28	0.27
430	430.00	400.00	130.00	3.28	0.27
431	431.00	400.00	131.00	3.28	0.27
432	432.00	400.00	132.00	3.28	0.26
433	433.00	400.00	133.00	3.28	0.26
434	434.00	400.00	134.00	3.28	0.26
435	435.00	400.00	135.00	3.28	0.25
436	436.00	400.00	136.00	3.28	0.25
437	437.00	400.00	137.00	3.28	0.25
438	438.00	400.00	138.00	3.28	0.24
439	439.00	400.00	139.00	3.28	0.24
440	440.00	400.00	140.00	3.28	0.24
441	441.00	400.00	141.00	3.28	0.23
442	442.00	400.00	142.00	3.28	0.23
443	443.00	400.00	143.00	3.28	0.23
444	444.00	400.00	144.00	3.28	0.23
445	445.00	400.00	145.00	3.28	0.22
446	446.00	400.00	146.00	3.28	0.22
447	447.00	400.00	147.00	3.28	0.22
448	448.00	400.00	148.00	3.28	0.21
449	449.00	400.00	149.00	3.28	0.21
450	450.00	400.00	150.00	3.28	0.21
451	451.00	400.00	151.00	3.28	0.21
452	452.00	400.00	152.00	3.28	0.20
453	453.00	400.00	153.00	3.28	0.20
454	454.00	400.00	154.00	3.28	0.20
455	455.00	400.00	155.00	3.28	0.20
456	456.00	400.00	156.00	3.28	0.19
457	457.00	400.00	157.00	3.28	0.19
458	458.00	400.00	158.00	3.28	0.19
459	459.00	400.00	159.00	3.28	0.19
460	460.00	400.00	160.00	3.28	0.19
461	461.00	400.00	161.00	3.28	0.18
462	462.00	400.00	162.00	3.28	0.18
463	463.00	400.00	163.00	3.28	0.18
464	464.00	400.00	164.00	3.28	0.18
465	465.00	400.00	165.00	3.28	0.18
466	466.00	400.00	166.00	3.28	0.17
467	467.00	400.00	167.00	3.28	0.17
468	468.00	400.00	168.00	3.28	0.17
469	469.00	400.00	169.00	3.28	0.17
470	470.00	400.00	170.00	3.28	0.17
471	471.00	400.00	171.00	3.28	0.16
472	472.00	400.00	172.00	3.28	0.16
473	473.00	400.00	173.00	3.28	0.16
474	474.00	400.00	174.00	3.28	0.16
475	475.00	400.00	175.00	3.28	0.16
476	476.00	400.00	176.00	3.28	0.15
477	477.00	400.00	177.00	3.28	0.15
478	478.00	400.00	178.00	3.28	0.15
479	479.00	400.00	179.00	3.28	0.15
480	480.00	400.00	180.00	3.28	0.15

481	481.00	400.00	181.00	3.28	0.15
482	482.00	400.00	182.00	3.28	0.14
483	483.00	400.00	183.00	3.28	0.14
484	484.00	400.00	184.00	3.28	0.14
485	485.00	400.00	185.00	3.28	0.14
486	486.00	400.00	186.00	3.28	0.14
487	487.00	400.00	187.00	3.28	0.14
488	488.00	400.00	188.00	3.28	0.14
489	489.00	400.00	189.00	3.28	0.13
490	490.00	400.00	190.00	3.28	0.13
491	491.00	400.00	191.00	3.28	0.13
492	492.00	400.00	192.00	3.28	0.13
493	493.00	400.00	193.00	3.28	0.13
494	494.00	400.00	194.00	3.28	0.13
495	495.00	400.00	195.00	3.28	0.13
496	496.00	400.00	196.00	3.28	0.13
497	497.00	400.00	197.00	3.28	0.12
498	498.00	400.00	198.00	3.28	0.12
499	499.00	400.00	199.00	3.28	0.12
500	500.00	400.00	200.00	3.28	0.12
501	501.00	400.00	201.00	3.28	0.12
502	502.00	400.00	202.00	3.28	0.12
503	503.00	400.00	203.00	3.28	0.12
504	504.00	400.00	204.00	3.28	0.12
505	505.00	400.00	205.00	3.28	0.11
506	506.00	400.00	206.00	3.28	0.11
507	507.00	400.00	207.00	3.28	0.11
508	508.00	400.00	208.00	3.28	0.11
509	509.00	400.00	209.00	3.28	0.11
510	510.00	400.00	210.00	3.28	0.11
511	511.00	400.00	211.00	3.28	0.11
512	512.00	400.00	212.00	3.28	0.11
513	513.00	400.00	213.00	3.28	0.11
514	514.00	400.00	214.00	3.28	0.10
515	515.00	400.00	215.00	3.28	0.10
516	516.00	400.00	216.00	3.28	0.10
517	517.00	400.00	217.00	3.28	0.10
518	518.00	400.00	218.00	3.28	0.10
519	519.00	400.00	219.00	3.28	0.10
520	520.00	400.00	220.00	3.28	0.10
521	521.00	400.00	221.00	3.28	0.10
522	522.00	400.00	222.00	3.28	0.10
523	523.00	400.00	223.00	3.28	0.10
524	524.00	400.00	224.00	3.28	0.10
525	525.00	400.00	225.00	3.28	0.09
526	526.00	400.00	226.00	3.28	0.09
527	527.00	400.00	227.00	3.28	0.09
528	528.00	400.00	228.00	3.28	0.09
529	529.00	400.00	229.00	3.28	0.09
530	530.00	400.00	230.00	3.28	0.09
531	531.00	400.00	231.00	3.28	0.09
532	532.00	400.00	232.00	3.28	0.09
533	533.00	400.00	233.00	3.28	0.09
534	534.00	400.00	234.00	3.28	0.09
535	535.00	400.00	235.00	3.28	0.09
536	536.00	400.00	236.00	3.28	0.09
537	537.00	400.00	237.00	3.28	0.09
538	538.00	400.00	238.00	3.28	0.08
539	539.00	400.00	239.00	3.28	0.08
540	540.00	400.00	240.00	3.28	0.08
541	541.00	400.00	241.00	3.28	0.08
542	542.00	400.00	242.00	3.28	0.08
543	543.00	400.00	243.00	3.28	0.08

544	544.00	400.00	244.00	3.28	0.08
545	545.00	400.00	245.00	3.28	0.08
546	546.00	400.00	246.00	3.28	0.08
547	547.00	400.00	247.00	3.28	0.08
548	548.00	400.00	248.00	3.28	0.08
549	549.00	400.00	249.00	3.28	0.08
550	550.00	400.00	250.00	3.28	0.08
551	551.00	400.00	251.00	3.28	0.08
552	552.00	400.00	252.00	3.28	0.07
553	553.00	400.00	253.00	3.28	0.07
554	554.00	400.00	254.00	3.28	0.07
555	555.00	400.00	255.00	3.28	0.07
556	556.00	400.00	256.00	3.28	0.07
557	557.00	400.00	257.00	3.28	0.07
558	558.00	400.00	258.00	3.28	0.07
559	559.00	400.00	259.00	3.28	0.07
560	560.00	400.00	260.00	3.28	0.07
561	561.00	400.00	261.00	3.28	0.07
562	562.00	400.00	262.00	3.28	0.07
563	563.00	400.00	263.00	3.28	0.07
564	564.00	400.00	264.00	3.28	0.07
565	565.00	400.00	265.00	3.28	0.07
566	566.00	400.00	266.00	3.28	0.07
567	567.00	400.00	267.00	3.28	0.07
568	568.00	400.00	268.00	3.28	0.07
569	569.00	400.00	269.00	3.28	0.07
570	570.00	400.00	270.00	3.28	0.06
571	571.00	400.00	271.00	3.28	0.06
572	572.00	400.00	272.00	3.28	0.06
573	573.00	400.00	273.00	3.28	0.06
574	574.00	400.00	274.00	3.28	0.06
575	575.00	400.00	275.00	3.28	0.06
576	576.00	400.00	276.00	3.28	0.06
577	577.00	400.00	277.00	3.28	0.06
578	578.00	400.00	278.00	3.28	0.06
579	579.00	400.00	279.00	3.28	0.06
580	580.00	400.00	280.00	3.28	0.06
581	581.00	400.00	281.00	3.28	0.06
582	582.00	400.00	282.00	3.28	0.06
583	583.00	400.00	283.00	3.28	0.06
584	584.00	400.00	284.00	3.28	0.06
585	585.00	400.00	285.00	3.28	0.06
586	586.00	400.00	286.00	3.28	0.06
587	587.00	400.00	287.00	3.28	0.06
588	588.00	400.00	288.00	3.28	0.06
589	589.00	400.00	289.00	3.28	0.06
590	590.00	400.00	290.00	3.28	0.06
591	591.00	400.00	291.00	3.28	0.06
592	592.00	400.00	292.00	3.28	0.06
593	593.00	400.00	293.00	3.28	0.05
594	594.00	400.00	294.00	3.28	0.05
595	595.00	400.00	295.00	3.28	0.05
596	596.00	400.00	296.00	3.28	0.05
597	597.00	400.00	297.00	3.28	0.05
598	598.00	400.00	298.00	3.28	0.05
599	599.00	400.00	299.00	3.28	0.05
600	600.00	400.00	300.00	3.28	0.05

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Average Load"

Field Components = Resultant
 Distance units = (ft)
 Magnetic field units = mG

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	2.64
1	1.00	400.00	-299.00	3.28	2.66
2	2.00	400.00	-298.00	3.28	2.68
3	3.00	400.00	-297.00	3.28	2.69
4	4.00	400.00	-296.00	3.28	2.71
5	5.00	400.00	-295.00	3.28	2.73
6	6.00	400.00	-294.00	3.28	2.74
7	7.00	400.00	-293.00	3.28	2.76
8	8.00	400.00	-292.00	3.28	2.78
9	9.00	400.00	-291.00	3.28	2.80
10	10.00	400.00	-290.00	3.28	2.81
11	11.00	400.00	-289.00	3.28	2.83
12	12.00	400.00	-288.00	3.28	2.85
13	13.00	400.00	-287.00	3.28	2.87
14	14.00	400.00	-286.00	3.28	2.89
15	15.00	400.00	-285.00	3.28	2.91
16	16.00	400.00	-284.00	3.28	2.92
17	17.00	400.00	-283.00	3.28	2.94
18	18.00	400.00	-282.00	3.28	2.96
19	19.00	400.00	-281.00	3.28	2.98
20	20.00	400.00	-280.00	3.28	3.00
21	21.00	400.00	-279.00	3.28	3.02
22	22.00	400.00	-278.00	3.28	3.04
23	23.00	400.00	-277.00	3.28	3.06
24	24.00	400.00	-276.00	3.28	3.08
25	25.00	400.00	-275.00	3.28	3.10
26	26.00	400.00	-274.00	3.28	3.12
27	27.00	400.00	-273.00	3.28	3.14
28	28.00	400.00	-272.00	3.28	3.16
29	29.00	400.00	-271.00	3.28	3.19
30	30.00	400.00	-270.00	3.28	3.21
31	31.00	400.00	-269.00	3.28	3.23
32	32.00	400.00	-268.00	3.28	3.25
33	33.00	400.00	-267.00	3.28	3.27
34	34.00	400.00	-266.00	3.28	3.30
35	35.00	400.00	-265.00	3.28	3.32
36	36.00	400.00	-264.00	3.28	3.34
37	37.00	400.00	-263.00	3.28	3.37
38	38.00	400.00	-262.00	3.28	3.39
39	39.00	400.00	-261.00	3.28	3.41
40	40.00	400.00	-260.00	3.28	3.44
41	41.00	400.00	-259.00	3.28	3.46
42	42.00	400.00	-258.00	3.28	3.49
43	43.00	400.00	-257.00	3.28	3.51
44	44.00	400.00	-256.00	3.28	3.54
45	45.00	400.00	-255.00	3.28	3.56
46	46.00	400.00	-254.00	3.28	3.59
47	47.00	400.00	-253.00	3.28	3.61
48	48.00	400.00	-252.00	3.28	3.64
49	49.00	400.00	-251.00	3.28	3.67
50	50.00	400.00	-250.00	3.28	3.69
51	51.00	400.00	-249.00	3.28	3.72

52	52.00	400.00	-248.00	3.28	3.75
53	53.00	400.00	-247.00	3.28	3.77
54	54.00	400.00	-246.00	3.28	3.80
55	55.00	400.00	-245.00	3.28	3.83
56	56.00	400.00	-244.00	3.28	3.86
57	57.00	400.00	-243.00	3.28	3.89
58	58.00	400.00	-242.00	3.28	3.92
59	59.00	400.00	-241.00	3.28	3.95
60	60.00	400.00	-240.00	3.28	3.98
61	61.00	400.00	-239.00	3.28	4.01
62	62.00	400.00	-238.00	3.28	4.04
63	63.00	400.00	-237.00	3.28	4.07
64	64.00	400.00	-236.00	3.28	4.10
65	65.00	400.00	-235.00	3.28	4.13
66	66.00	400.00	-234.00	3.28	4.17
67	67.00	400.00	-233.00	3.28	4.20
68	68.00	400.00	-232.00	3.28	4.23
69	69.00	400.00	-231.00	3.28	4.27
70	70.00	400.00	-230.00	3.28	4.30
71	71.00	400.00	-229.00	3.28	4.33
72	72.00	400.00	-228.00	3.28	4.37
73	73.00	400.00	-227.00	3.28	4.40
74	74.00	400.00	-226.00	3.28	4.44
75	75.00	400.00	-225.00	3.28	4.47
76	76.00	400.00	-224.00	3.28	4.51
77	77.00	400.00	-223.00	3.28	4.55
78	78.00	400.00	-222.00	3.28	4.58
79	79.00	400.00	-221.00	3.28	4.62
80	80.00	400.00	-220.00	3.28	4.66
81	81.00	400.00	-219.00	3.28	4.70
82	82.00	400.00	-218.00	3.28	4.74
83	83.00	400.00	-217.00	3.28	4.78
84	84.00	400.00	-216.00	3.28	4.82
85	85.00	400.00	-215.00	3.28	4.86
86	86.00	400.00	-214.00	3.28	4.90
87	87.00	400.00	-213.00	3.28	4.94
88	88.00	400.00	-212.00	3.28	4.99
89	89.00	400.00	-211.00	3.28	5.03
90	90.00	400.00	-210.00	3.28	5.07
91	91.00	400.00	-209.00	3.28	5.12
92	92.00	400.00	-208.00	3.28	5.16
93	93.00	400.00	-207.00	3.28	5.21
94	94.00	400.00	-206.00	3.28	5.25
95	95.00	400.00	-205.00	3.28	5.30
96	96.00	400.00	-204.00	3.28	5.34
97	97.00	400.00	-203.00	3.28	5.39
98	98.00	400.00	-202.00	3.28	5.44
99	99.00	400.00	-201.00	3.28	5.49
100	100.00	400.00	-200.00	3.28	5.54
101	101.00	400.00	-199.00	3.28	5.59
102	102.00	400.00	-198.00	3.28	5.64
103	103.00	400.00	-197.00	3.28	5.69
104	104.00	400.00	-196.00	3.28	5.75
105	105.00	400.00	-195.00	3.28	5.80
106	106.00	400.00	-194.00	3.28	5.85
107	107.00	400.00	-193.00	3.28	5.91
108	108.00	400.00	-192.00	3.28	5.96
109	109.00	400.00	-191.00	3.28	6.02
110	110.00	400.00	-190.00	3.28	6.08
111	111.00	400.00	-189.00	3.28	6.13
112	112.00	400.00	-188.00	3.28	6.19
113	113.00	400.00	-187.00	3.28	6.25
114	114.00	400.00	-186.00	3.28	6.31

115	115.00	400.00	-185.00	3.28	6.37
116	116.00	400.00	-184.00	3.28	6.44
117	117.00	400.00	-183.00	3.28	6.50
118	118.00	400.00	-182.00	3.28	6.56
119	119.00	400.00	-181.00	3.28	6.63
120	120.00	400.00	-180.00	3.28	6.69
121	121.00	400.00	-179.00	3.28	6.76
122	122.00	400.00	-178.00	3.28	6.83
123	123.00	400.00	-177.00	3.28	6.90
124	124.00	400.00	-176.00	3.28	6.97
125	125.00	400.00	-175.00	3.28	7.04
126	126.00	400.00	-174.00	3.28	7.11
127	127.00	400.00	-173.00	3.28	7.19
128	128.00	400.00	-172.00	3.28	7.26
129	129.00	400.00	-171.00	3.28	7.34
130	130.00	400.00	-170.00	3.28	7.41
131	131.00	400.00	-169.00	3.28	7.49
132	132.00	400.00	-168.00	3.28	7.57
133	133.00	400.00	-167.00	3.28	7.65
134	134.00	400.00	-166.00	3.28	7.73
135	135.00	400.00	-165.00	3.28	7.82
136	136.00	400.00	-164.00	3.28	7.90
137	137.00	400.00	-163.00	3.28	7.99
138	138.00	400.00	-162.00	3.28	8.08
139	139.00	400.00	-161.00	3.28	8.16
140	140.00	400.00	-160.00	3.28	8.25
141	141.00	400.00	-159.00	3.28	8.35
142	142.00	400.00	-158.00	3.28	8.44
143	143.00	400.00	-157.00	3.28	8.54
144	144.00	400.00	-156.00	3.28	8.63
145	145.00	400.00	-155.00	3.28	8.73
146	146.00	400.00	-154.00	3.28	8.83
147	147.00	400.00	-153.00	3.28	8.93
148	148.00	400.00	-152.00	3.28	9.03
149	149.00	400.00	-151.00	3.28	9.14
150	150.00	400.00	-150.00	3.28	9.25
151	151.00	400.00	-149.00	3.28	9.36
152	152.00	400.00	-148.00	3.28	9.47
153	153.00	400.00	-147.00	3.28	9.58
154	154.00	400.00	-146.00	3.28	9.69
155	155.00	400.00	-145.00	3.28	9.81
156	156.00	400.00	-144.00	3.28	9.93
157	157.00	400.00	-143.00	3.28	10.05
158	158.00	400.00	-142.00	3.28	10.17
159	159.00	400.00	-141.00	3.28	10.30
160	160.00	400.00	-140.00	3.28	10.43
161	161.00	400.00	-139.00	3.28	10.56
162	162.00	400.00	-138.00	3.28	10.69
163	163.00	400.00	-137.00	3.28	10.83
164	164.00	400.00	-136.00	3.28	10.96
165	165.00	400.00	-135.00	3.28	11.10
166	166.00	400.00	-134.00	3.28	11.25
167	167.00	400.00	-133.00	3.28	11.39
168	168.00	400.00	-132.00	3.28	11.54
169	169.00	400.00	-131.00	3.28	11.69
170	170.00	400.00	-130.00	3.28	11.85
171	171.00	400.00	-129.00	3.28	12.00
172	172.00	400.00	-128.00	3.28	12.16
173	173.00	400.00	-127.00	3.28	12.33
174	174.00	400.00	-126.00	3.28	12.50
175	175.00	400.00	-125.00	3.28	12.67
176	176.00	400.00	-124.00	3.28	12.84
177	177.00	400.00	-123.00	3.28	13.02

178	178.00	400.00	-122.00	3.28	13.20
179	179.00	400.00	-121.00	3.28	13.38
180	180.00	400.00	-120.00	3.28	13.57
181	181.00	400.00	-119.00	3.28	13.76
182	182.00	400.00	-118.00	3.28	13.96
183	183.00	400.00	-117.00	3.28	14.16
184	184.00	400.00	-116.00	3.28	14.36
185	185.00	400.00	-115.00	3.28	14.57
186	186.00	400.00	-114.00	3.28	14.78
187	187.00	400.00	-113.00	3.28	15.00
188	188.00	400.00	-112.00	3.28	15.22
189	189.00	400.00	-111.00	3.28	15.45
190	190.00	400.00	-110.00	3.28	15.68
191	191.00	400.00	-109.00	3.28	15.92
192	192.00	400.00	-108.00	3.28	16.16
193	193.00	400.00	-107.00	3.28	16.41
194	194.00	400.00	-106.00	3.28	16.67
195	195.00	400.00	-105.00	3.28	16.93
196	196.00	400.00	-104.00	3.28	17.19
197	197.00	400.00	-103.00	3.28	17.46
198	198.00	400.00	-102.00	3.28	17.74
199	199.00	400.00	-101.00	3.28	18.02
200	200.00	400.00	-100.00	3.28	18.31
201	201.00	400.00	-99.00	3.28	18.61
202	202.00	400.00	-98.00	3.28	18.92
203	203.00	400.00	-97.00	3.28	19.23
204	204.00	400.00	-96.00	3.28	19.55
205	205.00	400.00	-95.00	3.28	19.87
206	206.00	400.00	-94.00	3.28	20.21
207	207.00	400.00	-93.00	3.28	20.55
208	208.00	400.00	-92.00	3.28	20.90
209	209.00	400.00	-91.00	3.28	21.26
210	210.00	400.00	-90.00	3.28	21.63
211	211.00	400.00	-89.00	3.28	22.00
212	212.00	400.00	-88.00	3.28	22.39
213	213.00	400.00	-87.00	3.28	22.79
214	214.00	400.00	-86.00	3.28	23.19
215	215.00	400.00	-85.00	3.28	23.61
216	216.00	400.00	-84.00	3.28	24.03
217	217.00	400.00	-83.00	3.28	24.47
218	218.00	400.00	-82.00	3.28	24.92
219	219.00	400.00	-81.00	3.28	25.38
220	220.00	400.00	-80.00	3.28	25.85
221	221.00	400.00	-79.00	3.28	26.34
222	222.00	400.00	-78.00	3.28	26.84
223	223.00	400.00	-77.00	3.28	27.35
224	224.00	400.00	-76.00	3.28	27.87
225	225.00	400.00	-75.00	3.28	28.41
226	226.00	400.00	-74.00	3.28	28.96
227	227.00	400.00	-73.00	3.28	29.53
228	228.00	400.00	-72.00	3.28	30.11
229	229.00	400.00	-71.00	3.28	30.71
230	230.00	400.00	-70.00	3.28	31.32
231	231.00	400.00	-69.00	3.28	31.95
232	232.00	400.00	-68.00	3.28	32.60
233	233.00	400.00	-67.00	3.28	33.26
234	234.00	400.00	-66.00	3.28	33.95
235	235.00	400.00	-65.00	3.28	34.65
236	236.00	400.00	-64.00	3.28	35.37
237	237.00	400.00	-63.00	3.28	36.11
238	238.00	400.00	-62.00	3.28	36.88
239	239.00	400.00	-61.00	3.28	37.66
240	240.00	400.00	-60.00	3.28	38.46

241	241.00	400.00	-59.00	3.28	39.29
242	242.00	400.00	-58.00	3.28	40.14
243	243.00	400.00	-57.00	3.28	41.02
244	244.00	400.00	-56.00	3.28	41.92
245	245.00	400.00	-55.00	3.28	42.84
246	246.00	400.00	-54.00	3.28	43.79
247	247.00	400.00	-53.00	3.28	44.77
248	248.00	400.00	-52.00	3.28	45.77
249	249.00	400.00	-51.00	3.28	46.80
250	250.00	400.00	-50.00	3.28	47.86
251	251.00	400.00	-49.00	3.28	48.95
252	252.00	400.00	-48.00	3.28	50.06
253	253.00	400.00	-47.00	3.28	51.21
254	254.00	400.00	-46.00	3.28	52.39
255	255.00	400.00	-45.00	3.28	53.60
256	256.00	400.00	-44.00	3.28	54.85
257	257.00	400.00	-43.00	3.28	56.12
258	258.00	400.00	-42.00	3.28	57.43
259	259.00	400.00	-41.00	3.28	58.77
260	260.00	400.00	-40.00	3.28	60.15
261	261.00	400.00	-39.00	3.28	61.56
262	262.00	400.00	-38.00	3.28	63.01
263	263.00	400.00	-37.00	3.28	64.49
264	264.00	400.00	-36.00	3.28	66.01
265	265.00	400.00	-35.00	3.28	67.57
266	266.00	400.00	-34.00	3.28	69.16
267	267.00	400.00	-33.00	3.28	70.78
268	268.00	400.00	-32.00	3.28	72.44
269	269.00	400.00	-31.00	3.28	74.14
270	270.00	400.00	-30.00	3.28	75.87
271	271.00	400.00	-29.00	3.28	77.64
272	272.00	400.00	-28.00	3.28	79.44
273	273.00	400.00	-27.00	3.28	81.27
274	274.00	400.00	-26.00	3.28	83.14
275	275.00	400.00	-25.00	3.28	85.04
276	276.00	400.00	-24.00	3.28	86.96
277	277.00	400.00	-23.00	3.28	88.92
278	278.00	400.00	-22.00	3.28	90.90
279	279.00	400.00	-21.00	3.28	92.91
280	280.00	400.00	-20.00	3.28	94.94
281	281.00	400.00	-19.00	3.28	96.99
282	282.00	400.00	-18.00	3.28	99.06
283	283.00	400.00	-17.00	3.28	101.14
284	284.00	400.00	-16.00	3.28	103.23
285	285.00	400.00	-15.00	3.28	105.33
286	286.00	400.00	-14.00	3.28	107.43
287	287.00	400.00	-13.00	3.28	109.53
288	288.00	400.00	-12.00	3.28	111.62
289	289.00	400.00	-11.00	3.28	113.69
290	290.00	400.00	-10.00	3.28	115.75
291	291.00	400.00	-9.00	3.28	117.78
292	292.00	400.00	-8.00	3.28	119.78
293	293.00	400.00	-7.00	3.28	121.73
294	294.00	400.00	-6.00	3.28	123.62
295	295.00	400.00	-5.00	3.28	125.46
296	296.00	400.00	-4.00	3.28	127.22
297	297.00	400.00	-3.00	3.28	128.89
298	298.00	400.00	-2.00	3.28	130.47
299	299.00	400.00	-1.00	3.28	131.94
300	300.00	400.00	0.00	3.28	133.29
301	301.00	400.00	1.00	3.28	134.50
302	302.00	400.00	2.00	3.28	135.56
303	303.00	400.00	3.00	3.28	136.46

304	304.00	400.00	4.00	3.28	137.20
305	305.00	400.00	5.00	3.28	137.75
306	306.00	400.00	6.00	3.28	138.11
307	307.00	400.00	7.00	3.28	138.27
308	308.00	400.00	8.00	3.28	138.22
309	309.00	400.00	9.00	3.28	137.97
310	310.00	400.00	10.00	3.28	137.52
311	311.00	400.00	11.00	3.28	136.85
312	312.00	400.00	12.00	3.28	135.98
313	313.00	400.00	13.00	3.28	134.91
314	314.00	400.00	14.00	3.28	133.66
315	315.00	400.00	15.00	3.28	132.22
316	316.00	400.00	16.00	3.28	130.62
317	317.00	400.00	17.00	3.28	128.87
318	318.00	400.00	18.00	3.28	126.98
319	319.00	400.00	19.00	3.28	124.96
320	320.00	400.00	20.00	3.28	122.84
321	321.00	400.00	21.00	3.28	120.62
322	322.00	400.00	22.00	3.28	118.33
323	323.00	400.00	23.00	3.28	115.98
324	324.00	400.00	24.00	3.28	113.58
325	325.00	400.00	25.00	3.28	111.15
326	326.00	400.00	26.00	3.28	108.70
327	327.00	400.00	27.00	3.28	106.24
328	328.00	400.00	28.00	3.28	103.77
329	329.00	400.00	29.00	3.28	101.32
330	330.00	400.00	30.00	3.28	98.88
331	331.00	400.00	31.00	3.28	96.47
332	332.00	400.00	32.00	3.28	94.08
333	333.00	400.00	33.00	3.28	91.74
334	334.00	400.00	34.00	3.28	89.43
335	335.00	400.00	35.00	3.28	87.16
336	336.00	400.00	36.00	3.28	84.94
337	337.00	400.00	37.00	3.28	82.77
338	338.00	400.00	38.00	3.28	80.65
339	339.00	400.00	39.00	3.28	78.58
340	340.00	400.00	40.00	3.28	76.56
341	341.00	400.00	41.00	3.28	74.59
342	342.00	400.00	42.00	3.28	72.68
343	343.00	400.00	43.00	3.28	70.82
344	344.00	400.00	44.00	3.28	69.01
345	345.00	400.00	45.00	3.28	67.25
346	346.00	400.00	46.00	3.28	65.54
347	347.00	400.00	47.00	3.28	63.88
348	348.00	400.00	48.00	3.28	62.27
349	349.00	400.00	49.00	3.28	60.70
350	350.00	400.00	50.00	3.28	59.19
351	351.00	400.00	51.00	3.28	57.71
352	352.00	400.00	52.00	3.28	56.29
353	353.00	400.00	53.00	3.28	54.90
354	354.00	400.00	54.00	3.28	53.56
355	355.00	400.00	55.00	3.28	52.26
356	356.00	400.00	56.00	3.28	51.00
357	357.00	400.00	57.00	3.28	49.77
358	358.00	400.00	58.00	3.28	48.58
359	359.00	400.00	59.00	3.28	47.43
360	360.00	400.00	60.00	3.28	46.32
361	361.00	400.00	61.00	3.28	45.23
362	362.00	400.00	62.00	3.28	44.18
363	363.00	400.00	63.00	3.28	43.16
364	364.00	400.00	64.00	3.28	42.18
365	365.00	400.00	65.00	3.28	41.22
366	366.00	400.00	66.00	3.28	40.29

367	367.00	400.00	67.00	3.28	39.38
368	368.00	400.00	68.00	3.28	38.51
369	369.00	400.00	69.00	3.28	37.65
370	370.00	400.00	70.00	3.28	36.83
371	371.00	400.00	71.00	3.28	36.03
372	372.00	400.00	72.00	3.28	35.25
373	373.00	400.00	73.00	3.28	34.49
374	374.00	400.00	74.00	3.28	33.76
375	375.00	400.00	75.00	3.28	33.04
376	376.00	400.00	76.00	3.28	32.35
377	377.00	400.00	77.00	3.28	31.67
378	378.00	400.00	78.00	3.28	31.02
379	379.00	400.00	79.00	3.28	30.38
380	380.00	400.00	80.00	3.28	29.76
381	381.00	400.00	81.00	3.28	29.16
382	382.00	400.00	82.00	3.28	28.57
383	383.00	400.00	83.00	3.28	28.00
384	384.00	400.00	84.00	3.28	27.45
385	385.00	400.00	85.00	3.28	26.91
386	386.00	400.00	86.00	3.28	26.39
387	387.00	400.00	87.00	3.28	25.87
388	388.00	400.00	88.00	3.28	25.38
389	389.00	400.00	89.00	3.28	24.89
390	390.00	400.00	90.00	3.28	24.42
391	391.00	400.00	91.00	3.28	23.96
392	392.00	400.00	92.00	3.28	23.51
393	393.00	400.00	93.00	3.28	23.08
394	394.00	400.00	94.00	3.28	22.65
395	395.00	400.00	95.00	3.28	22.24
396	396.00	400.00	96.00	3.28	21.84
397	397.00	400.00	97.00	3.28	21.44
398	398.00	400.00	98.00	3.28	21.06
399	399.00	400.00	99.00	3.28	20.68
400	400.00	400.00	100.00	3.28	20.32
401	401.00	400.00	101.00	3.28	19.96
402	402.00	400.00	102.00	3.28	19.62
403	403.00	400.00	103.00	3.28	19.28
404	404.00	400.00	104.00	3.28	18.95
405	405.00	400.00	105.00	3.28	18.62
406	406.00	400.00	106.00	3.28	18.31
407	407.00	400.00	107.00	3.28	18.00
408	408.00	400.00	108.00	3.28	17.70
409	409.00	400.00	109.00	3.28	17.41
410	410.00	400.00	110.00	3.28	17.12
411	411.00	400.00	111.00	3.28	16.84
412	412.00	400.00	112.00	3.28	16.57
413	413.00	400.00	113.00	3.28	16.30
414	414.00	400.00	114.00	3.28	16.04
415	415.00	400.00	115.00	3.28	15.78
416	416.00	400.00	116.00	3.28	15.53
417	417.00	400.00	117.00	3.28	15.29
418	418.00	400.00	118.00	3.28	15.05
419	419.00	400.00	119.00	3.28	14.82
420	420.00	400.00	120.00	3.28	14.59
421	421.00	400.00	121.00	3.28	14.36
422	422.00	400.00	122.00	3.28	14.14
423	423.00	400.00	123.00	3.28	13.93
424	424.00	400.00	124.00	3.28	13.72
425	425.00	400.00	125.00	3.28	13.52
426	426.00	400.00	126.00	3.28	13.32
427	427.00	400.00	127.00	3.28	13.12
428	428.00	400.00	128.00	3.28	12.93
429	429.00	400.00	129.00	3.28	12.74

430	430.00	400.00	130.00	3.28	12.55
431	431.00	400.00	131.00	3.28	12.37
432	432.00	400.00	132.00	3.28	12.20
433	433.00	400.00	133.00	3.28	12.02
434	434.00	400.00	134.00	3.28	11.85
435	435.00	400.00	135.00	3.28	11.69
436	436.00	400.00	136.00	3.28	11.52
437	437.00	400.00	137.00	3.28	11.36
438	438.00	400.00	138.00	3.28	11.21
439	439.00	400.00	139.00	3.28	11.05
440	440.00	400.00	140.00	3.28	10.90
441	441.00	400.00	141.00	3.28	10.76
442	442.00	400.00	142.00	3.28	10.61
443	443.00	400.00	143.00	3.28	10.47
444	444.00	400.00	144.00	3.28	10.33
445	445.00	400.00	145.00	3.28	10.19
446	446.00	400.00	146.00	3.28	10.06
447	447.00	400.00	147.00	3.28	9.93
448	448.00	400.00	148.00	3.28	9.80
449	449.00	400.00	149.00	3.28	9.67
450	450.00	400.00	150.00	3.28	9.55
451	451.00	400.00	151.00	3.28	9.42
452	452.00	400.00	152.00	3.28	9.30
453	453.00	400.00	153.00	3.28	9.19
454	454.00	400.00	154.00	3.28	9.07
455	455.00	400.00	155.00	3.28	8.96
456	456.00	400.00	156.00	3.28	8.85
457	457.00	400.00	157.00	3.28	8.74
458	458.00	400.00	158.00	3.28	8.63
459	459.00	400.00	159.00	3.28	8.52
460	460.00	400.00	160.00	3.28	8.42
461	461.00	400.00	161.00	3.28	8.32
462	462.00	400.00	162.00	3.28	8.22
463	463.00	400.00	163.00	3.28	8.12
464	464.00	400.00	164.00	3.28	8.02
465	465.00	400.00	165.00	3.28	7.93
466	466.00	400.00	166.00	3.28	7.83
467	467.00	400.00	167.00	3.28	7.74
468	468.00	400.00	168.00	3.28	7.65
469	469.00	400.00	169.00	3.28	7.56
470	470.00	400.00	170.00	3.28	7.48
471	471.00	400.00	171.00	3.28	7.39
472	472.00	400.00	172.00	3.28	7.31
473	473.00	400.00	173.00	3.28	7.22
474	474.00	400.00	174.00	3.28	7.14
475	475.00	400.00	175.00	3.28	7.06
476	476.00	400.00	176.00	3.28	6.98
477	477.00	400.00	177.00	3.28	6.90
478	478.00	400.00	178.00	3.28	6.83
479	479.00	400.00	179.00	3.28	6.75
480	480.00	400.00	180.00	3.28	6.68
481	481.00	400.00	181.00	3.28	6.60
482	482.00	400.00	182.00	3.28	6.53
483	483.00	400.00	183.00	3.28	6.46
484	484.00	400.00	184.00	3.28	6.39
485	485.00	400.00	185.00	3.28	6.32
486	486.00	400.00	186.00	3.28	6.26
487	487.00	400.00	187.00	3.28	6.19
488	488.00	400.00	188.00	3.28	6.12
489	489.00	400.00	189.00	3.28	6.06
490	490.00	400.00	190.00	3.28	6.00
491	491.00	400.00	191.00	3.28	5.93
492	492.00	400.00	192.00	3.28	5.87

493	493.00	400.00	193.00	3.28	5.81
494	494.00	400.00	194.00	3.28	5.75
495	495.00	400.00	195.00	3.28	5.69
496	496.00	400.00	196.00	3.28	5.63
497	497.00	400.00	197.00	3.28	5.58
498	498.00	400.00	198.00	3.28	5.52
499	499.00	400.00	199.00	3.28	5.47
500	500.00	400.00	200.00	3.28	5.41
501	501.00	400.00	201.00	3.28	5.36
502	502.00	400.00	202.00	3.28	5.30
503	503.00	400.00	203.00	3.28	5.25
504	504.00	400.00	204.00	3.28	5.20
505	505.00	400.00	205.00	3.28	5.15
506	506.00	400.00	206.00	3.28	5.10
507	507.00	400.00	207.00	3.28	5.05
508	508.00	400.00	208.00	3.28	5.00
509	509.00	400.00	209.00	3.28	4.95
510	510.00	400.00	210.00	3.28	4.91
511	511.00	400.00	211.00	3.28	4.86
512	512.00	400.00	212.00	3.28	4.81
513	513.00	400.00	213.00	3.28	4.77
514	514.00	400.00	214.00	3.28	4.72
515	515.00	400.00	215.00	3.28	4.68
516	516.00	400.00	216.00	3.28	4.63
517	517.00	400.00	217.00	3.28	4.59
518	518.00	400.00	218.00	3.28	4.55
519	519.00	400.00	219.00	3.28	4.51
520	520.00	400.00	220.00	3.28	4.47
521	521.00	400.00	221.00	3.28	4.43
522	522.00	400.00	222.00	3.28	4.39
523	523.00	400.00	223.00	3.28	4.35
524	524.00	400.00	224.00	3.28	4.31
525	525.00	400.00	225.00	3.28	4.27
526	526.00	400.00	226.00	3.28	4.23
527	527.00	400.00	227.00	3.28	4.19
528	528.00	400.00	228.00	3.28	4.15
529	529.00	400.00	229.00	3.28	4.12
530	530.00	400.00	230.00	3.28	4.08
531	531.00	400.00	231.00	3.28	4.05
532	532.00	400.00	232.00	3.28	4.01
533	533.00	400.00	233.00	3.28	3.98
534	534.00	400.00	234.00	3.28	3.94
535	535.00	400.00	235.00	3.28	3.91
536	536.00	400.00	236.00	3.28	3.87
537	537.00	400.00	237.00	3.28	3.84
538	538.00	400.00	238.00	3.28	3.81
539	539.00	400.00	239.00	3.28	3.78
540	540.00	400.00	240.00	3.28	3.74
541	541.00	400.00	241.00	3.28	3.71
542	542.00	400.00	242.00	3.28	3.68
543	543.00	400.00	243.00	3.28	3.65
544	544.00	400.00	244.00	3.28	3.62
545	545.00	400.00	245.00	3.28	3.59
546	546.00	400.00	246.00	3.28	3.56
547	547.00	400.00	247.00	3.28	3.53
548	548.00	400.00	248.00	3.28	3.50
549	549.00	400.00	249.00	3.28	3.47
550	550.00	400.00	250.00	3.28	3.44
551	551.00	400.00	251.00	3.28	3.42
552	552.00	400.00	252.00	3.28	3.39
553	553.00	400.00	253.00	3.28	3.36
554	554.00	400.00	254.00	3.28	3.33
555	555.00	400.00	255.00	3.28	3.31

556	556.00	400.00	256.00	3.28	3.28
557	557.00	400.00	257.00	3.28	3.26
558	558.00	400.00	258.00	3.28	3.23
559	559.00	400.00	259.00	3.28	3.20
560	560.00	400.00	260.00	3.28	3.18
561	561.00	400.00	261.00	3.28	3.15
562	562.00	400.00	262.00	3.28	3.13
563	563.00	400.00	263.00	3.28	3.11
564	564.00	400.00	264.00	3.28	3.08
565	565.00	400.00	265.00	3.28	3.06
566	566.00	400.00	266.00	3.28	3.03
567	567.00	400.00	267.00	3.28	3.01
568	568.00	400.00	268.00	3.28	2.99
569	569.00	400.00	269.00	3.28	2.96
570	570.00	400.00	270.00	3.28	2.94
571	571.00	400.00	271.00	3.28	2.92
572	572.00	400.00	272.00	3.28	2.90
573	573.00	400.00	273.00	3.28	2.88
574	574.00	400.00	274.00	3.28	2.85
575	575.00	400.00	275.00	3.28	2.83
576	576.00	400.00	276.00	3.28	2.81
577	577.00	400.00	277.00	3.28	2.79
578	578.00	400.00	278.00	3.28	2.77
579	579.00	400.00	279.00	3.28	2.75
580	580.00	400.00	280.00	3.28	2.73
581	581.00	400.00	281.00	3.28	2.71
582	582.00	400.00	282.00	3.28	2.69
583	583.00	400.00	283.00	3.28	2.67
584	584.00	400.00	284.00	3.28	2.65
585	585.00	400.00	285.00	3.28	2.63
586	586.00	400.00	286.00	3.28	2.61
587	587.00	400.00	287.00	3.28	2.60
588	588.00	400.00	288.00	3.28	2.58
589	589.00	400.00	289.00	3.28	2.56
590	590.00	400.00	290.00	3.28	2.54
591	591.00	400.00	291.00	3.28	2.52
592	592.00	400.00	292.00	3.28	2.50
593	593.00	400.00	293.00	3.28	2.49
594	594.00	400.00	294.00	3.28	2.47
595	595.00	400.00	295.00	3.28	2.45
596	596.00	400.00	296.00	3.28	2.44
597	597.00	400.00	297.00	3.28	2.42
598	598.00	400.00	298.00	3.28	2.40
599	599.00	400.00	299.00	3.28	2.39
600	600.00	400.00	300.00	3.28	2.37

Emf Workstation Conductor Data

Total # of Conductors: 5

-6025.00	10.58	64.00	6825.00	10.58	64.00	1589.80	0.00
-6025.00	-10.58	47.00	6825.00	-10.58	47.00	1589.80	-120.00
-6025.00	10.58	30.00	6825.00	10.58	30.00	1589.80	120.00
-6025.00	-10.50	93.15	6825.00	-10.50	93.15	14.29	-152.39
-6025.00	10.50	93.15	6825.00	10.50	93.15	17.69	-128.38

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Max Load"

Field Components = Resultant

Distance units = (ft)

Magnetic field units = mG

Spacing = 1.00(ft)

Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	4.41
1	1.00	400.00	-299.00	3.28	4.43
2	2.00	400.00	-298.00	3.28	4.46
3	3.00	400.00	-297.00	3.28	4.49
4	4.00	400.00	-296.00	3.28	4.52
5	5.00	400.00	-295.00	3.28	4.55
6	6.00	400.00	-294.00	3.28	4.57
7	7.00	400.00	-293.00	3.28	4.60
8	8.00	400.00	-292.00	3.28	4.63
9	9.00	400.00	-291.00	3.28	4.66
10	10.00	400.00	-290.00	3.28	4.69
11	11.00	400.00	-289.00	3.28	4.72
12	12.00	400.00	-288.00	3.28	4.75
13	13.00	400.00	-287.00	3.28	4.78
14	14.00	400.00	-286.00	3.28	4.81
15	15.00	400.00	-285.00	3.28	4.84
16	16.00	400.00	-284.00	3.28	4.87
17	17.00	400.00	-283.00	3.28	4.90
18	18.00	400.00	-282.00	3.28	4.94
19	19.00	400.00	-281.00	3.28	4.97
20	20.00	400.00	-280.00	3.28	5.00
21	21.00	400.00	-279.00	3.28	5.03
22	22.00	400.00	-278.00	3.28	5.07
23	23.00	400.00	-277.00	3.28	5.10
24	24.00	400.00	-276.00	3.28	5.14
25	25.00	400.00	-275.00	3.28	5.17
26	26.00	400.00	-274.00	3.28	5.20
27	27.00	400.00	-273.00	3.28	5.24
28	28.00	400.00	-272.00	3.28	5.27
29	29.00	400.00	-271.00	3.28	5.31
30	30.00	400.00	-270.00	3.28	5.35
31	31.00	400.00	-269.00	3.28	5.38
32	32.00	400.00	-268.00	3.28	5.42
33	33.00	400.00	-267.00	3.28	5.46
34	34.00	400.00	-266.00	3.28	5.49
35	35.00	400.00	-265.00	3.28	5.53
36	36.00	400.00	-264.00	3.28	5.57
37	37.00	400.00	-263.00	3.28	5.61
38	38.00	400.00	-262.00	3.28	5.65
39	39.00	400.00	-261.00	3.28	5.69
40	40.00	400.00	-260.00	3.28	5.73

41	41.00	400.00	-259.00	3.28	5.77
42	42.00	400.00	-258.00	3.28	5.81
43	43.00	400.00	-257.00	3.28	5.85
44	44.00	400.00	-256.00	3.28	5.89
45	45.00	400.00	-255.00	3.28	5.94
46	46.00	400.00	-254.00	3.28	5.98
47	47.00	400.00	-253.00	3.28	6.02
48	48.00	400.00	-252.00	3.28	6.07
49	49.00	400.00	-251.00	3.28	6.11
50	50.00	400.00	-250.00	3.28	6.15
51	51.00	400.00	-249.00	3.28	6.20
52	52.00	400.00	-248.00	3.28	6.24
53	53.00	400.00	-247.00	3.28	6.29
54	54.00	400.00	-246.00	3.28	6.34
55	55.00	400.00	-245.00	3.28	6.39
56	56.00	400.00	-244.00	3.28	6.43
57	57.00	400.00	-243.00	3.28	6.48
58	58.00	400.00	-242.00	3.28	6.53
59	59.00	400.00	-241.00	3.28	6.58
60	60.00	400.00	-240.00	3.28	6.63
61	61.00	400.00	-239.00	3.28	6.68
62	62.00	400.00	-238.00	3.28	6.73
63	63.00	400.00	-237.00	3.28	6.78
64	64.00	400.00	-236.00	3.28	6.84
65	65.00	400.00	-235.00	3.28	6.89
66	66.00	400.00	-234.00	3.28	6.94
67	67.00	400.00	-233.00	3.28	7.00
68	68.00	400.00	-232.00	3.28	7.05
69	69.00	400.00	-231.00	3.28	7.11
70	70.00	400.00	-230.00	3.28	7.16
71	71.00	400.00	-229.00	3.28	7.22
72	72.00	400.00	-228.00	3.28	7.28
73	73.00	400.00	-227.00	3.28	7.34
74	74.00	400.00	-226.00	3.28	7.40
75	75.00	400.00	-225.00	3.28	7.46
76	76.00	400.00	-224.00	3.28	7.52
77	77.00	400.00	-223.00	3.28	7.58
78	78.00	400.00	-222.00	3.28	7.64
79	79.00	400.00	-221.00	3.28	7.70
80	80.00	400.00	-220.00	3.28	7.77
81	81.00	400.00	-219.00	3.28	7.83
82	82.00	400.00	-218.00	3.28	7.90
83	83.00	400.00	-217.00	3.28	7.96
84	84.00	400.00	-216.00	3.28	8.03
85	85.00	400.00	-215.00	3.28	8.10
86	86.00	400.00	-214.00	3.28	8.17
87	87.00	400.00	-213.00	3.28	8.24
88	88.00	400.00	-212.00	3.28	8.31
89	89.00	400.00	-211.00	3.28	8.38
90	90.00	400.00	-210.00	3.28	8.45
91	91.00	400.00	-209.00	3.28	8.53
92	92.00	400.00	-208.00	3.28	8.60
93	93.00	400.00	-207.00	3.28	8.68
94	94.00	400.00	-206.00	3.28	8.75
95	95.00	400.00	-205.00	3.28	8.83
96	96.00	400.00	-204.00	3.28	8.91
97	97.00	400.00	-203.00	3.28	8.99
98	98.00	400.00	-202.00	3.28	9.07
99	99.00	400.00	-201.00	3.28	9.15
100	100.00	400.00	-200.00	3.28	9.23
101	101.00	400.00	-199.00	3.28	9.32
102	102.00	400.00	-198.00	3.28	9.40
103	103.00	400.00	-197.00	3.28	9.49

104	104.00	400.00	-196.00	3.28	9.57
105	105.00	400.00	-195.00	3.28	9.66
106	106.00	400.00	-194.00	3.28	9.75
107	107.00	400.00	-193.00	3.28	9.84
108	108.00	400.00	-192.00	3.28	9.94
109	109.00	400.00	-191.00	3.28	10.03
110	110.00	400.00	-190.00	3.28	10.13
111	111.00	400.00	-189.00	3.28	10.22
112	112.00	400.00	-188.00	3.28	10.32
113	113.00	400.00	-187.00	3.28	10.42
114	114.00	400.00	-186.00	3.28	10.52
115	115.00	400.00	-185.00	3.28	10.62
116	116.00	400.00	-184.00	3.28	10.73
117	117.00	400.00	-183.00	3.28	10.83
118	118.00	400.00	-182.00	3.28	10.94
119	119.00	400.00	-181.00	3.28	11.05
120	120.00	400.00	-180.00	3.28	11.16
121	121.00	400.00	-179.00	3.28	11.27
122	122.00	400.00	-178.00	3.28	11.38
123	123.00	400.00	-177.00	3.28	11.50
124	124.00	400.00	-176.00	3.28	11.62
125	125.00	400.00	-175.00	3.28	11.73
126	126.00	400.00	-174.00	3.28	11.85
127	127.00	400.00	-173.00	3.28	11.98
128	128.00	400.00	-172.00	3.28	12.10
129	129.00	400.00	-171.00	3.28	12.23
130	130.00	400.00	-170.00	3.28	12.36
131	131.00	400.00	-169.00	3.28	12.49
132	132.00	400.00	-168.00	3.28	12.62
133	133.00	400.00	-167.00	3.28	12.75
134	134.00	400.00	-166.00	3.28	12.89
135	135.00	400.00	-165.00	3.28	13.03
136	136.00	400.00	-164.00	3.28	13.17
137	137.00	400.00	-163.00	3.28	13.31
138	138.00	400.00	-162.00	3.28	13.46
139	139.00	400.00	-161.00	3.28	13.61
140	140.00	400.00	-160.00	3.28	13.76
141	141.00	400.00	-159.00	3.28	13.91
142	142.00	400.00	-158.00	3.28	14.07
143	143.00	400.00	-157.00	3.28	14.23
144	144.00	400.00	-156.00	3.28	14.39
145	145.00	400.00	-155.00	3.28	14.55
146	146.00	400.00	-154.00	3.28	14.72
147	147.00	400.00	-153.00	3.28	14.89
148	148.00	400.00	-152.00	3.28	15.06
149	149.00	400.00	-151.00	3.28	15.23
150	150.00	400.00	-150.00	3.28	15.41
151	151.00	400.00	-149.00	3.28	15.59
152	152.00	400.00	-148.00	3.28	15.78
153	153.00	400.00	-147.00	3.28	15.97
154	154.00	400.00	-146.00	3.28	16.16
155	155.00	400.00	-145.00	3.28	16.35
156	156.00	400.00	-144.00	3.28	16.55
157	157.00	400.00	-143.00	3.28	16.75
158	158.00	400.00	-142.00	3.28	16.96
159	159.00	400.00	-141.00	3.28	17.17
160	160.00	400.00	-140.00	3.28	17.38
161	161.00	400.00	-139.00	3.28	17.60
162	162.00	400.00	-138.00	3.28	17.82
163	163.00	400.00	-137.00	3.28	18.04
164	164.00	400.00	-136.00	3.28	18.27
165	165.00	400.00	-135.00	3.28	18.51
166	166.00	400.00	-134.00	3.28	18.74

167	167.00	400.00	-133.00	3.28	18.99
168	168.00	400.00	-132.00	3.28	19.23
169	169.00	400.00	-131.00	3.28	19.49
170	170.00	400.00	-130.00	3.28	19.74
171	171.00	400.00	-129.00	3.28	20.01
172	172.00	400.00	-128.00	3.28	20.27
173	173.00	400.00	-127.00	3.28	20.55
174	174.00	400.00	-126.00	3.28	20.82
175	175.00	400.00	-125.00	3.28	21.11
176	176.00	400.00	-124.00	3.28	21.40
177	177.00	400.00	-123.00	3.28	21.69
178	178.00	400.00	-122.00	3.28	21.99
179	179.00	400.00	-121.00	3.28	22.30
180	180.00	400.00	-120.00	3.28	22.62
181	181.00	400.00	-119.00	3.28	22.94
182	182.00	400.00	-118.00	3.28	23.26
183	183.00	400.00	-117.00	3.28	23.60
184	184.00	400.00	-116.00	3.28	23.94
185	185.00	400.00	-115.00	3.28	24.28
186	186.00	400.00	-114.00	3.28	24.64
187	187.00	400.00	-113.00	3.28	25.00
188	188.00	400.00	-112.00	3.28	25.37
189	189.00	400.00	-111.00	3.28	25.75
190	190.00	400.00	-110.00	3.28	26.14
191	191.00	400.00	-109.00	3.28	26.54
192	192.00	400.00	-108.00	3.28	26.94
193	193.00	400.00	-107.00	3.28	27.35
194	194.00	400.00	-106.00	3.28	27.78
195	195.00	400.00	-105.00	3.28	28.21
196	196.00	400.00	-104.00	3.28	28.65
197	197.00	400.00	-103.00	3.28	29.10
198	198.00	400.00	-102.00	3.28	29.57
199	199.00	400.00	-101.00	3.28	30.04
200	200.00	400.00	-100.00	3.28	30.52
201	201.00	400.00	-99.00	3.28	31.02
202	202.00	400.00	-98.00	3.28	31.53
203	203.00	400.00	-97.00	3.28	32.04
204	204.00	400.00	-96.00	3.28	32.58
205	205.00	400.00	-95.00	3.28	33.12
206	206.00	400.00	-94.00	3.28	33.68
207	207.00	400.00	-93.00	3.28	34.25
208	208.00	400.00	-92.00	3.28	34.83
209	209.00	400.00	-91.00	3.28	35.43
210	210.00	400.00	-90.00	3.28	36.04
211	211.00	400.00	-89.00	3.28	36.67
212	212.00	400.00	-88.00	3.28	37.32
213	213.00	400.00	-87.00	3.28	37.98
214	214.00	400.00	-86.00	3.28	38.65
215	215.00	400.00	-85.00	3.28	39.35
216	216.00	400.00	-84.00	3.28	40.06
217	217.00	400.00	-83.00	3.28	40.79
218	218.00	400.00	-82.00	3.28	41.53
219	219.00	400.00	-81.00	3.28	42.30
220	220.00	400.00	-80.00	3.28	43.09
221	221.00	400.00	-79.00	3.28	43.90
222	222.00	400.00	-78.00	3.28	44.72
223	223.00	400.00	-77.00	3.28	45.57
224	224.00	400.00	-76.00	3.28	46.45
225	225.00	400.00	-75.00	3.28	47.34
226	226.00	400.00	-74.00	3.28	48.26
227	227.00	400.00	-73.00	3.28	49.21
228	228.00	400.00	-72.00	3.28	50.18
229	229.00	400.00	-71.00	3.28	51.17

230	230.00	400.00	-70.00	3.28	52.20
231	231.00	400.00	-69.00	3.28	53.25
232	232.00	400.00	-68.00	3.28	54.33
233	233.00	400.00	-67.00	3.28	55.44
234	234.00	400.00	-66.00	3.28	56.58
235	235.00	400.00	-65.00	3.28	57.75
236	236.00	400.00	-64.00	3.28	58.95
237	237.00	400.00	-63.00	3.28	60.19
238	238.00	400.00	-62.00	3.28	61.46
239	239.00	400.00	-61.00	3.28	62.76
240	240.00	400.00	-60.00	3.28	64.11
241	241.00	400.00	-59.00	3.28	65.48
242	242.00	400.00	-58.00	3.28	66.90
243	243.00	400.00	-57.00	3.28	68.36
244	244.00	400.00	-56.00	3.28	69.86
245	245.00	400.00	-55.00	3.28	71.40
246	246.00	400.00	-54.00	3.28	72.98
247	247.00	400.00	-53.00	3.28	74.61
248	248.00	400.00	-52.00	3.28	76.28
249	249.00	400.00	-51.00	3.28	78.00
250	250.00	400.00	-50.00	3.28	79.76
251	251.00	400.00	-49.00	3.28	81.57
252	252.00	400.00	-48.00	3.28	83.44
253	253.00	400.00	-47.00	3.28	85.35
254	254.00	400.00	-46.00	3.28	87.32
255	255.00	400.00	-45.00	3.28	89.34
256	256.00	400.00	-44.00	3.28	91.41
257	257.00	400.00	-43.00	3.28	93.53
258	258.00	400.00	-42.00	3.28	95.72
259	259.00	400.00	-41.00	3.28	97.96
260	260.00	400.00	-40.00	3.28	100.25
261	261.00	400.00	-39.00	3.28	102.60
262	262.00	400.00	-38.00	3.28	105.02
263	263.00	400.00	-37.00	3.28	107.49
264	264.00	400.00	-36.00	3.28	110.02
265	265.00	400.00	-35.00	3.28	112.61
266	266.00	400.00	-34.00	3.28	115.26
267	267.00	400.00	-33.00	3.28	117.97
268	268.00	400.00	-32.00	3.28	120.74
269	269.00	400.00	-31.00	3.28	123.56
270	270.00	400.00	-30.00	3.28	126.45
271	271.00	400.00	-29.00	3.28	129.40
272	272.00	400.00	-28.00	3.28	132.40
273	273.00	400.00	-27.00	3.28	135.45
274	274.00	400.00	-26.00	3.28	138.56
275	275.00	400.00	-25.00	3.28	141.72
276	276.00	400.00	-24.00	3.28	144.94
277	277.00	400.00	-23.00	3.28	148.20
278	278.00	400.00	-22.00	3.28	151.50
279	279.00	400.00	-21.00	3.28	154.84
280	280.00	400.00	-20.00	3.28	158.23
281	281.00	400.00	-19.00	3.28	161.64
282	282.00	400.00	-18.00	3.28	165.09
283	283.00	400.00	-17.00	3.28	168.56
284	284.00	400.00	-16.00	3.28	172.04
285	285.00	400.00	-15.00	3.28	175.54
286	286.00	400.00	-14.00	3.28	179.04
287	287.00	400.00	-13.00	3.28	182.54
288	288.00	400.00	-12.00	3.28	186.03
289	289.00	400.00	-11.00	3.28	189.49
290	290.00	400.00	-10.00	3.28	192.92
291	291.00	400.00	-9.00	3.28	196.30
292	292.00	400.00	-8.00	3.28	199.62

293	293.00	400.00	-7.00	3.28	202.87
294	294.00	400.00	-6.00	3.28	206.04
295	295.00	400.00	-5.00	3.28	209.09
296	296.00	400.00	-4.00	3.28	212.03
297	297.00	400.00	-3.00	3.28	214.82
298	298.00	400.00	-2.00	3.28	217.45
299	299.00	400.00	-1.00	3.28	219.89
300	300.00	400.00	0.00	3.28	222.14
301	301.00	400.00	1.00	3.28	224.16
302	302.00	400.00	2.00	3.28	225.93
303	303.00	400.00	3.00	3.28	227.43
304	304.00	400.00	4.00	3.28	228.66
305	305.00	400.00	5.00	3.28	229.57
306	306.00	400.00	6.00	3.28	230.17
307	307.00	400.00	7.00	3.28	230.44
308	308.00	400.00	8.00	3.28	230.37
309	309.00	400.00	9.00	3.28	229.95
310	310.00	400.00	10.00	3.28	229.19
311	311.00	400.00	11.00	3.28	228.08
312	312.00	400.00	12.00	3.28	226.63
313	313.00	400.00	13.00	3.28	224.85
314	314.00	400.00	14.00	3.28	222.76
315	315.00	400.00	15.00	3.28	220.37
316	316.00	400.00	16.00	3.28	217.70
317	317.00	400.00	17.00	3.28	214.78
318	318.00	400.00	18.00	3.28	211.62
319	319.00	400.00	19.00	3.28	208.26
320	320.00	400.00	20.00	3.28	204.73
321	321.00	400.00	21.00	3.28	201.04
322	322.00	400.00	22.00	3.28	197.22
323	323.00	400.00	23.00	3.28	193.30
324	324.00	400.00	24.00	3.28	189.30
325	325.00	400.00	25.00	3.28	185.25
326	326.00	400.00	26.00	3.28	181.16
327	327.00	400.00	27.00	3.28	177.06
328	328.00	400.00	28.00	3.28	172.95
329	329.00	400.00	29.00	3.28	168.86
330	330.00	400.00	30.00	3.28	164.80
331	331.00	400.00	31.00	3.28	160.77
332	332.00	400.00	32.00	3.28	156.80
333	333.00	400.00	33.00	3.28	152.89
334	334.00	400.00	34.00	3.28	149.04
335	335.00	400.00	35.00	3.28	145.27
336	336.00	400.00	36.00	3.28	141.57
337	337.00	400.00	37.00	3.28	137.95
338	338.00	400.00	38.00	3.28	134.41
339	339.00	400.00	39.00	3.28	130.96
340	340.00	400.00	40.00	3.28	127.60
341	341.00	400.00	41.00	3.28	124.32
342	342.00	400.00	42.00	3.28	121.13
343	343.00	400.00	43.00	3.28	118.03
344	344.00	400.00	44.00	3.28	115.01
345	345.00	400.00	45.00	3.28	112.08
346	346.00	400.00	46.00	3.28	109.23
347	347.00	400.00	47.00	3.28	106.46
348	348.00	400.00	48.00	3.28	103.78
349	349.00	400.00	49.00	3.28	101.17
350	350.00	400.00	50.00	3.28	98.64
351	351.00	400.00	51.00	3.28	96.19
352	352.00	400.00	52.00	3.28	93.81
353	353.00	400.00	53.00	3.28	91.50
354	354.00	400.00	54.00	3.28	89.27
355	355.00	400.00	55.00	3.28	87.10

356	356.00	400.00	56.00	3.28	84.99
357	357.00	400.00	57.00	3.28	82.95
358	358.00	400.00	58.00	3.28	80.97
359	359.00	400.00	59.00	3.28	79.05
360	360.00	400.00	60.00	3.28	77.19
361	361.00	400.00	61.00	3.28	75.39
362	362.00	400.00	62.00	3.28	73.64
363	363.00	400.00	63.00	3.28	71.94
364	364.00	400.00	64.00	3.28	70.29
365	365.00	400.00	65.00	3.28	68.69
366	366.00	400.00	66.00	3.28	67.14
367	367.00	400.00	67.00	3.28	65.64
368	368.00	400.00	68.00	3.28	64.17
369	369.00	400.00	69.00	3.28	62.76
370	370.00	400.00	70.00	3.28	61.38
371	371.00	400.00	71.00	3.28	60.04
372	372.00	400.00	72.00	3.28	58.74
373	373.00	400.00	73.00	3.28	57.48
374	374.00	400.00	74.00	3.28	56.26
375	375.00	400.00	75.00	3.28	55.07
376	376.00	400.00	76.00	3.28	53.91
377	377.00	400.00	77.00	3.28	52.79
378	378.00	400.00	78.00	3.28	51.70
379	379.00	400.00	79.00	3.28	50.64
380	380.00	400.00	80.00	3.28	49.60
381	381.00	400.00	81.00	3.28	48.60
382	382.00	400.00	82.00	3.28	47.62
383	383.00	400.00	83.00	3.28	46.67
384	384.00	400.00	84.00	3.28	45.75
385	385.00	400.00	85.00	3.28	44.85
386	386.00	400.00	86.00	3.28	43.98
387	387.00	400.00	87.00	3.28	43.12
388	388.00	400.00	88.00	3.28	42.29
389	389.00	400.00	89.00	3.28	41.49
390	390.00	400.00	90.00	3.28	40.70
391	391.00	400.00	91.00	3.28	39.94
392	392.00	400.00	92.00	3.28	39.19
393	393.00	400.00	93.00	3.28	38.46
394	394.00	400.00	94.00	3.28	37.75
395	395.00	400.00	95.00	3.28	37.06
396	396.00	400.00	96.00	3.28	36.39
397	397.00	400.00	97.00	3.28	35.74
398	398.00	400.00	98.00	3.28	35.10
399	399.00	400.00	99.00	3.28	34.47
400	400.00	400.00	100.00	3.28	33.86
401	401.00	400.00	101.00	3.28	33.27
402	402.00	400.00	102.00	3.28	32.69
403	403.00	400.00	103.00	3.28	32.13
404	404.00	400.00	104.00	3.28	31.58
405	405.00	400.00	105.00	3.28	31.04
406	406.00	400.00	106.00	3.28	30.51
407	407.00	400.00	107.00	3.28	30.00
408	408.00	400.00	108.00	3.28	29.50
409	409.00	400.00	109.00	3.28	29.01
410	410.00	400.00	110.00	3.28	28.53
411	411.00	400.00	111.00	3.28	28.06
412	412.00	400.00	112.00	3.28	27.61
413	413.00	400.00	113.00	3.28	27.16
414	414.00	400.00	114.00	3.28	26.73
415	415.00	400.00	115.00	3.28	26.30
416	416.00	400.00	116.00	3.28	25.89
417	417.00	400.00	117.00	3.28	25.48
418	418.00	400.00	118.00	3.28	25.08

419	419.00	400.00	119.00	3.28	24.69
420	420.00	400.00	120.00	3.28	24.31
421	421.00	400.00	121.00	3.28	23.94
422	422.00	400.00	122.00	3.28	23.57
423	423.00	400.00	123.00	3.28	23.22
424	424.00	400.00	124.00	3.28	22.87
425	425.00	400.00	125.00	3.28	22.53
426	426.00	400.00	126.00	3.28	22.19
427	427.00	400.00	127.00	3.28	21.87
428	428.00	400.00	128.00	3.28	21.54
429	429.00	400.00	129.00	3.28	21.23
430	430.00	400.00	130.00	3.28	20.92
431	431.00	400.00	131.00	3.28	20.62
432	432.00	400.00	132.00	3.28	20.33
433	433.00	400.00	133.00	3.28	20.04
434	434.00	400.00	134.00	3.28	19.76
435	435.00	400.00	135.00	3.28	19.48
436	436.00	400.00	136.00	3.28	19.21
437	437.00	400.00	137.00	3.28	18.94
438	438.00	400.00	138.00	3.28	18.68
439	439.00	400.00	139.00	3.28	18.42
440	440.00	400.00	140.00	3.28	18.17
441	441.00	400.00	141.00	3.28	17.93
442	442.00	400.00	142.00	3.28	17.68
443	443.00	400.00	143.00	3.28	17.45
444	444.00	400.00	144.00	3.28	17.22
445	445.00	400.00	145.00	3.28	16.99
446	446.00	400.00	146.00	3.28	16.76
447	447.00	400.00	147.00	3.28	16.54
448	448.00	400.00	148.00	3.28	16.33
449	449.00	400.00	149.00	3.28	16.12
450	450.00	400.00	150.00	3.28	15.91
451	451.00	400.00	151.00	3.28	15.71
452	452.00	400.00	152.00	3.28	15.51
453	453.00	400.00	153.00	3.28	15.31
454	454.00	400.00	154.00	3.28	15.12
455	455.00	400.00	155.00	3.28	14.93
456	456.00	400.00	156.00	3.28	14.74
457	457.00	400.00	157.00	3.28	14.56
458	458.00	400.00	158.00	3.28	14.38
459	459.00	400.00	159.00	3.28	14.21
460	460.00	400.00	160.00	3.28	14.03
461	461.00	400.00	161.00	3.28	13.86
462	462.00	400.00	162.00	3.28	13.70
463	463.00	400.00	163.00	3.28	13.53
464	464.00	400.00	164.00	3.28	13.37
465	465.00	400.00	165.00	3.28	13.21
466	466.00	400.00	166.00	3.28	13.06
467	467.00	400.00	167.00	3.28	12.90
468	468.00	400.00	168.00	3.28	12.75
469	469.00	400.00	169.00	3.28	12.60
470	470.00	400.00	170.00	3.28	12.46
471	471.00	400.00	171.00	3.28	12.32
472	472.00	400.00	172.00	3.28	12.18
473	473.00	400.00	173.00	3.28	12.04
474	474.00	400.00	174.00	3.28	11.90
475	475.00	400.00	175.00	3.28	11.77
476	476.00	400.00	176.00	3.28	11.63
477	477.00	400.00	177.00	3.28	11.50
478	478.00	400.00	178.00	3.28	11.38
479	479.00	400.00	179.00	3.28	11.25
480	480.00	400.00	180.00	3.28	11.13
481	481.00	400.00	181.00	3.28	11.01

482	482.00	400.00	182.00	3.28	10.89
483	483.00	400.00	183.00	3.28	10.77
484	484.00	400.00	184.00	3.28	10.65
485	485.00	400.00	185.00	3.28	10.54
486	486.00	400.00	186.00	3.28	10.43
487	487.00	400.00	187.00	3.28	10.32
488	488.00	400.00	188.00	3.28	10.21
489	489.00	400.00	189.00	3.28	10.10
490	490.00	400.00	190.00	3.28	9.99
491	491.00	400.00	191.00	3.28	9.89
492	492.00	400.00	192.00	3.28	9.79
493	493.00	400.00	193.00	3.28	9.69
494	494.00	400.00	194.00	3.28	9.59
495	495.00	400.00	195.00	3.28	9.49
496	496.00	400.00	196.00	3.28	9.39
497	497.00	400.00	197.00	3.28	9.30
498	498.00	400.00	198.00	3.28	9.20
499	499.00	400.00	199.00	3.28	9.11
500	500.00	400.00	200.00	3.28	9.02
501	501.00	400.00	201.00	3.28	8.93
502	502.00	400.00	202.00	3.28	8.84
503	503.00	400.00	203.00	3.28	8.75
504	504.00	400.00	204.00	3.28	8.67
505	505.00	400.00	205.00	3.28	8.58
506	506.00	400.00	206.00	3.28	8.50
507	507.00	400.00	207.00	3.28	8.42
508	508.00	400.00	208.00	3.28	8.34
509	509.00	400.00	209.00	3.28	8.26
510	510.00	400.00	210.00	3.28	8.18
511	511.00	400.00	211.00	3.28	8.10
512	512.00	400.00	212.00	3.28	8.02
513	513.00	400.00	213.00	3.28	7.95
514	514.00	400.00	214.00	3.28	7.87
515	515.00	400.00	215.00	3.28	7.80
516	516.00	400.00	216.00	3.28	7.72
517	517.00	400.00	217.00	3.28	7.65
518	518.00	400.00	218.00	3.28	7.58
519	519.00	400.00	219.00	3.28	7.51
520	520.00	400.00	220.00	3.28	7.44
521	521.00	400.00	221.00	3.28	7.38
522	522.00	400.00	222.00	3.28	7.31
523	523.00	400.00	223.00	3.28	7.24
524	524.00	400.00	224.00	3.28	7.18
525	525.00	400.00	225.00	3.28	7.11
526	526.00	400.00	226.00	3.28	7.05
527	527.00	400.00	227.00	3.28	6.99
528	528.00	400.00	228.00	3.28	6.92
529	529.00	400.00	229.00	3.28	6.86
530	530.00	400.00	230.00	3.28	6.80
531	531.00	400.00	231.00	3.28	6.74
532	532.00	400.00	232.00	3.28	6.68
533	533.00	400.00	233.00	3.28	6.63
534	534.00	400.00	234.00	3.28	6.57
535	535.00	400.00	235.00	3.28	6.51
536	536.00	400.00	236.00	3.28	6.46
537	537.00	400.00	237.00	3.28	6.40
538	538.00	400.00	238.00	3.28	6.35
539	539.00	400.00	239.00	3.28	6.29
540	540.00	400.00	240.00	3.28	6.24
541	541.00	400.00	241.00	3.28	6.19
542	542.00	400.00	242.00	3.28	6.13
543	543.00	400.00	243.00	3.28	6.08
544	544.00	400.00	244.00	3.28	6.03

545	545.00	400.00	245.00	3.28	5.98
546	546.00	400.00	246.00	3.28	5.93
547	547.00	400.00	247.00	3.28	5.88
548	548.00	400.00	248.00	3.28	5.84
549	549.00	400.00	249.00	3.28	5.79
550	550.00	400.00	250.00	3.28	5.74
551	551.00	400.00	251.00	3.28	5.69
552	552.00	400.00	252.00	3.28	5.65
553	553.00	400.00	253.00	3.28	5.60
554	554.00	400.00	254.00	3.28	5.56
555	555.00	400.00	255.00	3.28	5.51
556	556.00	400.00	256.00	3.28	5.47
557	557.00	400.00	257.00	3.28	5.43
558	558.00	400.00	258.00	3.28	5.38
559	559.00	400.00	259.00	3.28	5.34
560	560.00	400.00	260.00	3.28	5.30
561	561.00	400.00	261.00	3.28	5.26
562	562.00	400.00	262.00	3.28	5.22
563	563.00	400.00	263.00	3.28	5.18
564	564.00	400.00	264.00	3.28	5.14
565	565.00	400.00	265.00	3.28	5.10
566	566.00	400.00	266.00	3.28	5.06
567	567.00	400.00	267.00	3.28	5.02
568	568.00	400.00	268.00	3.28	4.98
569	569.00	400.00	269.00	3.28	4.94
570	570.00	400.00	270.00	3.28	4.90
571	571.00	400.00	271.00	3.28	4.87
572	572.00	400.00	272.00	3.28	4.83
573	573.00	400.00	273.00	3.28	4.79
574	574.00	400.00	274.00	3.28	4.76
575	575.00	400.00	275.00	3.28	4.72
576	576.00	400.00	276.00	3.28	4.69
577	577.00	400.00	277.00	3.28	4.65
578	578.00	400.00	278.00	3.28	4.62
579	579.00	400.00	279.00	3.28	4.58
580	580.00	400.00	280.00	3.28	4.55
581	581.00	400.00	281.00	3.28	4.52
582	582.00	400.00	282.00	3.28	4.48
583	583.00	400.00	283.00	3.28	4.45
584	584.00	400.00	284.00	3.28	4.42
585	585.00	400.00	285.00	3.28	4.39
586	586.00	400.00	286.00	3.28	4.36
587	587.00	400.00	287.00	3.28	4.33
588	588.00	400.00	288.00	3.28	4.29
589	589.00	400.00	289.00	3.28	4.26
590	590.00	400.00	290.00	3.28	4.23
591	591.00	400.00	291.00	3.28	4.20
592	592.00	400.00	292.00	3.28	4.17
593	593.00	400.00	293.00	3.28	4.14
594	594.00	400.00	294.00	3.28	4.12
595	595.00	400.00	295.00	3.28	4.09
596	596.00	400.00	296.00	3.28	4.06
597	597.00	400.00	297.00	3.28	4.03
598	598.00	400.00	298.00	3.28	4.00
599	599.00	400.00	299.00	3.28	3.97
600	600.00	400.00	300.00	3.28	3.95

RESULTS OF ENVIRO PROGRAM

STUDY FILE NAME: C:\PROGRA~1\EPRI\EMFW_251\ENVIRO\CLEANL~1\345SMONO.I01
 DATE: 3/ 5/2014 TIME: 17:38

345 kV Single Monopole (XS-4)

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*****
*                                     BUNDLE INFORMATION                                     *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | LOAD | CURRENT | # | COORDINATES | PHASE |
| #    | #    | (kV)   | (DEG) | (AMPS) | (DEG) | OF | X | Y |
|      |      |        |        |        |        | COND | (FT) | (FT) |
*****
| 1    | 1    | 362.0  | .0    | 954.0  | .0    | 2 | 10.6 | 79.3 | A
| 2    | 1    | 362.0  | 240.0 | 954.0  | 240.0 | 2 | -10.6 | 62.3 | B
| 3    | 1    | 362.0  | 120.0 | 954.0  | 120.0 | 2 | 10.6 | 45.3 | C
| 4    | 1    | .0     | .0    | .0     | .0    | 1 | -10.5 | 108.5 | GND
| 5    | 1    | .0     | .0    | .0     | .0    | 1 | 10.5 | 108.5 | GND
*****
*                                     MINIMUM GROUND CLEARANCE = 45.330 FT.                                     *
*****
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*****
*                                     SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                                     *
*****
| BNDL | DIAMETER | SPACING | DC RESIST. | AC RESIST. | AC REACT. |
| #    | (IN)     | (IN)    | (OHMS/MI) | (OHMS/MI) | (OHMS/MI) |
*****
| 1    | 1.293    | 18.000  | .08300    | .08510    | .380000    |
| 2    | 1.293    | 18.000  | .08300    | .08510    | .380000    |
| 3    | 1.293    | 18.000  | .08300    | .08510    | .380000    |
| 4    | .776     | .000    | .19270    | .19400    | .432000    |
| 5    | .776     | .000    | .19270    | .19400    | .432000    |
*****
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*****
*
* MAXIMUM SURFACE GRADIENT (kV/cm) *
*
*****
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BNDL #	Type	ACrms	PEAK(+)	PEAK(-)
1	AC	14.78	20.90	-20.90
2	AC	15.11	21.36	-21.36
3	AC	14.98	21.18	-21.18
4	Ground Wire	2.57	3.64	-3.64
5	Ground Wire	3.71	5.25	-5.25

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*****
*
*           AUDIBLE NOISE           *
*
* Microphone is 5.00 feet above ground *
*           Altitude 3000. ft       *
*
*****

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<----- HVTRC CALCULATION METHOD ----->

LATERAL DISTANCE		L50 FAIR	L5 RAIN	L50 RAIN	Leq(24)	Ldn
(feet)	(meters)	(dB(A))	(dB(A))	(dB(A))	(dB(A))	(dB(A))
-300.0	-91.44	29.1	47.8	38.6	35.6	42.5
-275.0	-83.82	29.6	48.3	39.1	36.1	43.0
-250.0	-76.20	30.1	48.8	39.6	36.7	43.6
-225.0	-68.58	30.7	49.4	40.2	37.2	44.1
-200.0	-60.96	31.3	50.0	40.8	37.9	44.8
-175.0	-53.34	32.0	50.7	41.5	38.5	45.4
-150.0	-45.72	32.8	51.4	42.2	39.3	46.2
-125.0	-38.10	33.6	52.2	43.0	40.1	47.0
-100.0	-30.48	34.5	53.1	43.9	41.0	47.9
-75.0	-22.86	35.5	54.1	44.9	42.0	48.9
-50.0	-15.24	36.5	55.2	46.0	43.1	50.0
-25.0	-7.62	37.6	56.2	47.0	44.1	51.0
.0	.00	38.2	56.8	47.6	44.7	51.6
25.0	7.62	37.9	56.5	47.3	44.4	51.3
50.0	15.24	36.8	55.5	46.3	43.4	50.3
75.0	22.86	35.7	54.4	45.2	42.2	49.1
100.0	30.48	34.7	53.4	44.2	41.2	48.1
125.0	38.10	33.7	52.4	43.2	40.3	47.2
150.0	45.72	32.9	51.6	42.4	39.4	46.3
175.0	53.34	32.2	50.8	41.6	38.7	45.6
200.0	60.96	31.5	50.2	41.0	38.0	44.9
225.0	68.58	30.8	49.5	40.3	37.4	44.3
250.0	76.20	30.3	48.9	39.7	36.8	43.7
275.0	83.82	29.7	48.4	39.2	36.2	43.1
300.0	91.44	29.2	47.9	38.7	35.7	42.6

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*****
*
*   AUDIBLE NOISE   *
*   (other methods) *
*
* Altitude    3000. ft *
*
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LATERAL DISTANCE (feet) (meters)		<----- BPA METHOD ----->				<- CRIEPI -->		EdF	ENEL	IREQ
		FAIR WEATHER	L5 RAIN	L50 RAIN	Ldn	AVERAGE FAIR	L5 RAIN	L5 RAIN	L5 RAIN	L5 RAIN
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
-300.0	-91.44	14.3	42.8	39.3	.0	.0	.0	.0	.0	.0
-275.0	-83.82	14.7	43.2	39.7	.0	.0	.0	.0	.0	.0
-250.0	-76.20	15.2	43.7	40.2	.0	.0	.0	.0	.0	.0
-225.0	-68.58	15.7	44.2	40.7	.0	.0	.0	.0	.0	.0
-200.0	-60.96	16.2	44.7	41.2	.0	.0	.0	.0	.0	.0
-175.0	-53.34	16.8	45.3	41.8	.0	.0	.0	.0	.0	.0
-150.0	-45.72	17.5	46.0	42.5	.0	.0	.0	.0	.0	.0
-125.0	-38.10	18.3	46.8	43.3	.0	.0	.0	.0	.0	.0
-100.0	-30.48	19.1	47.6	44.1	.0	.0	.0	.0	.0	.0
-75.0	-22.86	20.1	48.6	45.1	.0	.0	.0	.0	.0	.0
-50.0	-15.24	21.2	49.7	46.2	.0	.0	.0	.0	.0	.0
-25.0	-7.62	22.3	50.8	47.3	.0	.0	.0	.0	.0	.0
.0	.00	22.9	51.4	47.9	.0	.0	.0	.0	.0	.0
25.0	7.62	22.6	51.1	47.6	.0	.0	.0	.0	.0	.0
50.0	15.24	21.5	50.0	46.5	.0	.0	.0	.0	.0	.0
75.0	22.86	20.4	48.9	45.4	.0	.0	.0	.0	.0	.0
100.0	30.48	19.3	47.8	44.3	.0	.0	.0	.0	.0	.0
125.0	38.10	18.4	46.9	43.4	.0	.0	.0	.0	.0	.0
150.0	45.72	17.6	46.1	42.6	.0	.0	.0	.0	.0	.0
175.0	53.34	17.0	45.5	42.0	.0	.0	.0	.0	.0	.0
200.0	60.96	16.3	44.8	41.3	.0	.0	.0	.0	.0	.0
225.0	68.58	15.8	44.3	40.8	.0	.0	.0	.0	.0	.0
250.0	76.20	15.3	43.8	40.3	.0	.0	.0	.0	.0	.0
275.0	83.82	14.8	43.3	39.8	.0	.0	.0	.0	.0	.0
300.0	91.44	14.4	42.9	39.4	.0	.0	.0	.0	.0	.0

Audible noise prediction methods do not apply to all line geometries, voltages, or weather conditions. If a prediction method does not apply, the appropriate output data column will be zeros.

Clean Line - Plains & Eastern
 Config. XS-4: Radio Noise, TVI, and Ozone

Ground Clearance: 30.00 ft

	DIST. FROM CENTER OF TOWER (FEET)	COND. HEIGHT (FEET)	MAXIMUM GRADIENT (KV/CM)	SUBCON. DIAM. (IN)	NO. OF SUBCON.	SUBCON SPACING (IN)	VOLTAGE L-N (KV)	CURRENT (AMPS)	PHASE ANGLE (DEGREES)	CORONA LOSSES (KW/MI)
Phase A	10.58	64.00	14.71	1.29	2.	18.00	209.00	953.90	.00	8.190
Phase B	-10.58	47.00	15.13	1.29	2.	18.00	209.00	953.90	120.00	9.813
Phase C	10.58	30.00	15.33	1.29	2.	18.00	209.00	953.90	240.00	10.706
SW-1	-10.50	93.15	2.67	.77	1.	.00	.00	.00	.00	.000
SW-2	10.50	93.15	3.81	.77	1.	.00	.00	.00	.00	.000

AN MICROPHONE HT.= 4.9 FT. RI ANT. HT.= 6.6 FT, TV ANT. HT.= 9.8 FT, ALTITUDE= 3000. FT
 RI FREQ= 1.000 MHZ, TV FREQ= 75.000 MHZ, WIND VEL.(OZ) = 8.500 MPH, GROUND CONDUCTIVITY = .0 MMHOS/M
 E-FIELD TRANSDUCER HT.= 3.28 FT, B-FIELD TRANSDUCER HT.= 3.28 FT

LATERAL DIST FROM REFERENCE (FEET)	ELECTRIC FIELD KV/M	MAGNETIC FIELD MILLIGAUSS	AUDIBLE NOISE (RAIN) (FAIR)		RADIO INTERFERENCE (RAIN) (FAIR)		TVI TOTAL RAIN DBUV/M	OZONE FOR RAIN RATE OF .10 IN/HR AT GND. PPB
			L50 DBA	L50 DBA	L50 DBUV/M	L50 DBUV/M		
-300.0	.043	1.87	39.8	14.8	34.2	17.2	7.2	.000000
-298.0	.043	1.89	39.8	14.8	34.4	17.4	7.3	.000000
-296.0	.044	1.92	39.8	14.8	34.5	17.5	7.3	.000000
-294.0	.044	1.94	39.9	14.9	34.6	17.6	7.4	.000000
-292.0	.045	1.97	39.9	14.9	34.7	17.7	7.5	.000000
-290.0	.046	1.99	39.9	14.9	34.8	17.8	7.5	.000000
-288.0	.046	2.02	40.0	15.0	35.0	18.0	7.6	.000000
-286.0	.047	2.04	40.0	15.0	35.1	18.1	7.6	.000000
-284.0	.048	2.07	40.0	15.0	35.2	18.2	7.7	.000000
-282.0	.048	2.10	40.1	15.1	35.3	18.3	7.8	.000000
-280.0	.049	2.13	40.1	15.1	35.5	18.5	7.8	.000000
-278.0	.050	2.16	40.2	15.2	35.6	18.6	7.9	.000000
-276.0	.051	2.19	40.2	15.2	35.7	18.7	8.0	.000000
-274.0	.051	2.22	40.2	15.2	35.8	18.8	8.0	.000000
-272.0	.052	2.25	40.3	15.3	36.0	19.0	8.1	.000000
-270.0	.053	2.28	40.3	15.3	36.1	19.1	8.2	.000000
-268.0	.054	2.31	40.3	15.3	36.2	19.2	8.2	.000000
-266.0	.055	2.34	40.4	15.4	36.4	19.4	8.3	.000000
-264.0	.055	2.38	40.4	15.4	36.5	19.5	8.4	.000000
-262.0	.056	2.41	40.4	15.4	36.6	19.6	8.4	.000000
-260.0	.057	2.44	40.5	15.5	36.8	19.8	8.5	.000000
-258.0	.058	2.48	40.5	15.5	36.9	19.9	8.6	.000000
-256.0	.059	2.52	40.5	15.5	37.0	20.0	8.7	.000000
-254.0	.060	2.55	40.6	15.6	37.2	20.2	8.7	.000000
-252.0	.061	2.59	40.6	15.6	37.3	20.3	8.8	.000000
-250.0	.062	2.63	40.7	15.7	37.4	20.4	8.9	.000000
-248.0	.063	2.67	40.7	15.7	37.6	20.6	8.9	.000000
-246.0	.064	2.71	40.7	15.7	37.7	20.7	9.0	.000000
-244.0	.065	2.75	40.8	15.8	37.9	20.9	9.1	.000000
-242.0	.067	2.79	40.8	15.8	38.0	21.0	9.1	.000000
-240.0	.068	2.84	40.9	15.9	38.1	21.1	9.2	.000000
-238.0	.069	2.88	40.9	15.9	38.3	21.3	9.3	.000000
-236.0	.070	2.93	40.9	15.9	38.4	21.4	9.4	.000000
-234.0	.071	2.97	41.0	16.0	38.6	21.6	9.4	.000000
-232.0	.073	3.02	41.0	16.0	38.7	21.7	9.5	.000000
-230.0	.074	3.07	41.1	16.1	38.9	21.9	9.6	.000000
-228.0	.075	3.12	41.1	16.1	39.0	22.0	9.7	.000000
-226.0	.077	3.17	41.1	16.1	39.2	22.2	9.7	.000000
-224.0	.078	3.22	41.2	16.2	39.3	22.3	9.8	.000000
-222.0	.080	3.28	41.2	16.2	39.5	22.5	9.9	.000000
-220.0	.081	3.33	41.3	16.3	39.7	22.7	10.0	.000000
-218.0	.083	3.39	41.3	16.3	39.8	22.8	10.1	.000000
-216.0	.085	3.45	41.4	16.4	40.0	23.0	10.1	.000000
-214.0	.086	3.51	41.4	16.4	40.1	23.1	10.2	.000000
-212.0	.088	3.57	41.4	16.4	40.3	23.3	10.3	.000000
-210.0	.090	3.63	41.5	16.5	40.5	23.5	10.4	.000000
-208.0	.092	3.69	41.5	16.5	40.6	23.6	10.5	.000000
-206.0	.094	3.76	41.6	16.6	40.8	23.8	10.6	.000000
-204.0	.096	3.83	41.6	16.6	41.0	24.0	10.6	.000000
-202.0	.098	3.90	41.7	16.7	41.1	24.1	10.7	.000000
-200.0	.100	3.97	41.7	16.7	41.3	24.3	10.8	.000000
-198.0	.102	4.04	41.8	16.8	41.5	24.5	10.9	.000000
-196.0	.105	4.11	41.8	16.8	41.6	24.6	11.0	.000000
-194.0	.107	4.19	41.9	16.9	41.8	24.8	11.1	.000000

-192.0	.109	4.27	41.9	16.9	42.0	25.0	11.2	.000000
-190.0	.112	4.35	42.0	17.0	42.2	25.2	11.3	.000000
-188.0	.114	4.44	42.0	17.0	42.3	25.3	11.4	.000000
-186.0	.117	4.52	42.1	17.1	42.5	25.5	11.5	.000000
-184.0	.120	4.61	42.1	17.1	42.7	25.7	11.5	.000000
-182.0	.123	4.70	42.2	17.2	42.9	25.9	11.6	.000000
-180.0	.126	4.80	42.2	17.2	43.1	26.1	11.7	.000000
-178.0	.129	4.90	42.3	17.3	43.3	26.3	11.8	.000000
-176.0	.132	5.00	42.3	17.3	43.5	26.5	11.9	.000000
-174.0	.136	5.10	42.4	17.4	43.7	26.7	12.0	.000000
-172.0	.139	5.20	42.4	17.4	43.9	26.9	12.1	.000000
-170.0	.143	5.31	42.5	17.5	44.1	27.1	12.2	.000000
-168.0	.147	5.43	42.5	17.5	44.2	27.2	12.4	.000000
-166.0	.151	5.54	42.6	17.6	44.5	27.5	12.5	.000000
-164.0	.155	5.67	42.6	17.6	44.7	27.7	12.6	.000000
-162.0	.159	5.79	42.7	17.7	44.9	27.9	12.7	.000000
-160.0	.164	5.92	42.8	17.8	45.1	28.1	12.8	.000000
-158.0	.168	6.05	42.8	17.8	45.3	28.3	12.9	.000000
-156.0	.173	6.19	42.9	17.9	45.5	28.5	13.0	.000000
-154.0	.178	6.33	42.9	17.9	45.7	28.7	13.1	.000000
-152.0	.183	6.48	43.0	18.0	45.9	28.9	13.2	.000000
-150.0	.189	6.63	43.0	18.0	46.1	29.1	13.3	.000000
-148.0	.195	6.79	43.1	18.1	46.4	29.4	13.5	.000000
-146.0	.201	6.95	43.2	18.2	46.6	29.6	13.6	.000000
-144.0	.207	7.12	43.2	18.2	46.8	29.8	13.7	.000000
-142.0	.214	7.30	43.3	18.3	47.1	30.1	13.8	.000000
-140.0	.221	7.48	43.4	18.4	47.3	30.3	13.9	.000000
-138.0	.228	7.67	43.4	18.4	47.5	30.5	14.1	.000000
-136.0	.235	7.87	43.5	18.5	47.8	30.8	14.2	.000000
-134.0	.243	8.07	43.6	18.6	48.0	31.0	14.3	.000000
-132.0	.252	8.28	43.6	18.6	48.2	31.2	14.5	.000000
-130.0	.260	8.50	43.7	18.7	48.5	31.5	14.6	.000000
-128.0	.270	8.73	43.8	18.8	48.8	31.8	14.7	.000000
-126.0	.279	8.97	43.8	18.8	49.0	32.0	14.9	.000000
-124.0	.289	9.22	43.9	18.9	49.3	32.3	15.0	.000000
-122.0	.300	9.48	44.0	19.0	49.5	32.5	15.1	.000000
-120.0	.311	9.76	44.0	19.0	49.8	32.8	15.3	.000000
-118.0	.323	10.04	44.1	19.1	50.1	33.1	15.4	.000000
-116.0	.335	10.34	44.2	19.2	50.3	33.3	15.6	.000000
-114.0	.349	10.65	44.3	19.3	50.6	33.6	15.7	.000000
-112.0	.362	10.98	44.3	19.3	50.9	33.9	15.9	.000000
-110.0	.377	11.32	44.4	19.4	51.2	34.2	16.0	.000000
-108.0	.392	11.67	44.5	19.5	51.5	34.5	16.2	.000000
-106.0	.409	12.05	44.6	19.6	51.8	34.8	16.3	.000000
-104.0	.426	12.44	44.7	19.7	52.1	35.1	16.5	.000000
-102.0	.444	12.86	44.7	19.7	52.4	35.4	16.6	.000000
-100.0	.463	13.30	44.8	19.8	52.7	35.7	16.8	.000000
-98.0	.483	13.75	44.9	19.9	53.0	36.0	17.0	.000000
-96.0	.504	14.24	45.0	20.0	53.3	36.3	17.1	.000000
-94.0	.527	14.75	45.1	20.1	53.6	36.6	17.3	.000000
-92.0	.551	15.28	45.2	20.2	53.9	36.9	17.5	.000000
-90.0	.576	15.85	45.3	20.3	54.3	37.3	17.7	.000000
-88.0	.603	16.45	45.4	20.4	54.6	37.6	17.8	.000000
-86.0	.631	17.08	45.5	20.5	55.0	38.0	18.0	.000000
-84.0	.661	17.75	45.5	20.5	55.3	38.3	18.2	.000000
-82.0	.693	18.46	45.6	20.6	55.7	38.7	18.4	.000000
-80.0	.726	19.21	45.7	20.7	56.0	39.0	18.6	.000000
-78.0	.761	20.01	45.8	20.8	56.4	39.4	18.8	.000000
-76.0	.799	20.85	45.9	20.9	56.7	39.7	19.0	.000000
-74.0	.838	21.74	46.0	21.0	57.1	40.1	19.2	.000000
-72.0	.880	22.69	46.1	21.1	57.5	40.5	19.4	.000000
-70.0	.923	23.70	46.2	21.2	57.9	40.9	19.6	.000000
-68.0	.970	24.76	46.3	21.3	58.3	41.3	19.8	.000000
-66.0	1.018	25.90	46.5	21.5	58.7	41.7	20.0	.000000
-64.0	1.069	27.11	46.6	21.6	59.0	42.0	20.3	.000000
-62.0	1.122	28.39	46.7	21.7	59.5	42.5	20.5	.000000
-60.0	1.178	29.76	46.8	21.8	59.9	42.9	20.7	.000000
-58.0	1.235	31.21	46.9	21.9	60.3	43.3	20.9	.000000
-56.0	1.295	32.76	47.0	22.0	60.7	43.7	21.2	.000000
-54.0	1.357	34.40	47.1	22.1	61.1	44.1	21.4	.000000
-52.0	1.421	36.16	47.3	22.3	61.5	44.5	21.6	.000000
-50.0	1.486	38.02	47.4	22.4	61.9	44.9	21.9	.000000
-48.0	1.553	40.00	47.5	22.5	62.3	45.3	22.1	.000000
-46.0	1.619	42.11	47.6	22.6	62.8	45.8	22.3	.000000
-44.0	1.686	44.35	47.7	22.7	63.2	46.2	22.6	.000000
-42.0	1.753	46.73	47.9	22.9	63.6	46.6	22.8	.000000
-40.0	1.817	49.25	48.0	23.0	64.0	47.0	23.0	.000000
-38.0	1.880	51.92	48.1	23.1	64.4	47.4	23.2	.000000
-36.0	1.940	54.75	48.2	23.2	64.8	47.8	23.5	.000000
-34.0	1.997	57.73	48.4	23.4	65.1	48.1	23.7	.000000
-32.0	2.049	60.88	48.5	23.5	65.5	48.5	23.9	.000000

-30.0	2.098	64.19	48.6	23.6	65.8	48.8	24.1	.000000
-28.0	2.142	67.65	48.7	23.7	66.1	49.1	24.4	.000000
-26.0	2.185	71.27	48.9	23.9	66.4	49.4	24.8	.000000
-24.0	2.227	75.04	49.0	24.0	66.7	49.7	25.2	.000000
-22.0	2.274	78.95	49.1	24.1	66.9	49.9	25.6	.000000
-20.0	2.331	82.99	49.2	24.2	67.1	50.1	25.9	.000000
-18.0	2.405	87.13	49.4	24.4	67.3	50.3	26.3	.000000
-16.0	2.506	91.36	49.5	24.5	67.4	50.4	26.8	.000000
-14.0	2.643	95.63	49.6	24.6	67.5	50.5	27.2	.000000
-12.0	2.823	99.92	49.7	24.7	68.1	51.1	27.6	.000000
-10.0	3.049	104.18	49.8	24.8	68.8	51.8	28.0	.000000
-8.0	3.322	108.35	49.9	24.9	69.5	52.5	28.5	.000000
-6.0	3.636	112.36	50.0	25.0	70.2	53.2	28.9	.000000
-4.0	3.981	116.13	50.1	25.1	70.9	53.9	29.3	.000000
-2.0	4.344	119.58	50.2	25.2	71.6	54.6	29.7	.000000
.0	4.709	122.60	50.3	25.3	72.1	55.1	30.1	.000000
2.0	5.060	125.10	50.3	25.3	72.6	55.6	30.4	.000000
4.0	5.378	126.97	50.4	25.4	73.1	56.1	30.7	.000000
6.0	5.647	128.13	50.4	25.4	73.4	56.4	30.9	.000000
8.0	5.850	128.51	50.4	25.4	73.6	56.6	31.1	.000000
10.0	5.979	128.08	50.4	25.4	73.7	56.7	31.1	.000000
12.0	6.025	126.83	50.4	25.4	73.7	56.7	31.1	.000000
14.0	5.989	124.80	50.3	25.3	73.6	56.6	31.0	.000000
16.0	5.874	122.07	50.3	25.3	73.3	56.3	30.8	.000000
18.0	5.690	118.72	50.2	25.2	72.9	55.9	30.6	.000000
20.0	5.448	114.89	50.1	25.1	72.4	55.4	30.3	.000001
22.0	5.162	110.68	50.0	25.0	71.9	54.9	29.9	.000003
24.0	4.846	106.22	49.8	24.8	71.3	54.3	29.5	.000009
26.0	4.512	101.62	49.7	24.7	70.6	53.6	29.1	.000021
28.0	4.172	96.97	49.6	24.6	70.0	53.0	28.7	.000046
30.0	3.836	92.34	49.4	24.4	69.2	52.2	28.3	.000099
32.0	3.510	87.79	49.3	24.3	68.5	51.5	27.9	.000214
34.0	3.200	83.38	49.1	24.1	67.8	50.8	27.4	.000440
36.0	2.910	79.12	49.0	24.0	67.1	50.1	27.0	.000828
38.0	2.640	75.05	48.8	23.8	66.3	49.3	26.6	.001424
40.0	2.393	71.17	48.7	23.7	65.6	48.6	26.2	.002253
42.0	2.169	67.49	48.5	23.5	64.9	47.9	25.8	.003318
44.0	1.967	64.00	48.4	23.4	64.2	47.2	25.4	.004603
46.0	1.785	60.71	48.2	23.2	63.5	46.5	25.0	.006080
48.0	1.624	57.61	48.1	23.1	62.9	45.9	24.7	.007713
50.0	1.480	54.70	47.9	22.9	62.2	45.2	24.3	.009463
52.0	1.353	51.96	47.8	22.8	61.6	44.6	24.0	.011292
54.0	1.242	49.38	47.6	22.6	61.0	44.0	23.6	.013165
56.0	1.144	46.96	47.5	22.5	60.4	43.4	23.3	.015052
58.0	1.058	44.69	47.4	22.4	59.8	42.8	23.0	.016928
60.0	.982	42.55	47.3	22.3	59.3	42.3	22.7	.018772
62.0	.916	40.55	47.1	22.1	58.7	41.7	22.4	.020570
64.0	.859	38.66	47.0	22.0	58.2	41.2	22.1	.022308
66.0	.808	36.89	46.9	21.9	57.7	40.7	21.8	.023979
68.0	.763	35.22	46.8	21.8	57.1	40.1	21.5	.025578
70.0	.723	33.65	46.6	21.6	56.8	39.8	21.3	.027100
72.0	.688	32.17	46.5	21.5	56.5	39.5	21.0	.028546
74.0	.656	30.78	46.4	21.4	56.2	39.2	20.8	.029916
76.0	.627	29.47	46.3	21.3	55.9	38.9	20.5	.031210
78.0	.601	28.23	46.2	21.2	55.6	38.6	20.3	.032431
80.0	.578	27.06	46.1	21.1	55.3	38.3	20.0	.033582
82.0	.556	25.96	46.0	21.0	55.0	38.0	19.8	.034666
84.0	.536	24.92	45.9	20.9	54.8	37.8	19.6	.035686
86.0	.517	23.93	45.8	20.8	54.5	37.5	19.4	.036646
88.0	.499	23.00	45.7	20.7	54.2	37.2	19.2	.037549
90.0	.483	22.12	45.6	20.6	53.9	36.9	19.0	.038399
92.0	.467	21.28	45.5	20.5	53.7	36.7	18.8	.039198
94.0	.453	20.49	45.4	20.4	53.4	36.4	18.6	.039950
96.0	.439	19.73	45.3	20.3	53.1	36.1	18.4	.040657
98.0	.425	19.02	45.2	20.2	52.8	35.8	18.2	.041323
100.0	.412	18.34	45.1	20.1	52.6	35.6	18.0	.041950
102.0	.400	17.70	45.0	20.0	52.3	35.3	17.8	.042540
104.0	.389	17.08	44.9	19.9	52.1	35.1	17.6	.043095
106.0	.377	16.50	44.9	19.9	51.8	34.8	17.4	.043617
108.0	.366	15.94	44.8	19.8	51.5	34.5	17.3	.044108
110.0	.356	15.41	44.7	19.7	51.3	34.3	17.1	.044570
112.0	.346	14.91	44.6	19.6	51.0	34.0	16.9	.045005
114.0	.336	14.42	44.5	19.5	50.8	33.8	16.8	.045413
116.0	.327	13.96	44.5	19.5	50.5	33.5	16.6	.045796
118.0	.318	13.52	44.4	19.4	50.3	33.3	16.5	.046155
120.0	.309	13.10	44.3	19.3	50.1	33.1	16.3	.046492
122.0	.301	12.70	44.2	19.2	49.8	32.8	16.1	.046807
124.0	.293	12.32	44.1	19.1	49.6	32.6	16.0	.047102
126.0	.285	11.95	44.1	19.1	49.4	32.4	15.8	.047377
128.0	.278	11.60	44.0	19.0	49.1	32.1	15.7	.047634
130.0	.270	11.26	43.9	18.9	48.9	31.9	15.6	.047872

132.0	.263	10.94	43.9	18.9	48.7	31.7	15.4	.048093
134.0	.257	10.63	43.8	18.8	48.5	31.5	15.3	.048298
136.0	.250	10.33	43.7	18.7	48.2	31.2	15.1	.048487
138.0	.244	10.04	43.6	18.6	48.0	31.0	15.0	.048661
140.0	.237	9.77	43.6	18.6	47.8	30.8	14.9	.048821
142.0	.231	9.50	43.5	18.5	47.6	30.6	14.8	.048967
144.0	.226	9.25	43.4	18.4	47.4	30.4	14.6	.049099
146.0	.220	9.01	43.4	18.4	47.2	30.2	14.5	.049219
148.0	.215	8.77	43.3	18.3	46.9	29.9	14.4	.049326
150.0	.209	8.55	43.3	18.3	46.7	29.7	14.2	.049422
152.0	.204	8.33	43.2	18.2	46.5	29.5	14.1	.049506
154.0	.200	8.12	43.1	18.1	46.3	29.3	14.0	.049580
156.0	.195	7.92	43.1	18.1	46.1	29.1	13.9	.049643
158.0	.190	7.72	43.0	18.0	45.9	28.9	13.8	.049697
160.0	.186	7.53	42.9	17.9	45.7	28.7	13.7	.049740
162.0	.181	7.35	42.9	17.9	45.5	28.5	13.5	.049775
164.0	.177	7.18	42.8	17.8	45.4	28.4	13.4	.049801
166.0	.173	7.01	42.8	17.8	45.2	28.2	13.3	.049818
168.0	.169	6.84	42.7	17.7	45.0	28.0	13.2	.049828
170.0	.165	6.69	42.7	17.7	44.8	27.8	13.1	.049829
172.0	.162	6.53	42.6	17.6	44.6	27.6	13.0	.049824
174.0	.158	6.39	42.5	17.5	44.4	27.4	12.9	.049811
176.0	.155	6.24	42.5	17.5	44.2	27.2	12.8	.049792
178.0	.151	6.11	42.4	17.4	44.0	27.0	12.7	.049766
180.0	.148	5.97	42.4	17.4	43.9	26.9	12.6	.049734
182.0	.145	5.84	42.3	17.3	43.7	26.7	12.5	.049696
184.0	.142	5.72	42.3	17.3	43.5	26.5	12.4	.049652
186.0	.139	5.60	42.2	17.2	43.3	26.3	12.3	.049603
188.0	.136	5.48	42.2	17.2	43.2	26.2	12.2	.049549
190.0	.133	5.37	42.1	17.1	43.0	26.0	12.1	.049490
192.0	.130	5.25	42.1	17.1	42.8	25.8	12.0	.049426
194.0	.128	5.15	42.0	17.0	42.7	25.7	11.9	.049357
196.0	.125	5.04	42.0	17.0	42.5	25.5	11.8	.049285
198.0	.123	4.94	41.9	16.9	42.3	25.3	11.7	.049208
200.0	.120	4.84	41.9	16.9	42.2	25.2	11.6	.049128
202.0	.118	4.75	41.8	16.8	42.0	25.0	11.5	.049043
204.0	.115	4.66	41.8	16.8	41.8	24.8	11.4	.048956
206.0	.113	4.57	41.7	16.7	41.7	24.7	11.4	.048865
208.0	.111	4.48	41.7	16.7	41.5	24.5	11.3	.048771
210.0	.109	4.39	41.6	16.6	41.4	24.4	11.2	.048673
212.0	.107	4.31	41.6	16.6	41.2	24.2	11.1	.048573
214.0	.105	4.23	41.5	16.5	41.0	24.0	11.0	.048471
216.0	.103	4.15	41.5	16.5	40.9	23.9	10.9	.048365
218.0	.101	4.08	41.5	16.5	40.7	23.7	10.8	.048257
220.0	.099	4.00	41.4	16.4	40.6	23.6	10.8	.048147
222.0	.097	3.93	41.4	16.4	40.4	23.4	10.7	.048035
224.0	.096	3.86	41.3	16.3	40.3	23.3	10.6	.047921
226.0	.094	3.79	41.3	16.3	40.1	23.1	10.5	.047805
228.0	.092	3.73	41.2	16.2	40.0	23.0	10.4	.047687
230.0	.091	3.66	41.2	16.2	39.8	22.8	10.4	.047567
232.0	.089	3.60	41.2	16.2	39.7	22.7	10.3	.047446
234.0	.087	3.54	41.1	16.1	39.6	22.6	10.2	.047323
236.0	.086	3.48	41.1	16.1	39.4	22.4	10.1	.047198
238.0	.084	3.42	41.0	16.0	39.3	22.3	10.1	.047073
240.0	.083	3.36	41.0	16.0	39.1	22.1	10.0	.046946
242.0	.082	3.31	40.9	15.9	39.0	22.0	9.9	.046818
244.0	.080	3.25	40.9	15.9	38.8	21.8	9.8	.046689
246.0	.079	3.20	40.9	15.9	38.7	21.7	9.8	.046559
248.0	.078	3.15	40.8	15.8	38.6	21.6	9.7	.046428
250.0	.076	3.10	40.8	15.8	38.4	21.4	9.6	.046296
252.0	.075	3.05	40.7	15.7	38.3	21.3	9.5	.046163
254.0	.074	3.00	40.7	15.7	38.2	21.2	9.5	.046030
256.0	.073	2.95	40.7	15.7	38.0	21.0	9.4	.045895
258.0	.071	2.91	40.6	15.6	37.9	20.9	9.3	.045761
260.0	.070	2.86	40.6	15.6	37.8	20.8	9.3	.045626
262.0	.069	2.82	40.6	15.6	37.6	20.6	9.2	.045490
264.0	.068	2.78	40.5	15.5	37.5	20.5	9.1	.045354
266.0	.067	2.73	40.5	15.5	37.4	20.4	9.1	.045217
268.0	.066	2.69	40.4	15.4	37.3	20.3	9.0	.045080
270.0	.065	2.65	40.4	15.4	37.1	20.1	8.9	.044943
272.0	.064	2.61	40.4	15.4	37.0	20.0	8.9	.044806
274.0	.063	2.57	40.3	15.3	36.9	19.9	8.8	.044668
276.0	.062	2.54	40.3	15.3	36.7	19.7	8.7	.044530
278.0	.061	2.50	40.3	15.3	36.6	19.6	8.7	.044392
280.0	.060	2.46	40.2	15.2	36.5	19.5	8.6	.044254
282.0	.059	2.43	40.2	15.2	36.4	19.4	8.5	.044116
284.0	.059	2.39	40.2	15.2	36.3	19.3	8.3	.043978
286.0	.058	2.36	40.1	15.1	36.1	19.1	8.2	.043840
288.0	.057	2.33	40.1	15.1	36.0	19.0	8.1	.043702
290.0	.056	2.30	40.1	15.1	35.9	18.9	8.0	.043564
292.0	.055	2.26	40.0	15.0	35.8	18.8	7.8	.043426

294.0	.054	2.23	40.0	15.0	35.7	18.7	7.7	.043288
296.0	.054	2.20	40.0	15.0	35.5	18.5	7.6	.043150
298.0	.053	2.17	39.9	14.9	35.4	18.4	7.5	.043013
300.0	.052	2.14	39.9	14.9	35.3	18.3	7.3	.042876

AC TRANSMISSION LINE CALCULATION RESULTS
345kV SINGLE CIRCUIT LATTICE

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XS-5: 345 kV Single Circuit Lattice - Electric and Magnetic Field Calculations
 Emf Workstation Conductor Data

Total # of Conductors: 5

-6025.00	-22.00	30.00	6825.00	-22.00	30.00	953.90	0.00
-6025.00	0.00	30.00	6825.00	0.00	30.00	953.90	-120.00
-6025.00	22.00	30.00	6825.00	22.00	30.00	953.90	120.00
-6025.00	-17.75	59.45	6825.00	-17.75	59.45	7.39	-149.63
-6025.00	17.75	59.45	6825.00	17.75	59.45	7.82	56.15

E-Field HORIZONTAL Profile Chart: "Lateral Profile Electric Field - Average Load(EF)"

Field Components = Resultant
 Distance units = (ft)
 Electric field units = KV/m

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	EF (KV/m)
0	0.00	400.00	-300.00	3.28	0.02
1	1.00	400.00	-299.00	3.28	0.02
2	2.00	400.00	-298.00	3.28	0.02
3	3.00	400.00	-297.00	3.28	0.02
4	4.00	400.00	-296.00	3.28	0.03
5	5.00	400.00	-295.00	3.28	0.03
6	6.00	400.00	-294.00	3.28	0.03
7	7.00	400.00	-293.00	3.28	0.03
8	8.00	400.00	-292.00	3.28	0.03
9	9.00	400.00	-291.00	3.28	0.03
10	10.00	400.00	-290.00	3.28	0.03
11	11.00	400.00	-289.00	3.28	0.03
12	12.00	400.00	-288.00	3.28	0.03
13	13.00	400.00	-287.00	3.28	0.03
14	14.00	400.00	-286.00	3.28	0.03
15	15.00	400.00	-285.00	3.28	0.03
16	16.00	400.00	-284.00	3.28	0.03
17	17.00	400.00	-283.00	3.28	0.03
18	18.00	400.00	-282.00	3.28	0.03
19	19.00	400.00	-281.00	3.28	0.03
20	20.00	400.00	-280.00	3.28	0.03
21	21.00	400.00	-279.00	3.28	0.03
22	22.00	400.00	-278.00	3.28	0.03
23	23.00	400.00	-277.00	3.28	0.03
24	24.00	400.00	-276.00	3.28	0.03
25	25.00	400.00	-275.00	3.28	0.03
26	26.00	400.00	-274.00	3.28	0.03
27	27.00	400.00	-273.00	3.28	0.03
28	28.00	400.00	-272.00	3.28	0.03
29	29.00	400.00	-271.00	3.28	0.03
30	30.00	400.00	-270.00	3.28	0.03
31	31.00	400.00	-269.00	3.28	0.03
32	32.00	400.00	-268.00	3.28	0.03
33	33.00	400.00	-267.00	3.28	0.03
34	34.00	400.00	-266.00	3.28	0.03
35	35.00	400.00	-265.00	3.28	0.03
36	36.00	400.00	-264.00	3.28	0.04
37	37.00	400.00	-263.00	3.28	0.04
38	38.00	400.00	-262.00	3.28	0.04
39	39.00	400.00	-261.00	3.28	0.04

40	40.00	400.00	-260.00	3.28	0.04
41	41.00	400.00	-259.00	3.28	0.04
42	42.00	400.00	-258.00	3.28	0.04
43	43.00	400.00	-257.00	3.28	0.04
44	44.00	400.00	-256.00	3.28	0.04
45	45.00	400.00	-255.00	3.28	0.04
46	46.00	400.00	-254.00	3.28	0.04
47	47.00	400.00	-253.00	3.28	0.04
48	48.00	400.00	-252.00	3.28	0.04
49	49.00	400.00	-251.00	3.28	0.04
50	50.00	400.00	-250.00	3.28	0.04
51	51.00	400.00	-249.00	3.28	0.04
52	52.00	400.00	-248.00	3.28	0.04
53	53.00	400.00	-247.00	3.28	0.04
54	54.00	400.00	-246.00	3.28	0.04
55	55.00	400.00	-245.00	3.28	0.04
56	56.00	400.00	-244.00	3.28	0.04
57	57.00	400.00	-243.00	3.28	0.04
58	58.00	400.00	-242.00	3.28	0.05
59	59.00	400.00	-241.00	3.28	0.05
60	60.00	400.00	-240.00	3.28	0.05
61	61.00	400.00	-239.00	3.28	0.05
62	62.00	400.00	-238.00	3.28	0.05
63	63.00	400.00	-237.00	3.28	0.05
64	64.00	400.00	-236.00	3.28	0.05
65	65.00	400.00	-235.00	3.28	0.05
66	66.00	400.00	-234.00	3.28	0.05
67	67.00	400.00	-233.00	3.28	0.05
68	68.00	400.00	-232.00	3.28	0.05
69	69.00	400.00	-231.00	3.28	0.05
70	70.00	400.00	-230.00	3.28	0.05
71	71.00	400.00	-229.00	3.28	0.05
72	72.00	400.00	-228.00	3.28	0.05
73	73.00	400.00	-227.00	3.28	0.05
74	74.00	400.00	-226.00	3.28	0.06
75	75.00	400.00	-225.00	3.28	0.06
76	76.00	400.00	-224.00	3.28	0.06
77	77.00	400.00	-223.00	3.28	0.06
78	78.00	400.00	-222.00	3.28	0.06
79	79.00	400.00	-221.00	3.28	0.06
80	80.00	400.00	-220.00	3.28	0.06
81	81.00	400.00	-219.00	3.28	0.06
82	82.00	400.00	-218.00	3.28	0.06
83	83.00	400.00	-217.00	3.28	0.06
84	84.00	400.00	-216.00	3.28	0.06
85	85.00	400.00	-215.00	3.28	0.06
86	86.00	400.00	-214.00	3.28	0.06
87	87.00	400.00	-213.00	3.28	0.07
88	88.00	400.00	-212.00	3.28	0.07
89	89.00	400.00	-211.00	3.28	0.07
90	90.00	400.00	-210.00	3.28	0.07
91	91.00	400.00	-209.00	3.28	0.07
92	92.00	400.00	-208.00	3.28	0.07
93	93.00	400.00	-207.00	3.28	0.07
94	94.00	400.00	-206.00	3.28	0.07
95	95.00	400.00	-205.00	3.28	0.07
96	96.00	400.00	-204.00	3.28	0.07
97	97.00	400.00	-203.00	3.28	0.08
98	98.00	400.00	-202.00	3.28	0.08
99	99.00	400.00	-201.00	3.28	0.08
100	100.00	400.00	-200.00	3.28	0.08
101	101.00	400.00	-199.00	3.28	0.08
102	102.00	400.00	-198.00	3.28	0.08

103	103.00	400.00	-197.00	3.28	0.08
104	104.00	400.00	-196.00	3.28	0.08
105	105.00	400.00	-195.00	3.28	0.08
106	106.00	400.00	-194.00	3.28	0.09
107	107.00	400.00	-193.00	3.28	0.09
108	108.00	400.00	-192.00	3.28	0.09
109	109.00	400.00	-191.00	3.28	0.09
110	110.00	400.00	-190.00	3.28	0.09
111	111.00	400.00	-189.00	3.28	0.09
112	112.00	400.00	-188.00	3.28	0.09
113	113.00	400.00	-187.00	3.28	0.10
114	114.00	400.00	-186.00	3.28	0.10
115	115.00	400.00	-185.00	3.28	0.10
116	116.00	400.00	-184.00	3.28	0.10
117	117.00	400.00	-183.00	3.28	0.10
118	118.00	400.00	-182.00	3.28	0.10
119	119.00	400.00	-181.00	3.28	0.11
120	120.00	400.00	-180.00	3.28	0.11
121	121.00	400.00	-179.00	3.28	0.11
122	122.00	400.00	-178.00	3.28	0.11
123	123.00	400.00	-177.00	3.28	0.11
124	124.00	400.00	-176.00	3.28	0.11
125	125.00	400.00	-175.00	3.28	0.12
126	126.00	400.00	-174.00	3.28	0.12
127	127.00	400.00	-173.00	3.28	0.12
128	128.00	400.00	-172.00	3.28	0.12
129	129.00	400.00	-171.00	3.28	0.12
130	130.00	400.00	-170.00	3.28	0.13
131	131.00	400.00	-169.00	3.28	0.13
132	132.00	400.00	-168.00	3.28	0.13
133	133.00	400.00	-167.00	3.28	0.13
134	134.00	400.00	-166.00	3.28	0.14
135	135.00	400.00	-165.00	3.28	0.14
136	136.00	400.00	-164.00	3.28	0.14
137	137.00	400.00	-163.00	3.28	0.14
138	138.00	400.00	-162.00	3.28	0.15
139	139.00	400.00	-161.00	3.28	0.15
140	140.00	400.00	-160.00	3.28	0.15
141	141.00	400.00	-159.00	3.28	0.15
142	142.00	400.00	-158.00	3.28	0.16
143	143.00	400.00	-157.00	3.28	0.16
144	144.00	400.00	-156.00	3.28	0.16
145	145.00	400.00	-155.00	3.28	0.17
146	146.00	400.00	-154.00	3.28	0.17
147	147.00	400.00	-153.00	3.28	0.17
148	148.00	400.00	-152.00	3.28	0.18
149	149.00	400.00	-151.00	3.28	0.18
150	150.00	400.00	-150.00	3.28	0.18
151	151.00	400.00	-149.00	3.28	0.19
152	152.00	400.00	-148.00	3.28	0.19
153	153.00	400.00	-147.00	3.28	0.19
154	154.00	400.00	-146.00	3.28	0.20
155	155.00	400.00	-145.00	3.28	0.20
156	156.00	400.00	-144.00	3.28	0.21
157	157.00	400.00	-143.00	3.28	0.21
158	158.00	400.00	-142.00	3.28	0.21
159	159.00	400.00	-141.00	3.28	0.22
160	160.00	400.00	-140.00	3.28	0.22
161	161.00	400.00	-139.00	3.28	0.23
162	162.00	400.00	-138.00	3.28	0.23
163	163.00	400.00	-137.00	3.28	0.24
164	164.00	400.00	-136.00	3.28	0.24
165	165.00	400.00	-135.00	3.28	0.25

166	166.00	400.00	-134.00	3.28	0.25
167	167.00	400.00	-133.00	3.28	0.26
168	168.00	400.00	-132.00	3.28	0.26
169	169.00	400.00	-131.00	3.28	0.27
170	170.00	400.00	-130.00	3.28	0.28
171	171.00	400.00	-129.00	3.28	0.28
172	172.00	400.00	-128.00	3.28	0.29
173	173.00	400.00	-127.00	3.28	0.30
174	174.00	400.00	-126.00	3.28	0.30
175	175.00	400.00	-125.00	3.28	0.31
176	176.00	400.00	-124.00	3.28	0.32
177	177.00	400.00	-123.00	3.28	0.33
178	178.00	400.00	-122.00	3.28	0.33
179	179.00	400.00	-121.00	3.28	0.34
180	180.00	400.00	-120.00	3.28	0.35
181	181.00	400.00	-119.00	3.28	0.36
182	182.00	400.00	-118.00	3.28	0.37
183	183.00	400.00	-117.00	3.28	0.38
184	184.00	400.00	-116.00	3.28	0.39
185	185.00	400.00	-115.00	3.28	0.40
186	186.00	400.00	-114.00	3.28	0.41
187	187.00	400.00	-113.00	3.28	0.42
188	188.00	400.00	-112.00	3.28	0.43
189	189.00	400.00	-111.00	3.28	0.44
190	190.00	400.00	-110.00	3.28	0.45
191	191.00	400.00	-109.00	3.28	0.46
192	192.00	400.00	-108.00	3.28	0.47
193	193.00	400.00	-107.00	3.28	0.49
194	194.00	400.00	-106.00	3.28	0.50
195	195.00	400.00	-105.00	3.28	0.51
196	196.00	400.00	-104.00	3.28	0.53
197	197.00	400.00	-103.00	3.28	0.54
198	198.00	400.00	-102.00	3.28	0.56
199	199.00	400.00	-101.00	3.28	0.57
200	200.00	400.00	-100.00	3.28	0.59
201	201.00	400.00	-99.00	3.28	0.61
202	202.00	400.00	-98.00	3.28	0.62
203	203.00	400.00	-97.00	3.28	0.64
204	204.00	400.00	-96.00	3.28	0.66
205	205.00	400.00	-95.00	3.28	0.68
206	206.00	400.00	-94.00	3.28	0.70
207	207.00	400.00	-93.00	3.28	0.72
208	208.00	400.00	-92.00	3.28	0.75
209	209.00	400.00	-91.00	3.28	0.77
210	210.00	400.00	-90.00	3.28	0.79
211	211.00	400.00	-89.00	3.28	0.82
212	212.00	400.00	-88.00	3.28	0.84
213	213.00	400.00	-87.00	3.28	0.87
214	214.00	400.00	-86.00	3.28	0.90
215	215.00	400.00	-85.00	3.28	0.93
216	216.00	400.00	-84.00	3.28	0.96
217	217.00	400.00	-83.00	3.28	0.99
218	218.00	400.00	-82.00	3.28	1.02
219	219.00	400.00	-81.00	3.28	1.06
220	220.00	400.00	-80.00	3.28	1.09
221	221.00	400.00	-79.00	3.28	1.13
222	222.00	400.00	-78.00	3.28	1.17
223	223.00	400.00	-77.00	3.28	1.21
224	224.00	400.00	-76.00	3.28	1.25
225	225.00	400.00	-75.00	3.28	1.30
226	226.00	400.00	-74.00	3.28	1.34
227	227.00	400.00	-73.00	3.28	1.39
228	228.00	400.00	-72.00	3.28	1.44

229	229.00	400.00 -71.00	3.28	1.50
230	230.00	400.00 -70.00	3.28	1.55
231	231.00	400.00 -69.00	3.28	1.61
232	232.00	400.00 -68.00	3.28	1.67
233	233.00	400.00 -67.00	3.28	1.73
234	234.00	400.00 -66.00	3.28	1.80
235	235.00	400.00 -65.00	3.28	1.86
236	236.00	400.00 -64.00	3.28	1.94
237	237.00	400.00 -63.00	3.28	2.01
238	238.00	400.00 -62.00	3.28	2.09
239	239.00	400.00 -61.00	3.28	2.17
240	240.00	400.00 -60.00	3.28	2.25
241	241.00	400.00 -59.00	3.28	2.34
242	242.00	400.00 -58.00	3.28	2.43
243	243.00	400.00 -57.00	3.28	2.53
244	244.00	400.00 -56.00	3.28	2.63
245	245.00	400.00 -55.00	3.28	2.73
246	246.00	400.00 -54.00	3.28	2.84
247	247.00	400.00 -53.00	3.28	2.95
248	248.00	400.00 -52.00	3.28	3.06
249	249.00	400.00 -51.00	3.28	3.18
250	250.00	400.00 -50.00	3.28	3.31
251	251.00	400.00 -49.00	3.28	3.43
252	252.00	400.00 -48.00	3.28	3.56
253	253.00	400.00 -47.00	3.28	3.70
254	254.00	400.00 -46.00	3.28	3.83
255	255.00	400.00 -45.00	3.28	3.97
256	256.00	400.00 -44.00	3.28	4.11
257	257.00	400.00 -43.00	3.28	4.26
258	258.00	400.00 -42.00	3.28	4.40
259	259.00	400.00 -41.00	3.28	4.55
260	260.00	400.00 -40.00	3.28	4.69
261	261.00	400.00 -39.00	3.28	4.83
262	262.00	400.00 -38.00	3.28	4.98
263	263.00	400.00 -37.00	3.28	5.11
264	264.00	400.00 -36.00	3.28	5.24
265	265.00	400.00 -35.00	3.28	5.37
266	266.00	400.00 -34.00	3.28	5.49
267	267.00	400.00 -33.00	3.28	5.60
268	268.00	400.00 -32.00	3.28	5.69
269	269.00	400.00 -31.00	3.28	5.78
270	270.00	400.00 -30.00	3.28	5.85
271	271.00	400.00 -29.00	3.28	5.90
272	272.00	400.00 -28.00	3.28	5.94
273	273.00	400.00 -27.00	3.28	5.95
274	274.00	400.00 -26.00	3.28	5.95
275	275.00	400.00 -25.00	3.28	5.93
276	276.00	400.00 -24.00	3.28	5.89
277	277.00	400.00 -23.00	3.28	5.83
278	278.00	400.00 -22.00	3.28	5.75
279	279.00	400.00 -21.00	3.28	5.65
280	280.00	400.00 -20.00	3.28	5.53
281	281.00	400.00 -19.00	3.28	5.40
282	282.00	400.00 -18.00	3.28	5.25
283	283.00	400.00 -17.00	3.28	5.10
284	284.00	400.00 -16.00	3.28	4.94
285	285.00	400.00 -15.00	3.28	4.77
286	286.00	400.00 -14.00	3.28	4.61
287	287.00	400.00 -13.00	3.28	4.45
288	288.00	400.00 -12.00	3.28	4.30
289	289.00	400.00 -11.00	3.28	4.16
290	290.00	400.00 -10.00	3.28	4.04
291	291.00	400.00 -9.00	3.28	3.93

292	292.00	400.00	-8.00	3.28	3.84
293	293.00	400.00	-7.00	3.28	3.76
294	294.00	400.00	-6.00	3.28	3.70
295	295.00	400.00	-5.00	3.28	3.66
296	296.00	400.00	-4.00	3.28	3.62
297	297.00	400.00	-3.00	3.28	3.60
298	298.00	400.00	-2.00	3.28	3.59
299	299.00	400.00	-1.00	3.28	3.58
300	300.00	400.00	0.00	3.28	3.58
301	301.00	400.00	1.00	3.28	3.58
302	302.00	400.00	2.00	3.28	3.59
303	303.00	400.00	3.00	3.28	3.60
304	304.00	400.00	4.00	3.28	3.62
305	305.00	400.00	5.00	3.28	3.66
306	306.00	400.00	6.00	3.28	3.70
307	307.00	400.00	7.00	3.28	3.76
308	308.00	400.00	8.00	3.28	3.84
309	309.00	400.00	9.00	3.28	3.93
310	310.00	400.00	10.00	3.28	4.04
311	311.00	400.00	11.00	3.28	4.16
312	312.00	400.00	12.00	3.28	4.30
313	313.00	400.00	13.00	3.28	4.45
314	314.00	400.00	14.00	3.28	4.61
315	315.00	400.00	15.00	3.28	4.77
316	316.00	400.00	16.00	3.28	4.94
317	317.00	400.00	17.00	3.28	5.10
318	318.00	400.00	18.00	3.28	5.25
319	319.00	400.00	19.00	3.28	5.40
320	320.00	400.00	20.00	3.28	5.53
321	321.00	400.00	21.00	3.28	5.65
322	322.00	400.00	22.00	3.28	5.75
323	323.00	400.00	23.00	3.28	5.83
324	324.00	400.00	24.00	3.28	5.89
325	325.00	400.00	25.00	3.28	5.93
326	326.00	400.00	26.00	3.28	5.95
327	327.00	400.00	27.00	3.28	5.95
328	328.00	400.00	28.00	3.28	5.94
329	329.00	400.00	29.00	3.28	5.90
330	330.00	400.00	30.00	3.28	5.85
331	331.00	400.00	31.00	3.28	5.78
332	332.00	400.00	32.00	3.28	5.69
333	333.00	400.00	33.00	3.28	5.60
334	334.00	400.00	34.00	3.28	5.49
335	335.00	400.00	35.00	3.28	5.37
336	336.00	400.00	36.00	3.28	5.24
337	337.00	400.00	37.00	3.28	5.11
338	338.00	400.00	38.00	3.28	4.98
339	339.00	400.00	39.00	3.28	4.83
340	340.00	400.00	40.00	3.28	4.69
341	341.00	400.00	41.00	3.28	4.55
342	342.00	400.00	42.00	3.28	4.40
343	343.00	400.00	43.00	3.28	4.26
344	344.00	400.00	44.00	3.28	4.11
345	345.00	400.00	45.00	3.28	3.97
346	346.00	400.00	46.00	3.28	3.83
347	347.00	400.00	47.00	3.28	3.70
348	348.00	400.00	48.00	3.28	3.56
349	349.00	400.00	49.00	3.28	3.43
350	350.00	400.00	50.00	3.28	3.31
351	351.00	400.00	51.00	3.28	3.18
352	352.00	400.00	52.00	3.28	3.06
353	353.00	400.00	53.00	3.28	2.95
354	354.00	400.00	54.00	3.28	2.84

355	355.00	400.00	55.00	3.28	2.73
356	356.00	400.00	56.00	3.28	2.63
357	357.00	400.00	57.00	3.28	2.53
358	358.00	400.00	58.00	3.28	2.43
359	359.00	400.00	59.00	3.28	2.34
360	360.00	400.00	60.00	3.28	2.25
361	361.00	400.00	61.00	3.28	2.17
362	362.00	400.00	62.00	3.28	2.09
363	363.00	400.00	63.00	3.28	2.01
364	364.00	400.00	64.00	3.28	1.94
365	365.00	400.00	65.00	3.28	1.86
366	366.00	400.00	66.00	3.28	1.80
367	367.00	400.00	67.00	3.28	1.73
368	368.00	400.00	68.00	3.28	1.67
369	369.00	400.00	69.00	3.28	1.61
370	370.00	400.00	70.00	3.28	1.55
371	371.00	400.00	71.00	3.28	1.50
372	372.00	400.00	72.00	3.28	1.44
373	373.00	400.00	73.00	3.28	1.39
374	374.00	400.00	74.00	3.28	1.34
375	375.00	400.00	75.00	3.28	1.30
376	376.00	400.00	76.00	3.28	1.25
377	377.00	400.00	77.00	3.28	1.21
378	378.00	400.00	78.00	3.28	1.17
379	379.00	400.00	79.00	3.28	1.13
380	380.00	400.00	80.00	3.28	1.09
381	381.00	400.00	81.00	3.28	1.06
382	382.00	400.00	82.00	3.28	1.02
383	383.00	400.00	83.00	3.28	0.99
384	384.00	400.00	84.00	3.28	0.96
385	385.00	400.00	85.00	3.28	0.93
386	386.00	400.00	86.00	3.28	0.90
387	387.00	400.00	87.00	3.28	0.87
388	388.00	400.00	88.00	3.28	0.84
389	389.00	400.00	89.00	3.28	0.82
390	390.00	400.00	90.00	3.28	0.79
391	391.00	400.00	91.00	3.28	0.77
392	392.00	400.00	92.00	3.28	0.75
393	393.00	400.00	93.00	3.28	0.72
394	394.00	400.00	94.00	3.28	0.70
395	395.00	400.00	95.00	3.28	0.68
396	396.00	400.00	96.00	3.28	0.66
397	397.00	400.00	97.00	3.28	0.64
398	398.00	400.00	98.00	3.28	0.62
399	399.00	400.00	99.00	3.28	0.61
400	400.00	400.00	100.00	3.28	0.59
401	401.00	400.00	101.00	3.28	0.57
402	402.00	400.00	102.00	3.28	0.56
403	403.00	400.00	103.00	3.28	0.54
404	404.00	400.00	104.00	3.28	0.53
405	405.00	400.00	105.00	3.28	0.51
406	406.00	400.00	106.00	3.28	0.50
407	407.00	400.00	107.00	3.28	0.49
408	408.00	400.00	108.00	3.28	0.47
409	409.00	400.00	109.00	3.28	0.46
410	410.00	400.00	110.00	3.28	0.45
411	411.00	400.00	111.00	3.28	0.44
412	412.00	400.00	112.00	3.28	0.43
413	413.00	400.00	113.00	3.28	0.42
414	414.00	400.00	114.00	3.28	0.41
415	415.00	400.00	115.00	3.28	0.40
416	416.00	400.00	116.00	3.28	0.39
417	417.00	400.00	117.00	3.28	0.38

418	418.00	400.00	118.00	3.28	0.37
419	419.00	400.00	119.00	3.28	0.36
420	420.00	400.00	120.00	3.28	0.35
421	421.00	400.00	121.00	3.28	0.34
422	422.00	400.00	122.00	3.28	0.33
423	423.00	400.00	123.00	3.28	0.33
424	424.00	400.00	124.00	3.28	0.32
425	425.00	400.00	125.00	3.28	0.31
426	426.00	400.00	126.00	3.28	0.30
427	427.00	400.00	127.00	3.28	0.30
428	428.00	400.00	128.00	3.28	0.29
429	429.00	400.00	129.00	3.28	0.28
430	430.00	400.00	130.00	3.28	0.28
431	431.00	400.00	131.00	3.28	0.27
432	432.00	400.00	132.00	3.28	0.26
433	433.00	400.00	133.00	3.28	0.26
434	434.00	400.00	134.00	3.28	0.25
435	435.00	400.00	135.00	3.28	0.25
436	436.00	400.00	136.00	3.28	0.24
437	437.00	400.00	137.00	3.28	0.24
438	438.00	400.00	138.00	3.28	0.23
439	439.00	400.00	139.00	3.28	0.23
440	440.00	400.00	140.00	3.28	0.22
441	441.00	400.00	141.00	3.28	0.22
442	442.00	400.00	142.00	3.28	0.21
443	443.00	400.00	143.00	3.28	0.21
444	444.00	400.00	144.00	3.28	0.21
445	445.00	400.00	145.00	3.28	0.20
446	446.00	400.00	146.00	3.28	0.20
447	447.00	400.00	147.00	3.28	0.19
448	448.00	400.00	148.00	3.28	0.19
449	449.00	400.00	149.00	3.28	0.19
450	450.00	400.00	150.00	3.28	0.18
451	451.00	400.00	151.00	3.28	0.18
452	452.00	400.00	152.00	3.28	0.18
453	453.00	400.00	153.00	3.28	0.17
454	454.00	400.00	154.00	3.28	0.17
455	455.00	400.00	155.00	3.28	0.17
456	456.00	400.00	156.00	3.28	0.16
457	457.00	400.00	157.00	3.28	0.16
458	458.00	400.00	158.00	3.28	0.16
459	459.00	400.00	159.00	3.28	0.15
460	460.00	400.00	160.00	3.28	0.15
461	461.00	400.00	161.00	3.28	0.15
462	462.00	400.00	162.00	3.28	0.15
463	463.00	400.00	163.00	3.28	0.14
464	464.00	400.00	164.00	3.28	0.14
465	465.00	400.00	165.00	3.28	0.14
466	466.00	400.00	166.00	3.28	0.14
467	467.00	400.00	167.00	3.28	0.13
468	468.00	400.00	168.00	3.28	0.13
469	469.00	400.00	169.00	3.28	0.13
470	470.00	400.00	170.00	3.28	0.13
471	471.00	400.00	171.00	3.28	0.12
472	472.00	400.00	172.00	3.28	0.12
473	473.00	400.00	173.00	3.28	0.12
474	474.00	400.00	174.00	3.28	0.12
475	475.00	400.00	175.00	3.28	0.12
476	476.00	400.00	176.00	3.28	0.11
477	477.00	400.00	177.00	3.28	0.11
478	478.00	400.00	178.00	3.28	0.11
479	479.00	400.00	179.00	3.28	0.11
480	480.00	400.00	180.00	3.28	0.11

481	481.00	400.00	181.00	3.28	0.11
482	482.00	400.00	182.00	3.28	0.10
483	483.00	400.00	183.00	3.28	0.10
484	484.00	400.00	184.00	3.28	0.10
485	485.00	400.00	185.00	3.28	0.10
486	486.00	400.00	186.00	3.28	0.10
487	487.00	400.00	187.00	3.28	0.10
488	488.00	400.00	188.00	3.28	0.09
489	489.00	400.00	189.00	3.28	0.09
490	490.00	400.00	190.00	3.28	0.09
491	491.00	400.00	191.00	3.28	0.09
492	492.00	400.00	192.00	3.28	0.09
493	493.00	400.00	193.00	3.28	0.09
494	494.00	400.00	194.00	3.28	0.09
495	495.00	400.00	195.00	3.28	0.08
496	496.00	400.00	196.00	3.28	0.08
497	497.00	400.00	197.00	3.28	0.08
498	498.00	400.00	198.00	3.28	0.08
499	499.00	400.00	199.00	3.28	0.08
500	500.00	400.00	200.00	3.28	0.08
501	501.00	400.00	201.00	3.28	0.08
502	502.00	400.00	202.00	3.28	0.08
503	503.00	400.00	203.00	3.28	0.08
504	504.00	400.00	204.00	3.28	0.07
505	505.00	400.00	205.00	3.28	0.07
506	506.00	400.00	206.00	3.28	0.07
507	507.00	400.00	207.00	3.28	0.07
508	508.00	400.00	208.00	3.28	0.07
509	509.00	400.00	209.00	3.28	0.07
510	510.00	400.00	210.00	3.28	0.07
511	511.00	400.00	211.00	3.28	0.07
512	512.00	400.00	212.00	3.28	0.07
513	513.00	400.00	213.00	3.28	0.07
514	514.00	400.00	214.00	3.28	0.06
515	515.00	400.00	215.00	3.28	0.06
516	516.00	400.00	216.00	3.28	0.06
517	517.00	400.00	217.00	3.28	0.06
518	518.00	400.00	218.00	3.28	0.06
519	519.00	400.00	219.00	3.28	0.06
520	520.00	400.00	220.00	3.28	0.06
521	521.00	400.00	221.00	3.28	0.06
522	522.00	400.00	222.00	3.28	0.06
523	523.00	400.00	223.00	3.28	0.06
524	524.00	400.00	224.00	3.28	0.06
525	525.00	400.00	225.00	3.28	0.06
526	526.00	400.00	226.00	3.28	0.06
527	527.00	400.00	227.00	3.28	0.05
528	528.00	400.00	228.00	3.28	0.05
529	529.00	400.00	229.00	3.28	0.05
530	530.00	400.00	230.00	3.28	0.05
531	531.00	400.00	231.00	3.28	0.05
532	532.00	400.00	232.00	3.28	0.05
533	533.00	400.00	233.00	3.28	0.05
534	534.00	400.00	234.00	3.28	0.05
535	535.00	400.00	235.00	3.28	0.05
536	536.00	400.00	236.00	3.28	0.05
537	537.00	400.00	237.00	3.28	0.05
538	538.00	400.00	238.00	3.28	0.05
539	539.00	400.00	239.00	3.28	0.05
540	540.00	400.00	240.00	3.28	0.05
541	541.00	400.00	241.00	3.28	0.05
542	542.00	400.00	242.00	3.28	0.05
543	543.00	400.00	243.00	3.28	0.04

544	544.00	400.00	244.00	3.28	0.04
545	545.00	400.00	245.00	3.28	0.04
546	546.00	400.00	246.00	3.28	0.04
547	547.00	400.00	247.00	3.28	0.04
548	548.00	400.00	248.00	3.28	0.04
549	549.00	400.00	249.00	3.28	0.04
550	550.00	400.00	250.00	3.28	0.04
551	551.00	400.00	251.00	3.28	0.04
552	552.00	400.00	252.00	3.28	0.04
553	553.00	400.00	253.00	3.28	0.04
554	554.00	400.00	254.00	3.28	0.04
555	555.00	400.00	255.00	3.28	0.04
556	556.00	400.00	256.00	3.28	0.04
557	557.00	400.00	257.00	3.28	0.04
558	558.00	400.00	258.00	3.28	0.04
559	559.00	400.00	259.00	3.28	0.04
560	560.00	400.00	260.00	3.28	0.04
561	561.00	400.00	261.00	3.28	0.04
562	562.00	400.00	262.00	3.28	0.04
563	563.00	400.00	263.00	3.28	0.04
564	564.00	400.00	264.00	3.28	0.04
565	565.00	400.00	265.00	3.28	0.03
566	566.00	400.00	266.00	3.28	0.03
567	567.00	400.00	267.00	3.28	0.03
568	568.00	400.00	268.00	3.28	0.03
569	569.00	400.00	269.00	3.28	0.03
570	570.00	400.00	270.00	3.28	0.03
571	571.00	400.00	271.00	3.28	0.03
572	572.00	400.00	272.00	3.28	0.03
573	573.00	400.00	273.00	3.28	0.03
574	574.00	400.00	274.00	3.28	0.03
575	575.00	400.00	275.00	3.28	0.03
576	576.00	400.00	276.00	3.28	0.03
577	577.00	400.00	277.00	3.28	0.03
578	578.00	400.00	278.00	3.28	0.03
579	579.00	400.00	279.00	3.28	0.03
580	580.00	400.00	280.00	3.28	0.03
581	581.00	400.00	281.00	3.28	0.03
582	582.00	400.00	282.00	3.28	0.03
583	583.00	400.00	283.00	3.28	0.03
584	584.00	400.00	284.00	3.28	0.03
585	585.00	400.00	285.00	3.28	0.03
586	586.00	400.00	286.00	3.28	0.03
587	587.00	400.00	287.00	3.28	0.03
588	588.00	400.00	288.00	3.28	0.03
589	589.00	400.00	289.00	3.28	0.03
590	590.00	400.00	290.00	3.28	0.03
591	591.00	400.00	291.00	3.28	0.03
592	592.00	400.00	292.00	3.28	0.03
593	593.00	400.00	293.00	3.28	0.03
594	594.00	400.00	294.00	3.28	0.03
595	595.00	400.00	295.00	3.28	0.03
596	596.00	400.00	296.00	3.28	0.03
597	597.00	400.00	297.00	3.28	0.02
598	598.00	400.00	298.00	3.28	0.02
599	599.00	400.00	299.00	3.28	0.02
600	600.00	400.00	300.00	3.28	0.02

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Average Load"

Field Components = Resultant
 Distance units = (ft)
 Magnetic field units = mG

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	2.58
1	1.00	400.00	-299.00	3.28	2.59
2	2.00	400.00	-298.00	3.28	2.61
3	3.00	400.00	-297.00	3.28	2.63
4	4.00	400.00	-296.00	3.28	2.65
5	5.00	400.00	-295.00	3.28	2.67
6	6.00	400.00	-294.00	3.28	2.68
7	7.00	400.00	-293.00	3.28	2.70
8	8.00	400.00	-292.00	3.28	2.72
9	9.00	400.00	-291.00	3.28	2.74
10	10.00	400.00	-290.00	3.28	2.76
11	11.00	400.00	-289.00	3.28	2.78
12	12.00	400.00	-288.00	3.28	2.80
13	13.00	400.00	-287.00	3.28	2.82
14	14.00	400.00	-286.00	3.28	2.84
15	15.00	400.00	-285.00	3.28	2.86
16	16.00	400.00	-284.00	3.28	2.88
17	17.00	400.00	-283.00	3.28	2.90
18	18.00	400.00	-282.00	3.28	2.92
19	19.00	400.00	-281.00	3.28	2.94
20	20.00	400.00	-280.00	3.28	2.96
21	21.00	400.00	-279.00	3.28	2.98
22	22.00	400.00	-278.00	3.28	3.00
23	23.00	400.00	-277.00	3.28	3.03
24	24.00	400.00	-276.00	3.28	3.05
25	25.00	400.00	-275.00	3.28	3.07
26	26.00	400.00	-274.00	3.28	3.09
27	27.00	400.00	-273.00	3.28	3.12
28	28.00	400.00	-272.00	3.28	3.14
29	29.00	400.00	-271.00	3.28	3.16
30	30.00	400.00	-270.00	3.28	3.19
31	31.00	400.00	-269.00	3.28	3.21
32	32.00	400.00	-268.00	3.28	3.24
33	33.00	400.00	-267.00	3.28	3.26
34	34.00	400.00	-266.00	3.28	3.28
35	35.00	400.00	-265.00	3.28	3.31
36	36.00	400.00	-264.00	3.28	3.33
37	37.00	400.00	-263.00	3.28	3.36
38	38.00	400.00	-262.00	3.28	3.39
39	39.00	400.00	-261.00	3.28	3.41
40	40.00	400.00	-260.00	3.28	3.44
41	41.00	400.00	-259.00	3.28	3.47
42	42.00	400.00	-258.00	3.28	3.49
43	43.00	400.00	-257.00	3.28	3.52
44	44.00	400.00	-256.00	3.28	3.55
45	45.00	400.00	-255.00	3.28	3.58
46	46.00	400.00	-254.00	3.28	3.60
47	47.00	400.00	-253.00	3.28	3.63
48	48.00	400.00	-252.00	3.28	3.66
49	49.00	400.00	-251.00	3.28	3.69
50	50.00	400.00	-250.00	3.28	3.72
51	51.00	400.00	-249.00	3.28	3.75

52	52.00	400.00	-248.00	3.28	3.78
53	53.00	400.00	-247.00	3.28	3.81
54	54.00	400.00	-246.00	3.28	3.85
55	55.00	400.00	-245.00	3.28	3.88
56	56.00	400.00	-244.00	3.28	3.91
57	57.00	400.00	-243.00	3.28	3.94
58	58.00	400.00	-242.00	3.28	3.97
59	59.00	400.00	-241.00	3.28	4.01
60	60.00	400.00	-240.00	3.28	4.04
61	61.00	400.00	-239.00	3.28	4.08
62	62.00	400.00	-238.00	3.28	4.11
63	63.00	400.00	-237.00	3.28	4.14
64	64.00	400.00	-236.00	3.28	4.18
65	65.00	400.00	-235.00	3.28	4.22
66	66.00	400.00	-234.00	3.28	4.25
67	67.00	400.00	-233.00	3.28	4.29
68	68.00	400.00	-232.00	3.28	4.33
69	69.00	400.00	-231.00	3.28	4.36
70	70.00	400.00	-230.00	3.28	4.40
71	71.00	400.00	-229.00	3.28	4.44
72	72.00	400.00	-228.00	3.28	4.48
73	73.00	400.00	-227.00	3.28	4.52
74	74.00	400.00	-226.00	3.28	4.56
75	75.00	400.00	-225.00	3.28	4.60
76	76.00	400.00	-224.00	3.28	4.64
77	77.00	400.00	-223.00	3.28	4.69
78	78.00	400.00	-222.00	3.28	4.73
79	79.00	400.00	-221.00	3.28	4.77
80	80.00	400.00	-220.00	3.28	4.81
81	81.00	400.00	-219.00	3.28	4.86
82	82.00	400.00	-218.00	3.28	4.90
83	83.00	400.00	-217.00	3.28	4.95
84	84.00	400.00	-216.00	3.28	5.00
85	85.00	400.00	-215.00	3.28	5.04
86	86.00	400.00	-214.00	3.28	5.09
87	87.00	400.00	-213.00	3.28	5.14
88	88.00	400.00	-212.00	3.28	5.19
89	89.00	400.00	-211.00	3.28	5.24
90	90.00	400.00	-210.00	3.28	5.29
91	91.00	400.00	-209.00	3.28	5.34
92	92.00	400.00	-208.00	3.28	5.39
93	93.00	400.00	-207.00	3.28	5.44
94	94.00	400.00	-206.00	3.28	5.49
95	95.00	400.00	-205.00	3.28	5.55
96	96.00	400.00	-204.00	3.28	5.60
97	97.00	400.00	-203.00	3.28	5.66
98	98.00	400.00	-202.00	3.28	5.72
99	99.00	400.00	-201.00	3.28	5.77
100	100.00	400.00	-200.00	3.28	5.83
101	101.00	400.00	-199.00	3.28	5.89
102	102.00	400.00	-198.00	3.28	5.95
103	103.00	400.00	-197.00	3.28	6.01
104	104.00	400.00	-196.00	3.28	6.07
105	105.00	400.00	-195.00	3.28	6.13
106	106.00	400.00	-194.00	3.28	6.20
107	107.00	400.00	-193.00	3.28	6.26
108	108.00	400.00	-192.00	3.28	6.33
109	109.00	400.00	-191.00	3.28	6.40
110	110.00	400.00	-190.00	3.28	6.46
111	111.00	400.00	-189.00	3.28	6.53
112	112.00	400.00	-188.00	3.28	6.60
113	113.00	400.00	-187.00	3.28	6.67
114	114.00	400.00	-186.00	3.28	6.74

115	115.00	400.00	-185.00	3.28	6.82
116	116.00	400.00	-184.00	3.28	6.89
117	117.00	400.00	-183.00	3.28	6.97
118	118.00	400.00	-182.00	3.28	7.05
119	119.00	400.00	-181.00	3.28	7.12
120	120.00	400.00	-180.00	3.28	7.20
121	121.00	400.00	-179.00	3.28	7.28
122	122.00	400.00	-178.00	3.28	7.37
123	123.00	400.00	-177.00	3.28	7.45
124	124.00	400.00	-176.00	3.28	7.53
125	125.00	400.00	-175.00	3.28	7.62
126	126.00	400.00	-174.00	3.28	7.71
127	127.00	400.00	-173.00	3.28	7.80
128	128.00	400.00	-172.00	3.28	7.89
129	129.00	400.00	-171.00	3.28	7.98
130	130.00	400.00	-170.00	3.28	8.08
131	131.00	400.00	-169.00	3.28	8.17
132	132.00	400.00	-168.00	3.28	8.27
133	133.00	400.00	-167.00	3.28	8.37
134	134.00	400.00	-166.00	3.28	8.47
135	135.00	400.00	-165.00	3.28	8.57
136	136.00	400.00	-164.00	3.28	8.68
137	137.00	400.00	-163.00	3.28	8.78
138	138.00	400.00	-162.00	3.28	8.89
139	139.00	400.00	-161.00	3.28	9.00
140	140.00	400.00	-160.00	3.28	9.12
141	141.00	400.00	-159.00	3.28	9.23
142	142.00	400.00	-158.00	3.28	9.35
143	143.00	400.00	-157.00	3.28	9.47
144	144.00	400.00	-156.00	3.28	9.59
145	145.00	400.00	-155.00	3.28	9.71
146	146.00	400.00	-154.00	3.28	9.84
147	147.00	400.00	-153.00	3.28	9.97
148	148.00	400.00	-152.00	3.28	10.10
149	149.00	400.00	-151.00	3.28	10.23
150	150.00	400.00	-150.00	3.28	10.37
151	151.00	400.00	-149.00	3.28	10.51
152	152.00	400.00	-148.00	3.28	10.65
153	153.00	400.00	-147.00	3.28	10.80
154	154.00	400.00	-146.00	3.28	10.95
155	155.00	400.00	-145.00	3.28	11.10
156	156.00	400.00	-144.00	3.28	11.25
157	157.00	400.00	-143.00	3.28	11.41
158	158.00	400.00	-142.00	3.28	11.57
159	159.00	400.00	-141.00	3.28	11.73
160	160.00	400.00	-140.00	3.28	11.90
161	161.00	400.00	-139.00	3.28	12.07
162	162.00	400.00	-138.00	3.28	12.24
163	163.00	400.00	-137.00	3.28	12.42
164	164.00	400.00	-136.00	3.28	12.61
165	165.00	400.00	-135.00	3.28	12.79
166	166.00	400.00	-134.00	3.28	12.98
167	167.00	400.00	-133.00	3.28	13.18
168	168.00	400.00	-132.00	3.28	13.38
169	169.00	400.00	-131.00	3.28	13.58
170	170.00	400.00	-130.00	3.28	13.79
171	171.00	400.00	-129.00	3.28	14.00
172	172.00	400.00	-128.00	3.28	14.22
173	173.00	400.00	-127.00	3.28	14.44
174	174.00	400.00	-126.00	3.28	14.67
175	175.00	400.00	-125.00	3.28	14.90
176	176.00	400.00	-124.00	3.28	15.14
177	177.00	400.00	-123.00	3.28	15.39

178	178.00	400.00	-122.00	3.28	15.64
179	179.00	400.00	-121.00	3.28	15.89
180	180.00	400.00	-120.00	3.28	16.16
181	181.00	400.00	-119.00	3.28	16.43
182	182.00	400.00	-118.00	3.28	16.70
183	183.00	400.00	-117.00	3.28	16.98
184	184.00	400.00	-116.00	3.28	17.27
185	185.00	400.00	-115.00	3.28	17.57
186	186.00	400.00	-114.00	3.28	17.88
187	187.00	400.00	-113.00	3.28	18.19
188	188.00	400.00	-112.00	3.28	18.51
189	189.00	400.00	-111.00	3.28	18.84
190	190.00	400.00	-110.00	3.28	19.18
191	191.00	400.00	-109.00	3.28	19.53
192	192.00	400.00	-108.00	3.28	19.88
193	193.00	400.00	-107.00	3.28	20.25
194	194.00	400.00	-106.00	3.28	20.63
195	195.00	400.00	-105.00	3.28	21.02
196	196.00	400.00	-104.00	3.28	21.41
197	197.00	400.00	-103.00	3.28	21.82
198	198.00	400.00	-102.00	3.28	22.24
199	199.00	400.00	-101.00	3.28	22.68
200	200.00	400.00	-100.00	3.28	23.12
201	201.00	400.00	-99.00	3.28	23.58
202	202.00	400.00	-98.00	3.28	24.05
203	203.00	400.00	-97.00	3.28	24.54
204	204.00	400.00	-96.00	3.28	25.04
205	205.00	400.00	-95.00	3.28	25.55
206	206.00	400.00	-94.00	3.28	26.08
207	207.00	400.00	-93.00	3.28	26.63
208	208.00	400.00	-92.00	3.28	27.19
209	209.00	400.00	-91.00	3.28	27.77
210	210.00	400.00	-90.00	3.28	28.37
211	211.00	400.00	-89.00	3.28	28.99
212	212.00	400.00	-88.00	3.28	29.63
213	213.00	400.00	-87.00	3.28	30.29
214	214.00	400.00	-86.00	3.28	30.97
215	215.00	400.00	-85.00	3.28	31.67
216	216.00	400.00	-84.00	3.28	32.40
217	217.00	400.00	-83.00	3.28	33.15
218	218.00	400.00	-82.00	3.28	33.93
219	219.00	400.00	-81.00	3.28	34.73
220	220.00	400.00	-80.00	3.28	35.56
221	221.00	400.00	-79.00	3.28	36.42
222	222.00	400.00	-78.00	3.28	37.31
223	223.00	400.00	-77.00	3.28	38.23
224	224.00	400.00	-76.00	3.28	39.18
225	225.00	400.00	-75.00	3.28	40.17
226	226.00	400.00	-74.00	3.28	41.19
227	227.00	400.00	-73.00	3.28	42.25
228	228.00	400.00	-72.00	3.28	43.35
229	229.00	400.00	-71.00	3.28	44.49
230	230.00	400.00	-70.00	3.28	45.67
231	231.00	400.00	-69.00	3.28	46.90
232	232.00	400.00	-68.00	3.28	48.17
233	233.00	400.00	-67.00	3.28	49.50
234	234.00	400.00	-66.00	3.28	50.87
235	235.00	400.00	-65.00	3.28	52.30
236	236.00	400.00	-64.00	3.28	53.78
237	237.00	400.00	-63.00	3.28	55.32
238	238.00	400.00	-62.00	3.28	56.92
239	239.00	400.00	-61.00	3.28	58.58
240	240.00	400.00	-60.00	3.28	60.31

241	241.00	400.00	-59.00	3.28	62.11
242	242.00	400.00	-58.00	3.28	63.98
243	243.00	400.00	-57.00	3.28	65.92
244	244.00	400.00	-56.00	3.28	67.94
245	245.00	400.00	-55.00	3.28	70.04
246	246.00	400.00	-54.00	3.28	72.23
247	247.00	400.00	-53.00	3.28	74.50
248	248.00	400.00	-52.00	3.28	76.86
249	249.00	400.00	-51.00	3.28	79.32
250	250.00	400.00	-50.00	3.28	81.87
251	251.00	400.00	-49.00	3.28	84.51
252	252.00	400.00	-48.00	3.28	87.26
253	253.00	400.00	-47.00	3.28	90.11
254	254.00	400.00	-46.00	3.28	93.06
255	255.00	400.00	-45.00	3.28	96.12
256	256.00	400.00	-44.00	3.28	99.29
257	257.00	400.00	-43.00	3.28	102.56
258	258.00	400.00	-42.00	3.28	105.94
259	259.00	400.00	-41.00	3.28	109.42
260	260.00	400.00	-40.00	3.28	113.01
261	261.00	400.00	-39.00	3.28	116.69
262	262.00	400.00	-38.00	3.28	120.46
263	263.00	400.00	-37.00	3.28	124.32
264	264.00	400.00	-36.00	3.28	128.27
265	265.00	400.00	-35.00	3.28	132.28
266	266.00	400.00	-34.00	3.28	136.35
267	267.00	400.00	-33.00	3.28	140.47
268	268.00	400.00	-32.00	3.28	144.62
269	269.00	400.00	-31.00	3.28	148.79
270	270.00	400.00	-30.00	3.28	152.96
271	271.00	400.00	-29.00	3.28	157.12
272	272.00	400.00	-28.00	3.28	161.25
273	273.00	400.00	-27.00	3.28	165.32
274	274.00	400.00	-26.00	3.28	169.32
275	275.00	400.00	-25.00	3.28	173.24
276	276.00	400.00	-24.00	3.28	177.04
277	277.00	400.00	-23.00	3.28	180.73
278	278.00	400.00	-22.00	3.28	184.27
279	279.00	400.00	-21.00	3.28	187.67
280	280.00	400.00	-20.00	3.28	190.90
281	281.00	400.00	-19.00	3.28	193.96
282	282.00	400.00	-18.00	3.28	196.85
283	283.00	400.00	-17.00	3.28	199.55
284	284.00	400.00	-16.00	3.28	202.07
285	285.00	400.00	-15.00	3.28	204.41
286	286.00	400.00	-14.00	3.28	206.57
287	287.00	400.00	-13.00	3.28	208.55
288	288.00	400.00	-12.00	3.28	210.35
289	289.00	400.00	-11.00	3.28	211.99
290	290.00	400.00	-10.00	3.28	213.46
291	291.00	400.00	-9.00	3.28	214.78
292	292.00	400.00	-8.00	3.28	215.94
293	293.00	400.00	-7.00	3.28	216.95
294	294.00	400.00	-6.00	3.28	217.83
295	295.00	400.00	-5.00	3.28	218.56
296	296.00	400.00	-4.00	3.28	219.16
297	297.00	400.00	-3.00	3.28	219.63
298	298.00	400.00	-2.00	3.28	219.97
299	299.00	400.00	-1.00	3.28	220.18
300	300.00	400.00	0.00	3.28	220.26
301	301.00	400.00	1.00	3.28	220.22
302	302.00	400.00	2.00	3.28	220.05
303	303.00	400.00	3.00	3.28	219.75

304	304.00	400.00	4.00	3.28	219.31
305	305.00	400.00	5.00	3.28	218.75
306	306.00	400.00	6.00	3.28	218.05
307	307.00	400.00	7.00	3.28	217.21
308	308.00	400.00	8.00	3.28	216.23
309	309.00	400.00	9.00	3.28	215.10
310	310.00	400.00	10.00	3.28	213.82
311	311.00	400.00	11.00	3.28	212.38
312	312.00	400.00	12.00	3.28	210.77
313	313.00	400.00	13.00	3.28	209.00
314	314.00	400.00	14.00	3.28	207.04
315	315.00	400.00	15.00	3.28	204.91
316	316.00	400.00	16.00	3.28	202.60
317	317.00	400.00	17.00	3.28	200.10
318	318.00	400.00	18.00	3.28	197.42
319	319.00	400.00	19.00	3.28	194.55
320	320.00	400.00	20.00	3.28	191.51
321	321.00	400.00	21.00	3.28	188.29
322	322.00	400.00	22.00	3.28	184.91
323	323.00	400.00	23.00	3.28	181.38
324	324.00	400.00	24.00	3.28	177.71
325	325.00	400.00	25.00	3.28	173.91
326	326.00	400.00	26.00	3.28	170.01
327	327.00	400.00	27.00	3.28	166.01
328	328.00	400.00	28.00	3.28	161.95
329	329.00	400.00	29.00	3.28	157.83
330	330.00	400.00	30.00	3.28	153.67
331	331.00	400.00	31.00	3.28	149.50
332	332.00	400.00	32.00	3.28	145.33
333	333.00	400.00	33.00	3.28	141.18
334	334.00	400.00	34.00	3.28	137.06
335	335.00	400.00	35.00	3.28	132.99
336	336.00	400.00	36.00	3.28	128.98
337	337.00	400.00	37.00	3.28	125.03
338	338.00	400.00	38.00	3.28	121.17
339	339.00	400.00	39.00	3.28	117.39
340	340.00	400.00	40.00	3.28	113.70
341	341.00	400.00	41.00	3.28	110.12
342	342.00	400.00	42.00	3.28	106.63
343	343.00	400.00	43.00	3.28	103.25
344	344.00	400.00	44.00	3.28	99.97
345	345.00	400.00	45.00	3.28	96.80
346	346.00	400.00	46.00	3.28	93.73
347	347.00	400.00	47.00	3.28	90.77
348	348.00	400.00	48.00	3.28	87.92
349	349.00	400.00	49.00	3.28	85.16
350	350.00	400.00	50.00	3.28	82.51
351	351.00	400.00	51.00	3.28	79.95
352	352.00	400.00	52.00	3.28	77.49
353	353.00	400.00	53.00	3.28	75.12
354	354.00	400.00	54.00	3.28	72.85
355	355.00	400.00	55.00	3.28	70.65
356	356.00	400.00	56.00	3.28	68.55
357	357.00	400.00	57.00	3.28	66.52
358	358.00	400.00	58.00	3.28	64.57
359	359.00	400.00	59.00	3.28	62.69
360	360.00	400.00	60.00	3.28	60.89
361	361.00	400.00	61.00	3.28	59.15
362	362.00	400.00	62.00	3.28	57.48
363	363.00	400.00	63.00	3.28	55.88
364	364.00	400.00	64.00	3.28	54.33
365	365.00	400.00	65.00	3.28	52.84
366	366.00	400.00	66.00	3.28	51.41

367	367.00	400.00	67.00	3.28	50.03
368	368.00	400.00	68.00	3.28	48.71
369	369.00	400.00	69.00	3.28	47.43
370	370.00	400.00	70.00	3.28	46.19
371	371.00	400.00	71.00	3.28	45.01
372	372.00	400.00	72.00	3.28	43.86
373	373.00	400.00	73.00	3.28	42.76
374	374.00	400.00	74.00	3.28	41.69
375	375.00	400.00	75.00	3.28	40.66
376	376.00	400.00	76.00	3.28	39.67
377	377.00	400.00	77.00	3.28	38.71
378	378.00	400.00	78.00	3.28	37.79
379	379.00	400.00	79.00	3.28	36.89
380	380.00	400.00	80.00	3.28	36.03
381	381.00	400.00	81.00	3.28	35.19
382	382.00	400.00	82.00	3.28	34.39
383	383.00	400.00	83.00	3.28	33.61
384	384.00	400.00	84.00	3.28	32.85
385	385.00	400.00	85.00	3.28	32.12
386	386.00	400.00	86.00	3.28	31.41
387	387.00	400.00	87.00	3.28	30.73
388	388.00	400.00	88.00	3.28	30.07
389	389.00	400.00	89.00	3.28	29.42
390	390.00	400.00	90.00	3.28	28.80
391	391.00	400.00	91.00	3.28	28.20
392	392.00	400.00	92.00	3.28	27.61
393	393.00	400.00	93.00	3.28	27.04
394	394.00	400.00	94.00	3.28	26.49
395	395.00	400.00	95.00	3.28	25.96
396	396.00	400.00	96.00	3.28	25.44
397	397.00	400.00	97.00	3.28	24.94
398	398.00	400.00	98.00	3.28	24.45
399	399.00	400.00	99.00	3.28	23.97
400	400.00	400.00	100.00	3.28	23.51
401	401.00	400.00	101.00	3.28	23.06
402	402.00	400.00	102.00	3.28	22.63
403	403.00	400.00	103.00	3.28	22.20
404	404.00	400.00	104.00	3.28	21.79
405	405.00	400.00	105.00	3.28	21.39
406	406.00	400.00	106.00	3.28	21.00
407	407.00	400.00	107.00	3.28	20.62
408	408.00	400.00	108.00	3.28	20.25
409	409.00	400.00	109.00	3.28	19.89
410	410.00	400.00	110.00	3.28	19.54
411	411.00	400.00	111.00	3.28	19.20
412	412.00	400.00	112.00	3.28	18.86
413	413.00	400.00	113.00	3.28	18.54
414	414.00	400.00	114.00	3.28	18.22
415	415.00	400.00	115.00	3.28	17.92
416	416.00	400.00	116.00	3.28	17.62
417	417.00	400.00	117.00	3.28	17.32
418	418.00	400.00	118.00	3.28	17.04
419	419.00	400.00	119.00	3.28	16.76
420	420.00	400.00	120.00	3.28	16.49
421	421.00	400.00	121.00	3.28	16.22
422	422.00	400.00	122.00	3.28	15.96
423	423.00	400.00	123.00	3.28	15.71
424	424.00	400.00	124.00	3.28	15.46
425	425.00	400.00	125.00	3.28	15.22
426	426.00	400.00	126.00	3.28	14.99
427	427.00	400.00	127.00	3.28	14.75
428	428.00	400.00	128.00	3.28	14.53
429	429.00	400.00	129.00	3.28	14.31

430	430.00	400.00	130.00	3.28	14.09
431	431.00	400.00	131.00	3.28	13.88
432	432.00	400.00	132.00	3.28	13.68
433	433.00	400.00	133.00	3.28	13.48
434	434.00	400.00	134.00	3.28	13.28
435	435.00	400.00	135.00	3.28	13.09
436	436.00	400.00	136.00	3.28	12.90
437	437.00	400.00	137.00	3.28	12.72
438	438.00	400.00	138.00	3.28	12.54
439	439.00	400.00	139.00	3.28	12.36
440	440.00	400.00	140.00	3.28	12.19
441	441.00	400.00	141.00	3.28	12.02
442	442.00	400.00	142.00	3.28	11.85
443	443.00	400.00	143.00	3.28	11.69
444	444.00	400.00	144.00	3.28	11.53
445	445.00	400.00	145.00	3.28	11.37
446	446.00	400.00	146.00	3.28	11.22
447	447.00	400.00	147.00	3.28	11.07
448	448.00	400.00	148.00	3.28	10.92
449	449.00	400.00	149.00	3.28	10.78
450	450.00	400.00	150.00	3.28	10.64
451	451.00	400.00	151.00	3.28	10.50
452	452.00	400.00	152.00	3.28	10.37
453	453.00	400.00	153.00	3.28	10.23
454	454.00	400.00	154.00	3.28	10.10
455	455.00	400.00	155.00	3.28	9.97
456	456.00	400.00	156.00	3.28	9.85
457	457.00	400.00	157.00	3.28	9.73
458	458.00	400.00	158.00	3.28	9.61
459	459.00	400.00	159.00	3.28	9.49
460	460.00	400.00	160.00	3.28	9.37
461	461.00	400.00	161.00	3.28	9.26
462	462.00	400.00	162.00	3.28	9.14
463	463.00	400.00	163.00	3.28	9.03
464	464.00	400.00	164.00	3.28	8.92
465	465.00	400.00	165.00	3.28	8.82
466	466.00	400.00	166.00	3.28	8.71
467	467.00	400.00	167.00	3.28	8.61
468	468.00	400.00	168.00	3.28	8.51
469	469.00	400.00	169.00	3.28	8.41
470	470.00	400.00	170.00	3.28	8.31
471	471.00	400.00	171.00	3.28	8.22
472	472.00	400.00	172.00	3.28	8.13
473	473.00	400.00	173.00	3.28	8.03
474	474.00	400.00	174.00	3.28	7.94
475	475.00	400.00	175.00	3.28	7.85
476	476.00	400.00	176.00	3.28	7.77
477	477.00	400.00	177.00	3.28	7.68
478	478.00	400.00	178.00	3.28	7.59
479	479.00	400.00	179.00	3.28	7.51
480	480.00	400.00	180.00	3.28	7.43
481	481.00	400.00	181.00	3.28	7.35
482	482.00	400.00	182.00	3.28	7.27
483	483.00	400.00	183.00	3.28	7.19
484	484.00	400.00	184.00	3.28	7.11
485	485.00	400.00	185.00	3.28	7.04
486	486.00	400.00	186.00	3.28	6.96
487	487.00	400.00	187.00	3.28	6.89
488	488.00	400.00	188.00	3.28	6.82
489	489.00	400.00	189.00	3.28	6.75
490	490.00	400.00	190.00	3.28	6.68
491	491.00	400.00	191.00	3.28	6.61
492	492.00	400.00	192.00	3.28	6.54

493	493.00	400.00	193.00	3.28	6.47
494	494.00	400.00	194.00	3.28	6.41
495	495.00	400.00	195.00	3.28	6.34
496	496.00	400.00	196.00	3.28	6.28
497	497.00	400.00	197.00	3.28	6.22
498	498.00	400.00	198.00	3.28	6.16
499	499.00	400.00	199.00	3.28	6.09
500	500.00	400.00	200.00	3.28	6.03
501	501.00	400.00	201.00	3.28	5.98
502	502.00	400.00	202.00	3.28	5.92
503	503.00	400.00	203.00	3.28	5.86
504	504.00	400.00	204.00	3.28	5.80
505	505.00	400.00	205.00	3.28	5.75
506	506.00	400.00	206.00	3.28	5.69
507	507.00	400.00	207.00	3.28	5.64
508	508.00	400.00	208.00	3.28	5.59
509	509.00	400.00	209.00	3.28	5.53
510	510.00	400.00	210.00	3.28	5.48
511	511.00	400.00	211.00	3.28	5.43
512	512.00	400.00	212.00	3.28	5.38
513	513.00	400.00	213.00	3.28	5.33
514	514.00	400.00	214.00	3.28	5.28
515	515.00	400.00	215.00	3.28	5.23
516	516.00	400.00	216.00	3.28	5.18
517	517.00	400.00	217.00	3.28	5.14
518	518.00	400.00	218.00	3.28	5.09
519	519.00	400.00	219.00	3.28	5.05
520	520.00	400.00	220.00	3.28	5.00
521	521.00	400.00	221.00	3.28	4.96
522	522.00	400.00	222.00	3.28	4.91
523	523.00	400.00	223.00	3.28	4.87
524	524.00	400.00	224.00	3.28	4.83
525	525.00	400.00	225.00	3.28	4.78
526	526.00	400.00	226.00	3.28	4.74
527	527.00	400.00	227.00	3.28	4.70
528	528.00	400.00	228.00	3.28	4.66
529	529.00	400.00	229.00	3.28	4.62
530	530.00	400.00	230.00	3.28	4.58
531	531.00	400.00	231.00	3.28	4.54
532	532.00	400.00	232.00	3.28	4.50
533	533.00	400.00	233.00	3.28	4.46
534	534.00	400.00	234.00	3.28	4.43
535	535.00	400.00	235.00	3.28	4.39
536	536.00	400.00	236.00	3.28	4.35
537	537.00	400.00	237.00	3.28	4.32
538	538.00	400.00	238.00	3.28	4.28
539	539.00	400.00	239.00	3.28	4.25
540	540.00	400.00	240.00	3.28	4.21
541	541.00	400.00	241.00	3.28	4.18
542	542.00	400.00	242.00	3.28	4.14
543	543.00	400.00	243.00	3.28	4.11
544	544.00	400.00	244.00	3.28	4.08
545	545.00	400.00	245.00	3.28	4.04
546	546.00	400.00	246.00	3.28	4.01
547	547.00	400.00	247.00	3.28	3.98
548	548.00	400.00	248.00	3.28	3.95
549	549.00	400.00	249.00	3.28	3.92
550	550.00	400.00	250.00	3.28	3.89
551	551.00	400.00	251.00	3.28	3.86
552	552.00	400.00	252.00	3.28	3.83
553	553.00	400.00	253.00	3.28	3.80
554	554.00	400.00	254.00	3.28	3.77
555	555.00	400.00	255.00	3.28	3.74

556	556.00	400.00	256.00	3.28	3.71
557	557.00	400.00	257.00	3.28	3.68
558	558.00	400.00	258.00	3.28	3.65
559	559.00	400.00	259.00	3.28	3.62
560	560.00	400.00	260.00	3.28	3.60
561	561.00	400.00	261.00	3.28	3.57
562	562.00	400.00	262.00	3.28	3.54
563	563.00	400.00	263.00	3.28	3.52
564	564.00	400.00	264.00	3.28	3.49
565	565.00	400.00	265.00	3.28	3.46
566	566.00	400.00	266.00	3.28	3.44
567	567.00	400.00	267.00	3.28	3.41
568	568.00	400.00	268.00	3.28	3.39
569	569.00	400.00	269.00	3.28	3.36
570	570.00	400.00	270.00	3.28	3.34
571	571.00	400.00	271.00	3.28	3.31
572	572.00	400.00	272.00	3.28	3.29
573	573.00	400.00	273.00	3.28	3.27
574	574.00	400.00	274.00	3.28	3.24
575	575.00	400.00	275.00	3.28	3.22
576	576.00	400.00	276.00	3.28	3.20
577	577.00	400.00	277.00	3.28	3.17
578	578.00	400.00	278.00	3.28	3.15
579	579.00	400.00	279.00	3.28	3.13
580	580.00	400.00	280.00	3.28	3.11
581	581.00	400.00	281.00	3.28	3.09
582	582.00	400.00	282.00	3.28	3.06
583	583.00	400.00	283.00	3.28	3.04
584	584.00	400.00	284.00	3.28	3.02
585	585.00	400.00	285.00	3.28	3.00
586	586.00	400.00	286.00	3.28	2.98
587	587.00	400.00	287.00	3.28	2.96
588	588.00	400.00	288.00	3.28	2.94
589	589.00	400.00	289.00	3.28	2.92
590	590.00	400.00	290.00	3.28	2.90
591	591.00	400.00	291.00	3.28	2.88
592	592.00	400.00	292.00	3.28	2.86
593	593.00	400.00	293.00	3.28	2.84
594	594.00	400.00	294.00	3.28	2.82
595	595.00	400.00	295.00	3.28	2.80
596	596.00	400.00	296.00	3.28	2.79
597	597.00	400.00	297.00	3.28	2.77
598	598.00	400.00	298.00	3.28	2.75
599	599.00	400.00	299.00	3.28	2.73
600	600.00	400.00	300.00	3.28	2.71

Emf Workstation Conductor Data

Total # of Conductors: 5

-6025.00	-22.00	30.00	6825.00	-22.00	30.00	1589.80	0.00
-6025.00	0.00	30.00	6825.00	0.00	30.00	1589.80	-120.00
-6025.00	22.00	30.00	6825.00	22.00	30.00	1589.80	120.00
-6025.00	-17.75	59.45	6825.00	-17.75	59.45	12.31	-149.63
-6025.00	17.75	59.45	6825.00	17.75	59.45	13.03	56.15

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Max Load"

Field Components = Resultant
 Distance units = (ft)
 Magnetic field units = mG

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	4.29
1	1.00	400.00	-299.00	3.28	4.32
2	2.00	400.00	-298.00	3.28	4.35
3	3.00	400.00	-297.00	3.28	4.38
4	4.00	400.00	-296.00	3.28	4.41
5	5.00	400.00	-295.00	3.28	4.44
6	6.00	400.00	-294.00	3.28	4.47
7	7.00	400.00	-293.00	3.28	4.50
8	8.00	400.00	-292.00	3.28	4.53
9	9.00	400.00	-291.00	3.28	4.57
10	10.00	400.00	-290.00	3.28	4.60
11	11.00	400.00	-289.00	3.28	4.63
12	12.00	400.00	-288.00	3.28	4.66
13	13.00	400.00	-287.00	3.28	4.70
14	14.00	400.00	-286.00	3.28	4.73
15	15.00	400.00	-285.00	3.28	4.76
16	16.00	400.00	-284.00	3.28	4.80
17	17.00	400.00	-283.00	3.28	4.83
18	18.00	400.00	-282.00	3.28	4.87
19	19.00	400.00	-281.00	3.28	4.90
20	20.00	400.00	-280.00	3.28	4.94
21	21.00	400.00	-279.00	3.28	4.97
22	22.00	400.00	-278.00	3.28	5.01
23	23.00	400.00	-277.00	3.28	5.04
24	24.00	400.00	-276.00	3.28	5.08
25	25.00	400.00	-275.00	3.28	5.12
26	26.00	400.00	-274.00	3.28	5.16
27	27.00	400.00	-273.00	3.28	5.19
28	28.00	400.00	-272.00	3.28	5.23
29	29.00	400.00	-271.00	3.28	5.27
30	30.00	400.00	-270.00	3.28	5.31
31	31.00	400.00	-269.00	3.28	5.35
32	32.00	400.00	-268.00	3.28	5.39
33	33.00	400.00	-267.00	3.28	5.43
34	34.00	400.00	-266.00	3.28	5.47
35	35.00	400.00	-265.00	3.28	5.52
36	36.00	400.00	-264.00	3.28	5.56
37	37.00	400.00	-263.00	3.28	5.60
38	38.00	400.00	-262.00	3.28	5.64
39	39.00	400.00	-261.00	3.28	5.69
40	40.00	400.00	-260.00	3.28	5.73
41	41.00	400.00	-259.00	3.28	5.78

42	42.00	400.00	-258.00	3.28	5.82
43	43.00	400.00	-257.00	3.28	5.87
44	44.00	400.00	-256.00	3.28	5.91
45	45.00	400.00	-255.00	3.28	5.96
46	46.00	400.00	-254.00	3.28	6.01
47	47.00	400.00	-253.00	3.28	6.06
48	48.00	400.00	-252.00	3.28	6.10
49	49.00	400.00	-251.00	3.28	6.15
50	50.00	400.00	-250.00	3.28	6.20
51	51.00	400.00	-249.00	3.28	6.25
52	52.00	400.00	-248.00	3.28	6.30
53	53.00	400.00	-247.00	3.28	6.36
54	54.00	400.00	-246.00	3.28	6.41
55	55.00	400.00	-245.00	3.28	6.46
56	56.00	400.00	-244.00	3.28	6.51
57	57.00	400.00	-243.00	3.28	6.57
58	58.00	400.00	-242.00	3.28	6.62
59	59.00	400.00	-241.00	3.28	6.68
60	60.00	400.00	-240.00	3.28	6.74
61	61.00	400.00	-239.00	3.28	6.79
62	62.00	400.00	-238.00	3.28	6.85
63	63.00	400.00	-237.00	3.28	6.91
64	64.00	400.00	-236.00	3.28	6.97
65	65.00	400.00	-235.00	3.28	7.03
66	66.00	400.00	-234.00	3.28	7.09
67	67.00	400.00	-233.00	3.28	7.15
68	68.00	400.00	-232.00	3.28	7.21
69	69.00	400.00	-231.00	3.28	7.27
70	70.00	400.00	-230.00	3.28	7.34
71	71.00	400.00	-229.00	3.28	7.40
72	72.00	400.00	-228.00	3.28	7.47
73	73.00	400.00	-227.00	3.28	7.53
74	74.00	400.00	-226.00	3.28	7.60
75	75.00	400.00	-225.00	3.28	7.67
76	76.00	400.00	-224.00	3.28	7.74
77	77.00	400.00	-223.00	3.28	7.81
78	78.00	400.00	-222.00	3.28	7.88
79	79.00	400.00	-221.00	3.28	7.95
80	80.00	400.00	-220.00	3.28	8.02
81	81.00	400.00	-219.00	3.28	8.10
82	82.00	400.00	-218.00	3.28	8.17
83	83.00	400.00	-217.00	3.28	8.25
84	84.00	400.00	-216.00	3.28	8.33
85	85.00	400.00	-215.00	3.28	8.40
86	86.00	400.00	-214.00	3.28	8.48
87	87.00	400.00	-213.00	3.28	8.56
88	88.00	400.00	-212.00	3.28	8.64
89	89.00	400.00	-211.00	3.28	8.73
90	90.00	400.00	-210.00	3.28	8.81
91	91.00	400.00	-209.00	3.28	8.90
92	92.00	400.00	-208.00	3.28	8.98
93	93.00	400.00	-207.00	3.28	9.07
94	94.00	400.00	-206.00	3.28	9.16
95	95.00	400.00	-205.00	3.28	9.25
96	96.00	400.00	-204.00	3.28	9.34
97	97.00	400.00	-203.00	3.28	9.43
98	98.00	400.00	-202.00	3.28	9.53
99	99.00	400.00	-201.00	3.28	9.62
100	100.00	400.00	-200.00	3.28	9.72
101	101.00	400.00	-199.00	3.28	9.82
102	102.00	400.00	-198.00	3.28	9.92
103	103.00	400.00	-197.00	3.28	10.02
104	104.00	400.00	-196.00	3.28	10.12

105	105.00	400.00	-195.00	3.28	10.22
106	106.00	400.00	-194.00	3.28	10.33
107	107.00	400.00	-193.00	3.28	10.44
108	108.00	400.00	-192.00	3.28	10.55
109	109.00	400.00	-191.00	3.28	10.66
110	110.00	400.00	-190.00	3.28	10.77
111	111.00	400.00	-189.00	3.28	10.89
112	112.00	400.00	-188.00	3.28	11.00
113	113.00	400.00	-187.00	3.28	11.12
114	114.00	400.00	-186.00	3.28	11.24
115	115.00	400.00	-185.00	3.28	11.36
116	116.00	400.00	-184.00	3.28	11.49
117	117.00	400.00	-183.00	3.28	11.61
118	118.00	400.00	-182.00	3.28	11.74
119	119.00	400.00	-181.00	3.28	11.87
120	120.00	400.00	-180.00	3.28	12.00
121	121.00	400.00	-179.00	3.28	12.14
122	122.00	400.00	-178.00	3.28	12.28
123	123.00	400.00	-177.00	3.28	12.42
124	124.00	400.00	-176.00	3.28	12.56
125	125.00	400.00	-175.00	3.28	12.70
126	126.00	400.00	-174.00	3.28	12.85
127	127.00	400.00	-173.00	3.28	13.00
128	128.00	400.00	-172.00	3.28	13.15
129	129.00	400.00	-171.00	3.28	13.30
130	130.00	400.00	-170.00	3.28	13.46
131	131.00	400.00	-169.00	3.28	13.62
132	132.00	400.00	-168.00	3.28	13.78
133	133.00	400.00	-167.00	3.28	13.95
134	134.00	400.00	-166.00	3.28	14.12
135	135.00	400.00	-165.00	3.28	14.29
136	136.00	400.00	-164.00	3.28	14.46
137	137.00	400.00	-163.00	3.28	14.64
138	138.00	400.00	-162.00	3.28	14.82
139	139.00	400.00	-161.00	3.28	15.01
140	140.00	400.00	-160.00	3.28	15.20
141	141.00	400.00	-159.00	3.28	15.39
142	142.00	400.00	-158.00	3.28	15.58
143	143.00	400.00	-157.00	3.28	15.78
144	144.00	400.00	-156.00	3.28	15.98
145	145.00	400.00	-155.00	3.28	16.19
146	146.00	400.00	-154.00	3.28	16.40
147	147.00	400.00	-153.00	3.28	16.61
148	148.00	400.00	-152.00	3.28	16.83
149	149.00	400.00	-151.00	3.28	17.06
150	150.00	400.00	-150.00	3.28	17.28
151	151.00	400.00	-149.00	3.28	17.52
152	152.00	400.00	-148.00	3.28	17.75
153	153.00	400.00	-147.00	3.28	17.99
154	154.00	400.00	-146.00	3.28	18.24
155	155.00	400.00	-145.00	3.28	18.49
156	156.00	400.00	-144.00	3.28	18.75
157	157.00	400.00	-143.00	3.28	19.01
158	158.00	400.00	-142.00	3.28	19.28
159	159.00	400.00	-141.00	3.28	19.55
160	160.00	400.00	-140.00	3.28	19.83
161	161.00	400.00	-139.00	3.28	20.12
162	162.00	400.00	-138.00	3.28	20.41
163	163.00	400.00	-137.00	3.28	20.70
164	164.00	400.00	-136.00	3.28	21.01
165	165.00	400.00	-135.00	3.28	21.32
166	166.00	400.00	-134.00	3.28	21.64
167	167.00	400.00	-133.00	3.28	21.96

168	168.00	400.00	-132.00	3.28	22.29
169	169.00	400.00	-131.00	3.28	22.63
170	170.00	400.00	-130.00	3.28	22.98
171	171.00	400.00	-129.00	3.28	23.33
172	172.00	400.00	-128.00	3.28	23.70
173	173.00	400.00	-127.00	3.28	24.07
174	174.00	400.00	-126.00	3.28	24.45
175	175.00	400.00	-125.00	3.28	24.84
176	176.00	400.00	-124.00	3.28	25.23
177	177.00	400.00	-123.00	3.28	25.64
178	178.00	400.00	-122.00	3.28	26.06
179	179.00	400.00	-121.00	3.28	26.49
180	180.00	400.00	-120.00	3.28	26.93
181	181.00	400.00	-119.00	3.28	27.37
182	182.00	400.00	-118.00	3.28	27.83
183	183.00	400.00	-117.00	3.28	28.31
184	184.00	400.00	-116.00	3.28	28.79
185	185.00	400.00	-115.00	3.28	29.29
186	186.00	400.00	-114.00	3.28	29.80
187	187.00	400.00	-113.00	3.28	30.32
188	188.00	400.00	-112.00	3.28	30.85
189	189.00	400.00	-111.00	3.28	31.40
190	190.00	400.00	-110.00	3.28	31.97
191	191.00	400.00	-109.00	3.28	32.55
192	192.00	400.00	-108.00	3.28	33.14
193	193.00	400.00	-107.00	3.28	33.75
194	194.00	400.00	-106.00	3.28	34.38
195	195.00	400.00	-105.00	3.28	35.02
196	196.00	400.00	-104.00	3.28	35.69
197	197.00	400.00	-103.00	3.28	36.37
198	198.00	400.00	-102.00	3.28	37.07
199	199.00	400.00	-101.00	3.28	37.79
200	200.00	400.00	-100.00	3.28	38.53
201	201.00	400.00	-99.00	3.28	39.30
202	202.00	400.00	-98.00	3.28	40.08
203	203.00	400.00	-97.00	3.28	40.89
204	204.00	400.00	-96.00	3.28	41.72
205	205.00	400.00	-95.00	3.28	42.58
206	206.00	400.00	-94.00	3.28	43.47
207	207.00	400.00	-93.00	3.28	44.38
208	208.00	400.00	-92.00	3.28	45.32
209	209.00	400.00	-91.00	3.28	46.29
210	210.00	400.00	-90.00	3.28	47.29
211	211.00	400.00	-89.00	3.28	48.32
212	212.00	400.00	-88.00	3.28	49.38
213	213.00	400.00	-87.00	3.28	50.48
214	214.00	400.00	-86.00	3.28	51.62
215	215.00	400.00	-85.00	3.28	52.79
216	216.00	400.00	-84.00	3.28	54.00
217	217.00	400.00	-83.00	3.28	55.25
218	218.00	400.00	-82.00	3.28	56.54
219	219.00	400.00	-81.00	3.28	57.88
220	220.00	400.00	-80.00	3.28	59.26
221	221.00	400.00	-79.00	3.28	60.69
222	222.00	400.00	-78.00	3.28	62.18
223	223.00	400.00	-77.00	3.28	63.71
224	224.00	400.00	-76.00	3.28	65.30
225	225.00	400.00	-75.00	3.28	66.94
226	226.00	400.00	-74.00	3.28	68.65
227	227.00	400.00	-73.00	3.28	70.42
228	228.00	400.00	-72.00	3.28	72.25
229	229.00	400.00	-71.00	3.28	74.15
230	230.00	400.00	-70.00	3.28	76.12

231	231.00	400.00	-69.00	3.28	78.17
232	232.00	400.00	-68.00	3.28	80.29
233	233.00	400.00	-67.00	3.28	82.49
234	234.00	400.00	-66.00	3.28	84.78
235	235.00	400.00	-65.00	3.28	87.16
236	236.00	400.00	-64.00	3.28	89.63
237	237.00	400.00	-63.00	3.28	92.19
238	238.00	400.00	-62.00	3.28	94.86
239	239.00	400.00	-61.00	3.28	97.63
240	240.00	400.00	-60.00	3.28	100.51
241	241.00	400.00	-59.00	3.28	103.51
242	242.00	400.00	-58.00	3.28	106.62
243	243.00	400.00	-57.00	3.28	109.86
244	244.00	400.00	-56.00	3.28	113.23
245	245.00	400.00	-55.00	3.28	116.74
246	246.00	400.00	-54.00	3.28	120.38
247	247.00	400.00	-53.00	3.28	124.16
248	248.00	400.00	-52.00	3.28	128.10
249	249.00	400.00	-51.00	3.28	132.19
250	250.00	400.00	-50.00	3.28	136.44
251	251.00	400.00	-49.00	3.28	140.85
252	252.00	400.00	-48.00	3.28	145.43
253	253.00	400.00	-47.00	3.28	150.18
254	254.00	400.00	-46.00	3.28	155.10
255	255.00	400.00	-45.00	3.28	160.20
256	256.00	400.00	-44.00	3.28	165.48
257	257.00	400.00	-43.00	3.28	170.93
258	258.00	400.00	-42.00	3.28	176.56
259	259.00	400.00	-41.00	3.28	182.37
260	260.00	400.00	-40.00	3.28	188.34
261	261.00	400.00	-39.00	3.28	194.47
262	262.00	400.00	-38.00	3.28	200.77
263	263.00	400.00	-37.00	3.28	207.20
264	264.00	400.00	-36.00	3.28	213.77
265	265.00	400.00	-35.00	3.28	220.46
266	266.00	400.00	-34.00	3.28	227.24
267	267.00	400.00	-33.00	3.28	234.11
268	268.00	400.00	-32.00	3.28	241.03
269	269.00	400.00	-31.00	3.28	247.98
270	270.00	400.00	-30.00	3.28	254.93
271	271.00	400.00	-29.00	3.28	261.86
272	272.00	400.00	-28.00	3.28	268.74
273	273.00	400.00	-27.00	3.28	275.53
274	274.00	400.00	-26.00	3.28	282.20
275	275.00	400.00	-25.00	3.28	288.72
276	276.00	400.00	-24.00	3.28	295.06
277	277.00	400.00	-23.00	3.28	301.20
278	278.00	400.00	-22.00	3.28	307.11
279	279.00	400.00	-21.00	3.28	312.77
280	280.00	400.00	-20.00	3.28	318.16
281	281.00	400.00	-19.00	3.28	323.26
282	282.00	400.00	-18.00	3.28	328.07
283	283.00	400.00	-17.00	3.28	332.58
284	284.00	400.00	-16.00	3.28	336.78
285	285.00	400.00	-15.00	3.28	340.68
286	286.00	400.00	-14.00	3.28	344.27
287	287.00	400.00	-13.00	3.28	347.57
288	288.00	400.00	-12.00	3.28	350.58
289	289.00	400.00	-11.00	3.28	353.30
290	290.00	400.00	-10.00	3.28	355.76
291	291.00	400.00	-9.00	3.28	357.95
292	292.00	400.00	-8.00	3.28	359.89
293	293.00	400.00	-7.00	3.28	361.58

294	294.00	400.00	-6.00	3.28	363.04
295	295.00	400.00	-5.00	3.28	364.26
296	296.00	400.00	-4.00	3.28	365.26
297	297.00	400.00	-3.00	3.28	366.04
298	298.00	400.00	-2.00	3.28	366.61
299	299.00	400.00	-1.00	3.28	366.96
300	300.00	400.00	0.00	3.28	367.10
301	301.00	400.00	1.00	3.28	367.02
302	302.00	400.00	2.00	3.28	366.74
303	303.00	400.00	3.00	3.28	366.24
304	304.00	400.00	4.00	3.28	365.52
305	305.00	400.00	5.00	3.28	364.58
306	306.00	400.00	6.00	3.28	363.41
307	307.00	400.00	7.00	3.28	362.02
308	308.00	400.00	8.00	3.28	360.38
309	309.00	400.00	9.00	3.28	358.50
310	310.00	400.00	10.00	3.28	356.36
311	311.00	400.00	11.00	3.28	353.96
312	312.00	400.00	12.00	3.28	351.28
313	313.00	400.00	13.00	3.28	348.32
314	314.00	400.00	14.00	3.28	345.07
315	315.00	400.00	15.00	3.28	341.52
316	316.00	400.00	16.00	3.28	337.66
317	317.00	400.00	17.00	3.28	333.50
318	318.00	400.00	18.00	3.28	329.02
319	319.00	400.00	19.00	3.28	324.25
320	320.00	400.00	20.00	3.28	319.18
321	321.00	400.00	21.00	3.28	313.82
322	322.00	400.00	22.00	3.28	308.18
323	323.00	400.00	23.00	3.28	302.30
324	324.00	400.00	24.00	3.28	296.18
325	325.00	400.00	25.00	3.28	289.85
326	326.00	400.00	26.00	3.28	283.34
327	327.00	400.00	27.00	3.28	276.68
328	328.00	400.00	28.00	3.28	269.91
329	329.00	400.00	29.00	3.28	263.04
330	330.00	400.00	30.00	3.28	256.12
331	331.00	400.00	31.00	3.28	249.17
332	332.00	400.00	32.00	3.28	242.22
333	333.00	400.00	33.00	3.28	235.30
334	334.00	400.00	34.00	3.28	228.43
335	335.00	400.00	35.00	3.28	221.64
336	336.00	400.00	36.00	3.28	214.96
337	337.00	400.00	37.00	3.28	208.38
338	338.00	400.00	38.00	3.28	201.94
339	339.00	400.00	39.00	3.28	195.64
340	340.00	400.00	40.00	3.28	189.50
341	341.00	400.00	41.00	3.28	183.52
342	342.00	400.00	42.00	3.28	177.71
343	343.00	400.00	43.00	3.28	172.07
344	344.00	400.00	44.00	3.28	166.61
345	345.00	400.00	45.00	3.28	161.32
346	346.00	400.00	46.00	3.28	156.22
347	347.00	400.00	47.00	3.28	151.28
348	348.00	400.00	48.00	3.28	146.52
349	349.00	400.00	49.00	3.28	141.93
350	350.00	400.00	50.00	3.28	137.51
351	351.00	400.00	51.00	3.28	133.25
352	352.00	400.00	52.00	3.28	129.15
353	353.00	400.00	53.00	3.28	125.20
354	354.00	400.00	54.00	3.28	121.41
355	355.00	400.00	55.00	3.28	117.75
356	356.00	400.00	56.00	3.28	114.24

357	357.00	400.00	57.00	3.28	110.86
358	358.00	400.00	58.00	3.28	107.61
359	359.00	400.00	59.00	3.28	104.48
360	360.00	400.00	60.00	3.28	101.48
361	361.00	400.00	61.00	3.28	98.59
362	362.00	400.00	62.00	3.28	95.80
363	363.00	400.00	63.00	3.28	93.13
364	364.00	400.00	64.00	3.28	90.55
365	365.00	400.00	65.00	3.28	88.07
366	366.00	400.00	66.00	3.28	85.69
367	367.00	400.00	67.00	3.28	83.39
368	368.00	400.00	68.00	3.28	81.17
369	369.00	400.00	69.00	3.28	79.04
370	370.00	400.00	70.00	3.28	76.99
371	371.00	400.00	71.00	3.28	75.01
372	372.00	400.00	72.00	3.28	73.10
373	373.00	400.00	73.00	3.28	71.26
374	374.00	400.00	74.00	3.28	69.48
375	375.00	400.00	75.00	3.28	67.77
376	376.00	400.00	76.00	3.28	66.11
377	377.00	400.00	77.00	3.28	64.52
378	378.00	400.00	78.00	3.28	62.98
379	379.00	400.00	79.00	3.28	61.49
380	380.00	400.00	80.00	3.28	60.05
381	381.00	400.00	81.00	3.28	58.66
382	382.00	400.00	82.00	3.28	57.31
383	383.00	400.00	83.00	3.28	56.01
384	384.00	400.00	84.00	3.28	54.75
385	385.00	400.00	85.00	3.28	53.53
386	386.00	400.00	86.00	3.28	52.35
387	387.00	400.00	87.00	3.28	51.21
388	388.00	400.00	88.00	3.28	50.11
389	389.00	400.00	89.00	3.28	49.04
390	390.00	400.00	90.00	3.28	48.00
391	391.00	400.00	91.00	3.28	46.99
392	392.00	400.00	92.00	3.28	46.02
393	393.00	400.00	93.00	3.28	45.07
394	394.00	400.00	94.00	3.28	44.15
395	395.00	400.00	95.00	3.28	43.26
396	396.00	400.00	96.00	3.28	42.40
397	397.00	400.00	97.00	3.28	41.56
398	398.00	400.00	98.00	3.28	40.74
399	399.00	400.00	99.00	3.28	39.95
400	400.00	400.00	100.00	3.28	39.18
401	401.00	400.00	101.00	3.28	38.44
402	402.00	400.00	102.00	3.28	37.71
403	403.00	400.00	103.00	3.28	37.00
404	404.00	400.00	104.00	3.28	36.32
405	405.00	400.00	105.00	3.28	35.65
406	406.00	400.00	106.00	3.28	35.00
407	407.00	400.00	107.00	3.28	34.36
408	408.00	400.00	108.00	3.28	33.75
409	409.00	400.00	109.00	3.28	33.15
410	410.00	400.00	110.00	3.28	32.56
411	411.00	400.00	111.00	3.28	32.00
412	412.00	400.00	112.00	3.28	31.44
413	413.00	400.00	113.00	3.28	30.90
414	414.00	400.00	114.00	3.28	30.37
415	415.00	400.00	115.00	3.28	29.86
416	416.00	400.00	116.00	3.28	29.36
417	417.00	400.00	117.00	3.28	28.87
418	418.00	400.00	118.00	3.28	28.40
419	419.00	400.00	119.00	3.28	27.93

420	420.00	400.00	120.00	3.28	27.48
421	421.00	400.00	121.00	3.28	27.04
422	422.00	400.00	122.00	3.28	26.60
423	423.00	400.00	123.00	3.28	26.18
424	424.00	400.00	124.00	3.28	25.77
425	425.00	400.00	125.00	3.28	25.37
426	426.00	400.00	126.00	3.28	24.97
427	427.00	400.00	127.00	3.28	24.59
428	428.00	400.00	128.00	3.28	24.22
429	429.00	400.00	129.00	3.28	23.85
430	430.00	400.00	130.00	3.28	23.49
431	431.00	400.00	131.00	3.28	23.14
432	432.00	400.00	132.00	3.28	22.80
433	433.00	400.00	133.00	3.28	22.46
434	434.00	400.00	134.00	3.28	22.13
435	435.00	400.00	135.00	3.28	21.81
436	436.00	400.00	136.00	3.28	21.50
437	437.00	400.00	137.00	3.28	21.19
438	438.00	400.00	138.00	3.28	20.89
439	439.00	400.00	139.00	3.28	20.60
440	440.00	400.00	140.00	3.28	20.31
441	441.00	400.00	141.00	3.28	20.03
442	442.00	400.00	142.00	3.28	19.75
443	443.00	400.00	143.00	3.28	19.48
444	444.00	400.00	144.00	3.28	19.22
445	445.00	400.00	145.00	3.28	18.96
446	446.00	400.00	146.00	3.28	18.70
447	447.00	400.00	147.00	3.28	18.45
448	448.00	400.00	148.00	3.28	18.21
449	449.00	400.00	149.00	3.28	17.97
450	450.00	400.00	150.00	3.28	17.73
451	451.00	400.00	151.00	3.28	17.50
452	452.00	400.00	152.00	3.28	17.28
453	453.00	400.00	153.00	3.28	17.05
454	454.00	400.00	154.00	3.28	16.84
455	455.00	400.00	155.00	3.28	16.62
456	456.00	400.00	156.00	3.28	16.41
457	457.00	400.00	157.00	3.28	16.21
458	458.00	400.00	158.00	3.28	16.01
459	459.00	400.00	159.00	3.28	15.81
460	460.00	400.00	160.00	3.28	15.62
461	461.00	400.00	161.00	3.28	15.43
462	462.00	400.00	162.00	3.28	15.24
463	463.00	400.00	163.00	3.28	15.06
464	464.00	400.00	164.00	3.28	14.87
465	465.00	400.00	165.00	3.28	14.70
466	466.00	400.00	166.00	3.28	14.52
467	467.00	400.00	167.00	3.28	14.35
468	468.00	400.00	168.00	3.28	14.18
469	469.00	400.00	169.00	3.28	14.02
470	470.00	400.00	170.00	3.28	13.86
471	471.00	400.00	171.00	3.28	13.70
472	472.00	400.00	172.00	3.28	13.54
473	473.00	400.00	173.00	3.28	13.39
474	474.00	400.00	174.00	3.28	13.24
475	475.00	400.00	175.00	3.28	13.09
476	476.00	400.00	176.00	3.28	12.94
477	477.00	400.00	177.00	3.28	12.80
478	478.00	400.00	178.00	3.28	12.66
479	479.00	400.00	179.00	3.28	12.52
480	480.00	400.00	180.00	3.28	12.38
481	481.00	400.00	181.00	3.28	12.25
482	482.00	400.00	182.00	3.28	12.11

483	483.00	400.00	183.00	3.28	11.98
484	484.00	400.00	184.00	3.28	11.86
485	485.00	400.00	185.00	3.28	11.73
486	486.00	400.00	186.00	3.28	11.61
487	487.00	400.00	187.00	3.28	11.48
488	488.00	400.00	188.00	3.28	11.36
489	489.00	400.00	189.00	3.28	11.24
490	490.00	400.00	190.00	3.28	11.13
491	491.00	400.00	191.00	3.28	11.01
492	492.00	400.00	192.00	3.28	10.90
493	493.00	400.00	193.00	3.28	10.79
494	494.00	400.00	194.00	3.28	10.68
495	495.00	400.00	195.00	3.28	10.57
496	496.00	400.00	196.00	3.28	10.47
497	497.00	400.00	197.00	3.28	10.36
498	498.00	400.00	198.00	3.28	10.26
499	499.00	400.00	199.00	3.28	10.16
500	500.00	400.00	200.00	3.28	10.06
501	501.00	400.00	201.00	3.28	9.96
502	502.00	400.00	202.00	3.28	9.86
503	503.00	400.00	203.00	3.28	9.77
504	504.00	400.00	204.00	3.28	9.67
505	505.00	400.00	205.00	3.28	9.58
506	506.00	400.00	206.00	3.28	9.49
507	507.00	400.00	207.00	3.28	9.40
508	508.00	400.00	208.00	3.28	9.31
509	509.00	400.00	209.00	3.28	9.22
510	510.00	400.00	210.00	3.28	9.13
511	511.00	400.00	211.00	3.28	9.05
512	512.00	400.00	212.00	3.28	8.96
513	513.00	400.00	213.00	3.28	8.88
514	514.00	400.00	214.00	3.28	8.80
515	515.00	400.00	215.00	3.28	8.72
516	516.00	400.00	216.00	3.28	8.64
517	517.00	400.00	217.00	3.28	8.56
518	518.00	400.00	218.00	3.28	8.48
519	519.00	400.00	219.00	3.28	8.41
520	520.00	400.00	220.00	3.28	8.33
521	521.00	400.00	221.00	3.28	8.26
522	522.00	400.00	222.00	3.28	8.19
523	523.00	400.00	223.00	3.28	8.11
524	524.00	400.00	224.00	3.28	8.04
525	525.00	400.00	225.00	3.28	7.97
526	526.00	400.00	226.00	3.28	7.90
527	527.00	400.00	227.00	3.28	7.83
528	528.00	400.00	228.00	3.28	7.77
529	529.00	400.00	229.00	3.28	7.70
530	530.00	400.00	230.00	3.28	7.63
531	531.00	400.00	231.00	3.28	7.57
532	532.00	400.00	232.00	3.28	7.50
533	533.00	400.00	233.00	3.28	7.44
534	534.00	400.00	234.00	3.28	7.38
535	535.00	400.00	235.00	3.28	7.32
536	536.00	400.00	236.00	3.28	7.26
537	537.00	400.00	237.00	3.28	7.20
538	538.00	400.00	238.00	3.28	7.14
539	539.00	400.00	239.00	3.28	7.08
540	540.00	400.00	240.00	3.28	7.02
541	541.00	400.00	241.00	3.28	6.96
542	542.00	400.00	242.00	3.28	6.90
543	543.00	400.00	243.00	3.28	6.85
544	544.00	400.00	244.00	3.28	6.79
545	545.00	400.00	245.00	3.28	6.74

546	546.00	400.00	246.00	3.28	6.69
547	547.00	400.00	247.00	3.28	6.63
548	548.00	400.00	248.00	3.28	6.58
549	549.00	400.00	249.00	3.28	6.53
550	550.00	400.00	250.00	3.28	6.48
551	551.00	400.00	251.00	3.28	6.43
552	552.00	400.00	252.00	3.28	6.37
553	553.00	400.00	253.00	3.28	6.33
554	554.00	400.00	254.00	3.28	6.28
555	555.00	400.00	255.00	3.28	6.23
556	556.00	400.00	256.00	3.28	6.18
557	557.00	400.00	257.00	3.28	6.13
558	558.00	400.00	258.00	3.28	6.09
559	559.00	400.00	259.00	3.28	6.04
560	560.00	400.00	260.00	3.28	5.99
561	561.00	400.00	261.00	3.28	5.95
562	562.00	400.00	262.00	3.28	5.90
563	563.00	400.00	263.00	3.28	5.86
564	564.00	400.00	264.00	3.28	5.82
565	565.00	400.00	265.00	3.28	5.77
566	566.00	400.00	266.00	3.28	5.73
567	567.00	400.00	267.00	3.28	5.69
568	568.00	400.00	268.00	3.28	5.65
569	569.00	400.00	269.00	3.28	5.61
570	570.00	400.00	270.00	3.28	5.56
571	571.00	400.00	271.00	3.28	5.52
572	572.00	400.00	272.00	3.28	5.48
573	573.00	400.00	273.00	3.28	5.44
574	574.00	400.00	274.00	3.28	5.41
575	575.00	400.00	275.00	3.28	5.37
576	576.00	400.00	276.00	3.28	5.33
577	577.00	400.00	277.00	3.28	5.29
578	578.00	400.00	278.00	3.28	5.25
579	579.00	400.00	279.00	3.28	5.22
580	580.00	400.00	280.00	3.28	5.18
581	581.00	400.00	281.00	3.28	5.14
582	582.00	400.00	282.00	3.28	5.11
583	583.00	400.00	283.00	3.28	5.07
584	584.00	400.00	284.00	3.28	5.04
585	585.00	400.00	285.00	3.28	5.00
586	586.00	400.00	286.00	3.28	4.97
587	587.00	400.00	287.00	3.28	4.93
588	588.00	400.00	288.00	3.28	4.90
589	589.00	400.00	289.00	3.28	4.87
590	590.00	400.00	290.00	3.28	4.83
591	591.00	400.00	291.00	3.28	4.80
592	592.00	400.00	292.00	3.28	4.77
593	593.00	400.00	293.00	3.28	4.74
594	594.00	400.00	294.00	3.28	4.70
595	595.00	400.00	295.00	3.28	4.67
596	596.00	400.00	296.00	3.28	4.64
597	597.00	400.00	297.00	3.28	4.61
598	598.00	400.00	298.00	3.28	4.58
599	599.00	400.00	299.00	3.28	4.55
600	600.00	400.00	300.00	3.28	4.52

RESULTS OF ENVIRO PROGRAM

STUDY FILE NAME: C:\PROGRA~1\EPRI\EMFW_251\ENVIRO\CLEANL~1\345SLATT.I01
 DATE: 3/ 5/2014 TIME: 17:39

345 kV Single Lattice (XS-5)

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*****
*                                     BUNDLE INFORMATION                                     *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | LOAD | CURRENT | # | COORDINATES | PHASE |
| # | # | (kV) | (DEG) | (AMPS) | (DEG) | OF | X | Y |
| # | # | | | | | COND | (FT) | (FT) |
*****
| 1 | 1 | 362.0 | .0 | 953.9 | .0 | 2 | -22.0 | 52.7 | A |
| 2 | 1 | 362.0 | 240.0 | 953.9 | 240.0 | 2 | .0 | 52.7 | B |
| 3 | 1 | 362.0 | 120.0 | 953.9 | 120.0 | 2 | 22.0 | 52.7 | C |
| 4 | 1 | .0 | .0 | .0 | .0 | 1 | -17.8 | 82.1 | GND |
| 5 | 2 | .0 | .0 | .0 | .0 | 1 | 17.8 | 82.1 | GND |
*****
*                                     MINIMUM GROUND CLEARANCE = 52.660 FT.                                     *
*****
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*****
*                                     SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                                     *
*****
| BNDL | DIAMETER | SPACING | DC RESIST. | AC RESIST. | AC REACT. |
| # | (IN) | (IN) | (OHMS/MI) | (OHMS/MI) | (OHMS/MI) |
*****
| 1 | 1.293 | 18.000 | .08300 | .08510 | .380000 |
| 2 | 1.293 | 18.000 | .08300 | .08510 | .380000 |
| 3 | 1.293 | 18.000 | .08300 | .08510 | .380000 |
| 4 | .776 | .000 | .19270 | .19400 | .432000 |
| 5 | .776 | .000 | .19270 | .19400 | .432000 |
*****
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*****
*
* MAXIMUM SURFACE GRADIENT (kV/cm) *
*
*****
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BNDL #	Type	ACrms	PEAK(+)	PEAK(-)
1	AC	14.81	20.95	-20.95
2	AC	16.21	22.92	-22.92
3	AC	14.81	20.95	-20.95
4	Ground Wire	2.49	3.53	-3.53
5	Ground Wire	2.49	3.53	-3.53

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*****
*
*           AUDIBLE NOISE           *
*
* Microphone is 5.00 feet above ground *
*           Altitude 3000. ft       *
*
*****

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<----- HVTRC CALCULATION METHOD ----->

LATERAL DISTANCE		L50 FAIR	L5 RAIN	L50 RAIN	Leq(24)	Ldn
(feet)	(meters)	(dB(A))	(dB(A))	(dB(A))	(dB(A))	(dB(A))
-300.0	-91.44	31.5	49.0	40.5	37.6	44.5
-275.0	-83.82	32.0	49.6	41.0	38.1	45.0
-250.0	-76.20	32.5	50.1	41.6	38.7	45.5
-225.0	-68.58	33.1	50.7	42.2	39.3	46.1
-200.0	-60.96	33.8	51.3	42.8	39.9	46.8
-175.0	-53.34	34.5	52.0	43.5	40.6	47.5
-150.0	-45.72	35.2	52.8	44.3	41.4	48.2
-125.0	-38.10	36.1	53.7	45.2	42.2	49.1
-100.0	-30.48	37.1	54.6	46.1	43.2	50.1
-75.0	-22.86	38.2	55.7	47.2	44.3	51.2
-50.0	-15.24	39.4	56.9	48.4	45.5	52.4
-25.0	-7.62	40.4	58.0	49.5	46.6	53.4
.0	.00	40.9	58.4	50.0	47.0	53.9
25.0	7.62	40.4	58.0	49.5	46.6	53.4
50.0	15.24	39.4	56.9	48.4	45.5	52.4
75.0	22.86	38.2	55.7	47.2	44.3	51.2
100.0	30.48	37.1	54.6	46.1	43.2	50.1
125.0	38.10	36.1	53.7	45.2	42.2	49.1
150.0	45.72	35.2	52.8	44.3	41.4	48.2
175.0	53.34	34.5	52.0	43.5	40.6	47.5
200.0	60.96	33.8	51.3	42.8	39.9	46.8
225.0	68.58	33.1	50.7	42.2	39.3	46.1
250.0	76.20	32.5	50.1	41.6	38.7	45.5
275.0	83.82	32.0	49.6	41.0	38.1	45.0
300.0	91.44	31.5	49.0	40.5	37.6	44.5

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*****
*
*   AUDIBLE NOISE   *
*   (other methods) *
*
* Altitude      3000. ft *
*
*****

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LATERAL DISTANCE		<----- BPA METHOD ----->				<- CRIEPI -->		EdF	ENEL	IREQ
(feet)	(meters)	FAIR WEATHER	L5 RAIN	L50 RAIN	Ldn	AVERAGE FAIR	L5 RAIN	L5 RAIN	L5 RAIN	L5 RAIN
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
-300.0	-91.44	16.1	44.6	41.1	.0	.0	.0	.0	.0	.0
-275.0	-83.82	16.5	45.0	41.5	.0	.0	.0	.0	.0	.0
-250.0	-76.20	16.9	45.4	41.9	.0	.0	.0	.0	.0	.0
-225.0	-68.58	17.4	45.9	42.4	.0	.0	.0	.0	.0	.0
-200.0	-60.96	18.0	46.5	43.0	.0	.0	.0	.0	.0	.0
-175.0	-53.34	18.6	47.1	43.6	.0	.0	.0	.0	.0	.0
-150.0	-45.72	19.3	47.8	44.3	.0	.0	.0	.0	.0	.0
-125.0	-38.10	20.2	48.7	45.2	.0	.0	.0	.0	.0	.0
-100.0	-30.48	21.1	49.6	46.1	.0	.0	.0	.0	.0	.0
-75.0	-22.86	22.2	50.7	47.2	.0	.0	.0	.0	.0	.0
-50.0	-15.24	23.4	51.9	48.4	.0	.0	.0	.0	.0	.0
-25.0	-7.62	24.6	53.1	49.6	.0	.0	.0	.0	.0	.0
.0	.00	25.0	53.5	50.0	.0	.0	.0	.0	.0	.0
25.0	7.62	24.6	53.1	49.6	.0	.0	.0	.0	.0	.0
50.0	15.24	23.4	51.9	48.4	.0	.0	.0	.0	.0	.0
75.0	22.86	22.2	50.7	47.2	.0	.0	.0	.0	.0	.0
100.0	30.48	21.1	49.6	46.1	.0	.0	.0	.0	.0	.0
125.0	38.10	20.2	48.7	45.2	.0	.0	.0	.0	.0	.0
150.0	45.72	19.3	47.8	44.3	.0	.0	.0	.0	.0	.0
175.0	53.34	18.6	47.1	43.6	.0	.0	.0	.0	.0	.0
200.0	60.96	18.0	46.5	43.0	.0	.0	.0	.0	.0	.0
225.0	68.58	17.4	45.9	42.4	.0	.0	.0	.0	.0	.0
250.0	76.20	16.9	45.4	41.9	.0	.0	.0	.0	.0	.0
275.0	83.82	16.5	45.0	41.5	.0	.0	.0	.0	.0	.0
300.0	91.44	16.1	44.6	41.1	.0	.0	.0	.0	.0	.0

Audible noise prediction methods do not apply to all line geometries, voltages, or weather conditions. If a prediction method does not apply, the appropriate output data column will be zeros.

Clean Line - Plains & Eastern
 Config. XS-5: Radio Noise, TVI, and Ozone

Ground Clearance: 30.00 ft

	DIST. FROM CENTER OF TOWER (FEET)	COND. HEIGHT (FEET)	MAXIMUM GRADIENT (KV/CM)	SUBCON. DIAM. (IN)	NO. OF SUBCON.	SUBCON SPACING (IN)	VOLTAGE L-N (KV)	CURRENT (AMPS)	PHASE ANGLE (DEGREES)	CORONA LOSSES (KW/MI)
Phase A	-22.00	30.00	15.09	1.29	2.	18.00	209.00	953.90	.00	9.656
Phase B	.00	30.00	16.24	1.29	2.	18.00	209.00	953.90	120.00	15.533
Phase C	22.00	30.00	15.09	1.29	2.	18.00	209.00	953.90	240.00	9.656
SW-1	-17.75	59.45	2.31	.77	1.	.00	.00	.00	.00	.000
SW-2	17.75	59.45	2.31	.77	1.	.00	.00	.00	.00	.000

AN MICROPHONE HT.= 4.9 FT. RI ANT. HT.= 6.6 FT, TV ANT. HT.= 9.8 FT, ALTITUDE= 3000. FT
 RI FREQ= 1.000 MHZ, TV FREQ= 75.000 MHZ, WIND VEL.(OZ) = 8.500 MPH, GROUND CONDUCTIVITY = .0 MMHOS/M
 E-FIELD TRANSDUCER HT.= 3.28 FT, B-FIELD TRANSDUCER HT.= 3.28 FT

LATERAL DIST FROM REFERENCE (FEET)	ELECTRIC FIELD KV/M	MAGNETIC FIELD MILLIGAUSS	AUDIBLE NOISE (RAIN) (FAIR)		RADIO INTERFERENCE (RAIN) (FAIR)		TVI TOTAL DBUV/M	OZONE FOR RAIN RATE OF	
			L50 DBA	L50 DBA	L50 DBUV/M	L50 DBUV/M		.10 IN/HR	AT GND. PPB
-300.0	.024	2.64	41.6	16.6	33.5	16.5	9.7		.000000
-298.0	.025	2.68	41.6	16.6	33.6	16.6	9.8		.000000
-296.0	.025	2.72	41.6	16.6	33.8	16.8	9.9		.000000
-294.0	.026	2.75	41.7	16.7	33.9	16.9	10.1		.000000
-292.0	.026	2.79	41.7	16.7	34.0	17.0	10.2		.000000
-290.0	.027	2.83	41.7	16.7	34.1	17.1	10.3		.000000
-288.0	.027	2.87	41.8	16.8	34.2	17.2	10.4		.000000
-286.0	.028	2.91	41.8	16.8	34.3	17.3	10.5		.000000
-284.0	.028	2.95	41.8	16.8	34.5	17.5	10.7		.000000
-282.0	.029	2.99	41.9	16.9	34.6	17.6	10.8		.000000
-280.0	.030	3.04	41.9	16.9	34.7	17.7	10.9		.000000
-278.0	.030	3.08	42.0	17.0	34.8	17.8	11.0		.000000
-276.0	.031	3.12	42.0	17.0	35.0	18.0	11.2		.000000
-274.0	.032	3.17	42.0	17.0	35.1	18.1	11.3		.000000
-272.0	.032	3.22	42.1	17.1	35.2	18.2	11.4		.000000
-270.0	.033	3.26	42.1	17.1	35.3	18.3	11.5		.000000
-268.0	.034	3.31	42.1	17.1	35.5	18.5	11.6		.000000
-266.0	.034	3.36	42.2	17.2	35.6	18.6	11.7		.000000
-264.0	.035	3.41	42.2	17.2	35.7	18.7	11.8		.000000
-262.0	.036	3.47	42.2	17.2	35.8	18.8	11.8		.000000
-260.0	.037	3.52	42.3	17.3	36.0	19.0	11.9		.000000
-258.0	.037	3.57	42.3	17.3	36.1	19.1	12.0		.000000
-256.0	.038	3.63	42.4	17.4	36.2	19.2	12.0		.000000
-254.0	.039	3.69	42.4	17.4	36.4	19.4	12.1		.000000
-252.0	.040	3.75	42.4	17.4	36.5	19.5	12.2		.000000
-250.0	.041	3.81	42.5	17.5	36.6	19.6	12.2		.000000
-248.0	.042	3.87	42.5	17.5	36.8	19.8	12.3		.000000
-246.0	.043	3.93	42.6	17.6	36.9	19.9	12.4		.000000
-244.0	.044	3.99	42.6	17.6	37.1	20.1	12.4		.000000
-242.0	.045	4.06	42.6	17.6	37.2	20.2	12.5		.000000
-240.0	.046	4.13	42.7	17.7	37.3	20.3	12.6		.000000
-238.0	.047	4.20	42.7	17.7	37.5	20.5	12.6		.000000
-236.0	.049	4.27	42.8	17.8	37.6	20.6	12.7		.000000
-234.0	.050	4.34	42.8	17.8	37.8	20.8	12.8		.000000
-232.0	.051	4.42	42.8	17.8	37.9	20.9	12.9		.000000
-230.0	.052	4.49	42.9	17.9	38.1	21.1	12.9		.000000
-228.0	.054	4.57	42.9	17.9	38.2	21.2	13.0		.000000
-226.0	.055	4.65	43.0	18.0	38.4	21.4	13.1		.000000
-224.0	.056	4.74	43.0	18.0	38.5	21.5	13.2		.000000
-222.0	.058	4.82	43.1	18.1	38.7	21.7	13.2		.000000
-220.0	.060	4.91	43.1	18.1	38.8	21.8	13.3		.000000
-218.0	.061	5.00	43.2	18.2	39.0	22.0	13.4		.000000
-216.0	.063	5.09	43.2	18.2	39.1	22.1	13.5		.000000
-214.0	.064	5.19	43.2	18.2	39.3	22.3	13.6		.000000
-212.0	.066	5.29	43.3	18.3	39.4	22.4	13.6		.000000
-210.0	.068	5.39	43.3	18.3	39.6	22.6	13.7		.000000
-208.0	.070	5.49	43.4	18.4	39.8	22.8	13.8		.000000
-206.0	.072	5.60	43.4	18.4	39.9	22.9	13.9		.000000
-204.0	.074	5.71	43.5	18.5	40.1	23.1	14.0		.000000
-202.0	.076	5.82	43.5	18.5	40.2	23.2	14.1		.000000
-200.0	.079	5.94	43.6	18.6	40.4	23.4	14.1		.000000
-198.0	.081	6.06	43.6	18.6	40.6	23.6	14.2		.000000
-196.0	.083	6.18	43.7	18.7	40.8	23.8	14.3		.000000
-194.0	.086	6.31	43.7	18.7	40.9	23.9	14.4		.000000

-192.0	.089	6.44	43.8	18.8	41.1	24.1	14.5	.000000
-190.0	.091	6.57	43.8	18.8	41.3	24.3	14.6	.000000
-188.0	.094	6.71	43.9	18.9	41.4	24.4	14.7	.000000
-186.0	.097	6.86	43.9	18.9	41.6	24.6	14.8	.000000
-184.0	.100	7.01	44.0	19.0	41.8	24.8	14.9	.000000
-182.0	.104	7.16	44.0	19.0	42.0	25.0	15.0	.000000
-180.0	.107	7.32	44.1	19.1	42.2	25.2	15.0	.000000
-178.0	.110	7.48	44.1	19.1	42.4	25.4	15.1	.000000
-176.0	.114	7.65	44.2	19.2	42.5	25.5	15.2	.000000
-174.0	.118	7.83	44.3	19.3	42.7	25.7	15.3	.000000
-172.0	.122	8.01	44.3	19.3	42.9	25.9	15.4	.000000
-170.0	.126	8.20	44.4	19.4	43.1	26.1	15.5	.000000
-168.0	.131	8.40	44.4	19.4	43.3	26.3	15.6	.000000
-166.0	.136	8.60	44.5	19.5	43.5	26.5	15.7	.000000
-164.0	.140	8.81	44.6	19.6	43.7	26.7	15.8	.000000
-162.0	.146	9.02	44.6	19.6	43.9	26.9	16.0	.000000
-160.0	.151	9.25	44.7	19.7	44.1	27.1	16.1	.000000
-158.0	.157	9.48	44.7	19.7	44.3	27.3	16.2	.000000
-156.0	.163	9.73	44.8	19.8	44.5	27.5	16.3	.000000
-154.0	.169	9.98	44.9	19.9	44.7	27.7	16.4	.000000
-152.0	.175	10.24	44.9	19.9	45.0	28.0	16.5	.000000
-150.0	.182	10.51	45.0	20.0	45.2	28.2	16.6	.000000
-148.0	.190	10.79	45.1	20.1	45.4	28.4	16.7	.000000
-146.0	.197	11.09	45.1	20.1	45.6	28.6	16.8	.000000
-144.0	.205	11.40	45.2	20.2	45.8	28.8	17.0	.000000
-142.0	.214	11.72	45.3	20.3	46.1	29.1	17.1	.000000
-140.0	.223	12.05	45.3	20.3	46.3	29.3	17.2	.000000
-138.0	.233	12.40	45.4	20.4	46.5	29.5	17.3	.000000
-136.0	.243	12.76	45.5	20.5	46.8	29.8	17.4	.000000
-134.0	.254	13.14	45.5	20.5	47.0	30.0	17.6	.000000
-132.0	.265	13.53	45.6	20.6	47.3	30.3	17.7	.000000
-130.0	.277	13.95	45.7	20.7	47.5	30.5	17.8	.000000
-128.0	.290	14.38	45.8	20.8	47.8	30.8	18.0	.000000
-126.0	.303	14.83	45.8	20.8	48.0	31.0	18.1	.000000
-124.0	.318	15.31	45.9	20.9	48.3	31.3	18.2	.000000
-122.0	.333	15.81	46.0	21.0	48.5	31.5	18.4	.000000
-120.0	.349	16.33	46.1	21.1	48.8	31.8	18.5	.000000
-118.0	.367	16.88	46.2	21.2	49.1	32.1	18.6	.000000
-116.0	.385	17.45	46.2	21.2	49.3	32.3	18.8	.000000
-114.0	.405	18.06	46.3	21.3	49.6	32.6	18.9	.000000
-112.0	.426	18.69	46.4	21.4	49.9	32.9	19.1	.000000
-110.0	.449	19.37	46.5	21.5	50.2	33.2	19.2	.000000
-108.0	.473	20.07	46.6	21.6	50.5	33.5	19.4	.000000
-106.0	.499	20.82	46.7	21.7	50.8	33.8	19.5	.000000
-104.0	.527	21.61	46.8	21.8	51.1	34.1	19.7	.000000
-102.0	.557	22.44	46.9	21.9	51.4	34.4	19.9	.000000
-100.0	.590	23.32	47.0	22.0	51.8	34.8	20.0	.000000
-98.0	.624	24.25	47.1	22.1	52.1	35.1	20.2	.000000
-96.0	.662	25.24	47.2	22.2	52.6	35.6	20.4	.000000
-94.0	.702	26.29	47.3	22.3	53.0	36.0	20.6	.000000
-92.0	.745	27.40	47.4	22.4	53.4	36.4	20.7	.000000
-90.0	.792	28.58	47.5	22.5	53.8	36.8	20.9	.000000
-88.0	.843	29.84	47.6	22.6	54.3	37.3	21.1	.000000
-86.0	.898	31.18	47.7	22.7	54.7	37.7	21.3	.000000
-84.0	.958	32.61	47.8	22.8	55.2	38.2	21.5	.000000
-82.0	1.023	34.14	47.9	22.9	55.7	38.7	21.7	.000000
-80.0	1.094	35.77	48.0	23.0	56.2	39.2	21.9	.000000
-78.0	1.170	37.52	48.2	23.2	56.7	39.7	22.1	.000000
-76.0	1.253	39.39	48.3	23.3	57.2	40.2	22.3	.000000
-74.0	1.344	41.40	48.4	23.4	57.7	40.7	22.5	.000000
-72.0	1.443	43.56	48.5	23.5	58.3	41.3	22.7	.000000
-70.0	1.551	45.87	48.7	23.7	58.8	41.8	23.0	.000000
-68.0	1.668	48.37	48.8	23.8	59.4	42.4	23.2	.000000
-66.0	1.796	51.05	48.9	23.9	60.0	43.0	23.4	.000000
-64.0	1.936	53.95	49.1	24.1	60.6	43.6	23.7	.000000
-62.0	2.088	57.07	49.2	24.2	61.2	44.2	23.9	.000000
-60.0	2.253	60.44	49.4	24.4	61.9	44.9	24.2	.000000
-58.0	2.433	64.09	49.5	24.5	62.5	45.5	24.4	.000000
-56.0	2.627	68.02	49.7	24.7	63.2	46.2	24.7	.000000
-54.0	2.837	72.27	49.8	24.8	63.9	46.9	25.0	.000000
-52.0	3.063	76.85	50.0	25.0	64.6	47.6	25.3	.000000
-50.0	3.305	81.79	50.2	25.2	65.3	48.3	25.6	.000000
-48.0	3.562	87.11	50.3	25.3	66.0	49.0	26.1	.000000
-46.0	3.832	92.81	50.5	25.5	66.7	49.7	26.5	.000000
-44.0	4.113	98.92	50.7	25.7	67.5	50.5	26.9	.000000
-42.0	4.401	105.41	50.8	25.8	68.2	51.2	27.3	.000000
-40.0	4.691	112.29	51.0	26.0	68.9	51.9	27.8	.000000
-38.0	4.975	119.52	51.2	26.2	69.6	52.6	28.2	.000000
-36.0	5.243	127.03	51.4	26.4	70.3	53.3	28.6	.000000
-34.0	5.486	134.76	51.5	26.5	70.9	53.9	29.0	.000000
-32.0	5.690	142.60	51.7	26.7	71.5	54.5	29.4	.000000

-30.0	5.843	150.42	51.9	26.9	72.0	55.0	29.7	.000000
-28.0	5.931	158.07	52.0	27.0	72.4	55.4	29.9	.000000
-26.0	5.944	165.39	52.2	27.2	72.7	55.7	30.1	.000000
-24.0	5.875	172.21	52.3	27.3	72.8	55.8	30.3	.000000
-22.0	5.724	178.38	52.5	27.5	72.9	55.9	30.7	.000000
-20.0	5.495	183.79	52.6	27.6	72.8	55.8	31.1	.000000
-18.0	5.201	188.36	52.7	27.7	72.7	55.7	31.6	.000000
-16.0	4.864	192.04	52.8	27.8	73.4	56.4	32.0	.000000
-14.0	4.510	194.84	52.9	27.9	74.1	57.1	32.4	.000000
-12.0	4.170	196.83	53.0	28.0	74.7	57.7	32.8	.000000
-10.0	3.877	198.11	53.1	28.1	75.3	58.3	33.2	.000000
-8.0	3.655	198.81	53.1	28.1	75.8	58.8	33.5	.000000
-6.0	3.513	199.09	53.2	28.2	76.2	59.2	33.8	.000001
-4.0	3.439	199.13	53.2	28.2	76.5	59.5	34.0	.000006
-2.0	3.409	199.08	53.3	28.3	76.7	59.7	34.1	.000029
.0	3.402	199.04	53.3	28.3	76.7	59.7	34.1	.000100
2.0	3.409	199.08	53.3	28.3	76.7	59.7	34.1	.000258
4.0	3.439	199.13	53.2	28.2	76.5	59.5	34.0	.000547
6.0	3.513	199.09	53.2	28.2	76.2	59.2	33.8	.000998
8.0	3.655	198.81	53.1	28.1	75.8	58.8	33.5	.001624
10.0	3.877	198.11	53.1	28.1	75.3	58.3	33.2	.002424
12.0	4.170	196.83	53.0	28.0	74.7	57.7	32.8	.003379
14.0	4.510	194.84	52.9	27.9	74.1	57.1	32.4	.004465
16.0	4.864	192.04	52.8	27.8	73.4	56.4	32.0	.005649
18.0	5.201	188.36	52.7	27.7	72.7	55.7	31.6	.006908
20.0	5.495	183.79	52.6	27.6	72.8	55.8	31.1	.008238
22.0	5.724	178.38	52.5	27.5	72.9	55.9	30.7	.009666
24.0	5.875	172.21	52.3	27.3	72.8	55.8	30.3	.011246
26.0	5.944	165.39	52.2	27.2	72.7	55.7	30.1	.013038
28.0	5.931	158.07	52.0	27.0	72.4	55.4	29.9	.015087
30.0	5.843	150.42	51.9	26.9	72.0	55.0	29.7	.017411
32.0	5.690	142.60	51.7	26.7	71.5	54.5	29.4	.019996
34.0	5.486	134.76	51.5	26.5	70.9	53.9	29.0	.022807
36.0	5.243	127.03	51.4	26.4	70.3	53.3	28.6	.025790
38.0	4.975	119.52	51.2	26.2	69.6	52.6	28.2	.028889
40.0	4.691	112.29	51.0	26.0	68.9	51.9	27.8	.032048
42.0	4.401	105.41	50.8	25.8	68.2	51.2	27.3	.035227
44.0	4.113	98.92	50.7	25.7	67.5	50.5	26.9	.038408
46.0	3.832	92.81	50.5	25.5	66.7	49.7	26.5	.041594
48.0	3.562	87.11	50.3	25.3	66.0	49.0	26.1	.044795
50.0	3.305	81.79	50.2	25.2	65.3	48.3	25.6	.048022
52.0	3.063	76.85	50.0	25.0	64.6	47.6	25.3	.051272
54.0	2.837	72.27	49.8	24.8	63.9	46.9	25.0	.054534
56.0	2.627	68.02	49.7	24.7	63.2	46.2	24.7	.057784
58.0	2.433	64.09	49.5	24.5	62.5	45.5	24.4	.060995
60.0	2.253	60.44	49.4	24.4	61.9	44.9	24.2	.064138
62.0	2.088	57.07	49.2	24.2	61.2	44.2	23.9	.067185
64.0	1.936	53.95	49.1	24.1	60.6	43.6	23.7	.070111
66.0	1.796	51.05	48.9	23.9	60.0	43.0	23.4	.072896
68.0	1.668	48.37	48.8	23.8	59.4	42.4	23.2	.075526
70.0	1.551	45.87	48.7	23.7	58.8	41.8	23.0	.077991
72.0	1.443	43.56	48.5	23.5	58.3	41.3	22.7	.080285
74.0	1.344	41.40	48.4	23.4	57.7	40.7	22.5	.082406
76.0	1.253	39.39	48.3	23.3	57.2	40.2	22.3	.084355
78.0	1.170	37.52	48.2	23.2	56.7	39.7	22.1	.086135
80.0	1.094	35.77	48.0	23.0	56.2	39.2	21.9	.087750
82.0	1.023	34.14	47.9	22.9	55.7	38.7	21.7	.089209
84.0	.958	32.61	47.8	22.8	55.2	38.2	21.5	.090517
86.0	.898	31.18	47.7	22.7	54.7	37.7	21.3	.091682
88.0	.843	29.84	47.6	22.6	54.3	37.3	21.1	.092713
90.0	.792	28.58	47.5	22.5	53.8	36.8	20.9	.093618
92.0	.745	27.40	47.4	22.4	53.4	36.4	20.7	.094405
94.0	.702	26.29	47.3	22.3	53.0	36.0	20.6	.095083
96.0	.662	25.24	47.2	22.2	52.6	35.6	20.4	.095658
98.0	.624	24.25	47.1	22.1	52.1	35.1	20.2	.096138
100.0	.590	23.32	47.0	22.0	51.8	34.8	20.0	.096531
102.0	.557	22.44	46.9	21.9	51.4	34.4	19.9	.096843
104.0	.527	21.61	46.8	21.8	51.1	34.1	19.7	.097080
106.0	.499	20.82	46.7	21.7	50.8	33.8	19.5	.097249
108.0	.473	20.07	46.6	21.6	50.5	33.5	19.4	.097354
110.0	.449	19.37	46.5	21.5	50.2	33.2	19.2	.097402
112.0	.426	18.69	46.4	21.4	49.9	32.9	19.1	.097396
114.0	.405	18.06	46.3	21.3	49.6	32.6	18.9	.097342
116.0	.385	17.45	46.2	21.2	49.3	32.3	18.8	.097244
118.0	.367	16.88	46.2	21.2	49.1	32.1	18.6	.097104
120.0	.349	16.33	46.1	21.1	48.8	31.8	18.5	.096928
122.0	.333	15.81	46.0	21.0	48.5	31.5	18.4	.096718
124.0	.318	15.31	45.9	20.9	48.3	31.3	18.2	.096477
126.0	.303	14.83	45.8	20.8	48.0	31.0	18.1	.096208
128.0	.290	14.38	45.8	20.8	47.8	30.8	18.0	.095914
130.0	.277	13.95	45.7	20.7	47.5	30.5	17.8	.095597

132.0	.265	13.53	45.6	20.6	47.3	30.3	17.7	.095259
134.0	.254	13.14	45.5	20.5	47.0	30.0	17.6	.094902
136.0	.243	12.76	45.5	20.5	46.8	29.8	17.4	.094529
138.0	.233	12.40	45.4	20.4	46.5	29.5	17.3	.094140
140.0	.223	12.05	45.3	20.3	46.3	29.3	17.2	.093738
142.0	.214	11.72	45.3	20.3	46.1	29.1	17.1	.093324
144.0	.205	11.40	45.2	20.2	45.8	28.8	17.0	.092899
146.0	.197	11.09	45.1	20.1	45.6	28.6	16.8	.092464
148.0	.190	10.79	45.1	20.1	45.4	28.4	16.7	.092021
150.0	.182	10.51	45.0	20.0	45.2	28.2	16.6	.091571
152.0	.175	10.24	44.9	19.9	45.0	28.0	16.5	.091114
154.0	.169	9.98	44.9	19.9	44.7	27.7	16.4	.090652
156.0	.163	9.73	44.8	19.8	44.5	27.5	16.3	.090185
158.0	.157	9.48	44.7	19.7	44.3	27.3	16.2	.089714
160.0	.151	9.25	44.7	19.7	44.1	27.1	16.1	.089240
162.0	.146	9.02	44.6	19.6	43.9	26.9	16.0	.088763
164.0	.140	8.81	44.6	19.6	43.7	26.7	15.8	.088285
166.0	.136	8.60	44.5	19.5	43.5	26.5	15.7	.087804
168.0	.131	8.40	44.4	19.4	43.3	26.3	15.6	.087323
170.0	.126	8.20	44.4	19.4	43.1	26.1	15.5	.086841
172.0	.122	8.01	44.3	19.3	42.9	25.9	15.4	.086359
174.0	.118	7.83	44.3	19.3	42.7	25.7	15.3	.085878
176.0	.114	7.65	44.2	19.2	42.5	25.5	15.2	.085396
178.0	.110	7.48	44.1	19.1	42.4	25.4	15.1	.084916
180.0	.107	7.32	44.1	19.1	42.2	25.2	15.0	.084437
182.0	.104	7.16	44.0	19.0	42.0	25.0	15.0	.083959
184.0	.100	7.01	44.0	19.0	41.8	24.8	14.9	.083483
186.0	.097	6.86	43.9	18.9	41.6	24.6	14.8	.083008
188.0	.094	6.71	43.9	18.9	41.4	24.4	14.7	.082536
190.0	.091	6.57	43.8	18.8	41.3	24.3	14.6	.082066
192.0	.089	6.44	43.8	18.8	41.1	24.1	14.5	.081598
194.0	.086	6.31	43.7	18.7	40.9	23.9	14.4	.081133
196.0	.083	6.18	43.7	18.7	40.8	23.8	14.3	.080671
198.0	.081	6.06	43.6	18.6	40.6	23.6	14.2	.080211
200.0	.079	5.94	43.6	18.6	40.4	23.4	14.1	.079755
202.0	.076	5.82	43.5	18.5	40.2	23.2	14.1	.079301
204.0	.074	5.71	43.5	18.5	40.1	23.1	14.0	.078850
206.0	.072	5.60	43.4	18.4	39.9	22.9	13.9	.078403
208.0	.070	5.49	43.4	18.4	39.8	22.8	13.8	.077959
210.0	.068	5.39	43.3	18.3	39.6	22.6	13.7	.077518
212.0	.066	5.29	43.3	18.3	39.4	22.4	13.6	.077080
214.0	.064	5.19	43.2	18.2	39.3	22.3	13.6	.076646
216.0	.063	5.09	43.2	18.2	39.1	22.1	13.5	.076215
218.0	.061	5.00	43.2	18.2	39.0	22.0	13.4	.075788
220.0	.060	4.91	43.1	18.1	38.8	21.8	13.3	.075364
222.0	.058	4.82	43.1	18.1	38.7	21.7	13.2	.074944
224.0	.056	4.74	43.0	18.0	38.5	21.5	13.2	.074527
226.0	.055	4.65	43.0	18.0	38.4	21.4	13.1	.074113
228.0	.054	4.57	42.9	17.9	38.2	21.2	13.0	.073704
230.0	.052	4.49	42.9	17.9	38.1	21.1	12.9	.073297
232.0	.051	4.42	42.8	17.8	37.9	20.9	12.9	.072894
234.0	.050	4.34	42.8	17.8	37.8	20.8	12.8	.072495
236.0	.049	4.27	42.8	17.8	37.6	20.6	12.7	.072099
238.0	.047	4.20	42.7	17.7	37.5	20.5	12.6	.071707
240.0	.046	4.13	42.7	17.7	37.3	20.3	12.6	.071318
242.0	.045	4.06	42.6	17.6	37.2	20.2	12.5	.070933
244.0	.044	3.99	42.6	17.6	37.1	20.1	12.4	.070551
246.0	.043	3.93	42.6	17.6	36.9	19.9	12.4	.070173
248.0	.042	3.87	42.5	17.5	36.8	19.8	12.3	.069798
250.0	.041	3.81	42.5	17.5	36.6	19.6	12.2	.069427
252.0	.040	3.75	42.4	17.4	36.5	19.5	12.2	.069059
254.0	.039	3.69	42.4	17.4	36.4	19.4	12.1	.068694
256.0	.038	3.63	42.4	17.4	36.2	19.2	12.0	.068333
258.0	.037	3.57	42.3	17.3	36.1	19.1	12.0	.067975
260.0	.037	3.52	42.3	17.3	36.0	19.0	11.9	.067620
262.0	.036	3.47	42.2	17.2	35.8	18.8	11.8	.067269
264.0	.035	3.41	42.2	17.2	35.7	18.7	11.8	.066920
266.0	.034	3.36	42.2	17.2	35.6	18.6	11.7	.066575
268.0	.034	3.31	42.1	17.1	35.5	18.5	11.6	.066234
270.0	.033	3.26	42.1	17.1	35.3	18.3	11.5	.065895
272.0	.032	3.22	42.1	17.1	35.2	18.2	11.4	.065560
274.0	.032	3.17	42.0	17.0	35.1	18.1	11.3	.065227
276.0	.031	3.12	42.0	17.0	35.0	18.0	11.2	.064898
278.0	.030	3.08	42.0	17.0	34.8	17.8	11.0	.064572
280.0	.030	3.04	41.9	16.9	34.7	17.7	10.9	.064249
282.0	.029	2.99	41.9	16.9	34.6	17.6	10.8	.063928
284.0	.028	2.95	41.8	16.8	34.5	17.5	10.7	.063611
286.0	.028	2.91	41.8	16.8	34.3	17.3	10.5	.063297
288.0	.027	2.87	41.8	16.8	34.2	17.2	10.4	.062986
290.0	.027	2.83	41.7	16.7	34.1	17.1	10.3	.062677
292.0	.026	2.79	41.7	16.7	34.0	17.0	10.2	.062371

294.0	.026	2.75	41.7	16.7	33.9	16.9	10.1	.062068
296.0	.025	2.72	41.6	16.6	33.8	16.8	9.9	.061768
298.0	.025	2.68	41.6	16.6	33.6	16.6	9.8	.061471
300.0	.024	2.64	41.6	16.6	33.5	16.5	9.7	.061176

AC TRANSMISSION LINE CALCULATION RESULTS
500kV DOUBLE CIRCUIT MONOPOLE

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XS-6: 500 kV Double Circuit Monopole - Electric and Magnetic Field Calculations
 Emf Workstation Conductor Data

Total # of Conductors: 8

-6025.00	-15.00	92.00	6825.00	-15.00	92.00	1212.40	0.00
-6025.00	-15.00	62.00	6825.00	-15.00	62.00	1212.40	-120.00
-6025.00	-15.00	32.00	6825.00	-15.00	32.00	1212.40	120.00
-6025.00	15.00	32.00	6825.00	15.00	32.00	1212.40	0.00
-6025.00	15.00	62.00	6825.00	15.00	62.00	1212.40	-120.00
-6025.00	15.00	92.00	6825.00	15.00	92.00	1212.40	120.00
-6025.00	-8.50	124.15	6825.00	-8.50	124.15	5.41	-88.51
-6025.00	8.50	124.15	6825.00	8.50	124.15	4.67	-13.92

E-Field HORIZONTAL Profile Chart: "Lateral Profile Electric Field - Average Load(EF)"

Field Components = Resultant
 Distance units = (ft)
 Electric field units = KV/m

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	EF (KV/m)
0	0.00	400.00	-300.00	3.28	0.05
1	1.00	400.00	-299.00	3.28	0.05
2	2.00	400.00	-298.00	3.28	0.05
3	3.00	400.00	-297.00	3.28	0.05
4	4.00	400.00	-296.00	3.28	0.05
5	5.00	400.00	-295.00	3.28	0.05
6	6.00	400.00	-294.00	3.28	0.05
7	7.00	400.00	-293.00	3.28	0.05
8	8.00	400.00	-292.00	3.28	0.05
9	9.00	400.00	-291.00	3.28	0.05
10	10.00	400.00	-290.00	3.28	0.05
11	11.00	400.00	-289.00	3.28	0.05
12	12.00	400.00	-288.00	3.28	0.05
13	13.00	400.00	-287.00	3.28	0.06
14	14.00	400.00	-286.00	3.28	0.06
15	15.00	400.00	-285.00	3.28	0.06
16	16.00	400.00	-284.00	3.28	0.06
17	17.00	400.00	-283.00	3.28	0.06
18	18.00	400.00	-282.00	3.28	0.06
19	19.00	400.00	-281.00	3.28	0.06
20	20.00	400.00	-280.00	3.28	0.06
21	21.00	400.00	-279.00	3.28	0.06
22	22.00	400.00	-278.00	3.28	0.06
23	23.00	400.00	-277.00	3.28	0.06
24	24.00	400.00	-276.00	3.28	0.06
25	25.00	400.00	-275.00	3.28	0.06
26	26.00	400.00	-274.00	3.28	0.06
27	27.00	400.00	-273.00	3.28	0.06
28	28.00	400.00	-272.00	3.28	0.06
29	29.00	400.00	-271.00	3.28	0.06
30	30.00	400.00	-270.00	3.28	0.06
31	31.00	400.00	-269.00	3.28	0.06
32	32.00	400.00	-268.00	3.28	0.06
33	33.00	400.00	-267.00	3.28	0.06
34	34.00	400.00	-266.00	3.28	0.06
35	35.00	400.00	-265.00	3.28	0.06
36	36.00	400.00	-264.00	3.28	0.07

37	37.00	400.00	-263.00	3.28	0.07
38	38.00	400.00	-262.00	3.28	0.07
39	39.00	400.00	-261.00	3.28	0.07
40	40.00	400.00	-260.00	3.28	0.07
41	41.00	400.00	-259.00	3.28	0.07
42	42.00	400.00	-258.00	3.28	0.07
43	43.00	400.00	-257.00	3.28	0.07
44	44.00	400.00	-256.00	3.28	0.07
45	45.00	400.00	-255.00	3.28	0.07
46	46.00	400.00	-254.00	3.28	0.07
47	47.00	400.00	-253.00	3.28	0.07
48	48.00	400.00	-252.00	3.28	0.07
49	49.00	400.00	-251.00	3.28	0.07
50	50.00	400.00	-250.00	3.28	0.07
51	51.00	400.00	-249.00	3.28	0.07
52	52.00	400.00	-248.00	3.28	0.07
53	53.00	400.00	-247.00	3.28	0.07
54	54.00	400.00	-246.00	3.28	0.07
55	55.00	400.00	-245.00	3.28	0.08
56	56.00	400.00	-244.00	3.28	0.08
57	57.00	400.00	-243.00	3.28	0.08
58	58.00	400.00	-242.00	3.28	0.08
59	59.00	400.00	-241.00	3.28	0.08
60	60.00	400.00	-240.00	3.28	0.08
61	61.00	400.00	-239.00	3.28	0.08
62	62.00	400.00	-238.00	3.28	0.08
63	63.00	400.00	-237.00	3.28	0.08
64	64.00	400.00	-236.00	3.28	0.08
65	65.00	400.00	-235.00	3.28	0.08
66	66.00	400.00	-234.00	3.28	0.08
67	67.00	400.00	-233.00	3.28	0.08
68	68.00	400.00	-232.00	3.28	0.08
69	69.00	400.00	-231.00	3.28	0.08
70	70.00	400.00	-230.00	3.28	0.08
71	71.00	400.00	-229.00	3.28	0.08
72	72.00	400.00	-228.00	3.28	0.09
73	73.00	400.00	-227.00	3.28	0.09
74	74.00	400.00	-226.00	3.28	0.09
75	75.00	400.00	-225.00	3.28	0.09
76	76.00	400.00	-224.00	3.28	0.09
77	77.00	400.00	-223.00	3.28	0.09
78	78.00	400.00	-222.00	3.28	0.09
79	79.00	400.00	-221.00	3.28	0.09
80	80.00	400.00	-220.00	3.28	0.09
81	81.00	400.00	-219.00	3.28	0.09
82	82.00	400.00	-218.00	3.28	0.09
83	83.00	400.00	-217.00	3.28	0.09
84	84.00	400.00	-216.00	3.28	0.09
85	85.00	400.00	-215.00	3.28	0.09
86	86.00	400.00	-214.00	3.28	0.10
87	87.00	400.00	-213.00	3.28	0.10
88	88.00	400.00	-212.00	3.28	0.10
89	89.00	400.00	-211.00	3.28	0.10
90	90.00	400.00	-210.00	3.28	0.10
91	91.00	400.00	-209.00	3.28	0.10
92	92.00	400.00	-208.00	3.28	0.10
93	93.00	400.00	-207.00	3.28	0.10
94	94.00	400.00	-206.00	3.28	0.10
95	95.00	400.00	-205.00	3.28	0.10
96	96.00	400.00	-204.00	3.28	0.10
97	97.00	400.00	-203.00	3.28	0.10
98	98.00	400.00	-202.00	3.28	0.10
99	99.00	400.00	-201.00	3.28	0.11

100	100.00	400.00	-200.00	3.28	0.11
101	101.00	400.00	-199.00	3.28	0.11
102	102.00	400.00	-198.00	3.28	0.11
103	103.00	400.00	-197.00	3.28	0.11
104	104.00	400.00	-196.00	3.28	0.11
105	105.00	400.00	-195.00	3.28	0.11
106	106.00	400.00	-194.00	3.28	0.11
107	107.00	400.00	-193.00	3.28	0.11
108	108.00	400.00	-192.00	3.28	0.11
109	109.00	400.00	-191.00	3.28	0.11
110	110.00	400.00	-190.00	3.28	0.11
111	111.00	400.00	-189.00	3.28	0.11
112	112.00	400.00	-188.00	3.28	0.12
113	113.00	400.00	-187.00	3.28	0.12
114	114.00	400.00	-186.00	3.28	0.12
115	115.00	400.00	-185.00	3.28	0.12
116	116.00	400.00	-184.00	3.28	0.12
117	117.00	400.00	-183.00	3.28	0.12
118	118.00	400.00	-182.00	3.28	0.12
119	119.00	400.00	-181.00	3.28	0.12
120	120.00	400.00	-180.00	3.28	0.12
121	121.00	400.00	-179.00	3.28	0.12
122	122.00	400.00	-178.00	3.28	0.12
123	123.00	400.00	-177.00	3.28	0.12
124	124.00	400.00	-176.00	3.28	0.13
125	125.00	400.00	-175.00	3.28	0.13
126	126.00	400.00	-174.00	3.28	0.13
127	127.00	400.00	-173.00	3.28	0.13
128	128.00	400.00	-172.00	3.28	0.13
129	129.00	400.00	-171.00	3.28	0.13
130	130.00	400.00	-170.00	3.28	0.13
131	131.00	400.00	-169.00	3.28	0.13
132	132.00	400.00	-168.00	3.28	0.13
133	133.00	400.00	-167.00	3.28	0.13
134	134.00	400.00	-166.00	3.28	0.13
135	135.00	400.00	-165.00	3.28	0.13
136	136.00	400.00	-164.00	3.28	0.13
137	137.00	400.00	-163.00	3.28	0.13
138	138.00	400.00	-162.00	3.28	0.14
139	139.00	400.00	-161.00	3.28	0.14
140	140.00	400.00	-160.00	3.28	0.14
141	141.00	400.00	-159.00	3.28	0.14
142	142.00	400.00	-158.00	3.28	0.14
143	143.00	400.00	-157.00	3.28	0.14
144	144.00	400.00	-156.00	3.28	0.14
145	145.00	400.00	-155.00	3.28	0.14
146	146.00	400.00	-154.00	3.28	0.14
147	147.00	400.00	-153.00	3.28	0.14
148	148.00	400.00	-152.00	3.28	0.14
149	149.00	400.00	-151.00	3.28	0.14
150	150.00	400.00	-150.00	3.28	0.14
151	151.00	400.00	-149.00	3.28	0.14
152	152.00	400.00	-148.00	3.28	0.14
153	153.00	400.00	-147.00	3.28	0.14
154	154.00	400.00	-146.00	3.28	0.14
155	155.00	400.00	-145.00	3.28	0.14
156	156.00	400.00	-144.00	3.28	0.14
157	157.00	400.00	-143.00	3.28	0.14
158	158.00	400.00	-142.00	3.28	0.14
159	159.00	400.00	-141.00	3.28	0.14
160	160.00	400.00	-140.00	3.28	0.14
161	161.00	400.00	-139.00	3.28	0.14
162	162.00	400.00	-138.00	3.28	0.14

163	163.00	400.00	-137.00	3.28	0.14
164	164.00	400.00	-136.00	3.28	0.14
165	165.00	400.00	-135.00	3.28	0.14
166	166.00	400.00	-134.00	3.28	0.14
167	167.00	400.00	-133.00	3.28	0.14
168	168.00	400.00	-132.00	3.28	0.14
169	169.00	400.00	-131.00	3.28	0.14
170	170.00	400.00	-130.00	3.28	0.14
171	171.00	400.00	-129.00	3.28	0.14
172	172.00	400.00	-128.00	3.28	0.14
173	173.00	400.00	-127.00	3.28	0.14
174	174.00	400.00	-126.00	3.28	0.14
175	175.00	400.00	-125.00	3.28	0.14
176	176.00	400.00	-124.00	3.28	0.14
177	177.00	400.00	-123.00	3.28	0.14
178	178.00	400.00	-122.00	3.28	0.14
179	179.00	400.00	-121.00	3.28	0.14
180	180.00	400.00	-120.00	3.28	0.14
181	181.00	400.00	-119.00	3.28	0.13
182	182.00	400.00	-118.00	3.28	0.13
183	183.00	400.00	-117.00	3.28	0.13
184	184.00	400.00	-116.00	3.28	0.13
185	185.00	400.00	-115.00	3.28	0.13
186	186.00	400.00	-114.00	3.28	0.13
187	187.00	400.00	-113.00	3.28	0.13
188	188.00	400.00	-112.00	3.28	0.13
189	189.00	400.00	-111.00	3.28	0.13
190	190.00	400.00	-110.00	3.28	0.13
191	191.00	400.00	-109.00	3.28	0.13
192	192.00	400.00	-108.00	3.28	0.13
193	193.00	400.00	-107.00	3.28	0.14
194	194.00	400.00	-106.00	3.28	0.14
195	195.00	400.00	-105.00	3.28	0.14
196	196.00	400.00	-104.00	3.28	0.14
197	197.00	400.00	-103.00	3.28	0.15
198	198.00	400.00	-102.00	3.28	0.15
199	199.00	400.00	-101.00	3.28	0.16
200	200.00	400.00	-100.00	3.28	0.16
201	201.00	400.00	-99.00	3.28	0.17
202	202.00	400.00	-98.00	3.28	0.18
203	203.00	400.00	-97.00	3.28	0.19
204	204.00	400.00	-96.00	3.28	0.20
205	205.00	400.00	-95.00	3.28	0.21
206	206.00	400.00	-94.00	3.28	0.22
207	207.00	400.00	-93.00	3.28	0.23
208	208.00	400.00	-92.00	3.28	0.24
209	209.00	400.00	-91.00	3.28	0.26
210	210.00	400.00	-90.00	3.28	0.28
211	211.00	400.00	-89.00	3.28	0.29
212	212.00	400.00	-88.00	3.28	0.31
213	213.00	400.00	-87.00	3.28	0.33
214	214.00	400.00	-86.00	3.28	0.35
215	215.00	400.00	-85.00	3.28	0.37
216	216.00	400.00	-84.00	3.28	0.40
217	217.00	400.00	-83.00	3.28	0.42
218	218.00	400.00	-82.00	3.28	0.45
219	219.00	400.00	-81.00	3.28	0.48
220	220.00	400.00	-80.00	3.28	0.51
221	221.00	400.00	-79.00	3.28	0.54
222	222.00	400.00	-78.00	3.28	0.57
223	223.00	400.00	-77.00	3.28	0.61
224	224.00	400.00	-76.00	3.28	0.65
225	225.00	400.00	-75.00	3.28	0.69

226	226.00	400.00	-74.00	3.28	0.73
227	227.00	400.00	-73.00	3.28	0.77
228	228.00	400.00	-72.00	3.28	0.82
229	229.00	400.00	-71.00	3.28	0.87
230	230.00	400.00	-70.00	3.28	0.92
231	231.00	400.00	-69.00	3.28	0.98
232	232.00	400.00	-68.00	3.28	1.03
233	233.00	400.00	-67.00	3.28	1.10
234	234.00	400.00	-66.00	3.28	1.16
235	235.00	400.00	-65.00	3.28	1.23
236	236.00	400.00	-64.00	3.28	1.30
237	237.00	400.00	-63.00	3.28	1.37
238	238.00	400.00	-62.00	3.28	1.45
239	239.00	400.00	-61.00	3.28	1.54
240	240.00	400.00	-60.00	3.28	1.63
241	241.00	400.00	-59.00	3.28	1.72
242	242.00	400.00	-58.00	3.28	1.82
243	243.00	400.00	-57.00	3.28	1.92
244	244.00	400.00	-56.00	3.28	2.03
245	245.00	400.00	-55.00	3.28	2.14
246	246.00	400.00	-54.00	3.28	2.26
247	247.00	400.00	-53.00	3.28	2.38
248	248.00	400.00	-52.00	3.28	2.52
249	249.00	400.00	-51.00	3.28	2.65
250	250.00	400.00	-50.00	3.28	2.80
251	251.00	400.00	-49.00	3.28	2.95
252	252.00	400.00	-48.00	3.28	3.10
253	253.00	400.00	-47.00	3.28	3.27
254	254.00	400.00	-46.00	3.28	3.44
255	255.00	400.00	-45.00	3.28	3.62
256	256.00	400.00	-44.00	3.28	3.80
257	257.00	400.00	-43.00	3.28	3.99
258	258.00	400.00	-42.00	3.28	4.19
259	259.00	400.00	-41.00	3.28	4.39
260	260.00	400.00	-40.00	3.28	4.60
261	261.00	400.00	-39.00	3.28	4.82
262	262.00	400.00	-38.00	3.28	5.04
263	263.00	400.00	-37.00	3.28	5.26
264	264.00	400.00	-36.00	3.28	5.49
265	265.00	400.00	-35.00	3.28	5.72
266	266.00	400.00	-34.00	3.28	5.95
267	267.00	400.00	-33.00	3.28	6.18
268	268.00	400.00	-32.00	3.28	6.41
269	269.00	400.00	-31.00	3.28	6.64
270	270.00	400.00	-30.00	3.28	6.86
271	271.00	400.00	-29.00	3.28	7.08
272	272.00	400.00	-28.00	3.28	7.28
273	273.00	400.00	-27.00	3.28	7.48
274	274.00	400.00	-26.00	3.28	7.66
275	275.00	400.00	-25.00	3.28	7.83
276	276.00	400.00	-24.00	3.28	7.98
277	277.00	400.00	-23.00	3.28	8.11
278	278.00	400.00	-22.00	3.28	8.21
279	279.00	400.00	-21.00	3.28	8.29
280	280.00	400.00	-20.00	3.28	8.35
281	281.00	400.00	-19.00	3.28	8.38
282	282.00	400.00	-18.00	3.28	8.38
283	283.00	400.00	-17.00	3.28	8.34
284	284.00	400.00	-16.00	3.28	8.28
285	285.00	400.00	-15.00	3.28	8.19
286	286.00	400.00	-14.00	3.28	8.07
287	287.00	400.00	-13.00	3.28	7.93
288	288.00	400.00	-12.00	3.28	7.76

289	289.00	400.00	-11.00	3.28	7.57
290	290.00	400.00	-10.00	3.28	7.36
291	291.00	400.00	-9.00	3.28	7.14
292	292.00	400.00	-8.00	3.28	6.91
293	293.00	400.00	-7.00	3.28	6.69
294	294.00	400.00	-6.00	3.28	6.47
295	295.00	400.00	-5.00	3.28	6.26
296	296.00	400.00	-4.00	3.28	6.08
297	297.00	400.00	-3.00	3.28	5.93
298	298.00	400.00	-2.00	3.28	5.81
299	299.00	400.00	-1.00	3.28	5.74
300	300.00	400.00	0.00	3.28	5.72
301	301.00	400.00	1.00	3.28	5.74
302	302.00	400.00	2.00	3.28	5.81
303	303.00	400.00	3.00	3.28	5.93
304	304.00	400.00	4.00	3.28	6.08
305	305.00	400.00	5.00	3.28	6.26
306	306.00	400.00	6.00	3.28	6.47
307	307.00	400.00	7.00	3.28	6.69
308	308.00	400.00	8.00	3.28	6.91
309	309.00	400.00	9.00	3.28	7.14
310	310.00	400.00	10.00	3.28	7.36
311	311.00	400.00	11.00	3.28	7.57
312	312.00	400.00	12.00	3.28	7.76
313	313.00	400.00	13.00	3.28	7.93
314	314.00	400.00	14.00	3.28	8.07
315	315.00	400.00	15.00	3.28	8.19
316	316.00	400.00	16.00	3.28	8.28
317	317.00	400.00	17.00	3.28	8.34
318	318.00	400.00	18.00	3.28	8.38
319	319.00	400.00	19.00	3.28	8.38
320	320.00	400.00	20.00	3.28	8.35
321	321.00	400.00	21.00	3.28	8.29
322	322.00	400.00	22.00	3.28	8.21
323	323.00	400.00	23.00	3.28	8.11
324	324.00	400.00	24.00	3.28	7.98
325	325.00	400.00	25.00	3.28	7.83
326	326.00	400.00	26.00	3.28	7.66
327	327.00	400.00	27.00	3.28	7.48
328	328.00	400.00	28.00	3.28	7.29
329	329.00	400.00	29.00	3.28	7.08
330	330.00	400.00	30.00	3.28	6.86
331	331.00	400.00	31.00	3.28	6.64
332	332.00	400.00	32.00	3.28	6.41
333	333.00	400.00	33.00	3.28	6.18
334	334.00	400.00	34.00	3.28	5.95
335	335.00	400.00	35.00	3.28	5.72
336	336.00	400.00	36.00	3.28	5.49
337	337.00	400.00	37.00	3.28	5.26
338	338.00	400.00	38.00	3.28	5.04
339	339.00	400.00	39.00	3.28	4.82
340	340.00	400.00	40.00	3.28	4.60
341	341.00	400.00	41.00	3.28	4.39
342	342.00	400.00	42.00	3.28	4.19
343	343.00	400.00	43.00	3.28	3.99
344	344.00	400.00	44.00	3.28	3.80
345	345.00	400.00	45.00	3.28	3.62
346	346.00	400.00	46.00	3.28	3.44
347	347.00	400.00	47.00	3.28	3.27
348	348.00	400.00	48.00	3.28	3.10
349	349.00	400.00	49.00	3.28	2.95
350	350.00	400.00	50.00	3.28	2.80
351	351.00	400.00	51.00	3.28	2.65

352	352.00	400.00	52.00	3.28	2.52
353	353.00	400.00	53.00	3.28	2.38
354	354.00	400.00	54.00	3.28	2.26
355	355.00	400.00	55.00	3.28	2.14
356	356.00	400.00	56.00	3.28	2.03
357	357.00	400.00	57.00	3.28	1.92
358	358.00	400.00	58.00	3.28	1.82
359	359.00	400.00	59.00	3.28	1.72
360	360.00	400.00	60.00	3.28	1.63
361	361.00	400.00	61.00	3.28	1.54
362	362.00	400.00	62.00	3.28	1.45
363	363.00	400.00	63.00	3.28	1.37
364	364.00	400.00	64.00	3.28	1.30
365	365.00	400.00	65.00	3.28	1.23
366	366.00	400.00	66.00	3.28	1.16
367	367.00	400.00	67.00	3.28	1.10
368	368.00	400.00	68.00	3.28	1.03
369	369.00	400.00	69.00	3.28	0.98
370	370.00	400.00	70.00	3.28	0.92
371	371.00	400.00	71.00	3.28	0.87
372	372.00	400.00	72.00	3.28	0.82
373	373.00	400.00	73.00	3.28	0.77
374	374.00	400.00	74.00	3.28	0.73
375	375.00	400.00	75.00	3.28	0.69
376	376.00	400.00	76.00	3.28	0.65
377	377.00	400.00	77.00	3.28	0.61
378	378.00	400.00	78.00	3.28	0.57
379	379.00	400.00	79.00	3.28	0.54
380	380.00	400.00	80.00	3.28	0.51
381	381.00	400.00	81.00	3.28	0.48
382	382.00	400.00	82.00	3.28	0.45
383	383.00	400.00	83.00	3.28	0.42
384	384.00	400.00	84.00	3.28	0.40
385	385.00	400.00	85.00	3.28	0.37
386	386.00	400.00	86.00	3.28	0.35
387	387.00	400.00	87.00	3.28	0.33
388	388.00	400.00	88.00	3.28	0.31
389	389.00	400.00	89.00	3.28	0.29
390	390.00	400.00	90.00	3.28	0.28
391	391.00	400.00	91.00	3.28	0.26
392	392.00	400.00	92.00	3.28	0.24
393	393.00	400.00	93.00	3.28	0.23
394	394.00	400.00	94.00	3.28	0.22
395	395.00	400.00	95.00	3.28	0.21
396	396.00	400.00	96.00	3.28	0.20
397	397.00	400.00	97.00	3.28	0.19
398	398.00	400.00	98.00	3.28	0.18
399	399.00	400.00	99.00	3.28	0.17
400	400.00	400.00	100.00	3.28	0.16
401	401.00	400.00	101.00	3.28	0.16
402	402.00	400.00	102.00	3.28	0.15
403	403.00	400.00	103.00	3.28	0.15
404	404.00	400.00	104.00	3.28	0.14
405	405.00	400.00	105.00	3.28	0.14
406	406.00	400.00	106.00	3.28	0.14
407	407.00	400.00	107.00	3.28	0.14
408	408.00	400.00	108.00	3.28	0.13
409	409.00	400.00	109.00	3.28	0.13
410	410.00	400.00	110.00	3.28	0.13
411	411.00	400.00	111.00	3.28	0.13
412	412.00	400.00	112.00	3.28	0.13
413	413.00	400.00	113.00	3.28	0.13
414	414.00	400.00	114.00	3.28	0.13

415	415.00	400.00	115.00	3.28	0.13
416	416.00	400.00	116.00	3.28	0.13
417	417.00	400.00	117.00	3.28	0.13
418	418.00	400.00	118.00	3.28	0.13
419	419.00	400.00	119.00	3.28	0.13
420	420.00	400.00	120.00	3.28	0.14
421	421.00	400.00	121.00	3.28	0.14
422	422.00	400.00	122.00	3.28	0.14
423	423.00	400.00	123.00	3.28	0.14
424	424.00	400.00	124.00	3.28	0.14
425	425.00	400.00	125.00	3.28	0.14
426	426.00	400.00	126.00	3.28	0.14
427	427.00	400.00	127.00	3.28	0.14
428	428.00	400.00	128.00	3.28	0.14
429	429.00	400.00	129.00	3.28	0.14
430	430.00	400.00	130.00	3.28	0.14
431	431.00	400.00	131.00	3.28	0.14
432	432.00	400.00	132.00	3.28	0.14
433	433.00	400.00	133.00	3.28	0.14
434	434.00	400.00	134.00	3.28	0.14
435	435.00	400.00	135.00	3.28	0.14
436	436.00	400.00	136.00	3.28	0.14
437	437.00	400.00	137.00	3.28	0.14
438	438.00	400.00	138.00	3.28	0.14
439	439.00	400.00	139.00	3.28	0.14
440	440.00	400.00	140.00	3.28	0.14
441	441.00	400.00	141.00	3.28	0.14
442	442.00	400.00	142.00	3.28	0.14
443	443.00	400.00	143.00	3.28	0.14
444	444.00	400.00	144.00	3.28	0.14
445	445.00	400.00	145.00	3.28	0.14
446	446.00	400.00	146.00	3.28	0.14
447	447.00	400.00	147.00	3.28	0.14
448	448.00	400.00	148.00	3.28	0.14
449	449.00	400.00	149.00	3.28	0.14
450	450.00	400.00	150.00	3.28	0.14
451	451.00	400.00	151.00	3.28	0.14
452	452.00	400.00	152.00	3.28	0.14
453	453.00	400.00	153.00	3.28	0.14
454	454.00	400.00	154.00	3.28	0.14
455	455.00	400.00	155.00	3.28	0.14
456	456.00	400.00	156.00	3.28	0.14
457	457.00	400.00	157.00	3.28	0.14
458	458.00	400.00	158.00	3.28	0.14
459	459.00	400.00	159.00	3.28	0.14
460	460.00	400.00	160.00	3.28	0.14
461	461.00	400.00	161.00	3.28	0.14
462	462.00	400.00	162.00	3.28	0.14
463	463.00	400.00	163.00	3.28	0.13
464	464.00	400.00	164.00	3.28	0.13
465	465.00	400.00	165.00	3.28	0.13
466	466.00	400.00	166.00	3.28	0.13
467	467.00	400.00	167.00	3.28	0.13
468	468.00	400.00	168.00	3.28	0.13
469	469.00	400.00	169.00	3.28	0.13
470	470.00	400.00	170.00	3.28	0.13
471	471.00	400.00	171.00	3.28	0.13
472	472.00	400.00	172.00	3.28	0.13
473	473.00	400.00	173.00	3.28	0.13
474	474.00	400.00	174.00	3.28	0.13
475	475.00	400.00	175.00	3.28	0.13
476	476.00	400.00	176.00	3.28	0.13
477	477.00	400.00	177.00	3.28	0.12

478	478.00	400.00	178.00	3.28	0.12
479	479.00	400.00	179.00	3.28	0.12
480	480.00	400.00	180.00	3.28	0.12
481	481.00	400.00	181.00	3.28	0.12
482	482.00	400.00	182.00	3.28	0.12
483	483.00	400.00	183.00	3.28	0.12
484	484.00	400.00	184.00	3.28	0.12
485	485.00	400.00	185.00	3.28	0.12
486	486.00	400.00	186.00	3.28	0.12
487	487.00	400.00	187.00	3.28	0.12
488	488.00	400.00	188.00	3.28	0.12
489	489.00	400.00	189.00	3.28	0.11
490	490.00	400.00	190.00	3.28	0.11
491	491.00	400.00	191.00	3.28	0.11
492	492.00	400.00	192.00	3.28	0.11
493	493.00	400.00	193.00	3.28	0.11
494	494.00	400.00	194.00	3.28	0.11
495	495.00	400.00	195.00	3.28	0.11
496	496.00	400.00	196.00	3.28	0.11
497	497.00	400.00	197.00	3.28	0.11
498	498.00	400.00	198.00	3.28	0.11
499	499.00	400.00	199.00	3.28	0.11
500	500.00	400.00	200.00	3.28	0.11
501	501.00	400.00	201.00	3.28	0.11
502	502.00	400.00	202.00	3.28	0.10
503	503.00	400.00	203.00	3.28	0.10
504	504.00	400.00	204.00	3.28	0.10
505	505.00	400.00	205.00	3.28	0.10
506	506.00	400.00	206.00	3.28	0.10
507	507.00	400.00	207.00	3.28	0.10
508	508.00	400.00	208.00	3.28	0.10
509	509.00	400.00	209.00	3.28	0.10
510	510.00	400.00	210.00	3.28	0.10
511	511.00	400.00	211.00	3.28	0.10
512	512.00	400.00	212.00	3.28	0.10
513	513.00	400.00	213.00	3.28	0.10
514	514.00	400.00	214.00	3.28	0.10
515	515.00	400.00	215.00	3.28	0.09
516	516.00	400.00	216.00	3.28	0.09
517	517.00	400.00	217.00	3.28	0.09
518	518.00	400.00	218.00	3.28	0.09
519	519.00	400.00	219.00	3.28	0.09
520	520.00	400.00	220.00	3.28	0.09
521	521.00	400.00	221.00	3.28	0.09
522	522.00	400.00	222.00	3.28	0.09
523	523.00	400.00	223.00	3.28	0.09
524	524.00	400.00	224.00	3.28	0.09
525	525.00	400.00	225.00	3.28	0.09
526	526.00	400.00	226.00	3.28	0.09
527	527.00	400.00	227.00	3.28	0.09
528	528.00	400.00	228.00	3.28	0.09
529	529.00	400.00	229.00	3.28	0.08
530	530.00	400.00	230.00	3.28	0.08
531	531.00	400.00	231.00	3.28	0.08
532	532.00	400.00	232.00	3.28	0.08
533	533.00	400.00	233.00	3.28	0.08
534	534.00	400.00	234.00	3.28	0.08
535	535.00	400.00	235.00	3.28	0.08
536	536.00	400.00	236.00	3.28	0.08
537	537.00	400.00	237.00	3.28	0.08
538	538.00	400.00	238.00	3.28	0.08
539	539.00	400.00	239.00	3.28	0.08
540	540.00	400.00	240.00	3.28	0.08

541	541.00	400.00	241.00	3.28	0.08
542	542.00	400.00	242.00	3.28	0.08
543	543.00	400.00	243.00	3.28	0.08
544	544.00	400.00	244.00	3.28	0.08
545	545.00	400.00	245.00	3.28	0.08
546	546.00	400.00	246.00	3.28	0.07
547	547.00	400.00	247.00	3.28	0.07
548	548.00	400.00	248.00	3.28	0.07
549	549.00	400.00	249.00	3.28	0.07
550	550.00	400.00	250.00	3.28	0.07
551	551.00	400.00	251.00	3.28	0.07
552	552.00	400.00	252.00	3.28	0.07
553	553.00	400.00	253.00	3.28	0.07
554	554.00	400.00	254.00	3.28	0.07
555	555.00	400.00	255.00	3.28	0.07
556	556.00	400.00	256.00	3.28	0.07
557	557.00	400.00	257.00	3.28	0.07
558	558.00	400.00	258.00	3.28	0.07
559	559.00	400.00	259.00	3.28	0.07
560	560.00	400.00	260.00	3.28	0.07
561	561.00	400.00	261.00	3.28	0.07
562	562.00	400.00	262.00	3.28	0.07
563	563.00	400.00	263.00	3.28	0.07
564	564.00	400.00	264.00	3.28	0.07
565	565.00	400.00	265.00	3.28	0.06
566	566.00	400.00	266.00	3.28	0.06
567	567.00	400.00	267.00	3.28	0.06
568	568.00	400.00	268.00	3.28	0.06
569	569.00	400.00	269.00	3.28	0.06
570	570.00	400.00	270.00	3.28	0.06
571	571.00	400.00	271.00	3.28	0.06
572	572.00	400.00	272.00	3.28	0.06
573	573.00	400.00	273.00	3.28	0.06
574	574.00	400.00	274.00	3.28	0.06
575	575.00	400.00	275.00	3.28	0.06
576	576.00	400.00	276.00	3.28	0.06
577	577.00	400.00	277.00	3.28	0.06
578	578.00	400.00	278.00	3.28	0.06
579	579.00	400.00	279.00	3.28	0.06
580	580.00	400.00	280.00	3.28	0.06
581	581.00	400.00	281.00	3.28	0.06
582	582.00	400.00	282.00	3.28	0.06
583	583.00	400.00	283.00	3.28	0.06
584	584.00	400.00	284.00	3.28	0.06
585	585.00	400.00	285.00	3.28	0.06
586	586.00	400.00	286.00	3.28	0.06
587	587.00	400.00	287.00	3.28	0.06
588	588.00	400.00	288.00	3.28	0.05
589	589.00	400.00	289.00	3.28	0.05
590	590.00	400.00	290.00	3.28	0.05
591	591.00	400.00	291.00	3.28	0.05
592	592.00	400.00	292.00	3.28	0.05
593	593.00	400.00	293.00	3.28	0.05
594	594.00	400.00	294.00	3.28	0.05
595	595.00	400.00	295.00	3.28	0.05
596	596.00	400.00	296.00	3.28	0.05
597	597.00	400.00	297.00	3.28	0.05
598	598.00	400.00	298.00	3.28	0.05
599	599.00	400.00	299.00	3.28	0.05
600	600.00	400.00	300.00	3.28	0.05

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Average Load"

Field Components = Resultant
 Distance units = (ft)
 Magnetic field units = mG

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	1.02
1	1.00	400.00	-299.00	3.28	1.03
2	2.00	400.00	-298.00	3.28	1.04
3	3.00	400.00	-297.00	3.28	1.05
4	4.00	400.00	-296.00	3.28	1.06
5	5.00	400.00	-295.00	3.28	1.07
6	6.00	400.00	-294.00	3.28	1.08
7	7.00	400.00	-293.00	3.28	1.09
8	8.00	400.00	-292.00	3.28	1.10
9	9.00	400.00	-291.00	3.28	1.11
10	10.00	400.00	-290.00	3.28	1.12
11	11.00	400.00	-289.00	3.28	1.13
12	12.00	400.00	-288.00	3.28	1.14
13	13.00	400.00	-287.00	3.28	1.15
14	14.00	400.00	-286.00	3.28	1.16
15	15.00	400.00	-285.00	3.28	1.17
16	16.00	400.00	-284.00	3.28	1.18
17	17.00	400.00	-283.00	3.28	1.20
18	18.00	400.00	-282.00	3.28	1.21
19	19.00	400.00	-281.00	3.28	1.22
20	20.00	400.00	-280.00	3.28	1.23
21	21.00	400.00	-279.00	3.28	1.24
22	22.00	400.00	-278.00	3.28	1.26
23	23.00	400.00	-277.00	3.28	1.27
24	24.00	400.00	-276.00	3.28	1.28
25	25.00	400.00	-275.00	3.28	1.30
26	26.00	400.00	-274.00	3.28	1.31
27	27.00	400.00	-273.00	3.28	1.32
28	28.00	400.00	-272.00	3.28	1.34
29	29.00	400.00	-271.00	3.28	1.35
30	30.00	400.00	-270.00	3.28	1.36
31	31.00	400.00	-269.00	3.28	1.38
32	32.00	400.00	-268.00	3.28	1.39
33	33.00	400.00	-267.00	3.28	1.41
34	34.00	400.00	-266.00	3.28	1.42
35	35.00	400.00	-265.00	3.28	1.44
36	36.00	400.00	-264.00	3.28	1.45
37	37.00	400.00	-263.00	3.28	1.47
38	38.00	400.00	-262.00	3.28	1.48
39	39.00	400.00	-261.00	3.28	1.50
40	40.00	400.00	-260.00	3.28	1.51
41	41.00	400.00	-259.00	3.28	1.53
42	42.00	400.00	-258.00	3.28	1.55
43	43.00	400.00	-257.00	3.28	1.56
44	44.00	400.00	-256.00	3.28	1.58
45	45.00	400.00	-255.00	3.28	1.60
46	46.00	400.00	-254.00	3.28	1.62
47	47.00	400.00	-253.00	3.28	1.63
48	48.00	400.00	-252.00	3.28	1.65
49	49.00	400.00	-251.00	3.28	1.67
50	50.00	400.00	-250.00	3.28	1.69
51	51.00	400.00	-249.00	3.28	1.71

52	52.00	400.00	-248.00	3.28	1.73
53	53.00	400.00	-247.00	3.28	1.75
54	54.00	400.00	-246.00	3.28	1.76
55	55.00	400.00	-245.00	3.28	1.78
56	56.00	400.00	-244.00	3.28	1.81
57	57.00	400.00	-243.00	3.28	1.83
58	58.00	400.00	-242.00	3.28	1.85
59	59.00	400.00	-241.00	3.28	1.87
60	60.00	400.00	-240.00	3.28	1.89
61	61.00	400.00	-239.00	3.28	1.91
62	62.00	400.00	-238.00	3.28	1.93
63	63.00	400.00	-237.00	3.28	1.96
64	64.00	400.00	-236.00	3.28	1.98
65	65.00	400.00	-235.00	3.28	2.00
66	66.00	400.00	-234.00	3.28	2.03
67	67.00	400.00	-233.00	3.28	2.05
68	68.00	400.00	-232.00	3.28	2.07
69	69.00	400.00	-231.00	3.28	2.10
70	70.00	400.00	-230.00	3.28	2.12
71	71.00	400.00	-229.00	3.28	2.15
72	72.00	400.00	-228.00	3.28	2.18
73	73.00	400.00	-227.00	3.28	2.20
74	74.00	400.00	-226.00	3.28	2.23
75	75.00	400.00	-225.00	3.28	2.26
76	76.00	400.00	-224.00	3.28	2.29
77	77.00	400.00	-223.00	3.28	2.31
78	78.00	400.00	-222.00	3.28	2.34
79	79.00	400.00	-221.00	3.28	2.37
80	80.00	400.00	-220.00	3.28	2.40
81	81.00	400.00	-219.00	3.28	2.43
82	82.00	400.00	-218.00	3.28	2.46
83	83.00	400.00	-217.00	3.28	2.49
84	84.00	400.00	-216.00	3.28	2.52
85	85.00	400.00	-215.00	3.28	2.56
86	86.00	400.00	-214.00	3.28	2.59
87	87.00	400.00	-213.00	3.28	2.62
88	88.00	400.00	-212.00	3.28	2.66
89	89.00	400.00	-211.00	3.28	2.69
90	90.00	400.00	-210.00	3.28	2.73
91	91.00	400.00	-209.00	3.28	2.76
92	92.00	400.00	-208.00	3.28	2.80
93	93.00	400.00	-207.00	3.28	2.84
94	94.00	400.00	-206.00	3.28	2.87
95	95.00	400.00	-205.00	3.28	2.91
96	96.00	400.00	-204.00	3.28	2.95
97	97.00	400.00	-203.00	3.28	2.99
98	98.00	400.00	-202.00	3.28	3.03
99	99.00	400.00	-201.00	3.28	3.07
100	100.00	400.00	-200.00	3.28	3.11
101	101.00	400.00	-199.00	3.28	3.16
102	102.00	400.00	-198.00	3.28	3.20
103	103.00	400.00	-197.00	3.28	3.24
104	104.00	400.00	-196.00	3.28	3.29
105	105.00	400.00	-195.00	3.28	3.33
106	106.00	400.00	-194.00	3.28	3.38
107	107.00	400.00	-193.00	3.28	3.43
108	108.00	400.00	-192.00	3.28	3.48
109	109.00	400.00	-191.00	3.28	3.53
110	110.00	400.00	-190.00	3.28	3.58
111	111.00	400.00	-189.00	3.28	3.63
112	112.00	400.00	-188.00	3.28	3.68
113	113.00	400.00	-187.00	3.28	3.73
114	114.00	400.00	-186.00	3.28	3.79

115	115.00	400.00	-185.00	3.28	3.84
116	116.00	400.00	-184.00	3.28	3.90
117	117.00	400.00	-183.00	3.28	3.95
118	118.00	400.00	-182.00	3.28	4.01
119	119.00	400.00	-181.00	3.28	4.07
120	120.00	400.00	-180.00	3.28	4.13
121	121.00	400.00	-179.00	3.28	4.19
122	122.00	400.00	-178.00	3.28	4.26
123	123.00	400.00	-177.00	3.28	4.32
124	124.00	400.00	-176.00	3.28	4.39
125	125.00	400.00	-175.00	3.28	4.45
126	126.00	400.00	-174.00	3.28	4.52
127	127.00	400.00	-173.00	3.28	4.59
128	128.00	400.00	-172.00	3.28	4.66
129	129.00	400.00	-171.00	3.28	4.74
130	130.00	400.00	-170.00	3.28	4.81
131	131.00	400.00	-169.00	3.28	4.88
132	132.00	400.00	-168.00	3.28	4.96
133	133.00	400.00	-167.00	3.28	5.04
134	134.00	400.00	-166.00	3.28	5.12
135	135.00	400.00	-165.00	3.28	5.20
136	136.00	400.00	-164.00	3.28	5.29
137	137.00	400.00	-163.00	3.28	5.37
138	138.00	400.00	-162.00	3.28	5.46
139	139.00	400.00	-161.00	3.28	5.55
140	140.00	400.00	-160.00	3.28	5.64
141	141.00	400.00	-159.00	3.28	5.73
142	142.00	400.00	-158.00	3.28	5.82
143	143.00	400.00	-157.00	3.28	5.92
144	144.00	400.00	-156.00	3.28	6.02
145	145.00	400.00	-155.00	3.28	6.12
146	146.00	400.00	-154.00	3.28	6.22
147	147.00	400.00	-153.00	3.28	6.33
148	148.00	400.00	-152.00	3.28	6.44
149	149.00	400.00	-151.00	3.28	6.55
150	150.00	400.00	-150.00	3.28	6.66
151	151.00	400.00	-149.00	3.28	6.78
152	152.00	400.00	-148.00	3.28	6.89
153	153.00	400.00	-147.00	3.28	7.01
154	154.00	400.00	-146.00	3.28	7.14
155	155.00	400.00	-145.00	3.28	7.26
156	156.00	400.00	-144.00	3.28	7.39
157	157.00	400.00	-143.00	3.28	7.52
158	158.00	400.00	-142.00	3.28	7.66
159	159.00	400.00	-141.00	3.28	7.80
160	160.00	400.00	-140.00	3.28	7.94
161	161.00	400.00	-139.00	3.28	8.08
162	162.00	400.00	-138.00	3.28	8.23
163	163.00	400.00	-137.00	3.28	8.38
164	164.00	400.00	-136.00	3.28	8.54
165	165.00	400.00	-135.00	3.28	8.70
166	166.00	400.00	-134.00	3.28	8.86
167	167.00	400.00	-133.00	3.28	9.03
168	168.00	400.00	-132.00	3.28	9.20
169	169.00	400.00	-131.00	3.28	9.37
170	170.00	400.00	-130.00	3.28	9.55
171	171.00	400.00	-129.00	3.28	9.73
172	172.00	400.00	-128.00	3.28	9.92
173	173.00	400.00	-127.00	3.28	10.11
174	174.00	400.00	-126.00	3.28	10.31
175	175.00	400.00	-125.00	3.28	10.51
176	176.00	400.00	-124.00	3.28	10.72
177	177.00	400.00	-123.00	3.28	10.93

178	178.00	400.00	-122.00	3.28	11.15
179	179.00	400.00	-121.00	3.28	11.38
180	180.00	400.00	-120.00	3.28	11.60
181	181.00	400.00	-119.00	3.28	11.84
182	182.00	400.00	-118.00	3.28	12.08
183	183.00	400.00	-117.00	3.28	12.33
184	184.00	400.00	-116.00	3.28	12.58
185	185.00	400.00	-115.00	3.28	12.84
186	186.00	400.00	-114.00	3.28	13.11
187	187.00	400.00	-113.00	3.28	13.39
188	188.00	400.00	-112.00	3.28	13.67
189	189.00	400.00	-111.00	3.28	13.96
190	190.00	400.00	-110.00	3.28	14.26
191	191.00	400.00	-109.00	3.28	14.56
192	192.00	400.00	-108.00	3.28	14.88
193	193.00	400.00	-107.00	3.28	15.20
194	194.00	400.00	-106.00	3.28	15.53
195	195.00	400.00	-105.00	3.28	15.87
196	196.00	400.00	-104.00	3.28	16.23
197	197.00	400.00	-103.00	3.28	16.59
198	198.00	400.00	-102.00	3.28	16.96
199	199.00	400.00	-101.00	3.28	17.34
200	200.00	400.00	-100.00	3.28	17.73
201	201.00	400.00	-99.00	3.28	18.13
202	202.00	400.00	-98.00	3.28	18.55
203	203.00	400.00	-97.00	3.28	18.97
204	204.00	400.00	-96.00	3.28	19.41
205	205.00	400.00	-95.00	3.28	19.86
206	206.00	400.00	-94.00	3.28	20.33
207	207.00	400.00	-93.00	3.28	20.81
208	208.00	400.00	-92.00	3.28	21.30
209	209.00	400.00	-91.00	3.28	21.81
210	210.00	400.00	-90.00	3.28	22.33
211	211.00	400.00	-89.00	3.28	22.87
212	212.00	400.00	-88.00	3.28	23.42
213	213.00	400.00	-87.00	3.28	24.00
214	214.00	400.00	-86.00	3.28	24.59
215	215.00	400.00	-85.00	3.28	25.19
216	216.00	400.00	-84.00	3.28	25.82
217	217.00	400.00	-83.00	3.28	26.46
218	218.00	400.00	-82.00	3.28	27.13
219	219.00	400.00	-81.00	3.28	27.82
220	220.00	400.00	-80.00	3.28	28.52
221	221.00	400.00	-79.00	3.28	29.25
222	222.00	400.00	-78.00	3.28	30.01
223	223.00	400.00	-77.00	3.28	30.78
224	224.00	400.00	-76.00	3.28	31.59
225	225.00	400.00	-75.00	3.28	32.41
226	226.00	400.00	-74.00	3.28	33.27
227	227.00	400.00	-73.00	3.28	34.15
228	228.00	400.00	-72.00	3.28	35.06
229	229.00	400.00	-71.00	3.28	36.00
230	230.00	400.00	-70.00	3.28	36.98
231	231.00	400.00	-69.00	3.28	37.98
232	232.00	400.00	-68.00	3.28	39.02
233	233.00	400.00	-67.00	3.28	40.09
234	234.00	400.00	-66.00	3.28	41.20
235	235.00	400.00	-65.00	3.28	42.34
236	236.00	400.00	-64.00	3.28	43.52
237	237.00	400.00	-63.00	3.28	44.74
238	238.00	400.00	-62.00	3.28	46.01
239	239.00	400.00	-61.00	3.28	47.31
240	240.00	400.00	-60.00	3.28	48.66

241	241.00	400.00	-59.00	3.28	50.06
242	242.00	400.00	-58.00	3.28	51.50
243	243.00	400.00	-57.00	3.28	53.00
244	244.00	400.00	-56.00	3.28	54.54
245	245.00	400.00	-55.00	3.28	56.13
246	246.00	400.00	-54.00	3.28	57.78
247	247.00	400.00	-53.00	3.28	59.48
248	248.00	400.00	-52.00	3.28	61.25
249	249.00	400.00	-51.00	3.28	63.07
250	250.00	400.00	-50.00	3.28	64.95
251	251.00	400.00	-49.00	3.28	66.89
252	252.00	400.00	-48.00	3.28	68.89
253	253.00	400.00	-47.00	3.28	70.97
254	254.00	400.00	-46.00	3.28	73.10
255	255.00	400.00	-45.00	3.28	75.31
256	256.00	400.00	-44.00	3.28	77.58
257	257.00	400.00	-43.00	3.28	79.92
258	258.00	400.00	-42.00	3.28	82.34
259	259.00	400.00	-41.00	3.28	84.82
260	260.00	400.00	-40.00	3.28	87.37
261	261.00	400.00	-39.00	3.28	89.99
262	262.00	400.00	-38.00	3.28	92.68
263	263.00	400.00	-37.00	3.28	95.44
264	264.00	400.00	-36.00	3.28	98.27
265	265.00	400.00	-35.00	3.28	101.15
266	266.00	400.00	-34.00	3.28	104.10
267	267.00	400.00	-33.00	3.28	107.10
268	268.00	400.00	-32.00	3.28	110.15
269	269.00	400.00	-31.00	3.28	113.24
270	270.00	400.00	-30.00	3.28	116.38
271	271.00	400.00	-29.00	3.28	119.54
272	272.00	400.00	-28.00	3.28	122.72
273	273.00	400.00	-27.00	3.28	125.92
274	274.00	400.00	-26.00	3.28	129.12
275	275.00	400.00	-25.00	3.28	132.30
276	276.00	400.00	-24.00	3.28	135.47
277	277.00	400.00	-23.00	3.28	138.60
278	278.00	400.00	-22.00	3.28	141.69
279	279.00	400.00	-21.00	3.28	144.71
280	280.00	400.00	-20.00	3.28	147.66
281	281.00	400.00	-19.00	3.28	150.53
282	282.00	400.00	-18.00	3.28	153.29
283	283.00	400.00	-17.00	3.28	155.95
284	284.00	400.00	-16.00	3.28	158.48
285	285.00	400.00	-15.00	3.28	160.89
286	286.00	400.00	-14.00	3.28	163.15
287	287.00	400.00	-13.00	3.28	165.27
288	288.00	400.00	-12.00	3.28	167.24
289	289.00	400.00	-11.00	3.28	169.06
290	290.00	400.00	-10.00	3.28	170.71
291	291.00	400.00	-9.00	3.28	172.21
292	292.00	400.00	-8.00	3.28	173.54
293	293.00	400.00	-7.00	3.28	174.72
294	294.00	400.00	-6.00	3.28	175.73
295	295.00	400.00	-5.00	3.28	176.59
296	296.00	400.00	-4.00	3.28	177.30
297	297.00	400.00	-3.00	3.28	177.85
298	298.00	400.00	-2.00	3.28	178.24
299	299.00	400.00	-1.00	3.28	178.49
300	300.00	400.00	0.00	3.28	178.58
301	301.00	400.00	1.00	3.28	178.53
302	302.00	400.00	2.00	3.28	178.32
303	303.00	400.00	3.00	3.28	177.96

304	304.00	400.00	4.00	3.28	177.45
305	305.00	400.00	5.00	3.28	176.78
306	306.00	400.00	6.00	3.28	175.96
307	307.00	400.00	7.00	3.28	174.98
308	308.00	400.00	8.00	3.28	173.84
309	309.00	400.00	9.00	3.28	172.54
310	310.00	400.00	10.00	3.28	171.08
311	311.00	400.00	11.00	3.28	169.45
312	312.00	400.00	12.00	3.28	167.67
313	313.00	400.00	13.00	3.28	165.73
314	314.00	400.00	14.00	3.28	163.63
315	315.00	400.00	15.00	3.28	161.39
316	316.00	400.00	16.00	3.28	159.01
317	317.00	400.00	17.00	3.28	156.50
318	318.00	400.00	18.00	3.28	153.86
319	319.00	400.00	19.00	3.28	151.11
320	320.00	400.00	20.00	3.28	148.26
321	321.00	400.00	21.00	3.28	145.33
322	322.00	400.00	22.00	3.28	142.31
323	323.00	400.00	23.00	3.28	139.24
324	324.00	400.00	24.00	3.28	136.12
325	325.00	400.00	25.00	3.28	132.96
326	326.00	400.00	26.00	3.28	129.78
327	327.00	400.00	27.00	3.28	126.59
328	328.00	400.00	28.00	3.28	123.39
329	329.00	400.00	29.00	3.28	120.21
330	330.00	400.00	30.00	3.28	117.05
331	331.00	400.00	31.00	3.28	113.92
332	332.00	400.00	32.00	3.28	110.82
333	333.00	400.00	33.00	3.28	107.77
334	334.00	400.00	34.00	3.28	104.77
335	335.00	400.00	35.00	3.28	101.82
336	336.00	400.00	36.00	3.28	98.93
337	337.00	400.00	37.00	3.28	96.10
338	338.00	400.00	38.00	3.28	93.34
339	339.00	400.00	39.00	3.28	90.64
340	340.00	400.00	40.00	3.28	88.01
341	341.00	400.00	41.00	3.28	85.45
342	342.00	400.00	42.00	3.28	82.96
343	343.00	400.00	43.00	3.28	80.54
344	344.00	400.00	44.00	3.28	78.19
345	345.00	400.00	45.00	3.28	75.91
346	346.00	400.00	46.00	3.28	73.70
347	347.00	400.00	47.00	3.28	71.56
348	348.00	400.00	48.00	3.28	69.48
349	349.00	400.00	49.00	3.28	67.47
350	350.00	400.00	50.00	3.28	65.52
351	351.00	400.00	51.00	3.28	63.63
352	352.00	400.00	52.00	3.28	61.80
353	353.00	400.00	53.00	3.28	60.03
354	354.00	400.00	54.00	3.28	58.32
355	355.00	400.00	55.00	3.28	56.67
356	356.00	400.00	56.00	3.28	55.07
357	357.00	400.00	57.00	3.28	53.52
358	358.00	400.00	58.00	3.28	52.02
359	359.00	400.00	59.00	3.28	50.57
360	360.00	400.00	60.00	3.28	49.16
361	361.00	400.00	61.00	3.28	47.81
362	362.00	400.00	62.00	3.28	46.49
363	363.00	400.00	63.00	3.28	45.22
364	364.00	400.00	64.00	3.28	43.99
365	365.00	400.00	65.00	3.28	42.81
366	366.00	400.00	66.00	3.28	41.65

367	367.00	400.00	67.00	3.28	40.54
368	368.00	400.00	68.00	3.28	39.46
369	369.00	400.00	69.00	3.28	38.42
370	370.00	400.00	70.00	3.28	37.41
371	371.00	400.00	71.00	3.28	36.43
372	372.00	400.00	72.00	3.28	35.48
373	373.00	400.00	73.00	3.28	34.57
374	374.00	400.00	74.00	3.28	33.68
375	375.00	400.00	75.00	3.28	32.82
376	376.00	400.00	76.00	3.28	31.99
377	377.00	400.00	77.00	3.28	31.18
378	378.00	400.00	78.00	3.28	30.40
379	379.00	400.00	79.00	3.28	29.64
380	380.00	400.00	80.00	3.28	28.90
381	381.00	400.00	81.00	3.28	28.19
382	382.00	400.00	82.00	3.28	27.50
383	383.00	400.00	83.00	3.28	26.83
384	384.00	400.00	84.00	3.28	26.18
385	385.00	400.00	85.00	3.28	25.55
386	386.00	400.00	86.00	3.28	24.93
387	387.00	400.00	87.00	3.28	24.34
388	388.00	400.00	88.00	3.28	23.76
389	389.00	400.00	89.00	3.28	23.20
390	390.00	400.00	90.00	3.28	22.66
391	391.00	400.00	91.00	3.28	22.13
392	392.00	400.00	92.00	3.28	21.62
393	393.00	400.00	93.00	3.28	21.12
394	394.00	400.00	94.00	3.28	20.64
395	395.00	400.00	95.00	3.28	20.17
396	396.00	400.00	96.00	3.28	19.72
397	397.00	400.00	97.00	3.28	19.27
398	398.00	400.00	98.00	3.28	18.84
399	399.00	400.00	99.00	3.28	18.42
400	400.00	400.00	100.00	3.28	18.02
401	401.00	400.00	101.00	3.28	17.62
402	402.00	400.00	102.00	3.28	17.24
403	403.00	400.00	103.00	3.28	16.86
404	404.00	400.00	104.00	3.28	16.50
405	405.00	400.00	105.00	3.28	16.14
406	406.00	400.00	106.00	3.28	15.80
407	407.00	400.00	107.00	3.28	15.46
408	408.00	400.00	108.00	3.28	15.14
409	409.00	400.00	109.00	3.28	14.82
410	410.00	400.00	110.00	3.28	14.51
411	411.00	400.00	111.00	3.28	14.21
412	412.00	400.00	112.00	3.28	13.92
413	413.00	400.00	113.00	3.28	13.63
414	414.00	400.00	114.00	3.28	13.35
415	415.00	400.00	115.00	3.28	13.08
416	416.00	400.00	116.00	3.28	12.82
417	417.00	400.00	117.00	3.28	12.56
418	418.00	400.00	118.00	3.28	12.31
419	419.00	400.00	119.00	3.28	12.07
420	420.00	400.00	120.00	3.28	11.83
421	421.00	400.00	121.00	3.28	11.60
422	422.00	400.00	122.00	3.28	11.37
423	423.00	400.00	123.00	3.28	11.15
424	424.00	400.00	124.00	3.28	10.93
425	425.00	400.00	125.00	3.28	10.72
426	426.00	400.00	126.00	3.28	10.52
427	427.00	400.00	127.00	3.28	10.32
428	428.00	400.00	128.00	3.28	10.12
429	429.00	400.00	129.00	3.28	9.93

430	430.00	400.00	130.00	3.28	9.75
431	431.00	400.00	131.00	3.28	9.57
432	432.00	400.00	132.00	3.28	9.39
433	433.00	400.00	133.00	3.28	9.22
434	434.00	400.00	134.00	3.28	9.05
435	435.00	400.00	135.00	3.28	8.88
436	436.00	400.00	136.00	3.28	8.72
437	437.00	400.00	137.00	3.28	8.56
438	438.00	400.00	138.00	3.28	8.41
439	439.00	400.00	139.00	3.28	8.26
440	440.00	400.00	140.00	3.28	8.11
441	441.00	400.00	141.00	3.28	7.97
442	442.00	400.00	142.00	3.28	7.83
443	443.00	400.00	143.00	3.28	7.69
444	444.00	400.00	144.00	3.28	7.56
445	445.00	400.00	145.00	3.28	7.43
446	446.00	400.00	146.00	3.28	7.30
447	447.00	400.00	147.00	3.28	7.18
448	448.00	400.00	148.00	3.28	7.05
449	449.00	400.00	149.00	3.28	6.93
450	450.00	400.00	150.00	3.28	6.82
451	451.00	400.00	151.00	3.28	6.70
452	452.00	400.00	152.00	3.28	6.59
453	453.00	400.00	153.00	3.28	6.48
454	454.00	400.00	154.00	3.28	6.37
455	455.00	400.00	155.00	3.28	6.27
456	456.00	400.00	156.00	3.28	6.17
457	457.00	400.00	157.00	3.28	6.07
458	458.00	400.00	158.00	3.28	5.97
459	459.00	400.00	159.00	3.28	5.87
460	460.00	400.00	160.00	3.28	5.78
461	461.00	400.00	161.00	3.28	5.69
462	462.00	400.00	162.00	3.28	5.60
463	463.00	400.00	163.00	3.28	5.51
464	464.00	400.00	164.00	3.28	5.42
465	465.00	400.00	165.00	3.28	5.34
466	466.00	400.00	166.00	3.28	5.25
467	467.00	400.00	167.00	3.28	5.17
468	468.00	400.00	168.00	3.28	5.09
469	469.00	400.00	169.00	3.28	5.01
470	470.00	400.00	170.00	3.28	4.94
471	471.00	400.00	171.00	3.28	4.86
472	472.00	400.00	172.00	3.28	4.79
473	473.00	400.00	173.00	3.28	4.71
474	474.00	400.00	174.00	3.28	4.64
475	475.00	400.00	175.00	3.28	4.57
476	476.00	400.00	176.00	3.28	4.51
477	477.00	400.00	177.00	3.28	4.44
478	478.00	400.00	178.00	3.28	4.37
479	479.00	400.00	179.00	3.28	4.31
480	480.00	400.00	180.00	3.28	4.25
481	481.00	400.00	181.00	3.28	4.19
482	482.00	400.00	182.00	3.28	4.12
483	483.00	400.00	183.00	3.28	4.07
484	484.00	400.00	184.00	3.28	4.01
485	485.00	400.00	185.00	3.28	3.95
486	486.00	400.00	186.00	3.28	3.89
487	487.00	400.00	187.00	3.28	3.84
488	488.00	400.00	188.00	3.28	3.78
489	489.00	400.00	189.00	3.28	3.73
490	490.00	400.00	190.00	3.28	3.68
491	491.00	400.00	191.00	3.28	3.63
492	492.00	400.00	192.00	3.28	3.58

493	493.00	400.00	193.00	3.28	3.53
494	494.00	400.00	194.00	3.28	3.48
495	495.00	400.00	195.00	3.28	3.43
496	496.00	400.00	196.00	3.28	3.39
497	497.00	400.00	197.00	3.28	3.34
498	498.00	400.00	198.00	3.28	3.30
499	499.00	400.00	199.00	3.28	3.25
500	500.00	400.00	200.00	3.28	3.21
501	501.00	400.00	201.00	3.28	3.17
502	502.00	400.00	202.00	3.28	3.12
503	503.00	400.00	203.00	3.28	3.08
504	504.00	400.00	204.00	3.28	3.04
505	505.00	400.00	205.00	3.28	3.00
506	506.00	400.00	206.00	3.28	2.96
507	507.00	400.00	207.00	3.28	2.92
508	508.00	400.00	208.00	3.28	2.89
509	509.00	400.00	209.00	3.28	2.85
510	510.00	400.00	210.00	3.28	2.81
511	511.00	400.00	211.00	3.28	2.78
512	512.00	400.00	212.00	3.28	2.74
513	513.00	400.00	213.00	3.28	2.71
514	514.00	400.00	214.00	3.28	2.67
515	515.00	400.00	215.00	3.28	2.64
516	516.00	400.00	216.00	3.28	2.61
517	517.00	400.00	217.00	3.28	2.57
518	518.00	400.00	218.00	3.28	2.54
519	519.00	400.00	219.00	3.28	2.51
520	520.00	400.00	220.00	3.28	2.48
521	521.00	400.00	221.00	3.28	2.45
522	522.00	400.00	222.00	3.28	2.42
523	523.00	400.00	223.00	3.28	2.39
524	524.00	400.00	224.00	3.28	2.36
525	525.00	400.00	225.00	3.28	2.33
526	526.00	400.00	226.00	3.28	2.31
527	527.00	400.00	227.00	3.28	2.28
528	528.00	400.00	228.00	3.28	2.25
529	529.00	400.00	229.00	3.28	2.22
530	530.00	400.00	230.00	3.28	2.20
531	531.00	400.00	231.00	3.28	2.17
532	532.00	400.00	232.00	3.28	2.15
533	533.00	400.00	233.00	3.28	2.12
534	534.00	400.00	234.00	3.28	2.10
535	535.00	400.00	235.00	3.28	2.07
536	536.00	400.00	236.00	3.28	2.05
537	537.00	400.00	237.00	3.28	2.03
538	538.00	400.00	238.00	3.28	2.00
539	539.00	400.00	239.00	3.28	1.98
540	540.00	400.00	240.00	3.28	1.96
541	541.00	400.00	241.00	3.28	1.93
542	542.00	400.00	242.00	3.28	1.91
543	543.00	400.00	243.00	3.28	1.89
544	544.00	400.00	244.00	3.28	1.87
545	545.00	400.00	245.00	3.28	1.85
546	546.00	400.00	246.00	3.28	1.83
547	547.00	400.00	247.00	3.28	1.81
548	548.00	400.00	248.00	3.28	1.79
549	549.00	400.00	249.00	3.28	1.77
550	550.00	400.00	250.00	3.28	1.75
551	551.00	400.00	251.00	3.28	1.73
552	552.00	400.00	252.00	3.28	1.71
553	553.00	400.00	253.00	3.28	1.69
554	554.00	400.00	254.00	3.28	1.68
555	555.00	400.00	255.00	3.28	1.66

556	556.00	400.00	256.00	3.28	1.64
557	557.00	400.00	257.00	3.28	1.62
558	558.00	400.00	258.00	3.28	1.61
559	559.00	400.00	259.00	3.28	1.59
560	560.00	400.00	260.00	3.28	1.57
561	561.00	400.00	261.00	3.28	1.56
562	562.00	400.00	262.00	3.28	1.54
563	563.00	400.00	263.00	3.28	1.52
564	564.00	400.00	264.00	3.28	1.51
565	565.00	400.00	265.00	3.28	1.49
566	566.00	400.00	266.00	3.28	1.48
567	567.00	400.00	267.00	3.28	1.46
568	568.00	400.00	268.00	3.28	1.45
569	569.00	400.00	269.00	3.28	1.43
570	570.00	400.00	270.00	3.28	1.42
571	571.00	400.00	271.00	3.28	1.40
572	572.00	400.00	272.00	3.28	1.39
573	573.00	400.00	273.00	3.28	1.37
574	574.00	400.00	274.00	3.28	1.36
575	575.00	400.00	275.00	3.28	1.35
576	576.00	400.00	276.00	3.28	1.33
577	577.00	400.00	277.00	3.28	1.32
578	578.00	400.00	278.00	3.28	1.31
579	579.00	400.00	279.00	3.28	1.29
580	580.00	400.00	280.00	3.28	1.28
581	581.00	400.00	281.00	3.28	1.27
582	582.00	400.00	282.00	3.28	1.26
583	583.00	400.00	283.00	3.28	1.25
584	584.00	400.00	284.00	3.28	1.23
585	585.00	400.00	285.00	3.28	1.22
586	586.00	400.00	286.00	3.28	1.21
587	587.00	400.00	287.00	3.28	1.20
588	588.00	400.00	288.00	3.28	1.19
589	589.00	400.00	289.00	3.28	1.18
590	590.00	400.00	290.00	3.28	1.16
591	591.00	400.00	291.00	3.28	1.15
592	592.00	400.00	292.00	3.28	1.14
593	593.00	400.00	293.00	3.28	1.13
594	594.00	400.00	294.00	3.28	1.12
595	595.00	400.00	295.00	3.28	1.11
596	596.00	400.00	296.00	3.28	1.10
597	597.00	400.00	297.00	3.28	1.09
598	598.00	400.00	298.00	3.28	1.08
599	599.00	400.00	299.00	3.28	1.07
600	600.00	400.00	300.00	3.28	1.06

Emf Workstation Conductor Data

Total # of Conductors: 8

-6025.00	-15.00	92.00	6825.00	-15.00	92.00	2020.70	0.00
-6025.00	-15.00	62.00	6825.00	-15.00	62.00	2020.70	-120.00
-6025.00	-15.00	32.00	6825.00	-15.00	32.00	2020.70	120.00
-6025.00	15.00	32.00	6825.00	15.00	32.00	2020.70	0.00
-6025.00	15.00	62.00	6825.00	15.00	62.00	2020.70	-120.00
-6025.00	15.00	92.00	6825.00	15.00	92.00	2020.70	120.00
-6025.00	-8.50	124.15	6825.00	-8.50	124.15	9.02	-88.51
-6025.00	8.50	124.15	6825.00	8.50	124.15	7.78	-13.92

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Max Load"

Field Components = Resultant

Distance units = (ft)

Magnetic field units = mG

Spacing = 1.00(ft)

Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	1.70
1	1.00	400.00	-299.00	3.28	1.71
2	2.00	400.00	-298.00	3.28	1.73
3	3.00	400.00	-297.00	3.28	1.74
4	4.00	400.00	-296.00	3.28	1.76
5	5.00	400.00	-295.00	3.28	1.78
6	6.00	400.00	-294.00	3.28	1.79
7	7.00	400.00	-293.00	3.28	1.81
8	8.00	400.00	-292.00	3.28	1.83
9	9.00	400.00	-291.00	3.28	1.85
10	10.00	400.00	-290.00	3.28	1.86
11	11.00	400.00	-289.00	3.28	1.88
12	12.00	400.00	-288.00	3.28	1.90
13	13.00	400.00	-287.00	3.28	1.92
14	14.00	400.00	-286.00	3.28	1.94
15	15.00	400.00	-285.00	3.28	1.96
16	16.00	400.00	-284.00	3.28	1.97
17	17.00	400.00	-283.00	3.28	1.99
18	18.00	400.00	-282.00	3.28	2.01
19	19.00	400.00	-281.00	3.28	2.03
20	20.00	400.00	-280.00	3.28	2.05
21	21.00	400.00	-279.00	3.28	2.07
22	22.00	400.00	-278.00	3.28	2.10
23	23.00	400.00	-277.00	3.28	2.12
24	24.00	400.00	-276.00	3.28	2.14
25	25.00	400.00	-275.00	3.28	2.16
26	26.00	400.00	-274.00	3.28	2.18
27	27.00	400.00	-273.00	3.28	2.20
28	28.00	400.00	-272.00	3.28	2.23
29	29.00	400.00	-271.00	3.28	2.25
30	30.00	400.00	-270.00	3.28	2.27
31	31.00	400.00	-269.00	3.28	2.30
32	32.00	400.00	-268.00	3.28	2.32
33	33.00	400.00	-267.00	3.28	2.34
34	34.00	400.00	-266.00	3.28	2.37
35	35.00	400.00	-265.00	3.28	2.39
36	36.00	400.00	-264.00	3.28	2.42
37	37.00	400.00	-263.00	3.28	2.44
38	38.00	400.00	-262.00	3.28	2.47

39	39.00	400.00	-261.00	3.28	2.50
40	40.00	400.00	-260.00	3.28	2.52
41	41.00	400.00	-259.00	3.28	2.55
42	42.00	400.00	-258.00	3.28	2.58
43	43.00	400.00	-257.00	3.28	2.61
44	44.00	400.00	-256.00	3.28	2.63
45	45.00	400.00	-255.00	3.28	2.66
46	46.00	400.00	-254.00	3.28	2.69
47	47.00	400.00	-253.00	3.28	2.72
48	48.00	400.00	-252.00	3.28	2.75
49	49.00	400.00	-251.00	3.28	2.78
50	50.00	400.00	-250.00	3.28	2.81
51	51.00	400.00	-249.00	3.28	2.84
52	52.00	400.00	-248.00	3.28	2.88
53	53.00	400.00	-247.00	3.28	2.91
54	54.00	400.00	-246.00	3.28	2.94
55	55.00	400.00	-245.00	3.28	2.97
56	56.00	400.00	-244.00	3.28	3.01
57	57.00	400.00	-243.00	3.28	3.04
58	58.00	400.00	-242.00	3.28	3.08
59	59.00	400.00	-241.00	3.28	3.11
60	60.00	400.00	-240.00	3.28	3.15
61	61.00	400.00	-239.00	3.28	3.19
62	62.00	400.00	-238.00	3.28	3.22
63	63.00	400.00	-237.00	3.28	3.26
64	64.00	400.00	-236.00	3.28	3.30
65	65.00	400.00	-235.00	3.28	3.34
66	66.00	400.00	-234.00	3.28	3.38
67	67.00	400.00	-233.00	3.28	3.42
68	68.00	400.00	-232.00	3.28	3.46
69	69.00	400.00	-231.00	3.28	3.50
70	70.00	400.00	-230.00	3.28	3.54
71	71.00	400.00	-229.00	3.28	3.58
72	72.00	400.00	-228.00	3.28	3.63
73	73.00	400.00	-227.00	3.28	3.67
74	74.00	400.00	-226.00	3.28	3.72
75	75.00	400.00	-225.00	3.28	3.76
76	76.00	400.00	-224.00	3.28	3.81
77	77.00	400.00	-223.00	3.28	3.86
78	78.00	400.00	-222.00	3.28	3.90
79	79.00	400.00	-221.00	3.28	3.95
80	80.00	400.00	-220.00	3.28	4.00
81	81.00	400.00	-219.00	3.28	4.05
82	82.00	400.00	-218.00	3.28	4.10
83	83.00	400.00	-217.00	3.28	4.15
84	84.00	400.00	-216.00	3.28	4.21
85	85.00	400.00	-215.00	3.28	4.26
86	86.00	400.00	-214.00	3.28	4.32
87	87.00	400.00	-213.00	3.28	4.37
88	88.00	400.00	-212.00	3.28	4.43
89	89.00	400.00	-211.00	3.28	4.49
90	90.00	400.00	-210.00	3.28	4.54
91	91.00	400.00	-209.00	3.28	4.60
92	92.00	400.00	-208.00	3.28	4.66
93	93.00	400.00	-207.00	3.28	4.73
94	94.00	400.00	-206.00	3.28	4.79
95	95.00	400.00	-205.00	3.28	4.85
96	96.00	400.00	-204.00	3.28	4.92
97	97.00	400.00	-203.00	3.28	4.98
98	98.00	400.00	-202.00	3.28	5.05
99	99.00	400.00	-201.00	3.28	5.12
100	100.00	400.00	-200.00	3.28	5.19
101	101.00	400.00	-199.00	3.28	5.26

102	102.00	400.00	-198.00	3.28	5.33
103	103.00	400.00	-197.00	3.28	5.41
104	104.00	400.00	-196.00	3.28	5.48
105	105.00	400.00	-195.00	3.28	5.56
106	106.00	400.00	-194.00	3.28	5.63
107	107.00	400.00	-193.00	3.28	5.71
108	108.00	400.00	-192.00	3.28	5.79
109	109.00	400.00	-191.00	3.28	5.88
110	110.00	400.00	-190.00	3.28	5.96
111	111.00	400.00	-189.00	3.28	6.04
112	112.00	400.00	-188.00	3.28	6.13
113	113.00	400.00	-187.00	3.28	6.22
114	114.00	400.00	-186.00	3.28	6.31
115	115.00	400.00	-185.00	3.28	6.40
116	116.00	400.00	-184.00	3.28	6.50
117	117.00	400.00	-183.00	3.28	6.59
118	118.00	400.00	-182.00	3.28	6.69
119	119.00	400.00	-181.00	3.28	6.79
120	120.00	400.00	-180.00	3.28	6.89
121	121.00	400.00	-179.00	3.28	6.99
122	122.00	400.00	-178.00	3.28	7.10
123	123.00	400.00	-177.00	3.28	7.20
124	124.00	400.00	-176.00	3.28	7.31
125	125.00	400.00	-175.00	3.28	7.42
126	126.00	400.00	-174.00	3.28	7.54
127	127.00	400.00	-173.00	3.28	7.65
128	128.00	400.00	-172.00	3.28	7.77
129	129.00	400.00	-171.00	3.28	7.89
130	130.00	400.00	-170.00	3.28	8.02
131	131.00	400.00	-169.00	3.28	8.14
132	132.00	400.00	-168.00	3.28	8.27
133	133.00	400.00	-167.00	3.28	8.40
134	134.00	400.00	-166.00	3.28	8.53
135	135.00	400.00	-165.00	3.28	8.67
136	136.00	400.00	-164.00	3.28	8.81
137	137.00	400.00	-163.00	3.28	8.95
138	138.00	400.00	-162.00	3.28	9.10
139	139.00	400.00	-161.00	3.28	9.24
140	140.00	400.00	-160.00	3.28	9.40
141	141.00	400.00	-159.00	3.28	9.55
142	142.00	400.00	-158.00	3.28	9.71
143	143.00	400.00	-157.00	3.28	9.87
144	144.00	400.00	-156.00	3.28	10.03
145	145.00	400.00	-155.00	3.28	10.20
146	146.00	400.00	-154.00	3.28	10.37
147	147.00	400.00	-153.00	3.28	10.55
148	148.00	400.00	-152.00	3.28	10.73
149	149.00	400.00	-151.00	3.28	10.91
150	150.00	400.00	-150.00	3.28	11.10
151	151.00	400.00	-149.00	3.28	11.29
152	152.00	400.00	-148.00	3.28	11.49
153	153.00	400.00	-147.00	3.28	11.69
154	154.00	400.00	-146.00	3.28	11.90
155	155.00	400.00	-145.00	3.28	12.11
156	156.00	400.00	-144.00	3.28	12.32
157	157.00	400.00	-143.00	3.28	12.54
158	158.00	400.00	-142.00	3.28	12.77
159	159.00	400.00	-141.00	3.28	13.00
160	160.00	400.00	-140.00	3.28	13.23
161	161.00	400.00	-139.00	3.28	13.47
162	162.00	400.00	-138.00	3.28	13.72
163	163.00	400.00	-137.00	3.28	13.97
164	164.00	400.00	-136.00	3.28	14.23

165	165.00	400.00	-135.00	3.28	14.49
166	166.00	400.00	-134.00	3.28	14.77
167	167.00	400.00	-133.00	3.28	15.04
168	168.00	400.00	-132.00	3.28	15.33
169	169.00	400.00	-131.00	3.28	15.62
170	170.00	400.00	-130.00	3.28	15.92
171	171.00	400.00	-129.00	3.28	16.22
172	172.00	400.00	-128.00	3.28	16.54
173	173.00	400.00	-127.00	3.28	16.86
174	174.00	400.00	-126.00	3.28	17.19
175	175.00	400.00	-125.00	3.28	17.52
176	176.00	400.00	-124.00	3.28	17.87
177	177.00	400.00	-123.00	3.28	18.22
178	178.00	400.00	-122.00	3.28	18.59
179	179.00	400.00	-121.00	3.28	18.96
180	180.00	400.00	-120.00	3.28	19.34
181	181.00	400.00	-119.00	3.28	19.73
182	182.00	400.00	-118.00	3.28	20.14
183	183.00	400.00	-117.00	3.28	20.55
184	184.00	400.00	-116.00	3.28	20.97
185	185.00	400.00	-115.00	3.28	21.41
186	186.00	400.00	-114.00	3.28	21.85
187	187.00	400.00	-113.00	3.28	22.31
188	188.00	400.00	-112.00	3.28	22.78
189	189.00	400.00	-111.00	3.28	23.27
190	190.00	400.00	-110.00	3.28	23.76
191	191.00	400.00	-109.00	3.28	24.27
192	192.00	400.00	-108.00	3.28	24.80
193	193.00	400.00	-107.00	3.28	25.34
194	194.00	400.00	-106.00	3.28	25.89
195	195.00	400.00	-105.00	3.28	26.46
196	196.00	400.00	-104.00	3.28	27.04
197	197.00	400.00	-103.00	3.28	27.64
198	198.00	400.00	-102.00	3.28	28.26
199	199.00	400.00	-101.00	3.28	28.90
200	200.00	400.00	-100.00	3.28	29.55
201	201.00	400.00	-99.00	3.28	30.22
202	202.00	400.00	-98.00	3.28	30.91
203	203.00	400.00	-97.00	3.28	31.62
204	204.00	400.00	-96.00	3.28	32.35
205	205.00	400.00	-95.00	3.28	33.11
206	206.00	400.00	-94.00	3.28	33.88
207	207.00	400.00	-93.00	3.28	34.68
208	208.00	400.00	-92.00	3.28	35.50
209	209.00	400.00	-91.00	3.28	36.35
210	210.00	400.00	-90.00	3.28	37.22
211	211.00	400.00	-89.00	3.28	38.12
212	212.00	400.00	-88.00	3.28	39.04
213	213.00	400.00	-87.00	3.28	39.99
214	214.00	400.00	-86.00	3.28	40.98
215	215.00	400.00	-85.00	3.28	41.99
216	216.00	400.00	-84.00	3.28	43.03
217	217.00	400.00	-83.00	3.28	44.11
218	218.00	400.00	-82.00	3.28	45.22
219	219.00	400.00	-81.00	3.28	46.36
220	220.00	400.00	-80.00	3.28	47.54
221	221.00	400.00	-79.00	3.28	48.76
222	222.00	400.00	-78.00	3.28	50.01
223	223.00	400.00	-77.00	3.28	51.31
224	224.00	400.00	-76.00	3.28	52.64
225	225.00	400.00	-75.00	3.28	54.02
226	226.00	400.00	-74.00	3.28	55.45
227	227.00	400.00	-73.00	3.28	56.92

228	228.00	400.00	-72.00	3.28	58.44
229	229.00	400.00	-71.00	3.28	60.01
230	230.00	400.00	-70.00	3.28	61.63
231	231.00	400.00	-69.00	3.28	63.30
232	232.00	400.00	-68.00	3.28	65.03
233	233.00	400.00	-67.00	3.28	66.81
234	234.00	400.00	-66.00	3.28	68.66
235	235.00	400.00	-65.00	3.28	70.57
236	236.00	400.00	-64.00	3.28	72.54
237	237.00	400.00	-63.00	3.28	74.58
238	238.00	400.00	-62.00	3.28	76.68
239	239.00	400.00	-61.00	3.28	78.86
240	240.00	400.00	-60.00	3.28	81.11
241	241.00	400.00	-59.00	3.28	83.43
242	242.00	400.00	-58.00	3.28	85.84
243	243.00	400.00	-57.00	3.28	88.33
244	244.00	400.00	-56.00	3.28	90.90
245	245.00	400.00	-55.00	3.28	93.56
246	246.00	400.00	-54.00	3.28	96.30
247	247.00	400.00	-53.00	3.28	99.14
248	248.00	400.00	-52.00	3.28	102.08
249	249.00	400.00	-51.00	3.28	105.11
250	250.00	400.00	-50.00	3.28	108.25
251	251.00	400.00	-49.00	3.28	111.48
252	252.00	400.00	-48.00	3.28	114.83
253	253.00	400.00	-47.00	3.28	118.28
254	254.00	400.00	-46.00	3.28	121.84
255	255.00	400.00	-45.00	3.28	125.51
256	256.00	400.00	-44.00	3.28	129.30
257	257.00	400.00	-43.00	3.28	133.21
258	258.00	400.00	-42.00	3.28	137.23
259	259.00	400.00	-41.00	3.28	141.37
260	260.00	400.00	-40.00	3.28	145.62
261	261.00	400.00	-39.00	3.28	149.99
262	262.00	400.00	-38.00	3.28	154.48
263	263.00	400.00	-37.00	3.28	159.07
264	264.00	400.00	-36.00	3.28	163.78
265	265.00	400.00	-35.00	3.28	168.59
266	266.00	400.00	-34.00	3.28	173.50
267	267.00	400.00	-33.00	3.28	178.50
268	268.00	400.00	-32.00	3.28	183.59
269	269.00	400.00	-31.00	3.28	188.74
270	270.00	400.00	-30.00	3.28	193.97
271	271.00	400.00	-29.00	3.28	199.24
272	272.00	400.00	-28.00	3.28	204.54
273	273.00	400.00	-27.00	3.28	209.87
274	274.00	400.00	-26.00	3.28	215.20
275	275.00	400.00	-25.00	3.28	220.51
276	276.00	400.00	-24.00	3.28	225.79
277	277.00	400.00	-23.00	3.28	231.01
278	278.00	400.00	-22.00	3.28	236.15
279	279.00	400.00	-21.00	3.28	241.19
280	280.00	400.00	-20.00	3.28	246.11
281	281.00	400.00	-19.00	3.28	250.88
282	282.00	400.00	-18.00	3.28	255.49
283	283.00	400.00	-17.00	3.28	259.92
284	284.00	400.00	-16.00	3.28	264.14
285	285.00	400.00	-15.00	3.28	268.15
286	286.00	400.00	-14.00	3.28	271.93
287	287.00	400.00	-13.00	3.28	275.46
288	288.00	400.00	-12.00	3.28	278.74
289	289.00	400.00	-11.00	3.28	281.77
290	290.00	400.00	-10.00	3.28	284.52

291	291.00	400.00	-9.00	3.28	287.02
292	292.00	400.00	-8.00	3.28	289.24
293	293.00	400.00	-7.00	3.28	291.20
294	294.00	400.00	-6.00	3.28	292.90
295	295.00	400.00	-5.00	3.28	294.33
296	296.00	400.00	-4.00	3.28	295.50
297	297.00	400.00	-3.00	3.28	296.41
298	298.00	400.00	-2.00	3.28	297.08
299	299.00	400.00	-1.00	3.28	297.48
300	300.00	400.00	0.00	3.28	297.64
301	301.00	400.00	1.00	3.28	297.55
302	302.00	400.00	2.00	3.28	297.20
303	303.00	400.00	3.00	3.28	296.61
304	304.00	400.00	4.00	3.28	295.76
305	305.00	400.00	5.00	3.28	294.65
306	306.00	400.00	6.00	3.28	293.27
307	307.00	400.00	7.00	3.28	291.64
308	308.00	400.00	8.00	3.28	289.74
309	309.00	400.00	9.00	3.28	287.57
310	310.00	400.00	10.00	3.28	285.13
311	311.00	400.00	11.00	3.28	282.42
312	312.00	400.00	12.00	3.28	279.45
313	313.00	400.00	13.00	3.28	276.22
314	314.00	400.00	14.00	3.28	272.73
315	315.00	400.00	15.00	3.28	268.99
316	316.00	400.00	16.00	3.28	265.02
317	317.00	400.00	17.00	3.28	260.83
318	318.00	400.00	18.00	3.28	256.44
319	319.00	400.00	19.00	3.28	251.86
320	320.00	400.00	20.00	3.28	247.11
321	321.00	400.00	21.00	3.28	242.21
322	322.00	400.00	22.00	3.28	237.19
323	323.00	400.00	23.00	3.28	232.07
324	324.00	400.00	24.00	3.28	226.87
325	325.00	400.00	25.00	3.28	221.60
326	326.00	400.00	26.00	3.28	216.30
327	327.00	400.00	27.00	3.28	210.98
328	328.00	400.00	28.00	3.28	205.66
329	329.00	400.00	29.00	3.28	200.36
330	330.00	400.00	30.00	3.28	195.09
331	331.00	400.00	31.00	3.28	189.87
332	332.00	400.00	32.00	3.28	184.70
333	333.00	400.00	33.00	3.28	179.62
334	334.00	400.00	34.00	3.28	174.61
335	335.00	400.00	35.00	3.28	169.70
336	336.00	400.00	36.00	3.28	164.88
337	337.00	400.00	37.00	3.28	160.17
338	338.00	400.00	38.00	3.28	155.56
339	339.00	400.00	39.00	3.28	151.07
340	340.00	400.00	40.00	3.28	146.69
341	341.00	400.00	41.00	3.28	142.42
342	342.00	400.00	42.00	3.28	138.27
343	343.00	400.00	43.00	3.28	134.24
344	344.00	400.00	44.00	3.28	130.33
345	345.00	400.00	45.00	3.28	126.53
346	346.00	400.00	46.00	3.28	122.84
347	347.00	400.00	47.00	3.28	119.27
348	348.00	400.00	48.00	3.28	115.80
349	349.00	400.00	49.00	3.28	112.45
350	350.00	400.00	50.00	3.28	109.20
351	351.00	400.00	51.00	3.28	106.05
352	352.00	400.00	52.00	3.28	103.01
353	353.00	400.00	53.00	3.28	100.06

354	354.00	400.00	54.00	3.28	97.21
355	355.00	400.00	55.00	3.28	94.45
356	356.00	400.00	56.00	3.28	91.78
357	357.00	400.00	57.00	3.28	89.19
358	358.00	400.00	58.00	3.28	86.70
359	359.00	400.00	59.00	3.28	84.28
360	360.00	400.00	60.00	3.28	81.94
361	361.00	400.00	61.00	3.28	79.68
362	362.00	400.00	62.00	3.28	77.49
363	363.00	400.00	63.00	3.28	75.37
364	364.00	400.00	64.00	3.28	73.33
365	365.00	400.00	65.00	3.28	71.34
366	366.00	400.00	66.00	3.28	69.43
367	367.00	400.00	67.00	3.28	67.57
368	368.00	400.00	68.00	3.28	65.77
369	369.00	400.00	69.00	3.28	64.03
370	370.00	400.00	70.00	3.28	62.35
371	371.00	400.00	71.00	3.28	60.72
372	372.00	400.00	72.00	3.28	59.14
373	373.00	400.00	73.00	3.28	57.61
374	374.00	400.00	74.00	3.28	56.13
375	375.00	400.00	75.00	3.28	54.70
376	376.00	400.00	76.00	3.28	53.31
377	377.00	400.00	77.00	3.28	51.96
378	378.00	400.00	78.00	3.28	50.66
379	379.00	400.00	79.00	3.28	49.39
380	380.00	400.00	80.00	3.28	48.17
381	381.00	400.00	81.00	3.28	46.98
382	382.00	400.00	82.00	3.28	45.83
383	383.00	400.00	83.00	3.28	44.71
384	384.00	400.00	84.00	3.28	43.63
385	385.00	400.00	85.00	3.28	42.58
386	386.00	400.00	86.00	3.28	41.56
387	387.00	400.00	87.00	3.28	40.57
388	388.00	400.00	88.00	3.28	39.61
389	389.00	400.00	89.00	3.28	38.67
390	390.00	400.00	90.00	3.28	37.77
391	391.00	400.00	91.00	3.28	36.89
392	392.00	400.00	92.00	3.28	36.04
393	393.00	400.00	93.00	3.28	35.21
394	394.00	400.00	94.00	3.28	34.40
395	395.00	400.00	95.00	3.28	33.62
396	396.00	400.00	96.00	3.28	32.86
397	397.00	400.00	97.00	3.28	32.12
398	398.00	400.00	98.00	3.28	31.40
399	399.00	400.00	99.00	3.28	30.71
400	400.00	400.00	100.00	3.28	30.03
401	401.00	400.00	101.00	3.28	29.37
402	402.00	400.00	102.00	3.28	28.73
403	403.00	400.00	103.00	3.28	28.10
404	404.00	400.00	104.00	3.28	27.50
405	405.00	400.00	105.00	3.28	26.91
406	406.00	400.00	106.00	3.28	26.33
407	407.00	400.00	107.00	3.28	25.77
408	408.00	400.00	108.00	3.28	25.23
409	409.00	400.00	109.00	3.28	24.70
410	410.00	400.00	110.00	3.28	24.18
411	411.00	400.00	111.00	3.28	23.68
412	412.00	400.00	112.00	3.28	23.19
413	413.00	400.00	113.00	3.28	22.72
414	414.00	400.00	114.00	3.28	22.25
415	415.00	400.00	115.00	3.28	21.80
416	416.00	400.00	116.00	3.28	21.36

417	417.00	400.00	117.00	3.28	20.93
418	418.00	400.00	118.00	3.28	20.52
419	419.00	400.00	119.00	3.28	20.11
420	420.00	400.00	120.00	3.28	19.71
421	421.00	400.00	121.00	3.28	19.33
422	422.00	400.00	122.00	3.28	18.95
423	423.00	400.00	123.00	3.28	18.58
424	424.00	400.00	124.00	3.28	18.22
425	425.00	400.00	125.00	3.28	17.87
426	426.00	400.00	126.00	3.28	17.53
427	427.00	400.00	127.00	3.28	17.20
428	428.00	400.00	128.00	3.28	16.87
429	429.00	400.00	129.00	3.28	16.55
430	430.00	400.00	130.00	3.28	16.24
431	431.00	400.00	131.00	3.28	15.94
432	432.00	400.00	132.00	3.28	15.65
433	433.00	400.00	133.00	3.28	15.36
434	434.00	400.00	134.00	3.28	15.08
435	435.00	400.00	135.00	3.28	14.80
436	436.00	400.00	136.00	3.28	14.54
437	437.00	400.00	137.00	3.28	14.27
438	438.00	400.00	138.00	3.28	14.02
439	439.00	400.00	139.00	3.28	13.77
440	440.00	400.00	140.00	3.28	13.52
441	441.00	400.00	141.00	3.28	13.28
442	442.00	400.00	142.00	3.28	13.05
443	443.00	400.00	143.00	3.28	12.82
444	444.00	400.00	144.00	3.28	12.60
445	445.00	400.00	145.00	3.28	12.38
446	446.00	400.00	146.00	3.28	12.17
447	447.00	400.00	147.00	3.28	11.96
448	448.00	400.00	148.00	3.28	11.76
449	449.00	400.00	149.00	3.28	11.56
450	450.00	400.00	150.00	3.28	11.36
451	451.00	400.00	151.00	3.28	11.17
452	452.00	400.00	152.00	3.28	10.99
453	453.00	400.00	153.00	3.28	10.80
454	454.00	400.00	154.00	3.28	10.62
455	455.00	400.00	155.00	3.28	10.45
456	456.00	400.00	156.00	3.28	10.28
457	457.00	400.00	157.00	3.28	10.11
458	458.00	400.00	158.00	3.28	9.95
459	459.00	400.00	159.00	3.28	9.79
460	460.00	400.00	160.00	3.28	9.63
461	461.00	400.00	161.00	3.28	9.48
462	462.00	400.00	162.00	3.28	9.33
463	463.00	400.00	163.00	3.28	9.18
464	464.00	400.00	164.00	3.28	9.03
465	465.00	400.00	165.00	3.28	8.89
466	466.00	400.00	166.00	3.28	8.75
467	467.00	400.00	167.00	3.28	8.62
468	468.00	400.00	168.00	3.28	8.48
469	469.00	400.00	169.00	3.28	8.35
470	470.00	400.00	170.00	3.28	8.23
471	471.00	400.00	171.00	3.28	8.10
472	472.00	400.00	172.00	3.28	7.98
473	473.00	400.00	173.00	3.28	7.86
474	474.00	400.00	174.00	3.28	7.74
475	475.00	400.00	175.00	3.28	7.62
476	476.00	400.00	176.00	3.28	7.51
477	477.00	400.00	177.00	3.28	7.40
478	478.00	400.00	178.00	3.28	7.29
479	479.00	400.00	179.00	3.28	7.18

480	480.00	400.00	180.00	3.28	7.08
481	481.00	400.00	181.00	3.28	6.98
482	482.00	400.00	182.00	3.28	6.87
483	483.00	400.00	183.00	3.28	6.78
484	484.00	400.00	184.00	3.28	6.68
485	485.00	400.00	185.00	3.28	6.58
486	486.00	400.00	186.00	3.28	6.49
487	487.00	400.00	187.00	3.28	6.40
488	488.00	400.00	188.00	3.28	6.31
489	489.00	400.00	189.00	3.28	6.22
490	490.00	400.00	190.00	3.28	6.13
491	491.00	400.00	191.00	3.28	6.05
492	492.00	400.00	192.00	3.28	5.96
493	493.00	400.00	193.00	3.28	5.88
494	494.00	400.00	194.00	3.28	5.80
495	495.00	400.00	195.00	3.28	5.72
496	496.00	400.00	196.00	3.28	5.64
497	497.00	400.00	197.00	3.28	5.57
498	498.00	400.00	198.00	3.28	5.49
499	499.00	400.00	199.00	3.28	5.42
500	500.00	400.00	200.00	3.28	5.35
501	501.00	400.00	201.00	3.28	5.28
502	502.00	400.00	202.00	3.28	5.21
503	503.00	400.00	203.00	3.28	5.14
504	504.00	400.00	204.00	3.28	5.07
505	505.00	400.00	205.00	3.28	5.00
506	506.00	400.00	206.00	3.28	4.94
507	507.00	400.00	207.00	3.28	4.87
508	508.00	400.00	208.00	3.28	4.81
509	509.00	400.00	209.00	3.28	4.75
510	510.00	400.00	210.00	3.28	4.69
511	511.00	400.00	211.00	3.28	4.63
512	512.00	400.00	212.00	3.28	4.57
513	513.00	400.00	213.00	3.28	4.51
514	514.00	400.00	214.00	3.28	4.46
515	515.00	400.00	215.00	3.28	4.40
516	516.00	400.00	216.00	3.28	4.34
517	517.00	400.00	217.00	3.28	4.29
518	518.00	400.00	218.00	3.28	4.24
519	519.00	400.00	219.00	3.28	4.18
520	520.00	400.00	220.00	3.28	4.13
521	521.00	400.00	221.00	3.28	4.08
522	522.00	400.00	222.00	3.28	4.03
523	523.00	400.00	223.00	3.28	3.98
524	524.00	400.00	224.00	3.28	3.94
525	525.00	400.00	225.00	3.28	3.89
526	526.00	400.00	226.00	3.28	3.84
527	527.00	400.00	227.00	3.28	3.80
528	528.00	400.00	228.00	3.28	3.75
529	529.00	400.00	229.00	3.28	3.71
530	530.00	400.00	230.00	3.28	3.66
531	531.00	400.00	231.00	3.28	3.62
532	532.00	400.00	232.00	3.28	3.58
533	533.00	400.00	233.00	3.28	3.54
534	534.00	400.00	234.00	3.28	3.49
535	535.00	400.00	235.00	3.28	3.45
536	536.00	400.00	236.00	3.28	3.41
537	537.00	400.00	237.00	3.28	3.38
538	538.00	400.00	238.00	3.28	3.34
539	539.00	400.00	239.00	3.28	3.30
540	540.00	400.00	240.00	3.28	3.26
541	541.00	400.00	241.00	3.28	3.22
542	542.00	400.00	242.00	3.28	3.19

543	543.00	400.00	243.00	3.28	3.15
544	544.00	400.00	244.00	3.28	3.12
545	545.00	400.00	245.00	3.28	3.08
546	546.00	400.00	246.00	3.28	3.05
547	547.00	400.00	247.00	3.28	3.01
548	548.00	400.00	248.00	3.28	2.98
549	549.00	400.00	249.00	3.28	2.95
550	550.00	400.00	250.00	3.28	2.92
551	551.00	400.00	251.00	3.28	2.88
552	552.00	400.00	252.00	3.28	2.85
553	553.00	400.00	253.00	3.28	2.82
554	554.00	400.00	254.00	3.28	2.79
555	555.00	400.00	255.00	3.28	2.76
556	556.00	400.00	256.00	3.28	2.73
557	557.00	400.00	257.00	3.28	2.70
558	558.00	400.00	258.00	3.28	2.68
559	559.00	400.00	259.00	3.28	2.65
560	560.00	400.00	260.00	3.28	2.62
561	561.00	400.00	261.00	3.28	2.59
562	562.00	400.00	262.00	3.28	2.56
563	563.00	400.00	263.00	3.28	2.54
564	564.00	400.00	264.00	3.28	2.51
565	565.00	400.00	265.00	3.28	2.49
566	566.00	400.00	266.00	3.28	2.46
567	567.00	400.00	267.00	3.28	2.44
568	568.00	400.00	268.00	3.28	2.41
569	569.00	400.00	269.00	3.28	2.39
570	570.00	400.00	270.00	3.28	2.36
571	571.00	400.00	271.00	3.28	2.34
572	572.00	400.00	272.00	3.28	2.31
573	573.00	400.00	273.00	3.28	2.29
574	574.00	400.00	274.00	3.28	2.27
575	575.00	400.00	275.00	3.28	2.25
576	576.00	400.00	276.00	3.28	2.22
577	577.00	400.00	277.00	3.28	2.20
578	578.00	400.00	278.00	3.28	2.18
579	579.00	400.00	279.00	3.28	2.16
580	580.00	400.00	280.00	3.28	2.14
581	581.00	400.00	281.00	3.28	2.12
582	582.00	400.00	282.00	3.28	2.10
583	583.00	400.00	283.00	3.28	2.08
584	584.00	400.00	284.00	3.28	2.06
585	585.00	400.00	285.00	3.28	2.04
586	586.00	400.00	286.00	3.28	2.02
587	587.00	400.00	287.00	3.28	2.00
588	588.00	400.00	288.00	3.28	1.98
589	589.00	400.00	289.00	3.28	1.96
590	590.00	400.00	290.00	3.28	1.94
591	591.00	400.00	291.00	3.28	1.92
592	592.00	400.00	292.00	3.28	1.90
593	593.00	400.00	293.00	3.28	1.89
594	594.00	400.00	294.00	3.28	1.87
595	595.00	400.00	295.00	3.28	1.85
596	596.00	400.00	296.00	3.28	1.83
597	597.00	400.00	297.00	3.28	1.82
598	598.00	400.00	298.00	3.28	1.80
599	599.00	400.00	299.00	3.28	1.78
600	600.00	400.00	300.00	3.28	1.77

RESULTS OF ENVIRO PROGRAM

STUDY FILE NAME: C:\PROGRA~1\EPRI\EMFW_251\ENVIRO\CLEANL~1\500DMONO.I01
 DATE: 3/ 5/2014 TIME: 17:40

500 kV Double Monopole (XS-6)

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*****
*                                     BUNDLE INFORMATION                                     *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | LOAD | CURRENT | # | COORDINATES | PHASE |
| #    | #    | (kV)    | (DEG) | (AMPS) | (DEG)  | OF | X          | Y          |
|      |      |          |        |         |         | COND | (FT)       | (FT)       |
*****
| 1    | 1    | 550.0   | .0    | 1212.4 | .0     | 3  | -15.0     | 107.3     | A
| 2    | 1    | 550.0   | 240.0 | 1212.4 | 240.0  | 3  | -15.0     | 77.3      | B
| 3    | 1    | 550.0   | 120.0 | 1212.4 | 120.0  | 3  | -15.0     | 47.3      | C
| 4    | 2    | 550.0   | .0    | 1212.4 | .0     | 3  | 15.0      | 47.3      | A
| 5    | 2    | 550.0   | 240.0 | 1212.4 | 240.0  | 3  | 15.0      | 77.3      | B
| 6    | 2    | 550.0   | 120.0 | 1212.4 | 120.0  | 3  | 15.0      | 107.3     | C
| 7    | 1    | .0       | .0    | .0      | .0     | 1  | -8.5      | 139.5     | GND
| 8    | 2    | .0       | .0    | .0      | .0     | 1  | 8.5       | 139.5     | GND
*****
*                                     MINIMUM GROUND CLEARANCE = 47.330 FT.                                     *
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*****
*                                     SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                                     *
*****
| BNDL | DIAMETER | SPACING | DC RESIST. | AC RESIST. | AC REACT. |
| #    | (IN)     | (IN)    | (OHMS/MI) | (OHMS/MI) | (OHMS/MI) |
*****
| 1    | 1.293    | 18.000  | .08300    | .08510    | .380000   |
| 2    | 1.293    | 18.000  | .08300    | .08510    | .380000   |
| 3    | 1.293    | 18.000  | .08300    | .08510    | .380000   |
| 4    | 1.293    | 18.000  | .08300    | .08510    | .380000   |
| 5    | 1.293    | 18.000  | .08300    | .08510    | .380000   |
| 6    | 1.293    | 18.000  | .08300    | .08510    | .380000   |
| 7    | .776     | .000    | .19270    | .19400    | .432000   |
| 8    | .776     | .000    | .19270    | .19400    | .432000   |
*****
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*****
*                                     *
* MAXIMUM SURFACE GRADIENT (kV/cm) *
*                                     *
*****
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BNDL #	Type	ACrms	PEAK(+)	PEAK(-)
1	AC	18.49	26.14	-26.14
2	AC	17.24	24.38	-24.38
3	AC	18.63	26.35	-26.35
4	AC	18.63	26.35	-26.35
5	AC	17.24	24.38	-24.38
6	AC	18.49	26.14	-26.14
7	Ground Wire	3.92	5.54	-5.54
8	Ground Wire	3.92	5.54	-5.54

```

*****
*
*           AUDIBLE NOISE
*
* Microphone is 5.00 feet above ground
*           Altitude 3000. ft
*
*****

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<----- HVTRC CALCULATION METHOD ----->

LATERAL DISTANCE		L50 FAIR	L5 RAIN	L50 RAIN	Leq(24)	Ldn
(feet)	(meters)	(dB(A))	(dB(A))	(dB(A))	(dB(A))	(dB(A))
-300.0	-91.44	40.9	54.7	51.8	48.8	55.6
-275.0	-83.82	41.4	55.2	52.3	49.3	56.1
-250.0	-76.20	41.9	55.7	52.9	49.9	56.6
-225.0	-68.58	42.5	56.3	53.4	50.4	57.2
-200.0	-60.96	43.1	56.9	54.0	51.0	57.8
-175.0	-53.34	43.7	57.5	54.7	51.7	58.5
-150.0	-45.72	44.4	58.2	55.4	52.4	59.2
-125.0	-38.10	45.2	59.0	56.2	53.2	59.9
-100.0	-30.48	46.1	59.8	57.0	54.0	60.8
-75.0	-22.86	47.0	60.8	57.9	54.9	61.7
-50.0	-15.24	48.0	61.8	58.9	55.9	62.7
-25.0	-7.62	48.9	62.6	59.8	56.8	63.6
.0	.00	49.3	63.0	60.2	57.2	64.0
25.0	7.62	48.9	62.6	59.8	56.8	63.6
50.0	15.24	48.0	61.8	58.9	55.9	62.7
75.0	22.86	47.0	60.8	57.9	54.9	61.7
100.0	30.48	46.1	59.8	57.0	54.0	60.8
125.0	38.10	45.2	59.0	56.2	53.2	59.9
150.0	45.72	44.4	58.2	55.4	52.4	59.2
175.0	53.34	43.7	57.5	54.7	51.7	58.5
200.0	60.96	43.1	56.9	54.0	51.0	57.8
225.0	68.58	42.5	56.3	53.4	50.4	57.2
250.0	76.20	41.9	55.7	52.9	49.9	56.6
275.0	83.82	41.4	55.2	52.3	49.3	56.1
300.0	91.44	40.9	54.7	51.8	48.8	55.6

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*****
*
*   AUDIBLE NOISE   *
*   (other methods) *
*
* Altitude    3000. ft *
*
*****

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LATERAL DISTANCE		<----- BPA METHOD ----->				<- CRIEPI -->		EdF	ENEL	IREQ
(feet)	(meters)	FAIR WEATHER	L5 RAIN	L50 RAIN	Ldn	AVERAGE FAIR	L5 RAIN	L5 RAIN	L5 RAIN	L5 RAIN
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
-300.0	-91.44	27.6	56.1	52.6	.0	.0	.0	.0	.0	.0
-275.0	-83.82	28.0	56.5	53.0	.0	.0	.0	.0	.0	.0
-250.0	-76.20	28.5	57.0	53.5	.0	.0	.0	.0	.0	.0
-225.0	-68.58	28.9	57.4	53.9	.0	.0	.0	.0	.0	.0
-200.0	-60.96	29.5	58.0	54.5	.0	.0	.0	.0	.0	.0
-175.0	-53.34	30.0	58.5	55.0	.0	.0	.0	.0	.0	.0
-150.0	-45.72	30.7	59.2	55.7	.0	.0	.0	.0	.0	.0
-125.0	-38.10	31.4	59.9	56.4	.0	.0	.0	.0	.0	.0
-100.0	-30.48	32.2	60.7	57.2	.0	.0	.0	.0	.0	.0
-75.0	-22.86	33.2	61.7	58.2	.0	.0	.0	.0	.0	.0
-50.0	-15.24	34.2	62.7	59.2	.0	.0	.0	.0	.0	.0
-25.0	-7.62	35.1	63.6	60.1	.0	.0	.0	.0	.0	.0
.0	.00	35.5	64.0	60.5	.0	.0	.0	.0	.0	.0
25.0	7.62	35.1	63.6	60.1	.0	.0	.0	.0	.0	.0
50.0	15.24	34.2	62.7	59.2	.0	.0	.0	.0	.0	.0
75.0	22.86	33.2	61.7	58.2	.0	.0	.0	.0	.0	.0
100.0	30.48	32.2	60.7	57.2	.0	.0	.0	.0	.0	.0
125.0	38.10	31.4	59.9	56.4	.0	.0	.0	.0	.0	.0
150.0	45.72	30.7	59.2	55.7	.0	.0	.0	.0	.0	.0
175.0	53.34	30.0	58.5	55.0	.0	.0	.0	.0	.0	.0
200.0	60.96	29.5	58.0	54.5	.0	.0	.0	.0	.0	.0
225.0	68.58	28.9	57.4	53.9	.0	.0	.0	.0	.0	.0
250.0	76.20	28.5	57.0	53.5	.0	.0	.0	.0	.0	.0
275.0	83.82	28.0	56.5	53.0	.0	.0	.0	.0	.0	.0
300.0	91.44	27.6	56.1	52.6	.0	.0	.0	.0	.0	.0

Audible noise prediction methods do not apply to all line geometries, voltages, or weather conditions. If a prediction method does not apply, the appropriate output data column will be zeros.

Clean Line - Plains & Eastern
 Config. XS-6: Radio Noise, TVI, and Ozone

Ground Clearance: 32.00 ft

	DIST. FROM CENTER OF TOWER (FEET)	COND. HEIGHT (FEET)	MAXIMUM GRADIENT (KV/CM)	SUBCON. DIAM. (IN)	NO. OF SUBCON.	SUBCON SPACING (IN)	VOLTAGE L-N (KV)	CURRENT (AMPS)	PHASE ANGLE (DEGREES)	CORONA LOSSES (KW/MI)
Phase A1	-15.00	92.00	18.49	1.29	3.	18.00	317.54	1212.40	.00	61.163
Phase B1	-15.00	62.00	17.17	1.29	3.	18.00	317.54	1212.40	120.00	37.792
Phase C1	-15.00	32.00	18.91	1.29	3.	18.00	317.54	1212.40	240.00	70.862
Phase C2	15.00	92.00	18.49	1.29	3.	18.00	317.54	1212.40	240.00	61.163
Phase B2	15.00	62.00	17.17	1.29	3.	18.00	317.54	1212.40	120.00	37.792
Phase A2	15.00	32.00	18.91	1.29	3.	18.00	317.54	1212.40	.00	70.862
SW-1	-8.50	124.15	3.89	.77	1.	.00	.00	.00	.00	.000
SW-2	8.50	124.15	3.89	.77	1.	.00	.00	.00	.00	.000

AN MICROPHONE HT.= 4.9 FT. RI ANT. HT.= 6.6 FT, TV ANT. HT.= 9.8 FT, ALTITUDE= 3000. FT
 RI FREQ= 1.000 MHZ, TV FREQ= 75.000 MHZ, WIND VEL.(OZ) = 8.500 MPH, GROUND CONDUCTIVITY = .0 MMHOS/M
 E-FIELD TRANSDUCER HT.= 3.28 FT, B-FIELD TRANSDUCER HT.= 3.28 FT

LATERAL DIST FROM REFERENCE (FEET)	ELECTRIC FIELD KV/M	MAGNETIC FIELD MILLIGAUSS	AUDIBLE NOISE (RAIN) (FAIR)		RADIO INTERFERENCE (RAIN) (FAIR)		TVI TOTAL RAIN DBUV/M	OZONE FOR RAIN RATE OF .10 IN/HR AT GND. PPB
			L50 DBA	L50 DBA	L50 DBUV/M	L50 DBUV/M		
-300.0	.050	.86	53.0	28.0	50.2	33.2	19.0	.000000
-298.0	.051	.87	53.0	28.0	50.3	33.3	19.1	.000000
-296.0	.052	.89	53.1	28.1	50.4	33.4	19.2	.000000
-294.0	.053	.91	53.1	28.1	50.6	33.6	19.2	.000000
-292.0	.053	.93	53.1	28.1	50.7	33.7	19.3	.000000
-290.0	.054	.94	53.2	28.2	50.8	33.8	19.3	.000000
-288.0	.055	.96	53.2	28.2	50.9	33.9	19.4	.000000
-286.0	.056	.98	53.2	28.2	51.0	34.0	19.5	.000000
-284.0	.056	1.00	53.3	28.3	51.1	34.1	19.5	.000000
-282.0	.057	1.02	53.3	28.3	51.2	34.2	19.6	.000000
-280.0	.058	1.04	53.3	28.3	51.4	34.4	19.7	.000000
-278.0	.059	1.06	53.4	28.4	51.5	34.5	19.7	.000000
-276.0	.060	1.09	53.4	28.4	51.6	34.6	19.8	.000000
-274.0	.061	1.11	53.4	28.4	51.7	34.7	19.9	.000000
-272.0	.061	1.13	53.5	28.5	51.8	34.8	19.9	.000000
-270.0	.062	1.16	53.5	28.5	52.0	35.0	20.0	.000000
-268.0	.063	1.18	53.5	28.5	52.1	35.1	20.1	.000000
-266.0	.064	1.21	53.6	28.6	52.2	35.2	20.1	.000000
-264.0	.065	1.23	53.6	28.6	52.3	35.3	20.2	.000000
-262.0	.066	1.26	53.6	28.6	52.5	35.5	20.3	.000000
-260.0	.067	1.29	53.7	28.7	52.6	35.6	20.3	.000000
-258.0	.068	1.32	53.7	28.7	52.7	35.7	20.4	.000000
-256.0	.069	1.34	53.7	28.7	52.8	35.8	20.5	.000000
-254.0	.070	1.37	53.8	28.8	53.0	36.0	20.5	.000000
-252.0	.071	1.41	53.8	28.8	53.1	36.1	20.6	.000000
-250.0	.072	1.44	53.9	28.9	53.2	36.2	20.7	.000000
-248.0	.073	1.47	53.9	28.9	53.3	36.3	20.8	.000000
-246.0	.075	1.50	53.9	28.9	53.5	36.5	20.8	.000000
-244.0	.076	1.54	54.0	29.0	53.6	36.6	20.9	.000000
-242.0	.077	1.57	54.0	29.0	53.7	36.7	21.0	.000000
-240.0	.078	1.61	54.1	29.1	53.9	36.9	21.1	.000000
-238.0	.079	1.65	54.1	29.1	54.0	37.0	21.1	.000000
-236.0	.081	1.69	54.1	29.1	54.1	37.1	21.2	.000000
-234.0	.082	1.73	54.2	29.2	54.3	37.3	21.3	.000000
-232.0	.083	1.77	54.2	29.2	54.4	37.4	21.4	.000000
-230.0	.084	1.82	54.3	29.3	54.6	37.6	21.5	.000000
-228.0	.086	1.86	54.3	29.3	54.7	37.7	21.5	.000000
-226.0	.087	1.91	54.3	29.3	54.8	37.8	21.6	.000000
-224.0	.088	1.95	54.4	29.4	55.0	38.0	21.7	.000000
-222.0	.090	2.00	54.4	29.4	55.1	38.1	21.8	.000000
-220.0	.091	2.05	54.5	29.5	55.2	38.2	21.9	.000000
-218.0	.092	2.11	54.5	29.5	55.4	38.4	22.0	.000000
-216.0	.094	2.16	54.5	29.5	55.5	38.5	22.0	.000000
-214.0	.095	2.22	54.6	29.6	55.7	38.7	22.1	.000000
-212.0	.097	2.27	54.6	29.6	55.8	38.8	22.2	.000000
-210.0	.098	2.33	54.7	29.7	56.0	39.0	22.3	.000000
-208.0	.100	2.40	54.7	29.7	56.1	39.1	22.4	.000000
-206.0	.101	2.46	54.8	29.8	56.3	39.3	22.5	.000000
-204.0	.103	2.53	54.8	29.8	56.4	39.4	22.6	.000000
-202.0	.104	2.60	54.9	29.9	56.6	39.6	22.7	.000000
-200.0	.106	2.67	54.9	29.9	56.7	39.7	22.7	.000000

-198.0	.108	2.74	54.9	29.9	56.9	39.9	22.8	.000000
-196.0	.109	2.82	55.0	30.0	57.0	40.0	22.9	.000000
-194.0	.111	2.90	55.0	30.0	57.2	40.2	23.0	.000000
-192.0	.112	2.98	55.1	30.1	57.3	40.3	23.1	.000000
-190.0	.114	3.07	55.1	30.1	57.5	40.5	23.2	.000000
-188.0	.116	3.15	55.2	30.2	57.6	40.6	23.3	.000000
-186.0	.117	3.25	55.2	30.2	57.8	40.8	23.4	.000000
-184.0	.119	3.34	55.3	30.3	58.0	41.0	23.5	.000000
-182.0	.120	3.44	55.3	30.3	58.1	41.1	23.6	.000000
-180.0	.122	3.54	55.4	30.4	58.3	41.3	23.7	.000000
-178.0	.124	3.65	55.4	30.4	58.4	41.4	23.8	.000000
-176.0	.125	3.76	55.5	30.5	58.6	41.6	23.9	.000000
-174.0	.127	3.88	55.5	30.5	58.8	41.8	24.0	.000000
-172.0	.128	4.00	55.6	30.6	58.9	41.9	24.1	.000000
-170.0	.130	4.13	55.6	30.6	59.1	42.1	24.3	.000000
-168.0	.131	4.26	55.7	30.7	59.3	42.3	24.4	.000000
-166.0	.133	4.39	55.8	30.8	59.4	42.4	24.5	.000000
-164.0	.134	4.53	55.8	30.8	59.6	42.6	24.6	.000000
-162.0	.136	4.68	55.9	30.9	59.8	42.8	24.7	.000000
-160.0	.137	4.84	55.9	30.9	59.9	42.9	24.8	.000000
-158.0	.138	5.00	56.0	31.0	60.1	43.1	24.9	.000000
-156.0	.139	5.16	56.0	31.0	60.3	43.3	25.1	.000000
-154.0	.140	5.34	56.1	31.1	60.5	43.5	25.2	.000000
-152.0	.141	5.52	56.1	31.1	60.6	43.6	25.3	.000000
-150.0	.142	5.71	56.2	31.2	60.8	43.8	25.4	.000000
-148.0	.143	5.91	56.3	31.3	61.0	44.0	25.6	.000000
-146.0	.143	6.12	56.3	31.3	61.2	44.2	25.7	.000000
-144.0	.144	6.34	56.4	31.4	61.4	44.4	25.8	.000000
-142.0	.144	6.57	56.4	31.4	61.5	44.5	25.9	.000000
-140.0	.144	6.81	56.5	31.5	61.7	44.7	26.1	.000000
-138.0	.144	7.06	56.6	31.6	61.9	44.9	26.2	.000000
-136.0	.144	7.32	56.6	31.6	62.1	45.1	26.4	.000000
-134.0	.143	7.59	56.7	31.7	62.3	45.3	26.5	.000000
-132.0	.143	7.88	56.8	31.8	62.5	45.5	26.6	.000000
-130.0	.142	8.19	56.8	31.8	62.6	45.6	26.8	.000000
-128.0	.141	8.50	56.9	31.9	62.8	45.8	26.9	.000000
-126.0	.139	8.84	57.0	32.0	63.0	46.0	27.1	.000000
-124.0	.138	9.19	57.0	32.0	63.2	46.2	27.2	.000000
-122.0	.136	9.56	57.1	32.1	63.4	46.4	27.4	.000000
-120.0	.135	9.95	57.2	32.2	63.6	46.6	27.5	.000000
-118.0	.133	10.35	57.2	32.2	63.8	46.8	27.7	.000000
-116.0	.131	10.79	57.3	32.3	64.0	47.0	27.9	.000000
-114.0	.130	11.24	57.4	32.4	64.2	47.2	28.0	.000000
-112.0	.129	11.72	57.5	32.5	64.4	47.4	28.2	.000000
-110.0	.129	12.22	57.5	32.5	64.6	47.6	28.4	.000000
-108.0	.131	12.75	57.6	32.6	64.8	47.8	28.5	.000000
-106.0	.134	13.32	57.7	32.7	64.9	47.9	28.7	.000000
-104.0	.139	13.91	57.8	32.8	65.1	48.1	28.9	.000000
-102.0	.147	14.54	57.8	32.8	65.3	48.3	29.1	.000000
-100.0	.159	15.21	57.9	32.9	65.5	48.5	29.3	.000000
-98.0	.173	15.91	58.0	33.0	65.7	48.7	29.5	.000000
-96.0	.192	16.66	58.1	33.1	65.9	48.9	29.7	.000000
-94.0	.214	17.45	58.2	33.2	66.1	49.1	29.9	.000000
-92.0	.241	18.30	58.2	33.2	66.3	49.3	30.1	.000000
-90.0	.272	19.19	58.3	33.3	66.5	49.5	30.3	.000000
-88.0	.308	20.14	58.4	33.4	66.7	49.7	30.5	.000000
-86.0	.349	21.15	58.5	33.5	66.9	49.9	30.7	.000000
-84.0	.395	22.23	58.6	33.6	67.1	50.1	30.9	.000000
-82.0	.447	23.38	58.7	33.7	67.3	50.3	31.2	.000000
-80.0	.506	24.60	58.8	33.8	67.5	50.5	31.4	.000000
-78.0	.571	25.91	58.9	33.9	67.6	50.6	31.7	.000000
-76.0	.645	27.31	59.0	34.0	67.8	50.8	31.9	.000000
-74.0	.726	28.80	59.1	34.1	68.0	51.0	32.2	.000000
-72.0	.818	30.39	59.2	34.2	68.5	51.5	32.4	.000000
-70.0	.919	32.10	59.3	34.3	69.0	52.0	32.7	.000000
-68.0	1.032	33.93	59.4	34.4	69.5	52.5	33.0	.000000
-66.0	1.158	35.89	59.5	34.5	70.1	53.1	33.2	.000000
-64.0	1.297	38.00	59.6	34.6	70.6	53.6	33.5	.000000
-62.0	1.452	40.26	59.7	34.7	71.1	54.1	33.8	.000000
-60.0	1.624	42.68	59.8	34.8	71.7	54.7	34.1	.000000
-58.0	1.814	45.29	59.9	34.9	72.3	55.3	34.5	.000000
-56.0	2.025	48.09	60.0	35.0	72.9	55.9	34.8	.000000
-54.0	2.257	51.10	60.2	35.2	73.5	56.5	35.1	.000000
-52.0	2.513	54.33	60.3	35.3	74.1	57.1	35.5	.000000
-50.0	2.794	57.80	60.4	35.4	74.7	57.7	35.8	.000000
-48.0	3.101	61.52	60.5	35.5	75.4	58.4	36.2	.000000
-46.0	3.435	65.52	60.6	35.6	76.0	59.0	36.5	.000000
-44.0	3.797	69.79	60.8	35.8	76.7	59.7	36.9	.000000
-42.0	4.185	74.36	60.9	35.9	77.3	60.3	37.3	.000000
-40.0	4.598	79.22	61.0	36.0	78.0	61.0	37.7	.000000
-38.0	5.034	84.38	61.2	36.2	78.7	61.7	38.1	.000000

-36.0	5.486	89.83	61.3	36.3	79.4	62.4	38.5	.000000
-34.0	5.948	95.56	61.4	36.4	80.0	63.0	38.8	.000000
-32.0	6.409	101.54	61.5	36.5	80.6	63.6	39.2	.000000
-30.0	6.858	107.72	61.7	36.7	81.2	64.2	39.6	.000000
-28.0	7.280	114.06	61.8	36.8	81.8	64.8	40.0	.000000
-26.0	7.658	120.48	61.9	36.9	82.3	65.3	40.3	.000000
-24.0	7.972	126.89	62.0	37.0	82.8	65.8	40.6	.000000
-22.0	8.205	133.20	62.1	37.1	83.2	66.2	40.8	.000000
-20.0	8.339	139.29	62.2	37.2	83.5	66.5	41.0	.000000
-18.0	8.361	145.06	62.3	37.3	83.7	66.7	41.2	.000000
-16.0	8.263	150.41	62.3	37.3	83.8	66.8	41.2	.000000
-14.0	8.045	155.25	62.4	37.4	83.8	66.8	41.2	.000000
-12.0	7.715	159.50	62.4	37.4	83.7	66.7	41.2	.000000
-10.0	7.295	163.12	62.5	37.5	83.5	66.5	41.0	.000000
-8.0	6.816	166.08	62.5	37.5	83.2	66.2	40.8	.000000
-6.0	6.323	168.38	62.5	37.5	82.8	65.8	40.6	.000000
-4.0	5.879	170.01	62.5	37.5	82.3	65.3	40.3	.000000
-2.0	5.559	170.98	62.5	37.5	81.8	64.8	40.0	.000000
.0	5.440	171.30	62.5	37.5	81.2	64.2	39.6	.000000
2.0	5.559	170.98	62.5	37.5	81.8	64.8	40.0	.000002
4.0	5.879	170.01	62.5	37.5	82.3	65.3	40.3	.000015
6.0	6.323	168.38	62.5	37.5	82.8	65.8	40.6	.000079
8.0	6.816	166.08	62.5	37.5	83.2	66.2	40.8	.000279
10.0	7.295	163.12	62.5	37.5	83.5	66.5	41.0	.000751
12.0	7.715	159.50	62.4	37.4	83.7	66.7	41.2	.001650
14.0	8.045	155.25	62.4	37.4	83.8	66.8	41.2	.003118
16.0	8.263	150.41	62.3	37.3	83.8	66.8	41.2	.005247
18.0	8.361	145.06	62.3	37.3	83.7	66.7	41.2	.008075
20.0	8.339	139.29	62.2	37.2	83.5	66.5	41.0	.011579
22.0	8.205	133.20	62.1	37.1	83.2	66.2	40.8	.015693
24.0	7.972	126.89	62.0	37.0	82.8	65.8	40.6	.020320
26.0	7.658	120.48	61.9	36.9	82.3	65.3	40.3	.025348
28.0	7.280	114.06	61.8	36.8	81.8	64.8	40.0	.030661
30.0	6.858	107.72	61.7	36.7	81.2	64.2	39.6	.036149
32.0	6.409	101.54	61.5	36.5	80.6	63.6	39.2	.041716
34.0	5.948	95.56	61.4	36.4	80.0	63.0	38.8	.047285
36.0	5.486	89.83	61.3	36.3	79.4	62.4	38.5	.052826
38.0	5.034	84.38	61.2	36.2	78.7	61.7	38.1	.058367
40.0	4.598	79.22	61.0	36.0	78.0	61.0	37.7	.064002
42.0	4.185	74.36	60.9	35.9	77.3	60.3	37.3	.069854
44.0	3.797	69.79	60.8	35.8	76.7	59.7	36.9	.076044
46.0	3.435	65.52	60.6	35.6	76.0	59.0	36.5	.082654
48.0	3.101	61.52	60.5	35.5	75.4	58.4	36.2	.089713
50.0	2.794	57.80	60.4	35.4	74.7	57.7	35.8	.097199
52.0	2.513	54.33	60.3	35.3	74.1	57.1	35.5	.105050
54.0	2.257	51.10	60.2	35.2	73.5	56.5	35.1	.113175
56.0	2.025	48.09	60.0	35.0	72.9	55.9	34.8	.121470
58.0	1.814	45.29	59.9	34.9	72.3	55.3	34.5	.129832
60.0	1.624	42.68	59.8	34.8	71.7	54.7	34.1	.138160
62.0	1.452	40.26	59.7	34.7	71.1	54.1	33.8	.146367
64.0	1.297	38.00	59.6	34.6	70.6	53.6	33.5	.154381
66.0	1.158	35.89	59.5	34.5	70.1	53.1	33.2	.162141
68.0	1.032	33.93	59.4	34.4	69.5	52.5	33.0	.169603
70.0	.919	32.10	59.3	34.3	69.0	52.0	32.7	.176734
72.0	.818	30.39	59.2	34.2	68.5	51.5	32.4	.183515
74.0	.726	28.80	59.1	34.1	68.0	51.0	32.2	.189935
76.0	.645	27.31	59.0	34.0	67.8	50.8	31.9	.195989
78.0	.571	25.91	58.9	33.9	67.6	50.6	31.7	.201682
80.0	.506	24.60	58.8	33.8	67.5	50.5	31.4	.207020
82.0	.447	23.38	58.7	33.7	67.3	50.3	31.2	.212016
84.0	.395	22.23	58.6	33.6	67.1	50.1	30.9	.216682
86.0	.349	21.15	58.5	33.5	66.9	49.9	30.7	.221036
88.0	.308	20.14	58.4	33.4	66.7	49.7	30.5	.225093
90.0	.272	19.19	58.3	33.3	66.5	49.5	30.3	.228870
92.0	.241	18.30	58.2	33.2	66.3	49.3	30.1	.232385
94.0	.214	17.46	58.2	33.2	66.1	49.1	29.9	.235653
96.0	.192	16.66	58.1	33.1	65.9	48.9	29.7	.238692
98.0	.173	15.91	58.0	33.0	65.7	48.7	29.5	.241516
100.0	.159	15.21	57.9	32.9	65.5	48.5	29.3	.244141
102.0	.147	14.54	57.8	32.8	65.3	48.3	29.1	.246582
104.0	.139	13.91	57.8	32.8	65.1	48.1	28.9	.248850
106.0	.134	13.32	57.7	32.7	64.9	47.9	28.7	.250959
108.0	.131	12.75	57.6	32.6	64.8	47.8	28.5	.252920
110.0	.129	12.22	57.5	32.5	64.6	47.6	28.4	.254745
112.0	.129	11.72	57.5	32.5	64.4	47.4	28.2	.256443
114.0	.130	11.24	57.4	32.4	64.2	47.2	28.0	.258024
116.0	.131	10.79	57.3	32.3	64.0	47.0	27.9	.259497
118.0	.133	10.35	57.2	32.2	63.8	46.8	27.7	.260870
120.0	.135	9.95	57.2	32.2	63.6	46.6	27.5	.262150
122.0	.136	9.56	57.1	32.1	63.4	46.4	27.4	.263344
124.0	.138	9.19	57.0	32.0	63.2	46.2	27.2	.264460

126.0	.139	8.84	57.0	32.0	63.0	46.0	27.1	.265502
128.0	.141	8.50	56.9	31.9	62.8	45.8	26.9	.266477
130.0	.142	8.19	56.8	31.8	62.6	45.6	26.8	.267389
132.0	.143	7.88	56.8	31.8	62.5	45.5	26.6	.268243
134.0	.143	7.59	56.7	31.7	62.3	45.3	26.5	.269043
136.0	.144	7.32	56.6	31.6	62.1	45.1	26.4	.269794
138.0	.144	7.06	56.6	31.6	61.9	44.9	26.2	.270498
140.0	.144	6.81	56.5	31.5	61.7	44.7	26.1	.271159
142.0	.144	6.57	56.4	31.4	61.5	44.5	25.9	.271781
144.0	.144	6.34	56.4	31.4	61.4	44.4	25.8	.272365
146.0	.143	6.12	56.3	31.3	61.2	44.2	25.7	.272914
148.0	.143	5.91	56.3	31.3	61.0	44.0	25.6	.273431
150.0	.142	5.71	56.2	31.2	60.8	43.8	25.4	.273917
152.0	.141	5.52	56.1	31.1	60.6	43.6	25.3	.274375
154.0	.140	5.34	56.1	31.1	60.5	43.5	25.2	.274805
156.0	.139	5.16	56.0	31.0	60.3	43.3	25.1	.275211
158.0	.138	5.00	56.0	31.0	60.1	43.1	24.9	.275592
160.0	.137	4.84	55.9	30.9	59.9	42.9	24.8	.275950
162.0	.136	4.68	55.9	30.9	59.8	42.8	24.7	.276287
164.0	.134	4.53	55.8	30.8	59.6	42.6	24.6	.276603
166.0	.133	4.39	55.8	30.8	59.4	42.4	24.5	.276899
168.0	.131	4.26	55.7	30.7	59.3	42.3	24.4	.277176
170.0	.130	4.13	55.6	30.6	59.1	42.1	24.3	.277435
172.0	.128	4.00	55.6	30.6	58.9	41.9	24.1	.277676
174.0	.127	3.88	55.5	30.5	58.8	41.8	24.0	.277900
176.0	.125	3.76	55.5	30.5	58.6	41.6	23.9	.278107
178.0	.124	3.65	55.4	30.4	58.4	41.4	23.8	.278299
180.0	.122	3.54	55.4	30.4	58.3	41.3	23.7	.278475
182.0	.120	3.44	55.3	30.3	58.1	41.1	23.6	.278636
184.0	.119	3.34	55.3	30.3	58.0	41.0	23.5	.278781
186.0	.117	3.25	55.2	30.2	57.8	40.8	23.4	.278913
188.0	.116	3.15	55.2	30.2	57.6	40.6	23.3	.279030
190.0	.114	3.07	55.1	30.1	57.5	40.5	23.2	.279133
192.0	.112	2.98	55.1	30.1	57.3	40.3	23.1	.279222
194.0	.111	2.90	55.0	30.0	57.2	40.2	23.0	.279298
196.0	.109	2.82	55.0	30.0	57.0	40.0	22.9	.279361
198.0	.108	2.74	54.9	29.9	56.9	39.9	22.8	.279411
200.0	.106	2.67	54.9	29.9	56.7	39.7	22.7	.279448
202.0	.104	2.60	54.9	29.9	56.6	39.6	22.7	.279472
204.0	.103	2.53	54.8	29.8	56.4	39.4	22.6	.279484
206.0	.101	2.46	54.8	29.8	56.3	39.3	22.5	.279483
208.0	.100	2.40	54.7	29.7	56.1	39.1	22.4	.279470
210.0	.098	2.33	54.7	29.7	56.0	39.0	22.3	.279446
212.0	.097	2.27	54.6	29.6	55.8	38.8	22.2	.279409
214.0	.095	2.22	54.6	29.6	55.7	38.7	22.1	.279361
216.0	.094	2.16	54.5	29.5	55.5	38.5	22.0	.279302
218.0	.092	2.11	54.5	29.5	55.4	38.4	22.0	.279231
220.0	.091	2.05	54.5	29.5	55.2	38.2	21.9	.279149
222.0	.090	2.00	54.4	29.4	55.1	38.1	21.8	.279055
224.0	.088	1.95	54.4	29.4	55.0	38.0	21.7	.278951
226.0	.087	1.91	54.3	29.3	54.8	37.8	21.6	.278837
228.0	.086	1.86	54.3	29.3	54.7	37.7	21.5	.278712
230.0	.084	1.82	54.3	29.3	54.6	37.6	21.5	.278576
232.0	.083	1.77	54.2	29.2	54.4	37.4	21.4	.278430
234.0	.082	1.73	54.2	29.2	54.3	37.3	21.3	.278275
236.0	.081	1.69	54.1	29.1	54.1	37.1	21.2	.278109
238.0	.079	1.65	54.1	29.1	54.0	37.0	21.1	.277933
240.0	.078	1.61	54.1	29.1	53.9	36.9	21.1	.277748
242.0	.077	1.57	54.0	29.0	53.7	36.7	21.0	.277554
244.0	.076	1.54	54.0	29.0	53.6	36.6	20.9	.277350
246.0	.075	1.50	53.9	28.9	53.5	36.5	20.8	.277137
248.0	.073	1.47	53.9	28.9	53.3	36.3	20.8	.276916
250.0	.072	1.44	53.9	28.9	53.2	36.2	20.7	.276685
252.0	.071	1.41	53.8	28.8	53.1	36.1	20.6	.276446
254.0	.070	1.37	53.8	28.8	53.0	36.0	20.5	.276199
256.0	.069	1.34	53.7	28.7	52.8	35.8	20.5	.275943
258.0	.068	1.32	53.7	28.7	52.7	35.7	20.4	.275679
260.0	.067	1.29	53.7	28.7	52.6	35.6	20.3	.275408
262.0	.066	1.26	53.6	28.6	52.5	35.5	20.3	.275128
264.0	.065	1.23	53.6	28.6	52.3	35.3	20.2	.274841
266.0	.064	1.21	53.6	28.6	52.2	35.2	20.1	.274547
268.0	.063	1.18	53.5	28.5	52.1	35.1	20.1	.274245
270.0	.062	1.16	53.5	28.5	52.0	35.0	20.0	.273936
272.0	.061	1.13	53.5	28.5	51.8	34.8	19.9	.273621
274.0	.061	1.11	53.4	28.4	51.7	34.7	19.9	.273298
276.0	.060	1.09	53.4	28.4	51.6	34.6	19.8	.272969
278.0	.059	1.06	53.4	28.4	51.5	34.5	19.7	.272634
280.0	.058	1.04	53.3	28.3	51.4	34.4	19.7	.272292
282.0	.057	1.02	53.3	28.3	51.2	34.2	19.6	.271944
284.0	.056	1.00	53.3	28.3	51.1	34.1	19.5	.271590
286.0	.056	.98	53.2	28.2	51.0	34.0	19.5	.271230

288.0	.055	.96	53.2	28.2	50.9	33.9	19.4	.270865
290.0	.054	.94	53.2	28.2	50.8	33.8	19.3	.270494
292.0	.053	.93	53.1	28.1	50.7	33.7	19.3	.270118
294.0	.053	.91	53.1	28.1	50.6	33.6	19.2	.269736
296.0	.052	.89	53.1	28.1	50.4	33.4	19.2	.269350
298.0	.051	.87	53.0	28.0	50.3	33.3	19.1	.268958
300.0	.050	.86	53.0	28.0	50.2	33.2	19.0	.268562

AC TRANSMISSION LINE CALCULATION RESULTS
500kV DOUBLE CIRCUIT LATTICE

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XS-7: 500 kV Double Circuit Lattice - Electric and Magnetic Field Calculations
 Emf Workstation Conductor Data

Total # of Conductors: 8

-6025.00	-19.50	102.00	6825.00	-19.50	102.00	1212.40	0.00
-6025.00	-35.00	62.00	6825.00	-35.00	62.00	1212.40	-120.00
-6025.00	-21.00	32.00	6825.00	-21.00	32.00	1212.40	120.00
-6025.00	21.00	32.00	6825.00	21.00	32.00	1212.40	0.00
-6025.00	35.00	62.00	6825.00	35.00	62.00	1212.40	-120.00
-6025.00	19.50	102.00	6825.00	19.50	102.00	1212.40	120.00
-6025.00	-18.50	137.45	6825.00	-18.50	137.45	10.84	-86.25
-6025.00	18.50	137.45	6825.00	18.50	137.45	9.60	-16.49

E-Field HORIZONTAL Profile Chart: "Lateral Profile Electric Field - Average Load(EF)"

Field Components = Resultant
 Distance units = (ft)
 Electric field units = KV/m

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	EF (KV/m)
0	0.00	400.00	-300.00	3.28	0.06
1	1.00	400.00	-299.00	3.28	0.06
2	2.00	400.00	-298.00	3.28	0.06
3	3.00	400.00	-297.00	3.28	0.06
4	4.00	400.00	-296.00	3.28	0.06
5	5.00	400.00	-295.00	3.28	0.06
6	6.00	400.00	-294.00	3.28	0.06
7	7.00	400.00	-293.00	3.28	0.06
8	8.00	400.00	-292.00	3.28	0.07
9	9.00	400.00	-291.00	3.28	0.07
10	10.00	400.00	-290.00	3.28	0.07
11	11.00	400.00	-289.00	3.28	0.07
12	12.00	400.00	-288.00	3.28	0.07
13	13.00	400.00	-287.00	3.28	0.07
14	14.00	400.00	-286.00	3.28	0.07
15	15.00	400.00	-285.00	3.28	0.07
16	16.00	400.00	-284.00	3.28	0.07
17	17.00	400.00	-283.00	3.28	0.07
18	18.00	400.00	-282.00	3.28	0.07
19	19.00	400.00	-281.00	3.28	0.07
20	20.00	400.00	-280.00	3.28	0.07
21	21.00	400.00	-279.00	3.28	0.07
22	22.00	400.00	-278.00	3.28	0.07
23	23.00	400.00	-277.00	3.28	0.08
24	24.00	400.00	-276.00	3.28	0.08
25	25.00	400.00	-275.00	3.28	0.08
26	26.00	400.00	-274.00	3.28	0.08
27	27.00	400.00	-273.00	3.28	0.08
28	28.00	400.00	-272.00	3.28	0.08
29	29.00	400.00	-271.00	3.28	0.08
30	30.00	400.00	-270.00	3.28	0.08
31	31.00	400.00	-269.00	3.28	0.08
32	32.00	400.00	-268.00	3.28	0.08
33	33.00	400.00	-267.00	3.28	0.08
34	34.00	400.00	-266.00	3.28	0.08
35	35.00	400.00	-265.00	3.28	0.08
36	36.00	400.00	-264.00	3.28	0.09

37	37.00	400.00	-263.00	3.28	0.09
38	38.00	400.00	-262.00	3.28	0.09
39	39.00	400.00	-261.00	3.28	0.09
40	40.00	400.00	-260.00	3.28	0.09
41	41.00	400.00	-259.00	3.28	0.09
42	42.00	400.00	-258.00	3.28	0.09
43	43.00	400.00	-257.00	3.28	0.09
44	44.00	400.00	-256.00	3.28	0.09
45	45.00	400.00	-255.00	3.28	0.09
46	46.00	400.00	-254.00	3.28	0.09
47	47.00	400.00	-253.00	3.28	0.10
48	48.00	400.00	-252.00	3.28	0.10
49	49.00	400.00	-251.00	3.28	0.10
50	50.00	400.00	-250.00	3.28	0.10
51	51.00	400.00	-249.00	3.28	0.10
52	52.00	400.00	-248.00	3.28	0.10
53	53.00	400.00	-247.00	3.28	0.10
54	54.00	400.00	-246.00	3.28	0.10
55	55.00	400.00	-245.00	3.28	0.10
56	56.00	400.00	-244.00	3.28	0.11
57	57.00	400.00	-243.00	3.28	0.11
58	58.00	400.00	-242.00	3.28	0.11
59	59.00	400.00	-241.00	3.28	0.11
60	60.00	400.00	-240.00	3.28	0.11
61	61.00	400.00	-239.00	3.28	0.11
62	62.00	400.00	-238.00	3.28	0.11
63	63.00	400.00	-237.00	3.28	0.11
64	64.00	400.00	-236.00	3.28	0.12
65	65.00	400.00	-235.00	3.28	0.12
66	66.00	400.00	-234.00	3.28	0.12
67	67.00	400.00	-233.00	3.28	0.12
68	68.00	400.00	-232.00	3.28	0.12
69	69.00	400.00	-231.00	3.28	0.12
70	70.00	400.00	-230.00	3.28	0.12
71	71.00	400.00	-229.00	3.28	0.12
72	72.00	400.00	-228.00	3.28	0.13
73	73.00	400.00	-227.00	3.28	0.13
74	74.00	400.00	-226.00	3.28	0.13
75	75.00	400.00	-225.00	3.28	0.13
76	76.00	400.00	-224.00	3.28	0.13
77	77.00	400.00	-223.00	3.28	0.13
78	78.00	400.00	-222.00	3.28	0.14
79	79.00	400.00	-221.00	3.28	0.14
80	80.00	400.00	-220.00	3.28	0.14
81	81.00	400.00	-219.00	3.28	0.14
82	82.00	400.00	-218.00	3.28	0.14
83	83.00	400.00	-217.00	3.28	0.14
84	84.00	400.00	-216.00	3.28	0.15
85	85.00	400.00	-215.00	3.28	0.15
86	86.00	400.00	-214.00	3.28	0.15
87	87.00	400.00	-213.00	3.28	0.15
88	88.00	400.00	-212.00	3.28	0.15
89	89.00	400.00	-211.00	3.28	0.16
90	90.00	400.00	-210.00	3.28	0.16
91	91.00	400.00	-209.00	3.28	0.16
92	92.00	400.00	-208.00	3.28	0.16
93	93.00	400.00	-207.00	3.28	0.16
94	94.00	400.00	-206.00	3.28	0.17
95	95.00	400.00	-205.00	3.28	0.17
96	96.00	400.00	-204.00	3.28	0.17
97	97.00	400.00	-203.00	3.28	0.17
98	98.00	400.00	-202.00	3.28	0.17
99	99.00	400.00	-201.00	3.28	0.18

100	100.00	400.00	-200.00	3.28	0.18
101	101.00	400.00	-199.00	3.28	0.18
102	102.00	400.00	-198.00	3.28	0.18
103	103.00	400.00	-197.00	3.28	0.19
104	104.00	400.00	-196.00	3.28	0.19
105	105.00	400.00	-195.00	3.28	0.19
106	106.00	400.00	-194.00	3.28	0.19
107	107.00	400.00	-193.00	3.28	0.20
108	108.00	400.00	-192.00	3.28	0.20
109	109.00	400.00	-191.00	3.28	0.20
110	110.00	400.00	-190.00	3.28	0.21
111	111.00	400.00	-189.00	3.28	0.21
112	112.00	400.00	-188.00	3.28	0.21
113	113.00	400.00	-187.00	3.28	0.21
114	114.00	400.00	-186.00	3.28	0.22
115	115.00	400.00	-185.00	3.28	0.22
116	116.00	400.00	-184.00	3.28	0.22
117	117.00	400.00	-183.00	3.28	0.23
118	118.00	400.00	-182.00	3.28	0.23
119	119.00	400.00	-181.00	3.28	0.23
120	120.00	400.00	-180.00	3.28	0.24
121	121.00	400.00	-179.00	3.28	0.24
122	122.00	400.00	-178.00	3.28	0.25
123	123.00	400.00	-177.00	3.28	0.25
124	124.00	400.00	-176.00	3.28	0.25
125	125.00	400.00	-175.00	3.28	0.26
126	126.00	400.00	-174.00	3.28	0.26
127	127.00	400.00	-173.00	3.28	0.26
128	128.00	400.00	-172.00	3.28	0.27
129	129.00	400.00	-171.00	3.28	0.27
130	130.00	400.00	-170.00	3.28	0.28
131	131.00	400.00	-169.00	3.28	0.28
132	132.00	400.00	-168.00	3.28	0.29
133	133.00	400.00	-167.00	3.28	0.29
134	134.00	400.00	-166.00	3.28	0.30
135	135.00	400.00	-165.00	3.28	0.30
136	136.00	400.00	-164.00	3.28	0.31
137	137.00	400.00	-163.00	3.28	0.31
138	138.00	400.00	-162.00	3.28	0.32
139	139.00	400.00	-161.00	3.28	0.32
140	140.00	400.00	-160.00	3.28	0.33
141	141.00	400.00	-159.00	3.28	0.33
142	142.00	400.00	-158.00	3.28	0.34
143	143.00	400.00	-157.00	3.28	0.34
144	144.00	400.00	-156.00	3.28	0.35
145	145.00	400.00	-155.00	3.28	0.36
146	146.00	400.00	-154.00	3.28	0.36
147	147.00	400.00	-153.00	3.28	0.37
148	148.00	400.00	-152.00	3.28	0.37
149	149.00	400.00	-151.00	3.28	0.38
150	150.00	400.00	-150.00	3.28	0.39
151	151.00	400.00	-149.00	3.28	0.39
152	152.00	400.00	-148.00	3.28	0.40
153	153.00	400.00	-147.00	3.28	0.41
154	154.00	400.00	-146.00	3.28	0.42
155	155.00	400.00	-145.00	3.28	0.42
156	156.00	400.00	-144.00	3.28	0.43
157	157.00	400.00	-143.00	3.28	0.44
158	158.00	400.00	-142.00	3.28	0.45
159	159.00	400.00	-141.00	3.28	0.46
160	160.00	400.00	-140.00	3.28	0.46
161	161.00	400.00	-139.00	3.28	0.47
162	162.00	400.00	-138.00	3.28	0.48

163	163.00	400.00	-137.00	3.28	0.49
164	164.00	400.00	-136.00	3.28	0.50
165	165.00	400.00	-135.00	3.28	0.51
166	166.00	400.00	-134.00	3.28	0.52
167	167.00	400.00	-133.00	3.28	0.53
168	168.00	400.00	-132.00	3.28	0.54
169	169.00	400.00	-131.00	3.28	0.55
170	170.00	400.00	-130.00	3.28	0.56
171	171.00	400.00	-129.00	3.28	0.57
172	172.00	400.00	-128.00	3.28	0.59
173	173.00	400.00	-127.00	3.28	0.60
174	174.00	400.00	-126.00	3.28	0.61
175	175.00	400.00	-125.00	3.28	0.62
176	176.00	400.00	-124.00	3.28	0.63
177	177.00	400.00	-123.00	3.28	0.65
178	178.00	400.00	-122.00	3.28	0.66
179	179.00	400.00	-121.00	3.28	0.67
180	180.00	400.00	-120.00	3.28	0.69
181	181.00	400.00	-119.00	3.28	0.70
182	182.00	400.00	-118.00	3.28	0.72
183	183.00	400.00	-117.00	3.28	0.73
184	184.00	400.00	-116.00	3.28	0.75
185	185.00	400.00	-115.00	3.28	0.76
186	186.00	400.00	-114.00	3.28	0.78
187	187.00	400.00	-113.00	3.28	0.79
188	188.00	400.00	-112.00	3.28	0.81
189	189.00	400.00	-111.00	3.28	0.83
190	190.00	400.00	-110.00	3.28	0.84
191	191.00	400.00	-109.00	3.28	0.86
192	192.00	400.00	-108.00	3.28	0.88
193	193.00	400.00	-107.00	3.28	0.90
194	194.00	400.00	-106.00	3.28	0.92
195	195.00	400.00	-105.00	3.28	0.94
196	196.00	400.00	-104.00	3.28	0.96
197	197.00	400.00	-103.00	3.28	0.98
198	198.00	400.00	-102.00	3.28	1.00
199	199.00	400.00	-101.00	3.28	1.02
200	200.00	400.00	-100.00	3.28	1.04
201	201.00	400.00	-99.00	3.28	1.07
202	202.00	400.00	-98.00	3.28	1.09
203	203.00	400.00	-97.00	3.28	1.11
204	204.00	400.00	-96.00	3.28	1.14
205	205.00	400.00	-95.00	3.28	1.16
206	206.00	400.00	-94.00	3.28	1.19
207	207.00	400.00	-93.00	3.28	1.21
208	208.00	400.00	-92.00	3.28	1.24
209	209.00	400.00	-91.00	3.28	1.26
210	210.00	400.00	-90.00	3.28	1.29
211	211.00	400.00	-89.00	3.28	1.32
212	212.00	400.00	-88.00	3.28	1.35
213	213.00	400.00	-87.00	3.28	1.38
214	214.00	400.00	-86.00	3.28	1.41
215	215.00	400.00	-85.00	3.28	1.44
216	216.00	400.00	-84.00	3.28	1.47
217	217.00	400.00	-83.00	3.28	1.51
218	218.00	400.00	-82.00	3.28	1.54
219	219.00	400.00	-81.00	3.28	1.57
220	220.00	400.00	-80.00	3.28	1.61
221	221.00	400.00	-79.00	3.28	1.65
222	222.00	400.00	-78.00	3.28	1.68
223	223.00	400.00	-77.00	3.28	1.72
224	224.00	400.00	-76.00	3.28	1.77
225	225.00	400.00	-75.00	3.28	1.81

226	226.00	400.00	-74.00	3.28	1.85
227	227.00	400.00	-73.00	3.28	1.90
228	228.00	400.00	-72.00	3.28	1.95
229	229.00	400.00	-71.00	3.28	2.00
230	230.00	400.00	-70.00	3.28	2.05
231	231.00	400.00	-69.00	3.28	2.11
232	232.00	400.00	-68.00	3.28	2.17
233	233.00	400.00	-67.00	3.28	2.23
234	234.00	400.00	-66.00	3.28	2.30
235	235.00	400.00	-65.00	3.28	2.37
236	236.00	400.00	-64.00	3.28	2.44
237	237.00	400.00	-63.00	3.28	2.52
238	238.00	400.00	-62.00	3.28	2.61
239	239.00	400.00	-61.00	3.28	2.70
240	240.00	400.00	-60.00	3.28	2.79
241	241.00	400.00	-59.00	3.28	2.89
242	242.00	400.00	-58.00	3.28	3.00
243	243.00	400.00	-57.00	3.28	3.12
244	244.00	400.00	-56.00	3.28	3.24
245	245.00	400.00	-55.00	3.28	3.37
246	246.00	400.00	-54.00	3.28	3.51
247	247.00	400.00	-53.00	3.28	3.65
248	248.00	400.00	-52.00	3.28	3.81
249	249.00	400.00	-51.00	3.28	3.97
250	250.00	400.00	-50.00	3.28	4.14
251	251.00	400.00	-49.00	3.28	4.32
252	252.00	400.00	-48.00	3.28	4.51
253	253.00	400.00	-47.00	3.28	4.71
254	254.00	400.00	-46.00	3.28	4.92
255	255.00	400.00	-45.00	3.28	5.14
256	256.00	400.00	-44.00	3.28	5.36
257	257.00	400.00	-43.00	3.28	5.59
258	258.00	400.00	-42.00	3.28	5.83
259	259.00	400.00	-41.00	3.28	6.07
260	260.00	400.00	-40.00	3.28	6.32
261	261.00	400.00	-39.00	3.28	6.57
262	262.00	400.00	-38.00	3.28	6.82
263	263.00	400.00	-37.00	3.28	7.07
264	264.00	400.00	-36.00	3.28	7.32
265	265.00	400.00	-35.00	3.28	7.56
266	266.00	400.00	-34.00	3.28	7.80
267	267.00	400.00	-33.00	3.28	8.03
268	268.00	400.00	-32.00	3.28	8.25
269	269.00	400.00	-31.00	3.28	8.46
270	270.00	400.00	-30.00	3.28	8.65
271	271.00	400.00	-29.00	3.28	8.83
272	272.00	400.00	-28.00	3.28	8.98
273	273.00	400.00	-27.00	3.28	9.11
274	274.00	400.00	-26.00	3.28	9.22
275	275.00	400.00	-25.00	3.28	9.29
276	276.00	400.00	-24.00	3.28	9.34
277	277.00	400.00	-23.00	3.28	9.36
278	278.00	400.00	-22.00	3.28	9.35
279	279.00	400.00	-21.00	3.28	9.31
280	280.00	400.00	-20.00	3.28	9.23
281	281.00	400.00	-19.00	3.28	9.13
282	282.00	400.00	-18.00	3.28	8.99
283	283.00	400.00	-17.00	3.28	8.82
284	284.00	400.00	-16.00	3.28	8.63
285	285.00	400.00	-15.00	3.28	8.41
286	286.00	400.00	-14.00	3.28	8.17
287	287.00	400.00	-13.00	3.28	7.91
288	288.00	400.00	-12.00	3.28	7.63

289	289.00	400.00	-11.00	3.28	7.34
290	290.00	400.00	-10.00	3.28	7.04
291	291.00	400.00	-9.00	3.28	6.75
292	292.00	400.00	-8.00	3.28	6.45
293	293.00	400.00	-7.00	3.28	6.17
294	294.00	400.00	-6.00	3.28	5.90
295	295.00	400.00	-5.00	3.28	5.65
296	296.00	400.00	-4.00	3.28	5.44
297	297.00	400.00	-3.00	3.28	5.26
298	298.00	400.00	-2.00	3.28	5.13
299	299.00	400.00	-1.00	3.28	5.04
300	300.00	400.00	0.00	3.28	5.02
301	301.00	400.00	1.00	3.28	5.04
302	302.00	400.00	2.00	3.28	5.13
303	303.00	400.00	3.00	3.28	5.26
304	304.00	400.00	4.00	3.28	5.44
305	305.00	400.00	5.00	3.28	5.65
306	306.00	400.00	6.00	3.28	5.90
307	307.00	400.00	7.00	3.28	6.17
308	308.00	400.00	8.00	3.28	6.45
309	309.00	400.00	9.00	3.28	6.75
310	310.00	400.00	10.00	3.28	7.05
311	311.00	400.00	11.00	3.28	7.34
312	312.00	400.00	12.00	3.28	7.63
313	313.00	400.00	13.00	3.28	7.91
314	314.00	400.00	14.00	3.28	8.17
315	315.00	400.00	15.00	3.28	8.41
316	316.00	400.00	16.00	3.28	8.63
317	317.00	400.00	17.00	3.28	8.82
318	318.00	400.00	18.00	3.28	8.99
319	319.00	400.00	19.00	3.28	9.13
320	320.00	400.00	20.00	3.28	9.23
321	321.00	400.00	21.00	3.28	9.31
322	322.00	400.00	22.00	3.28	9.35
323	323.00	400.00	23.00	3.28	9.36
324	324.00	400.00	24.00	3.28	9.34
325	325.00	400.00	25.00	3.28	9.29
326	326.00	400.00	26.00	3.28	9.22
327	327.00	400.00	27.00	3.28	9.11
328	328.00	400.00	28.00	3.28	8.98
329	329.00	400.00	29.00	3.28	8.83
330	330.00	400.00	30.00	3.28	8.65
331	331.00	400.00	31.00	3.28	8.46
332	332.00	400.00	32.00	3.28	8.25
333	333.00	400.00	33.00	3.28	8.03
334	334.00	400.00	34.00	3.28	7.80
335	335.00	400.00	35.00	3.28	7.56
336	336.00	400.00	36.00	3.28	7.32
337	337.00	400.00	37.00	3.28	7.07
338	338.00	400.00	38.00	3.28	6.82
339	339.00	400.00	39.00	3.28	6.57
340	340.00	400.00	40.00	3.28	6.32
341	341.00	400.00	41.00	3.28	6.07
342	342.00	400.00	42.00	3.28	5.83
343	343.00	400.00	43.00	3.28	5.59
344	344.00	400.00	44.00	3.28	5.36
345	345.00	400.00	45.00	3.28	5.14
346	346.00	400.00	46.00	3.28	4.92
347	347.00	400.00	47.00	3.28	4.71
348	348.00	400.00	48.00	3.28	4.52
349	349.00	400.00	49.00	3.28	4.32
350	350.00	400.00	50.00	3.28	4.14
351	351.00	400.00	51.00	3.28	3.97

352	352.00	400.00	52.00	3.28	3.81
353	353.00	400.00	53.00	3.28	3.65
354	354.00	400.00	54.00	3.28	3.51
355	355.00	400.00	55.00	3.28	3.37
356	356.00	400.00	56.00	3.28	3.24
357	357.00	400.00	57.00	3.28	3.12
358	358.00	400.00	58.00	3.28	3.00
359	359.00	400.00	59.00	3.28	2.89
360	360.00	400.00	60.00	3.28	2.79
361	361.00	400.00	61.00	3.28	2.70
362	362.00	400.00	62.00	3.28	2.61
363	363.00	400.00	63.00	3.28	2.52
364	364.00	400.00	64.00	3.28	2.44
365	365.00	400.00	65.00	3.28	2.37
366	366.00	400.00	66.00	3.28	2.30
367	367.00	400.00	67.00	3.28	2.23
368	368.00	400.00	68.00	3.28	2.17
369	369.00	400.00	69.00	3.28	2.11
370	370.00	400.00	70.00	3.28	2.05
371	371.00	400.00	71.00	3.28	2.00
372	372.00	400.00	72.00	3.28	1.95
373	373.00	400.00	73.00	3.28	1.90
374	374.00	400.00	74.00	3.28	1.85
375	375.00	400.00	75.00	3.28	1.81
376	376.00	400.00	76.00	3.28	1.77
377	377.00	400.00	77.00	3.28	1.72
378	378.00	400.00	78.00	3.28	1.69
379	379.00	400.00	79.00	3.28	1.65
380	380.00	400.00	80.00	3.28	1.61
381	381.00	400.00	81.00	3.28	1.57
382	382.00	400.00	82.00	3.28	1.54
383	383.00	400.00	83.00	3.28	1.51
384	384.00	400.00	84.00	3.28	1.47
385	385.00	400.00	85.00	3.28	1.44
386	386.00	400.00	86.00	3.28	1.41
387	387.00	400.00	87.00	3.28	1.38
388	388.00	400.00	88.00	3.28	1.35
389	389.00	400.00	89.00	3.28	1.32
390	390.00	400.00	90.00	3.28	1.29
391	391.00	400.00	91.00	3.28	1.26
392	392.00	400.00	92.00	3.28	1.24
393	393.00	400.00	93.00	3.28	1.21
394	394.00	400.00	94.00	3.28	1.19
395	395.00	400.00	95.00	3.28	1.16
396	396.00	400.00	96.00	3.28	1.14
397	397.00	400.00	97.00	3.28	1.11
398	398.00	400.00	98.00	3.28	1.09
399	399.00	400.00	99.00	3.28	1.07
400	400.00	400.00	100.00	3.28	1.04
401	401.00	400.00	101.00	3.28	1.02
402	402.00	400.00	102.00	3.28	1.00
403	403.00	400.00	103.00	3.28	0.98
404	404.00	400.00	104.00	3.28	0.96
405	405.00	400.00	105.00	3.28	0.94
406	406.00	400.00	106.00	3.28	0.92
407	407.00	400.00	107.00	3.28	0.90
408	408.00	400.00	108.00	3.28	0.88
409	409.00	400.00	109.00	3.28	0.86
410	410.00	400.00	110.00	3.28	0.84
411	411.00	400.00	111.00	3.28	0.83
412	412.00	400.00	112.00	3.28	0.81
413	413.00	400.00	113.00	3.28	0.79
414	414.00	400.00	114.00	3.28	0.78

415	415.00	400.00	115.00	3.28	0.76
416	416.00	400.00	116.00	3.28	0.75
417	417.00	400.00	117.00	3.28	0.73
418	418.00	400.00	118.00	3.28	0.72
419	419.00	400.00	119.00	3.28	0.70
420	420.00	400.00	120.00	3.28	0.69
421	421.00	400.00	121.00	3.28	0.67
422	422.00	400.00	122.00	3.28	0.66
423	423.00	400.00	123.00	3.28	0.65
424	424.00	400.00	124.00	3.28	0.63
425	425.00	400.00	125.00	3.28	0.62
426	426.00	400.00	126.00	3.28	0.61
427	427.00	400.00	127.00	3.28	0.60
428	428.00	400.00	128.00	3.28	0.59
429	429.00	400.00	129.00	3.28	0.57
430	430.00	400.00	130.00	3.28	0.56
431	431.00	400.00	131.00	3.28	0.55
432	432.00	400.00	132.00	3.28	0.54
433	433.00	400.00	133.00	3.28	0.53
434	434.00	400.00	134.00	3.28	0.52
435	435.00	400.00	135.00	3.28	0.51
436	436.00	400.00	136.00	3.28	0.50
437	437.00	400.00	137.00	3.28	0.49
438	438.00	400.00	138.00	3.28	0.48
439	439.00	400.00	139.00	3.28	0.47
440	440.00	400.00	140.00	3.28	0.46
441	441.00	400.00	141.00	3.28	0.46
442	442.00	400.00	142.00	3.28	0.45
443	443.00	400.00	143.00	3.28	0.44
444	444.00	400.00	144.00	3.28	0.43
445	445.00	400.00	145.00	3.28	0.42
446	446.00	400.00	146.00	3.28	0.42
447	447.00	400.00	147.00	3.28	0.41
448	448.00	400.00	148.00	3.28	0.40
449	449.00	400.00	149.00	3.28	0.39
450	450.00	400.00	150.00	3.28	0.39
451	451.00	400.00	151.00	3.28	0.38
452	452.00	400.00	152.00	3.28	0.37
453	453.00	400.00	153.00	3.28	0.37
454	454.00	400.00	154.00	3.28	0.36
455	455.00	400.00	155.00	3.28	0.36
456	456.00	400.00	156.00	3.28	0.35
457	457.00	400.00	157.00	3.28	0.34
458	458.00	400.00	158.00	3.28	0.34
459	459.00	400.00	159.00	3.28	0.33
460	460.00	400.00	160.00	3.28	0.33
461	461.00	400.00	161.00	3.28	0.32
462	462.00	400.00	162.00	3.28	0.32
463	463.00	400.00	163.00	3.28	0.31
464	464.00	400.00	164.00	3.28	0.31
465	465.00	400.00	165.00	3.28	0.30
466	466.00	400.00	166.00	3.28	0.30
467	467.00	400.00	167.00	3.28	0.29
468	468.00	400.00	168.00	3.28	0.29
469	469.00	400.00	169.00	3.28	0.28
470	470.00	400.00	170.00	3.28	0.28
471	471.00	400.00	171.00	3.28	0.27
472	472.00	400.00	172.00	3.28	0.27
473	473.00	400.00	173.00	3.28	0.26
474	474.00	400.00	174.00	3.28	0.26
475	475.00	400.00	175.00	3.28	0.26
476	476.00	400.00	176.00	3.28	0.25
477	477.00	400.00	177.00	3.28	0.25

478	478.00	400.00	178.00	3.28	0.25
479	479.00	400.00	179.00	3.28	0.24
480	480.00	400.00	180.00	3.28	0.24
481	481.00	400.00	181.00	3.28	0.23
482	482.00	400.00	182.00	3.28	0.23
483	483.00	400.00	183.00	3.28	0.23
484	484.00	400.00	184.00	3.28	0.22
485	485.00	400.00	185.00	3.28	0.22
486	486.00	400.00	186.00	3.28	0.22
487	487.00	400.00	187.00	3.28	0.21
488	488.00	400.00	188.00	3.28	0.21
489	489.00	400.00	189.00	3.28	0.21
490	490.00	400.00	190.00	3.28	0.21
491	491.00	400.00	191.00	3.28	0.20
492	492.00	400.00	192.00	3.28	0.20
493	493.00	400.00	193.00	3.28	0.20
494	494.00	400.00	194.00	3.28	0.19
495	495.00	400.00	195.00	3.28	0.19
496	496.00	400.00	196.00	3.28	0.19
497	497.00	400.00	197.00	3.28	0.19
498	498.00	400.00	198.00	3.28	0.18
499	499.00	400.00	199.00	3.28	0.18
500	500.00	400.00	200.00	3.28	0.18
501	501.00	400.00	201.00	3.28	0.18
502	502.00	400.00	202.00	3.28	0.17
503	503.00	400.00	203.00	3.28	0.17
504	504.00	400.00	204.00	3.28	0.17
505	505.00	400.00	205.00	3.28	0.17
506	506.00	400.00	206.00	3.28	0.17
507	507.00	400.00	207.00	3.28	0.16
508	508.00	400.00	208.00	3.28	0.16
509	509.00	400.00	209.00	3.28	0.16
510	510.00	400.00	210.00	3.28	0.16
511	511.00	400.00	211.00	3.28	0.16
512	512.00	400.00	212.00	3.28	0.15
513	513.00	400.00	213.00	3.28	0.15
514	514.00	400.00	214.00	3.28	0.15
515	515.00	400.00	215.00	3.28	0.15
516	516.00	400.00	216.00	3.28	0.15
517	517.00	400.00	217.00	3.28	0.14
518	518.00	400.00	218.00	3.28	0.14
519	519.00	400.00	219.00	3.28	0.14
520	520.00	400.00	220.00	3.28	0.14
521	521.00	400.00	221.00	3.28	0.14
522	522.00	400.00	222.00	3.28	0.14
523	523.00	400.00	223.00	3.28	0.13
524	524.00	400.00	224.00	3.28	0.13
525	525.00	400.00	225.00	3.28	0.13
526	526.00	400.00	226.00	3.28	0.13
527	527.00	400.00	227.00	3.28	0.13
528	528.00	400.00	228.00	3.28	0.13
529	529.00	400.00	229.00	3.28	0.12
530	530.00	400.00	230.00	3.28	0.12
531	531.00	400.00	231.00	3.28	0.12
532	532.00	400.00	232.00	3.28	0.12
533	533.00	400.00	233.00	3.28	0.12
534	534.00	400.00	234.00	3.28	0.12
535	535.00	400.00	235.00	3.28	0.12
536	536.00	400.00	236.00	3.28	0.12
537	537.00	400.00	237.00	3.28	0.11
538	538.00	400.00	238.00	3.28	0.11
539	539.00	400.00	239.00	3.28	0.11
540	540.00	400.00	240.00	3.28	0.11

541	541.00	400.00	241.00	3.28	0.11
542	542.00	400.00	242.00	3.28	0.11
543	543.00	400.00	243.00	3.28	0.11
544	544.00	400.00	244.00	3.28	0.11
545	545.00	400.00	245.00	3.28	0.10
546	546.00	400.00	246.00	3.28	0.10
547	547.00	400.00	247.00	3.28	0.10
548	548.00	400.00	248.00	3.28	0.10
549	549.00	400.00	249.00	3.28	0.10
550	550.00	400.00	250.00	3.28	0.10
551	551.00	400.00	251.00	3.28	0.10
552	552.00	400.00	252.00	3.28	0.10
553	553.00	400.00	253.00	3.28	0.10
554	554.00	400.00	254.00	3.28	0.09
555	555.00	400.00	255.00	3.28	0.09
556	556.00	400.00	256.00	3.28	0.09
557	557.00	400.00	257.00	3.28	0.09
558	558.00	400.00	258.00	3.28	0.09
559	559.00	400.00	259.00	3.28	0.09
560	560.00	400.00	260.00	3.28	0.09
561	561.00	400.00	261.00	3.28	0.09
562	562.00	400.00	262.00	3.28	0.09
563	563.00	400.00	263.00	3.28	0.09
564	564.00	400.00	264.00	3.28	0.09
565	565.00	400.00	265.00	3.28	0.08
566	566.00	400.00	266.00	3.28	0.08
567	567.00	400.00	267.00	3.28	0.08
568	568.00	400.00	268.00	3.28	0.08
569	569.00	400.00	269.00	3.28	0.08
570	570.00	400.00	270.00	3.28	0.08
571	571.00	400.00	271.00	3.28	0.08
572	572.00	400.00	272.00	3.28	0.08
573	573.00	400.00	273.00	3.28	0.08
574	574.00	400.00	274.00	3.28	0.08
575	575.00	400.00	275.00	3.28	0.08
576	576.00	400.00	276.00	3.28	0.08
577	577.00	400.00	277.00	3.28	0.08
578	578.00	400.00	278.00	3.28	0.07
579	579.00	400.00	279.00	3.28	0.07
580	580.00	400.00	280.00	3.28	0.07
581	581.00	400.00	281.00	3.28	0.07
582	582.00	400.00	282.00	3.28	0.07
583	583.00	400.00	283.00	3.28	0.07
584	584.00	400.00	284.00	3.28	0.07
585	585.00	400.00	285.00	3.28	0.07
586	586.00	400.00	286.00	3.28	0.07
587	587.00	400.00	287.00	3.28	0.07
588	588.00	400.00	288.00	3.28	0.07
589	589.00	400.00	289.00	3.28	0.07
590	590.00	400.00	290.00	3.28	0.07
591	591.00	400.00	291.00	3.28	0.07
592	592.00	400.00	292.00	3.28	0.07
593	593.00	400.00	293.00	3.28	0.06
594	594.00	400.00	294.00	3.28	0.06
595	595.00	400.00	295.00	3.28	0.06
596	596.00	400.00	296.00	3.28	0.06
597	597.00	400.00	297.00	3.28	0.06
598	598.00	400.00	298.00	3.28	0.06
599	599.00	400.00	299.00	3.28	0.06
600	600.00	400.00	300.00	3.28	0.06

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Average Load"

Field Components = Resultant
 Distance units = (ft)
 Magnetic field units = mG

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	1.93
1	1.00	400.00	-299.00	3.28	1.94
2	2.00	400.00	-298.00	3.28	1.96
3	3.00	400.00	-297.00	3.28	1.98
4	4.00	400.00	-296.00	3.28	2.00
5	5.00	400.00	-295.00	3.28	2.01
6	6.00	400.00	-294.00	3.28	2.03
7	7.00	400.00	-293.00	3.28	2.05
8	8.00	400.00	-292.00	3.28	2.07
9	9.00	400.00	-291.00	3.28	2.09
10	10.00	400.00	-290.00	3.28	2.11
11	11.00	400.00	-289.00	3.28	2.12
12	12.00	400.00	-288.00	3.28	2.14
13	13.00	400.00	-287.00	3.28	2.16
14	14.00	400.00	-286.00	3.28	2.18
15	15.00	400.00	-285.00	3.28	2.20
16	16.00	400.00	-284.00	3.28	2.22
17	17.00	400.00	-283.00	3.28	2.24
18	18.00	400.00	-282.00	3.28	2.26
19	19.00	400.00	-281.00	3.28	2.29
20	20.00	400.00	-280.00	3.28	2.31
21	21.00	400.00	-279.00	3.28	2.33
22	22.00	400.00	-278.00	3.28	2.35
23	23.00	400.00	-277.00	3.28	2.37
24	24.00	400.00	-276.00	3.28	2.40
25	25.00	400.00	-275.00	3.28	2.42
26	26.00	400.00	-274.00	3.28	2.44
27	27.00	400.00	-273.00	3.28	2.46
28	28.00	400.00	-272.00	3.28	2.49
29	29.00	400.00	-271.00	3.28	2.51
30	30.00	400.00	-270.00	3.28	2.54
31	31.00	400.00	-269.00	3.28	2.56
32	32.00	400.00	-268.00	3.28	2.59
33	33.00	400.00	-267.00	3.28	2.61
34	34.00	400.00	-266.00	3.28	2.64
35	35.00	400.00	-265.00	3.28	2.66
36	36.00	400.00	-264.00	3.28	2.69
37	37.00	400.00	-263.00	3.28	2.72
38	38.00	400.00	-262.00	3.28	2.74
39	39.00	400.00	-261.00	3.28	2.77
40	40.00	400.00	-260.00	3.28	2.80
41	41.00	400.00	-259.00	3.28	2.83
42	42.00	400.00	-258.00	3.28	2.86
43	43.00	400.00	-257.00	3.28	2.89
44	44.00	400.00	-256.00	3.28	2.92
45	45.00	400.00	-255.00	3.28	2.95
46	46.00	400.00	-254.00	3.28	2.98
47	47.00	400.00	-253.00	3.28	3.01
48	48.00	400.00	-252.00	3.28	3.04
49	49.00	400.00	-251.00	3.28	3.07
50	50.00	400.00	-250.00	3.28	3.10
51	51.00	400.00	-249.00	3.28	3.13

52	52.00	400.00	-248.00	3.28	3.17
53	53.00	400.00	-247.00	3.28	3.20
54	54.00	400.00	-246.00	3.28	3.24
55	55.00	400.00	-245.00	3.28	3.27
56	56.00	400.00	-244.00	3.28	3.31
57	57.00	400.00	-243.00	3.28	3.34
58	58.00	400.00	-242.00	3.28	3.38
59	59.00	400.00	-241.00	3.28	3.41
60	60.00	400.00	-240.00	3.28	3.45
61	61.00	400.00	-239.00	3.28	3.49
62	62.00	400.00	-238.00	3.28	3.53
63	63.00	400.00	-237.00	3.28	3.57
64	64.00	400.00	-236.00	3.28	3.61
65	65.00	400.00	-235.00	3.28	3.65
66	66.00	400.00	-234.00	3.28	3.69
67	67.00	400.00	-233.00	3.28	3.73
68	68.00	400.00	-232.00	3.28	3.77
69	69.00	400.00	-231.00	3.28	3.81
70	70.00	400.00	-230.00	3.28	3.86
71	71.00	400.00	-229.00	3.28	3.90
72	72.00	400.00	-228.00	3.28	3.95
73	73.00	400.00	-227.00	3.28	3.99
74	74.00	400.00	-226.00	3.28	4.04
75	75.00	400.00	-225.00	3.28	4.09
76	76.00	400.00	-224.00	3.28	4.13
77	77.00	400.00	-223.00	3.28	4.18
78	78.00	400.00	-222.00	3.28	4.23
79	79.00	400.00	-221.00	3.28	4.28
80	80.00	400.00	-220.00	3.28	4.33
81	81.00	400.00	-219.00	3.28	4.38
82	82.00	400.00	-218.00	3.28	4.44
83	83.00	400.00	-217.00	3.28	4.49
84	84.00	400.00	-216.00	3.28	4.54
85	85.00	400.00	-215.00	3.28	4.60
86	86.00	400.00	-214.00	3.28	4.66
87	87.00	400.00	-213.00	3.28	4.71
88	88.00	400.00	-212.00	3.28	4.77
89	89.00	400.00	-211.00	3.28	4.83
90	90.00	400.00	-210.00	3.28	4.89
91	91.00	400.00	-209.00	3.28	4.95
92	92.00	400.00	-208.00	3.28	5.01
93	93.00	400.00	-207.00	3.28	5.08
94	94.00	400.00	-206.00	3.28	5.14
95	95.00	400.00	-205.00	3.28	5.21
96	96.00	400.00	-204.00	3.28	5.27
97	97.00	400.00	-203.00	3.28	5.34
98	98.00	400.00	-202.00	3.28	5.41
99	99.00	400.00	-201.00	3.28	5.48
100	100.00	400.00	-200.00	3.28	5.55
101	101.00	400.00	-199.00	3.28	5.62
102	102.00	400.00	-198.00	3.28	5.70
103	103.00	400.00	-197.00	3.28	5.77
104	104.00	400.00	-196.00	3.28	5.85
105	105.00	400.00	-195.00	3.28	5.93
106	106.00	400.00	-194.00	3.28	6.01
107	107.00	400.00	-193.00	3.28	6.09
108	108.00	400.00	-192.00	3.28	6.17
109	109.00	400.00	-191.00	3.28	6.25
110	110.00	400.00	-190.00	3.28	6.34
111	111.00	400.00	-189.00	3.28	6.42
112	112.00	400.00	-188.00	3.28	6.51
113	113.00	400.00	-187.00	3.28	6.60
114	114.00	400.00	-186.00	3.28	6.69

115	115.00	400.00	-185.00	3.28	6.79
116	116.00	400.00	-184.00	3.28	6.88
117	117.00	400.00	-183.00	3.28	6.98
118	118.00	400.00	-182.00	3.28	7.08
119	119.00	400.00	-181.00	3.28	7.18
120	120.00	400.00	-180.00	3.28	7.28
121	121.00	400.00	-179.00	3.28	7.38
122	122.00	400.00	-178.00	3.28	7.49
123	123.00	400.00	-177.00	3.28	7.60
124	124.00	400.00	-176.00	3.28	7.71
125	125.00	400.00	-175.00	3.28	7.82
126	126.00	400.00	-174.00	3.28	7.94
127	127.00	400.00	-173.00	3.28	8.05
128	128.00	400.00	-172.00	3.28	8.17
129	129.00	400.00	-171.00	3.28	8.29
130	130.00	400.00	-170.00	3.28	8.42
131	131.00	400.00	-169.00	3.28	8.55
132	132.00	400.00	-168.00	3.28	8.67
133	133.00	400.00	-167.00	3.28	8.81
134	134.00	400.00	-166.00	3.28	8.94
135	135.00	400.00	-165.00	3.28	9.08
136	136.00	400.00	-164.00	3.28	9.22
137	137.00	400.00	-163.00	3.28	9.36
138	138.00	400.00	-162.00	3.28	9.51
139	139.00	400.00	-161.00	3.28	9.66
140	140.00	400.00	-160.00	3.28	9.81
141	141.00	400.00	-159.00	3.28	9.96
142	142.00	400.00	-158.00	3.28	10.12
143	143.00	400.00	-157.00	3.28	10.28
144	144.00	400.00	-156.00	3.28	10.45
145	145.00	400.00	-155.00	3.28	10.62
146	146.00	400.00	-154.00	3.28	10.79
147	147.00	400.00	-153.00	3.28	10.96
148	148.00	400.00	-152.00	3.28	11.14
149	149.00	400.00	-151.00	3.28	11.33
150	150.00	400.00	-150.00	3.28	11.52
151	151.00	400.00	-149.00	3.28	11.71
152	152.00	400.00	-148.00	3.28	11.90
153	153.00	400.00	-147.00	3.28	12.10
154	154.00	400.00	-146.00	3.28	12.31
155	155.00	400.00	-145.00	3.28	12.52
156	156.00	400.00	-144.00	3.28	12.73
157	157.00	400.00	-143.00	3.28	12.95
158	158.00	400.00	-142.00	3.28	13.17
159	159.00	400.00	-141.00	3.28	13.40
160	160.00	400.00	-140.00	3.28	13.64
161	161.00	400.00	-139.00	3.28	13.87
162	162.00	400.00	-138.00	3.28	14.12
163	163.00	400.00	-137.00	3.28	14.37
164	164.00	400.00	-136.00	3.28	14.63
165	165.00	400.00	-135.00	3.28	14.89
166	166.00	400.00	-134.00	3.28	15.16
167	167.00	400.00	-133.00	3.28	15.43
168	168.00	400.00	-132.00	3.28	15.71
169	169.00	400.00	-131.00	3.28	16.00
170	170.00	400.00	-130.00	3.28	16.29
171	171.00	400.00	-129.00	3.28	16.59
172	172.00	400.00	-128.00	3.28	16.90
173	173.00	400.00	-127.00	3.28	17.22
174	174.00	400.00	-126.00	3.28	17.54
175	175.00	400.00	-125.00	3.28	17.87
176	176.00	400.00	-124.00	3.28	18.21
177	177.00	400.00	-123.00	3.28	18.56

178	178.00	400.00	-122.00	3.28	18.92
179	179.00	400.00	-121.00	3.28	19.28
180	180.00	400.00	-120.00	3.28	19.66
181	181.00	400.00	-119.00	3.28	20.04
182	182.00	400.00	-118.00	3.28	20.44
183	183.00	400.00	-117.00	3.28	20.84
184	184.00	400.00	-116.00	3.28	21.25
185	185.00	400.00	-115.00	3.28	21.68
186	186.00	400.00	-114.00	3.28	22.11
187	187.00	400.00	-113.00	3.28	22.56
188	188.00	400.00	-112.00	3.28	23.02
189	189.00	400.00	-111.00	3.28	23.49
190	190.00	400.00	-110.00	3.28	23.97
191	191.00	400.00	-109.00	3.28	24.46
192	192.00	400.00	-108.00	3.28	24.97
193	193.00	400.00	-107.00	3.28	25.49
194	194.00	400.00	-106.00	3.28	26.03
195	195.00	400.00	-105.00	3.28	26.58
196	196.00	400.00	-104.00	3.28	27.14
197	197.00	400.00	-103.00	3.28	27.72
198	198.00	400.00	-102.00	3.28	28.32
199	199.00	400.00	-101.00	3.28	28.93
200	200.00	400.00	-100.00	3.28	29.55
201	201.00	400.00	-99.00	3.28	30.20
202	202.00	400.00	-98.00	3.28	30.86
203	203.00	400.00	-97.00	3.28	31.54
204	204.00	400.00	-96.00	3.28	32.24
205	205.00	400.00	-95.00	3.28	32.96
206	206.00	400.00	-94.00	3.28	33.70
207	207.00	400.00	-93.00	3.28	34.46
208	208.00	400.00	-92.00	3.28	35.24
209	209.00	400.00	-91.00	3.28	36.05
210	210.00	400.00	-90.00	3.28	36.87
211	211.00	400.00	-89.00	3.28	37.72
212	212.00	400.00	-88.00	3.28	38.60
213	213.00	400.00	-87.00	3.28	39.49
214	214.00	400.00	-86.00	3.28	40.42
215	215.00	400.00	-85.00	3.28	41.37
216	216.00	400.00	-84.00	3.28	42.35
217	217.00	400.00	-83.00	3.28	43.36
218	218.00	400.00	-82.00	3.28	44.40
219	219.00	400.00	-81.00	3.28	45.46
220	220.00	400.00	-80.00	3.28	46.56
221	221.00	400.00	-79.00	3.28	47.69
222	222.00	400.00	-78.00	3.28	48.86
223	223.00	400.00	-77.00	3.28	50.06
224	224.00	400.00	-76.00	3.28	51.29
225	225.00	400.00	-75.00	3.28	52.57
226	226.00	400.00	-74.00	3.28	53.88
227	227.00	400.00	-73.00	3.28	55.22
228	228.00	400.00	-72.00	3.28	56.61
229	229.00	400.00	-71.00	3.28	58.05
230	230.00	400.00	-70.00	3.28	59.52
231	231.00	400.00	-69.00	3.28	61.04
232	232.00	400.00	-68.00	3.28	62.60
233	233.00	400.00	-67.00	3.28	64.22
234	234.00	400.00	-66.00	3.28	65.88
235	235.00	400.00	-65.00	3.28	67.59
236	236.00	400.00	-64.00	3.28	69.35
237	237.00	400.00	-63.00	3.28	71.16
238	238.00	400.00	-62.00	3.28	73.03
239	239.00	400.00	-61.00	3.28	74.96
240	240.00	400.00	-60.00	3.28	76.94

241	241.00	400.00	-59.00	3.28	78.99
242	242.00	400.00	-58.00	3.28	81.09
243	243.00	400.00	-57.00	3.28	83.26
244	244.00	400.00	-56.00	3.28	85.48
245	245.00	400.00	-55.00	3.28	87.78
246	246.00	400.00	-54.00	3.28	90.14
247	247.00	400.00	-53.00	3.28	92.56
248	248.00	400.00	-52.00	3.28	95.06
249	249.00	400.00	-51.00	3.28	97.62
250	250.00	400.00	-50.00	3.28	100.25
251	251.00	400.00	-49.00	3.28	102.96
252	252.00	400.00	-48.00	3.28	105.73
253	253.00	400.00	-47.00	3.28	108.57
254	254.00	400.00	-46.00	3.28	111.48
255	255.00	400.00	-45.00	3.28	114.45
256	256.00	400.00	-44.00	3.28	117.50
257	257.00	400.00	-43.00	3.28	120.60
258	258.00	400.00	-42.00	3.28	123.77
259	259.00	400.00	-41.00	3.28	126.99
260	260.00	400.00	-40.00	3.28	130.27
261	261.00	400.00	-39.00	3.28	133.59
262	262.00	400.00	-38.00	3.28	136.96
263	263.00	400.00	-37.00	3.28	140.35
264	264.00	400.00	-36.00	3.28	143.78
265	265.00	400.00	-35.00	3.28	147.22
266	266.00	400.00	-34.00	3.28	150.67
267	267.00	400.00	-33.00	3.28	154.11
268	268.00	400.00	-32.00	3.28	157.54
269	269.00	400.00	-31.00	3.28	160.94
270	270.00	400.00	-30.00	3.28	164.30
271	271.00	400.00	-29.00	3.28	167.60
272	272.00	400.00	-28.00	3.28	170.83
273	273.00	400.00	-27.00	3.28	173.99
274	274.00	400.00	-26.00	3.28	177.04
275	275.00	400.00	-25.00	3.28	179.99
276	276.00	400.00	-24.00	3.28	182.82
277	277.00	400.00	-23.00	3.28	185.51
278	278.00	400.00	-22.00	3.28	188.07
279	279.00	400.00	-21.00	3.28	190.48
280	280.00	400.00	-20.00	3.28	192.73
281	281.00	400.00	-19.00	3.28	194.83
282	282.00	400.00	-18.00	3.28	196.76
283	283.00	400.00	-17.00	3.28	198.54
284	284.00	400.00	-16.00	3.28	200.16
285	285.00	400.00	-15.00	3.28	201.62
286	286.00	400.00	-14.00	3.28	202.94
287	287.00	400.00	-13.00	3.28	204.11
288	288.00	400.00	-12.00	3.28	205.15
289	289.00	400.00	-11.00	3.28	206.06
290	290.00	400.00	-10.00	3.28	206.85
291	291.00	400.00	-9.00	3.28	207.54
292	292.00	400.00	-8.00	3.28	208.12
293	293.00	400.00	-7.00	3.28	208.62
294	294.00	400.00	-6.00	3.28	209.04
295	295.00	400.00	-5.00	3.28	209.38
296	296.00	400.00	-4.00	3.28	209.66
297	297.00	400.00	-3.00	3.28	209.87
298	298.00	400.00	-2.00	3.28	210.03
299	299.00	400.00	-1.00	3.28	210.14
300	300.00	400.00	0.00	3.28	210.19
301	301.00	400.00	1.00	3.28	210.20
302	302.00	400.00	2.00	3.28	210.15
303	303.00	400.00	3.00	3.28	210.05

304	304.00	400.00	4.00	3.28	209.89
305	305.00	400.00	5.00	3.28	209.67
306	306.00	400.00	6.00	3.28	209.39
307	307.00	400.00	7.00	3.28	209.03
308	308.00	400.00	8.00	3.28	208.59
309	309.00	400.00	9.00	3.28	208.05
310	310.00	400.00	10.00	3.28	207.42
311	311.00	400.00	11.00	3.28	206.68
312	312.00	400.00	12.00	3.28	205.82
313	313.00	400.00	13.00	3.28	204.83
314	314.00	400.00	14.00	3.28	203.71
315	315.00	400.00	15.00	3.28	202.44
316	316.00	400.00	16.00	3.28	201.02
317	317.00	400.00	17.00	3.28	199.44
318	318.00	400.00	18.00	3.28	197.70
319	319.00	400.00	19.00	3.28	195.80
320	320.00	400.00	20.00	3.28	193.74
321	321.00	400.00	21.00	3.28	191.52
322	322.00	400.00	22.00	3.28	189.14
323	323.00	400.00	23.00	3.28	186.61
324	324.00	400.00	24.00	3.28	183.94
325	325.00	400.00	25.00	3.28	181.13
326	326.00	400.00	26.00	3.28	178.20
327	327.00	400.00	27.00	3.28	175.16
328	328.00	400.00	28.00	3.28	172.02
329	329.00	400.00	29.00	3.28	168.79
330	330.00	400.00	30.00	3.28	165.49
331	331.00	400.00	31.00	3.28	162.14
332	332.00	400.00	32.00	3.28	158.74
333	333.00	400.00	33.00	3.28	155.32
334	334.00	400.00	34.00	3.28	151.87
335	335.00	400.00	35.00	3.28	148.42
336	336.00	400.00	36.00	3.28	144.98
337	337.00	400.00	37.00	3.28	141.55
338	338.00	400.00	38.00	3.28	138.14
339	339.00	400.00	39.00	3.28	134.77
340	340.00	400.00	40.00	3.28	131.44
341	341.00	400.00	41.00	3.28	128.15
342	342.00	400.00	42.00	3.28	124.92
343	343.00	400.00	43.00	3.28	121.74
344	344.00	400.00	44.00	3.28	118.62
345	345.00	400.00	45.00	3.28	115.57
346	346.00	400.00	46.00	3.28	112.58
347	347.00	400.00	47.00	3.28	109.66
348	348.00	400.00	48.00	3.28	106.80
349	349.00	400.00	49.00	3.28	104.02
350	350.00	400.00	50.00	3.28	101.30
351	351.00	400.00	51.00	3.28	98.65
352	352.00	400.00	52.00	3.28	96.08
353	353.00	400.00	53.00	3.28	93.57
354	354.00	400.00	54.00	3.28	91.13
355	355.00	400.00	55.00	3.28	88.76
356	356.00	400.00	56.00	3.28	86.45
357	357.00	400.00	57.00	3.28	84.21
358	358.00	400.00	58.00	3.28	82.03
359	359.00	400.00	59.00	3.28	79.91
360	360.00	400.00	60.00	3.28	77.86
361	361.00	400.00	61.00	3.28	75.86
362	362.00	400.00	62.00	3.28	73.92
363	363.00	400.00	63.00	3.28	72.04
364	364.00	400.00	64.00	3.28	70.21
365	365.00	400.00	65.00	3.28	68.44
366	366.00	400.00	66.00	3.28	66.71

367	367.00	400.00	67.00	3.28	65.04
368	368.00	400.00	68.00	3.28	63.42
369	369.00	400.00	69.00	3.28	61.84
370	370.00	400.00	70.00	3.28	60.31
371	371.00	400.00	71.00	3.28	58.83
372	372.00	400.00	72.00	3.28	57.39
373	373.00	400.00	73.00	3.28	55.99
374	374.00	400.00	74.00	3.28	54.63
375	375.00	400.00	75.00	3.28	53.31
376	376.00	400.00	76.00	3.28	52.03
377	377.00	400.00	77.00	3.28	50.78
378	378.00	400.00	78.00	3.28	49.57
379	379.00	400.00	79.00	3.28	48.40
380	380.00	400.00	80.00	3.28	47.26
381	381.00	400.00	81.00	3.28	46.15
382	382.00	400.00	82.00	3.28	45.07
383	383.00	400.00	83.00	3.28	44.03
384	384.00	400.00	84.00	3.28	43.01
385	385.00	400.00	85.00	3.28	42.02
386	386.00	400.00	86.00	3.28	41.06
387	387.00	400.00	87.00	3.28	40.13
388	388.00	400.00	88.00	3.28	39.22
389	389.00	400.00	89.00	3.28	38.34
390	390.00	400.00	90.00	3.28	37.49
391	391.00	400.00	91.00	3.28	36.65
392	392.00	400.00	92.00	3.28	35.84
393	393.00	400.00	93.00	3.28	35.05
394	394.00	400.00	94.00	3.28	34.29
395	395.00	400.00	95.00	3.28	33.54
396	396.00	400.00	96.00	3.28	32.81
397	397.00	400.00	97.00	3.28	32.11
398	398.00	400.00	98.00	3.28	31.42
399	399.00	400.00	99.00	3.28	30.75
400	400.00	400.00	100.00	3.28	30.10
401	401.00	400.00	101.00	3.28	29.47
402	402.00	400.00	102.00	3.28	28.85
403	403.00	400.00	103.00	3.28	28.25
404	404.00	400.00	104.00	3.28	27.66
405	405.00	400.00	105.00	3.28	27.09
406	406.00	400.00	106.00	3.28	26.54
407	407.00	400.00	107.00	3.28	26.00
408	408.00	400.00	108.00	3.28	25.47
409	409.00	400.00	109.00	3.28	24.96
410	410.00	400.00	110.00	3.28	24.46
411	411.00	400.00	111.00	3.28	23.97
412	412.00	400.00	112.00	3.28	23.50
413	413.00	400.00	113.00	3.28	23.03
414	414.00	400.00	114.00	3.28	22.58
415	415.00	400.00	115.00	3.28	22.14
416	416.00	400.00	116.00	3.28	21.71
417	417.00	400.00	117.00	3.28	21.29
418	418.00	400.00	118.00	3.28	20.89
419	419.00	400.00	119.00	3.28	20.49
420	420.00	400.00	120.00	3.28	20.10
421	421.00	400.00	121.00	3.28	19.72
422	422.00	400.00	122.00	3.28	19.35
423	423.00	400.00	123.00	3.28	18.99
424	424.00	400.00	124.00	3.28	18.64
425	425.00	400.00	125.00	3.28	18.29
426	426.00	400.00	126.00	3.28	17.96
427	427.00	400.00	127.00	3.28	17.63
428	428.00	400.00	128.00	3.28	17.31
429	429.00	400.00	129.00	3.28	17.00

430	430.00	400.00	130.00	3.28	16.69
431	431.00	400.00	131.00	3.28	16.39
432	432.00	400.00	132.00	3.28	16.10
433	433.00	400.00	133.00	3.28	15.82
434	434.00	400.00	134.00	3.28	15.54
435	435.00	400.00	135.00	3.28	15.27
436	436.00	400.00	136.00	3.28	15.00
437	437.00	400.00	137.00	3.28	14.74
438	438.00	400.00	138.00	3.28	14.49
439	439.00	400.00	139.00	3.28	14.24
440	440.00	400.00	140.00	3.28	14.00
441	441.00	400.00	141.00	3.28	13.76
442	442.00	400.00	142.00	3.28	13.53
443	443.00	400.00	143.00	3.28	13.30
444	444.00	400.00	144.00	3.28	13.08
445	445.00	400.00	145.00	3.28	12.86
446	446.00	400.00	146.00	3.28	12.65
447	447.00	400.00	147.00	3.28	12.44
448	448.00	400.00	148.00	3.28	12.24
449	449.00	400.00	149.00	3.28	12.04
450	450.00	400.00	150.00	3.28	11.85
451	451.00	400.00	151.00	3.28	11.66
452	452.00	400.00	152.00	3.28	11.47
453	453.00	400.00	153.00	3.28	11.29
454	454.00	400.00	154.00	3.28	11.11
455	455.00	400.00	155.00	3.28	10.94
456	456.00	400.00	156.00	3.28	10.76
457	457.00	400.00	157.00	3.28	10.60
458	458.00	400.00	158.00	3.28	10.43
459	459.00	400.00	159.00	3.28	10.27
460	460.00	400.00	160.00	3.28	10.11
461	461.00	400.00	161.00	3.28	9.96
462	462.00	400.00	162.00	3.28	9.81
463	463.00	400.00	163.00	3.28	9.66
464	464.00	400.00	164.00	3.28	9.51
465	465.00	400.00	165.00	3.28	9.37
466	466.00	400.00	166.00	3.28	9.23
467	467.00	400.00	167.00	3.28	9.10
468	468.00	400.00	168.00	3.28	8.96
469	469.00	400.00	169.00	3.28	8.83
470	470.00	400.00	170.00	3.28	8.70
471	471.00	400.00	171.00	3.28	8.57
472	472.00	400.00	172.00	3.28	8.45
473	473.00	400.00	173.00	3.28	8.33
474	474.00	400.00	174.00	3.28	8.21
475	475.00	400.00	175.00	3.28	8.09
476	476.00	400.00	176.00	3.28	7.98
477	477.00	400.00	177.00	3.28	7.87
478	478.00	400.00	178.00	3.28	7.76
479	479.00	400.00	179.00	3.28	7.65
480	480.00	400.00	180.00	3.28	7.54
481	481.00	400.00	181.00	3.28	7.44
482	482.00	400.00	182.00	3.28	7.33
483	483.00	400.00	183.00	3.28	7.23
484	484.00	400.00	184.00	3.28	7.14
485	485.00	400.00	185.00	3.28	7.04
486	486.00	400.00	186.00	3.28	6.94
487	487.00	400.00	187.00	3.28	6.85
488	488.00	400.00	188.00	3.28	6.76
489	489.00	400.00	189.00	3.28	6.67
490	490.00	400.00	190.00	3.28	6.58
491	491.00	400.00	191.00	3.28	6.49
492	492.00	400.00	192.00	3.28	6.41

493	493.00	400.00	193.00	3.28	6.32
494	494.00	400.00	194.00	3.28	6.24
495	495.00	400.00	195.00	3.28	6.16
496	496.00	400.00	196.00	3.28	6.08
497	497.00	400.00	197.00	3.28	6.00
498	498.00	400.00	198.00	3.28	5.93
499	499.00	400.00	199.00	3.28	5.85
500	500.00	400.00	200.00	3.28	5.78
501	501.00	400.00	201.00	3.28	5.71
502	502.00	400.00	202.00	3.28	5.63
503	503.00	400.00	203.00	3.28	5.56
504	504.00	400.00	204.00	3.28	5.50
505	505.00	400.00	205.00	3.28	5.43
506	506.00	400.00	206.00	3.28	5.36
507	507.00	400.00	207.00	3.28	5.30
508	508.00	400.00	208.00	3.28	5.23
509	509.00	400.00	209.00	3.28	5.17
510	510.00	400.00	210.00	3.28	5.10
511	511.00	400.00	211.00	3.28	5.04
512	512.00	400.00	212.00	3.28	4.98
513	513.00	400.00	213.00	3.28	4.92
514	514.00	400.00	214.00	3.28	4.87
515	515.00	400.00	215.00	3.28	4.81
516	516.00	400.00	216.00	3.28	4.75
517	517.00	400.00	217.00	3.28	4.70
518	518.00	400.00	218.00	3.28	4.64
519	519.00	400.00	219.00	3.28	4.59
520	520.00	400.00	220.00	3.28	4.53
521	521.00	400.00	221.00	3.28	4.48
522	522.00	400.00	222.00	3.28	4.43
523	523.00	400.00	223.00	3.28	4.38
524	524.00	400.00	224.00	3.28	4.33
525	525.00	400.00	225.00	3.28	4.28
526	526.00	400.00	226.00	3.28	4.23
527	527.00	400.00	227.00	3.28	4.19
528	528.00	400.00	228.00	3.28	4.14
529	529.00	400.00	229.00	3.28	4.09
530	530.00	400.00	230.00	3.28	4.05
531	531.00	400.00	231.00	3.28	4.00
532	532.00	400.00	232.00	3.28	3.96
533	533.00	400.00	233.00	3.28	3.92
534	534.00	400.00	234.00	3.28	3.87
535	535.00	400.00	235.00	3.28	3.83
536	536.00	400.00	236.00	3.28	3.79
537	537.00	400.00	237.00	3.28	3.75
538	538.00	400.00	238.00	3.28	3.71
539	539.00	400.00	239.00	3.28	3.67
540	540.00	400.00	240.00	3.28	3.63
541	541.00	400.00	241.00	3.28	3.59
542	542.00	400.00	242.00	3.28	3.56
543	543.00	400.00	243.00	3.28	3.52
544	544.00	400.00	244.00	3.28	3.48
545	545.00	400.00	245.00	3.28	3.45
546	546.00	400.00	246.00	3.28	3.41
547	547.00	400.00	247.00	3.28	3.38
548	548.00	400.00	248.00	3.28	3.34
549	549.00	400.00	249.00	3.28	3.31
550	550.00	400.00	250.00	3.28	3.27
551	551.00	400.00	251.00	3.28	3.24
552	552.00	400.00	252.00	3.28	3.21
553	553.00	400.00	253.00	3.28	3.18
554	554.00	400.00	254.00	3.28	3.14
555	555.00	400.00	255.00	3.28	3.11

556	556.00	400.00	256.00	3.28	3.08
557	557.00	400.00	257.00	3.28	3.05
558	558.00	400.00	258.00	3.28	3.02
559	559.00	400.00	259.00	3.28	2.99
560	560.00	400.00	260.00	3.28	2.96
561	561.00	400.00	261.00	3.28	2.93
562	562.00	400.00	262.00	3.28	2.91
563	563.00	400.00	263.00	3.28	2.88
564	564.00	400.00	264.00	3.28	2.85
565	565.00	400.00	265.00	3.28	2.82
566	566.00	400.00	266.00	3.28	2.80
567	567.00	400.00	267.00	3.28	2.77
568	568.00	400.00	268.00	3.28	2.74
569	569.00	400.00	269.00	3.28	2.72
570	570.00	400.00	270.00	3.28	2.69
571	571.00	400.00	271.00	3.28	2.67
572	572.00	400.00	272.00	3.28	2.64
573	573.00	400.00	273.00	3.28	2.62
574	574.00	400.00	274.00	3.28	2.59
575	575.00	400.00	275.00	3.28	2.57
576	576.00	400.00	276.00	3.28	2.55
577	577.00	400.00	277.00	3.28	2.52
578	578.00	400.00	278.00	3.28	2.50
579	579.00	400.00	279.00	3.28	2.48
580	580.00	400.00	280.00	3.28	2.46
581	581.00	400.00	281.00	3.28	2.43
582	582.00	400.00	282.00	3.28	2.41
583	583.00	400.00	283.00	3.28	2.39
584	584.00	400.00	284.00	3.28	2.37
585	585.00	400.00	285.00	3.28	2.35
586	586.00	400.00	286.00	3.28	2.33
587	587.00	400.00	287.00	3.28	2.31
588	588.00	400.00	288.00	3.28	2.29
589	589.00	400.00	289.00	3.28	2.27
590	590.00	400.00	290.00	3.28	2.25
591	591.00	400.00	291.00	3.28	2.23
592	592.00	400.00	292.00	3.28	2.21
593	593.00	400.00	293.00	3.28	2.19
594	594.00	400.00	294.00	3.28	2.17
595	595.00	400.00	295.00	3.28	2.15
596	596.00	400.00	296.00	3.28	2.13
597	597.00	400.00	297.00	3.28	2.12
598	598.00	400.00	298.00	3.28	2.10
599	599.00	400.00	299.00	3.28	2.08
600	600.00	400.00	300.00	3.28	2.06

Emf Workstation Conductor Data

Total # of Conductors: 8

-6025.00	-19.50	102.00	6825.00	-19.50	102.00	2020.70	0.00
-6025.00	-35.00	62.00	6825.00	-35.00	62.00	2020.70	-120.00
-6025.00	-21.00	32.00	6825.00	-21.00	32.00	2020.70	120.00
-6025.00	21.00	32.00	6825.00	21.00	32.00	2020.70	0.00
-6025.00	35.00	62.00	6825.00	35.00	62.00	2020.70	-120.00
-6025.00	19.50	102.00	6825.00	19.50	102.00	2020.70	120.00
-6025.00	-18.50	137.45	6825.00	-18.50	137.45	18.07	-86.25
-6025.00	18.50	137.45	6825.00	18.50	137.45	16.01	-16.49

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Max Load"

Field Components = Z-Component

Distance units = (ft)

Magnetic field units = mG

Spacing = 1.00(ft)

Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	3.21
1	1.00	400.00	-299.00	3.28	3.24
2	2.00	400.00	-298.00	3.28	3.27
3	3.00	400.00	-297.00	3.28	3.30
4	4.00	400.00	-296.00	3.28	3.33
5	5.00	400.00	-295.00	3.28	3.36
6	6.00	400.00	-294.00	3.28	3.39
7	7.00	400.00	-293.00	3.28	3.42
8	8.00	400.00	-292.00	3.28	3.45
9	9.00	400.00	-291.00	3.28	3.48
10	10.00	400.00	-290.00	3.28	3.51
11	11.00	400.00	-289.00	3.28	3.54
12	12.00	400.00	-288.00	3.28	3.57
13	13.00	400.00	-287.00	3.28	3.61
14	14.00	400.00	-286.00	3.28	3.64
15	15.00	400.00	-285.00	3.28	3.67
16	16.00	400.00	-284.00	3.28	3.71
17	17.00	400.00	-283.00	3.28	3.74
18	18.00	400.00	-282.00	3.28	3.77
19	19.00	400.00	-281.00	3.28	3.81
20	20.00	400.00	-280.00	3.28	3.84
21	21.00	400.00	-279.00	3.28	3.88
22	22.00	400.00	-278.00	3.28	3.92
23	23.00	400.00	-277.00	3.28	3.95
24	24.00	400.00	-276.00	3.28	3.99
25	25.00	400.00	-275.00	3.28	4.03
26	26.00	400.00	-274.00	3.28	4.07
27	27.00	400.00	-273.00	3.28	4.11
28	28.00	400.00	-272.00	3.28	4.15
29	29.00	400.00	-271.00	3.28	4.19
30	30.00	400.00	-270.00	3.28	4.23
31	31.00	400.00	-269.00	3.28	4.27
32	32.00	400.00	-268.00	3.28	4.31
33	33.00	400.00	-267.00	3.28	4.35
34	34.00	400.00	-266.00	3.28	4.40
35	35.00	400.00	-265.00	3.28	4.44
36	36.00	400.00	-264.00	3.28	4.48

37	37.00	400.00	-263.00	3.28	4.53
38	38.00	400.00	-262.00	3.28	4.57
39	39.00	400.00	-261.00	3.28	4.62
40	40.00	400.00	-260.00	3.28	4.67
41	41.00	400.00	-259.00	3.28	4.71
42	42.00	400.00	-258.00	3.28	4.76
43	43.00	400.00	-257.00	3.28	4.81
44	44.00	400.00	-256.00	3.28	4.86
45	45.00	400.00	-255.00	3.28	4.91
46	46.00	400.00	-254.00	3.28	4.96
47	47.00	400.00	-253.00	3.28	5.01
48	48.00	400.00	-252.00	3.28	5.06
49	49.00	400.00	-251.00	3.28	5.12
50	50.00	400.00	-250.00	3.28	5.17
51	51.00	400.00	-249.00	3.28	5.22
52	52.00	400.00	-248.00	3.28	5.28
53	53.00	400.00	-247.00	3.28	5.34
54	54.00	400.00	-246.00	3.28	5.39
55	55.00	400.00	-245.00	3.28	5.45
56	56.00	400.00	-244.00	3.28	5.51
57	57.00	400.00	-243.00	3.28	5.57
58	58.00	400.00	-242.00	3.28	5.63
59	59.00	400.00	-241.00	3.28	5.69
60	60.00	400.00	-240.00	3.28	5.75
61	61.00	400.00	-239.00	3.28	5.82
62	62.00	400.00	-238.00	3.28	5.88
63	63.00	400.00	-237.00	3.28	5.95
64	64.00	400.00	-236.00	3.28	6.01
65	65.00	400.00	-235.00	3.28	6.08
66	66.00	400.00	-234.00	3.28	6.15
67	67.00	400.00	-233.00	3.28	6.22
68	68.00	400.00	-232.00	3.28	6.29
69	69.00	400.00	-231.00	3.28	6.36
70	70.00	400.00	-230.00	3.28	6.43
71	71.00	400.00	-229.00	3.28	6.50
72	72.00	400.00	-228.00	3.28	6.58
73	73.00	400.00	-227.00	3.28	6.65
74	74.00	400.00	-226.00	3.28	6.73
75	75.00	400.00	-225.00	3.28	6.81
76	76.00	400.00	-224.00	3.28	6.89
77	77.00	400.00	-223.00	3.28	6.97
78	78.00	400.00	-222.00	3.28	7.05
79	79.00	400.00	-221.00	3.28	7.14
80	80.00	400.00	-220.00	3.28	7.22
81	81.00	400.00	-219.00	3.28	7.31
82	82.00	400.00	-218.00	3.28	7.40
83	83.00	400.00	-217.00	3.28	7.48
84	84.00	400.00	-216.00	3.28	7.57
85	85.00	400.00	-215.00	3.28	7.67
86	86.00	400.00	-214.00	3.28	7.76
87	87.00	400.00	-213.00	3.28	7.86
88	88.00	400.00	-212.00	3.28	7.95
89	89.00	400.00	-211.00	3.28	8.05
90	90.00	400.00	-210.00	3.28	8.15
91	91.00	400.00	-209.00	3.28	8.25
92	92.00	400.00	-208.00	3.28	8.36
93	93.00	400.00	-207.00	3.28	8.46
94	94.00	400.00	-206.00	3.28	8.57
95	95.00	400.00	-205.00	3.28	8.68
96	96.00	400.00	-204.00	3.28	8.79
97	97.00	400.00	-203.00	3.28	8.90
98	98.00	400.00	-202.00	3.28	9.02
99	99.00	400.00	-201.00	3.28	9.13

100	100.00	400.00	-200.00	3.28	9.25
101	101.00	400.00	-199.00	3.28	9.37
102	102.00	400.00	-198.00	3.28	9.49
103	103.00	400.00	-197.00	3.28	9.62
104	104.00	400.00	-196.00	3.28	9.75
105	105.00	400.00	-195.00	3.28	9.88
106	106.00	400.00	-194.00	3.28	10.01
107	107.00	400.00	-193.00	3.28	10.14
108	108.00	400.00	-192.00	3.28	10.28
109	109.00	400.00	-191.00	3.28	10.42
110	110.00	400.00	-190.00	3.28	10.56
111	111.00	400.00	-189.00	3.28	10.71
112	112.00	400.00	-188.00	3.28	10.85
113	113.00	400.00	-187.00	3.28	11.00
114	114.00	400.00	-186.00	3.28	11.15
115	115.00	400.00	-185.00	3.28	11.31
116	116.00	400.00	-184.00	3.28	11.47
117	117.00	400.00	-183.00	3.28	11.63
118	118.00	400.00	-182.00	3.28	11.79
119	119.00	400.00	-181.00	3.28	11.96
120	120.00	400.00	-180.00	3.28	12.13
121	121.00	400.00	-179.00	3.28	12.31
122	122.00	400.00	-178.00	3.28	12.48
123	123.00	400.00	-177.00	3.28	12.66
124	124.00	400.00	-176.00	3.28	12.85
125	125.00	400.00	-175.00	3.28	13.04
126	126.00	400.00	-174.00	3.28	13.23
127	127.00	400.00	-173.00	3.28	13.42
128	128.00	400.00	-172.00	3.28	13.62
129	129.00	400.00	-171.00	3.28	13.82
130	130.00	400.00	-170.00	3.28	14.03
131	131.00	400.00	-169.00	3.28	14.24
132	132.00	400.00	-168.00	3.28	14.46
133	133.00	400.00	-167.00	3.28	14.68
134	134.00	400.00	-166.00	3.28	14.90
135	135.00	400.00	-165.00	3.28	15.13
136	136.00	400.00	-164.00	3.28	15.36
137	137.00	400.00	-163.00	3.28	15.60
138	138.00	400.00	-162.00	3.28	15.84
139	139.00	400.00	-161.00	3.28	16.09
140	140.00	400.00	-160.00	3.28	16.35
141	141.00	400.00	-159.00	3.28	16.60
142	142.00	400.00	-158.00	3.28	16.87
143	143.00	400.00	-157.00	3.28	17.14
144	144.00	400.00	-156.00	3.28	17.41
145	145.00	400.00	-155.00	3.28	17.69
146	146.00	400.00	-154.00	3.28	17.98
147	147.00	400.00	-153.00	3.28	18.27
148	148.00	400.00	-152.00	3.28	18.57
149	149.00	400.00	-151.00	3.28	18.88
150	150.00	400.00	-150.00	3.28	19.19
151	151.00	400.00	-149.00	3.28	19.51
152	152.00	400.00	-148.00	3.28	19.84
153	153.00	400.00	-147.00	3.28	20.17
154	154.00	400.00	-146.00	3.28	20.51
155	155.00	400.00	-145.00	3.28	20.86
156	156.00	400.00	-144.00	3.28	21.22
157	157.00	400.00	-143.00	3.28	21.58
158	158.00	400.00	-142.00	3.28	21.95
159	159.00	400.00	-141.00	3.28	22.34
160	160.00	400.00	-140.00	3.28	22.73
161	161.00	400.00	-139.00	3.28	23.12
162	162.00	400.00	-138.00	3.28	23.53

163	163.00	400.00	-137.00	3.28	23.95
164	164.00	400.00	-136.00	3.28	24.38
165	165.00	400.00	-135.00	3.28	24.81
166	166.00	400.00	-134.00	3.28	25.26
167	167.00	400.00	-133.00	3.28	25.72
168	168.00	400.00	-132.00	3.28	26.18
169	169.00	400.00	-131.00	3.28	26.66
170	170.00	400.00	-130.00	3.28	27.15
171	171.00	400.00	-129.00	3.28	27.66
172	172.00	400.00	-128.00	3.28	28.17
173	173.00	400.00	-127.00	3.28	28.70
174	174.00	400.00	-126.00	3.28	29.24
175	175.00	400.00	-125.00	3.28	29.79
176	176.00	400.00	-124.00	3.28	30.36
177	177.00	400.00	-123.00	3.28	30.94
178	178.00	400.00	-122.00	3.28	31.53
179	179.00	400.00	-121.00	3.28	32.14
180	180.00	400.00	-120.00	3.28	32.76
181	181.00	400.00	-119.00	3.28	33.40
182	182.00	400.00	-118.00	3.28	34.06
183	183.00	400.00	-117.00	3.28	34.73
184	184.00	400.00	-116.00	3.28	35.42
185	185.00	400.00	-115.00	3.28	36.13
186	186.00	400.00	-114.00	3.28	36.86
187	187.00	400.00	-113.00	3.28	37.60
188	188.00	400.00	-112.00	3.28	38.36
189	189.00	400.00	-111.00	3.28	39.15
190	190.00	400.00	-110.00	3.28	39.95
191	191.00	400.00	-109.00	3.28	40.78
192	192.00	400.00	-108.00	3.28	41.62
193	193.00	400.00	-107.00	3.28	42.49
194	194.00	400.00	-106.00	3.28	43.38
195	195.00	400.00	-105.00	3.28	44.30
196	196.00	400.00	-104.00	3.28	45.24
197	197.00	400.00	-103.00	3.28	46.20
198	198.00	400.00	-102.00	3.28	47.19
199	199.00	400.00	-101.00	3.28	48.21
200	200.00	400.00	-100.00	3.28	49.26
201	201.00	400.00	-99.00	3.28	50.33
202	202.00	400.00	-98.00	3.28	51.44
203	203.00	400.00	-97.00	3.28	52.57
204	204.00	400.00	-96.00	3.28	53.74
205	205.00	400.00	-95.00	3.28	54.94
206	206.00	400.00	-94.00	3.28	56.17
207	207.00	400.00	-93.00	3.28	57.44
208	208.00	400.00	-92.00	3.28	58.74
209	209.00	400.00	-91.00	3.28	60.08
210	210.00	400.00	-90.00	3.28	61.45
211	211.00	400.00	-89.00	3.28	62.87
212	212.00	400.00	-88.00	3.28	64.33
213	213.00	400.00	-87.00	3.28	65.83
214	214.00	400.00	-86.00	3.28	67.37
215	215.00	400.00	-85.00	3.28	68.95
216	216.00	400.00	-84.00	3.28	70.59
217	217.00	400.00	-83.00	3.28	72.27
218	218.00	400.00	-82.00	3.28	73.99
219	219.00	400.00	-81.00	3.28	75.77
220	220.00	400.00	-80.00	3.28	77.61
221	221.00	400.00	-79.00	3.28	79.49
222	222.00	400.00	-78.00	3.28	81.43
223	223.00	400.00	-77.00	3.28	83.43
224	224.00	400.00	-76.00	3.28	85.49
225	225.00	400.00	-75.00	3.28	87.61

226	226.00	400.00	-74.00	3.28	89.79
227	227.00	400.00	-73.00	3.28	92.04
228	228.00	400.00	-72.00	3.28	94.36
229	229.00	400.00	-71.00	3.28	96.74
230	230.00	400.00	-70.00	3.28	99.20
231	231.00	400.00	-69.00	3.28	101.73
232	232.00	400.00	-68.00	3.28	104.34
233	233.00	400.00	-67.00	3.28	107.03
234	234.00	400.00	-66.00	3.28	109.80
235	235.00	400.00	-65.00	3.28	112.65
236	236.00	400.00	-64.00	3.28	115.58
237	237.00	400.00	-63.00	3.28	118.61
238	238.00	400.00	-62.00	3.28	121.73
239	239.00	400.00	-61.00	3.28	124.94
240	240.00	400.00	-60.00	3.28	128.24
241	241.00	400.00	-59.00	3.28	131.65
242	242.00	400.00	-58.00	3.28	135.15
243	243.00	400.00	-57.00	3.28	138.76
244	244.00	400.00	-56.00	3.28	142.48
245	245.00	400.00	-55.00	3.28	146.30
246	246.00	400.00	-54.00	3.28	150.23
247	247.00	400.00	-53.00	3.28	154.28
248	248.00	400.00	-52.00	3.28	158.43
249	249.00	400.00	-51.00	3.28	162.71
250	250.00	400.00	-50.00	3.28	167.09
251	251.00	400.00	-49.00	3.28	171.60
252	252.00	400.00	-48.00	3.28	176.22
253	253.00	400.00	-47.00	3.28	180.95
254	254.00	400.00	-46.00	3.28	185.80
255	255.00	400.00	-45.00	3.28	190.76
256	256.00	400.00	-44.00	3.28	195.83
257	257.00	400.00	-43.00	3.28	201.01
258	258.00	400.00	-42.00	3.28	206.29
259	259.00	400.00	-41.00	3.28	211.66
260	260.00	400.00	-40.00	3.28	217.12
261	261.00	400.00	-39.00	3.28	222.66
262	262.00	400.00	-38.00	3.28	228.26
263	263.00	400.00	-37.00	3.28	233.93
264	264.00	400.00	-36.00	3.28	239.63
265	265.00	400.00	-35.00	3.28	245.37
266	266.00	400.00	-34.00	3.28	251.11
267	267.00	400.00	-33.00	3.28	256.85
268	268.00	400.00	-32.00	3.28	262.57
269	269.00	400.00	-31.00	3.28	268.23
270	270.00	400.00	-30.00	3.28	273.83
271	271.00	400.00	-29.00	3.28	279.34
272	272.00	400.00	-28.00	3.28	284.73
273	273.00	400.00	-27.00	3.28	289.98
274	274.00	400.00	-26.00	3.28	295.07
275	275.00	400.00	-25.00	3.28	299.99
276	276.00	400.00	-24.00	3.28	304.70
277	277.00	400.00	-23.00	3.28	309.20
278	278.00	400.00	-22.00	3.28	313.46
279	279.00	400.00	-21.00	3.28	317.47
280	280.00	400.00	-20.00	3.28	321.23
281	281.00	400.00	-19.00	3.28	324.72
282	282.00	400.00	-18.00	3.28	327.94
283	283.00	400.00	-17.00	3.28	330.90
284	284.00	400.00	-16.00	3.28	333.60
285	285.00	400.00	-15.00	3.28	336.04
286	286.00	400.00	-14.00	3.28	338.23
287	287.00	400.00	-13.00	3.28	340.19
288	288.00	400.00	-12.00	3.28	341.92

289	289.00	400.00	-11.00	3.28	343.43
290	290.00	400.00	-10.00	3.28	344.76
291	291.00	400.00	-9.00	3.28	345.90
292	292.00	400.00	-8.00	3.28	346.88
293	293.00	400.00	-7.00	3.28	347.71
294	294.00	400.00	-6.00	3.28	348.40
295	295.00	400.00	-5.00	3.28	348.98
296	296.00	400.00	-4.00	3.28	349.44
297	297.00	400.00	-3.00	3.28	349.79
298	298.00	400.00	-2.00	3.28	350.06
299	299.00	400.00	-1.00	3.28	350.24
300	300.00	400.00	0.00	3.28	350.33
301	301.00	400.00	1.00	3.28	350.33
302	302.00	400.00	2.00	3.28	350.25
303	303.00	400.00	3.00	3.28	350.09
304	304.00	400.00	4.00	3.28	349.83
305	305.00	400.00	5.00	3.28	349.46
306	306.00	400.00	6.00	3.28	348.99
307	307.00	400.00	7.00	3.28	348.39
308	308.00	400.00	8.00	3.28	347.65
309	309.00	400.00	9.00	3.28	346.76
310	310.00	400.00	10.00	3.28	345.71
311	311.00	400.00	11.00	3.28	344.47
312	312.00	400.00	12.00	3.28	343.04
313	313.00	400.00	13.00	3.28	341.39
314	314.00	400.00	14.00	3.28	339.51
315	315.00	400.00	15.00	3.28	337.40
316	316.00	400.00	16.00	3.28	335.03
317	317.00	400.00	17.00	3.28	332.40
318	318.00	400.00	18.00	3.28	329.51
319	319.00	400.00	19.00	3.28	326.34
320	320.00	400.00	20.00	3.28	322.91
321	321.00	400.00	21.00	3.28	319.20
322	322.00	400.00	22.00	3.28	315.24
323	323.00	400.00	23.00	3.28	311.02
324	324.00	400.00	24.00	3.28	306.56
325	325.00	400.00	25.00	3.28	301.89
326	326.00	400.00	26.00	3.28	297.00
327	327.00	400.00	27.00	3.28	291.93
328	328.00	400.00	28.00	3.28	286.70
329	329.00	400.00	29.00	3.28	281.32
330	330.00	400.00	30.00	3.28	275.83
331	331.00	400.00	31.00	3.28	270.24
332	332.00	400.00	32.00	3.28	264.58
333	333.00	400.00	33.00	3.28	258.87
334	334.00	400.00	34.00	3.28	253.13
335	335.00	400.00	35.00	3.28	247.38
336	336.00	400.00	36.00	3.28	241.63
337	337.00	400.00	37.00	3.28	235.92
338	338.00	400.00	38.00	3.28	230.24
339	339.00	400.00	39.00	3.28	224.62
340	340.00	400.00	40.00	3.28	219.07
341	341.00	400.00	41.00	3.28	213.59
342	342.00	400.00	42.00	3.28	208.20
343	343.00	400.00	43.00	3.28	202.91
344	344.00	400.00	44.00	3.28	197.71
345	345.00	400.00	45.00	3.28	192.62
346	346.00	400.00	46.00	3.28	187.63
347	347.00	400.00	47.00	3.28	182.76
348	348.00	400.00	48.00	3.28	178.01
349	349.00	400.00	49.00	3.28	173.36
350	350.00	400.00	50.00	3.28	168.84
351	351.00	400.00	51.00	3.28	164.43

352	352.00	400.00	52.00	3.28	160.13
353	353.00	400.00	53.00	3.28	155.95
354	354.00	400.00	54.00	3.28	151.89
355	355.00	400.00	55.00	3.28	147.93
356	356.00	400.00	56.00	3.28	144.08
357	357.00	400.00	57.00	3.28	140.35
358	358.00	400.00	58.00	3.28	136.72
359	359.00	400.00	59.00	3.28	133.19
360	360.00	400.00	60.00	3.28	129.76
361	361.00	400.00	61.00	3.28	126.44
362	362.00	400.00	62.00	3.28	123.20
363	363.00	400.00	63.00	3.28	120.07
364	364.00	400.00	64.00	3.28	117.02
365	365.00	400.00	65.00	3.28	114.06
366	366.00	400.00	66.00	3.28	111.19
367	367.00	400.00	67.00	3.28	108.41
368	368.00	400.00	68.00	3.28	105.70
369	369.00	400.00	69.00	3.28	103.07
370	370.00	400.00	70.00	3.28	100.52
371	371.00	400.00	71.00	3.28	98.05
372	372.00	400.00	72.00	3.28	95.65
373	373.00	400.00	73.00	3.28	93.31
374	374.00	400.00	74.00	3.28	91.05
375	375.00	400.00	75.00	3.28	88.85
376	376.00	400.00	76.00	3.28	86.71
377	377.00	400.00	77.00	3.28	84.64
378	378.00	400.00	78.00	3.28	82.62
379	379.00	400.00	79.00	3.28	80.67
380	380.00	400.00	80.00	3.28	78.76
381	381.00	400.00	81.00	3.28	76.92
382	382.00	400.00	82.00	3.28	75.12
383	383.00	400.00	83.00	3.28	73.38
384	384.00	400.00	84.00	3.28	71.69
385	385.00	400.00	85.00	3.28	70.04
386	386.00	400.00	86.00	3.28	68.44
387	387.00	400.00	87.00	3.28	66.89
388	388.00	400.00	88.00	3.28	65.38
389	389.00	400.00	89.00	3.28	63.91
390	390.00	400.00	90.00	3.28	62.48
391	391.00	400.00	91.00	3.28	61.09
392	392.00	400.00	92.00	3.28	59.74
393	393.00	400.00	93.00	3.28	58.42
394	394.00	400.00	94.00	3.28	57.14
395	395.00	400.00	95.00	3.28	55.90
396	396.00	400.00	96.00	3.28	54.69
397	397.00	400.00	97.00	3.28	53.51
398	398.00	400.00	98.00	3.28	52.37
399	399.00	400.00	99.00	3.28	51.25
400	400.00	400.00	100.00	3.28	50.17
401	401.00	400.00	101.00	3.28	49.11
402	402.00	400.00	102.00	3.28	48.08
403	403.00	400.00	103.00	3.28	47.08
404	404.00	400.00	104.00	3.28	46.11
405	405.00	400.00	105.00	3.28	45.16
406	406.00	400.00	106.00	3.28	44.23
407	407.00	400.00	107.00	3.28	43.33
408	408.00	400.00	108.00	3.28	42.45
409	409.00	400.00	109.00	3.28	41.60
410	410.00	400.00	110.00	3.28	40.77
411	411.00	400.00	111.00	3.28	39.95
412	412.00	400.00	112.00	3.28	39.16
413	413.00	400.00	113.00	3.28	38.39
414	414.00	400.00	114.00	3.28	37.64

415	415.00	400.00	115.00	3.28	36.90
416	416.00	400.00	116.00	3.28	36.19
417	417.00	400.00	117.00	3.28	35.49
418	418.00	400.00	118.00	3.28	34.81
419	419.00	400.00	119.00	3.28	34.15
420	420.00	400.00	120.00	3.28	33.50
421	421.00	400.00	121.00	3.28	32.87
422	422.00	400.00	122.00	3.28	32.25
423	423.00	400.00	123.00	3.28	31.65
424	424.00	400.00	124.00	3.28	31.06
425	425.00	400.00	125.00	3.28	30.49
426	426.00	400.00	126.00	3.28	29.93
427	427.00	400.00	127.00	3.28	29.38
428	428.00	400.00	128.00	3.28	28.85
429	429.00	400.00	129.00	3.28	28.33
430	430.00	400.00	130.00	3.28	27.82
431	431.00	400.00	131.00	3.28	27.32
432	432.00	400.00	132.00	3.28	26.84
433	433.00	400.00	133.00	3.28	26.36
434	434.00	400.00	134.00	3.28	25.90
435	435.00	400.00	135.00	3.28	25.45
436	436.00	400.00	136.00	3.28	25.00
437	437.00	400.00	137.00	3.28	24.57
438	438.00	400.00	138.00	3.28	24.15
439	439.00	400.00	139.00	3.28	23.74
440	440.00	400.00	140.00	3.28	23.33
441	441.00	400.00	141.00	3.28	22.94
442	442.00	400.00	142.00	3.28	22.55
443	443.00	400.00	143.00	3.28	22.17
444	444.00	400.00	144.00	3.28	21.80
445	445.00	400.00	145.00	3.28	21.44
446	446.00	400.00	146.00	3.28	21.09
447	447.00	400.00	147.00	3.28	20.74
448	448.00	400.00	148.00	3.28	20.40
449	449.00	400.00	149.00	3.28	20.07
450	450.00	400.00	150.00	3.28	19.75
451	451.00	400.00	151.00	3.28	19.43
452	452.00	400.00	152.00	3.28	19.12
453	453.00	400.00	153.00	3.28	18.81
454	454.00	400.00	154.00	3.28	18.52
455	455.00	400.00	155.00	3.28	18.23
456	456.00	400.00	156.00	3.28	17.94
457	457.00	400.00	157.00	3.28	17.66
458	458.00	400.00	158.00	3.28	17.39
459	459.00	400.00	159.00	3.28	17.12
460	460.00	400.00	160.00	3.28	16.86
461	461.00	400.00	161.00	3.28	16.60
462	462.00	400.00	162.00	3.28	16.35
463	463.00	400.00	163.00	3.28	16.10
464	464.00	400.00	164.00	3.28	15.86
465	465.00	400.00	165.00	3.28	15.62
466	466.00	400.00	166.00	3.28	15.39
467	467.00	400.00	167.00	3.28	15.16
468	468.00	400.00	168.00	3.28	14.94
469	469.00	400.00	169.00	3.28	14.72
470	470.00	400.00	170.00	3.28	14.50
471	471.00	400.00	171.00	3.28	14.29
472	472.00	400.00	172.00	3.28	14.09
473	473.00	400.00	173.00	3.28	13.88
474	474.00	400.00	174.00	3.28	13.68
475	475.00	400.00	175.00	3.28	13.49
476	476.00	400.00	176.00	3.28	13.30
477	477.00	400.00	177.00	3.28	13.11

478	478.00	400.00	178.00	3.28	12.93
479	479.00	400.00	179.00	3.28	12.75
480	480.00	400.00	180.00	3.28	12.57
481	481.00	400.00	181.00	3.28	12.40
482	482.00	400.00	182.00	3.28	12.22
483	483.00	400.00	183.00	3.28	12.06
484	484.00	400.00	184.00	3.28	11.89
485	485.00	400.00	185.00	3.28	11.73
486	486.00	400.00	186.00	3.28	11.57
487	487.00	400.00	187.00	3.28	11.42
488	488.00	400.00	188.00	3.28	11.26
489	489.00	400.00	189.00	3.28	11.11
490	490.00	400.00	190.00	3.28	10.97
491	491.00	400.00	191.00	3.28	10.82
492	492.00	400.00	192.00	3.28	10.68
493	493.00	400.00	193.00	3.28	10.54
494	494.00	400.00	194.00	3.28	10.40
495	495.00	400.00	195.00	3.28	10.27
496	496.00	400.00	196.00	3.28	10.14
497	497.00	400.00	197.00	3.28	10.01
498	498.00	400.00	198.00	3.28	9.88
499	499.00	400.00	199.00	3.28	9.75
500	500.00	400.00	200.00	3.28	9.63
501	501.00	400.00	201.00	3.28	9.51
502	502.00	400.00	202.00	3.28	9.39
503	503.00	400.00	203.00	3.28	9.27
504	504.00	400.00	204.00	3.28	9.16
505	505.00	400.00	205.00	3.28	9.05
506	506.00	400.00	206.00	3.28	8.93
507	507.00	400.00	207.00	3.28	8.83
508	508.00	400.00	208.00	3.28	8.72
509	509.00	400.00	209.00	3.28	8.61
510	510.00	400.00	210.00	3.28	8.51
511	511.00	400.00	211.00	3.28	8.41
512	512.00	400.00	212.00	3.28	8.31
513	513.00	400.00	213.00	3.28	8.21
514	514.00	400.00	214.00	3.28	8.11
515	515.00	400.00	215.00	3.28	8.01
516	516.00	400.00	216.00	3.28	7.92
517	517.00	400.00	217.00	3.28	7.83
518	518.00	400.00	218.00	3.28	7.74
519	519.00	400.00	219.00	3.28	7.65
520	520.00	400.00	220.00	3.28	7.56
521	521.00	400.00	221.00	3.28	7.47
522	522.00	400.00	222.00	3.28	7.39
523	523.00	400.00	223.00	3.28	7.30
524	524.00	400.00	224.00	3.28	7.22
525	525.00	400.00	225.00	3.28	7.14
526	526.00	400.00	226.00	3.28	7.06
527	527.00	400.00	227.00	3.28	6.98
528	528.00	400.00	228.00	3.28	6.90
529	529.00	400.00	229.00	3.28	6.82
530	530.00	400.00	230.00	3.28	6.75
531	531.00	400.00	231.00	3.28	6.67
532	532.00	400.00	232.00	3.28	6.60
533	533.00	400.00	233.00	3.28	6.53
534	534.00	400.00	234.00	3.28	6.46
535	535.00	400.00	235.00	3.28	6.39
536	536.00	400.00	236.00	3.28	6.32
537	537.00	400.00	237.00	3.28	6.25
538	538.00	400.00	238.00	3.28	6.18
539	539.00	400.00	239.00	3.28	6.12
540	540.00	400.00	240.00	3.28	6.05

541	541.00	400.00	241.00	3.28	5.99
542	542.00	400.00	242.00	3.28	5.93
543	543.00	400.00	243.00	3.28	5.86
544	544.00	400.00	244.00	3.28	5.80
545	545.00	400.00	245.00	3.28	5.74
546	546.00	400.00	246.00	3.28	5.68
547	547.00	400.00	247.00	3.28	5.63
548	548.00	400.00	248.00	3.28	5.57
549	549.00	400.00	249.00	3.28	5.51
550	550.00	400.00	250.00	3.28	5.46
551	551.00	400.00	251.00	3.28	5.40
552	552.00	400.00	252.00	3.28	5.35
553	553.00	400.00	253.00	3.28	5.29
554	554.00	400.00	254.00	3.28	5.24
555	555.00	400.00	255.00	3.28	5.19
556	556.00	400.00	256.00	3.28	5.14
557	557.00	400.00	257.00	3.28	5.09
558	558.00	400.00	258.00	3.28	5.04
559	559.00	400.00	259.00	3.28	4.99
560	560.00	400.00	260.00	3.28	4.94
561	561.00	400.00	261.00	3.28	4.89
562	562.00	400.00	262.00	3.28	4.84
563	563.00	400.00	263.00	3.28	4.80
564	564.00	400.00	264.00	3.28	4.75
565	565.00	400.00	265.00	3.28	4.70
566	566.00	400.00	266.00	3.28	4.66
567	567.00	400.00	267.00	3.28	4.62
568	568.00	400.00	268.00	3.28	4.57
569	569.00	400.00	269.00	3.28	4.53
570	570.00	400.00	270.00	3.28	4.49
571	571.00	400.00	271.00	3.28	4.44
572	572.00	400.00	272.00	3.28	4.40
573	573.00	400.00	273.00	3.28	4.36
574	574.00	400.00	274.00	3.28	4.32
575	575.00	400.00	275.00	3.28	4.28
576	576.00	400.00	276.00	3.28	4.24
577	577.00	400.00	277.00	3.28	4.21
578	578.00	400.00	278.00	3.28	4.17
579	579.00	400.00	279.00	3.28	4.13
580	580.00	400.00	280.00	3.28	4.09
581	581.00	400.00	281.00	3.28	4.06
582	582.00	400.00	282.00	3.28	4.02
583	583.00	400.00	283.00	3.28	3.98
584	584.00	400.00	284.00	3.28	3.95
585	585.00	400.00	285.00	3.28	3.91
586	586.00	400.00	286.00	3.28	3.88
587	587.00	400.00	287.00	3.28	3.85
588	588.00	400.00	288.00	3.28	3.81
589	589.00	400.00	289.00	3.28	3.78
590	590.00	400.00	290.00	3.28	3.75
591	591.00	400.00	291.00	3.28	3.71
592	592.00	400.00	292.00	3.28	3.68
593	593.00	400.00	293.00	3.28	3.65
594	594.00	400.00	294.00	3.28	3.62
595	595.00	400.00	295.00	3.28	3.59
596	596.00	400.00	296.00	3.28	3.56
597	597.00	400.00	297.00	3.28	3.53
598	598.00	400.00	298.00	3.28	3.50
599	599.00	400.00	299.00	3.28	3.47
600	600.00	400.00	300.00	3.28	3.44

RESULTS OF ENVIRO PROGRAM

STUDY FILE NAME: C:\PROGRA~1\EPRI\EMFW_251\ENVIRO\CLEANL~1\500DLATT.I01
 DATE: 3/ 5/2014 TIME: 17:42

500 kV Double Lattice (XS-7)

```
*****
*                                     BUNDLE INFORMATION                                     *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | LOAD | CURRENT | # | COORDINATES | PHASE |
| #    | #    | (kV)   | (DEG) | (AMPS) | (DEG) | OF | X | Y |
|      |      |        |        |        |        | COND | (FT) | (FT) |
*****
| 1    | 1    | 550.0  | .0    | 1212.4 | .0    | 3 | -19.5 | 124.7 | A
| 2    | 1    | 550.0  | 240.0 | 1212.4 | 240.0 | 3 | -35.0 | 84.7  | B
| 3    | 1    | 550.0  | 120.0 | 1212.4 | 120.0 | 3 | -21.0 | 54.7  | C
| 4    | 2    | 550.0  | .0    | 1212.4 | .0    | 3 | 21.0  | 54.7  | A
| 5    | 2    | 550.0  | 240.0 | 1212.4 | 240.0 | 3 | 35.0  | 84.7  | B
| 6    | 2    | 550.0  | 120.0 | 1212.4 | 120.0 | 3 | 19.5  | 124.7 | C
| 7    | 1    | .0      | .0    | .0      | .0    | 1 | -18.5 | 160.1 | GND
| 8    | 2    | .0      | .0    | .0      | .0    | 1 | 18.5  | 160.1 | GND
*****
*                                     MINIMUM GROUND CLEARANCE = 54.660 FT.                                     *
*****
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```
*****
*                                     SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                                     *
*****
| BNDL | DIAMETER | SPACING | DC RESIST. | AC RESIST. | AC REACT. |
| #    | (IN)     | (IN)    | (OHMS/MI) | (OHMS/MI) | (OHMS/MI) |
*****
| 1    | 1.293    | 18.000  | .08300    | .08510    | .380000    |
| 2    | 1.293    | 18.000  | .08300    | .08510    | .380000    |
| 3    | 1.293    | 18.000  | .08300    | .08510    | .380000    |
| 4    | 1.293    | 18.000  | .08300    | .08510    | .380000    |
| 5    | 1.293    | 18.000  | .08300    | .08510    | .380000    |
| 6    | 1.293    | 18.000  | .08300    | .08510    | .380000    |
| 7    | .776     | .000    | .19270    | .19400    | .432000    |
| 8    | .776     | .000    | .19270    | .19400    | .432000    |
*****
```

```
*****
*
* MAXIMUM SURFACE GRADIENT (kV/cm) *
*
*****
```

BNDL #	Type	ACrms	PEAK(+)	PEAK(-)
1	AC	17.13	24.23	-24.23
2	AC	17.15	24.25	-24.25
3	AC	17.66	24.97	-24.97
4	AC	17.66	24.97	-24.97
5	AC	17.15	24.25	-24.25
6	AC	17.13	24.23	-24.23
7	Ground Wire	4.64	6.56	-6.56
8	Ground Wire	4.64	6.56	-6.56

```

*****
*
*           AUDIBLE NOISE
*
* Microphone is 5.00 feet above ground *
*           Altitude 3000. ft
*
*****

```

<----- HVTRC CALCULATION METHOD ----->

LATERAL DISTANCE		L50 FAIR	L5 RAIN	L50 RAIN	Leq(24)	Ldn
(feet)	(meters)	(dB(A))	(dB(A))	(dB(A))	(dB(A))	(dB(A))
-300.0	-91.44	38.0	52.9	49.3	46.2	53.0
-275.0	-83.82	38.5	53.4	49.8	46.7	53.5
-250.0	-76.20	39.0	54.0	50.4	47.2	54.0
-225.0	-68.58	39.6	54.5	50.9	47.8	54.6
-200.0	-60.96	40.2	55.1	51.5	48.4	55.2
-175.0	-53.34	40.8	55.8	52.2	49.0	55.9
-150.0	-45.72	41.5	56.5	52.9	49.7	56.5
-125.0	-38.10	42.2	57.2	53.6	50.5	57.3
-100.0	-30.48	43.1	58.0	54.4	51.3	58.1
-75.0	-22.86	43.9	58.9	55.3	52.2	59.0
-50.0	-15.24	44.8	59.7	56.1	53.0	59.8
-25.0	-7.62	45.4	60.3	56.7	53.6	60.4
.0	.00	45.6	60.5	57.0	53.8	60.7
25.0	7.62	45.4	60.3	56.7	53.6	60.4
50.0	15.24	44.8	59.7	56.1	53.0	59.8
75.0	22.86	43.9	58.9	55.3	52.2	59.0
100.0	30.48	43.1	58.0	54.4	51.3	58.1
125.0	38.10	42.2	57.2	53.6	50.5	57.3
150.0	45.72	41.5	56.5	52.9	49.7	56.5
175.0	53.34	40.8	55.8	52.2	49.0	55.9
200.0	60.96	40.2	55.1	51.5	48.4	55.2
225.0	68.58	39.6	54.5	50.9	47.8	54.6
250.0	76.20	39.0	54.0	50.4	47.2	54.0
275.0	83.82	38.5	53.4	49.8	46.7	53.5
300.0	91.44	38.0	52.9	49.3	46.2	53.0

```

*****
*
*   AUDIBLE NOISE   *
*   (other methods) *
*
* Altitude    3000. ft *
*
*****

```

LATERAL DISTANCE		<----- BPA METHOD ----->				<- CRIEPI -->		EdF	ENEL	IREQ
(feet)	(meters)	FAIR WEATHER	L5 RAIN	L50 RAIN	Ldn	AVERAGE	L5 RAIN	L5 RAIN	L5 RAIN	L5 RAIN
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
-300.0	-91.44	25.0	53.5	50.0	.0	.0	.0	.0	.0	.0
-275.0	-83.82	25.4	53.9	50.4	.0	.0	.0	.0	.0	.0
-250.0	-76.20	25.8	54.3	50.8	.0	.0	.0	.0	.0	.0
-225.0	-68.58	26.3	54.8	51.3	.0	.0	.0	.0	.0	.0
-200.0	-60.96	26.8	55.3	51.8	.0	.0	.0	.0	.0	.0
-175.0	-53.34	27.4	55.9	52.4	.0	.0	.0	.0	.0	.0
-150.0	-45.72	28.0	56.5	53.0	.0	.0	.0	.0	.0	.0
-125.0	-38.10	28.7	57.2	53.7	.0	.0	.0	.0	.0	.0
-100.0	-30.48	29.5	58.0	54.5	.0	.0	.0	.0	.0	.0
-75.0	-22.86	30.4	58.9	55.4	.0	.0	.0	.0	.0	.0
-50.0	-15.24	31.2	59.7	56.2	.0	.0	.0	.0	.0	.0
-25.0	-7.62	31.9	60.4	56.9	.0	.0	.0	.0	.0	.0
.0	.00	32.1	60.6	57.1	.0	.0	.0	.0	.0	.0
25.0	7.62	31.9	60.4	56.9	.0	.0	.0	.0	.0	.0
50.0	15.24	31.2	59.7	56.2	.0	.0	.0	.0	.0	.0
75.0	22.86	30.4	58.9	55.4	.0	.0	.0	.0	.0	.0
100.0	30.48	29.5	58.0	54.5	.0	.0	.0	.0	.0	.0
125.0	38.10	28.7	57.2	53.7	.0	.0	.0	.0	.0	.0
150.0	45.72	28.0	56.5	53.0	.0	.0	.0	.0	.0	.0
175.0	53.34	27.4	55.9	52.4	.0	.0	.0	.0	.0	.0
200.0	60.96	26.8	55.3	51.8	.0	.0	.0	.0	.0	.0
225.0	68.58	26.3	54.8	51.3	.0	.0	.0	.0	.0	.0
250.0	76.20	25.8	54.3	50.8	.0	.0	.0	.0	.0	.0
275.0	83.82	25.4	53.9	50.4	.0	.0	.0	.0	.0	.0
300.0	91.44	25.0	53.5	50.0	.0	.0	.0	.0	.0	.0

Audible noise prediction methods do not apply to all line geometries, voltages, or weather conditions. If a prediction method does not apply, the appropriate output data column will be zeros.

Clean Line - Plains & Eastern
 Config. XS-7: Radio Noise, TVI, and Ozone

Ground Clearance: 32.00 ft

	DIST. FROM CENTER OF TOWER (FEET)	COND. HEIGHT (FEET)	MAXIMUM GRADIENT (KV/CM)	SUBCON. DIAM. (IN)	NO. OF SUBCON.	SUBCON SPACING (IN)	VOLTAGE L-N (KV)	CURRENT (AMPS)	PHASE ANGLE (DEGREES)	CORONA LOSSES (KW/MI)
Phase A1	-19.50	102.00	17.12	1.29	3.	18.00	317.54	1212.40	.00	37.140
Phase B1	-35.00	62.00	17.09	1.29	3.	18.00	317.54	1212.40	120.00	36.753
Phase C1	-21.00	32.00	18.06	1.29	3.	18.00	317.54	1212.40	240.00	52.501
Phase C2	19.50	102.00	17.12	1.29	3.	18.00	317.54	1212.40	240.00	37.140
Phase B2	35.00	62.00	17.09	1.29	3.	18.00	317.54	1212.40	120.00	36.753
Phase A2	21.00	32.00	18.06	1.29	3.	18.00	317.54	1212.40	.00	52.501
SW-1	-18.50	137.45	4.67	.77	1.	.00	.00	.00	.00	.000
SW-2	18.50	137.45	4.67	.77	1.	.00	.00	.00	.00	.000

AN MICROPHONE HT.= 4.9 FT. RI ANT. HT.= 6.6 FT, TV ANT. HT.= 9.8 FT, ALTITUDE= 3000. FT
 RI FREQ= 1.000 MHZ, TV FREQ= 75.000 MHZ, WIND VEL.(OZ) = 8.500 MPH, GROUND CONDUCTIVITY = .0 MMHOS/M
 E-FIELD TRANSDUCER HT.= 3.28 FT, B-FIELD TRANSDUCER HT.= 3.28 FT

LATERAL DIST FROM REFERENCE (FEET)	ELECTRIC FIELD KV/M	MAGNETIC FIELD MILLIGAUSS	AUDIBLE NOISE (RAIN) (FAIR)		RADIO INTERFERENCE (RAIN) (FAIR)		TVI TOTAL RAIN DBUV/M	OZONE FOR RAIN RATE OF .10 IN/HR AT GND. PPB
			L50 DBA	L50 DBA	L50 DBUV/M	L50 DBUV/M		
-300.0	.061	1.78	50.5	25.5	47.2	30.2	16.8	.000000
-298.0	.062	1.81	50.6	25.6	47.3	30.3	16.9	.000000
-296.0	.063	1.84	50.6	25.6	47.4	30.4	16.9	.000000
-294.0	.064	1.87	50.6	25.6	47.5	30.5	17.0	.000000
-292.0	.065	1.90	50.7	25.7	47.6	30.6	17.1	.000000
-290.0	.066	1.94	50.7	25.7	47.7	30.7	17.1	.000000
-288.0	.068	1.97	50.7	25.7	47.9	30.9	17.2	.000000
-286.0	.069	2.01	50.8	25.8	48.0	31.0	17.3	.000000
-284.0	.070	2.04	50.8	25.8	48.1	31.1	17.3	.000000
-282.0	.072	2.08	50.8	25.8	48.2	31.2	17.4	.000000
-280.0	.073	2.12	50.9	25.9	48.3	31.3	17.4	.000000
-278.0	.074	2.16	50.9	25.9	48.4	31.4	17.5	.000000
-276.0	.076	2.20	50.9	25.9	48.6	31.6	17.6	.000000
-274.0	.077	2.24	51.0	26.0	48.7	31.7	17.7	.000000
-272.0	.079	2.28	51.0	26.0	48.8	31.8	17.7	.000000
-270.0	.080	2.32	51.1	26.1	48.9	31.9	17.8	.000000
-268.0	.082	2.37	51.1	26.1	49.0	32.0	17.9	.000000
-266.0	.084	2.41	51.1	26.1	49.2	32.2	17.9	.000000
-264.0	.085	2.46	51.2	26.2	49.3	32.3	18.0	.000000
-262.0	.087	2.51	51.2	26.2	49.4	32.4	18.1	.000000
-260.0	.089	2.56	51.2	26.2	49.5	32.5	18.1	.000000
-258.0	.091	2.61	51.3	26.3	49.7	32.7	18.2	.000000
-256.0	.093	2.66	51.3	26.3	49.8	32.8	18.3	.000000
-254.0	.095	2.71	51.3	26.3	49.9	32.9	18.4	.000000
-252.0	.097	2.77	51.4	26.4	50.0	33.0	18.4	.000000
-250.0	.099	2.82	51.4	26.4	50.2	33.2	18.5	.000000
-248.0	.101	2.88	51.5	26.5	50.3	33.3	18.6	.000000
-246.0	.103	2.94	51.5	26.5	50.4	33.4	18.7	.000000
-244.0	.105	3.00	51.5	26.5	50.5	33.5	18.7	.000000
-242.0	.108	3.06	51.6	26.6	50.7	33.7	18.8	.000000
-240.0	.110	3.13	51.6	26.6	50.8	33.8	18.9	.000000
-238.0	.113	3.20	51.7	26.7	50.9	33.9	19.0	.000000
-236.0	.115	3.26	51.7	26.7	51.1	34.1	19.1	.000000
-234.0	.118	3.33	51.7	26.7	51.2	34.2	19.1	.000000
-232.0	.121	3.41	51.8	26.8	51.3	34.3	19.2	.000000
-230.0	.123	3.48	51.8	26.8	51.5	34.5	19.3	.000000
-228.0	.126	3.56	51.9	26.9	51.6	34.6	19.4	.000000
-226.0	.129	3.64	51.9	26.9	51.7	34.7	19.5	.000000
-224.0	.132	3.72	51.9	26.9	51.9	34.9	19.5	.000000
-222.0	.136	3.81	52.0	27.0	52.0	35.0	19.6	.000000
-220.0	.139	3.89	52.0	27.0	52.2	35.2	19.7	.000000
-218.0	.142	3.98	52.1	27.1	52.3	35.3	19.8	.000000
-216.0	.146	4.08	52.1	27.1	52.4	35.4	19.9	.000000
-214.0	.150	4.17	52.2	27.2	52.6	35.6	20.0	.000000
-212.0	.153	4.27	52.2	27.2	52.7	35.7	20.1	.000000
-210.0	.157	4.37	52.3	27.3	52.9	35.9	20.2	.000000
-208.0	.161	4.48	52.3	27.3	53.0	36.0	20.2	.000000
-206.0	.166	4.59	52.3	27.3	53.1	36.1	20.3	.000000
-204.0	.170	4.70	52.4	27.4	53.3	36.3	20.4	.000000
-202.0	.175	4.81	52.4	27.4	53.4	36.4	20.5	.000000
-200.0	.179	4.93	52.5	27.5	53.6	36.6	20.6	.000000

-198.0	.184	5.06	52.5	27.5	53.7	36.7	20.7	.000000
-196.0	.189	5.19	52.6	27.6	53.9	36.9	20.8	.000000
-194.0	.195	5.32	52.6	27.6	54.0	37.0	20.9	.000000
-192.0	.200	5.46	52.7	27.7	54.2	37.2	21.0	.000000
-190.0	.206	5.60	52.7	27.7	54.3	37.3	21.1	.000000
-188.0	.212	5.75	52.8	27.8	54.5	37.5	21.2	.000000
-186.0	.218	5.90	52.8	27.8	54.6	37.6	21.3	.000000
-184.0	.224	6.05	52.9	27.9	54.8	37.8	21.4	.000000
-182.0	.231	6.22	52.9	27.9	54.9	37.9	21.5	.000000
-180.0	.238	6.39	53.0	28.0	55.1	38.1	21.6	.000000
-178.0	.245	6.56	53.0	28.0	55.2	38.2	21.7	.000000
-176.0	.253	6.74	53.1	28.1	55.4	38.4	21.9	.000000
-174.0	.261	6.93	53.1	28.1	55.6	38.6	22.0	.000000
-172.0	.269	7.13	53.2	28.2	55.7	38.7	22.1	.000000
-170.0	.277	7.33	53.2	28.2	55.9	38.9	22.2	.000000
-168.0	.286	7.54	53.3	28.3	56.0	39.0	22.3	.000000
-166.0	.296	7.76	53.4	28.4	56.2	39.2	22.4	.000000
-164.0	.305	7.99	53.4	28.4	56.4	39.4	22.5	.000000
-162.0	.315	8.22	53.5	28.5	56.5	39.5	22.7	.000000
-160.0	.326	8.47	53.5	28.5	56.7	39.7	22.8	.000000
-158.0	.337	8.72	53.6	28.6	56.9	39.9	22.9	.000000
-156.0	.349	8.99	53.6	28.6	57.0	40.0	23.0	.000000
-154.0	.361	9.26	53.7	28.7	57.2	40.2	23.2	.000000
-152.0	.374	9.55	53.8	28.8	57.4	40.4	23.3	.000000
-150.0	.387	9.85	53.8	28.8	57.5	40.5	23.4	.000000
-148.0	.401	10.16	53.9	28.9	57.7	40.7	23.5	.000000
-146.0	.416	10.48	53.9	28.9	57.9	40.9	23.7	.000000
-144.0	.431	10.82	54.0	29.0	58.0	41.0	23.8	.000000
-142.0	.447	11.17	54.1	29.1	58.2	41.2	23.9	.000000
-140.0	.464	11.54	54.1	29.1	58.4	41.4	24.1	.000000
-138.0	.482	11.92	54.2	29.2	58.5	41.5	24.2	.000000
-136.0	.501	12.32	54.3	29.3	58.8	41.8	24.4	.000000
-134.0	.520	12.74	54.3	29.3	59.0	42.0	24.5	.000000
-132.0	.541	13.17	54.4	29.4	59.3	42.3	24.7	.000000
-130.0	.562	13.63	54.5	29.5	59.5	42.5	24.8	.000000
-128.0	.585	14.10	54.5	29.5	59.8	42.8	25.0	.000000
-126.0	.608	14.60	54.6	29.6	60.1	43.1	25.1	.000000
-124.0	.633	15.12	54.7	29.7	60.3	43.3	25.3	.000000
-122.0	.659	15.66	54.7	29.7	60.6	43.6	25.5	.000000
-120.0	.687	16.23	54.8	29.8	60.9	43.9	25.6	.000000
-118.0	.715	16.83	54.9	29.9	61.2	44.2	25.8	.000000
-116.0	.745	17.45	55.0	30.0	61.4	44.4	26.0	.000000
-114.0	.777	18.11	55.0	30.0	61.7	44.7	26.1	.000000
-112.0	.810	18.80	55.1	30.1	62.0	45.0	26.3	.000000
-110.0	.844	19.52	55.2	30.2	62.3	45.3	26.5	.000000
-108.0	.880	20.28	55.3	30.3	62.6	45.6	26.7	.000000
-106.0	.918	21.08	55.3	30.3	62.9	45.9	26.9	.000000
-104.0	.958	21.93	55.4	30.4	63.2	46.2	27.1	.000000
-102.0	.999	22.81	55.5	30.5	63.5	46.5	27.3	.000000
-100.0	1.042	23.75	55.6	30.6	63.8	46.8	27.5	.000000
-98.0	1.087	24.74	55.7	30.7	64.0	47.0	27.7	.000000
-96.0	1.135	25.79	55.8	30.8	64.3	47.3	27.9	.000000
-94.0	1.184	26.91	55.8	30.8	64.6	47.6	28.1	.000000
-92.0	1.236	28.09	55.9	30.9	65.0	48.0	28.3	.000000
-90.0	1.290	29.35	56.0	31.0	65.3	48.3	28.5	.000000
-88.0	1.346	30.69	56.1	31.1	65.6	48.6	28.8	.000000
-86.0	1.406	32.12	56.2	31.2	65.9	48.9	29.0	.000000
-84.0	1.469	33.65	56.3	31.3	66.2	49.2	29.3	.000000
-82.0	1.535	35.29	56.4	31.4	66.5	49.5	29.5	.000000
-80.0	1.605	37.05	56.5	31.5	66.8	49.8	29.8	.000000
-78.0	1.679	38.94	56.6	31.6	67.0	50.0	30.0	.000000
-76.0	1.759	40.98	56.7	31.7	67.3	50.3	30.3	.000000
-74.0	1.845	43.17	56.8	31.8	67.6	50.6	30.6	.000000
-72.0	1.939	45.52	56.9	31.9	67.9	50.9	30.8	.000000
-70.0	2.043	48.06	57.0	32.0	68.2	51.2	31.1	.000000
-68.0	2.157	50.79	57.1	32.1	68.7	51.7	31.4	.000000
-66.0	2.284	53.73	57.2	32.2	69.3	52.3	31.7	.000000
-64.0	2.427	56.88	57.3	32.3	69.9	52.9	32.1	.000000
-62.0	2.589	60.28	57.4	32.4	70.5	53.5	32.4	.000000
-60.0	2.773	63.92	57.6	32.6	71.1	54.1	32.7	.000000
-58.0	2.981	67.83	57.7	32.7	71.7	54.7	33.1	.000000
-56.0	3.218	72.02	57.8	32.8	72.3	55.3	33.4	.000000
-54.0	3.485	76.50	57.9	32.9	73.0	56.0	33.8	.000000
-52.0	3.786	81.28	58.0	33.0	73.6	56.6	34.1	.000000
-50.0	4.123	86.38	58.1	33.1	74.3	57.3	34.5	.000000
-48.0	4.495	91.79	58.3	33.3	74.9	57.9	34.9	.000000
-46.0	4.902	97.52	58.4	33.4	75.6	58.6	35.3	.000000
-44.0	5.342	103.56	58.5	33.5	76.3	59.3	35.7	.000000
-42.0	5.811	109.90	58.6	33.6	76.9	59.9	36.1	.000000
-40.0	6.301	116.51	58.8	33.8	77.6	60.6	36.4	.000000
-38.0	6.803	123.35	58.9	33.9	78.2	61.2	36.8	.000000

-36.0	7.305	130.38	59.0	34.0	78.8	61.8	37.2	.000000
-34.0	7.791	137.52	59.1	34.1	79.4	62.4	37.6	.000000
-32.0	8.244	144.68	59.2	34.2	79.9	62.9	37.9	.000000
-30.0	8.644	151.77	59.3	34.3	80.4	63.4	38.2	.000000
-28.0	8.972	158.68	59.4	34.4	80.8	63.8	38.4	.000000
-26.0	9.207	165.28	59.5	34.5	81.1	64.1	38.6	.000000
-24.0	9.335	171.48	59.5	34.5	81.3	64.3	38.8	.000000
-22.0	9.341	177.16	59.6	34.6	81.4	64.4	38.8	.000000
-20.0	9.221	182.25	59.6	34.6	81.4	64.4	38.8	.000000
-18.0	8.974	186.70	59.7	34.7	81.3	64.3	38.8	.000000
-16.0	8.608	190.49	59.7	34.7	81.1	64.1	38.6	.000000
-14.0	8.139	193.64	59.7	34.7	80.8	63.8	38.4	.000000
-12.0	7.587	196.18	59.7	34.7	80.4	63.4	38.2	.000000
-10.0	6.982	198.16	59.7	34.7	79.9	62.9	37.9	.000000
-8.0	6.356	199.66	59.7	34.7	79.4	62.4	37.6	.000000
-6.0	5.755	200.74	59.7	34.7	78.8	61.8	37.2	.000000
-4.0	5.232	201.46	59.7	34.7	78.2	61.2	36.8	.000001
-2.0	4.862	201.87	59.7	34.7	77.6	60.6	36.4	.000010
.0	4.725	202.01	59.7	34.7	76.9	59.9	36.1	.000053
2.0	4.862	201.87	59.7	34.7	77.6	60.6	36.4	.000189
4.0	5.232	201.46	59.7	34.7	78.2	61.2	36.8	.000507
6.0	5.755	200.74	59.7	34.7	78.8	61.8	37.2	.001115
8.0	6.356	199.66	59.7	34.7	79.4	62.4	37.6	.002107
10.0	6.982	198.16	59.7	34.7	79.9	62.9	37.9	.003547
12.0	7.587	196.18	59.7	34.7	80.4	63.4	38.2	.005461
14.0	8.139	193.64	59.7	34.7	80.8	63.8	38.4	.007833
16.0	8.608	190.49	59.7	34.7	81.1	64.1	38.6	.010622
18.0	8.974	186.70	59.7	34.7	81.3	64.3	38.8	.013762
20.0	9.221	182.25	59.6	34.6	81.4	64.4	38.8	.017181
22.0	9.341	177.16	59.6	34.6	81.4	64.4	38.8	.020802
24.0	9.335	171.48	59.5	34.5	81.3	64.3	38.8	.024553
26.0	9.207	165.28	59.5	34.5	81.1	64.1	38.6	.028370
28.0	8.972	158.68	59.4	34.4	80.8	63.8	38.4	.032196
30.0	8.644	151.77	59.3	34.3	80.4	63.4	38.2	.035986
32.0	8.244	144.68	59.2	34.2	79.9	62.9	37.9	.039702
34.0	7.791	137.52	59.1	34.1	79.4	62.4	37.6	.043315
36.0	7.305	130.38	59.0	34.0	78.8	61.8	37.2	.046805
38.0	6.803	123.35	58.9	33.9	78.2	61.2	36.8	.050157
40.0	6.301	116.51	58.8	33.8	77.6	60.6	36.4	.053369
42.0	5.811	109.90	58.6	33.6	76.9	59.9	36.1	.056462
44.0	5.342	103.56	58.5	33.5	76.3	59.3	35.7	.059492
46.0	4.902	97.52	58.4	33.4	75.6	58.6	35.3	.062549
48.0	4.495	91.79	58.3	33.3	74.9	57.9	34.9	.065743
50.0	4.123	86.38	58.1	33.1	74.3	57.3	34.5	.069171
52.0	3.786	81.28	58.0	33.0	73.6	56.6	34.1	.072903
54.0	3.485	76.50	57.9	32.9	73.0	56.0	33.8	.076967
56.0	3.218	72.02	57.8	32.8	72.3	55.3	33.4	.081356
58.0	2.981	67.83	57.7	32.7	71.7	54.7	33.1	.086030
60.0	2.773	63.92	57.6	32.6	71.1	54.1	32.7	.090931
62.0	2.589	60.28	57.4	32.4	70.5	53.5	32.4	.095987
64.0	2.427	56.88	57.3	32.3	69.9	52.9	32.1	.101129
66.0	2.284	53.73	57.2	32.2	69.3	52.3	31.7	.106286
68.0	2.157	50.79	57.1	32.1	68.7	51.7	31.4	.111396
70.0	2.043	48.06	57.0	32.0	68.2	51.2	31.1	.116408
72.0	1.939	45.52	56.9	31.9	67.9	50.9	30.8	.121278
74.0	1.845	43.17	56.8	31.8	67.6	50.6	30.6	.125971
76.0	1.759	40.98	56.7	31.7	67.3	50.3	30.3	.130462
78.0	1.679	38.94	56.6	31.6	67.0	50.0	30.0	.134734
80.0	1.605	37.05	56.5	31.5	66.8	49.8	29.8	.138773
82.0	1.535	35.29	56.4	31.4	66.5	49.5	29.5	.142577
84.0	1.469	33.65	56.3	31.3	66.2	49.2	29.3	.146142
86.0	1.406	32.12	56.2	31.2	65.9	48.9	29.0	.149473
88.0	1.346	30.69	56.1	31.1	65.6	48.6	28.8	.152576
90.0	1.290	29.35	56.0	31.0	65.3	48.3	28.5	.155458
92.0	1.236	28.09	55.9	30.9	65.0	48.0	28.3	.158130
94.0	1.184	26.91	55.8	30.8	64.6	47.6	28.1	.160605
96.0	1.135	25.79	55.8	30.8	64.3	47.3	27.9	.162893
98.0	1.087	24.74	55.7	30.7	64.0	47.0	27.7	.165007
100.0	1.042	23.75	55.6	30.6	63.8	46.8	27.5	.166961
102.0	.999	22.81	55.5	30.5	63.5	46.5	27.3	.168766
104.0	.958	21.93	55.4	30.4	63.2	46.2	27.1	.170435
106.0	.918	21.08	55.3	30.3	62.9	45.9	26.9	.171979
108.0	.880	20.28	55.3	30.3	62.6	45.6	26.7	.173408
110.0	.844	19.52	55.2	30.2	62.3	45.3	26.5	.174732
112.0	.810	18.80	55.1	30.1	62.0	45.0	26.3	.175961
114.0	.777	18.11	55.0	30.0	61.7	44.7	26.1	.177102
116.0	.745	17.45	55.0	30.0	61.4	44.4	26.0	.178163
118.0	.715	16.83	54.9	29.9	61.2	44.2	25.8	.179151
120.0	.687	16.23	54.8	29.8	60.9	43.9	25.6	.180072
122.0	.659	15.66	54.7	29.7	60.6	43.6	25.5	.180931
124.0	.633	15.12	54.7	29.7	60.3	43.3	25.3	.181733

126.0	.608	14.60	54.6	29.6	60.1	43.1	25.1	.182483
128.0	.585	14.10	54.5	29.5	59.8	42.8	25.0	.183184
130.0	.562	13.63	54.5	29.5	59.5	42.5	24.8	.183840
132.0	.541	13.17	54.4	29.4	59.3	42.3	24.7	.184455
134.0	.520	12.74	54.3	29.3	59.0	42.0	24.5	.185029
136.0	.501	12.32	54.3	29.3	58.8	41.8	24.4	.185568
138.0	.482	11.92	54.2	29.2	58.5	41.5	24.2	.186071
140.0	.464	11.54	54.1	29.1	58.4	41.4	24.1	.186542
142.0	.447	11.17	54.1	29.1	58.2	41.2	23.9	.186982
144.0	.431	10.82	54.0	29.0	58.0	41.0	23.8	.187394
146.0	.416	10.48	53.9	28.9	57.9	40.9	23.7	.187778
148.0	.401	10.16	53.9	28.9	57.7	40.7	23.5	.188135
150.0	.387	9.85	53.8	28.8	57.5	40.5	23.4	.188468
152.0	.374	9.55	53.8	28.8	57.4	40.4	23.3	.188777
154.0	.361	9.26	53.7	28.7	57.2	40.2	23.2	.189064
156.0	.349	8.99	53.6	28.6	57.0	40.0	23.0	.189329
158.0	.337	8.72	53.6	28.6	56.9	39.9	22.9	.189573
160.0	.326	8.47	53.5	28.5	56.7	39.7	22.8	.189797
162.0	.315	8.22	53.5	28.5	56.5	39.5	22.7	.190003
164.0	.305	7.99	53.4	28.4	56.4	39.4	22.5	.190190
166.0	.296	7.76	53.4	28.4	56.2	39.2	22.4	.190361
168.0	.286	7.54	53.3	28.3	56.0	39.0	22.3	.190514
170.0	.277	7.33	53.2	28.2	55.9	38.9	22.2	.190651
172.0	.269	7.13	53.2	28.2	55.7	38.7	22.1	.190773
174.0	.261	6.93	53.1	28.1	55.6	38.6	22.0	.190880
176.0	.253	6.74	53.1	28.1	55.4	38.4	21.9	.190972
178.0	.245	6.56	53.0	28.0	55.2	38.2	21.7	.191051
180.0	.238	6.39	53.0	28.0	55.1	38.1	21.6	.191117
182.0	.231	6.22	52.9	27.9	54.9	37.9	21.5	.191169
184.0	.224	6.05	52.9	27.9	54.8	37.8	21.4	.191209
186.0	.218	5.90	52.8	27.8	54.6	37.6	21.3	.191238
188.0	.212	5.75	52.8	27.8	54.5	37.5	21.2	.191254
190.0	.206	5.60	52.7	27.7	54.3	37.3	21.1	.191260
192.0	.200	5.46	52.7	27.7	54.2	37.2	21.0	.191254
194.0	.195	5.32	52.6	27.6	54.0	37.0	20.9	.191238
196.0	.189	5.19	52.6	27.6	53.9	36.9	20.8	.191212
198.0	.184	5.06	52.5	27.5	53.7	36.7	20.7	.191176
200.0	.179	4.93	52.5	27.5	53.6	36.6	20.6	.191131
202.0	.175	4.81	52.4	27.4	53.4	36.4	20.5	.191076
204.0	.170	4.70	52.4	27.4	53.3	36.3	20.4	.191013
206.0	.166	4.59	52.3	27.3	53.1	36.1	20.3	.190940
208.0	.161	4.48	52.3	27.3	53.0	36.0	20.2	.190859
210.0	.157	4.37	52.3	27.3	52.9	35.9	20.2	.190770
212.0	.153	4.27	52.2	27.2	52.7	35.7	20.1	.190673
214.0	.150	4.17	52.2	27.2	52.6	35.6	20.0	.190569
216.0	.146	4.08	52.1	27.1	52.4	35.4	19.9	.190456
218.0	.142	3.98	52.1	27.1	52.3	35.3	19.8	.190337
220.0	.139	3.89	52.0	27.0	52.2	35.2	19.7	.190210
222.0	.136	3.81	52.0	27.0	52.0	35.0	19.6	.190077
224.0	.132	3.72	51.9	26.9	51.9	34.9	19.5	.189936
226.0	.129	3.64	51.9	26.9	51.7	34.7	19.5	.189789
228.0	.126	3.56	51.9	26.9	51.6	34.6	19.4	.189636
230.0	.123	3.48	51.8	26.8	51.5	34.5	19.3	.189476
232.0	.121	3.41	51.8	26.8	51.3	34.3	19.2	.189311
234.0	.118	3.33	51.7	26.7	51.2	34.2	19.1	.189139
236.0	.115	3.26	51.7	26.7	51.1	34.1	19.1	.188962
238.0	.113	3.20	51.7	26.7	50.9	33.9	19.0	.188779
240.0	.110	3.13	51.6	26.6	50.8	33.8	18.9	.188591
242.0	.108	3.06	51.6	26.6	50.7	33.7	18.8	.188397
244.0	.105	3.00	51.5	26.5	50.5	33.5	18.7	.188198
246.0	.103	2.94	51.5	26.5	50.4	33.4	18.7	.187994
248.0	.101	2.88	51.5	26.5	50.3	33.3	18.6	.187786
250.0	.099	2.82	51.4	26.4	50.2	33.2	18.5	.187572
252.0	.097	2.77	51.4	26.4	50.0	33.0	18.4	.187354
254.0	.095	2.71	51.3	26.3	49.9	32.9	18.4	.187132
256.0	.093	2.66	51.3	26.3	49.8	32.8	18.3	.186904
258.0	.091	2.61	51.3	26.3	49.7	32.7	18.2	.186673
260.0	.089	2.56	51.2	26.2	49.5	32.5	18.1	.186438
262.0	.087	2.51	51.2	26.2	49.4	32.4	18.1	.186198
264.0	.085	2.46	51.2	26.2	49.3	32.3	18.0	.185955
266.0	.084	2.41	51.1	26.1	49.2	32.2	17.9	.185707
268.0	.082	2.37	51.1	26.1	49.0	32.0	17.9	.185456
270.0	.080	2.32	51.1	26.1	48.9	31.9	17.8	.185201
272.0	.079	2.28	51.0	26.0	48.8	31.8	17.7	.184943
274.0	.077	2.24	51.0	26.0	48.7	31.7	17.7	.184682
276.0	.076	2.20	50.9	25.9	48.6	31.6	17.6	.184417
278.0	.074	2.16	50.9	25.9	48.4	31.4	17.5	.184148
280.0	.073	2.12	50.9	25.9	48.3	31.3	17.4	.183877
282.0	.072	2.08	50.8	25.8	48.2	31.2	17.4	.183603
284.0	.070	2.04	50.8	25.8	48.1	31.1	17.3	.183325
286.0	.069	2.01	50.8	25.8	48.0	31.0	17.3	.183045

288.0	.068	1.97	50.7	25.7	47.9	30.9	17.2	.182762
290.0	.066	1.94	50.7	25.7	47.7	30.7	17.1	.182476
292.0	.065	1.90	50.7	25.7	47.6	30.6	17.1	.182188
294.0	.064	1.87	50.6	25.6	47.5	30.5	17.0	.181897
296.0	.063	1.84	50.6	25.6	47.4	30.4	16.9	.181604
298.0	.062	1.81	50.6	25.6	47.3	30.3	16.9	.181308
300.0	.061	1.78	50.5	25.5	47.2	30.2	16.8	.181010

AC TRANSMISSION LINE CALCULATION RESULTS
500kV SINGLE CIRCUIT MONOPOLE

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XS-8: 500 kV Single Circuit Monopole - Electric and Magnetic Field Calculations
 Emf Workstation Conductor Data

Total # of Conductors: 5

-6025.00	15.00	70.00	6825.00	15.00	70.00	346.40	0.00
-6025.00	-15.00	51.00	6825.00	-15.00	51.00	346.40	-120.00
-6025.00	15.00	32.00	6825.00	15.00	32.00	346.40	120.00
-6025.00	-9.00	102.15	6825.00	-9.00	102.15	3.10	-152.39
-6025.00	9.00	102.15	6825.00	9.00	102.15	3.81	-128.74

E-Field HORIZONTAL Profile Chart: "Lateral Profile Electric Field - Average Load(EF)"

Field Components = Resultant
 Distance units = (ft)
 Electric field units = KV/m

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	EF (KV/m)
0	0.00	400.00	-300.00	3.28	0.09
1	1.00	400.00	-299.00	3.28	0.09
2	2.00	400.00	-298.00	3.28	0.09
3	3.00	400.00	-297.00	3.28	0.09
4	4.00	400.00	-296.00	3.28	0.09
5	5.00	400.00	-295.00	3.28	0.09
6	6.00	400.00	-294.00	3.28	0.09
7	7.00	400.00	-293.00	3.28	0.09
8	8.00	400.00	-292.00	3.28	0.09
9	9.00	400.00	-291.00	3.28	0.09
10	10.00	400.00	-290.00	3.28	0.09
11	11.00	400.00	-289.00	3.28	0.09
12	12.00	400.00	-288.00	3.28	0.09
13	13.00	400.00	-287.00	3.28	0.10
14	14.00	400.00	-286.00	3.28	0.10
15	15.00	400.00	-285.00	3.28	0.10
16	16.00	400.00	-284.00	3.28	0.10
17	17.00	400.00	-283.00	3.28	0.10
18	18.00	400.00	-282.00	3.28	0.10
19	19.00	400.00	-281.00	3.28	0.10
20	20.00	400.00	-280.00	3.28	0.10
21	21.00	400.00	-279.00	3.28	0.10
22	22.00	400.00	-278.00	3.28	0.10
23	23.00	400.00	-277.00	3.28	0.10
24	24.00	400.00	-276.00	3.28	0.10
25	25.00	400.00	-275.00	3.28	0.10
26	26.00	400.00	-274.00	3.28	0.11
27	27.00	400.00	-273.00	3.28	0.11
28	28.00	400.00	-272.00	3.28	0.11
29	29.00	400.00	-271.00	3.28	0.11
30	30.00	400.00	-270.00	3.28	0.11
31	31.00	400.00	-269.00	3.28	0.11
32	32.00	400.00	-268.00	3.28	0.11
33	33.00	400.00	-267.00	3.28	0.11
34	34.00	400.00	-266.00	3.28	0.11
35	35.00	400.00	-265.00	3.28	0.11
36	36.00	400.00	-264.00	3.28	0.11
37	37.00	400.00	-263.00	3.28	0.12
38	38.00	400.00	-262.00	3.28	0.12
39	39.00	400.00	-261.00	3.28	0.12
40	40.00	400.00	-260.00	3.28	0.12

41	41.00	400.00	-259.00	3.28	0.12
42	42.00	400.00	-258.00	3.28	0.12
43	43.00	400.00	-257.00	3.28	0.12
44	44.00	400.00	-256.00	3.28	0.12
45	45.00	400.00	-255.00	3.28	0.12
46	46.00	400.00	-254.00	3.28	0.13
47	47.00	400.00	-253.00	3.28	0.13
48	48.00	400.00	-252.00	3.28	0.13
49	49.00	400.00	-251.00	3.28	0.13
50	50.00	400.00	-250.00	3.28	0.13
51	51.00	400.00	-249.00	3.28	0.13
52	52.00	400.00	-248.00	3.28	0.13
53	53.00	400.00	-247.00	3.28	0.13
54	54.00	400.00	-246.00	3.28	0.13
55	55.00	400.00	-245.00	3.28	0.14
56	56.00	400.00	-244.00	3.28	0.14
57	57.00	400.00	-243.00	3.28	0.14
58	58.00	400.00	-242.00	3.28	0.14
59	59.00	400.00	-241.00	3.28	0.14
60	60.00	400.00	-240.00	3.28	0.14
61	61.00	400.00	-239.00	3.28	0.14
62	62.00	400.00	-238.00	3.28	0.14
63	63.00	400.00	-237.00	3.28	0.15
64	64.00	400.00	-236.00	3.28	0.15
65	65.00	400.00	-235.00	3.28	0.15
66	66.00	400.00	-234.00	3.28	0.15
67	67.00	400.00	-233.00	3.28	0.15
68	68.00	400.00	-232.00	3.28	0.15
69	69.00	400.00	-231.00	3.28	0.16
70	70.00	400.00	-230.00	3.28	0.16
71	71.00	400.00	-229.00	3.28	0.16
72	72.00	400.00	-228.00	3.28	0.16
73	73.00	400.00	-227.00	3.28	0.16
74	74.00	400.00	-226.00	3.28	0.16
75	75.00	400.00	-225.00	3.28	0.16
76	76.00	400.00	-224.00	3.28	0.17
77	77.00	400.00	-223.00	3.28	0.17
78	78.00	400.00	-222.00	3.28	0.17
79	79.00	400.00	-221.00	3.28	0.17
80	80.00	400.00	-220.00	3.28	0.17
81	81.00	400.00	-219.00	3.28	0.18
82	82.00	400.00	-218.00	3.28	0.18
83	83.00	400.00	-217.00	3.28	0.18
84	84.00	400.00	-216.00	3.28	0.18
85	85.00	400.00	-215.00	3.28	0.18
86	86.00	400.00	-214.00	3.28	0.18
87	87.00	400.00	-213.00	3.28	0.19
88	88.00	400.00	-212.00	3.28	0.19
89	89.00	400.00	-211.00	3.28	0.19
90	90.00	400.00	-210.00	3.28	0.19
91	91.00	400.00	-209.00	3.28	0.20
92	92.00	400.00	-208.00	3.28	0.20
93	93.00	400.00	-207.00	3.28	0.20
94	94.00	400.00	-206.00	3.28	0.20
95	95.00	400.00	-205.00	3.28	0.20
96	96.00	400.00	-204.00	3.28	0.21
97	97.00	400.00	-203.00	3.28	0.21
98	98.00	400.00	-202.00	3.28	0.21
99	99.00	400.00	-201.00	3.28	0.21
100	100.00	400.00	-200.00	3.28	0.22
101	101.00	400.00	-199.00	3.28	0.22
102	102.00	400.00	-198.00	3.28	0.22
103	103.00	400.00	-197.00	3.28	0.22

104	104.00	400.00	-196.00	3.28	0.23
105	105.00	400.00	-195.00	3.28	0.23
106	106.00	400.00	-194.00	3.28	0.23
107	107.00	400.00	-193.00	3.28	0.24
108	108.00	400.00	-192.00	3.28	0.24
109	109.00	400.00	-191.00	3.28	0.24
110	110.00	400.00	-190.00	3.28	0.24
111	111.00	400.00	-189.00	3.28	0.25
112	112.00	400.00	-188.00	3.28	0.25
113	113.00	400.00	-187.00	3.28	0.25
114	114.00	400.00	-186.00	3.28	0.26
115	115.00	400.00	-185.00	3.28	0.26
116	116.00	400.00	-184.00	3.28	0.26
117	117.00	400.00	-183.00	3.28	0.27
118	118.00	400.00	-182.00	3.28	0.27
119	119.00	400.00	-181.00	3.28	0.27
120	120.00	400.00	-180.00	3.28	0.28
121	121.00	400.00	-179.00	3.28	0.28
122	122.00	400.00	-178.00	3.28	0.28
123	123.00	400.00	-177.00	3.28	0.29
124	124.00	400.00	-176.00	3.28	0.29
125	125.00	400.00	-175.00	3.28	0.30
126	126.00	400.00	-174.00	3.28	0.30
127	127.00	400.00	-173.00	3.28	0.30
128	128.00	400.00	-172.00	3.28	0.31
129	129.00	400.00	-171.00	3.28	0.31
130	130.00	400.00	-170.00	3.28	0.32
131	131.00	400.00	-169.00	3.28	0.32
132	132.00	400.00	-168.00	3.28	0.33
133	133.00	400.00	-167.00	3.28	0.33
134	134.00	400.00	-166.00	3.28	0.34
135	135.00	400.00	-165.00	3.28	0.34
136	136.00	400.00	-164.00	3.28	0.35
137	137.00	400.00	-163.00	3.28	0.35
138	138.00	400.00	-162.00	3.28	0.36
139	139.00	400.00	-161.00	3.28	0.36
140	140.00	400.00	-160.00	3.28	0.37
141	141.00	400.00	-159.00	3.28	0.37
142	142.00	400.00	-158.00	3.28	0.38
143	143.00	400.00	-157.00	3.28	0.38
144	144.00	400.00	-156.00	3.28	0.39
145	145.00	400.00	-155.00	3.28	0.39
146	146.00	400.00	-154.00	3.28	0.40
147	147.00	400.00	-153.00	3.28	0.41
148	148.00	400.00	-152.00	3.28	0.41
149	149.00	400.00	-151.00	3.28	0.42
150	150.00	400.00	-150.00	3.28	0.43
151	151.00	400.00	-149.00	3.28	0.43
152	152.00	400.00	-148.00	3.28	0.44
153	153.00	400.00	-147.00	3.28	0.45
154	154.00	400.00	-146.00	3.28	0.45
155	155.00	400.00	-145.00	3.28	0.46
156	156.00	400.00	-144.00	3.28	0.47
157	157.00	400.00	-143.00	3.28	0.48
158	158.00	400.00	-142.00	3.28	0.48
159	159.00	400.00	-141.00	3.28	0.49
160	160.00	400.00	-140.00	3.28	0.50
161	161.00	400.00	-139.00	3.28	0.51
162	162.00	400.00	-138.00	3.28	0.52
163	163.00	400.00	-137.00	3.28	0.53
164	164.00	400.00	-136.00	3.28	0.54
165	165.00	400.00	-135.00	3.28	0.55
166	166.00	400.00	-134.00	3.28	0.55

167	167.00	400.00	-133.00	3.28	0.56
168	168.00	400.00	-132.00	3.28	0.57
169	169.00	400.00	-131.00	3.28	0.58
170	170.00	400.00	-130.00	3.28	0.59
171	171.00	400.00	-129.00	3.28	0.61
172	172.00	400.00	-128.00	3.28	0.62
173	173.00	400.00	-127.00	3.28	0.63
174	174.00	400.00	-126.00	3.28	0.64
175	175.00	400.00	-125.00	3.28	0.65
176	176.00	400.00	-124.00	3.28	0.66
177	177.00	400.00	-123.00	3.28	0.68
178	178.00	400.00	-122.00	3.28	0.69
179	179.00	400.00	-121.00	3.28	0.70
180	180.00	400.00	-120.00	3.28	0.71
181	181.00	400.00	-119.00	3.28	0.73
182	182.00	400.00	-118.00	3.28	0.74
183	183.00	400.00	-117.00	3.28	0.76
184	184.00	400.00	-116.00	3.28	0.77
185	185.00	400.00	-115.00	3.28	0.79
186	186.00	400.00	-114.00	3.28	0.80
187	187.00	400.00	-113.00	3.28	0.82
188	188.00	400.00	-112.00	3.28	0.83
189	189.00	400.00	-111.00	3.28	0.85
190	190.00	400.00	-110.00	3.28	0.87
191	191.00	400.00	-109.00	3.28	0.88
192	192.00	400.00	-108.00	3.28	0.90
193	193.00	400.00	-107.00	3.28	0.92
194	194.00	400.00	-106.00	3.28	0.94
195	195.00	400.00	-105.00	3.28	0.96
196	196.00	400.00	-104.00	3.28	0.98
197	197.00	400.00	-103.00	3.28	1.00
198	198.00	400.00	-102.00	3.28	1.02
199	199.00	400.00	-101.00	3.28	1.04
200	200.00	400.00	-100.00	3.28	1.06
201	201.00	400.00	-99.00	3.28	1.09
202	202.00	400.00	-98.00	3.28	1.11
203	203.00	400.00	-97.00	3.28	1.13
204	204.00	400.00	-96.00	3.28	1.16
205	205.00	400.00	-95.00	3.28	1.18
206	206.00	400.00	-94.00	3.28	1.21
207	207.00	400.00	-93.00	3.28	1.24
208	208.00	400.00	-92.00	3.28	1.26
209	209.00	400.00	-91.00	3.28	1.29
210	210.00	400.00	-90.00	3.28	1.32
211	211.00	400.00	-89.00	3.28	1.35
212	212.00	400.00	-88.00	3.28	1.38
213	213.00	400.00	-87.00	3.28	1.41
214	214.00	400.00	-86.00	3.28	1.44
215	215.00	400.00	-85.00	3.28	1.47
216	216.00	400.00	-84.00	3.28	1.51
217	217.00	400.00	-83.00	3.28	1.54
218	218.00	400.00	-82.00	3.28	1.58
219	219.00	400.00	-81.00	3.28	1.61
220	220.00	400.00	-80.00	3.28	1.65
221	221.00	400.00	-79.00	3.28	1.69
222	222.00	400.00	-78.00	3.28	1.72
223	223.00	400.00	-77.00	3.28	1.76
224	224.00	400.00	-76.00	3.28	1.80
225	225.00	400.00	-75.00	3.28	1.85
226	226.00	400.00	-74.00	3.28	1.89
227	227.00	400.00	-73.00	3.28	1.93
228	228.00	400.00	-72.00	3.28	1.97
229	229.00	400.00	-71.00	3.28	2.02

230	230.00	400.00 -70.00	3.28	2.06
231	231.00	400.00 -69.00	3.28	2.11
232	232.00	400.00 -68.00	3.28	2.16
233	233.00	400.00 -67.00	3.28	2.21
234	234.00	400.00 -66.00	3.28	2.26
235	235.00	400.00 -65.00	3.28	2.31
236	236.00	400.00 -64.00	3.28	2.36
237	237.00	400.00 -63.00	3.28	2.41
238	238.00	400.00 -62.00	3.28	2.46
239	239.00	400.00 -61.00	3.28	2.52
240	240.00	400.00 -60.00	3.28	2.57
241	241.00	400.00 -59.00	3.28	2.63
242	242.00	400.00 -58.00	3.28	2.68
243	243.00	400.00 -57.00	3.28	2.74
244	244.00	400.00 -56.00	3.28	2.79
245	245.00	400.00 -55.00	3.28	2.85
246	246.00	400.00 -54.00	3.28	2.91
247	247.00	400.00 -53.00	3.28	2.96
248	248.00	400.00 -52.00	3.28	3.02
249	249.00	400.00 -51.00	3.28	3.08
250	250.00	400.00 -50.00	3.28	3.13
251	251.00	400.00 -49.00	3.28	3.19
252	252.00	400.00 -48.00	3.28	3.25
253	253.00	400.00 -47.00	3.28	3.30
254	254.00	400.00 -46.00	3.28	3.36
255	255.00	400.00 -45.00	3.28	3.41
256	256.00	400.00 -44.00	3.28	3.46
257	257.00	400.00 -43.00	3.28	3.51
258	258.00	400.00 -42.00	3.28	3.56
259	259.00	400.00 -41.00	3.28	3.61
260	260.00	400.00 -40.00	3.28	3.65
261	261.00	400.00 -39.00	3.28	3.69
262	262.00	400.00 -38.00	3.28	3.73
263	263.00	400.00 -37.00	3.28	3.77
264	264.00	400.00 -36.00	3.28	3.81
265	265.00	400.00 -35.00	3.28	3.84
266	266.00	400.00 -34.00	3.28	3.87
267	267.00	400.00 -33.00	3.28	3.89
268	268.00	400.00 -32.00	3.28	3.91
269	269.00	400.00 -31.00	3.28	3.93
270	270.00	400.00 -30.00	3.28	3.95
271	271.00	400.00 -29.00	3.28	3.96
272	272.00	400.00 -28.00	3.28	3.97
273	273.00	400.00 -27.00	3.28	3.97
274	274.00	400.00 -26.00	3.28	3.97
275	275.00	400.00 -25.00	3.28	3.97
276	276.00	400.00 -24.00	3.28	3.97
277	277.00	400.00 -23.00	3.28	3.97
278	278.00	400.00 -22.00	3.28	3.97
279	279.00	400.00 -21.00	3.28	3.97
280	280.00	400.00 -20.00	3.28	3.97
281	281.00	400.00 -19.00	3.28	3.98
282	282.00	400.00 -18.00	3.28	3.99
283	283.00	400.00 -17.00	3.28	4.01
284	284.00	400.00 -16.00	3.28	4.04
285	285.00	400.00 -15.00	3.28	4.08
286	286.00	400.00 -14.00	3.28	4.13
287	287.00	400.00 -13.00	3.28	4.20
288	288.00	400.00 -12.00	3.28	4.29
289	289.00	400.00 -11.00	3.28	4.39
290	290.00	400.00 -10.00	3.28	4.51
291	291.00	400.00 -9.00	3.28	4.66
292	292.00	400.00 -8.00	3.28	4.82

293	293.00	400.00 -7.00	3.28	5.00
294	294.00	400.00 -6.00	3.28	5.20
295	295.00	400.00 -5.00	3.28	5.42
296	296.00	400.00 -4.00	3.28	5.66
297	297.00	400.00 -3.00	3.28	5.91
298	298.00	400.00 -2.00	3.28	6.17
299	299.00	400.00 -1.00	3.28	6.44
300	300.00	400.00 0.00	3.28	6.72
301	301.00	400.00 1.00	3.28	7.01
302	302.00	400.00 2.00	3.28	7.30
303	303.00	400.00 3.00	3.28	7.58
304	304.00	400.00 4.00	3.28	7.86
305	305.00	400.00 5.00	3.28	8.14
306	306.00	400.00 6.00	3.28	8.41
307	307.00	400.00 7.00	3.28	8.66
308	308.00	400.00 8.00	3.28	8.90
309	309.00	400.00 9.00	3.28	9.11
310	310.00	400.00 10.00	3.28	9.31
311	311.00	400.00 11.00	3.28	9.49
312	312.00	400.00 12.00	3.28	9.64
313	313.00	400.00 13.00	3.28	9.76
314	314.00	400.00 14.00	3.28	9.85
315	315.00	400.00 15.00	3.28	9.92
316	316.00	400.00 16.00	3.28	9.95
317	317.00	400.00 17.00	3.28	9.96
318	318.00	400.00 18.00	3.28	9.93
319	319.00	400.00 19.00	3.28	9.88
320	320.00	400.00 20.00	3.28	9.80
321	321.00	400.00 21.00	3.28	9.69
322	322.00	400.00 22.00	3.28	9.56
323	323.00	400.00 23.00	3.28	9.41
324	324.00	400.00 24.00	3.28	9.24
325	325.00	400.00 25.00	3.28	9.05
326	326.00	400.00 26.00	3.28	8.84
327	327.00	400.00 27.00	3.28	8.62
328	328.00	400.00 28.00	3.28	8.39
329	329.00	400.00 29.00	3.28	8.15
330	330.00	400.00 30.00	3.28	7.90
331	331.00	400.00 31.00	3.28	7.65
332	332.00	400.00 32.00	3.28	7.40
333	333.00	400.00 33.00	3.28	7.14
334	334.00	400.00 34.00	3.28	6.89
335	335.00	400.00 35.00	3.28	6.63
336	336.00	400.00 36.00	3.28	6.38
337	337.00	400.00 37.00	3.28	6.14
338	338.00	400.00 38.00	3.28	5.89
339	339.00	400.00 39.00	3.28	5.66
340	340.00	400.00 40.00	3.28	5.43
341	341.00	400.00 41.00	3.28	5.20
342	342.00	400.00 42.00	3.28	4.98
343	343.00	400.00 43.00	3.28	4.78
344	344.00	400.00 44.00	3.28	4.57
345	345.00	400.00 45.00	3.28	4.38
346	346.00	400.00 46.00	3.28	4.19
347	347.00	400.00 47.00	3.28	4.02
348	348.00	400.00 48.00	3.28	3.84
349	349.00	400.00 49.00	3.28	3.68
350	350.00	400.00 50.00	3.28	3.53
351	351.00	400.00 51.00	3.28	3.38
352	352.00	400.00 52.00	3.28	3.24
353	353.00	400.00 53.00	3.28	3.10
354	354.00	400.00 54.00	3.28	2.98
355	355.00	400.00 55.00	3.28	2.86

356	356.00	400.00	56.00	3.28	2.74
357	357.00	400.00	57.00	3.28	2.64
358	358.00	400.00	58.00	3.28	2.53
359	359.00	400.00	59.00	3.28	2.44
360	360.00	400.00	60.00	3.28	2.35
361	361.00	400.00	61.00	3.28	2.26
362	362.00	400.00	62.00	3.28	2.18
363	363.00	400.00	63.00	3.28	2.10
364	364.00	400.00	64.00	3.28	2.03
365	365.00	400.00	65.00	3.28	1.96
366	366.00	400.00	66.00	3.28	1.90
367	367.00	400.00	67.00	3.28	1.83
368	368.00	400.00	68.00	3.28	1.78
369	369.00	400.00	69.00	3.28	1.72
370	370.00	400.00	70.00	3.28	1.67
371	371.00	400.00	71.00	3.28	1.62
372	372.00	400.00	72.00	3.28	1.58
373	373.00	400.00	73.00	3.28	1.53
374	374.00	400.00	74.00	3.28	1.49
375	375.00	400.00	75.00	3.28	1.45
376	376.00	400.00	76.00	3.28	1.42
377	377.00	400.00	77.00	3.28	1.38
378	378.00	400.00	78.00	3.28	1.35
379	379.00	400.00	79.00	3.28	1.31
380	380.00	400.00	80.00	3.28	1.28
381	381.00	400.00	81.00	3.28	1.26
382	382.00	400.00	82.00	3.28	1.23
383	383.00	400.00	83.00	3.28	1.20
384	384.00	400.00	84.00	3.28	1.18
385	385.00	400.00	85.00	3.28	1.15
386	386.00	400.00	86.00	3.28	1.13
387	387.00	400.00	87.00	3.28	1.11
388	388.00	400.00	88.00	3.28	1.09
389	389.00	400.00	89.00	3.28	1.07
390	390.00	400.00	90.00	3.28	1.05
391	391.00	400.00	91.00	3.28	1.03
392	392.00	400.00	92.00	3.28	1.01
393	393.00	400.00	93.00	3.28	0.99
394	394.00	400.00	94.00	3.28	0.97
395	395.00	400.00	95.00	3.28	0.96
396	396.00	400.00	96.00	3.28	0.94
397	397.00	400.00	97.00	3.28	0.92
398	398.00	400.00	98.00	3.28	0.91
399	399.00	400.00	99.00	3.28	0.89
400	400.00	400.00	100.00	3.28	0.88
401	401.00	400.00	101.00	3.28	0.87
402	402.00	400.00	102.00	3.28	0.85
403	403.00	400.00	103.00	3.28	0.84
404	404.00	400.00	104.00	3.28	0.83
405	405.00	400.00	105.00	3.28	0.81
406	406.00	400.00	106.00	3.28	0.80
407	407.00	400.00	107.00	3.28	0.79
408	408.00	400.00	108.00	3.28	0.78
409	409.00	400.00	109.00	3.28	0.77
410	410.00	400.00	110.00	3.28	0.75
411	411.00	400.00	111.00	3.28	0.74
412	412.00	400.00	112.00	3.28	0.73
413	413.00	400.00	113.00	3.28	0.72
414	414.00	400.00	114.00	3.28	0.71
415	415.00	400.00	115.00	3.28	0.70
416	416.00	400.00	116.00	3.28	0.69
417	417.00	400.00	117.00	3.28	0.68
418	418.00	400.00	118.00	3.28	0.67

419	419.00	400.00	119.00	3.28	0.66
420	420.00	400.00	120.00	3.28	0.65
421	421.00	400.00	121.00	3.28	0.64
422	422.00	400.00	122.00	3.28	0.64
423	423.00	400.00	123.00	3.28	0.63
424	424.00	400.00	124.00	3.28	0.62
425	425.00	400.00	125.00	3.28	0.61
426	426.00	400.00	126.00	3.28	0.60
427	427.00	400.00	127.00	3.28	0.59
428	428.00	400.00	128.00	3.28	0.59
429	429.00	400.00	129.00	3.28	0.58
430	430.00	400.00	130.00	3.28	0.57
431	431.00	400.00	131.00	3.28	0.56
432	432.00	400.00	132.00	3.28	0.55
433	433.00	400.00	133.00	3.28	0.55
434	434.00	400.00	134.00	3.28	0.54
435	435.00	400.00	135.00	3.28	0.53
436	436.00	400.00	136.00	3.28	0.53
437	437.00	400.00	137.00	3.28	0.52
438	438.00	400.00	138.00	3.28	0.51
439	439.00	400.00	139.00	3.28	0.51
440	440.00	400.00	140.00	3.28	0.50
441	441.00	400.00	141.00	3.28	0.49
442	442.00	400.00	142.00	3.28	0.49
443	443.00	400.00	143.00	3.28	0.48
444	444.00	400.00	144.00	3.28	0.47
445	445.00	400.00	145.00	3.28	0.47
446	446.00	400.00	146.00	3.28	0.46
447	447.00	400.00	147.00	3.28	0.46
448	448.00	400.00	148.00	3.28	0.45
449	449.00	400.00	149.00	3.28	0.45
450	450.00	400.00	150.00	3.28	0.44
451	451.00	400.00	151.00	3.28	0.43
452	452.00	400.00	152.00	3.28	0.43
453	453.00	400.00	153.00	3.28	0.42
454	454.00	400.00	154.00	3.28	0.42
455	455.00	400.00	155.00	3.28	0.41
456	456.00	400.00	156.00	3.28	0.41
457	457.00	400.00	157.00	3.28	0.40
458	458.00	400.00	158.00	3.28	0.40
459	459.00	400.00	159.00	3.28	0.39
460	460.00	400.00	160.00	3.28	0.39
461	461.00	400.00	161.00	3.28	0.39
462	462.00	400.00	162.00	3.28	0.38
463	463.00	400.00	163.00	3.28	0.38
464	464.00	400.00	164.00	3.28	0.37
465	465.00	400.00	165.00	3.28	0.37
466	466.00	400.00	166.00	3.28	0.36
467	467.00	400.00	167.00	3.28	0.36
468	468.00	400.00	168.00	3.28	0.35
469	469.00	400.00	169.00	3.28	0.35
470	470.00	400.00	170.00	3.28	0.35
471	471.00	400.00	171.00	3.28	0.34
472	472.00	400.00	172.00	3.28	0.34
473	473.00	400.00	173.00	3.28	0.34
474	474.00	400.00	174.00	3.28	0.33
475	475.00	400.00	175.00	3.28	0.33
476	476.00	400.00	176.00	3.28	0.32
477	477.00	400.00	177.00	3.28	0.32
478	478.00	400.00	178.00	3.28	0.32
479	479.00	400.00	179.00	3.28	0.31
480	480.00	400.00	180.00	3.28	0.31
481	481.00	400.00	181.00	3.28	0.31

482	482.00	400.00	182.00	3.28	0.30
483	483.00	400.00	183.00	3.28	0.30
484	484.00	400.00	184.00	3.28	0.30
485	485.00	400.00	185.00	3.28	0.29
486	486.00	400.00	186.00	3.28	0.29
487	487.00	400.00	187.00	3.28	0.29
488	488.00	400.00	188.00	3.28	0.28
489	489.00	400.00	189.00	3.28	0.28
490	490.00	400.00	190.00	3.28	0.28
491	491.00	400.00	191.00	3.28	0.28
492	492.00	400.00	192.00	3.28	0.27
493	493.00	400.00	193.00	3.28	0.27
494	494.00	400.00	194.00	3.28	0.27
495	495.00	400.00	195.00	3.28	0.26
496	496.00	400.00	196.00	3.28	0.26
497	497.00	400.00	197.00	3.28	0.26
498	498.00	400.00	198.00	3.28	0.26
499	499.00	400.00	199.00	3.28	0.25
500	500.00	400.00	200.00	3.28	0.25
501	501.00	400.00	201.00	3.28	0.25
502	502.00	400.00	202.00	3.28	0.25
503	503.00	400.00	203.00	3.28	0.24
504	504.00	400.00	204.00	3.28	0.24
505	505.00	400.00	205.00	3.28	0.24
506	506.00	400.00	206.00	3.28	0.24
507	507.00	400.00	207.00	3.28	0.23
508	508.00	400.00	208.00	3.28	0.23
509	509.00	400.00	209.00	3.28	0.23
510	510.00	400.00	210.00	3.28	0.23
511	511.00	400.00	211.00	3.28	0.22
512	512.00	400.00	212.00	3.28	0.22
513	513.00	400.00	213.00	3.28	0.22
514	514.00	400.00	214.00	3.28	0.22
515	515.00	400.00	215.00	3.28	0.22
516	516.00	400.00	216.00	3.28	0.21
517	517.00	400.00	217.00	3.28	0.21
518	518.00	400.00	218.00	3.28	0.21
519	519.00	400.00	219.00	3.28	0.21
520	520.00	400.00	220.00	3.28	0.21
521	521.00	400.00	221.00	3.28	0.20
522	522.00	400.00	222.00	3.28	0.20
523	523.00	400.00	223.00	3.28	0.20
524	524.00	400.00	224.00	3.28	0.20
525	525.00	400.00	225.00	3.28	0.20
526	526.00	400.00	226.00	3.28	0.19
527	527.00	400.00	227.00	3.28	0.19
528	528.00	400.00	228.00	3.28	0.19
529	529.00	400.00	229.00	3.28	0.19
530	530.00	400.00	230.00	3.28	0.19
531	531.00	400.00	231.00	3.28	0.19
532	532.00	400.00	232.00	3.28	0.18
533	533.00	400.00	233.00	3.28	0.18
534	534.00	400.00	234.00	3.28	0.18
535	535.00	400.00	235.00	3.28	0.18
536	536.00	400.00	236.00	3.28	0.18
537	537.00	400.00	237.00	3.28	0.18
538	538.00	400.00	238.00	3.28	0.17
539	539.00	400.00	239.00	3.28	0.17
540	540.00	400.00	240.00	3.28	0.17
541	541.00	400.00	241.00	3.28	0.17
542	542.00	400.00	242.00	3.28	0.17
543	543.00	400.00	243.00	3.28	0.17
544	544.00	400.00	244.00	3.28	0.17

545	545.00	400.00	245.00	3.28	0.16
546	546.00	400.00	246.00	3.28	0.16
547	547.00	400.00	247.00	3.28	0.16
548	548.00	400.00	248.00	3.28	0.16
549	549.00	400.00	249.00	3.28	0.16
550	550.00	400.00	250.00	3.28	0.16
551	551.00	400.00	251.00	3.28	0.16
552	552.00	400.00	252.00	3.28	0.15
553	553.00	400.00	253.00	3.28	0.15
554	554.00	400.00	254.00	3.28	0.15
555	555.00	400.00	255.00	3.28	0.15
556	556.00	400.00	256.00	3.28	0.15
557	557.00	400.00	257.00	3.28	0.15
558	558.00	400.00	258.00	3.28	0.15
559	559.00	400.00	259.00	3.28	0.15
560	560.00	400.00	260.00	3.28	0.14
561	561.00	400.00	261.00	3.28	0.14
562	562.00	400.00	262.00	3.28	0.14
563	563.00	400.00	263.00	3.28	0.14
564	564.00	400.00	264.00	3.28	0.14
565	565.00	400.00	265.00	3.28	0.14
566	566.00	400.00	266.00	3.28	0.14
567	567.00	400.00	267.00	3.28	0.14
568	568.00	400.00	268.00	3.28	0.14
569	569.00	400.00	269.00	3.28	0.13
570	570.00	400.00	270.00	3.28	0.13
571	571.00	400.00	271.00	3.28	0.13
572	572.00	400.00	272.00	3.28	0.13
573	573.00	400.00	273.00	3.28	0.13
574	574.00	400.00	274.00	3.28	0.13
575	575.00	400.00	275.00	3.28	0.13
576	576.00	400.00	276.00	3.28	0.13
577	577.00	400.00	277.00	3.28	0.13
578	578.00	400.00	278.00	3.28	0.13
579	579.00	400.00	279.00	3.28	0.12
580	580.00	400.00	280.00	3.28	0.12
581	581.00	400.00	281.00	3.28	0.12
582	582.00	400.00	282.00	3.28	0.12
583	583.00	400.00	283.00	3.28	0.12
584	584.00	400.00	284.00	3.28	0.12
585	585.00	400.00	285.00	3.28	0.12
586	586.00	400.00	286.00	3.28	0.12
587	587.00	400.00	287.00	3.28	0.12
588	588.00	400.00	288.00	3.28	0.12
589	589.00	400.00	289.00	3.28	0.12
590	590.00	400.00	290.00	3.28	0.11
591	591.00	400.00	291.00	3.28	0.11
592	592.00	400.00	292.00	3.28	0.11
593	593.00	400.00	293.00	3.28	0.11
594	594.00	400.00	294.00	3.28	0.11
595	595.00	400.00	295.00	3.28	0.11
596	596.00	400.00	296.00	3.28	0.11
597	597.00	400.00	297.00	3.28	0.11
598	598.00	400.00	298.00	3.28	0.11
599	599.00	400.00	299.00	3.28	0.11
600	600.00	400.00	300.00	3.28	0.11

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Average Load"

Field Components = Resultant
 Distance units = (ft)
 Magnetic field units = mG

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	1.16
1	1.00	400.00	-299.00	3.28	1.17
2	2.00	400.00	-298.00	3.28	1.17
3	3.00	400.00	-297.00	3.28	1.18
4	4.00	400.00	-296.00	3.28	1.19
5	5.00	400.00	-295.00	3.28	1.20
6	6.00	400.00	-294.00	3.28	1.20
7	7.00	400.00	-293.00	3.28	1.21
8	8.00	400.00	-292.00	3.28	1.22
9	9.00	400.00	-291.00	3.28	1.23
10	10.00	400.00	-290.00	3.28	1.23
11	11.00	400.00	-289.00	3.28	1.24
12	12.00	400.00	-288.00	3.28	1.25
13	13.00	400.00	-287.00	3.28	1.26
14	14.00	400.00	-286.00	3.28	1.27
15	15.00	400.00	-285.00	3.28	1.27
16	16.00	400.00	-284.00	3.28	1.28
17	17.00	400.00	-283.00	3.28	1.29
18	18.00	400.00	-282.00	3.28	1.30
19	19.00	400.00	-281.00	3.28	1.31
20	20.00	400.00	-280.00	3.28	1.32
21	21.00	400.00	-279.00	3.28	1.33
22	22.00	400.00	-278.00	3.28	1.33
23	23.00	400.00	-277.00	3.28	1.34
24	24.00	400.00	-276.00	3.28	1.35
25	25.00	400.00	-275.00	3.28	1.36
26	26.00	400.00	-274.00	3.28	1.37
27	27.00	400.00	-273.00	3.28	1.38
28	28.00	400.00	-272.00	3.28	1.39
29	29.00	400.00	-271.00	3.28	1.40
30	30.00	400.00	-270.00	3.28	1.41
31	31.00	400.00	-269.00	3.28	1.42
32	32.00	400.00	-268.00	3.28	1.43
33	33.00	400.00	-267.00	3.28	1.44
34	34.00	400.00	-266.00	3.28	1.45
35	35.00	400.00	-265.00	3.28	1.46
36	36.00	400.00	-264.00	3.28	1.47
37	37.00	400.00	-263.00	3.28	1.48
38	38.00	400.00	-262.00	3.28	1.49
39	39.00	400.00	-261.00	3.28	1.50
40	40.00	400.00	-260.00	3.28	1.51
41	41.00	400.00	-259.00	3.28	1.52
42	42.00	400.00	-258.00	3.28	1.53
43	43.00	400.00	-257.00	3.28	1.54
44	44.00	400.00	-256.00	3.28	1.55
45	45.00	400.00	-255.00	3.28	1.56
46	46.00	400.00	-254.00	3.28	1.57
47	47.00	400.00	-253.00	3.28	1.58
48	48.00	400.00	-252.00	3.28	1.60
49	49.00	400.00	-251.00	3.28	1.61
50	50.00	400.00	-250.00	3.28	1.62
51	51.00	400.00	-249.00	3.28	1.63

52	52.00	400.00	-248.00	3.28	1.64
53	53.00	400.00	-247.00	3.28	1.66
54	54.00	400.00	-246.00	3.28	1.67
55	55.00	400.00	-245.00	3.28	1.68
56	56.00	400.00	-244.00	3.28	1.69
57	57.00	400.00	-243.00	3.28	1.71
58	58.00	400.00	-242.00	3.28	1.72
59	59.00	400.00	-241.00	3.28	1.73
60	60.00	400.00	-240.00	3.28	1.74
61	61.00	400.00	-239.00	3.28	1.76
62	62.00	400.00	-238.00	3.28	1.77
63	63.00	400.00	-237.00	3.28	1.79
64	64.00	400.00	-236.00	3.28	1.80
65	65.00	400.00	-235.00	3.28	1.81
66	66.00	400.00	-234.00	3.28	1.83
67	67.00	400.00	-233.00	3.28	1.84
68	68.00	400.00	-232.00	3.28	1.86
69	69.00	400.00	-231.00	3.28	1.87
70	70.00	400.00	-230.00	3.28	1.89
71	71.00	400.00	-229.00	3.28	1.90
72	72.00	400.00	-228.00	3.28	1.92
73	73.00	400.00	-227.00	3.28	1.93
74	74.00	400.00	-226.00	3.28	1.95
75	75.00	400.00	-225.00	3.28	1.96
76	76.00	400.00	-224.00	3.28	1.98
77	77.00	400.00	-223.00	3.28	1.99
78	78.00	400.00	-222.00	3.28	2.01
79	79.00	400.00	-221.00	3.28	2.03
80	80.00	400.00	-220.00	3.28	2.04
81	81.00	400.00	-219.00	3.28	2.06
82	82.00	400.00	-218.00	3.28	2.08
83	83.00	400.00	-217.00	3.28	2.09
84	84.00	400.00	-216.00	3.28	2.11
85	85.00	400.00	-215.00	3.28	2.13
86	86.00	400.00	-214.00	3.28	2.15
87	87.00	400.00	-213.00	3.28	2.17
88	88.00	400.00	-212.00	3.28	2.18
89	89.00	400.00	-211.00	3.28	2.20
90	90.00	400.00	-210.00	3.28	2.22
91	91.00	400.00	-209.00	3.28	2.24
92	92.00	400.00	-208.00	3.28	2.26
93	93.00	400.00	-207.00	3.28	2.28
94	94.00	400.00	-206.00	3.28	2.30
95	95.00	400.00	-205.00	3.28	2.32
96	96.00	400.00	-204.00	3.28	2.34
97	97.00	400.00	-203.00	3.28	2.36
98	98.00	400.00	-202.00	3.28	2.38
99	99.00	400.00	-201.00	3.28	2.40
100	100.00	400.00	-200.00	3.28	2.43
101	101.00	400.00	-199.00	3.28	2.45
102	102.00	400.00	-198.00	3.28	2.47
103	103.00	400.00	-197.00	3.28	2.49
104	104.00	400.00	-196.00	3.28	2.52
105	105.00	400.00	-195.00	3.28	2.54
106	106.00	400.00	-194.00	3.28	2.56
107	107.00	400.00	-193.00	3.28	2.59
108	108.00	400.00	-192.00	3.28	2.61
109	109.00	400.00	-191.00	3.28	2.64
110	110.00	400.00	-190.00	3.28	2.66
111	111.00	400.00	-189.00	3.28	2.69
112	112.00	400.00	-188.00	3.28	2.71
113	113.00	400.00	-187.00	3.28	2.74
114	114.00	400.00	-186.00	3.28	2.76

115	115.00	400.00	-185.00	3.28	2.79
116	116.00	400.00	-184.00	3.28	2.82
117	117.00	400.00	-183.00	3.28	2.84
118	118.00	400.00	-182.00	3.28	2.87
119	119.00	400.00	-181.00	3.28	2.90
120	120.00	400.00	-180.00	3.28	2.93
121	121.00	400.00	-179.00	3.28	2.96
122	122.00	400.00	-178.00	3.28	2.99
123	123.00	400.00	-177.00	3.28	3.02
124	124.00	400.00	-176.00	3.28	3.05
125	125.00	400.00	-175.00	3.28	3.08
126	126.00	400.00	-174.00	3.28	3.11
127	127.00	400.00	-173.00	3.28	3.14
128	128.00	400.00	-172.00	3.28	3.18
129	129.00	400.00	-171.00	3.28	3.21
130	130.00	400.00	-170.00	3.28	3.24
131	131.00	400.00	-169.00	3.28	3.28
132	132.00	400.00	-168.00	3.28	3.31
133	133.00	400.00	-167.00	3.28	3.34
134	134.00	400.00	-166.00	3.28	3.38
135	135.00	400.00	-165.00	3.28	3.42
136	136.00	400.00	-164.00	3.28	3.45
137	137.00	400.00	-163.00	3.28	3.49
138	138.00	400.00	-162.00	3.28	3.53
139	139.00	400.00	-161.00	3.28	3.57
140	140.00	400.00	-160.00	3.28	3.61
141	141.00	400.00	-159.00	3.28	3.65
142	142.00	400.00	-158.00	3.28	3.69
143	143.00	400.00	-157.00	3.28	3.73
144	144.00	400.00	-156.00	3.28	3.77
145	145.00	400.00	-155.00	3.28	3.81
146	146.00	400.00	-154.00	3.28	3.85
147	147.00	400.00	-153.00	3.28	3.90
148	148.00	400.00	-152.00	3.28	3.94
149	149.00	400.00	-151.00	3.28	3.99
150	150.00	400.00	-150.00	3.28	4.03
151	151.00	400.00	-149.00	3.28	4.08
152	152.00	400.00	-148.00	3.28	4.13
153	153.00	400.00	-147.00	3.28	4.18
154	154.00	400.00	-146.00	3.28	4.23
155	155.00	400.00	-145.00	3.28	4.28
156	156.00	400.00	-144.00	3.28	4.33
157	157.00	400.00	-143.00	3.28	4.38
158	158.00	400.00	-142.00	3.28	4.43
159	159.00	400.00	-141.00	3.28	4.49
160	160.00	400.00	-140.00	3.28	4.54
161	161.00	400.00	-139.00	3.28	4.60
162	162.00	400.00	-138.00	3.28	4.66
163	163.00	400.00	-137.00	3.28	4.71
164	164.00	400.00	-136.00	3.28	4.77
165	165.00	400.00	-135.00	3.28	4.83
166	166.00	400.00	-134.00	3.28	4.90
167	167.00	400.00	-133.00	3.28	4.96
168	168.00	400.00	-132.00	3.28	5.02
169	169.00	400.00	-131.00	3.28	5.09
170	170.00	400.00	-130.00	3.28	5.15
171	171.00	400.00	-129.00	3.28	5.22
172	172.00	400.00	-128.00	3.28	5.29
173	173.00	400.00	-127.00	3.28	5.36
174	174.00	400.00	-126.00	3.28	5.43
175	175.00	400.00	-125.00	3.28	5.50
176	176.00	400.00	-124.00	3.28	5.58
177	177.00	400.00	-123.00	3.28	5.65

178	178.00	400.00	-122.00	3.28	5.73
179	179.00	400.00	-121.00	3.28	5.81
180	180.00	400.00	-120.00	3.28	5.89
181	181.00	400.00	-119.00	3.28	5.97
182	182.00	400.00	-118.00	3.28	6.05
183	183.00	400.00	-117.00	3.28	6.14
184	184.00	400.00	-116.00	3.28	6.23
185	185.00	400.00	-115.00	3.28	6.32
186	186.00	400.00	-114.00	3.28	6.41
187	187.00	400.00	-113.00	3.28	6.50
188	188.00	400.00	-112.00	3.28	6.59
189	189.00	400.00	-111.00	3.28	6.69
190	190.00	400.00	-110.00	3.28	6.79
191	191.00	400.00	-109.00	3.28	6.89
192	192.00	400.00	-108.00	3.28	6.99
193	193.00	400.00	-107.00	3.28	7.10
194	194.00	400.00	-106.00	3.28	7.20
195	195.00	400.00	-105.00	3.28	7.31
196	196.00	400.00	-104.00	3.28	7.43
197	197.00	400.00	-103.00	3.28	7.54
198	198.00	400.00	-102.00	3.28	7.66
199	199.00	400.00	-101.00	3.28	7.78
200	200.00	400.00	-100.00	3.28	7.90
201	201.00	400.00	-99.00	3.28	8.02
202	202.00	400.00	-98.00	3.28	8.15
203	203.00	400.00	-97.00	3.28	8.28
204	204.00	400.00	-96.00	3.28	8.42
205	205.00	400.00	-95.00	3.28	8.55
206	206.00	400.00	-94.00	3.28	8.69
207	207.00	400.00	-93.00	3.28	8.84
208	208.00	400.00	-92.00	3.28	8.98
209	209.00	400.00	-91.00	3.28	9.13
210	210.00	400.00	-90.00	3.28	9.29
211	211.00	400.00	-89.00	3.28	9.44
212	212.00	400.00	-88.00	3.28	9.60
213	213.00	400.00	-87.00	3.28	9.77
214	214.00	400.00	-86.00	3.28	9.93
215	215.00	400.00	-85.00	3.28	10.11
216	216.00	400.00	-84.00	3.28	10.28
217	217.00	400.00	-83.00	3.28	10.46
218	218.00	400.00	-82.00	3.28	10.65
219	219.00	400.00	-81.00	3.28	10.84
220	220.00	400.00	-80.00	3.28	11.03
221	221.00	400.00	-79.00	3.28	11.23
222	222.00	400.00	-78.00	3.28	11.43
223	223.00	400.00	-77.00	3.28	11.64
224	224.00	400.00	-76.00	3.28	11.86
225	225.00	400.00	-75.00	3.28	12.07
226	226.00	400.00	-74.00	3.28	12.30
227	227.00	400.00	-73.00	3.28	12.53
228	228.00	400.00	-72.00	3.28	12.76
229	229.00	400.00	-71.00	3.28	13.00
230	230.00	400.00	-70.00	3.28	13.25
231	231.00	400.00	-69.00	3.28	13.50
232	232.00	400.00	-68.00	3.28	13.76
233	233.00	400.00	-67.00	3.28	14.03
234	234.00	400.00	-66.00	3.28	14.30
235	235.00	400.00	-65.00	3.28	14.58
236	236.00	400.00	-64.00	3.28	14.87
237	237.00	400.00	-63.00	3.28	15.16
238	238.00	400.00	-62.00	3.28	15.46
239	239.00	400.00	-61.00	3.28	15.77
240	240.00	400.00	-60.00	3.28	16.08

241	241.00	400.00	-59.00	3.28	16.41
242	242.00	400.00	-58.00	3.28	16.74
243	243.00	400.00	-57.00	3.28	17.07
244	244.00	400.00	-56.00	3.28	17.42
245	245.00	400.00	-55.00	3.28	17.78
246	246.00	400.00	-54.00	3.28	18.14
247	247.00	400.00	-53.00	3.28	18.51
248	248.00	400.00	-52.00	3.28	18.89
249	249.00	400.00	-51.00	3.28	19.28
250	250.00	400.00	-50.00	3.28	19.68
251	251.00	400.00	-49.00	3.28	20.09
252	252.00	400.00	-48.00	3.28	20.50
253	253.00	400.00	-47.00	3.28	20.93
254	254.00	400.00	-46.00	3.28	21.36
255	255.00	400.00	-45.00	3.28	21.81
256	256.00	400.00	-44.00	3.28	22.26
257	257.00	400.00	-43.00	3.28	22.72
258	258.00	400.00	-42.00	3.28	23.19
259	259.00	400.00	-41.00	3.28	23.67
260	260.00	400.00	-40.00	3.28	24.16
261	261.00	400.00	-39.00	3.28	24.66
262	262.00	400.00	-38.00	3.28	25.17
263	263.00	400.00	-37.00	3.28	25.69
264	264.00	400.00	-36.00	3.28	26.22
265	265.00	400.00	-35.00	3.28	26.75
266	266.00	400.00	-34.00	3.28	27.30
267	267.00	400.00	-33.00	3.28	27.85
268	268.00	400.00	-32.00	3.28	28.41
269	269.00	400.00	-31.00	3.28	28.98
270	270.00	400.00	-30.00	3.28	29.56
271	271.00	400.00	-29.00	3.28	30.14
272	272.00	400.00	-28.00	3.28	30.74
273	273.00	400.00	-27.00	3.28	31.33
274	274.00	400.00	-26.00	3.28	31.94
275	275.00	400.00	-25.00	3.28	32.55
276	276.00	400.00	-24.00	3.28	33.17
277	277.00	400.00	-23.00	3.28	33.79
278	278.00	400.00	-22.00	3.28	34.42
279	279.00	400.00	-21.00	3.28	35.05
280	280.00	400.00	-20.00	3.28	35.68
281	281.00	400.00	-19.00	3.28	36.32
282	282.00	400.00	-18.00	3.28	36.96
283	283.00	400.00	-17.00	3.28	37.60
284	284.00	400.00	-16.00	3.28	38.25
285	285.00	400.00	-15.00	3.28	38.89
286	286.00	400.00	-14.00	3.28	39.53
287	287.00	400.00	-13.00	3.28	40.18
288	288.00	400.00	-12.00	3.28	40.82
289	289.00	400.00	-11.00	3.28	41.45
290	290.00	400.00	-10.00	3.28	42.08
291	291.00	400.00	-9.00	3.28	42.71
292	292.00	400.00	-8.00	3.28	43.33
293	293.00	400.00	-7.00	3.28	43.94
294	294.00	400.00	-6.00	3.28	44.54
295	295.00	400.00	-5.00	3.28	45.12
296	296.00	400.00	-4.00	3.28	45.69
297	297.00	400.00	-3.00	3.28	46.24
298	298.00	400.00	-2.00	3.28	46.78
299	299.00	400.00	-1.00	3.28	47.29
300	300.00	400.00	0.00	3.28	47.77
301	301.00	400.00	1.00	3.28	48.23
302	302.00	400.00	2.00	3.28	48.65
303	303.00	400.00	3.00	3.28	49.04

304	304.00	400.00	4.00	3.28	49.39
305	305.00	400.00	5.00	3.28	49.70
306	306.00	400.00	6.00	3.28	49.96
307	307.00	400.00	7.00	3.28	50.17
308	308.00	400.00	8.00	3.28	50.33
309	309.00	400.00	9.00	3.28	50.44
310	310.00	400.00	10.00	3.28	50.49
311	311.00	400.00	11.00	3.28	50.49
312	312.00	400.00	12.00	3.28	50.42
313	313.00	400.00	13.00	3.28	50.29
314	314.00	400.00	14.00	3.28	50.10
315	315.00	400.00	15.00	3.28	49.84
316	316.00	400.00	16.00	3.28	49.53
317	317.00	400.00	17.00	3.28	49.16
318	318.00	400.00	18.00	3.28	48.73
319	319.00	400.00	19.00	3.28	48.25
320	320.00	400.00	20.00	3.28	47.71
321	321.00	400.00	21.00	3.28	47.13
322	322.00	400.00	22.00	3.28	46.50
323	323.00	400.00	23.00	3.28	45.84
324	324.00	400.00	24.00	3.28	45.14
325	325.00	400.00	25.00	3.28	44.41
326	326.00	400.00	26.00	3.28	43.65
327	327.00	400.00	27.00	3.28	42.87
328	328.00	400.00	28.00	3.28	42.07
329	329.00	400.00	29.00	3.28	41.26
330	330.00	400.00	30.00	3.28	40.44
331	331.00	400.00	31.00	3.28	39.62
332	332.00	400.00	32.00	3.28	38.78
333	333.00	400.00	33.00	3.28	37.95
334	334.00	400.00	34.00	3.28	37.13
335	335.00	400.00	35.00	3.28	36.30
336	336.00	400.00	36.00	3.28	35.49
337	337.00	400.00	37.00	3.28	34.68
338	338.00	400.00	38.00	3.28	33.88
339	339.00	400.00	39.00	3.28	33.10
340	340.00	400.00	40.00	3.28	32.32
341	341.00	400.00	41.00	3.28	31.56
342	342.00	400.00	42.00	3.28	30.82
343	343.00	400.00	43.00	3.28	30.09
344	344.00	400.00	44.00	3.28	29.38
345	345.00	400.00	45.00	3.28	28.68
346	346.00	400.00	46.00	3.28	28.00
347	347.00	400.00	47.00	3.28	27.34
348	348.00	400.00	48.00	3.28	26.69
349	349.00	400.00	49.00	3.28	26.06
350	350.00	400.00	50.00	3.28	25.44
351	351.00	400.00	51.00	3.28	24.84
352	352.00	400.00	52.00	3.28	24.26
353	353.00	400.00	53.00	3.28	23.69
354	354.00	400.00	54.00	3.28	23.14
355	355.00	400.00	55.00	3.28	22.60
356	356.00	400.00	56.00	3.28	22.08
357	357.00	400.00	57.00	3.28	21.57
358	358.00	400.00	58.00	3.28	21.08
359	359.00	400.00	59.00	3.28	20.60
360	360.00	400.00	60.00	3.28	20.13
361	361.00	400.00	61.00	3.28	19.68
362	362.00	400.00	62.00	3.28	19.24
363	363.00	400.00	63.00	3.28	18.81
364	364.00	400.00	64.00	3.28	18.39
365	365.00	400.00	65.00	3.28	17.99
366	366.00	400.00	66.00	3.28	17.60

367	367.00	400.00	67.00	3.28	17.21
368	368.00	400.00	68.00	3.28	16.84
369	369.00	400.00	69.00	3.28	16.48
370	370.00	400.00	70.00	3.28	16.13
371	371.00	400.00	71.00	3.28	15.79
372	372.00	400.00	72.00	3.28	15.46
373	373.00	400.00	73.00	3.28	15.13
374	374.00	400.00	74.00	3.28	14.82
375	375.00	400.00	75.00	3.28	14.52
376	376.00	400.00	76.00	3.28	14.22
377	377.00	400.00	77.00	3.28	13.93
378	378.00	400.00	78.00	3.28	13.65
379	379.00	400.00	79.00	3.28	13.37
380	380.00	400.00	80.00	3.28	13.11
381	381.00	400.00	81.00	3.28	12.85
382	382.00	400.00	82.00	3.28	12.60
383	383.00	400.00	83.00	3.28	12.35
384	384.00	400.00	84.00	3.28	12.11
385	385.00	400.00	85.00	3.28	11.88
386	386.00	400.00	86.00	3.28	11.65
387	387.00	400.00	87.00	3.28	11.43
388	388.00	400.00	88.00	3.28	11.22
389	389.00	400.00	89.00	3.28	11.01
390	390.00	400.00	90.00	3.28	10.80
391	391.00	400.00	91.00	3.28	10.60
392	392.00	400.00	92.00	3.28	10.41
393	393.00	400.00	93.00	3.28	10.22
394	394.00	400.00	94.00	3.28	10.03
395	395.00	400.00	95.00	3.28	9.85
396	396.00	400.00	96.00	3.28	9.68
397	397.00	400.00	97.00	3.28	9.51
398	398.00	400.00	98.00	3.28	9.34
399	399.00	400.00	99.00	3.28	9.18
400	400.00	400.00	100.00	3.28	9.02
401	401.00	400.00	101.00	3.28	8.86
402	402.00	400.00	102.00	3.28	8.71
403	403.00	400.00	103.00	3.28	8.56
404	404.00	400.00	104.00	3.28	8.42
405	405.00	400.00	105.00	3.28	8.27
406	406.00	400.00	106.00	3.28	8.14
407	407.00	400.00	107.00	3.28	8.00
408	408.00	400.00	108.00	3.28	7.87
409	409.00	400.00	109.00	3.28	7.74
410	410.00	400.00	110.00	3.28	7.61
411	411.00	400.00	111.00	3.28	7.49
412	412.00	400.00	112.00	3.28	7.37
413	413.00	400.00	113.00	3.28	7.25
414	414.00	400.00	114.00	3.28	7.14
415	415.00	400.00	115.00	3.28	7.03
416	416.00	400.00	116.00	3.28	6.92
417	417.00	400.00	117.00	3.28	6.81
418	418.00	400.00	118.00	3.28	6.70
419	419.00	400.00	119.00	3.28	6.60
420	420.00	400.00	120.00	3.28	6.50
421	421.00	400.00	121.00	3.28	6.40
422	422.00	400.00	122.00	3.28	6.31
423	423.00	400.00	123.00	3.28	6.21
424	424.00	400.00	124.00	3.28	6.12
425	425.00	400.00	125.00	3.28	6.03
426	426.00	400.00	126.00	3.28	5.94
427	427.00	400.00	127.00	3.28	5.85
428	428.00	400.00	128.00	3.28	5.77
429	429.00	400.00	129.00	3.28	5.68

430	430.00	400.00	130.00	3.28	5.60
431	431.00	400.00	131.00	3.28	5.52
432	432.00	400.00	132.00	3.28	5.45
433	433.00	400.00	133.00	3.28	5.37
434	434.00	400.00	134.00	3.28	5.29
435	435.00	400.00	135.00	3.28	5.22
436	436.00	400.00	136.00	3.28	5.15
437	437.00	400.00	137.00	3.28	5.08
438	438.00	400.00	138.00	3.28	5.01
439	439.00	400.00	139.00	3.28	4.94
440	440.00	400.00	140.00	3.28	4.87
441	441.00	400.00	141.00	3.28	4.81
442	442.00	400.00	142.00	3.28	4.74
443	443.00	400.00	143.00	3.28	4.68
444	444.00	400.00	144.00	3.28	4.62
445	445.00	400.00	145.00	3.28	4.56
446	446.00	400.00	146.00	3.28	4.50
447	447.00	400.00	147.00	3.28	4.44
448	448.00	400.00	148.00	3.28	4.38
449	449.00	400.00	149.00	3.28	4.33
450	450.00	400.00	150.00	3.28	4.27
451	451.00	400.00	151.00	3.28	4.22
452	452.00	400.00	152.00	3.28	4.16
453	453.00	400.00	153.00	3.28	4.11
454	454.00	400.00	154.00	3.28	4.06
455	455.00	400.00	155.00	3.28	4.01
456	456.00	400.00	156.00	3.28	3.96
457	457.00	400.00	157.00	3.28	3.91
458	458.00	400.00	158.00	3.28	3.86
459	459.00	400.00	159.00	3.28	3.81
460	460.00	400.00	160.00	3.28	3.77
461	461.00	400.00	161.00	3.28	3.72
462	462.00	400.00	162.00	3.28	3.68
463	463.00	400.00	163.00	3.28	3.63
464	464.00	400.00	164.00	3.28	3.59
465	465.00	400.00	165.00	3.28	3.55
466	466.00	400.00	166.00	3.28	3.51
467	467.00	400.00	167.00	3.28	3.47
468	468.00	400.00	168.00	3.28	3.43
469	469.00	400.00	169.00	3.28	3.39
470	470.00	400.00	170.00	3.28	3.35
471	471.00	400.00	171.00	3.28	3.31
472	472.00	400.00	172.00	3.28	3.27
473	473.00	400.00	173.00	3.28	3.23
474	474.00	400.00	174.00	3.28	3.20
475	475.00	400.00	175.00	3.28	3.16
476	476.00	400.00	176.00	3.28	3.13
477	477.00	400.00	177.00	3.28	3.09
478	478.00	400.00	178.00	3.28	3.06
479	479.00	400.00	179.00	3.28	3.02
480	480.00	400.00	180.00	3.28	2.99
481	481.00	400.00	181.00	3.28	2.96
482	482.00	400.00	182.00	3.28	2.93
483	483.00	400.00	183.00	3.28	2.90
484	484.00	400.00	184.00	3.28	2.86
485	485.00	400.00	185.00	3.28	2.83
486	486.00	400.00	186.00	3.28	2.80
487	487.00	400.00	187.00	3.28	2.77
488	488.00	400.00	188.00	3.28	2.74
489	489.00	400.00	189.00	3.28	2.72
490	490.00	400.00	190.00	3.28	2.69
491	491.00	400.00	191.00	3.28	2.66
492	492.00	400.00	192.00	3.28	2.63

493	493.00	400.00	193.00	3.28	2.60
494	494.00	400.00	194.00	3.28	2.58
495	495.00	400.00	195.00	3.28	2.55
496	496.00	400.00	196.00	3.28	2.53
497	497.00	400.00	197.00	3.28	2.50
498	498.00	400.00	198.00	3.28	2.48
499	499.00	400.00	199.00	3.28	2.45
500	500.00	400.00	200.00	3.28	2.43
501	501.00	400.00	201.00	3.28	2.40
502	502.00	400.00	202.00	3.28	2.38
503	503.00	400.00	203.00	3.28	2.35
504	504.00	400.00	204.00	3.28	2.33
505	505.00	400.00	205.00	3.28	2.31
506	506.00	400.00	206.00	3.28	2.29
507	507.00	400.00	207.00	3.28	2.26
508	508.00	400.00	208.00	3.28	2.24
509	509.00	400.00	209.00	3.28	2.22
510	510.00	400.00	210.00	3.28	2.20
511	511.00	400.00	211.00	3.28	2.18
512	512.00	400.00	212.00	3.28	2.16
513	513.00	400.00	213.00	3.28	2.14
514	514.00	400.00	214.00	3.28	2.12
515	515.00	400.00	215.00	3.28	2.10
516	516.00	400.00	216.00	3.28	2.08
517	517.00	400.00	217.00	3.28	2.06
518	518.00	400.00	218.00	3.28	2.04
519	519.00	400.00	219.00	3.28	2.02
520	520.00	400.00	220.00	3.28	2.00
521	521.00	400.00	221.00	3.28	1.98
522	522.00	400.00	222.00	3.28	1.97
523	523.00	400.00	223.00	3.28	1.95
524	524.00	400.00	224.00	3.28	1.93
525	525.00	400.00	225.00	3.28	1.91
526	526.00	400.00	226.00	3.28	1.90
527	527.00	400.00	227.00	3.28	1.88
528	528.00	400.00	228.00	3.28	1.86
529	529.00	400.00	229.00	3.28	1.85
530	530.00	400.00	230.00	3.28	1.83
531	531.00	400.00	231.00	3.28	1.81
532	532.00	400.00	232.00	3.28	1.80
533	533.00	400.00	233.00	3.28	1.78
534	534.00	400.00	234.00	3.28	1.77
535	535.00	400.00	235.00	3.28	1.75
536	536.00	400.00	236.00	3.28	1.74
537	537.00	400.00	237.00	3.28	1.72
538	538.00	400.00	238.00	3.28	1.71
539	539.00	400.00	239.00	3.28	1.69
540	540.00	400.00	240.00	3.28	1.68
541	541.00	400.00	241.00	3.28	1.66
542	542.00	400.00	242.00	3.28	1.65
543	543.00	400.00	243.00	3.28	1.64
544	544.00	400.00	244.00	3.28	1.62
545	545.00	400.00	245.00	3.28	1.61
546	546.00	400.00	246.00	3.28	1.60
547	547.00	400.00	247.00	3.28	1.58
548	548.00	400.00	248.00	3.28	1.57
549	549.00	400.00	249.00	3.28	1.56
550	550.00	400.00	250.00	3.28	1.54
551	551.00	400.00	251.00	3.28	1.53
552	552.00	400.00	252.00	3.28	1.52
553	553.00	400.00	253.00	3.28	1.51
554	554.00	400.00	254.00	3.28	1.50
555	555.00	400.00	255.00	3.28	1.48

556	556.00	400.00	256.00	3.28	1.47
557	557.00	400.00	257.00	3.28	1.46
558	558.00	400.00	258.00	3.28	1.45
559	559.00	400.00	259.00	3.28	1.44
560	560.00	400.00	260.00	3.28	1.43
561	561.00	400.00	261.00	3.28	1.41
562	562.00	400.00	262.00	3.28	1.40
563	563.00	400.00	263.00	3.28	1.39
564	564.00	400.00	264.00	3.28	1.38
565	565.00	400.00	265.00	3.28	1.37
566	566.00	400.00	266.00	3.28	1.36
567	567.00	400.00	267.00	3.28	1.35
568	568.00	400.00	268.00	3.28	1.34
569	569.00	400.00	269.00	3.28	1.33
570	570.00	400.00	270.00	3.28	1.32
571	571.00	400.00	271.00	3.28	1.31
572	572.00	400.00	272.00	3.28	1.30
573	573.00	400.00	273.00	3.28	1.29
574	574.00	400.00	274.00	3.28	1.28
575	575.00	400.00	275.00	3.28	1.27
576	576.00	400.00	276.00	3.28	1.26
577	577.00	400.00	277.00	3.28	1.25
578	578.00	400.00	278.00	3.28	1.24
579	579.00	400.00	279.00	3.28	1.23
580	580.00	400.00	280.00	3.28	1.22
581	581.00	400.00	281.00	3.28	1.22
582	582.00	400.00	282.00	3.28	1.21
583	583.00	400.00	283.00	3.28	1.20
584	584.00	400.00	284.00	3.28	1.19
585	585.00	400.00	285.00	3.28	1.18
586	586.00	400.00	286.00	3.28	1.17
587	587.00	400.00	287.00	3.28	1.16
588	588.00	400.00	288.00	3.28	1.16
589	589.00	400.00	289.00	3.28	1.15
590	590.00	400.00	290.00	3.28	1.14
591	591.00	400.00	291.00	3.28	1.13
592	592.00	400.00	292.00	3.28	1.12
593	593.00	400.00	293.00	3.28	1.12
594	594.00	400.00	294.00	3.28	1.11
595	595.00	400.00	295.00	3.28	1.10
596	596.00	400.00	296.00	3.28	1.09
597	597.00	400.00	297.00	3.28	1.08
598	598.00	400.00	298.00	3.28	1.08
599	599.00	400.00	299.00	3.28	1.07
600	600.00	400.00	300.00	3.28	1.06

Emf Workstation Conductor Data

Total # of Conductors: 5

-6025.00	15.00	70.00	6825.00	15.00	70.00	577.40	0.00
-6025.00	-15.00	51.00	6825.00	-15.00	51.00	577.40	-120.00
-6025.00	15.00	32.00	6825.00	15.00	32.00	577.40	120.00
-6025.00	-9.00	102.15	6825.00	-9.00	102.15	5.17	-152.39
-6025.00	9.00	102.15	6825.00	9.00	102.15	6.35	-128.74

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Max Load"

Field Components = Resultant

Distance units = (ft)

Magnetic field units = mG

Spacing = 1.00(ft)

Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	1.93
1	1.00	400.00	-299.00	3.28	1.95
2	2.00	400.00	-298.00	3.28	1.96
3	3.00	400.00	-297.00	3.28	1.97
4	4.00	400.00	-296.00	3.28	1.98
5	5.00	400.00	-295.00	3.28	1.99
6	6.00	400.00	-294.00	3.28	2.01
7	7.00	400.00	-293.00	3.28	2.02
8	8.00	400.00	-292.00	3.28	2.03
9	9.00	400.00	-291.00	3.28	2.05
10	10.00	400.00	-290.00	3.28	2.06
11	11.00	400.00	-289.00	3.28	2.07
12	12.00	400.00	-288.00	3.28	2.08
13	13.00	400.00	-287.00	3.28	2.10
14	14.00	400.00	-286.00	3.28	2.11
15	15.00	400.00	-285.00	3.28	2.12
16	16.00	400.00	-284.00	3.28	2.14
17	17.00	400.00	-283.00	3.28	2.15
18	18.00	400.00	-282.00	3.28	2.17
19	19.00	400.00	-281.00	3.28	2.18
20	20.00	400.00	-280.00	3.28	2.19
21	21.00	400.00	-279.00	3.28	2.21
22	22.00	400.00	-278.00	3.28	2.22
23	23.00	400.00	-277.00	3.28	2.24
24	24.00	400.00	-276.00	3.28	2.25
25	25.00	400.00	-275.00	3.28	2.27
26	26.00	400.00	-274.00	3.28	2.28
27	27.00	400.00	-273.00	3.28	2.30
28	28.00	400.00	-272.00	3.28	2.31
29	29.00	400.00	-271.00	3.28	2.33
30	30.00	400.00	-270.00	3.28	2.35
31	31.00	400.00	-269.00	3.28	2.36
32	32.00	400.00	-268.00	3.28	2.38
33	33.00	400.00	-267.00	3.28	2.39
34	34.00	400.00	-266.00	3.28	2.41
35	35.00	400.00	-265.00	3.28	2.43
36	36.00	400.00	-264.00	3.28	2.44
37	37.00	400.00	-263.00	3.28	2.46
38	38.00	400.00	-262.00	3.28	2.48
39	39.00	400.00	-261.00	3.28	2.50
40	40.00	400.00	-260.00	3.28	2.51

41	41.00	400.00	-259.00	3.28	2.53
42	42.00	400.00	-258.00	3.28	2.55
43	43.00	400.00	-257.00	3.28	2.57
44	44.00	400.00	-256.00	3.28	2.59
45	45.00	400.00	-255.00	3.28	2.60
46	46.00	400.00	-254.00	3.28	2.62
47	47.00	400.00	-253.00	3.28	2.64
48	48.00	400.00	-252.00	3.28	2.66
49	49.00	400.00	-251.00	3.28	2.68
50	50.00	400.00	-250.00	3.28	2.70
51	51.00	400.00	-249.00	3.28	2.72
52	52.00	400.00	-248.00	3.28	2.74
53	53.00	400.00	-247.00	3.28	2.76
54	54.00	400.00	-246.00	3.28	2.78
55	55.00	400.00	-245.00	3.28	2.80
56	56.00	400.00	-244.00	3.28	2.82
57	57.00	400.00	-243.00	3.28	2.84
58	58.00	400.00	-242.00	3.28	2.86
59	59.00	400.00	-241.00	3.28	2.89
60	60.00	400.00	-240.00	3.28	2.91
61	61.00	400.00	-239.00	3.28	2.93
62	62.00	400.00	-238.00	3.28	2.95
63	63.00	400.00	-237.00	3.28	2.98
64	64.00	400.00	-236.00	3.28	3.00
65	65.00	400.00	-235.00	3.28	3.02
66	66.00	400.00	-234.00	3.28	3.05
67	67.00	400.00	-233.00	3.28	3.07
68	68.00	400.00	-232.00	3.28	3.09
69	69.00	400.00	-231.00	3.28	3.12
70	70.00	400.00	-230.00	3.28	3.14
71	71.00	400.00	-229.00	3.28	3.17
72	72.00	400.00	-228.00	3.28	3.19
73	73.00	400.00	-227.00	3.28	3.22
74	74.00	400.00	-226.00	3.28	3.24
75	75.00	400.00	-225.00	3.28	3.27
76	76.00	400.00	-224.00	3.28	3.30
77	77.00	400.00	-223.00	3.28	3.32
78	78.00	400.00	-222.00	3.28	3.35
79	79.00	400.00	-221.00	3.28	3.38
80	80.00	400.00	-220.00	3.28	3.41
81	81.00	400.00	-219.00	3.28	3.43
82	82.00	400.00	-218.00	3.28	3.46
83	83.00	400.00	-217.00	3.28	3.49
84	84.00	400.00	-216.00	3.28	3.52
85	85.00	400.00	-215.00	3.28	3.55
86	86.00	400.00	-214.00	3.28	3.58
87	87.00	400.00	-213.00	3.28	3.61
88	88.00	400.00	-212.00	3.28	3.64
89	89.00	400.00	-211.00	3.28	3.67
90	90.00	400.00	-210.00	3.28	3.70
91	91.00	400.00	-209.00	3.28	3.74
92	92.00	400.00	-208.00	3.28	3.77
93	93.00	400.00	-207.00	3.28	3.80
94	94.00	400.00	-206.00	3.28	3.84
95	95.00	400.00	-205.00	3.28	3.87
96	96.00	400.00	-204.00	3.28	3.90
97	97.00	400.00	-203.00	3.28	3.94
98	98.00	400.00	-202.00	3.28	3.97
99	99.00	400.00	-201.00	3.28	4.01
100	100.00	400.00	-200.00	3.28	4.04
101	101.00	400.00	-199.00	3.28	4.08
102	102.00	400.00	-198.00	3.28	4.12
103	103.00	400.00	-197.00	3.28	4.16

104	104.00	400.00	-196.00	3.28	4.19
105	105.00	400.00	-195.00	3.28	4.23
106	106.00	400.00	-194.00	3.28	4.27
107	107.00	400.00	-193.00	3.28	4.31
108	108.00	400.00	-192.00	3.28	4.35
109	109.00	400.00	-191.00	3.28	4.39
110	110.00	400.00	-190.00	3.28	4.43
111	111.00	400.00	-189.00	3.28	4.48
112	112.00	400.00	-188.00	3.28	4.52
113	113.00	400.00	-187.00	3.28	4.56
114	114.00	400.00	-186.00	3.28	4.61
115	115.00	400.00	-185.00	3.28	4.65
116	116.00	400.00	-184.00	3.28	4.70
117	117.00	400.00	-183.00	3.28	4.74
118	118.00	400.00	-182.00	3.28	4.79
119	119.00	400.00	-181.00	3.28	4.83
120	120.00	400.00	-180.00	3.28	4.88
121	121.00	400.00	-179.00	3.28	4.93
122	122.00	400.00	-178.00	3.28	4.98
123	123.00	400.00	-177.00	3.28	5.03
124	124.00	400.00	-176.00	3.28	5.08
125	125.00	400.00	-175.00	3.28	5.13
126	126.00	400.00	-174.00	3.28	5.19
127	127.00	400.00	-173.00	3.28	5.24
128	128.00	400.00	-172.00	3.28	5.29
129	129.00	400.00	-171.00	3.28	5.35
130	130.00	400.00	-170.00	3.28	5.40
131	131.00	400.00	-169.00	3.28	5.46
132	132.00	400.00	-168.00	3.28	5.52
133	133.00	400.00	-167.00	3.28	5.58
134	134.00	400.00	-166.00	3.28	5.63
135	135.00	400.00	-165.00	3.28	5.69
136	136.00	400.00	-164.00	3.28	5.76
137	137.00	400.00	-163.00	3.28	5.82
138	138.00	400.00	-162.00	3.28	5.88
139	139.00	400.00	-161.00	3.28	5.94
140	140.00	400.00	-160.00	3.28	6.01
141	141.00	400.00	-159.00	3.28	6.08
142	142.00	400.00	-158.00	3.28	6.14
143	143.00	400.00	-157.00	3.28	6.21
144	144.00	400.00	-156.00	3.28	6.28
145	145.00	400.00	-155.00	3.28	6.35
146	146.00	400.00	-154.00	3.28	6.42
147	147.00	400.00	-153.00	3.28	6.50
148	148.00	400.00	-152.00	3.28	6.57
149	149.00	400.00	-151.00	3.28	6.65
150	150.00	400.00	-150.00	3.28	6.73
151	151.00	400.00	-149.00	3.28	6.80
152	152.00	400.00	-148.00	3.28	6.88
153	153.00	400.00	-147.00	3.28	6.96
154	154.00	400.00	-146.00	3.28	7.05
155	155.00	400.00	-145.00	3.28	7.13
156	156.00	400.00	-144.00	3.28	7.22
157	157.00	400.00	-143.00	3.28	7.30
158	158.00	400.00	-142.00	3.28	7.39
159	159.00	400.00	-141.00	3.28	7.48
160	160.00	400.00	-140.00	3.28	7.57
161	161.00	400.00	-139.00	3.28	7.67
162	162.00	400.00	-138.00	3.28	7.76
163	163.00	400.00	-137.00	3.28	7.86
164	164.00	400.00	-136.00	3.28	7.96
165	165.00	400.00	-135.00	3.28	8.06
166	166.00	400.00	-134.00	3.28	8.16

167	167.00	400.00	-133.00	3.28	8.26
168	168.00	400.00	-132.00	3.28	8.37
169	169.00	400.00	-131.00	3.28	8.48
170	170.00	400.00	-130.00	3.28	8.59
171	171.00	400.00	-129.00	3.28	8.70
172	172.00	400.00	-128.00	3.28	8.82
173	173.00	400.00	-127.00	3.28	8.93
174	174.00	400.00	-126.00	3.28	9.05
175	175.00	400.00	-125.00	3.28	9.17
176	176.00	400.00	-124.00	3.28	9.30
177	177.00	400.00	-123.00	3.28	9.42
178	178.00	400.00	-122.00	3.28	9.55
179	179.00	400.00	-121.00	3.28	9.68
180	180.00	400.00	-120.00	3.28	9.82
181	181.00	400.00	-119.00	3.28	9.95
182	182.00	400.00	-118.00	3.28	10.09
183	183.00	400.00	-117.00	3.28	10.23
184	184.00	400.00	-116.00	3.28	10.38
185	185.00	400.00	-115.00	3.28	10.53
186	186.00	400.00	-114.00	3.28	10.68
187	187.00	400.00	-113.00	3.28	10.83
188	188.00	400.00	-112.00	3.28	10.99
189	189.00	400.00	-111.00	3.28	11.15
190	190.00	400.00	-110.00	3.28	11.32
191	191.00	400.00	-109.00	3.28	11.48
192	192.00	400.00	-108.00	3.28	11.66
193	193.00	400.00	-107.00	3.28	11.83
194	194.00	400.00	-106.00	3.28	12.01
195	195.00	400.00	-105.00	3.28	12.19
196	196.00	400.00	-104.00	3.28	12.38
197	197.00	400.00	-103.00	3.28	12.57
198	198.00	400.00	-102.00	3.28	12.76
199	199.00	400.00	-101.00	3.28	12.96
200	200.00	400.00	-100.00	3.28	13.17
201	201.00	400.00	-99.00	3.28	13.38
202	202.00	400.00	-98.00	3.28	13.59
203	203.00	400.00	-97.00	3.28	13.81
204	204.00	400.00	-96.00	3.28	14.03
205	205.00	400.00	-95.00	3.28	14.26
206	206.00	400.00	-94.00	3.28	14.49
207	207.00	400.00	-93.00	3.28	14.73
208	208.00	400.00	-92.00	3.28	14.97
209	209.00	400.00	-91.00	3.28	15.22
210	210.00	400.00	-90.00	3.28	15.48
211	211.00	400.00	-89.00	3.28	15.74
212	212.00	400.00	-88.00	3.28	16.01
213	213.00	400.00	-87.00	3.28	16.28
214	214.00	400.00	-86.00	3.28	16.56
215	215.00	400.00	-85.00	3.28	16.85
216	216.00	400.00	-84.00	3.28	17.14
217	217.00	400.00	-83.00	3.28	17.44
218	218.00	400.00	-82.00	3.28	17.75
219	219.00	400.00	-81.00	3.28	18.07
220	220.00	400.00	-80.00	3.28	18.39
221	221.00	400.00	-79.00	3.28	18.72
222	222.00	400.00	-78.00	3.28	19.06
223	223.00	400.00	-77.00	3.28	19.41
224	224.00	400.00	-76.00	3.28	19.76
225	225.00	400.00	-75.00	3.28	20.13
226	226.00	400.00	-74.00	3.28	20.50
227	227.00	400.00	-73.00	3.28	20.88
228	228.00	400.00	-72.00	3.28	21.27
229	229.00	400.00	-71.00	3.28	21.68

230	230.00	400.00	-70.00	3.28	22.09
231	231.00	400.00	-69.00	3.28	22.51
232	232.00	400.00	-68.00	3.28	22.94
233	233.00	400.00	-67.00	3.28	23.39
234	234.00	400.00	-66.00	3.28	23.84
235	235.00	400.00	-65.00	3.28	24.30
236	236.00	400.00	-64.00	3.28	24.78
237	237.00	400.00	-63.00	3.28	25.27
238	238.00	400.00	-62.00	3.28	25.77
239	239.00	400.00	-61.00	3.28	26.28
240	240.00	400.00	-60.00	3.28	26.81
241	241.00	400.00	-59.00	3.28	27.35
242	242.00	400.00	-58.00	3.28	27.90
243	243.00	400.00	-57.00	3.28	28.46
244	244.00	400.00	-56.00	3.28	29.04
245	245.00	400.00	-55.00	3.28	29.63
246	246.00	400.00	-54.00	3.28	30.24
247	247.00	400.00	-53.00	3.28	30.85
248	248.00	400.00	-52.00	3.28	31.49
249	249.00	400.00	-51.00	3.28	32.14
250	250.00	400.00	-50.00	3.28	32.80
251	251.00	400.00	-49.00	3.28	33.48
252	252.00	400.00	-48.00	3.28	34.17
253	253.00	400.00	-47.00	3.28	34.88
254	254.00	400.00	-46.00	3.28	35.61
255	255.00	400.00	-45.00	3.28	36.35
256	256.00	400.00	-44.00	3.28	37.10
257	257.00	400.00	-43.00	3.28	37.87
258	258.00	400.00	-42.00	3.28	38.66
259	259.00	400.00	-41.00	3.28	39.46
260	260.00	400.00	-40.00	3.28	40.28
261	261.00	400.00	-39.00	3.28	41.11
262	262.00	400.00	-38.00	3.28	41.96
263	263.00	400.00	-37.00	3.28	42.82
264	264.00	400.00	-36.00	3.28	43.70
265	265.00	400.00	-35.00	3.28	44.60
266	266.00	400.00	-34.00	3.28	45.50
267	267.00	400.00	-33.00	3.28	46.42
268	268.00	400.00	-32.00	3.28	47.36
269	269.00	400.00	-31.00	3.28	48.31
270	270.00	400.00	-30.00	3.28	49.27
271	271.00	400.00	-29.00	3.28	50.24
272	272.00	400.00	-28.00	3.28	51.23
273	273.00	400.00	-27.00	3.28	52.23
274	274.00	400.00	-26.00	3.28	53.24
275	275.00	400.00	-25.00	3.28	54.26
276	276.00	400.00	-24.00	3.28	55.28
277	277.00	400.00	-23.00	3.28	56.32
278	278.00	400.00	-22.00	3.28	57.37
279	279.00	400.00	-21.00	3.28	58.42
280	280.00	400.00	-20.00	3.28	59.48
281	281.00	400.00	-19.00	3.28	60.54
282	282.00	400.00	-18.00	3.28	61.61
283	283.00	400.00	-17.00	3.28	62.68
284	284.00	400.00	-16.00	3.28	63.75
285	285.00	400.00	-15.00	3.28	64.82
286	286.00	400.00	-14.00	3.28	65.90
287	287.00	400.00	-13.00	3.28	66.97
288	288.00	400.00	-12.00	3.28	68.03
289	289.00	400.00	-11.00	3.28	69.10
290	290.00	400.00	-10.00	3.28	70.15
291	291.00	400.00	-9.00	3.28	71.19
292	292.00	400.00	-8.00	3.28	72.22

293	293.00	400.00	-7.00	3.28	73.24
294	294.00	400.00	-6.00	3.28	74.23
295	295.00	400.00	-5.00	3.28	75.21
296	296.00	400.00	-4.00	3.28	76.16
297	297.00	400.00	-3.00	3.28	77.08
298	298.00	400.00	-2.00	3.28	77.97
299	299.00	400.00	-1.00	3.28	78.82
300	300.00	400.00	0.00	3.28	79.63
301	301.00	400.00	1.00	3.28	80.39
302	302.00	400.00	2.00	3.28	81.09
303	303.00	400.00	3.00	3.28	81.74
304	304.00	400.00	4.00	3.28	82.32
305	305.00	400.00	5.00	3.28	82.84
306	306.00	400.00	6.00	3.28	83.27
307	307.00	400.00	7.00	3.28	83.63
308	308.00	400.00	8.00	3.28	83.90
309	309.00	400.00	9.00	3.28	84.08
310	310.00	400.00	10.00	3.28	84.17
311	311.00	400.00	11.00	3.28	84.15
312	312.00	400.00	12.00	3.28	84.04
313	313.00	400.00	13.00	3.28	83.82
314	314.00	400.00	14.00	3.28	83.51
315	315.00	400.00	15.00	3.28	83.08
316	316.00	400.00	16.00	3.28	82.56
317	317.00	400.00	17.00	3.28	81.94
318	318.00	400.00	18.00	3.28	81.23
319	319.00	400.00	19.00	3.28	80.42
320	320.00	400.00	20.00	3.28	79.53
321	321.00	400.00	21.00	3.28	78.56
322	322.00	400.00	22.00	3.28	77.52
323	323.00	400.00	23.00	3.28	76.41
324	324.00	400.00	24.00	3.28	75.24
325	325.00	400.00	25.00	3.28	74.02
326	326.00	400.00	26.00	3.28	72.76
327	327.00	400.00	27.00	3.28	71.46
328	328.00	400.00	28.00	3.28	70.13
329	329.00	400.00	29.00	3.28	68.78
330	330.00	400.00	30.00	3.28	67.41
331	331.00	400.00	31.00	3.28	66.03
332	332.00	400.00	32.00	3.28	64.65
333	333.00	400.00	33.00	3.28	63.26
334	334.00	400.00	34.00	3.28	61.88
335	335.00	400.00	35.00	3.28	60.51
336	336.00	400.00	36.00	3.28	59.15
337	337.00	400.00	37.00	3.28	57.80
338	338.00	400.00	38.00	3.28	56.47
339	339.00	400.00	39.00	3.28	55.17
340	340.00	400.00	40.00	3.28	53.88
341	341.00	400.00	41.00	3.28	52.61
342	342.00	400.00	42.00	3.28	51.37
343	343.00	400.00	43.00	3.28	50.16
344	344.00	400.00	44.00	3.28	48.97
345	345.00	400.00	45.00	3.28	47.81
346	346.00	400.00	46.00	3.28	46.67
347	347.00	400.00	47.00	3.28	45.57
348	348.00	400.00	48.00	3.28	44.49
349	349.00	400.00	49.00	3.28	43.43
350	350.00	400.00	50.00	3.28	42.41
351	351.00	400.00	51.00	3.28	41.41
352	352.00	400.00	52.00	3.28	40.44
353	353.00	400.00	53.00	3.28	39.49
354	354.00	400.00	54.00	3.28	38.57
355	355.00	400.00	55.00	3.28	37.67

356	356.00	400.00	56.00	3.28	36.80
357	357.00	400.00	57.00	3.28	35.96
358	358.00	400.00	58.00	3.28	35.13
359	359.00	400.00	59.00	3.28	34.34
360	360.00	400.00	60.00	3.28	33.56
361	361.00	400.00	61.00	3.28	32.80
362	362.00	400.00	62.00	3.28	32.07
363	363.00	400.00	63.00	3.28	31.35
364	364.00	400.00	64.00	3.28	30.66
365	365.00	400.00	65.00	3.28	29.99
366	366.00	400.00	66.00	3.28	29.33
367	367.00	400.00	67.00	3.28	28.69
368	368.00	400.00	68.00	3.28	28.07
369	369.00	400.00	69.00	3.28	27.47
370	370.00	400.00	70.00	3.28	26.89
371	371.00	400.00	71.00	3.28	26.32
372	372.00	400.00	72.00	3.28	25.77
373	373.00	400.00	73.00	3.28	25.23
374	374.00	400.00	74.00	3.28	24.70
375	375.00	400.00	75.00	3.28	24.20
376	376.00	400.00	76.00	3.28	23.70
377	377.00	400.00	77.00	3.28	23.22
378	378.00	400.00	78.00	3.28	22.75
379	379.00	400.00	79.00	3.28	22.29
380	380.00	400.00	80.00	3.28	21.85
381	381.00	400.00	81.00	3.28	21.42
382	382.00	400.00	82.00	3.28	21.00
383	383.00	400.00	83.00	3.28	20.59
384	384.00	400.00	84.00	3.28	20.19
385	385.00	400.00	85.00	3.28	19.80
386	386.00	400.00	86.00	3.28	19.42
387	387.00	400.00	87.00	3.28	19.05
388	388.00	400.00	88.00	3.28	18.69
389	389.00	400.00	89.00	3.28	18.35
390	390.00	400.00	90.00	3.28	18.00
391	391.00	400.00	91.00	3.28	17.67
392	392.00	400.00	92.00	3.28	17.35
393	393.00	400.00	93.00	3.28	17.03
394	394.00	400.00	94.00	3.28	16.72
395	395.00	400.00	95.00	3.28	16.42
396	396.00	400.00	96.00	3.28	16.13
397	397.00	400.00	97.00	3.28	15.84
398	398.00	400.00	98.00	3.28	15.57
399	399.00	400.00	99.00	3.28	15.29
400	400.00	400.00	100.00	3.28	15.03
401	401.00	400.00	101.00	3.28	14.77
402	402.00	400.00	102.00	3.28	14.52
403	403.00	400.00	103.00	3.28	14.27
404	404.00	400.00	104.00	3.28	14.03
405	405.00	400.00	105.00	3.28	13.79
406	406.00	400.00	106.00	3.28	13.56
407	407.00	400.00	107.00	3.28	13.34
408	408.00	400.00	108.00	3.28	13.12
409	409.00	400.00	109.00	3.28	12.90
410	410.00	400.00	110.00	3.28	12.69
411	411.00	400.00	111.00	3.28	12.49
412	412.00	400.00	112.00	3.28	12.29
413	413.00	400.00	113.00	3.28	12.09
414	414.00	400.00	114.00	3.28	11.90
415	415.00	400.00	115.00	3.28	11.71
416	416.00	400.00	116.00	3.28	11.53
417	417.00	400.00	117.00	3.28	11.35
418	418.00	400.00	118.00	3.28	11.17

419	419.00	400.00	119.00	3.28	11.00
420	420.00	400.00	120.00	3.28	10.84
421	421.00	400.00	121.00	3.28	10.67
422	422.00	400.00	122.00	3.28	10.51
423	423.00	400.00	123.00	3.28	10.35
424	424.00	400.00	124.00	3.28	10.20
425	425.00	400.00	125.00	3.28	10.05
426	426.00	400.00	126.00	3.28	9.90
427	427.00	400.00	127.00	3.28	9.76
428	428.00	400.00	128.00	3.28	9.61
429	429.00	400.00	129.00	3.28	9.48
430	430.00	400.00	130.00	3.28	9.34
431	431.00	400.00	131.00	3.28	9.21
432	432.00	400.00	132.00	3.28	9.08
433	433.00	400.00	133.00	3.28	8.95
434	434.00	400.00	134.00	3.28	8.82
435	435.00	400.00	135.00	3.28	8.70
436	436.00	400.00	136.00	3.28	8.58
437	437.00	400.00	137.00	3.28	8.46
438	438.00	400.00	138.00	3.28	8.35
439	439.00	400.00	139.00	3.28	8.23
440	440.00	400.00	140.00	3.28	8.12
441	441.00	400.00	141.00	3.28	8.01
442	442.00	400.00	142.00	3.28	7.90
443	443.00	400.00	143.00	3.28	7.80
444	444.00	400.00	144.00	3.28	7.70
445	445.00	400.00	145.00	3.28	7.60
446	446.00	400.00	146.00	3.28	7.50
447	447.00	400.00	147.00	3.28	7.40
448	448.00	400.00	148.00	3.28	7.30
449	449.00	400.00	149.00	3.28	7.21
450	450.00	400.00	150.00	3.28	7.12
451	451.00	400.00	151.00	3.28	7.03
452	452.00	400.00	152.00	3.28	6.94
453	453.00	400.00	153.00	3.28	6.85
454	454.00	400.00	154.00	3.28	6.76
455	455.00	400.00	155.00	3.28	6.68
456	456.00	400.00	156.00	3.28	6.60
457	457.00	400.00	157.00	3.28	6.52
458	458.00	400.00	158.00	3.28	6.44
459	459.00	400.00	159.00	3.28	6.36
460	460.00	400.00	160.00	3.28	6.28
461	461.00	400.00	161.00	3.28	6.21
462	462.00	400.00	162.00	3.28	6.13
463	463.00	400.00	163.00	3.28	6.06
464	464.00	400.00	164.00	3.28	5.99
465	465.00	400.00	165.00	3.28	5.92
466	466.00	400.00	166.00	3.28	5.85
467	467.00	400.00	167.00	3.28	5.78
468	468.00	400.00	168.00	3.28	5.71
469	469.00	400.00	169.00	3.28	5.65
470	470.00	400.00	170.00	3.28	5.58
471	471.00	400.00	171.00	3.28	5.52
472	472.00	400.00	172.00	3.28	5.45
473	473.00	400.00	173.00	3.28	5.39
474	474.00	400.00	174.00	3.28	5.33
475	475.00	400.00	175.00	3.28	5.27
476	476.00	400.00	176.00	3.28	5.21
477	477.00	400.00	177.00	3.28	5.15
478	478.00	400.00	178.00	3.28	5.10
479	479.00	400.00	179.00	3.28	5.04
480	480.00	400.00	180.00	3.28	4.99
481	481.00	400.00	181.00	3.28	4.93

482	482.00	400.00	182.00	3.28	4.88
483	483.00	400.00	183.00	3.28	4.83
484	484.00	400.00	184.00	3.28	4.77
485	485.00	400.00	185.00	3.28	4.72
486	486.00	400.00	186.00	3.28	4.67
487	487.00	400.00	187.00	3.28	4.62
488	488.00	400.00	188.00	3.28	4.57
489	489.00	400.00	189.00	3.28	4.53
490	490.00	400.00	190.00	3.28	4.48
491	491.00	400.00	191.00	3.28	4.43
492	492.00	400.00	192.00	3.28	4.39
493	493.00	400.00	193.00	3.28	4.34
494	494.00	400.00	194.00	3.28	4.30
495	495.00	400.00	195.00	3.28	4.25
496	496.00	400.00	196.00	3.28	4.21
497	497.00	400.00	197.00	3.28	4.17
498	498.00	400.00	198.00	3.28	4.13
499	499.00	400.00	199.00	3.28	4.08
500	500.00	400.00	200.00	3.28	4.04
501	501.00	400.00	201.00	3.28	4.00
502	502.00	400.00	202.00	3.28	3.96
503	503.00	400.00	203.00	3.28	3.92
504	504.00	400.00	204.00	3.28	3.89
505	505.00	400.00	205.00	3.28	3.85
506	506.00	400.00	206.00	3.28	3.81
507	507.00	400.00	207.00	3.28	3.77
508	508.00	400.00	208.00	3.28	3.74
509	509.00	400.00	209.00	3.28	3.70
510	510.00	400.00	210.00	3.28	3.67
511	511.00	400.00	211.00	3.28	3.63
512	512.00	400.00	212.00	3.28	3.60
513	513.00	400.00	213.00	3.28	3.56
514	514.00	400.00	214.00	3.28	3.53
515	515.00	400.00	215.00	3.28	3.50
516	516.00	400.00	216.00	3.28	3.46
517	517.00	400.00	217.00	3.28	3.43
518	518.00	400.00	218.00	3.28	3.40
519	519.00	400.00	219.00	3.28	3.37
520	520.00	400.00	220.00	3.28	3.34
521	521.00	400.00	221.00	3.28	3.31
522	522.00	400.00	222.00	3.28	3.28
523	523.00	400.00	223.00	3.28	3.25
524	524.00	400.00	224.00	3.28	3.22
525	525.00	400.00	225.00	3.28	3.19
526	526.00	400.00	226.00	3.28	3.16
527	527.00	400.00	227.00	3.28	3.13
528	528.00	400.00	228.00	3.28	3.11
529	529.00	400.00	229.00	3.28	3.08
530	530.00	400.00	230.00	3.28	3.05
531	531.00	400.00	231.00	3.28	3.02
532	532.00	400.00	232.00	3.28	3.00
533	533.00	400.00	233.00	3.28	2.97
534	534.00	400.00	234.00	3.28	2.95
535	535.00	400.00	235.00	3.28	2.92
536	536.00	400.00	236.00	3.28	2.90
537	537.00	400.00	237.00	3.28	2.87
538	538.00	400.00	238.00	3.28	2.85
539	539.00	400.00	239.00	3.28	2.82
540	540.00	400.00	240.00	3.28	2.80
541	541.00	400.00	241.00	3.28	2.78
542	542.00	400.00	242.00	3.28	2.75
543	543.00	400.00	243.00	3.28	2.73
544	544.00	400.00	244.00	3.28	2.71

545	545.00	400.00	245.00	3.28	2.68
546	546.00	400.00	246.00	3.28	2.66
547	547.00	400.00	247.00	3.28	2.64
548	548.00	400.00	248.00	3.28	2.62
549	549.00	400.00	249.00	3.28	2.60
550	550.00	400.00	250.00	3.28	2.58
551	551.00	400.00	251.00	3.28	2.55
552	552.00	400.00	252.00	3.28	2.53
553	553.00	400.00	253.00	3.28	2.51
554	554.00	400.00	254.00	3.28	2.49
555	555.00	400.00	255.00	3.28	2.47
556	556.00	400.00	256.00	3.28	2.45
557	557.00	400.00	257.00	3.28	2.43
558	558.00	400.00	258.00	3.28	2.41
559	559.00	400.00	259.00	3.28	2.40
560	560.00	400.00	260.00	3.28	2.38
561	561.00	400.00	261.00	3.28	2.36
562	562.00	400.00	262.00	3.28	2.34
563	563.00	400.00	263.00	3.28	2.32
564	564.00	400.00	264.00	3.28	2.30
565	565.00	400.00	265.00	3.28	2.29
566	566.00	400.00	266.00	3.28	2.27
567	567.00	400.00	267.00	3.28	2.25
568	568.00	400.00	268.00	3.28	2.23
569	569.00	400.00	269.00	3.28	2.22
570	570.00	400.00	270.00	3.28	2.20
571	571.00	400.00	271.00	3.28	2.18
572	572.00	400.00	272.00	3.28	2.17
573	573.00	400.00	273.00	3.28	2.15
574	574.00	400.00	274.00	3.28	2.13
575	575.00	400.00	275.00	3.28	2.12
576	576.00	400.00	276.00	3.28	2.10
577	577.00	400.00	277.00	3.28	2.09
578	578.00	400.00	278.00	3.28	2.07
579	579.00	400.00	279.00	3.28	2.06
580	580.00	400.00	280.00	3.28	2.04
581	581.00	400.00	281.00	3.28	2.03
582	582.00	400.00	282.00	3.28	2.01
583	583.00	400.00	283.00	3.28	2.00
584	584.00	400.00	284.00	3.28	1.98
585	585.00	400.00	285.00	3.28	1.97
586	586.00	400.00	286.00	3.28	1.95
587	587.00	400.00	287.00	3.28	1.94
588	588.00	400.00	288.00	3.28	1.93
589	589.00	400.00	289.00	3.28	1.91
590	590.00	400.00	290.00	3.28	1.90
591	591.00	400.00	291.00	3.28	1.89
592	592.00	400.00	292.00	3.28	1.87
593	593.00	400.00	293.00	3.28	1.86
594	594.00	400.00	294.00	3.28	1.85
595	595.00	400.00	295.00	3.28	1.83
596	596.00	400.00	296.00	3.28	1.82
597	597.00	400.00	297.00	3.28	1.81
598	598.00	400.00	298.00	3.28	1.80
599	599.00	400.00	299.00	3.28	1.78
600	600.00	400.00	300.00	3.28	1.77

RESULTS OF ENVIRO PROGRAM

STUDY FILE NAME: C:\PROGRA~1\EPRI\EMFW_251\ENVIRO\CLEANL~1\500SMONO.I01
 DATE: 3/ 6/2014 TIME: 1:31

500 kV Single Monopole (XS-8)

```
*****
*                                     BUNDLE INFORMATION                                     *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | LOAD | CURRENT | # | COORDINATES | PHASE |
| # | # | (kV) | (DEG) | (AMPS) | (DEG) | OF | X | Y |
| # | # | | | | | COND | (FT) | (FT) |
*****
| 1 | 1 | 550.0 | .0 | 346.4 | .0 | 3 | 15.0 | 85.3 | A |
| 2 | 1 | 550.0 | 240.0 | 346.4 | 240.0 | 3 | -15.0 | 66.3 | B |
| 3 | 1 | 550.0 | 120.0 | 346.4 | 120.0 | 3 | 15.0 | 47.3 | C |
| 4 | 1 | .0 | .0 | .0 | .0 | 1 | -9.0 | 117.5 | GND |
| 5 | 1 | .0 | .0 | .0 | .0 | 1 | 9.0 | 117.5 | GND |
*****
*                                     MINIMUM GROUND CLEARANCE = 47.330 FT.                                     *
*****
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*****
*                                     SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                                     *
*****
| BNDL | DIAMETER | SPACING | DC RESIST. | AC RESIST. | AC REACT. |
| # | (IN) | (IN) | (OHMS/MI) | (OHMS/MI) | (OHMS/MI) |
*****
| 1 | 1.293 | 18.000 | .08300 | .08510 | .380000 |
| 2 | 1.293 | 18.000 | .08300 | .08510 | .380000 |
| 3 | 1.293 | 18.000 | .08300 | .08510 | .380000 |
| 4 | .776 | .000 | .19270 | .19400 | .432000 |
| 5 | .776 | .000 | .19270 | .19400 | .432000 |
*****
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*****
*
* MAXIMUM SURFACE GRADIENT (kV/cm) *
*
*****
```

BNDL #	Type	ACrms	PEAK(+)	PEAK(-)
1	AC	17.05	24.11	-24.11
2	AC	17.08	24.16	-24.16
3	AC	17.41	24.63	-24.63
4	Ground Wire	4.16	5.88	-5.88
5	Ground Wire	5.96	8.42	-8.42

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*****
*
*           AUDIBLE NOISE
*
* Microphone is 5.00 feet above ground
*           Altitude 3000. ft
*
*****

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<----- HVTRC CALCULATION METHOD ----->

LATERAL DISTANCE		L50 FAIR	L5 RAIN	L50 RAIN	Leq(24)	Ldn
(feet)	(meters)	(dB(A))	(dB(A))	(dB(A))	(dB(A))	(dB(A))
-300.0	-91.44	34.4	49.6	45.9	42.7	49.5
-275.0	-83.82	34.9	50.1	46.4	43.2	50.0
-250.0	-76.20	35.5	50.7	46.9	43.8	50.6
-225.0	-68.58	36.0	51.2	47.5	44.3	51.1
-200.0	-60.96	36.6	51.8	48.1	44.9	51.8
-175.0	-53.34	37.3	52.5	48.7	45.6	52.4
-150.0	-45.72	38.0	53.2	49.5	46.3	53.1
-125.0	-38.10	38.8	54.0	50.3	47.1	53.9
-100.0	-30.48	39.7	54.9	51.1	48.0	54.8
-75.0	-22.86	40.6	55.8	52.1	48.9	55.8
-50.0	-15.24	41.7	56.8	53.1	50.0	56.8
-25.0	-7.62	42.6	57.8	54.0	50.9	57.7
.0	.00	43.3	58.4	54.7	51.6	58.4
25.0	7.62	43.2	58.3	54.6	51.5	58.3
50.0	15.24	42.3	57.4	53.7	50.6	57.4
75.0	22.86	41.2	56.3	52.6	49.5	56.3
100.0	30.48	40.1	55.3	51.6	48.4	55.3
125.0	38.10	39.2	54.4	50.7	47.5	54.3
150.0	45.72	38.4	53.6	49.8	46.7	53.5
175.0	53.34	37.6	52.8	49.1	45.9	52.7
200.0	60.96	36.9	52.1	48.4	45.2	52.1
225.0	68.58	36.3	51.5	47.7	44.6	51.4
250.0	76.20	35.7	50.9	47.2	44.0	50.8
275.0	83.82	35.2	50.4	46.6	43.5	50.3
300.0	91.44	34.6	49.8	46.1	42.9	49.8

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*****
*
*   AUDIBLE NOISE   *
*   (other methods) *
*
* Altitude    3000. ft *
*
*****

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LATERAL DISTANCE (feet) (meters)		<----- BPA METHOD ----->				<- CRIEPI -->		EdF	ENEL	IREQ
		FAIR WEATHER dB(A)	L5 RAIN dB(A)	L50 RAIN dB(A)	Ldn dB(A)	AVERAGE FAIR dB(A)	L5 RAIN dB(A)	L5 RAIN dB(A)	L5 RAIN dB(A)	L5 RAIN dB(A)
-300.0	-91.44	21.5	50.0	46.5	.0	.0	.0	.0	.0	.0
-275.0	-83.82	21.9	50.4	46.9	.0	.0	.0	.0	.0	.0
-250.0	-76.20	22.4	50.9	47.4	.0	.0	.0	.0	.0	.0
-225.0	-68.58	22.8	51.3	47.8	.0	.0	.0	.0	.0	.0
-200.0	-60.96	23.4	51.9	48.4	.0	.0	.0	.0	.0	.0
-175.0	-53.34	24.0	52.5	49.0	.0	.0	.0	.0	.0	.0
-150.0	-45.72	24.6	53.1	49.6	.0	.0	.0	.0	.0	.0
-125.0	-38.10	25.4	53.9	50.4	.0	.0	.0	.0	.0	.0
-100.0	-30.48	26.2	54.7	51.2	.0	.0	.0	.0	.0	.0
-75.0	-22.86	27.2	55.7	52.2	.0	.0	.0	.0	.0	.0
-50.0	-15.24	28.2	56.7	53.2	.0	.0	.0	.0	.0	.0
-25.0	-7.62	29.2	57.7	54.2	.0	.0	.0	.0	.0	.0
.0	.00	29.9	58.4	54.9	.0	.0	.0	.0	.0	.0
25.0	7.62	29.8	58.3	54.8	.0	.0	.0	.0	.0	.0
50.0	15.24	28.8	57.3	53.8	.0	.0	.0	.0	.0	.0
75.0	22.86	27.7	56.2	52.7	.0	.0	.0	.0	.0	.0
100.0	30.48	26.7	55.2	51.7	.0	.0	.0	.0	.0	.0
125.0	38.10	25.7	54.2	50.7	.0	.0	.0	.0	.0	.0
150.0	45.72	25.0	53.5	50.0	.0	.0	.0	.0	.0	.0
175.0	53.34	24.3	52.8	49.3	.0	.0	.0	.0	.0	.0
200.0	60.96	23.6	52.1	48.6	.0	.0	.0	.0	.0	.0
225.0	68.58	23.1	51.6	48.1	.0	.0	.0	.0	.0	.0
250.0	76.20	22.6	51.1	47.6	.0	.0	.0	.0	.0	.0
275.0	83.82	22.1	50.6	47.1	.0	.0	.0	.0	.0	.0
300.0	91.44	21.7	50.2	46.7	.0	.0	.0	.0	.0	.0

Audible noise prediction methods do not apply to all line geometries, voltages, or weather conditions. If a prediction method does not apply, the appropriate output data column will be zeros.

Clean Line - Plains & Eastern
 Config. XS-8: Radio Noise, TVI, and Ozone

Ground Clearance: 32.00 ft

	DIST. FROM CENTER OF TOWER (FEET)	COND. HEIGHT (FEET)	MAXIMUM GRADIENT (KV/CM)	SUBCON. DIAM. (IN)	NO. OF SUBCON.	SUBCON SPACING (IN)	VOLTAGE L-N (KV)	CURRENT (AMPS)	PHASE ANGLE (DEGREES)	CORONA LOSSES (KW/MI)
Phase A	15.00	70.00	16.97	1.29	3.	18.00	317.54	346.40	.00	35.027
Phase B	-15.00	51.00	17.15	1.29	3.	18.00	317.54	346.40	120.00	37.561
Phase C	15.00	32.00	17.89	1.29	3.	18.00	317.54	346.40	240.00	49.384
SW-1	-9.00	102.15	4.29	.77	1.	.00	.00	.00	.00	.000
SW-2	9.00	102.15	6.09	.77	1.	.00	.00	.00	.00	.000

AN MICROPHONE HT.= 4.9 FT. RI ANT. HT.= 6.6 FT, TV ANT. HT.= 9.8 FT, ALTITUDE= 3000. FT
 RI FREQ= 1.000 MHZ, TV FREQ= 75.000 MHZ, WIND VEL.(OZ) = 8.500 MPH, GROUND CONDUCTIVITY = .0 MMHOS/M
 E-FIELD TRANSDUCER HT.= 3.28 FT, B-FIELD TRANSDUCER HT.= 3.28 FT

LATERAL DIST FROM REFERENCE (FEET)	ELECTRIC FIELD KV/M	MAGNETIC FIELD MILLIGAUSS	AUDIBLE NOISE (RAIN) (FAIR)		RADIO INTERFERENCE (RAIN) (FAIR)		TVI TOTAL RAIN DBUV/M	OZONE FOR RAIN RATE OF 10 IN/HR AT GND. PPB
			L50 DBA	L50 DBA	L50 DBUV/M	L50 DBUV/M		
-300.0	.087	.77	47.1	22.1	42.0	25.0	14.5	.000000
-298.0	.088	.78	47.2	22.2	42.1	25.1	14.6	.000000
-296.0	.089	.79	47.2	22.2	42.2	25.2	14.7	.000000
-294.0	.091	.80	47.2	22.2	42.4	25.4	14.8	.000000
-292.0	.092	.81	47.3	22.3	42.5	25.5	14.9	.000000
-290.0	.093	.82	47.3	22.3	42.6	25.6	15.0	.000000
-288.0	.095	.83	47.3	22.3	42.7	25.7	15.1	.000000
-286.0	.096	.84	47.4	22.4	42.8	25.8	15.3	.000000
-284.0	.098	.86	47.4	22.4	42.9	25.9	15.4	.000000
-282.0	.099	.87	47.4	22.4	43.0	26.0	15.5	.000000
-280.0	.101	.88	47.5	22.5	43.1	26.1	15.6	.000000
-278.0	.102	.89	47.5	22.5	43.2	26.2	15.7	.000000
-276.0	.104	.91	47.5	22.5	43.4	26.4	15.8	.000000
-274.0	.106	.92	47.6	22.6	43.5	26.5	16.0	.000000
-272.0	.107	.93	47.6	22.6	43.6	26.6	16.1	.000000
-270.0	.109	.95	47.6	22.6	43.7	26.7	16.1	.000000
-268.0	.111	.96	47.7	22.7	43.8	26.8	16.2	.000000
-266.0	.113	.97	47.7	22.7	43.9	26.9	16.3	.000000
-264.0	.115	.99	47.7	22.7	44.0	27.0	16.3	.000000
-262.0	.117	1.00	47.8	22.8	44.2	27.2	16.4	.000000
-260.0	.119	1.02	47.8	22.8	44.3	27.3	16.4	.000000
-258.0	.121	1.03	47.9	22.9	44.4	27.4	16.5	.000000
-256.0	.123	1.05	47.9	22.9	44.5	27.5	16.6	.000000
-254.0	.125	1.07	47.9	22.9	44.7	27.7	16.6	.000000
-252.0	.127	1.08	48.0	23.0	44.8	27.8	16.7	.000000
-250.0	.130	1.10	48.0	23.0	44.9	27.9	16.8	.000000
-248.0	.132	1.12	48.0	23.0	45.1	28.1	16.8	.000000
-246.0	.134	1.14	48.1	23.1	45.2	28.2	16.9	.000000
-244.0	.137	1.15	48.1	23.1	45.4	28.4	17.0	.000000
-242.0	.140	1.17	48.2	23.2	45.5	28.5	17.0	.000000
-240.0	.142	1.19	48.2	23.2	45.7	28.7	17.1	.000000
-238.0	.145	1.21	48.2	23.2	45.8	28.8	17.2	.000000
-236.0	.148	1.23	48.3	23.3	46.0	29.0	17.2	.000000
-234.0	.151	1.25	48.3	23.3	46.1	29.1	17.3	.000000
-232.0	.154	1.27	48.4	23.4	46.3	29.3	17.4	.000000
-230.0	.157	1.30	48.4	23.4	46.4	29.4	17.4	.000000
-228.0	.160	1.32	48.4	23.4	46.6	29.6	17.5	.000000
-226.0	.163	1.34	48.5	23.5	46.7	29.7	17.6	.000000
-224.0	.166	1.37	48.5	23.5	46.9	29.9	17.7	.000000
-222.0	.170	1.39	48.6	23.6	47.0	30.0	17.7	.000000
-220.0	.173	1.41	48.6	23.6	47.2	30.2	17.8	.000000
-218.0	.177	1.44	48.6	23.6	47.3	30.3	17.9	.000000
-216.0	.181	1.47	48.7	23.7	47.5	30.5	17.9	.000000
-214.0	.185	1.49	48.7	23.7	47.7	30.7	18.0	.000000
-212.0	.189	1.52	48.8	23.8	47.8	30.8	18.1	.000000
-210.0	.193	1.55	48.8	23.8	48.0	31.0	18.2	.000000
-208.0	.197	1.58	48.9	23.9	48.2	31.2	18.2	.000000
-206.0	.202	1.61	48.9	23.9	48.3	31.3	18.3	.000000
-204.0	.207	1.64	49.0	24.0	48.5	31.5	18.4	.000000
-202.0	.211	1.67	49.0	24.0	48.7	31.7	18.5	.000000
-200.0	.216	1.70	49.0	24.0	48.8	31.8	18.6	.000000
-198.0	.221	1.74	49.1	24.1	49.0	32.0	18.6	.000000
-196.0	.227	1.77	49.1	24.1	49.2	32.2	18.7	.000000
-194.0	.232	1.81	49.2	24.2	49.4	32.4	18.8	.000000

-192.0	.238	1.84	49.2	24.2	49.5	32.5	18.9	.000000
-190.0	.244	1.88	49.3	24.3	49.7	32.7	19.0	.000000
-188.0	.250	1.92	49.3	24.3	49.9	32.9	19.1	.000000
-186.0	.256	1.96	49.4	24.4	50.1	33.1	19.1	.000000
-184.0	.263	2.00	49.4	24.4	50.3	33.3	19.2	.000000
-182.0	.270	2.04	49.5	24.5	50.5	33.5	19.3	.000000
-180.0	.277	2.09	49.5	24.5	50.7	33.7	19.4	.000000
-178.0	.284	2.13	49.6	24.6	50.8	33.8	19.5	.000000
-176.0	.292	2.18	49.6	24.6	51.0	34.0	19.6	.000000
-174.0	.300	2.23	49.7	24.7	51.2	34.2	19.7	.000000
-172.0	.308	2.28	49.7	24.7	51.4	34.4	19.8	.000000
-170.0	.317	2.33	49.8	24.8	51.6	34.6	19.9	.000000
-168.0	.326	2.38	49.8	24.8	51.8	34.8	19.9	.000000
-166.0	.335	2.44	49.9	24.9	52.0	35.0	20.0	.000000
-164.0	.345	2.49	50.0	25.0	52.2	35.2	20.1	.000000
-162.0	.355	2.55	50.0	25.0	52.4	35.4	20.2	.000000
-160.0	.366	2.61	50.1	25.1	52.7	35.7	20.3	.000000
-158.0	.377	2.68	50.1	25.1	52.9	35.9	20.4	.000000
-156.0	.388	2.74	50.2	25.2	53.1	36.1	20.5	.000000
-154.0	.400	2.81	50.2	25.2	53.3	36.3	20.6	.000000
-152.0	.413	2.88	50.3	25.3	53.5	36.5	20.7	.000000
-150.0	.426	2.95	50.4	25.4	53.7	36.7	20.8	.000000
-148.0	.439	3.03	50.4	25.4	54.0	37.0	20.9	.000000
-146.0	.454	3.10	50.5	25.5	54.2	37.2	21.0	.000000
-144.0	.469	3.18	50.5	25.5	54.4	37.4	21.1	.000000
-142.0	.484	3.27	50.6	25.6	54.7	37.7	21.3	.000000
-140.0	.501	3.36	50.7	25.7	54.9	37.9	21.4	.000000
-138.0	.518	3.45	50.7	25.7	55.1	38.1	21.5	.000000
-136.0	.536	3.54	50.8	25.8	55.4	38.4	21.6	.000000
-134.0	.554	3.64	50.9	25.9	55.6	38.6	21.7	.000000
-132.0	.574	3.74	50.9	25.9	55.9	38.9	21.8	.000000
-130.0	.595	3.85	51.0	26.0	56.1	39.1	21.9	.000000
-128.0	.616	3.96	51.0	26.0	56.4	39.4	22.0	.000000
-126.0	.639	4.07	51.1	26.1	56.6	39.6	22.2	.000000
-124.0	.663	4.19	51.2	26.2	56.9	39.9	22.3	.000000
-122.0	.688	4.32	51.3	26.3	57.2	40.2	22.4	.000000
-120.0	.714	4.45	51.3	26.3	57.4	40.4	22.5	.000000
-118.0	.742	4.58	51.4	26.4	57.7	40.7	22.7	.000000
-116.0	.771	4.73	51.5	26.5	58.0	41.0	22.8	.000000
-114.0	.801	4.88	51.5	26.5	58.2	41.2	22.9	.000000
-112.0	.833	5.03	51.6	26.6	58.5	41.5	23.1	.000000
-110.0	.867	5.19	51.7	26.7	58.8	41.8	23.2	.000000
-108.0	.903	5.36	51.8	26.8	59.1	42.1	23.3	.000000
-106.0	.940	5.54	51.8	26.8	59.4	42.4	23.5	.000000
-104.0	.979	5.73	51.9	26.9	59.7	42.7	23.6	.000000
-102.0	1.021	5.92	52.0	27.0	60.0	43.0	23.7	.000000
-100.0	1.064	6.13	52.1	27.1	60.3	43.3	23.9	.000000
-98.0	1.110	6.34	52.2	27.2	60.6	43.6	24.0	.000000
-96.0	1.159	6.56	52.2	27.2	60.9	43.9	24.2	.000000
-94.0	1.210	6.80	52.3	27.3	61.2	44.2	24.3	.000000
-92.0	1.263	7.05	52.4	27.4	61.6	44.6	24.5	.000000
-90.0	1.320	7.31	52.5	27.5	61.9	44.9	24.6	.000000
-88.0	1.379	7.58	52.6	27.6	62.2	45.2	24.8	.000000
-86.0	1.441	7.87	52.7	27.7	62.6	45.6	25.0	.000000
-84.0	1.507	8.17	52.8	27.8	62.9	45.9	25.1	.000000
-82.0	1.576	8.49	52.9	27.9	63.2	46.2	25.3	.000000
-80.0	1.648	8.82	53.0	28.0	63.6	46.6	25.5	.000000
-78.0	1.724	9.18	53.0	28.0	63.9	46.9	25.6	.000000
-76.0	1.804	9.55	53.1	28.1	64.3	47.3	25.8	.000000
-74.0	1.887	9.94	53.2	28.2	64.7	47.7	26.0	.000000
-72.0	1.974	10.35	53.3	28.3	65.0	48.0	26.2	.000000
-70.0	2.064	10.79	53.4	28.4	65.4	48.4	26.4	.000000
-68.0	2.159	11.25	53.5	28.5	65.8	48.8	26.6	.000000
-66.0	2.257	11.73	53.6	28.6	66.1	49.1	26.8	.000000
-64.0	2.358	12.24	53.7	28.7	66.5	49.5	27.0	.000000
-62.0	2.463	12.78	53.8	28.8	66.9	49.9	27.2	.000000
-60.0	2.570	13.35	53.9	28.9	67.3	50.3	27.4	.000000
-58.0	2.680	13.95	54.1	29.1	67.6	50.6	27.6	.000000
-56.0	2.792	14.58	54.2	29.2	68.0	51.0	27.8	.000000
-54.0	2.906	15.24	54.3	29.3	68.4	51.4	28.1	.000000
-52.0	3.020	15.94	54.4	29.4	68.8	51.8	28.3	.000000
-50.0	3.133	16.68	54.5	29.5	69.1	52.1	28.5	.000000
-48.0	3.245	17.45	54.6	29.6	69.5	52.5	28.8	.000000
-46.0	3.354	18.26	54.7	29.7	69.9	52.9	29.0	.000000
-44.0	3.459	19.11	54.8	29.8	70.2	53.2	29.3	.000000
-42.0	3.557	20.00	54.9	29.9	70.6	53.6	29.5	.000000
-40.0	3.649	20.93	55.1	30.1	70.9	53.9	29.8	.000000
-38.0	3.731	21.90	55.2	30.2	71.2	54.2	30.1	.000000
-36.0	3.802	22.91	55.3	30.3	71.5	54.5	30.4	.000000
-34.0	3.860	23.96	55.4	30.4	71.8	54.8	30.6	.000000
-32.0	3.905	25.05	55.5	30.5	72.1	55.1	30.9	.000000

-30.0	3.935	26.17	55.6	30.6	72.3	55.3	31.2	.000000
-28.0	3.950	27.33	55.7	30.7	72.5	55.5	31.6	.000000
-26.0	3.953	28.52	55.8	30.8	72.7	55.7	31.9	.000000
-24.0	3.946	29.73	56.0	31.0	72.9	55.9	32.2	.000000
-22.0	3.934	30.98	56.1	31.1	73.0	56.0	32.6	.000000
-20.0	3.925	32.24	56.2	31.2	73.1	56.1	32.9	.000000
-18.0	3.931	33.52	56.3	31.3	73.2	56.2	33.3	.000000
-16.0	3.967	34.81	56.4	31.4	73.2	56.2	33.6	.000000
-14.0	4.050	36.11	56.5	31.5	73.8	56.8	34.0	.000000
-12.0	4.197	37.40	56.6	31.6	74.4	57.4	34.4	.000000
-10.0	4.423	38.67	56.7	31.7	75.1	58.1	34.8	.000000
-8.0	4.734	39.93	56.8	31.8	75.8	58.8	35.2	.000000
-6.0	5.127	41.14	56.9	31.9	76.5	59.5	35.6	.000000
-4.0	5.593	42.30	57.0	32.0	77.1	60.1	36.0	.000000
-2.0	6.117	43.40	57.1	32.1	77.7	60.7	36.3	.000000
.0	6.681	44.39	57.2	32.2	78.4	61.4	36.7	.000000
2.0	7.263	45.28	57.3	32.3	78.9	61.9	37.1	.000000
4.0	7.839	46.02	57.4	32.4	79.4	62.4	37.4	.000000
6.0	8.387	46.59	57.5	32.5	79.9	62.9	37.7	.000000
8.0	8.881	46.97	57.5	32.5	80.3	63.3	37.9	.000000
10.0	9.301	47.13	57.5	32.5	80.6	63.6	38.1	.000000
12.0	9.627	47.07	57.6	32.6	80.8	63.8	38.3	.000000
14.0	9.845	46.76	57.6	32.6	80.9	63.9	38.3	.000000
16.0	9.946	46.21	57.5	32.5	80.9	63.9	38.3	.000000
18.0	9.928	45.44	57.5	32.5	80.8	63.8	38.3	.000001
20.0	9.796	44.45	57.5	32.5	80.6	63.6	38.1	.000004
22.0	9.561	43.28	57.4	32.4	80.3	63.3	37.9	.000009
24.0	9.236	41.96	57.3	32.3	79.9	62.9	37.7	.000021
26.0	8.839	40.52	57.2	32.2	79.4	62.4	37.4	.000044
28.0	8.388	39.00	57.1	32.1	78.9	61.9	37.1	.000083
30.0	7.901	37.42	57.0	32.0	78.4	61.4	36.7	.000144
32.0	7.395	35.82	56.8	31.8	77.7	60.7	36.3	.000235
34.0	6.883	34.22	56.7	31.7	77.1	60.1	36.0	.000370
36.0	6.378	32.65	56.5	31.5	76.5	59.5	35.6	.000578
38.0	5.888	31.11	56.4	31.4	75.8	58.8	35.2	.000918
40.0	5.420	29.61	56.3	31.3	75.1	58.1	34.8	.001479
42.0	4.979	28.18	56.1	31.1	74.4	57.4	34.4	.002361
44.0	4.567	26.80	56.0	31.0	73.8	56.8	34.0	.003653
46.0	4.187	25.49	55.8	30.8	73.1	56.1	33.6	.005413
48.0	3.838	24.24	55.7	30.7	72.5	55.5	33.3	.007663
50.0	3.519	23.05	55.5	30.5	71.8	54.8	32.9	.010386
52.0	3.231	21.93	55.4	30.4	71.2	54.2	32.6	.013538
54.0	2.970	20.87	55.2	30.2	70.6	53.6	32.2	.017055
56.0	2.736	19.87	55.1	30.1	70.0	53.0	31.9	.020861
58.0	2.526	18.93	55.0	30.0	69.4	52.4	31.6	.024881
60.0	2.339	18.04	54.8	29.8	68.8	51.8	31.2	.029039
62.0	2.171	17.20	54.7	29.7	68.2	51.2	30.9	.033270
64.0	2.022	16.41	54.6	29.6	67.7	50.7	30.6	.037515
66.0	1.889	15.67	54.5	29.5	67.2	50.2	30.4	.041723
68.0	1.771	14.97	54.3	29.3	66.6	49.6	30.1	.045856
70.0	1.666	14.31	54.2	29.2	66.1	49.1	29.8	.049880
72.0	1.571	13.68	54.1	29.1	65.6	48.6	29.5	.053772
74.0	1.487	13.09	54.0	29.0	65.1	48.1	29.3	.057513
76.0	1.411	12.54	53.9	28.9	64.7	47.7	29.0	.061093
78.0	1.343	12.01	53.8	28.8	64.2	47.2	28.8	.064504
80.0	1.281	11.52	53.7	28.7	63.8	46.8	28.5	.067743
82.0	1.225	11.05	53.5	28.5	63.3	46.3	28.3	.070809
84.0	1.174	10.61	53.4	28.4	62.9	45.9	28.1	.073705
86.0	1.127	10.19	53.3	28.3	62.6	45.6	27.8	.076435
88.0	1.084	9.79	53.2	28.2	62.4	45.4	27.6	.079004
90.0	1.044	9.41	53.1	28.1	62.1	45.1	27.4	.081419
92.0	1.006	9.06	53.0	28.0	61.8	44.8	27.2	.083687
94.0	.971	8.72	52.9	27.9	61.6	44.6	27.0	.085816
96.0	.939	8.40	52.8	27.8	61.3	44.3	26.8	.087813
98.0	.908	8.09	52.8	27.8	61.1	44.1	26.6	.089685
100.0	.879	7.80	52.7	27.7	60.8	43.8	26.4	.091441
102.0	.851	7.52	52.6	27.6	60.6	43.6	26.2	.093087
104.0	.825	7.26	52.5	27.5	60.3	43.3	26.0	.094630
106.0	.800	7.01	52.4	27.4	60.1	43.1	25.8	.096078
108.0	.776	6.77	52.3	27.3	59.8	42.8	25.6	.097435
110.0	.753	6.55	52.2	27.2	59.6	42.6	25.5	.098708
112.0	.732	6.33	52.1	27.1	59.3	42.3	25.3	.099902
114.0	.711	6.13	52.1	27.1	59.1	42.1	25.1	.101023
116.0	.691	5.93	52.0	27.0	58.9	41.9	25.0	.102074
118.0	.671	5.74	51.9	26.9	58.6	41.6	24.8	.103061
120.0	.653	5.56	51.8	26.8	58.4	41.4	24.6	.103986
122.0	.635	5.39	51.7	26.7	58.2	41.2	24.5	.104854
124.0	.618	5.22	51.7	26.7	57.9	40.9	24.3	.105669
126.0	.601	5.07	51.6	26.6	57.7	40.7	24.2	.106432
128.0	.585	4.92	51.5	26.5	57.5	40.5	24.0	.107148
130.0	.569	4.77	51.4	26.4	57.3	40.3	23.9	.107818

132.0	.554	4.63	51.4	26.4	57.0	40.0	23.7	.108446
134.0	.540	4.50	51.3	26.3	56.8	39.8	23.6	.109032
136.0	.526	4.37	51.2	26.2	56.6	39.6	23.5	.109580
138.0	.512	4.25	51.2	26.2	56.4	39.4	23.3	.110091
140.0	.499	4.13	51.1	26.1	56.2	39.2	23.2	.110567
142.0	.487	4.02	51.0	26.0	56.0	39.0	23.1	.111010
144.0	.475	3.91	51.0	26.0	55.7	38.7	22.9	.111421
146.0	.463	3.81	50.9	25.9	55.5	38.5	22.8	.111802
148.0	.451	3.71	50.8	25.8	55.3	38.3	22.7	.112153
150.0	.440	3.61	50.8	25.8	55.1	38.1	22.5	.112477
152.0	.429	3.52	50.7	25.7	54.9	37.9	22.4	.112774
154.0	.419	3.43	50.6	25.6	54.7	37.7	22.3	.113046
156.0	.409	3.34	50.6	25.6	54.5	37.5	22.2	.113293
158.0	.399	3.26	50.5	25.5	54.3	37.3	22.0	.113517
160.0	.390	3.18	50.4	25.4	54.1	37.1	21.9	.113718
162.0	.381	3.10	50.4	25.4	53.9	36.9	21.8	.113898
164.0	.372	3.03	50.3	25.3	53.7	36.7	21.7	.114056
166.0	.363	2.96	50.3	25.3	53.6	36.6	21.6	.114195
168.0	.355	2.89	50.2	25.2	53.4	36.4	21.5	.114315
170.0	.347	2.82	50.2	25.2	53.2	36.2	21.4	.114416
172.0	.339	2.75	50.1	25.1	53.0	36.0	21.3	.114500
174.0	.331	2.69	50.0	25.0	52.8	35.8	21.1	.114566
176.0	.324	2.63	50.0	25.0	52.6	35.6	21.0	.114616
178.0	.317	2.57	49.9	24.9	52.5	35.5	20.9	.114651
180.0	.310	2.51	49.9	24.9	52.3	35.3	20.8	.114670
182.0	.303	2.46	49.8	24.8	52.1	35.1	20.7	.114674
184.0	.297	2.41	49.8	24.8	51.9	34.9	20.6	.114665
186.0	.290	2.35	49.7	24.7	51.7	34.7	20.5	.114642
188.0	.284	2.30	49.7	24.7	51.6	34.6	20.4	.114606
190.0	.278	2.26	49.6	24.6	51.4	34.4	20.3	.114558
192.0	.272	2.21	49.6	24.6	51.2	34.2	20.2	.114498
194.0	.267	2.16	49.5	24.5	51.1	34.1	20.1	.114426
196.0	.261	2.12	49.5	24.5	50.9	33.9	20.0	.114344
198.0	.256	2.08	49.4	24.4	50.7	33.7	19.9	.114251
200.0	.251	2.03	49.4	24.4	50.6	33.6	19.9	.114147
202.0	.246	1.99	49.3	24.3	50.4	33.4	19.8	.114034
204.0	.241	1.95	49.3	24.3	50.2	33.2	19.7	.113912
206.0	.236	1.92	49.2	24.2	50.1	33.1	19.6	.113780
208.0	.231	1.88	49.2	24.2	49.9	32.9	19.5	.113640
210.0	.227	1.84	49.1	24.1	49.8	32.8	19.4	.113492
212.0	.222	1.81	49.1	24.1	49.6	32.6	19.3	.113336
214.0	.218	1.77	49.0	24.0	49.4	32.4	19.2	.113172
216.0	.214	1.74	49.0	24.0	49.3	32.3	19.1	.113002
218.0	.210	1.71	48.9	23.9	49.1	32.1	19.1	.112824
220.0	.206	1.68	48.9	23.9	49.0	32.0	19.0	.112639
222.0	.202	1.65	48.8	23.8	48.8	31.8	18.9	.112449
224.0	.198	1.62	48.8	23.8	48.7	31.7	18.8	.112252
226.0	.195	1.59	48.8	23.8	48.5	31.5	18.7	.112049
228.0	.191	1.56	48.7	23.7	48.4	31.4	18.6	.111841
230.0	.188	1.53	48.7	23.7	48.2	31.2	18.6	.111628
232.0	.184	1.51	48.6	23.6	48.1	31.1	18.5	.111410
234.0	.181	1.48	48.6	23.6	48.0	31.0	18.4	.111187
236.0	.178	1.45	48.5	23.5	47.8	30.8	18.3	.110959
238.0	.175	1.43	48.5	23.5	47.7	30.7	18.2	.110727
240.0	.172	1.41	48.5	23.5	47.5	30.5	18.2	.110491
242.0	.169	1.38	48.4	23.4	47.4	30.4	18.1	.110251
244.0	.166	1.36	48.4	23.4	47.2	30.2	18.0	.110007
246.0	.163	1.34	48.3	23.3	47.1	30.1	17.9	.109760
248.0	.160	1.32	48.3	23.3	47.0	30.0	17.9	.109510
250.0	.158	1.29	48.3	23.3	46.8	29.8	17.8	.109256
252.0	.155	1.27	48.2	23.2	46.7	29.7	17.7	.108999
254.0	.152	1.25	48.2	23.2	46.6	29.6	17.7	.108740
256.0	.150	1.23	48.1	23.1	46.4	29.4	17.6	.108478
258.0	.147	1.21	48.1	23.1	46.3	29.3	17.5	.108213
260.0	.145	1.19	48.1	23.1	46.2	29.2	17.4	.107946
262.0	.143	1.18	48.0	23.0	46.0	29.0	17.4	.107677
264.0	.140	1.16	48.0	23.0	45.9	28.9	17.3	.107406
266.0	.138	1.14	47.9	22.9	45.8	28.8	17.2	.107132
268.0	.136	1.12	47.9	22.9	45.6	28.6	17.2	.106857
270.0	.134	1.11	47.9	22.9	45.5	28.5	17.1	.106581
272.0	.132	1.09	47.8	22.8	45.4	28.4	17.0	.106302
274.0	.130	1.07	47.8	22.8	45.3	28.3	17.0	.106023
276.0	.128	1.06	47.8	22.8	45.1	28.1	16.9	.105741
278.0	.126	1.04	47.7	22.7	45.0	28.0	16.8	.105459
280.0	.124	1.03	47.7	22.7	44.9	27.9	16.8	.105176
282.0	.122	1.01	47.7	22.7	44.8	27.8	16.7	.104891
284.0	.120	1.00	47.6	22.6	44.6	27.6	16.6	.104606
286.0	.118	.98	47.6	22.6	44.5	27.5	16.6	.104319
288.0	.117	.97	47.6	22.6	44.4	27.4	16.5	.104032
290.0	.115	.96	47.5	22.5	44.3	27.3	16.4	.103744
292.0	.113	.94	47.5	22.5	44.2	27.2	16.4	.103456

294.0	.112	.93	47.5	22.5	44.0	27.0	16.3	.103167
296.0	.110	.92	47.4	22.4	43.9	26.9	16.3	.102878
298.0	.108	.90	47.4	22.4	43.8	26.8	16.2	.102588
300.0	.107	.89	47.4	22.4	43.7	26.7	16.1	.102298

AC TRANSMISSION LINE CALCULATION RESULTS
500kV SINGLE CIRCUIT LATTICE

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XS-9: 500 kV Single Circuit Lattice - Electric and Magnetic Field Calculations
 Emf Workstation Conductor Data

Total # of Conductors: 5

-6025.00	-28.50	32.00	6825.00	-28.50	32.00	346.40	0.00
-6025.00	0.00	32.00	6825.00	0.00	32.00	346.40	-120.00
-6025.00	28.50	32.00	6825.00	28.50	32.00	346.40	120.00
-6025.00	-22.50	68.45	6825.00	-22.50	68.45	2.79	-150.16
-6025.00	22.50	68.45	6825.00	22.50	68.45	2.95	56.24

E-Field HORIZONTAL Profile Chart: "Lateral Profile Electric Field - Max Load(EF)"

Field Components = Resultant
 Distance units = (ft)
 Electric field units = KV/m

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	EF (KV/m)
0	0.00	400.00	-300.00	3.28	0.05
1	1.00	400.00	-299.00	3.28	0.05
2	2.00	400.00	-298.00	3.28	0.06
3	3.00	400.00	-297.00	3.28	0.06
4	4.00	400.00	-296.00	3.28	0.06
5	5.00	400.00	-295.00	3.28	0.06
6	6.00	400.00	-294.00	3.28	0.06
7	7.00	400.00	-293.00	3.28	0.06
8	8.00	400.00	-292.00	3.28	0.06
9	9.00	400.00	-291.00	3.28	0.06
10	10.00	400.00	-290.00	3.28	0.06
11	11.00	400.00	-289.00	3.28	0.06
12	12.00	400.00	-288.00	3.28	0.06
13	13.00	400.00	-287.00	3.28	0.06
14	14.00	400.00	-286.00	3.28	0.06
15	15.00	400.00	-285.00	3.28	0.06
16	16.00	400.00	-284.00	3.28	0.06
17	17.00	400.00	-283.00	3.28	0.06
18	18.00	400.00	-282.00	3.28	0.07
19	19.00	400.00	-281.00	3.28	0.07
20	20.00	400.00	-280.00	3.28	0.07
21	21.00	400.00	-279.00	3.28	0.07
22	22.00	400.00	-278.00	3.28	0.07
23	23.00	400.00	-277.00	3.28	0.07
24	24.00	400.00	-276.00	3.28	0.07
25	25.00	400.00	-275.00	3.28	0.07
26	26.00	400.00	-274.00	3.28	0.07
27	27.00	400.00	-273.00	3.28	0.07
28	28.00	400.00	-272.00	3.28	0.07
29	29.00	400.00	-271.00	3.28	0.07
30	30.00	400.00	-270.00	3.28	0.07
31	31.00	400.00	-269.00	3.28	0.07
32	32.00	400.00	-268.00	3.28	0.08
33	33.00	400.00	-267.00	3.28	0.08
34	34.00	400.00	-266.00	3.28	0.08
35	35.00	400.00	-265.00	3.28	0.08
36	36.00	400.00	-264.00	3.28	0.08
37	37.00	400.00	-263.00	3.28	0.08
38	38.00	400.00	-262.00	3.28	0.08
39	39.00	400.00	-261.00	3.28	0.08

40	40.00	400.00	-260.00	3.28	0.08
41	41.00	400.00	-259.00	3.28	0.08
42	42.00	400.00	-258.00	3.28	0.08
43	43.00	400.00	-257.00	3.28	0.09
44	44.00	400.00	-256.00	3.28	0.09
45	45.00	400.00	-255.00	3.28	0.09
46	46.00	400.00	-254.00	3.28	0.09
47	47.00	400.00	-253.00	3.28	0.09
48	48.00	400.00	-252.00	3.28	0.09
49	49.00	400.00	-251.00	3.28	0.09
50	50.00	400.00	-250.00	3.28	0.09
51	51.00	400.00	-249.00	3.28	0.09
52	52.00	400.00	-248.00	3.28	0.10
53	53.00	400.00	-247.00	3.28	0.10
54	54.00	400.00	-246.00	3.28	0.10
55	55.00	400.00	-245.00	3.28	0.10
56	56.00	400.00	-244.00	3.28	0.10
57	57.00	400.00	-243.00	3.28	0.10
58	58.00	400.00	-242.00	3.28	0.10
59	59.00	400.00	-241.00	3.28	0.10
60	60.00	400.00	-240.00	3.28	0.10
61	61.00	400.00	-239.00	3.28	0.11
62	62.00	400.00	-238.00	3.28	0.11
63	63.00	400.00	-237.00	3.28	0.11
64	64.00	400.00	-236.00	3.28	0.11
65	65.00	400.00	-235.00	3.28	0.11
66	66.00	400.00	-234.00	3.28	0.11
67	67.00	400.00	-233.00	3.28	0.11
68	68.00	400.00	-232.00	3.28	0.12
69	69.00	400.00	-231.00	3.28	0.12
70	70.00	400.00	-230.00	3.28	0.12
71	71.00	400.00	-229.00	3.28	0.12
72	72.00	400.00	-228.00	3.28	0.12
73	73.00	400.00	-227.00	3.28	0.12
74	74.00	400.00	-226.00	3.28	0.13
75	75.00	400.00	-225.00	3.28	0.13
76	76.00	400.00	-224.00	3.28	0.13
77	77.00	400.00	-223.00	3.28	0.13
78	78.00	400.00	-222.00	3.28	0.13
79	79.00	400.00	-221.00	3.28	0.13
80	80.00	400.00	-220.00	3.28	0.14
81	81.00	400.00	-219.00	3.28	0.14
82	82.00	400.00	-218.00	3.28	0.14
83	83.00	400.00	-217.00	3.28	0.14
84	84.00	400.00	-216.00	3.28	0.14
85	85.00	400.00	-215.00	3.28	0.15
86	86.00	400.00	-214.00	3.28	0.15
87	87.00	400.00	-213.00	3.28	0.15
88	88.00	400.00	-212.00	3.28	0.15
89	89.00	400.00	-211.00	3.28	0.15
90	90.00	400.00	-210.00	3.28	0.16
91	91.00	400.00	-209.00	3.28	0.16
92	92.00	400.00	-208.00	3.28	0.16
93	93.00	400.00	-207.00	3.28	0.16
94	94.00	400.00	-206.00	3.28	0.16
95	95.00	400.00	-205.00	3.28	0.17
96	96.00	400.00	-204.00	3.28	0.17
97	97.00	400.00	-203.00	3.28	0.17
98	98.00	400.00	-202.00	3.28	0.17
99	99.00	400.00	-201.00	3.28	0.18
100	100.00	400.00	-200.00	3.28	0.18
101	101.00	400.00	-199.00	3.28	0.18
102	102.00	400.00	-198.00	3.28	0.19

103	103.00	400.00	-197.00	3.28	0.19
104	104.00	400.00	-196.00	3.28	0.19
105	105.00	400.00	-195.00	3.28	0.19
106	106.00	400.00	-194.00	3.28	0.20
107	107.00	400.00	-193.00	3.28	0.20
108	108.00	400.00	-192.00	3.28	0.20
109	109.00	400.00	-191.00	3.28	0.21
110	110.00	400.00	-190.00	3.28	0.21
111	111.00	400.00	-189.00	3.28	0.21
112	112.00	400.00	-188.00	3.28	0.22
113	113.00	400.00	-187.00	3.28	0.22
114	114.00	400.00	-186.00	3.28	0.22
115	115.00	400.00	-185.00	3.28	0.23
116	116.00	400.00	-184.00	3.28	0.23
117	117.00	400.00	-183.00	3.28	0.23
118	118.00	400.00	-182.00	3.28	0.24
119	119.00	400.00	-181.00	3.28	0.24
120	120.00	400.00	-180.00	3.28	0.25
121	121.00	400.00	-179.00	3.28	0.25
122	122.00	400.00	-178.00	3.28	0.25
123	123.00	400.00	-177.00	3.28	0.26
124	124.00	400.00	-176.00	3.28	0.26
125	125.00	400.00	-175.00	3.28	0.27
126	126.00	400.00	-174.00	3.28	0.27
127	127.00	400.00	-173.00	3.28	0.28
128	128.00	400.00	-172.00	3.28	0.28
129	129.00	400.00	-171.00	3.28	0.29
130	130.00	400.00	-170.00	3.28	0.29
131	131.00	400.00	-169.00	3.28	0.30
132	132.00	400.00	-168.00	3.28	0.30
133	133.00	400.00	-167.00	3.28	0.31
134	134.00	400.00	-166.00	3.28	0.31
135	135.00	400.00	-165.00	3.28	0.32
136	136.00	400.00	-164.00	3.28	0.32
137	137.00	400.00	-163.00	3.28	0.33
138	138.00	400.00	-162.00	3.28	0.34
139	139.00	400.00	-161.00	3.28	0.34
140	140.00	400.00	-160.00	3.28	0.35
141	141.00	400.00	-159.00	3.28	0.36
142	142.00	400.00	-158.00	3.28	0.36
143	143.00	400.00	-157.00	3.28	0.37
144	144.00	400.00	-156.00	3.28	0.38
145	145.00	400.00	-155.00	3.28	0.38
146	146.00	400.00	-154.00	3.28	0.39
147	147.00	400.00	-153.00	3.28	0.40
148	148.00	400.00	-152.00	3.28	0.41
149	149.00	400.00	-151.00	3.28	0.42
150	150.00	400.00	-150.00	3.28	0.42
151	151.00	400.00	-149.00	3.28	0.43
152	152.00	400.00	-148.00	3.28	0.44
153	153.00	400.00	-147.00	3.28	0.45
154	154.00	400.00	-146.00	3.28	0.46
155	155.00	400.00	-145.00	3.28	0.47
156	156.00	400.00	-144.00	3.28	0.48
157	157.00	400.00	-143.00	3.28	0.49
158	158.00	400.00	-142.00	3.28	0.50
159	159.00	400.00	-141.00	3.28	0.51
160	160.00	400.00	-140.00	3.28	0.52
161	161.00	400.00	-139.00	3.28	0.53
162	162.00	400.00	-138.00	3.28	0.54
163	163.00	400.00	-137.00	3.28	0.55
164	164.00	400.00	-136.00	3.28	0.57
165	165.00	400.00	-135.00	3.28	0.58

166	166.00	400.00	-134.00	3.28	0.59
167	167.00	400.00	-133.00	3.28	0.61
168	168.00	400.00	-132.00	3.28	0.62
169	169.00	400.00	-131.00	3.28	0.63
170	170.00	400.00	-130.00	3.28	0.65
171	171.00	400.00	-129.00	3.28	0.66
172	172.00	400.00	-128.00	3.28	0.68
173	173.00	400.00	-127.00	3.28	0.69
174	174.00	400.00	-126.00	3.28	0.71
175	175.00	400.00	-125.00	3.28	0.73
176	176.00	400.00	-124.00	3.28	0.75
177	177.00	400.00	-123.00	3.28	0.76
178	178.00	400.00	-122.00	3.28	0.78
179	179.00	400.00	-121.00	3.28	0.80
180	180.00	400.00	-120.00	3.28	0.82
181	181.00	400.00	-119.00	3.28	0.84
182	182.00	400.00	-118.00	3.28	0.86
183	183.00	400.00	-117.00	3.28	0.89
184	184.00	400.00	-116.00	3.28	0.91
185	185.00	400.00	-115.00	3.28	0.93
186	186.00	400.00	-114.00	3.28	0.96
187	187.00	400.00	-113.00	3.28	0.98
188	188.00	400.00	-112.00	3.28	1.01
189	189.00	400.00	-111.00	3.28	1.03
190	190.00	400.00	-110.00	3.28	1.06
191	191.00	400.00	-109.00	3.28	1.09
192	192.00	400.00	-108.00	3.28	1.12
193	193.00	400.00	-107.00	3.28	1.15
194	194.00	400.00	-106.00	3.28	1.18
195	195.00	400.00	-105.00	3.28	1.21
196	196.00	400.00	-104.00	3.28	1.25
197	197.00	400.00	-103.00	3.28	1.28
198	198.00	400.00	-102.00	3.28	1.32
199	199.00	400.00	-101.00	3.28	1.36
200	200.00	400.00	-100.00	3.28	1.40
201	201.00	400.00	-99.00	3.28	1.44
202	202.00	400.00	-98.00	3.28	1.48
203	203.00	400.00	-97.00	3.28	1.53
204	204.00	400.00	-96.00	3.28	1.57
205	205.00	400.00	-95.00	3.28	1.62
206	206.00	400.00	-94.00	3.28	1.67
207	207.00	400.00	-93.00	3.28	1.72
208	208.00	400.00	-92.00	3.28	1.77
209	209.00	400.00	-91.00	3.28	1.83
210	210.00	400.00	-90.00	3.28	1.89
211	211.00	400.00	-89.00	3.28	1.94
212	212.00	400.00	-88.00	3.28	2.01
213	213.00	400.00	-87.00	3.28	2.07
214	214.00	400.00	-86.00	3.28	2.14
215	215.00	400.00	-85.00	3.28	2.21
216	216.00	400.00	-84.00	3.28	2.28
217	217.00	400.00	-83.00	3.28	2.36
218	218.00	400.00	-82.00	3.28	2.44
219	219.00	400.00	-81.00	3.28	2.52
220	220.00	400.00	-80.00	3.28	2.60
221	221.00	400.00	-79.00	3.28	2.69
222	222.00	400.00	-78.00	3.28	2.78
223	223.00	400.00	-77.00	3.28	2.88
224	224.00	400.00	-76.00	3.28	2.98
225	225.00	400.00	-75.00	3.28	3.08
226	226.00	400.00	-74.00	3.28	3.19
227	227.00	400.00	-73.00	3.28	3.31
228	228.00	400.00	-72.00	3.28	3.42

229	229.00	400.00 -71.00	3.28	3.55
230	230.00	400.00 -70.00	3.28	3.67
231	231.00	400.00 -69.00	3.28	3.81
232	232.00	400.00 -68.00	3.28	3.94
233	233.00	400.00 -67.00	3.28	4.09
234	234.00	400.00 -66.00	3.28	4.23
235	235.00	400.00 -65.00	3.28	4.39
236	236.00	400.00 -64.00	3.28	4.55
237	237.00	400.00 -63.00	3.28	4.71
238	238.00	400.00 -62.00	3.28	4.88
239	239.00	400.00 -61.00	3.28	5.06
240	240.00	400.00 -60.00	3.28	5.24
241	241.00	400.00 -59.00	3.28	5.43
242	242.00	400.00 -58.00	3.28	5.63
243	243.00	400.00 -57.00	3.28	5.83
244	244.00	400.00 -56.00	3.28	6.03
245	245.00	400.00 -55.00	3.28	6.24
246	246.00	400.00 -54.00	3.28	6.46
247	247.00	400.00 -53.00	3.28	6.67
248	248.00	400.00 -52.00	3.28	6.90
249	249.00	400.00 -51.00	3.28	7.12
250	250.00	400.00 -50.00	3.28	7.35
251	251.00	400.00 -49.00	3.28	7.58
252	252.00	400.00 -48.00	3.28	7.81
253	253.00	400.00 -47.00	3.28	8.04
254	254.00	400.00 -46.00	3.28	8.27
255	255.00	400.00 -45.00	3.28	8.49
256	256.00	400.00 -44.00	3.28	8.71
257	257.00	400.00 -43.00	3.28	8.92
258	258.00	400.00 -42.00	3.28	9.12
259	259.00	400.00 -41.00	3.28	9.31
260	260.00	400.00 -40.00	3.28	9.48
261	261.00	400.00 -39.00	3.28	9.64
262	262.00	400.00 -38.00	3.28	9.79
263	263.00	400.00 -37.00	3.28	9.91
264	264.00	400.00 -36.00	3.28	10.01
265	265.00	400.00 -35.00	3.28	10.09
266	266.00	400.00 -34.00	3.28	10.15
267	267.00	400.00 -33.00	3.28	10.17
268	268.00	400.00 -32.00	3.28	10.17
269	269.00	400.00 -31.00	3.28	10.14
270	270.00	400.00 -30.00	3.28	10.08
271	271.00	400.00 -29.00	3.28	9.99
272	272.00	400.00 -28.00	3.28	9.88
273	273.00	400.00 -27.00	3.28	9.74
274	274.00	400.00 -26.00	3.28	9.57
275	275.00	400.00 -25.00	3.28	9.38
276	276.00	400.00 -24.00	3.28	9.18
277	277.00	400.00 -23.00	3.28	8.95
278	278.00	400.00 -22.00	3.28	8.72
279	279.00	400.00 -21.00	3.28	8.48
280	280.00	400.00 -20.00	3.28	8.24
281	281.00	400.00 -19.00	3.28	8.00
282	282.00	400.00 -18.00	3.28	7.77
283	283.00	400.00 -17.00	3.28	7.55
284	284.00	400.00 -16.00	3.28	7.36
285	285.00	400.00 -15.00	3.28	7.19
286	286.00	400.00 -14.00	3.28	7.04
287	287.00	400.00 -13.00	3.28	6.93
288	288.00	400.00 -12.00	3.28	6.84
289	289.00	400.00 -11.00	3.28	6.78
290	290.00	400.00 -10.00	3.28	6.76
291	291.00	400.00 -9.00	3.28	6.75

292	292.00	400.00	-8.00	3.28	6.77
293	293.00	400.00	-7.00	3.28	6.80
294	294.00	400.00	-6.00	3.28	6.84
295	295.00	400.00	-5.00	3.28	6.88
296	296.00	400.00	-4.00	3.28	6.92
297	297.00	400.00	-3.00	3.28	6.96
298	298.00	400.00	-2.00	3.28	6.99
299	299.00	400.00	-1.00	3.28	7.01
300	300.00	400.00	0.00	3.28	7.02
301	301.00	400.00	1.00	3.28	7.01
302	302.00	400.00	2.00	3.28	6.99
303	303.00	400.00	3.00	3.28	6.96
304	304.00	400.00	4.00	3.28	6.92
305	305.00	400.00	5.00	3.28	6.88
306	306.00	400.00	6.00	3.28	6.84
307	307.00	400.00	7.00	3.28	6.80
308	308.00	400.00	8.00	3.28	6.77
309	309.00	400.00	9.00	3.28	6.75
310	310.00	400.00	10.00	3.28	6.76
311	311.00	400.00	11.00	3.28	6.79
312	312.00	400.00	12.00	3.28	6.84
313	313.00	400.00	13.00	3.28	6.93
314	314.00	400.00	14.00	3.28	7.04
315	315.00	400.00	15.00	3.28	7.19
316	316.00	400.00	16.00	3.28	7.36
317	317.00	400.00	17.00	3.28	7.55
318	318.00	400.00	18.00	3.28	7.77
319	319.00	400.00	19.00	3.28	8.00
320	320.00	400.00	20.00	3.28	8.24
321	321.00	400.00	21.00	3.28	8.48
322	322.00	400.00	22.00	3.28	8.72
323	323.00	400.00	23.00	3.28	8.95
324	324.00	400.00	24.00	3.28	9.18
325	325.00	400.00	25.00	3.28	9.38
326	326.00	400.00	26.00	3.28	9.57
327	327.00	400.00	27.00	3.28	9.74
328	328.00	400.00	28.00	3.28	9.88
329	329.00	400.00	29.00	3.28	10.00
330	330.00	400.00	30.00	3.28	10.08
331	331.00	400.00	31.00	3.28	10.14
332	332.00	400.00	32.00	3.28	10.17
333	333.00	400.00	33.00	3.28	10.17
334	334.00	400.00	34.00	3.28	10.15
335	335.00	400.00	35.00	3.28	10.09
336	336.00	400.00	36.00	3.28	10.01
337	337.00	400.00	37.00	3.28	9.91
338	338.00	400.00	38.00	3.28	9.79
339	339.00	400.00	39.00	3.28	9.64
340	340.00	400.00	40.00	3.28	9.48
341	341.00	400.00	41.00	3.28	9.31
342	342.00	400.00	42.00	3.28	9.12
343	343.00	400.00	43.00	3.28	8.92
344	344.00	400.00	44.00	3.28	8.71
345	345.00	400.00	45.00	3.28	8.49
346	346.00	400.00	46.00	3.28	8.27
347	347.00	400.00	47.00	3.28	8.04
348	348.00	400.00	48.00	3.28	7.81
349	349.00	400.00	49.00	3.28	7.58
350	350.00	400.00	50.00	3.28	7.35
351	351.00	400.00	51.00	3.28	7.12
352	352.00	400.00	52.00	3.28	6.90
353	353.00	400.00	53.00	3.28	6.68
354	354.00	400.00	54.00	3.28	6.46

355	355.00	400.00	55.00	3.28	6.24
356	356.00	400.00	56.00	3.28	6.03
357	357.00	400.00	57.00	3.28	5.83
358	358.00	400.00	58.00	3.28	5.63
359	359.00	400.00	59.00	3.28	5.43
360	360.00	400.00	60.00	3.28	5.24
361	361.00	400.00	61.00	3.28	5.06
362	362.00	400.00	62.00	3.28	4.88
363	363.00	400.00	63.00	3.28	4.71
364	364.00	400.00	64.00	3.28	4.55
365	365.00	400.00	65.00	3.28	4.39
366	366.00	400.00	66.00	3.28	4.23
367	367.00	400.00	67.00	3.28	4.09
368	368.00	400.00	68.00	3.28	3.94
369	369.00	400.00	69.00	3.28	3.81
370	370.00	400.00	70.00	3.28	3.67
371	371.00	400.00	71.00	3.28	3.55
372	372.00	400.00	72.00	3.28	3.42
373	373.00	400.00	73.00	3.28	3.31
374	374.00	400.00	74.00	3.28	3.19
375	375.00	400.00	75.00	3.28	3.09
376	376.00	400.00	76.00	3.28	2.98
377	377.00	400.00	77.00	3.28	2.88
378	378.00	400.00	78.00	3.28	2.78
379	379.00	400.00	79.00	3.28	2.69
380	380.00	400.00	80.00	3.28	2.60
381	381.00	400.00	81.00	3.28	2.52
382	382.00	400.00	82.00	3.28	2.44
383	383.00	400.00	83.00	3.28	2.36
384	384.00	400.00	84.00	3.28	2.28
385	385.00	400.00	85.00	3.28	2.21
386	386.00	400.00	86.00	3.28	2.14
387	387.00	400.00	87.00	3.28	2.07
388	388.00	400.00	88.00	3.28	2.01
389	389.00	400.00	89.00	3.28	1.94
390	390.00	400.00	90.00	3.28	1.89
391	391.00	400.00	91.00	3.28	1.83
392	392.00	400.00	92.00	3.28	1.77
393	393.00	400.00	93.00	3.28	1.72
394	394.00	400.00	94.00	3.28	1.67
395	395.00	400.00	95.00	3.28	1.62
396	396.00	400.00	96.00	3.28	1.57
397	397.00	400.00	97.00	3.28	1.53
398	398.00	400.00	98.00	3.28	1.48
399	399.00	400.00	99.00	3.28	1.44
400	400.00	400.00	100.00	3.28	1.40
401	401.00	400.00	101.00	3.28	1.36
402	402.00	400.00	102.00	3.28	1.32
403	403.00	400.00	103.00	3.28	1.28
404	404.00	400.00	104.00	3.28	1.25
405	405.00	400.00	105.00	3.28	1.21
406	406.00	400.00	106.00	3.28	1.18
407	407.00	400.00	107.00	3.28	1.15
408	408.00	400.00	108.00	3.28	1.12
409	409.00	400.00	109.00	3.28	1.09
410	410.00	400.00	110.00	3.28	1.06
411	411.00	400.00	111.00	3.28	1.03
412	412.00	400.00	112.00	3.28	1.01
413	413.00	400.00	113.00	3.28	0.98
414	414.00	400.00	114.00	3.28	0.96
415	415.00	400.00	115.00	3.28	0.93
416	416.00	400.00	116.00	3.28	0.91
417	417.00	400.00	117.00	3.28	0.89

418	418.00	400.00	118.00	3.28	0.86
419	419.00	400.00	119.00	3.28	0.84
420	420.00	400.00	120.00	3.28	0.82
421	421.00	400.00	121.00	3.28	0.80
422	422.00	400.00	122.00	3.28	0.78
423	423.00	400.00	123.00	3.28	0.76
424	424.00	400.00	124.00	3.28	0.75
425	425.00	400.00	125.00	3.28	0.73
426	426.00	400.00	126.00	3.28	0.71
427	427.00	400.00	127.00	3.28	0.69
428	428.00	400.00	128.00	3.28	0.68
429	429.00	400.00	129.00	3.28	0.66
430	430.00	400.00	130.00	3.28	0.65
431	431.00	400.00	131.00	3.28	0.63
432	432.00	400.00	132.00	3.28	0.62
433	433.00	400.00	133.00	3.28	0.61
434	434.00	400.00	134.00	3.28	0.59
435	435.00	400.00	135.00	3.28	0.58
436	436.00	400.00	136.00	3.28	0.57
437	437.00	400.00	137.00	3.28	0.56
438	438.00	400.00	138.00	3.28	0.54
439	439.00	400.00	139.00	3.28	0.53
440	440.00	400.00	140.00	3.28	0.52
441	441.00	400.00	141.00	3.28	0.51
442	442.00	400.00	142.00	3.28	0.50
443	443.00	400.00	143.00	3.28	0.49
444	444.00	400.00	144.00	3.28	0.48
445	445.00	400.00	145.00	3.28	0.47
446	446.00	400.00	146.00	3.28	0.46
447	447.00	400.00	147.00	3.28	0.45
448	448.00	400.00	148.00	3.28	0.44
449	449.00	400.00	149.00	3.28	0.43
450	450.00	400.00	150.00	3.28	0.42
451	451.00	400.00	151.00	3.28	0.42
452	452.00	400.00	152.00	3.28	0.41
453	453.00	400.00	153.00	3.28	0.40
454	454.00	400.00	154.00	3.28	0.39
455	455.00	400.00	155.00	3.28	0.38
456	456.00	400.00	156.00	3.28	0.38
457	457.00	400.00	157.00	3.28	0.37
458	458.00	400.00	158.00	3.28	0.36
459	459.00	400.00	159.00	3.28	0.36
460	460.00	400.00	160.00	3.28	0.35
461	461.00	400.00	161.00	3.28	0.34
462	462.00	400.00	162.00	3.28	0.34
463	463.00	400.00	163.00	3.28	0.33
464	464.00	400.00	164.00	3.28	0.32
465	465.00	400.00	165.00	3.28	0.32
466	466.00	400.00	166.00	3.28	0.31
467	467.00	400.00	167.00	3.28	0.31
468	468.00	400.00	168.00	3.28	0.30
469	469.00	400.00	169.00	3.28	0.30
470	470.00	400.00	170.00	3.28	0.29
471	471.00	400.00	171.00	3.28	0.29
472	472.00	400.00	172.00	3.28	0.28
473	473.00	400.00	173.00	3.28	0.28
474	474.00	400.00	174.00	3.28	0.27
475	475.00	400.00	175.00	3.28	0.27
476	476.00	400.00	176.00	3.28	0.26
477	477.00	400.00	177.00	3.28	0.26
478	478.00	400.00	178.00	3.28	0.25
479	479.00	400.00	179.00	3.28	0.25
480	480.00	400.00	180.00	3.28	0.25

481	481.00	400.00	181.00	3.28	0.24
482	482.00	400.00	182.00	3.28	0.24
483	483.00	400.00	183.00	3.28	0.23
484	484.00	400.00	184.00	3.28	0.23
485	485.00	400.00	185.00	3.28	0.23
486	486.00	400.00	186.00	3.28	0.22
487	487.00	400.00	187.00	3.28	0.22
488	488.00	400.00	188.00	3.28	0.22
489	489.00	400.00	189.00	3.28	0.21
490	490.00	400.00	190.00	3.28	0.21
491	491.00	400.00	191.00	3.28	0.21
492	492.00	400.00	192.00	3.28	0.20
493	493.00	400.00	193.00	3.28	0.20
494	494.00	400.00	194.00	3.28	0.20
495	495.00	400.00	195.00	3.28	0.19
496	496.00	400.00	196.00	3.28	0.19
497	497.00	400.00	197.00	3.28	0.19
498	498.00	400.00	198.00	3.28	0.19
499	499.00	400.00	199.00	3.28	0.18
500	500.00	400.00	200.00	3.28	0.18
501	501.00	400.00	201.00	3.28	0.18
502	502.00	400.00	202.00	3.28	0.17
503	503.00	400.00	203.00	3.28	0.17
504	504.00	400.00	204.00	3.28	0.17
505	505.00	400.00	205.00	3.28	0.17
506	506.00	400.00	206.00	3.28	0.16
507	507.00	400.00	207.00	3.28	0.16
508	508.00	400.00	208.00	3.28	0.16
509	509.00	400.00	209.00	3.28	0.16
510	510.00	400.00	210.00	3.28	0.16
511	511.00	400.00	211.00	3.28	0.15
512	512.00	400.00	212.00	3.28	0.15
513	513.00	400.00	213.00	3.28	0.15
514	514.00	400.00	214.00	3.28	0.15
515	515.00	400.00	215.00	3.28	0.15
516	516.00	400.00	216.00	3.28	0.14
517	517.00	400.00	217.00	3.28	0.14
518	518.00	400.00	218.00	3.28	0.14
519	519.00	400.00	219.00	3.28	0.14
520	520.00	400.00	220.00	3.28	0.14
521	521.00	400.00	221.00	3.28	0.13
522	522.00	400.00	222.00	3.28	0.13
523	523.00	400.00	223.00	3.28	0.13
524	524.00	400.00	224.00	3.28	0.13
525	525.00	400.00	225.00	3.28	0.13
526	526.00	400.00	226.00	3.28	0.13
527	527.00	400.00	227.00	3.28	0.12
528	528.00	400.00	228.00	3.28	0.12
529	529.00	400.00	229.00	3.28	0.12
530	530.00	400.00	230.00	3.28	0.12
531	531.00	400.00	231.00	3.28	0.12
532	532.00	400.00	232.00	3.28	0.12
533	533.00	400.00	233.00	3.28	0.11
534	534.00	400.00	234.00	3.28	0.11
535	535.00	400.00	235.00	3.28	0.11
536	536.00	400.00	236.00	3.28	0.11
537	537.00	400.00	237.00	3.28	0.11
538	538.00	400.00	238.00	3.28	0.11
539	539.00	400.00	239.00	3.28	0.11
540	540.00	400.00	240.00	3.28	0.10
541	541.00	400.00	241.00	3.28	0.10
542	542.00	400.00	242.00	3.28	0.10
543	543.00	400.00	243.00	3.28	0.10

544	544.00	400.00	244.00	3.28	0.10
545	545.00	400.00	245.00	3.28	0.10
546	546.00	400.00	246.00	3.28	0.10
547	547.00	400.00	247.00	3.28	0.10
548	548.00	400.00	248.00	3.28	0.10
549	549.00	400.00	249.00	3.28	0.09
550	550.00	400.00	250.00	3.28	0.09
551	551.00	400.00	251.00	3.28	0.09
552	552.00	400.00	252.00	3.28	0.09
553	553.00	400.00	253.00	3.28	0.09
554	554.00	400.00	254.00	3.28	0.09
555	555.00	400.00	255.00	3.28	0.09
556	556.00	400.00	256.00	3.28	0.09
557	557.00	400.00	257.00	3.28	0.09
558	558.00	400.00	258.00	3.28	0.08
559	559.00	400.00	259.00	3.28	0.08
560	560.00	400.00	260.00	3.28	0.08
561	561.00	400.00	261.00	3.28	0.08
562	562.00	400.00	262.00	3.28	0.08
563	563.00	400.00	263.00	3.28	0.08
564	564.00	400.00	264.00	3.28	0.08
565	565.00	400.00	265.00	3.28	0.08
566	566.00	400.00	266.00	3.28	0.08
567	567.00	400.00	267.00	3.28	0.08
568	568.00	400.00	268.00	3.28	0.08
569	569.00	400.00	269.00	3.28	0.07
570	570.00	400.00	270.00	3.28	0.07
571	571.00	400.00	271.00	3.28	0.07
572	572.00	400.00	272.00	3.28	0.07
573	573.00	400.00	273.00	3.28	0.07
574	574.00	400.00	274.00	3.28	0.07
575	575.00	400.00	275.00	3.28	0.07
576	576.00	400.00	276.00	3.28	0.07
577	577.00	400.00	277.00	3.28	0.07
578	578.00	400.00	278.00	3.28	0.07
579	579.00	400.00	279.00	3.28	0.07
580	580.00	400.00	280.00	3.28	0.07
581	581.00	400.00	281.00	3.28	0.07
582	582.00	400.00	282.00	3.28	0.07
583	583.00	400.00	283.00	3.28	0.06
584	584.00	400.00	284.00	3.28	0.06
585	585.00	400.00	285.00	3.28	0.06
586	586.00	400.00	286.00	3.28	0.06
587	587.00	400.00	287.00	3.28	0.06
588	588.00	400.00	288.00	3.28	0.06
589	589.00	400.00	289.00	3.28	0.06
590	590.00	400.00	290.00	3.28	0.06
591	591.00	400.00	291.00	3.28	0.06
592	592.00	400.00	292.00	3.28	0.06
593	593.00	400.00	293.00	3.28	0.06
594	594.00	400.00	294.00	3.28	0.06
595	595.00	400.00	295.00	3.28	0.06
596	596.00	400.00	296.00	3.28	0.06
597	597.00	400.00	297.00	3.28	0.06
598	598.00	400.00	298.00	3.28	0.06
599	599.00	400.00	299.00	3.28	0.05
600	600.00	400.00	300.00	3.28	0.05

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Average Load"

Field Components = Resultant
 Distance units = (ft)
 Magnetic field units = mG

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	1.22
1	1.00	400.00	-299.00	3.28	1.23
2	2.00	400.00	-298.00	3.28	1.24
3	3.00	400.00	-297.00	3.28	1.25
4	4.00	400.00	-296.00	3.28	1.25
5	5.00	400.00	-295.00	3.28	1.26
6	6.00	400.00	-294.00	3.28	1.27
7	7.00	400.00	-293.00	3.28	1.28
8	8.00	400.00	-292.00	3.28	1.29
9	9.00	400.00	-291.00	3.28	1.30
10	10.00	400.00	-290.00	3.28	1.31
11	11.00	400.00	-289.00	3.28	1.32
12	12.00	400.00	-288.00	3.28	1.33
13	13.00	400.00	-287.00	3.28	1.34
14	14.00	400.00	-286.00	3.28	1.35
15	15.00	400.00	-285.00	3.28	1.35
16	16.00	400.00	-284.00	3.28	1.36
17	17.00	400.00	-283.00	3.28	1.37
18	18.00	400.00	-282.00	3.28	1.38
19	19.00	400.00	-281.00	3.28	1.39
20	20.00	400.00	-280.00	3.28	1.40
21	21.00	400.00	-279.00	3.28	1.41
22	22.00	400.00	-278.00	3.28	1.42
23	23.00	400.00	-277.00	3.28	1.43
24	24.00	400.00	-276.00	3.28	1.45
25	25.00	400.00	-275.00	3.28	1.46
26	26.00	400.00	-274.00	3.28	1.47
27	27.00	400.00	-273.00	3.28	1.48
28	28.00	400.00	-272.00	3.28	1.49
29	29.00	400.00	-271.00	3.28	1.50
30	30.00	400.00	-270.00	3.28	1.51
31	31.00	400.00	-269.00	3.28	1.52
32	32.00	400.00	-268.00	3.28	1.53
33	33.00	400.00	-267.00	3.28	1.55
34	34.00	400.00	-266.00	3.28	1.56
35	35.00	400.00	-265.00	3.28	1.57
36	36.00	400.00	-264.00	3.28	1.58
37	37.00	400.00	-263.00	3.28	1.59
38	38.00	400.00	-262.00	3.28	1.61
39	39.00	400.00	-261.00	3.28	1.62
40	40.00	400.00	-260.00	3.28	1.63
41	41.00	400.00	-259.00	3.28	1.64
42	42.00	400.00	-258.00	3.28	1.66
43	43.00	400.00	-257.00	3.28	1.67
44	44.00	400.00	-256.00	3.28	1.68
45	45.00	400.00	-255.00	3.28	1.70
46	46.00	400.00	-254.00	3.28	1.71
47	47.00	400.00	-253.00	3.28	1.72
48	48.00	400.00	-252.00	3.28	1.74
49	49.00	400.00	-251.00	3.28	1.75
50	50.00	400.00	-250.00	3.28	1.77
51	51.00	400.00	-249.00	3.28	1.78

52	52.00	400.00	-248.00	3.28	1.79
53	53.00	400.00	-247.00	3.28	1.81
54	54.00	400.00	-246.00	3.28	1.82
55	55.00	400.00	-245.00	3.28	1.84
56	56.00	400.00	-244.00	3.28	1.85
57	57.00	400.00	-243.00	3.28	1.87
58	58.00	400.00	-242.00	3.28	1.89
59	59.00	400.00	-241.00	3.28	1.90
60	60.00	400.00	-240.00	3.28	1.92
61	61.00	400.00	-239.00	3.28	1.93
62	62.00	400.00	-238.00	3.28	1.95
63	63.00	400.00	-237.00	3.28	1.97
64	64.00	400.00	-236.00	3.28	1.98
65	65.00	400.00	-235.00	3.28	2.00
66	66.00	400.00	-234.00	3.28	2.02
67	67.00	400.00	-233.00	3.28	2.03
68	68.00	400.00	-232.00	3.28	2.05
69	69.00	400.00	-231.00	3.28	2.07
70	70.00	400.00	-230.00	3.28	2.09
71	71.00	400.00	-229.00	3.28	2.11
72	72.00	400.00	-228.00	3.28	2.13
73	73.00	400.00	-227.00	3.28	2.14
74	74.00	400.00	-226.00	3.28	2.16
75	75.00	400.00	-225.00	3.28	2.18
76	76.00	400.00	-224.00	3.28	2.20
77	77.00	400.00	-223.00	3.28	2.22
78	78.00	400.00	-222.00	3.28	2.24
79	79.00	400.00	-221.00	3.28	2.26
80	80.00	400.00	-220.00	3.28	2.28
81	81.00	400.00	-219.00	3.28	2.31
82	82.00	400.00	-218.00	3.28	2.33
83	83.00	400.00	-217.00	3.28	2.35
84	84.00	400.00	-216.00	3.28	2.37
85	85.00	400.00	-215.00	3.28	2.39
86	86.00	400.00	-214.00	3.28	2.42
87	87.00	400.00	-213.00	3.28	2.44
88	88.00	400.00	-212.00	3.28	2.46
89	89.00	400.00	-211.00	3.28	2.49
90	90.00	400.00	-210.00	3.28	2.51
91	91.00	400.00	-209.00	3.28	2.53
92	92.00	400.00	-208.00	3.28	2.56
93	93.00	400.00	-207.00	3.28	2.58
94	94.00	400.00	-206.00	3.28	2.61
95	95.00	400.00	-205.00	3.28	2.63
96	96.00	400.00	-204.00	3.28	2.66
97	97.00	400.00	-203.00	3.28	2.69
98	98.00	400.00	-202.00	3.28	2.71
99	99.00	400.00	-201.00	3.28	2.74
100	100.00	400.00	-200.00	3.28	2.77
101	101.00	400.00	-199.00	3.28	2.80
102	102.00	400.00	-198.00	3.28	2.83
103	103.00	400.00	-197.00	3.28	2.86
104	104.00	400.00	-196.00	3.28	2.88
105	105.00	400.00	-195.00	3.28	2.91
106	106.00	400.00	-194.00	3.28	2.94
107	107.00	400.00	-193.00	3.28	2.98
108	108.00	400.00	-192.00	3.28	3.01
109	109.00	400.00	-191.00	3.28	3.04
110	110.00	400.00	-190.00	3.28	3.07
111	111.00	400.00	-189.00	3.28	3.10
112	112.00	400.00	-188.00	3.28	3.14
113	113.00	400.00	-187.00	3.28	3.17
114	114.00	400.00	-186.00	3.28	3.21

115	115.00	400.00	-185.00	3.28	3.24
116	116.00	400.00	-184.00	3.28	3.28
117	117.00	400.00	-183.00	3.28	3.31
118	118.00	400.00	-182.00	3.28	3.35
119	119.00	400.00	-181.00	3.28	3.39
120	120.00	400.00	-180.00	3.28	3.42
121	121.00	400.00	-179.00	3.28	3.46
122	122.00	400.00	-178.00	3.28	3.50
123	123.00	400.00	-177.00	3.28	3.54
124	124.00	400.00	-176.00	3.28	3.58
125	125.00	400.00	-175.00	3.28	3.62
126	126.00	400.00	-174.00	3.28	3.67
127	127.00	400.00	-173.00	3.28	3.71
128	128.00	400.00	-172.00	3.28	3.75
129	129.00	400.00	-171.00	3.28	3.80
130	130.00	400.00	-170.00	3.28	3.84
131	131.00	400.00	-169.00	3.28	3.89
132	132.00	400.00	-168.00	3.28	3.94
133	133.00	400.00	-167.00	3.28	3.98
134	134.00	400.00	-166.00	3.28	4.03
135	135.00	400.00	-165.00	3.28	4.08
136	136.00	400.00	-164.00	3.28	4.13
137	137.00	400.00	-163.00	3.28	4.18
138	138.00	400.00	-162.00	3.28	4.23
139	139.00	400.00	-161.00	3.28	4.29
140	140.00	400.00	-160.00	3.28	4.34
141	141.00	400.00	-159.00	3.28	4.40
142	142.00	400.00	-158.00	3.28	4.45
143	143.00	400.00	-157.00	3.28	4.51
144	144.00	400.00	-156.00	3.28	4.57
145	145.00	400.00	-155.00	3.28	4.63
146	146.00	400.00	-154.00	3.28	4.69
147	147.00	400.00	-153.00	3.28	4.75
148	148.00	400.00	-152.00	3.28	4.81
149	149.00	400.00	-151.00	3.28	4.88
150	150.00	400.00	-150.00	3.28	4.94
151	151.00	400.00	-149.00	3.28	5.01
152	152.00	400.00	-148.00	3.28	5.08
153	153.00	400.00	-147.00	3.28	5.15
154	154.00	400.00	-146.00	3.28	5.22
155	155.00	400.00	-145.00	3.28	5.29
156	156.00	400.00	-144.00	3.28	5.37
157	157.00	400.00	-143.00	3.28	5.44
158	158.00	400.00	-142.00	3.28	5.52
159	159.00	400.00	-141.00	3.28	5.60
160	160.00	400.00	-140.00	3.28	5.68
161	161.00	400.00	-139.00	3.28	5.76
162	162.00	400.00	-138.00	3.28	5.84
163	163.00	400.00	-137.00	3.28	5.93
164	164.00	400.00	-136.00	3.28	6.02
165	165.00	400.00	-135.00	3.28	6.11
166	166.00	400.00	-134.00	3.28	6.20
167	167.00	400.00	-133.00	3.28	6.29
168	168.00	400.00	-132.00	3.28	6.39
169	169.00	400.00	-131.00	3.28	6.49
170	170.00	400.00	-130.00	3.28	6.59
171	171.00	400.00	-129.00	3.28	6.69
172	172.00	400.00	-128.00	3.28	6.80
173	173.00	400.00	-127.00	3.28	6.90
174	174.00	400.00	-126.00	3.28	7.01
175	175.00	400.00	-125.00	3.28	7.13
176	176.00	400.00	-124.00	3.28	7.24
177	177.00	400.00	-123.00	3.28	7.36

178	178.00	400.00	-122.00	3.28	7.48
179	179.00	400.00	-121.00	3.28	7.61
180	180.00	400.00	-120.00	3.28	7.73
181	181.00	400.00	-119.00	3.28	7.86
182	182.00	400.00	-118.00	3.28	8.00
183	183.00	400.00	-117.00	3.28	8.13
184	184.00	400.00	-116.00	3.28	8.28
185	185.00	400.00	-115.00	3.28	8.42
186	186.00	400.00	-114.00	3.28	8.57
187	187.00	400.00	-113.00	3.28	8.72
188	188.00	400.00	-112.00	3.28	8.87
189	189.00	400.00	-111.00	3.28	9.03
190	190.00	400.00	-110.00	3.28	9.20
191	191.00	400.00	-109.00	3.28	9.37
192	192.00	400.00	-108.00	3.28	9.54
193	193.00	400.00	-107.00	3.28	9.72
194	194.00	400.00	-106.00	3.28	9.90
195	195.00	400.00	-105.00	3.28	10.09
196	196.00	400.00	-104.00	3.28	10.28
197	197.00	400.00	-103.00	3.28	10.48
198	198.00	400.00	-102.00	3.28	10.69
199	199.00	400.00	-101.00	3.28	10.90
200	200.00	400.00	-100.00	3.28	11.11
201	201.00	400.00	-99.00	3.28	11.34
202	202.00	400.00	-98.00	3.28	11.57
203	203.00	400.00	-97.00	3.28	11.80
204	204.00	400.00	-96.00	3.28	12.05
205	205.00	400.00	-95.00	3.28	12.30
206	206.00	400.00	-94.00	3.28	12.55
207	207.00	400.00	-93.00	3.28	12.82
208	208.00	400.00	-92.00	3.28	13.10
209	209.00	400.00	-91.00	3.28	13.38
210	210.00	400.00	-90.00	3.28	13.67
211	211.00	400.00	-89.00	3.28	13.97
212	212.00	400.00	-88.00	3.28	14.28
213	213.00	400.00	-87.00	3.28	14.60
214	214.00	400.00	-86.00	3.28	14.94
215	215.00	400.00	-85.00	3.28	15.28
216	216.00	400.00	-84.00	3.28	15.63
217	217.00	400.00	-83.00	3.28	16.00
218	218.00	400.00	-82.00	3.28	16.37
219	219.00	400.00	-81.00	3.28	16.76
220	220.00	400.00	-80.00	3.28	17.17
221	221.00	400.00	-79.00	3.28	17.59
222	222.00	400.00	-78.00	3.28	18.02
223	223.00	400.00	-77.00	3.28	18.46
224	224.00	400.00	-76.00	3.28	18.93
225	225.00	400.00	-75.00	3.28	19.40
226	226.00	400.00	-74.00	3.28	19.90
227	227.00	400.00	-73.00	3.28	20.41
228	228.00	400.00	-72.00	3.28	20.94
229	229.00	400.00	-71.00	3.28	21.49
230	230.00	400.00	-70.00	3.28	22.06
231	231.00	400.00	-69.00	3.28	22.65
232	232.00	400.00	-68.00	3.28	23.27
233	233.00	400.00	-67.00	3.28	23.90
234	234.00	400.00	-66.00	3.28	24.56
235	235.00	400.00	-65.00	3.28	25.24
236	236.00	400.00	-64.00	3.28	25.94
237	237.00	400.00	-63.00	3.28	26.67
238	238.00	400.00	-62.00	3.28	27.43
239	239.00	400.00	-61.00	3.28	28.21
240	240.00	400.00	-60.00	3.28	29.02

241	241.00	400.00	-59.00	3.28	29.86
242	242.00	400.00	-58.00	3.28	30.73
243	243.00	400.00	-57.00	3.28	31.62
244	244.00	400.00	-56.00	3.28	32.55
245	245.00	400.00	-55.00	3.28	33.51
246	246.00	400.00	-54.00	3.28	34.50
247	247.00	400.00	-53.00	3.28	35.52
248	248.00	400.00	-52.00	3.28	36.57
249	249.00	400.00	-51.00	3.28	37.66
250	250.00	400.00	-50.00	3.28	38.77
251	251.00	400.00	-49.00	3.28	39.92
252	252.00	400.00	-48.00	3.28	41.09
253	253.00	400.00	-47.00	3.28	42.29
254	254.00	400.00	-46.00	3.28	43.52
255	255.00	400.00	-45.00	3.28	44.78
256	256.00	400.00	-44.00	3.28	46.05
257	257.00	400.00	-43.00	3.28	47.35
258	258.00	400.00	-42.00	3.28	48.67
259	259.00	400.00	-41.00	3.28	50.00
260	260.00	400.00	-40.00	3.28	51.33
261	261.00	400.00	-39.00	3.28	52.68
262	262.00	400.00	-38.00	3.28	54.02
263	263.00	400.00	-37.00	3.28	55.37
264	264.00	400.00	-36.00	3.28	56.70
265	265.00	400.00	-35.00	3.28	58.02
266	266.00	400.00	-34.00	3.28	59.32
267	267.00	400.00	-33.00	3.28	60.60
268	268.00	400.00	-32.00	3.28	61.85
269	269.00	400.00	-31.00	3.28	63.06
270	270.00	400.00	-30.00	3.28	64.24
271	271.00	400.00	-29.00	3.28	65.37
272	272.00	400.00	-28.00	3.28	66.46
273	273.00	400.00	-27.00	3.28	67.50
274	274.00	400.00	-26.00	3.28	68.49
275	275.00	400.00	-25.00	3.28	69.42
276	276.00	400.00	-24.00	3.28	70.31
277	277.00	400.00	-23.00	3.28	71.13
278	278.00	400.00	-22.00	3.28	71.91
279	279.00	400.00	-21.00	3.28	72.63
280	280.00	400.00	-20.00	3.28	73.30
281	281.00	400.00	-19.00	3.28	73.92
282	282.00	400.00	-18.00	3.28	74.49
283	283.00	400.00	-17.00	3.28	75.02
284	284.00	400.00	-16.00	3.28	75.50
285	285.00	400.00	-15.00	3.28	75.94
286	286.00	400.00	-14.00	3.28	76.35
287	287.00	400.00	-13.00	3.28	76.72
288	288.00	400.00	-12.00	3.28	77.05
289	289.00	400.00	-11.00	3.28	77.36
290	290.00	400.00	-10.00	3.28	77.63
291	291.00	400.00	-9.00	3.28	77.88
292	292.00	400.00	-8.00	3.28	78.09
293	293.00	400.00	-7.00	3.28	78.29
294	294.00	400.00	-6.00	3.28	78.45
295	295.00	400.00	-5.00	3.28	78.59
296	296.00	400.00	-4.00	3.28	78.71
297	297.00	400.00	-3.00	3.28	78.80
298	298.00	400.00	-2.00	3.28	78.86
299	299.00	400.00	-1.00	3.28	78.91
300	300.00	400.00	0.00	3.28	78.92
301	301.00	400.00	1.00	3.28	78.92
302	302.00	400.00	2.00	3.28	78.89
303	303.00	400.00	3.00	3.28	78.83

304	304.00	400.00	4.00	3.28	78.75
305	305.00	400.00	5.00	3.28	78.65
306	306.00	400.00	6.00	3.28	78.52
307	307.00	400.00	7.00	3.28	78.36
308	308.00	400.00	8.00	3.28	78.18
309	309.00	400.00	9.00	3.28	77.97
310	310.00	400.00	10.00	3.28	77.74
311	311.00	400.00	11.00	3.28	77.48
312	312.00	400.00	12.00	3.28	77.18
313	313.00	400.00	13.00	3.28	76.85
314	314.00	400.00	14.00	3.28	76.49
315	315.00	400.00	15.00	3.28	76.10
316	316.00	400.00	16.00	3.28	75.66
317	317.00	400.00	17.00	3.28	75.18
318	318.00	400.00	18.00	3.28	74.67
319	319.00	400.00	19.00	3.28	74.10
320	320.00	400.00	20.00	3.28	73.49
321	321.00	400.00	21.00	3.28	72.82
322	322.00	400.00	22.00	3.28	72.11
323	323.00	400.00	23.00	3.28	71.34
324	324.00	400.00	24.00	3.28	70.52
325	325.00	400.00	25.00	3.28	69.64
326	326.00	400.00	26.00	3.28	68.71
327	327.00	400.00	27.00	3.28	67.73
328	328.00	400.00	28.00	3.28	66.69
329	329.00	400.00	29.00	3.28	65.61
330	330.00	400.00	30.00	3.28	64.48
331	331.00	400.00	31.00	3.28	63.30
332	332.00	400.00	32.00	3.28	62.09
333	333.00	400.00	33.00	3.28	60.84
334	334.00	400.00	34.00	3.28	59.57
335	335.00	400.00	35.00	3.28	58.27
336	336.00	400.00	36.00	3.28	56.95
337	337.00	400.00	37.00	3.28	55.61
338	338.00	400.00	38.00	3.28	54.27
339	339.00	400.00	39.00	3.28	52.93
340	340.00	400.00	40.00	3.28	51.58
341	341.00	400.00	41.00	3.28	50.24
342	342.00	400.00	42.00	3.28	48.91
343	343.00	400.00	43.00	3.28	47.60
344	344.00	400.00	44.00	3.28	46.30
345	345.00	400.00	45.00	3.28	45.02
346	346.00	400.00	46.00	3.28	43.77
347	347.00	400.00	47.00	3.28	42.54
348	348.00	400.00	48.00	3.28	41.33
349	349.00	400.00	49.00	3.28	40.16
350	350.00	400.00	50.00	3.28	39.01
351	351.00	400.00	51.00	3.28	37.89
352	352.00	400.00	52.00	3.28	36.81
353	353.00	400.00	53.00	3.28	35.75
354	354.00	400.00	54.00	3.28	34.73
355	355.00	400.00	55.00	3.28	33.74
356	356.00	400.00	56.00	3.28	32.78
357	357.00	400.00	57.00	3.28	31.85
358	358.00	400.00	58.00	3.28	30.95
359	359.00	400.00	59.00	3.28	30.08
360	360.00	400.00	60.00	3.28	29.24
361	361.00	400.00	61.00	3.28	28.42
362	362.00	400.00	62.00	3.28	27.64
363	363.00	400.00	63.00	3.28	26.88
364	364.00	400.00	64.00	3.28	26.15
365	365.00	400.00	65.00	3.28	25.44
366	366.00	400.00	66.00	3.28	24.76

367	367.00	400.00	67.00	3.28	24.10
368	368.00	400.00	68.00	3.28	23.47
369	369.00	400.00	69.00	3.28	22.85
370	370.00	400.00	70.00	3.28	22.26
371	371.00	400.00	71.00	3.28	21.69
372	372.00	400.00	72.00	3.28	21.14
373	373.00	400.00	73.00	3.28	20.61
374	374.00	400.00	74.00	3.28	20.09
375	375.00	400.00	75.00	3.28	19.59
376	376.00	400.00	76.00	3.28	19.11
377	377.00	400.00	77.00	3.28	18.65
378	378.00	400.00	78.00	3.28	18.20
379	379.00	400.00	79.00	3.28	17.77
380	380.00	400.00	80.00	3.28	17.35
381	381.00	400.00	81.00	3.28	16.94
382	382.00	400.00	82.00	3.28	16.55
383	383.00	400.00	83.00	3.28	16.17
384	384.00	400.00	84.00	3.28	15.80
385	385.00	400.00	85.00	3.28	15.45
386	386.00	400.00	86.00	3.28	15.11
387	387.00	400.00	87.00	3.28	14.77
388	388.00	400.00	88.00	3.28	14.45
389	389.00	400.00	89.00	3.28	14.14
390	390.00	400.00	90.00	3.28	13.83
391	391.00	400.00	91.00	3.28	13.54
392	392.00	400.00	92.00	3.28	13.26
393	393.00	400.00	93.00	3.28	12.98
394	394.00	400.00	94.00	3.28	12.71
395	395.00	400.00	95.00	3.28	12.45
396	396.00	400.00	96.00	3.28	12.20
397	397.00	400.00	97.00	3.28	11.96
398	398.00	400.00	98.00	3.28	11.72
399	399.00	400.00	99.00	3.28	11.49
400	400.00	400.00	100.00	3.28	11.26
401	401.00	400.00	101.00	3.28	11.05
402	402.00	400.00	102.00	3.28	10.83
403	403.00	400.00	103.00	3.28	10.63
404	404.00	400.00	104.00	3.28	10.43
405	405.00	400.00	105.00	3.28	10.23
406	406.00	400.00	106.00	3.28	10.04
407	407.00	400.00	107.00	3.28	9.86
408	408.00	400.00	108.00	3.28	9.68
409	409.00	400.00	109.00	3.28	9.51
410	410.00	400.00	110.00	3.28	9.34
411	411.00	400.00	111.00	3.28	9.17
412	412.00	400.00	112.00	3.28	9.01
413	413.00	400.00	113.00	3.28	8.85
414	414.00	400.00	114.00	3.28	8.70
415	415.00	400.00	115.00	3.28	8.55
416	416.00	400.00	116.00	3.28	8.41
417	417.00	400.00	117.00	3.28	8.27
418	418.00	400.00	118.00	3.28	8.13
419	419.00	400.00	119.00	3.28	7.99
420	420.00	400.00	120.00	3.28	7.86
421	421.00	400.00	121.00	3.28	7.73
422	422.00	400.00	122.00	3.28	7.61
423	423.00	400.00	123.00	3.28	7.49
424	424.00	400.00	124.00	3.28	7.37
425	425.00	400.00	125.00	3.28	7.25
426	426.00	400.00	126.00	3.28	7.14
427	427.00	400.00	127.00	3.28	7.03
428	428.00	400.00	128.00	3.28	6.92
429	429.00	400.00	129.00	3.28	6.81

430	430.00	400.00	130.00	3.28	6.71
431	431.00	400.00	131.00	3.28	6.61
432	432.00	400.00	132.00	3.28	6.51
433	433.00	400.00	133.00	3.28	6.41
434	434.00	400.00	134.00	3.28	6.32
435	435.00	400.00	135.00	3.28	6.22
436	436.00	400.00	136.00	3.28	6.13
437	437.00	400.00	137.00	3.28	6.04
438	438.00	400.00	138.00	3.28	5.96
439	439.00	400.00	139.00	3.28	5.87
440	440.00	400.00	140.00	3.28	5.79
441	441.00	400.00	141.00	3.28	5.71
442	442.00	400.00	142.00	3.28	5.63
443	443.00	400.00	143.00	3.28	5.55
444	444.00	400.00	144.00	3.28	5.47
445	445.00	400.00	145.00	3.28	5.40
446	446.00	400.00	146.00	3.28	5.33
447	447.00	400.00	147.00	3.28	5.25
448	448.00	400.00	148.00	3.28	5.18
449	449.00	400.00	149.00	3.28	5.11
450	450.00	400.00	150.00	3.28	5.05
451	451.00	400.00	151.00	3.28	4.98
452	452.00	400.00	152.00	3.28	4.92
453	453.00	400.00	153.00	3.28	4.85
454	454.00	400.00	154.00	3.28	4.79
455	455.00	400.00	155.00	3.28	4.73
456	456.00	400.00	156.00	3.28	4.67
457	457.00	400.00	157.00	3.28	4.61
458	458.00	400.00	158.00	3.28	4.55
459	459.00	400.00	159.00	3.28	4.49
460	460.00	400.00	160.00	3.28	4.44
461	461.00	400.00	161.00	3.28	4.38
462	462.00	400.00	162.00	3.28	4.33
463	463.00	400.00	163.00	3.28	4.28
464	464.00	400.00	164.00	3.28	4.23
465	465.00	400.00	165.00	3.28	4.18
466	466.00	400.00	166.00	3.28	4.13
467	467.00	400.00	167.00	3.28	4.08
468	468.00	400.00	168.00	3.28	4.03
469	469.00	400.00	169.00	3.28	3.98
470	470.00	400.00	170.00	3.28	3.93
471	471.00	400.00	171.00	3.28	3.89
472	472.00	400.00	172.00	3.28	3.84
473	473.00	400.00	173.00	3.28	3.80
474	474.00	400.00	174.00	3.28	3.76
475	475.00	400.00	175.00	3.28	3.71
476	476.00	400.00	176.00	3.28	3.67
477	477.00	400.00	177.00	3.28	3.63
478	478.00	400.00	178.00	3.28	3.59
479	479.00	400.00	179.00	3.28	3.55
480	480.00	400.00	180.00	3.28	3.51
481	481.00	400.00	181.00	3.28	3.47
482	482.00	400.00	182.00	3.28	3.44
483	483.00	400.00	183.00	3.28	3.40
484	484.00	400.00	184.00	3.28	3.36
485	485.00	400.00	185.00	3.28	3.33
486	486.00	400.00	186.00	3.28	3.29
487	487.00	400.00	187.00	3.28	3.26
488	488.00	400.00	188.00	3.28	3.22
489	489.00	400.00	189.00	3.28	3.19
490	490.00	400.00	190.00	3.28	3.15
491	491.00	400.00	191.00	3.28	3.12
492	492.00	400.00	192.00	3.28	3.09

493	493.00	400.00	193.00	3.28	3.06
494	494.00	400.00	194.00	3.28	3.03
495	495.00	400.00	195.00	3.28	3.00
496	496.00	400.00	196.00	3.28	2.96
497	497.00	400.00	197.00	3.28	2.94
498	498.00	400.00	198.00	3.28	2.91
499	499.00	400.00	199.00	3.28	2.88
500	500.00	400.00	200.00	3.28	2.85
501	501.00	400.00	201.00	3.28	2.82
502	502.00	400.00	202.00	3.28	2.79
503	503.00	400.00	203.00	3.28	2.77
504	504.00	400.00	204.00	3.28	2.74
505	505.00	400.00	205.00	3.28	2.71
506	506.00	400.00	206.00	3.28	2.69
507	507.00	400.00	207.00	3.28	2.66
508	508.00	400.00	208.00	3.28	2.63
509	509.00	400.00	209.00	3.28	2.61
510	510.00	400.00	210.00	3.28	2.59
511	511.00	400.00	211.00	3.28	2.56
512	512.00	400.00	212.00	3.28	2.54
513	513.00	400.00	213.00	3.28	2.51
514	514.00	400.00	214.00	3.28	2.49
515	515.00	400.00	215.00	3.28	2.47
516	516.00	400.00	216.00	3.28	2.44
517	517.00	400.00	217.00	3.28	2.42
518	518.00	400.00	218.00	3.28	2.40
519	519.00	400.00	219.00	3.28	2.38
520	520.00	400.00	220.00	3.28	2.36
521	521.00	400.00	221.00	3.28	2.34
522	522.00	400.00	222.00	3.28	2.31
523	523.00	400.00	223.00	3.28	2.29
524	524.00	400.00	224.00	3.28	2.27
525	525.00	400.00	225.00	3.28	2.25
526	526.00	400.00	226.00	3.28	2.23
527	527.00	400.00	227.00	3.28	2.21
528	528.00	400.00	228.00	3.28	2.20
529	529.00	400.00	229.00	3.28	2.18
530	530.00	400.00	230.00	3.28	2.16
531	531.00	400.00	231.00	3.28	2.14
532	532.00	400.00	232.00	3.28	2.12
533	533.00	400.00	233.00	3.28	2.10
534	534.00	400.00	234.00	3.28	2.09
535	535.00	400.00	235.00	3.28	2.07
536	536.00	400.00	236.00	3.28	2.05
537	537.00	400.00	237.00	3.28	2.03
538	538.00	400.00	238.00	3.28	2.02
539	539.00	400.00	239.00	3.28	2.00
540	540.00	400.00	240.00	3.28	1.98
541	541.00	400.00	241.00	3.28	1.97
542	542.00	400.00	242.00	3.28	1.95
543	543.00	400.00	243.00	3.28	1.93
544	544.00	400.00	244.00	3.28	1.92
545	545.00	400.00	245.00	3.28	1.90
546	546.00	400.00	246.00	3.28	1.89
547	547.00	400.00	247.00	3.28	1.87
548	548.00	400.00	248.00	3.28	1.86
549	549.00	400.00	249.00	3.28	1.84
550	550.00	400.00	250.00	3.28	1.83
551	551.00	400.00	251.00	3.28	1.81
552	552.00	400.00	252.00	3.28	1.80
553	553.00	400.00	253.00	3.28	1.79
554	554.00	400.00	254.00	3.28	1.77
555	555.00	400.00	255.00	3.28	1.76

556	556.00	400.00	256.00	3.28	1.74
557	557.00	400.00	257.00	3.28	1.73
558	558.00	400.00	258.00	3.28	1.72
559	559.00	400.00	259.00	3.28	1.70
560	560.00	400.00	260.00	3.28	1.69
561	561.00	400.00	261.00	3.28	1.68
562	562.00	400.00	262.00	3.28	1.67
563	563.00	400.00	263.00	3.28	1.65
564	564.00	400.00	264.00	3.28	1.64
565	565.00	400.00	265.00	3.28	1.63
566	566.00	400.00	266.00	3.28	1.62
567	567.00	400.00	267.00	3.28	1.60
568	568.00	400.00	268.00	3.28	1.59
569	569.00	400.00	269.00	3.28	1.58
570	570.00	400.00	270.00	3.28	1.57
571	571.00	400.00	271.00	3.28	1.56
572	572.00	400.00	272.00	3.28	1.55
573	573.00	400.00	273.00	3.28	1.54
574	574.00	400.00	274.00	3.28	1.52
575	575.00	400.00	275.00	3.28	1.51
576	576.00	400.00	276.00	3.28	1.50
577	577.00	400.00	277.00	3.28	1.49
578	578.00	400.00	278.00	3.28	1.48
579	579.00	400.00	279.00	3.28	1.47
580	580.00	400.00	280.00	3.28	1.46
581	581.00	400.00	281.00	3.28	1.45
582	582.00	400.00	282.00	3.28	1.44
583	583.00	400.00	283.00	3.28	1.43
584	584.00	400.00	284.00	3.28	1.42
585	585.00	400.00	285.00	3.28	1.41
586	586.00	400.00	286.00	3.28	1.40
587	587.00	400.00	287.00	3.28	1.39
588	588.00	400.00	288.00	3.28	1.38
589	589.00	400.00	289.00	3.28	1.37
590	590.00	400.00	290.00	3.28	1.36
591	591.00	400.00	291.00	3.28	1.35
592	592.00	400.00	292.00	3.28	1.34
593	593.00	400.00	293.00	3.28	1.34
594	594.00	400.00	294.00	3.28	1.33
595	595.00	400.00	295.00	3.28	1.32
596	596.00	400.00	296.00	3.28	1.31
597	597.00	400.00	297.00	3.28	1.30
598	598.00	400.00	298.00	3.28	1.29
599	599.00	400.00	299.00	3.28	1.28
600	600.00	400.00	300.00	3.28	1.27

Emf Workstation Conductor Data

Total # of Conductors: 5

-6025.00	-28.50	32.00	6825.00	-28.50	32.00	577.40	0.00
-6025.00	0.00	32.00	6825.00	0.00	32.00	577.40	-120.00
-6025.00	28.50	32.00	6825.00	28.50	32.00	577.40	120.00
-6025.00	-22.50	68.45	6825.00	-22.50	68.45	4.66	-150.16
-6025.00	22.50	68.45	6825.00	22.50	68.45	4.92	56.24

B-Field HORIZONTAL Profile Chart: "Lateral Profile Magnetic Field - Model Load 1"

Field Components = Resultant
 Distance units = (ft)
 Magnetic field units = mG

Spacing = 1.00(ft)
 Calculation Points = 601

Point	Distance (ft)	X (ft)	Y (ft)	Z (ft)	BF (mG)
0	0.00	400.00	-300.00	3.28	2.04
1	1.00	400.00	-299.00	3.28	2.05
2	2.00	400.00	-298.00	3.28	2.06
3	3.00	400.00	-297.00	3.28	2.08
4	4.00	400.00	-296.00	3.28	2.09
5	5.00	400.00	-295.00	3.28	2.11
6	6.00	400.00	-294.00	3.28	2.12
7	7.00	400.00	-293.00	3.28	2.14
8	8.00	400.00	-292.00	3.28	2.15
9	9.00	400.00	-291.00	3.28	2.17
10	10.00	400.00	-290.00	3.28	2.18
11	11.00	400.00	-289.00	3.28	2.20
12	12.00	400.00	-288.00	3.28	2.21
13	13.00	400.00	-287.00	3.28	2.23
14	14.00	400.00	-286.00	3.28	2.24
15	15.00	400.00	-285.00	3.28	2.26
16	16.00	400.00	-284.00	3.28	2.27
17	17.00	400.00	-283.00	3.28	2.29
18	18.00	400.00	-282.00	3.28	2.31
19	19.00	400.00	-281.00	3.28	2.32
20	20.00	400.00	-280.00	3.28	2.34
21	21.00	400.00	-279.00	3.28	2.36
22	22.00	400.00	-278.00	3.28	2.37
23	23.00	400.00	-277.00	3.28	2.39
24	24.00	400.00	-276.00	3.28	2.41
25	25.00	400.00	-275.00	3.28	2.43
26	26.00	400.00	-274.00	3.28	2.45
27	27.00	400.00	-273.00	3.28	2.46
28	28.00	400.00	-272.00	3.28	2.48
29	29.00	400.00	-271.00	3.28	2.50
30	30.00	400.00	-270.00	3.28	2.52
31	31.00	400.00	-269.00	3.28	2.54
32	32.00	400.00	-268.00	3.28	2.56
33	33.00	400.00	-267.00	3.28	2.58
34	34.00	400.00	-266.00	3.28	2.60
35	35.00	400.00	-265.00	3.28	2.62
36	36.00	400.00	-264.00	3.28	2.64
37	37.00	400.00	-263.00	3.28	2.66
38	38.00	400.00	-262.00	3.28	2.68
39	39.00	400.00	-261.00	3.28	2.70
40	40.00	400.00	-260.00	3.28	2.72
41	41.00	400.00	-259.00	3.28	2.74

42	42.00	400.00	-258.00	3.28	2.76
43	43.00	400.00	-257.00	3.28	2.78
44	44.00	400.00	-256.00	3.28	2.80
45	45.00	400.00	-255.00	3.28	2.83
46	46.00	400.00	-254.00	3.28	2.85
47	47.00	400.00	-253.00	3.28	2.87
48	48.00	400.00	-252.00	3.28	2.90
49	49.00	400.00	-251.00	3.28	2.92
50	50.00	400.00	-250.00	3.28	2.94
51	51.00	400.00	-249.00	3.28	2.97
52	52.00	400.00	-248.00	3.28	2.99
53	53.00	400.00	-247.00	3.28	3.02
54	54.00	400.00	-246.00	3.28	3.04
55	55.00	400.00	-245.00	3.28	3.06
56	56.00	400.00	-244.00	3.28	3.09
57	57.00	400.00	-243.00	3.28	3.12
58	58.00	400.00	-242.00	3.28	3.14
59	59.00	400.00	-241.00	3.28	3.17
60	60.00	400.00	-240.00	3.28	3.20
61	61.00	400.00	-239.00	3.28	3.22
62	62.00	400.00	-238.00	3.28	3.25
63	63.00	400.00	-237.00	3.28	3.28
64	64.00	400.00	-236.00	3.28	3.31
65	65.00	400.00	-235.00	3.28	3.33
66	66.00	400.00	-234.00	3.28	3.36
67	67.00	400.00	-233.00	3.28	3.39
68	68.00	400.00	-232.00	3.28	3.42
69	69.00	400.00	-231.00	3.28	3.45
70	70.00	400.00	-230.00	3.28	3.48
71	71.00	400.00	-229.00	3.28	3.51
72	72.00	400.00	-228.00	3.28	3.54
73	73.00	400.00	-227.00	3.28	3.58
74	74.00	400.00	-226.00	3.28	3.61
75	75.00	400.00	-225.00	3.28	3.64
76	76.00	400.00	-224.00	3.28	3.67
77	77.00	400.00	-223.00	3.28	3.71
78	78.00	400.00	-222.00	3.28	3.74
79	79.00	400.00	-221.00	3.28	3.77
80	80.00	400.00	-220.00	3.28	3.81
81	81.00	400.00	-219.00	3.28	3.84
82	82.00	400.00	-218.00	3.28	3.88
83	83.00	400.00	-217.00	3.28	3.92
84	84.00	400.00	-216.00	3.28	3.95
85	85.00	400.00	-215.00	3.28	3.99
86	86.00	400.00	-214.00	3.28	4.03
87	87.00	400.00	-213.00	3.28	4.07
88	88.00	400.00	-212.00	3.28	4.10
89	89.00	400.00	-211.00	3.28	4.14
90	90.00	400.00	-210.00	3.28	4.18
91	91.00	400.00	-209.00	3.28	4.22
92	92.00	400.00	-208.00	3.28	4.26
93	93.00	400.00	-207.00	3.28	4.31
94	94.00	400.00	-206.00	3.28	4.35
95	95.00	400.00	-205.00	3.28	4.39
96	96.00	400.00	-204.00	3.28	4.44
97	97.00	400.00	-203.00	3.28	4.48
98	98.00	400.00	-202.00	3.28	4.52
99	99.00	400.00	-201.00	3.28	4.57
100	100.00	400.00	-200.00	3.28	4.62
101	101.00	400.00	-199.00	3.28	4.66
102	102.00	400.00	-198.00	3.28	4.71
103	103.00	400.00	-197.00	3.28	4.76
104	104.00	400.00	-196.00	3.28	4.81

105	105.00	400.00	-195.00	3.28	4.86
106	106.00	400.00	-194.00	3.28	4.91
107	107.00	400.00	-193.00	3.28	4.96
108	108.00	400.00	-192.00	3.28	5.01
109	109.00	400.00	-191.00	3.28	5.07
110	110.00	400.00	-190.00	3.28	5.12
111	111.00	400.00	-189.00	3.28	5.17
112	112.00	400.00	-188.00	3.28	5.23
113	113.00	400.00	-187.00	3.28	5.29
114	114.00	400.00	-186.00	3.28	5.34
115	115.00	400.00	-185.00	3.28	5.40
116	116.00	400.00	-184.00	3.28	5.46
117	117.00	400.00	-183.00	3.28	5.52
118	118.00	400.00	-182.00	3.28	5.58
119	119.00	400.00	-181.00	3.28	5.64
120	120.00	400.00	-180.00	3.28	5.71
121	121.00	400.00	-179.00	3.28	5.77
122	122.00	400.00	-178.00	3.28	5.84
123	123.00	400.00	-177.00	3.28	5.90
124	124.00	400.00	-176.00	3.28	5.97
125	125.00	400.00	-175.00	3.28	6.04
126	126.00	400.00	-174.00	3.28	6.11
127	127.00	400.00	-173.00	3.28	6.18
128	128.00	400.00	-172.00	3.28	6.26
129	129.00	400.00	-171.00	3.28	6.33
130	130.00	400.00	-170.00	3.28	6.40
131	131.00	400.00	-169.00	3.28	6.48
132	132.00	400.00	-168.00	3.28	6.56
133	133.00	400.00	-167.00	3.28	6.64
134	134.00	400.00	-166.00	3.28	6.72
135	135.00	400.00	-165.00	3.28	6.80
136	136.00	400.00	-164.00	3.28	6.89
137	137.00	400.00	-163.00	3.28	6.97
138	138.00	400.00	-162.00	3.28	7.06
139	139.00	400.00	-161.00	3.28	7.15
140	140.00	400.00	-160.00	3.28	7.24
141	141.00	400.00	-159.00	3.28	7.33
142	142.00	400.00	-158.00	3.28	7.42
143	143.00	400.00	-157.00	3.28	7.52
144	144.00	400.00	-156.00	3.28	7.61
145	145.00	400.00	-155.00	3.28	7.71
146	146.00	400.00	-154.00	3.28	7.81
147	147.00	400.00	-153.00	3.28	7.92
148	148.00	400.00	-152.00	3.28	8.02
149	149.00	400.00	-151.00	3.28	8.13
150	150.00	400.00	-150.00	3.28	8.24
151	151.00	400.00	-149.00	3.28	8.35
152	152.00	400.00	-148.00	3.28	8.46
153	153.00	400.00	-147.00	3.28	8.58
154	154.00	400.00	-146.00	3.28	8.70
155	155.00	400.00	-145.00	3.28	8.82
156	156.00	400.00	-144.00	3.28	8.94
157	157.00	400.00	-143.00	3.28	9.07
158	158.00	400.00	-142.00	3.28	9.20
159	159.00	400.00	-141.00	3.28	9.33
160	160.00	400.00	-140.00	3.28	9.46
161	161.00	400.00	-139.00	3.28	9.60
162	162.00	400.00	-138.00	3.28	9.74
163	163.00	400.00	-137.00	3.28	9.89
164	164.00	400.00	-136.00	3.28	10.03
165	165.00	400.00	-135.00	3.28	10.18
166	166.00	400.00	-134.00	3.28	10.33
167	167.00	400.00	-133.00	3.28	10.49

168	168.00	400.00	-132.00	3.28	10.65
169	169.00	400.00	-131.00	3.28	10.81
170	170.00	400.00	-130.00	3.28	10.98
171	171.00	400.00	-129.00	3.28	11.15
172	172.00	400.00	-128.00	3.28	11.33
173	173.00	400.00	-127.00	3.28	11.51
174	174.00	400.00	-126.00	3.28	11.69
175	175.00	400.00	-125.00	3.28	11.88
176	176.00	400.00	-124.00	3.28	12.07
177	177.00	400.00	-123.00	3.28	12.27
178	178.00	400.00	-122.00	3.28	12.47
179	179.00	400.00	-121.00	3.28	12.68
180	180.00	400.00	-120.00	3.28	12.89
181	181.00	400.00	-119.00	3.28	13.11
182	182.00	400.00	-118.00	3.28	13.33
183	183.00	400.00	-117.00	3.28	13.56
184	184.00	400.00	-116.00	3.28	13.79
185	185.00	400.00	-115.00	3.28	14.03
186	186.00	400.00	-114.00	3.28	14.28
187	187.00	400.00	-113.00	3.28	14.53
188	188.00	400.00	-112.00	3.28	14.79
189	189.00	400.00	-111.00	3.28	15.06
190	190.00	400.00	-110.00	3.28	15.33
191	191.00	400.00	-109.00	3.28	15.61
192	192.00	400.00	-108.00	3.28	15.90
193	193.00	400.00	-107.00	3.28	16.20
194	194.00	400.00	-106.00	3.28	16.51
195	195.00	400.00	-105.00	3.28	16.82
196	196.00	400.00	-104.00	3.28	17.14
197	197.00	400.00	-103.00	3.28	17.47
198	198.00	400.00	-102.00	3.28	17.81
199	199.00	400.00	-101.00	3.28	18.16
200	200.00	400.00	-100.00	3.28	18.52
201	201.00	400.00	-99.00	3.28	18.90
202	202.00	400.00	-98.00	3.28	19.28
203	203.00	400.00	-97.00	3.28	19.67
204	204.00	400.00	-96.00	3.28	20.08
205	205.00	400.00	-95.00	3.28	20.50
206	206.00	400.00	-94.00	3.28	20.93
207	207.00	400.00	-93.00	3.28	21.37
208	208.00	400.00	-92.00	3.28	21.83
209	209.00	400.00	-91.00	3.28	22.30
210	210.00	400.00	-90.00	3.28	22.79
211	211.00	400.00	-89.00	3.28	23.29
212	212.00	400.00	-88.00	3.28	23.81
213	213.00	400.00	-87.00	3.28	24.34
214	214.00	400.00	-86.00	3.28	24.89
215	215.00	400.00	-85.00	3.28	25.47
216	216.00	400.00	-84.00	3.28	26.05
217	217.00	400.00	-83.00	3.28	26.66
218	218.00	400.00	-82.00	3.28	27.29
219	219.00	400.00	-81.00	3.28	27.94
220	220.00	400.00	-80.00	3.28	28.62
221	221.00	400.00	-79.00	3.28	29.31
222	222.00	400.00	-78.00	3.28	30.03
223	223.00	400.00	-77.00	3.28	30.78
224	224.00	400.00	-76.00	3.28	31.55
225	225.00	400.00	-75.00	3.28	32.35
226	226.00	400.00	-74.00	3.28	33.17
227	227.00	400.00	-73.00	3.28	34.03
228	228.00	400.00	-72.00	3.28	34.91
229	229.00	400.00	-71.00	3.28	35.83
230	230.00	400.00	-70.00	3.28	36.78

231	231.00	400.00	-69.00	3.28	37.76
232	232.00	400.00	-68.00	3.28	38.78
233	233.00	400.00	-67.00	3.28	39.84
234	234.00	400.00	-66.00	3.28	40.93
235	235.00	400.00	-65.00	3.28	42.06
236	236.00	400.00	-64.00	3.28	43.24
237	237.00	400.00	-63.00	3.28	44.46
238	238.00	400.00	-62.00	3.28	45.72
239	239.00	400.00	-61.00	3.28	47.02
240	240.00	400.00	-60.00	3.28	48.37
241	241.00	400.00	-59.00	3.28	49.77
242	242.00	400.00	-58.00	3.28	51.22
243	243.00	400.00	-57.00	3.28	52.71
244	244.00	400.00	-56.00	3.28	54.26
245	245.00	400.00	-55.00	3.28	55.86
246	246.00	400.00	-54.00	3.28	57.51
247	247.00	400.00	-53.00	3.28	59.21
248	248.00	400.00	-52.00	3.28	60.96
249	249.00	400.00	-51.00	3.28	62.77
250	250.00	400.00	-50.00	3.28	64.63
251	251.00	400.00	-49.00	3.28	66.54
252	252.00	400.00	-48.00	3.28	68.49
253	253.00	400.00	-47.00	3.28	70.50
254	254.00	400.00	-46.00	3.28	72.55
255	255.00	400.00	-45.00	3.28	74.64
256	256.00	400.00	-44.00	3.28	76.77
257	257.00	400.00	-43.00	3.28	78.93
258	258.00	400.00	-42.00	3.28	81.12
259	259.00	400.00	-41.00	3.28	83.33
260	260.00	400.00	-40.00	3.28	85.57
261	261.00	400.00	-39.00	3.28	87.81
262	262.00	400.00	-38.00	3.28	90.05
263	263.00	400.00	-37.00	3.28	92.29
264	264.00	400.00	-36.00	3.28	94.51
265	265.00	400.00	-35.00	3.28	96.71
266	266.00	400.00	-34.00	3.28	98.88
267	267.00	400.00	-33.00	3.28	101.01
268	268.00	400.00	-32.00	3.28	103.09
269	269.00	400.00	-31.00	3.28	105.12
270	270.00	400.00	-30.00	3.28	107.08
271	271.00	400.00	-29.00	3.28	108.97
272	272.00	400.00	-28.00	3.28	110.78
273	273.00	400.00	-27.00	3.28	112.51
274	274.00	400.00	-26.00	3.28	114.16
275	275.00	400.00	-25.00	3.28	115.72
276	276.00	400.00	-24.00	3.28	117.19
277	277.00	400.00	-23.00	3.28	118.57
278	278.00	400.00	-22.00	3.28	119.86
279	279.00	400.00	-21.00	3.28	121.06
280	280.00	400.00	-20.00	3.28	122.18
281	281.00	400.00	-19.00	3.28	123.21
282	282.00	400.00	-18.00	3.28	124.16
283	283.00	400.00	-17.00	3.28	125.04
284	284.00	400.00	-16.00	3.28	125.85
285	285.00	400.00	-15.00	3.28	126.59
286	286.00	400.00	-14.00	3.28	127.26
287	287.00	400.00	-13.00	3.28	127.88
288	288.00	400.00	-12.00	3.28	128.44
289	289.00	400.00	-11.00	3.28	128.94
290	290.00	400.00	-10.00	3.28	129.40
291	291.00	400.00	-9.00	3.28	129.81
292	292.00	400.00	-8.00	3.28	130.17
293	293.00	400.00	-7.00	3.28	130.49

294	294.00	400.00	-6.00	3.28	130.77
295	295.00	400.00	-5.00	3.28	131.00
296	296.00	400.00	-4.00	3.28	131.19
297	297.00	400.00	-3.00	3.28	131.34
298	298.00	400.00	-2.00	3.28	131.46
299	299.00	400.00	-1.00	3.28	131.53
300	300.00	400.00	0.00	3.28	131.56
301	301.00	400.00	1.00	3.28	131.54
302	302.00	400.00	2.00	3.28	131.49
303	303.00	400.00	3.00	3.28	131.40
304	304.00	400.00	4.00	3.28	131.27
305	305.00	400.00	5.00	3.28	131.09
306	306.00	400.00	6.00	3.28	130.88
307	307.00	400.00	7.00	3.28	130.62
308	308.00	400.00	8.00	3.28	130.32
309	309.00	400.00	9.00	3.28	129.97
310	310.00	400.00	10.00	3.28	129.58
311	311.00	400.00	11.00	3.28	129.14
312	312.00	400.00	12.00	3.28	128.65
313	313.00	400.00	13.00	3.28	128.10
314	314.00	400.00	14.00	3.28	127.50
315	315.00	400.00	15.00	3.28	126.84
316	316.00	400.00	16.00	3.28	126.12
317	317.00	400.00	17.00	3.28	125.32
318	318.00	400.00	18.00	3.28	124.46
319	319.00	400.00	19.00	3.28	123.52
320	320.00	400.00	20.00	3.28	122.49
321	321.00	400.00	21.00	3.28	121.39
322	322.00	400.00	22.00	3.28	120.20
323	323.00	400.00	23.00	3.28	118.92
324	324.00	400.00	24.00	3.28	117.55
325	325.00	400.00	25.00	3.28	116.08
326	326.00	400.00	26.00	3.28	114.53
327	327.00	400.00	27.00	3.28	112.89
328	328.00	400.00	28.00	3.28	111.17
329	329.00	400.00	29.00	3.28	109.36
330	330.00	400.00	30.00	3.28	107.47
331	331.00	400.00	31.00	3.28	105.52
332	332.00	400.00	32.00	3.28	103.50
333	333.00	400.00	33.00	3.28	101.42
334	334.00	400.00	34.00	3.28	99.29
335	335.00	400.00	35.00	3.28	97.12
336	336.00	400.00	36.00	3.28	94.92
337	337.00	400.00	37.00	3.28	92.70
338	338.00	400.00	38.00	3.28	90.46
339	339.00	400.00	39.00	3.28	88.22
340	340.00	400.00	40.00	3.28	85.98
341	341.00	400.00	41.00	3.28	83.75
342	342.00	400.00	42.00	3.28	81.53
343	343.00	400.00	43.00	3.28	79.34
344	344.00	400.00	44.00	3.28	77.18
345	345.00	400.00	45.00	3.28	75.05
346	346.00	400.00	46.00	3.28	72.95
347	347.00	400.00	47.00	3.28	70.90
348	348.00	400.00	48.00	3.28	68.89
349	349.00	400.00	49.00	3.28	66.93
350	350.00	400.00	50.00	3.28	65.02
351	351.00	400.00	51.00	3.28	63.16
352	352.00	400.00	52.00	3.28	61.35
353	353.00	400.00	53.00	3.28	59.60
354	354.00	400.00	54.00	3.28	57.89
355	355.00	400.00	55.00	3.28	56.24
356	356.00	400.00	56.00	3.28	54.64

357	357.00	400.00	57.00	3.28	53.09
358	358.00	400.00	58.00	3.28	51.59
359	359.00	400.00	59.00	3.28	50.14
360	360.00	400.00	60.00	3.28	48.73
361	361.00	400.00	61.00	3.28	47.38
362	362.00	400.00	62.00	3.28	46.07
363	363.00	400.00	63.00	3.28	44.81
364	364.00	400.00	64.00	3.28	43.59
365	365.00	400.00	65.00	3.28	42.41
366	366.00	400.00	66.00	3.28	41.27
367	367.00	400.00	67.00	3.28	40.18
368	368.00	400.00	68.00	3.28	39.12
369	369.00	400.00	69.00	3.28	38.09
370	370.00	400.00	70.00	3.28	37.11
371	371.00	400.00	71.00	3.28	36.15
372	372.00	400.00	72.00	3.28	35.23
373	373.00	400.00	73.00	3.28	34.35
374	374.00	400.00	74.00	3.28	33.49
375	375.00	400.00	75.00	3.28	32.66
376	376.00	400.00	76.00	3.28	31.86
377	377.00	400.00	77.00	3.28	31.08
378	378.00	400.00	78.00	3.28	30.34
379	379.00	400.00	79.00	3.28	29.61
380	380.00	400.00	80.00	3.28	28.92
381	381.00	400.00	81.00	3.28	28.24
382	382.00	400.00	82.00	3.28	27.59
383	383.00	400.00	83.00	3.28	26.95
384	384.00	400.00	84.00	3.28	26.34
385	385.00	400.00	85.00	3.28	25.75
386	386.00	400.00	86.00	3.28	25.18
387	387.00	400.00	87.00	3.28	24.62
388	388.00	400.00	88.00	3.28	24.09
389	389.00	400.00	89.00	3.28	23.56
390	390.00	400.00	90.00	3.28	23.06
391	391.00	400.00	91.00	3.28	22.57
392	392.00	400.00	92.00	3.28	22.10
393	393.00	400.00	93.00	3.28	21.64
394	394.00	400.00	94.00	3.28	21.19
395	395.00	400.00	95.00	3.28	20.76
396	396.00	400.00	96.00	3.28	20.34
397	397.00	400.00	97.00	3.28	19.93
398	398.00	400.00	98.00	3.28	19.53
399	399.00	400.00	99.00	3.28	19.15
400	400.00	400.00	100.00	3.28	18.77
401	401.00	400.00	101.00	3.28	18.41
402	402.00	400.00	102.00	3.28	18.06
403	403.00	400.00	103.00	3.28	17.72
404	404.00	400.00	104.00	3.28	17.38
405	405.00	400.00	105.00	3.28	17.06
406	406.00	400.00	106.00	3.28	16.74
407	407.00	400.00	107.00	3.28	16.44
408	408.00	400.00	108.00	3.28	16.14
409	409.00	400.00	109.00	3.28	15.85
410	410.00	400.00	110.00	3.28	15.56
411	411.00	400.00	111.00	3.28	15.29
412	412.00	400.00	112.00	3.28	15.02
413	413.00	400.00	113.00	3.28	14.76
414	414.00	400.00	114.00	3.28	14.50
415	415.00	400.00	115.00	3.28	14.26
416	416.00	400.00	116.00	3.28	14.01
417	417.00	400.00	117.00	3.28	13.78
418	418.00	400.00	118.00	3.28	13.55
419	419.00	400.00	119.00	3.28	13.32

420	420.00	400.00	120.00	3.28	13.10
421	421.00	400.00	121.00	3.28	12.89
422	422.00	400.00	122.00	3.28	12.68
423	423.00	400.00	123.00	3.28	12.48
424	424.00	400.00	124.00	3.28	12.28
425	425.00	400.00	125.00	3.28	12.09
426	426.00	400.00	126.00	3.28	11.90
427	427.00	400.00	127.00	3.28	11.71
428	428.00	400.00	128.00	3.28	11.53
429	429.00	400.00	129.00	3.28	11.35
430	430.00	400.00	130.00	3.28	11.18
431	431.00	400.00	131.00	3.28	11.01
432	432.00	400.00	132.00	3.28	10.85
433	433.00	400.00	133.00	3.28	10.69
434	434.00	400.00	134.00	3.28	10.53
435	435.00	400.00	135.00	3.28	10.37
436	436.00	400.00	136.00	3.28	10.22
437	437.00	400.00	137.00	3.28	10.07
438	438.00	400.00	138.00	3.28	9.93
439	439.00	400.00	139.00	3.28	9.79
440	440.00	400.00	140.00	3.28	9.65
441	441.00	400.00	141.00	3.28	9.51
442	442.00	400.00	142.00	3.28	9.38
443	443.00	400.00	143.00	3.28	9.25
444	444.00	400.00	144.00	3.28	9.12
445	445.00	400.00	145.00	3.28	9.00
446	446.00	400.00	146.00	3.28	8.88
447	447.00	400.00	147.00	3.28	8.76
448	448.00	400.00	148.00	3.28	8.64
449	449.00	400.00	149.00	3.28	8.53
450	450.00	400.00	150.00	3.28	8.41
451	451.00	400.00	151.00	3.28	8.30
452	452.00	400.00	152.00	3.28	8.19
453	453.00	400.00	153.00	3.28	8.09
454	454.00	400.00	154.00	3.28	7.98
455	455.00	400.00	155.00	3.28	7.88
456	456.00	400.00	156.00	3.28	7.78
457	457.00	400.00	157.00	3.28	7.68
458	458.00	400.00	158.00	3.28	7.59
459	459.00	400.00	159.00	3.28	7.49
460	460.00	400.00	160.00	3.28	7.40
461	461.00	400.00	161.00	3.28	7.31
462	462.00	400.00	162.00	3.28	7.22
463	463.00	400.00	163.00	3.28	7.13
464	464.00	400.00	164.00	3.28	7.04
465	465.00	400.00	165.00	3.28	6.96
466	466.00	400.00	166.00	3.28	6.88
467	467.00	400.00	167.00	3.28	6.80
468	468.00	400.00	168.00	3.28	6.72
469	469.00	400.00	169.00	3.28	6.64
470	470.00	400.00	170.00	3.28	6.56
471	471.00	400.00	171.00	3.28	6.48
472	472.00	400.00	172.00	3.28	6.41
473	473.00	400.00	173.00	3.28	6.33
474	474.00	400.00	174.00	3.28	6.26
475	475.00	400.00	175.00	3.28	6.19
476	476.00	400.00	176.00	3.28	6.12
477	477.00	400.00	177.00	3.28	6.05
478	478.00	400.00	178.00	3.28	5.99
479	479.00	400.00	179.00	3.28	5.92
480	480.00	400.00	180.00	3.28	5.85
481	481.00	400.00	181.00	3.28	5.79
482	482.00	400.00	182.00	3.28	5.73

483	483.00	400.00	183.00	3.28	5.66
484	484.00	400.00	184.00	3.28	5.60
485	485.00	400.00	185.00	3.28	5.54
486	486.00	400.00	186.00	3.28	5.48
487	487.00	400.00	187.00	3.28	5.43
488	488.00	400.00	188.00	3.28	5.37
489	489.00	400.00	189.00	3.28	5.31
490	490.00	400.00	190.00	3.28	5.26
491	491.00	400.00	191.00	3.28	5.20
492	492.00	400.00	192.00	3.28	5.15
493	493.00	400.00	193.00	3.28	5.10
494	494.00	400.00	194.00	3.28	5.04
495	495.00	400.00	195.00	3.28	4.99
496	496.00	400.00	196.00	3.28	4.94
497	497.00	400.00	197.00	3.28	4.89
498	498.00	400.00	198.00	3.28	4.84
499	499.00	400.00	199.00	3.28	4.80
500	500.00	400.00	200.00	3.28	4.75
501	501.00	400.00	201.00	3.28	4.70
502	502.00	400.00	202.00	3.28	4.65
503	503.00	400.00	203.00	3.28	4.61
504	504.00	400.00	204.00	3.28	4.56
505	505.00	400.00	205.00	3.28	4.52
506	506.00	400.00	206.00	3.28	4.48
507	507.00	400.00	207.00	3.28	4.43
508	508.00	400.00	208.00	3.28	4.39
509	509.00	400.00	209.00	3.28	4.35
510	510.00	400.00	210.00	3.28	4.31
511	511.00	400.00	211.00	3.28	4.27
512	512.00	400.00	212.00	3.28	4.23
513	513.00	400.00	213.00	3.28	4.19
514	514.00	400.00	214.00	3.28	4.15
515	515.00	400.00	215.00	3.28	4.11
516	516.00	400.00	216.00	3.28	4.07
517	517.00	400.00	217.00	3.28	4.04
518	518.00	400.00	218.00	3.28	4.00
519	519.00	400.00	219.00	3.28	3.96
520	520.00	400.00	220.00	3.28	3.93
521	521.00	400.00	221.00	3.28	3.89
522	522.00	400.00	222.00	3.28	3.86
523	523.00	400.00	223.00	3.28	3.82
524	524.00	400.00	224.00	3.28	3.79
525	525.00	400.00	225.00	3.28	3.76
526	526.00	400.00	226.00	3.28	3.72
527	527.00	400.00	227.00	3.28	3.69
528	528.00	400.00	228.00	3.28	3.66
529	529.00	400.00	229.00	3.28	3.63
530	530.00	400.00	230.00	3.28	3.60
531	531.00	400.00	231.00	3.28	3.57
532	532.00	400.00	232.00	3.28	3.54
533	533.00	400.00	233.00	3.28	3.51
534	534.00	400.00	234.00	3.28	3.48
535	535.00	400.00	235.00	3.28	3.45
536	536.00	400.00	236.00	3.28	3.42
537	537.00	400.00	237.00	3.28	3.39
538	538.00	400.00	238.00	3.28	3.36
539	539.00	400.00	239.00	3.28	3.33
540	540.00	400.00	240.00	3.28	3.31
541	541.00	400.00	241.00	3.28	3.28
542	542.00	400.00	242.00	3.28	3.25
543	543.00	400.00	243.00	3.28	3.22
544	544.00	400.00	244.00	3.28	3.20
545	545.00	400.00	245.00	3.28	3.17

546	546.00	400.00	246.00	3.28	3.15
547	547.00	400.00	247.00	3.28	3.12
548	548.00	400.00	248.00	3.28	3.10
549	549.00	400.00	249.00	3.28	3.07
550	550.00	400.00	250.00	3.28	3.05
551	551.00	400.00	251.00	3.28	3.02
552	552.00	400.00	252.00	3.28	3.00
553	553.00	400.00	253.00	3.28	2.98
554	554.00	400.00	254.00	3.28	2.95
555	555.00	400.00	255.00	3.28	2.93
556	556.00	400.00	256.00	3.28	2.91
557	557.00	400.00	257.00	3.28	2.89
558	558.00	400.00	258.00	3.28	2.86
559	559.00	400.00	259.00	3.28	2.84
560	560.00	400.00	260.00	3.28	2.82
561	561.00	400.00	261.00	3.28	2.80
562	562.00	400.00	262.00	3.28	2.78
563	563.00	400.00	263.00	3.28	2.76
564	564.00	400.00	264.00	3.28	2.74
565	565.00	400.00	265.00	3.28	2.72
566	566.00	400.00	266.00	3.28	2.70
567	567.00	400.00	267.00	3.28	2.68
568	568.00	400.00	268.00	3.28	2.66
569	569.00	400.00	269.00	3.28	2.64
570	570.00	400.00	270.00	3.28	2.62
571	571.00	400.00	271.00	3.28	2.60
572	572.00	400.00	272.00	3.28	2.58
573	573.00	400.00	273.00	3.28	2.56
574	574.00	400.00	274.00	3.28	2.54
575	575.00	400.00	275.00	3.28	2.52
576	576.00	400.00	276.00	3.28	2.51
577	577.00	400.00	277.00	3.28	2.49
578	578.00	400.00	278.00	3.28	2.47
579	579.00	400.00	279.00	3.28	2.45
580	580.00	400.00	280.00	3.28	2.43
581	581.00	400.00	281.00	3.28	2.42
582	582.00	400.00	282.00	3.28	2.40
583	583.00	400.00	283.00	3.28	2.38
584	584.00	400.00	284.00	3.28	2.37
585	585.00	400.00	285.00	3.28	2.35
586	586.00	400.00	286.00	3.28	2.33
587	587.00	400.00	287.00	3.28	2.32
588	588.00	400.00	288.00	3.28	2.30
589	589.00	400.00	289.00	3.28	2.29
590	590.00	400.00	290.00	3.28	2.27
591	591.00	400.00	291.00	3.28	2.26
592	592.00	400.00	292.00	3.28	2.24
593	593.00	400.00	293.00	3.28	2.23
594	594.00	400.00	294.00	3.28	2.21
595	595.00	400.00	295.00	3.28	2.20
596	596.00	400.00	296.00	3.28	2.18
597	597.00	400.00	297.00	3.28	2.17
598	598.00	400.00	298.00	3.28	2.15
599	599.00	400.00	299.00	3.28	2.14
600	600.00	400.00	300.00	3.28	2.12

RESULTS OF ENVIRO PROGRAM

STUDY FILE NAME: C:\PROGRA~1\EPRI\EMFW_251\ENVIRO\CLEANL~1\500SLATT.I01
 DATE: 3/ 5/2014 TIME: 17:45

500 kV Single Lattice (XS-9)

```
*****
*                                     BUNDLE INFORMATION                                     *
*****
| BNDL | CIRC | VOLTAGE | ANGLE | LOAD | CURRENT | # | COORDINATES | PHASE |
| #    | #    | (kV)   | (DEG) | (AMPS) | (DEG) | OF | X | Y |
|      |      |        |        |        |        | COND | (FT) | (FT) |
*****
| 1    | 1    | 550.0  | .0    | 346.4 | .0    | 3 | -28.5 | 54.7 | A
| 2    | 1    | 550.0  | 240.0 | 346.4 | 240.0 | 3 | .0    | 54.7 | B
| 3    | 1    | 550.0  | 120.0 | 346.4 | 120.0 | 3 | 28.5  | 54.7 | C
| 4    | 1    | .0      | .0    | .0     | .0    | 1 | -22.5 | 91.1 | GND
| 5    | 2    | .0      | .0    | .0     | .0    | 1 | 22.5  | 91.1 | GND
*****
*                                     MINIMUM GROUND CLEARANCE = 54.660 FT.                                     *
*****
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*****
*                                     SUBCONDUCTOR INFORMATION - REGULAR BUNDLES                                     *
*****
| BNDL | DIAMETER | SPACING | DC RESIST. | AC RESIST. | AC REACT. |
| #    | (IN)     | (IN)    | (OHMS/MI) | (OHMS/MI) | (OHMS/MI) |
*****
| 1    | 1.293    | 18.000  | .08300    | .08510    | .380000    |
| 2    | 1.293    | 18.000  | .08300    | .08510    | .380000    |
| 3    | 1.293    | 18.000  | .08300    | .08510    | .380000    |
| 4    | .776     | .000    | .19270    | .19400    | .432000    |
| 5    | .776     | .000    | .19270    | .19400    | .432000    |
*****
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*****
*
* MAXIMUM SURFACE GRADIENT (kV/cm) *
*
*****
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BNDL #	Type	ACrms	PEAK(+)	PEAK(-)
1	AC	16.93	23.95	-23.95
2	AC	18.54	26.22	-26.22
3	AC	16.93	23.95	-23.95
4	Ground Wire	3.98	5.62	-5.62
5	Ground Wire	3.98	5.62	-5.62

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*****
*
*           AUDIBLE NOISE
*
* Microphone is 5.00 feet above ground
*           Altitude 3000. ft
*
*****

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<----- HVTRC CALCULATION METHOD ----->

LATERAL DISTANCE		L50 FAIR	L5 RAIN	L50 RAIN	Leq(24)	Ldn
(feet)	(meters)	(dB(A))	(dB(A))	(dB(A))	(dB(A))	(dB(A))
-300.0	-91.44	36.2	50.6	47.3	44.3	51.1
-275.0	-83.82	36.7	51.1	47.9	44.8	51.6
-250.0	-76.20	37.3	51.7	48.4	45.3	52.2
-225.0	-68.58	37.9	52.3	49.0	45.9	52.7
-200.0	-60.96	38.5	52.9	49.6	46.6	53.4
-175.0	-53.34	39.2	53.6	50.3	47.3	54.1
-150.0	-45.72	40.0	54.4	51.1	48.0	54.9
-125.0	-38.10	40.8	55.2	52.0	48.9	55.7
-100.0	-30.48	41.8	56.2	52.9	49.9	56.7
-75.0	-22.86	42.9	57.3	54.0	51.0	57.8
-50.0	-15.24	44.0	58.4	55.1	52.1	58.9
-25.0	-7.62	45.0	59.3	56.1	53.0	59.8
.0	.00	45.4	59.7	56.5	53.4	60.2
25.0	7.62	45.0	59.3	56.1	53.0	59.8
50.0	15.24	44.0	58.4	55.1	52.1	58.9
75.0	22.86	42.9	57.3	54.0	51.0	57.8
100.0	30.48	41.8	56.2	52.9	49.9	56.7
125.0	38.10	40.8	55.2	52.0	48.9	55.7
150.0	45.72	40.0	54.4	51.1	48.0	54.9
175.0	53.34	39.2	53.6	50.3	47.3	54.1
200.0	60.96	38.5	52.9	49.6	46.6	53.4
225.0	68.58	37.9	52.3	49.0	45.9	52.7
250.0	76.20	37.3	51.7	48.4	45.3	52.2
275.0	83.82	36.7	51.1	47.9	44.8	51.6
300.0	91.44	36.2	50.6	47.3	44.3	51.1

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*****
*
*   AUDIBLE NOISE   *
*   (other methods) *
*
* Altitude    3000. ft *
*
*****

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LATERAL DISTANCE (feet) (meters)		<----- BPA METHOD ----->				<- CRIEPI -->		EdF	ENEL	IREQ
		FAIR WEATHER	L5 RAIN	L50 RAIN	Ldn	AVERAGE FAIR	L5 RAIN	L5 RAIN	L5 RAIN	L5 RAIN
		dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
-300.0	-91.44	23.1	51.6	48.1	.0	.0	.0	.0	.0	.0
-275.0	-83.82	23.5	52.0	48.5	.0	.0	.0	.0	.0	.0
-250.0	-76.20	23.9	52.4	48.9	.0	.0	.0	.0	.0	.0
-225.0	-68.58	24.4	52.9	49.4	.0	.0	.0	.0	.0	.0
-200.0	-60.96	25.0	53.5	50.0	.0	.0	.0	.0	.0	.0
-175.0	-53.34	25.6	54.1	50.6	.0	.0	.0	.0	.0	.0
-150.0	-45.72	26.3	54.8	51.3	.0	.0	.0	.0	.0	.0
-125.0	-38.10	27.2	55.7	52.2	.0	.0	.0	.0	.0	.0
-100.0	-30.48	28.1	56.6	53.1	.0	.0	.0	.0	.0	.0
-75.0	-22.86	29.2	57.7	54.2	.0	.0	.0	.0	.0	.0
-50.0	-15.24	30.4	58.9	55.4	.0	.0	.0	.0	.0	.0
-25.0	-7.62	31.3	59.8	56.3	.0	.0	.0	.0	.0	.0
.0	.00	31.7	60.2	56.7	.0	.0	.0	.0	.0	.0
25.0	7.62	31.3	59.8	56.3	.0	.0	.0	.0	.0	.0
50.0	15.24	30.4	58.9	55.4	.0	.0	.0	.0	.0	.0
75.0	22.86	29.2	57.7	54.2	.0	.0	.0	.0	.0	.0
100.0	30.48	28.1	56.6	53.1	.0	.0	.0	.0	.0	.0
125.0	38.10	27.2	55.7	52.2	.0	.0	.0	.0	.0	.0
150.0	45.72	26.3	54.8	51.3	.0	.0	.0	.0	.0	.0
175.0	53.34	25.6	54.1	50.6	.0	.0	.0	.0	.0	.0
200.0	60.96	25.0	53.5	50.0	.0	.0	.0	.0	.0	.0
225.0	68.58	24.4	52.9	49.4	.0	.0	.0	.0	.0	.0
250.0	76.20	23.9	52.4	48.9	.0	.0	.0	.0	.0	.0
275.0	83.82	23.5	52.0	48.5	.0	.0	.0	.0	.0	.0
300.0	91.44	23.1	51.6	48.1	.0	.0	.0	.0	.0	.0

Audible noise prediction methods do not apply to all line geometries, voltages, or weather conditions. If a prediction method does not apply, the appropriate output data column will be zeros.

Clean Line - Plains & Eastern
 Config. XS-9: Radio Noise, TVI, and Ozone

Ground Clearance: 32.00 ft

	DIST. FROM CENTER OF TOWER (FEET)	COND. HEIGHT (FEET)	MAXIMUM GRADIENT (KV/CM)	SUBCON. DIAM. (IN)	NO. OF SUBCON.	SUBCON SPACING (IN)	VOLTAGE L-N (KV)	CURRENT (AMPS)	PHASE ANGLE (DEGREES)	CORONA LOSSES (KW/MI)
Phase A	-28.50	32.00	17.37	1.29	3.	18.00	317.54	346.40	.00	40.763
Phase B	.00	32.00	18.64	1.29	3.	18.00	317.54	346.40	120.00	64.474
Phase C	28.50	32.00	17.37	1.29	3.	18.00	317.54	346.40	240.00	40.763
SW-1	-22.55	68.45	3.66	.77	1.	.00	.00	.00	.00	.000
SW-2	22.55	68.45	3.66	.77	1.	.00	.00	.00	.00	.000

AN MICROPHONE HT.= 4.9 FT. RI ANT. HT.= 6.6 FT, TV ANT. HT.= 9.8 FT, ALTITUDE= 3000. FT
 RI FREQ= 1.000 MHZ, TV FREQ= 75.000 MHZ, WIND VEL.(OZ) = 8.500 MPH, GROUND CONDUCTIVITY = .0 MMHOS/M
 E-FIELD TRANSDUCER HT.= 3.28 FT, B-FIELD TRANSDUCER HT.= 3.28 FT

LATERAL DIST FROM REFERENCE (FEET)	ELECTRIC FIELD KV/M	MAGNETIC FIELD MILLIGAUSS	AUDIBLE NOISE (RAIN) (FAIR)		RADIO INTERFERENCE (RAIN) (FAIR)		TVI TOTAL RAIN DBUV/M	OZONE FOR RAIN RATE OF .10 IN/HR AT GND. PPB
			L50 DBA	L50 DBA	L50 DBUV/M	L50 DBUV/M		
-300.0	.054	1.25	48.8	23.8	41.3	24.3	17.4	.000000
-298.0	.055	1.26	48.9	23.9	41.4	24.4	17.6	.000000
-296.0	.057	1.28	48.9	23.9	41.5	24.5	17.7	.000000
-294.0	.058	1.30	48.9	23.9	41.6	24.6	17.8	.000000
-292.0	.059	1.32	49.0	24.0	41.7	24.7	17.9	.000000
-290.0	.060	1.34	49.0	24.0	41.8	24.8	18.0	.000000
-288.0	.061	1.35	49.0	24.0	42.0	25.0	18.2	.000000
-286.0	.063	1.37	49.1	24.1	42.1	25.1	18.2	.000000
-284.0	.064	1.39	49.1	24.1	42.2	25.2	18.3	.000000
-282.0	.065	1.41	49.1	24.1	42.3	25.3	18.4	.000000
-280.0	.067	1.43	49.2	24.2	42.4	25.4	18.4	.000000
-278.0	.068	1.45	49.2	24.2	42.6	25.6	18.5	.000000
-276.0	.069	1.47	49.2	24.2	42.7	25.7	18.5	.000000
-274.0	.071	1.50	49.3	24.3	42.8	25.8	18.6	.000000
-272.0	.072	1.52	49.3	24.3	42.9	25.9	18.7	.000000
-270.0	.074	1.54	49.3	24.3	43.1	26.1	18.7	.000000
-268.0	.076	1.56	49.4	24.4	43.2	26.2	18.8	.000000
-266.0	.077	1.59	49.4	24.4	43.3	26.3	18.9	.000000
-264.0	.079	1.61	49.5	24.5	43.4	26.4	18.9	.000000
-262.0	.081	1.64	49.5	24.5	43.6	26.6	19.0	.000000
-260.0	.083	1.66	49.5	24.5	43.7	26.7	19.1	.000000
-258.0	.085	1.69	49.6	24.6	43.8	26.8	19.1	.000000
-256.0	.087	1.71	49.6	24.6	44.0	27.0	19.2	.000000
-254.0	.089	1.74	49.7	24.7	44.1	27.1	19.3	.000000
-252.0	.091	1.77	49.7	24.7	44.2	27.2	19.3	.000000
-250.0	.093	1.80	49.7	24.7	44.4	27.4	19.4	.000000
-248.0	.095	1.83	49.8	24.8	44.5	27.5	19.5	.000000
-246.0	.097	1.86	49.8	24.8	44.7	27.7	19.5	.000000
-244.0	.100	1.89	49.9	24.9	44.8	27.8	19.6	.000000
-242.0	.102	1.92	49.9	24.9	44.9	27.9	19.7	.000000
-240.0	.105	1.95	49.9	24.9	45.1	28.1	19.8	.000000
-238.0	.107	1.98	50.0	25.0	45.2	28.2	19.8	.000000
-236.0	.110	2.02	50.0	25.0	45.4	28.4	19.9	.000000
-234.0	.113	2.05	50.1	25.1	45.5	28.5	20.0	.000000
-232.0	.116	2.09	50.1	25.1	45.6	28.6	20.0	.000000
-230.0	.119	2.12	50.1	25.1	45.8	28.8	20.1	.000000
-228.0	.122	2.16	50.2	25.2	45.9	28.9	20.2	.000000
-226.0	.125	2.20	50.2	25.2	46.1	29.1	20.3	.000000
-224.0	.128	2.24	50.3	25.3	46.2	29.2	20.3	.000000
-222.0	.132	2.28	50.3	25.3	46.4	29.4	20.4	.000000
-220.0	.135	2.32	50.4	25.4	46.5	29.5	20.5	.000000
-218.0	.139	2.36	50.4	25.4	46.7	29.7	20.6	.000000
-216.0	.143	2.41	50.5	25.5	46.8	29.8	20.7	.000000
-214.0	.147	2.45	50.5	25.5	47.0	30.0	20.7	.000000
-212.0	.151	2.50	50.5	25.5	47.2	30.2	20.8	.000000
-210.0	.156	2.55	50.6	25.6	47.3	30.3	20.9	.000000
-208.0	.160	2.60	50.6	25.6	47.5	30.5	21.0	.000000
-206.0	.165	2.65	50.7	25.7	47.6	30.6	21.1	.000000
-204.0	.169	2.70	50.7	25.7	47.8	30.8	21.2	.000000
-202.0	.175	2.75	50.8	25.8	48.0	31.0	21.2	.000000
-200.0	.180	2.81	50.8	25.8	48.1	31.1	21.3	.000000
-198.0	.185	2.87	50.9	25.9	48.3	31.3	21.4	.000000
-196.0	.191	2.93	50.9	25.9	48.5	31.5	21.5	.000000
-194.0	.197	2.99	51.0	26.0	48.6	31.6	21.6	.000000

-192.0	.203	3.05	51.0	26.0	48.8	31.8	21.7	.000000
-190.0	.209	3.11	51.1	26.1	49.0	32.0	21.8	.000000
-188.0	.216	3.18	51.1	26.1	49.2	32.2	21.9	.000000
-186.0	.223	3.25	51.2	26.2	49.3	32.3	21.9	.000000
-184.0	.230	3.32	51.2	26.2	49.5	32.5	22.0	.000000
-182.0	.238	3.39	51.3	26.3	49.7	32.7	22.1	.000000
-180.0	.246	3.47	51.4	26.4	49.9	32.9	22.2	.000000
-178.0	.254	3.55	51.4	26.4	50.1	33.1	22.3	.000000
-176.0	.263	3.63	51.5	26.5	50.3	33.3	22.4	.000000
-174.0	.272	3.71	51.5	26.5	50.5	33.5	22.5	.000000
-172.0	.282	3.80	51.6	26.6	50.6	33.6	22.6	.000000
-170.0	.292	3.89	51.6	26.6	50.8	33.8	22.7	.000000
-168.0	.302	3.98	51.7	26.7	51.0	34.0	22.8	.000000
-166.0	.313	4.08	51.8	26.8	51.2	34.2	22.9	.000000
-164.0	.325	4.18	51.8	26.8	51.4	34.4	23.0	.000000
-162.0	.337	4.28	51.9	26.9	51.6	34.6	23.1	.000000
-160.0	.349	4.39	51.9	26.9	51.8	34.8	23.2	.000000
-158.0	.363	4.50	52.0	27.0	52.0	35.0	23.3	.000000
-156.0	.377	4.62	52.1	27.1	52.2	35.2	23.4	.000000
-154.0	.392	4.74	52.1	27.1	52.5	35.5	23.6	.000000
-152.0	.407	4.87	52.2	27.2	52.7	35.7	23.7	.000000
-150.0	.424	5.00	52.3	27.3	52.9	35.9	23.8	.000000
-148.0	.441	5.13	52.3	27.3	53.1	36.1	23.9	.000000
-146.0	.459	5.27	52.4	27.4	53.3	36.3	24.0	.000000
-144.0	.478	5.42	52.5	27.5	53.5	36.5	24.1	.000000
-142.0	.499	5.58	52.5	27.5	53.8	36.8	24.2	.000000
-140.0	.520	5.74	52.6	27.6	54.0	37.0	24.4	.000000
-138.0	.543	5.90	52.7	27.7	54.3	37.3	24.5	.000000
-136.0	.567	6.08	52.7	27.7	54.6	37.6	24.6	.000000
-134.0	.593	6.26	52.8	27.8	54.8	37.8	24.7	.000000
-132.0	.620	6.45	52.9	27.9	55.1	38.1	24.9	.000000
-130.0	.648	6.65	53.0	28.0	55.5	38.5	25.0	.000000
-128.0	.679	6.86	53.0	28.0	55.8	38.8	25.1	.000000
-126.0	.711	7.08	53.1	28.1	56.1	39.1	25.3	.000000
-124.0	.746	7.31	53.2	28.2	56.4	39.4	25.4	.000000
-122.0	.782	7.55	53.3	28.3	56.7	39.7	25.5	.000000
-120.0	.821	7.80	53.4	28.4	57.1	40.1	25.7	.000000
-118.0	.863	8.06	53.4	28.4	57.4	40.4	25.8	.000000
-116.0	.908	8.34	53.5	28.5	57.8	40.8	25.9	.000000
-114.0	.955	8.63	53.6	28.6	58.1	41.1	26.1	.000000
-112.0	1.006	8.94	53.7	28.7	58.5	41.5	26.2	.000000
-110.0	1.060	9.27	53.8	28.8	58.8	41.8	26.4	.000000
-108.0	1.119	9.61	53.9	28.9	59.2	42.2	26.5	.000000
-106.0	1.181	9.97	54.0	29.0	59.6	42.6	26.7	.000000
-104.0	1.248	10.35	54.1	29.1	60.0	43.0	26.9	.000000
-102.0	1.320	10.76	54.2	29.2	60.4	43.4	27.0	.000000
-100.0	1.398	11.18	54.3	29.3	60.8	43.8	27.2	.000000
-98.0	1.481	11.64	54.4	29.4	61.2	44.2	27.4	.000000
-96.0	1.571	12.12	54.5	29.5	61.7	44.7	27.5	.000000
-94.0	1.668	12.62	54.6	29.6	62.1	45.1	27.7	.000000
-92.0	1.772	13.16	54.7	29.7	62.6	45.6	27.9	.000000
-90.0	1.885	13.74	54.8	29.8	63.0	46.0	28.1	.000000
-88.0	2.007	14.35	54.9	29.9	63.5	46.5	28.2	.000000
-86.0	2.138	15.00	55.0	30.0	64.0	47.0	28.4	.000000
-84.0	2.281	15.70	55.1	30.1	64.5	47.5	28.6	.000000
-82.0	2.436	16.44	55.2	30.2	65.0	48.0	28.8	.000000
-80.0	2.603	17.23	55.4	30.4	65.5	48.5	29.0	.000000
-78.0	2.784	18.08	55.5	30.5	66.0	49.0	29.2	.000000
-76.0	2.980	18.98	55.6	30.6	66.6	49.6	29.4	.000000
-74.0	3.193	19.95	55.7	30.7	67.1	50.1	29.6	.000000
-72.0	3.424	20.99	55.9	30.9	67.7	50.7	29.9	.000000
-70.0	3.673	22.10	56.0	31.0	68.3	51.3	30.3	.000000
-68.0	3.943	23.29	56.1	31.1	68.9	51.9	30.6	.000000
-66.0	4.233	24.57	56.3	31.3	69.5	52.5	30.9	.000000
-64.0	4.547	25.94	56.4	31.4	70.1	53.1	31.3	.000000
-62.0	4.883	27.41	56.5	31.5	70.8	53.8	31.6	.000000
-60.0	5.242	28.99	56.7	31.7	71.4	54.4	32.0	.000000
-58.0	5.625	30.67	56.8	31.8	72.1	55.1	32.4	.000000
-56.0	6.030	32.46	57.0	32.0	72.7	55.7	32.8	.000000
-54.0	6.456	34.38	57.1	32.1	73.4	56.4	33.1	.000000
-52.0	6.898	36.41	57.3	32.3	74.1	57.1	33.5	.000000
-50.0	7.352	38.56	57.5	32.5	74.8	57.8	33.9	.000000
-48.0	7.811	40.81	57.6	32.6	75.4	58.4	34.3	.000000
-46.0	8.266	43.17	57.8	32.8	76.0	59.0	34.7	.000000
-44.0	8.705	45.61	57.9	32.9	76.7	59.7	35.1	.000000
-42.0	9.116	48.11	58.1	33.1	77.2	60.2	35.4	.000000
-40.0	9.481	50.65	58.2	33.2	77.8	60.8	35.8	.000000
-38.0	9.785	53.18	58.4	33.4	78.3	61.3	36.1	.000000
-36.0	10.009	55.67	58.5	33.5	78.7	61.7	36.3	.000000
-34.0	10.139	58.07	58.7	33.7	79.0	62.0	36.5	.000000
-32.0	10.160	60.34	58.8	33.8	79.2	62.2	36.7	.000000

-30.0	10.065	62.43	58.9	33.9	79.3	62.3	36.8	.000000
-28.0	9.854	64.30	59.0	34.0	79.4	62.4	36.8	.000000
-26.0	9.533	65.92	59.1	34.1	79.3	62.3	36.8	.000000
-24.0	9.118	67.28	59.2	34.2	79.1	62.1	37.1	.000000
-22.0	8.636	68.36	59.3	34.3	78.8	61.8	37.5	.000000
-20.0	8.121	69.17	59.4	34.4	78.9	61.9	37.9	.000000
-18.0	7.615	69.71	59.5	34.5	79.6	62.6	38.3	.000000
-16.0	7.164	70.02	59.6	34.6	80.2	63.2	38.7	.000000
-14.0	6.815	70.11	59.7	34.7	80.8	63.8	39.0	.000000
-12.0	6.599	70.02	59.7	34.7	81.3	64.3	39.4	.000000
-10.0	6.520	69.79	59.8	34.8	81.8	64.8	39.7	.000004
-8.0	6.552	69.47	59.9	34.9	82.2	65.2	40.0	.000026
-6.0	6.647	69.13	59.9	34.9	82.6	65.6	40.2	.000102
-4.0	6.756	68.82	59.9	34.9	82.8	65.8	40.3	.000291
-2.0	6.839	68.60	60.0	35.0	83.0	66.0	40.4	.000668
.0	6.869	68.52	60.0	35.0	83.1	66.1	40.5	.001306
2.0	6.839	68.60	60.0	35.0	83.0	66.0	40.4	.002256
4.0	6.756	68.82	59.9	34.9	82.8	65.8	40.3	.003544
6.0	6.647	69.13	59.9	34.9	82.6	65.6	40.2	.005164
8.0	6.552	69.47	59.9	34.9	82.2	65.2	40.0	.007090
10.0	6.520	69.79	59.8	34.8	81.8	64.8	39.7	.009278
12.0	6.599	70.02	59.7	34.7	81.3	64.3	39.4	.011675
14.0	6.815	70.11	59.7	34.7	80.8	63.8	39.0	.014223
16.0	7.164	70.02	59.6	34.6	80.2	63.2	38.7	.016869
18.0	7.615	69.71	59.5	34.5	79.6	62.6	38.3	.019568
20.0	8.121	69.17	59.4	34.4	78.9	61.9	37.9	.022294
22.0	8.636	68.36	59.3	34.3	78.8	61.8	37.5	.025064
24.0	9.118	67.28	59.2	34.2	79.1	62.1	37.1	.027948
26.0	9.533	65.92	59.1	34.1	79.3	62.3	36.8	.031055
28.0	9.854	64.30	59.0	34.0	79.4	62.4	36.8	.034502
30.0	10.065	62.43	58.9	33.9	79.3	62.3	36.8	.038384
32.0	10.160	60.34	58.8	33.8	79.2	62.2	36.7	.042750
34.0	10.139	58.07	58.7	33.7	79.0	62.0	36.5	.047600
36.0	10.009	55.67	58.5	33.5	78.7	61.7	36.3	.052893
38.0	9.785	53.18	58.4	33.4	78.3	61.3	36.1	.058553
40.0	9.481	50.65	58.2	33.2	77.8	60.8	35.8	.064490
42.0	9.116	48.11	58.1	33.1	77.2	60.2	35.4	.070604
44.0	8.705	45.61	57.9	32.9	76.7	59.7	35.1	.076800
46.0	8.266	43.17	57.8	32.8	76.0	59.0	34.7	.082990
48.0	7.811	40.81	57.6	32.6	75.4	58.4	34.3	.089104
50.0	7.352	38.56	57.5	32.5	74.8	57.8	33.9	.095103
52.0	6.898	36.41	57.3	32.3	74.1	57.1	33.5	.100982
54.0	6.456	34.38	57.1	32.1	73.4	56.4	33.1	.106772
56.0	6.030	32.46	57.0	32.0	72.7	55.7	32.8	.112519
58.0	5.625	30.67	56.8	31.8	72.1	55.1	32.4	.118267
60.0	5.242	28.99	56.7	31.7	71.4	54.4	32.0	.124045
62.0	4.883	27.41	56.5	31.5	70.8	53.8	31.6	.129857
64.0	4.547	25.94	56.4	31.4	70.1	53.1	31.3	.135686
66.0	4.233	24.57	56.3	31.3	69.5	52.5	30.9	.141501
68.0	3.943	23.29	56.1	31.1	68.9	51.9	30.6	.147257
70.0	3.673	22.10	56.0	31.0	68.3	51.3	30.3	.152911
72.0	3.424	20.99	55.9	30.9	67.7	50.7	29.9	.158418
74.0	3.193	19.95	55.7	30.7	67.1	50.1	29.6	.163736
76.0	2.980	18.98	55.6	30.6	66.6	49.6	29.4	.168833
78.0	2.784	18.08	55.5	30.5	66.0	49.0	29.2	.173682
80.0	2.603	17.23	55.4	30.4	65.5	48.5	29.0	.178262
82.0	2.436	16.44	55.2	30.2	65.0	48.0	28.8	.182561
84.0	2.281	15.70	55.1	30.1	64.5	47.5	28.6	.186571
86.0	2.138	15.00	55.0	30.0	64.0	47.0	28.4	.190290
88.0	2.007	14.35	54.9	29.9	63.5	46.5	28.2	.193720
90.0	1.885	13.74	54.8	29.8	63.0	46.0	28.1	.196865
92.0	1.772	13.16	54.7	29.7	62.6	45.6	27.9	.199734
94.0	1.668	12.62	54.6	29.6	62.1	45.1	27.7	.202335
96.0	1.571	12.12	54.5	29.5	61.7	44.7	27.5	.204681
98.0	1.481	11.64	54.4	29.4	61.2	44.2	27.4	.206783
100.0	1.398	11.18	54.3	29.3	60.8	43.8	27.2	.208652
102.0	1.320	10.76	54.2	29.2	60.4	43.4	27.0	.210303
104.0	1.248	10.35	54.1	29.1	60.0	43.0	26.9	.211748
106.0	1.181	9.97	54.0	29.0	59.6	42.6	26.7	.212999
108.0	1.119	9.61	53.9	28.9	59.2	42.2	26.5	.214069
110.0	1.060	9.27	53.8	28.8	58.8	41.8	26.4	.214969
112.0	1.006	8.94	53.7	28.7	58.5	41.5	26.2	.215712
114.0	.955	8.63	53.6	28.6	58.1	41.1	26.1	.216307
116.0	.908	8.34	53.5	28.5	57.8	40.8	25.9	.216766
118.0	.863	8.06	53.4	28.4	57.4	40.4	25.8	.217099
120.0	.821	7.80	53.4	28.4	57.1	40.1	25.7	.217314
122.0	.782	7.55	53.3	28.3	56.7	39.7	25.5	.217420
124.0	.746	7.31	53.2	28.2	56.4	39.4	25.4	.217426
126.0	.711	7.08	53.1	28.1	56.1	39.1	25.3	.217340
128.0	.679	6.86	53.0	28.0	55.8	38.8	25.1	.217168
130.0	.648	6.65	53.0	28.0	55.5	38.5	25.0	.216917

132.0	.620	6.45	52.9	27.9	55.1	38.1	24.9	.216594
134.0	.593	6.26	52.8	27.8	54.8	37.8	24.7	.216204
136.0	.567	6.08	52.7	27.7	54.6	37.6	24.6	.215754
138.0	.543	5.90	52.7	27.7	54.3	37.3	24.5	.215247
140.0	.520	5.74	52.6	27.6	54.0	37.0	24.4	.214689
142.0	.499	5.58	52.5	27.5	53.8	36.8	24.2	.214084
144.0	.478	5.42	52.5	27.5	53.5	36.5	24.1	.213436
146.0	.459	5.27	52.4	27.4	53.3	36.3	24.0	.212749
148.0	.441	5.13	52.3	27.3	53.1	36.1	23.9	.212027
150.0	.424	5.00	52.3	27.3	52.9	35.9	23.8	.211272
152.0	.407	4.87	52.2	27.2	52.7	35.7	23.7	.210488
154.0	.392	4.74	52.1	27.1	52.5	35.5	23.6	.209678
156.0	.377	4.62	52.1	27.1	52.2	35.2	23.4	.208843
158.0	.363	4.50	52.0	27.0	52.0	35.0	23.3	.207988
160.0	.349	4.39	51.9	26.9	51.8	34.8	23.2	.207113
162.0	.337	4.28	51.9	26.9	51.6	34.6	23.1	.206220
164.0	.325	4.18	51.8	26.8	51.4	34.4	23.0	.205313
166.0	.313	4.08	51.8	26.8	51.2	34.2	22.9	.204392
168.0	.302	3.98	51.7	26.7	51.0	34.0	22.8	.203459
170.0	.292	3.89	51.6	26.6	50.8	33.8	22.7	.202516
172.0	.282	3.80	51.6	26.6	50.6	33.6	22.6	.201564
174.0	.272	3.71	51.5	26.5	50.5	33.5	22.5	.200604
176.0	.263	3.63	51.5	26.5	50.3	33.3	22.4	.199638
178.0	.254	3.55	51.4	26.4	50.1	33.1	22.3	.198667
180.0	.246	3.47	51.4	26.4	49.9	32.9	22.2	.197691
182.0	.238	3.39	51.3	26.3	49.7	32.7	22.1	.196712
184.0	.230	3.32	51.2	26.2	49.5	32.5	22.0	.195731
186.0	.223	3.25	51.2	26.2	49.3	32.3	21.9	.194748
188.0	.216	3.18	51.1	26.1	49.2	32.2	21.9	.193764
190.0	.209	3.11	51.1	26.1	49.0	32.0	21.8	.192779
192.0	.203	3.05	51.0	26.0	48.8	31.8	21.7	.191796
194.0	.197	2.99	51.0	26.0	48.6	31.6	21.6	.190813
196.0	.191	2.93	50.9	25.9	48.5	31.5	21.5	.189832
198.0	.185	2.87	50.9	25.9	48.3	31.3	21.4	.188853
200.0	.180	2.81	50.8	25.8	48.1	31.1	21.3	.187876
202.0	.175	2.75	50.8	25.8	48.0	31.0	21.2	.186903
204.0	.169	2.70	50.7	25.7	47.8	30.8	21.2	.185932
206.0	.165	2.65	50.7	25.7	47.6	30.6	21.1	.184966
208.0	.160	2.60	50.6	25.6	47.5	30.5	21.0	.184003
210.0	.156	2.55	50.6	25.6	47.3	30.3	20.9	.183045
212.0	.151	2.50	50.5	25.5	47.2	30.2	20.8	.182091
214.0	.147	2.45	50.5	25.5	47.0	30.0	20.7	.181142
216.0	.143	2.41	50.5	25.5	46.8	29.8	20.7	.180198
218.0	.139	2.36	50.4	25.4	46.7	29.7	20.6	.179260
220.0	.135	2.32	50.4	25.4	46.5	29.5	20.5	.178326
222.0	.132	2.28	50.3	25.3	46.4	29.4	20.4	.177399
224.0	.128	2.24	50.3	25.3	46.2	29.2	20.3	.176477
226.0	.125	2.20	50.2	25.2	46.1	29.1	20.3	.175561
228.0	.122	2.16	50.2	25.2	45.9	28.9	20.2	.174651
230.0	.119	2.12	50.1	25.1	45.8	28.8	20.1	.173747
232.0	.116	2.09	50.1	25.1	45.6	28.6	20.0	.172849
234.0	.113	2.05	50.1	25.1	45.5	28.5	20.0	.171958
236.0	.110	2.02	50.0	25.0	45.4	28.4	19.9	.171073
238.0	.107	1.98	50.0	25.0	45.2	28.2	19.8	.170194
240.0	.105	1.95	49.9	24.9	45.1	28.1	19.8	.169322
242.0	.102	1.92	49.9	24.9	44.9	27.9	19.7	.168456
244.0	.100	1.89	49.9	24.9	44.8	27.8	19.6	.167597
246.0	.097	1.86	49.8	24.8	44.7	27.7	19.5	.166744
248.0	.095	1.83	49.8	24.8	44.5	27.5	19.5	.165898
250.0	.093	1.80	49.7	24.7	44.4	27.4	19.4	.165058
252.0	.091	1.77	49.7	24.7	44.2	27.2	19.3	.164225
254.0	.089	1.74	49.7	24.7	44.1	27.1	19.3	.163399
256.0	.087	1.71	49.6	24.6	44.0	27.0	19.2	.162579
258.0	.085	1.69	49.6	24.6	43.8	26.8	19.1	.161766
260.0	.083	1.66	49.5	24.5	43.7	26.7	19.1	.160959
262.0	.081	1.64	49.5	24.5	43.6	26.6	19.0	.160159
264.0	.079	1.61	49.5	24.5	43.4	26.4	18.9	.159366
266.0	.077	1.59	49.4	24.4	43.3	26.3	18.9	.158579
268.0	.076	1.56	49.4	24.4	43.2	26.2	18.8	.157798
270.0	.074	1.54	49.3	24.3	43.1	26.1	18.7	.157024
272.0	.072	1.52	49.3	24.3	42.9	25.9	18.7	.156257
274.0	.071	1.50	49.3	24.3	42.8	25.8	18.6	.155496
276.0	.069	1.47	49.2	24.2	42.7	25.7	18.5	.154741
278.0	.068	1.45	49.2	24.2	42.6	25.6	18.5	.153993
280.0	.067	1.43	49.2	24.2	42.4	25.4	18.4	.153250
282.0	.065	1.41	49.1	24.1	42.3	25.3	18.4	.152515
284.0	.064	1.39	49.1	24.1	42.2	25.2	18.3	.151785
286.0	.063	1.37	49.1	24.1	42.1	25.1	18.2	.151061
288.0	.061	1.35	49.0	24.0	42.0	25.0	18.2	.150344
290.0	.060	1.34	49.0	24.0	41.8	24.8	18.0	.149633
292.0	.059	1.32	49.0	24.0	41.7	24.7	17.9	.148928

294.0	.058	1.30	48.9	23.9	41.6	24.6	17.8	.148228
296.0	.057	1.28	48.9	23.9	41.5	24.5	17.7	.147535
298.0	.055	1.26	48.9	23.9	41.4	24.4	17.6	.146847
300.0	.054	1.25	48.8	23.8	41.3	24.3	17.4	.146166

APPENDIX J

ARKANSAS DELTA AGRICULTURAL ECONOMIC IMPACT STUDY



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Arkansas Delta Agricultural Economic Impact Study

For the

PLAINS & EASTERN
CLEAN LINE

August 28, 2014

Prepared for:



Prepared by:

Verdant Solutions, LLC
Clinton, Arkansas



Clean Line Energy
 Plains and Eastern Clean Line
 Arkansas Delta Agricultural Economics Impact Study

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1 INTRODUCTION

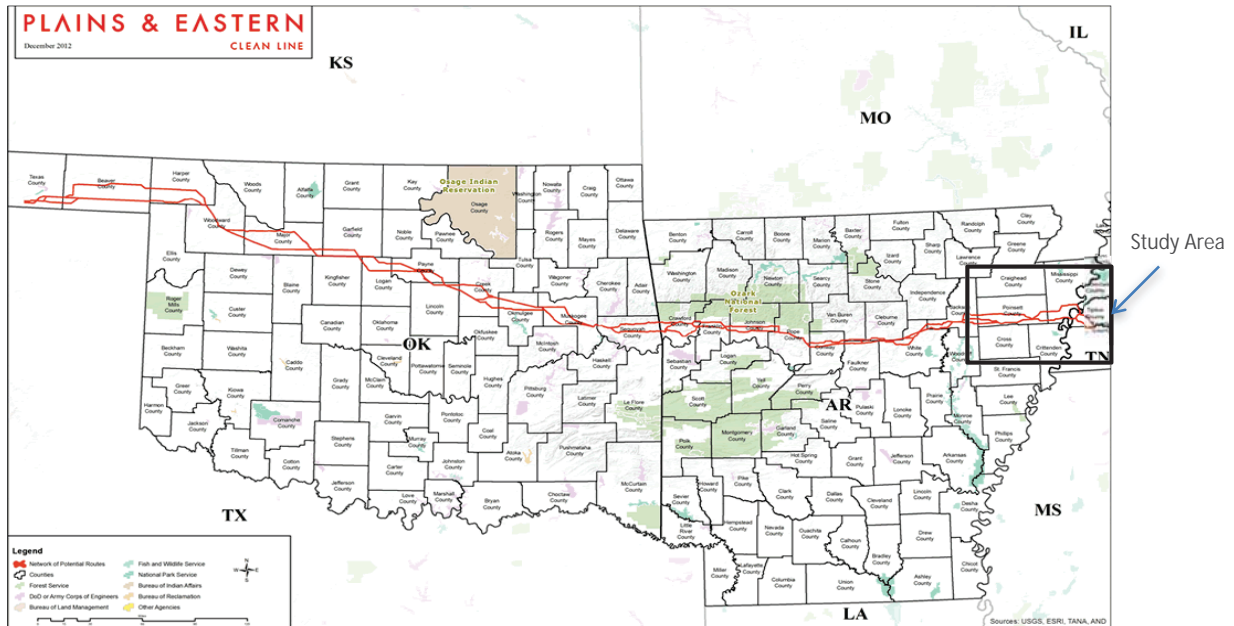
Clean Line Energy Partners LLC of Houston, Texas, (parent company of Plains and Eastern Clean Line LLC and Plains and Eastern Clean Line Oklahoma LLC, which are two entities collectively referred to herein as “Clean Line”) is proposing to construct, own, and operate the Plains & Eastern Clean Line transmission project (the Project). Clean Line is providing this study to the United States Department of Energy (DOE) for their use in preparing the Draft Environmental Impact Statement for the Project. This Agricultural Economic Impact Study contains information intended to inform DOE’s assessment of the Project’s potential economic impacts on agricultural resources in Jackson, Poinsett, Cross, and Mississippi Counties, Arkansas.

To assist DOE in its impacts analysis, this Study has been developed to provide quantitative and qualitative information regarding the Project; the existing environment related to the agricultural economics sector; and potential impacts on the agricultural economics sector that may occur during construction, operation and maintenance, and decommissioning of the Project. The Study also provides information about annual impacts on agricultural production logistics and a comparative discussion of differences in potential effects on the agricultural economics sector between the Applicant Proposed Route (APR) and Alternative Routes under consideration. Clean Line based the quantitative and qualitative discussions in this Study on the Analysis Area as defined in Section 2, “Methodology and Regulatory Considerations.” Clean Line based the quantitative and qualitative information in this Study on the present level of design and information regarding construction, operations and maintenance, and decommissioning procedures for the Project.

This Study relies on the Draft Project Description (dated December 2013), including Environmental Protection Measures (EPMs) developed by Clean Line and other general assumptions. See Appendix 7.4 for details on EPMs. Appendix 7.1 presents the additional mitigation and avoidance measures that comprise the Agricultural Impact Policy.

The Arkansas Delta Agricultural Economics Impact Study examines the proposed transmission line routes in Jackson, Poinsett, Cross, and Mississippi Counties, Arkansas. Common concerns voiced during interviews with landowners included how the proposed transmission line would impact crop production, especially rice. Changes in the cost and feasibility of farm management measures, such as irrigation of fields and aerial application of fertilizer and herbicides were also concerns. The information provided in this Study is used to estimate the potential economic impacts to farms and farmland in the Study Area identified in Figure 1-1. More detailed maps of the Study Area are provided in Appendix 7.5.

Figure 1-1 Study Area Location



The report is organized as follows:

- Section 2, "Methodology and Regulatory Considerations," provides the methodology used to prepare this Study and an overview of the regulations relevant to agricultural resources.
- Section 3, "Existing Environment," describes the existing environment of agricultural resources in the Study Area.
- Section 4, "Potential Impacts, Avoidance, and Mitigation" describes the location of the Applicant Proposed Route (APR) and Alternative Routes in the Study Area and the nature and scope of project construction, maintenance, and decommissioning. In addition this section discusses potential impacts of the construction, operations and maintenance, and decommissioning of the Project on the economic aspects of agricultural resources. This discussion of impacts takes into account both the Draft Project Description and identified EPMs.
- Section 5, "Comparison of Alternatives," provides a comparison of the estimated impacts of the Project.
- Section 6, "References," provides a list of the references used in the preparation of this Study.
- Section 7 "Appendices" includes information supporting the Agricultural Economics Impact Study.

2 METHODOLOGY AND REGULATORY CONSIDERATIONS

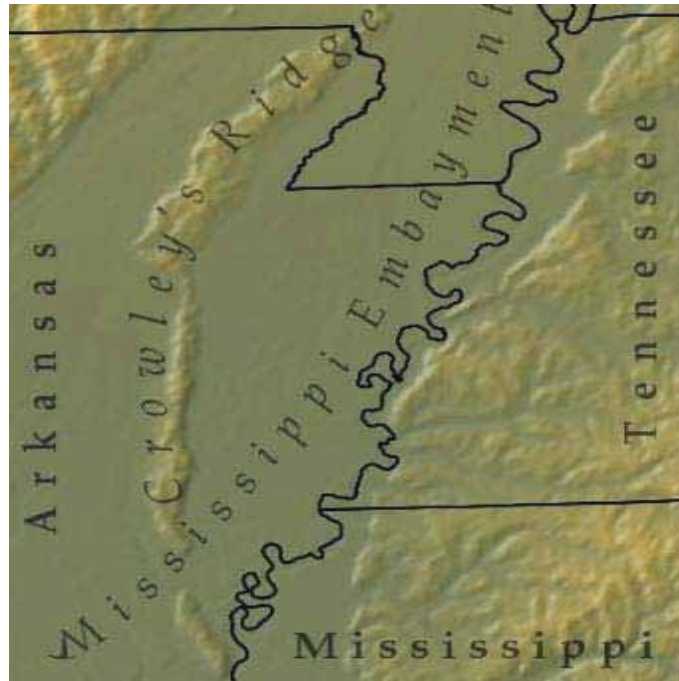
2.1 METHODOLOGY

2.1.1 Analysis Area

The Plains and Eastern Arkansas Delta Agricultural Economic Impact Study analysis includes three distinct physiographic areas:

- Western Lowlands (West of Crowley's Ridge)
- Crowley's Ridge (See Figure 2-1)
- St. Francis Basin (East of Crowley's Ridge to the Mississippi River in the project area)

Figure 2-1 – Study Area: Location of Crowley's Ridge



In all three areas, and throughout the Delta, crop production is the dominant enterprise.

2.1.2 Issues Evaluated

The overarching issue is how the Project will affect farmers' net returns and their ability to manage risks that affect farm income. The following issues identify areas of concern that could potentially be impacted by the Project.

2.1.2.1 Agricultural Water Management Systems

Agricultural water management systems include irrigation and drainage components that are critical to profitable agricultural production in the Study Area. There is concern among farmers that construction and maintenance of the Project could adversely impact farm profitability. The impact of the Project on agricultural water management systems is one of the major items discussed in this Study.

2.1.2.2 Aerial Application of Nutrients and Pesticides

A major production practice in the Study Area is aerial application of nutrients and pesticides. The primary concern is the ability of aerial applicators to operate around the structures and transmission lines. Altering flight patterns will potentially impact the delivery of farm chemicals and could reduce the yields or increase production costs. Since aerial application is heavily relied upon for rice production, the potential impacts are of particular concern to rice farmers. Another potential concern is that the structure sites and transmission line could force aerial applicators to fly at higher elevations potentially causing greater pesticide drift that could result in damage to crops in adjacent fields. The Project's impact on aerial application is also one of the major items discussed in this Study.

2.1.2.3 Animal Agriculture and Pasture

Farmers interviewed did not raise livestock or pasture as an issue associated with the Project because the Study Area has few livestock or poultry operations and very little pasture. Due to the very limited role that livestock and poultry production plays in the Study Area, this Study does not assess the impact of the Project on animal agriculture or pasture.

2.1.2.4 Crop Production Logistics

One of the concerns raised by farmers during interviews is how the Project's structures could impact crop production logistics. Specifically, there are concerns that the Project's structures, if located in a field, could reduce the efficiency of field operations because large tillage, planting, spraying, and harvesting equipment could no longer make unimpeded passes across the field. Another concern raised by landowners is that the structure sites could be a source of weed seeds that could, in turn, impact crop yields and treatment costs.

2.1.2.5 Farm Infrastructure

Farm infrastructure includes farm structures, on-farm roads, and land improvement including precision leveled fields, utilities, and irrigation wells. Evaluation of aerial imagery indicated that only a few irrigation wells and a couple of relief pumps associated with tailwater recovery systems would be potentially impacted by the Project. The only remaining concern is damage to farm roads during construction because of heavy construction equipment. However, Clean Line will repair any damage to on-farm roads as part of their mitigation policy. Damage to farm infrastructure is not expected to be a major issue and will not be addressed in this report.

2.1.2.6 Hunting Leases

Waterfowl hunting leases are a major source of revenue for some farmers and there is concern that the Project could adversely impact hunting lease revenue. The hunting lease revenue issue will be addressed separately.

2.1.2.7 Important Farmland

The Farmland Protection Policy Act (FPPA) requires that projects that fall under the purview of Federal agencies be assessed in terms of their impact on the conversion of important farmland to non-farm uses. The Federal agency (in this case, the Department of Energy) associated with a Federal project that might induce farmland conversion is required to make an FPPA assessment as part of developing the Environmental Impact Statement. No assessment of the Project's impact on farmland conversion is made in this Study since the Department of Energy, with assistance from the Natural Resources Conservation Service (NRCS), will undertake the FPPA analysis as part of the Environmental Impact Statement.

2.1.2.8 Precision Agriculture

Farmer interviews revealed concern about the impact of the transmission line on the Global Positioning Systems (GPS) used by farmers in precision agriculture. Clean Line has undertaken a detailed analysis of the impact of the transmission line on GPS signals in a Technical Report entitled *Electrical Environment Assessment of the Plains & Eastern Transmission Line Project* (Jan 2014) and this Study does not address the issue.

2.1.2.9 Soils

Construction, maintenance, and decommissioning activities associated with the transmission line can cause soil compaction, soil erosion, and field rutting that can affect yields and the effectiveness of drainage and irrigation systems. This Study does not address this issue

because the Clean Line Agriculture Impact Mitigation Policy includes measures to mitigate any impact to soils.

2.1.2.10 Viewsheds

Another issue raised by Study Area residents is the potential impact the transmission line will have on views. Clean Line energy has addressed this concern in a separate Technical Report entitled Visual Resources Technical Report (May 2014).

2.1.3 Methods, Data, and Assumptions

2.1.3.1 General Assumptions

For the purposes of this Study, several overarching assumptions were made. They are as follows:

- Easement width: 200 feet
- The range of land taken out of production due to the installation of structure foundations can be estimated from information presented in the Project Description for a typical mile of transmission line, as follows:
 - Lattice structures are assumed to represent the upper end of the range of impacts, as these have a typical footprint dimension of approximately 28' x 28' (784 square feet), at 4 to 6 structures per mile, (resulting in 3,136 to 4,704 square feet per mile or approximately 0.11 acres per mile).
 - Monopole structures are assumed to represent the lower end of the range of potential impacts, as these have a typical footprint dimension of approximately 7' x 7' (49 square feet) at 5 to 7 structures per mile, (resulting in 245 to 343 square feet per mile or approximately 0.01 acres per mile).
- Agricultural operations may continue within the easement boundary, as long as they do not have crops greater than 10' (e.g., orchards or trees).

The descriptions of the construction, maintenance, and decommissioning phases provide more detail regarding assumptions related to the Project.

2.1.3.2 Agronomics

Crop enterprise budgets from the University of Arkansas Extension Service were the primary source of information used to construct the field activity tables. Key field activities, with their respective costs, were developed for each of the major crops. Production costs were

separated by supply and machinery costs. Supplies include all materials (e.g., seed, fertilizers, and crop protection chemicals) needed to complete the activity. Machinery costs include capital recovery, repairs, fuel, and labor for each activity. The enterprise budgets also included additional amounts for “Capital Recovery and Unallocated Costs”, which captured additional overhead expenses for machinery, irrigation equipment, and miscellaneous items. The costs for the irrigation and miscellaneous overhead were included in the capital recovery section of the field activity tables. However, machinery costs were attributed to a specific production activity and were not included in the recovery section. This change was made so that one year’s cumulative investment made in crop production could be tabulated at any given time of the year.

2.1.3.3 Agricultural Engineering

The engineering analysis is associated with potential economic impacts to irrigation systems and drainage improvements.

ArcGIS was used to record, evaluate, and document the cropland within the proposed transmission footprints and alternatives within the Study Area. One of the primary sources for data is datagateway.nrcs.usda.gov/. This website provides access to data layers used for this identification and assessment process.

GIS Data layers and the metadata that have been used include:

- Ortho photography of the counties within the study area.
- Clean Line transmission line routes being considered that include 200-foot and 1,000-foot-wide footprints.
- Land use including cropland, pasture and other land within the 200-foot and 1,000-foot pathways was determined by map measurements along the Clean Line Routes.
- Parcel boundary information. County level tract maps are geo-referenced into a layer showing how the transmission routes affect each tract.
- USDA NRCS soils map layers and interpretation data for each county in the study area are available.
- Topographic maps from USGS Quads covering the study area are included as a layer for use in certain instances to evaluate the potential impacts to the irrigation delivery and drainage systems on cropland.
- Transportation data layer that shows major and minor road crossings as well as construction access potentials along field roads.

- Digital map data from the Arkansas Natural Resources Conservation Commission (ANRC) registered well and surface pump database are used as the primary source of existing irrigation water sources. The ANRC well registration data provides a unique location for each registered pumping location.
- Farm structures and center pivot irrigation systems are identified by map observation within the transmission route footprints.

Crop types, rotations, irrigation and acres grown, based on USDA county data, will be used as general information applied to the potential transmission line right of ways. Additional sources of data include USDA Agricultural Statistics (NASS data), the USDA Farm and Ranch Irrigation Survey, and Arkansas Natural Resources Conservation Commission and USGS water-use reporting data. See Appendix 7.2 for information on geospatial data layers.

2.1.3.4 Agricultural Economics

The economic analysis uses principles outlined in the Council on Environmental Quality's (CEQ) Principles and Requirements for Federal Investments in Water Resources and CEQ's Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. The economic analysis is not a benefit cost assessment nor is it a cost effectiveness evaluation. The analysis only addresses costs incurred or income forgone by farmers because of the Project. The analysis uses a "with- and without-Project" net returns framework to assess costs incurred or income forgone. Amounts are expressed in average annual dollars as well as present value dollars. Commodity prices used in the University of Arkansas crop budgets (2013) are used to value yields and the University of Arkansas data is used for crop production costs. The interest rate used in this Study is 4.5% (this is the interest rate used in the University of Arkansas crop budgets) and is used to discount the value of agricultural damages caused by future power line maintenance and repair and to estimate the value of land by computing the present value of annual net returns to land. For the purposes of this study, Clean Line determined the project life is expected to be 80 years.

The economic analysis estimates agricultural damages (costs incurred or income forgone) associated with the construction, maintenance, and decommissioning of the Clean Line Plains and Eastern transmission line in the Arkansas Delta. The economic analysis does not estimate benefits attributable to the Plains and Eastern transmission line Project.

The physical effects, yield changes for example, were determined by the Verdant Solutions team of physical scientists. The economic analysis assessed damages to crop production and agricultural infrastructure on a per acre basis.

Estimates of the damages to crop production and agricultural infrastructure associated with construction considered the following:

- A crop-acreage weighted average of net returns for six crops grown without irrigation and with irrigation.
- Month of construction.

Estimates of crop and infrastructure damages related to scheduled maintenance included:

- Annual costs associated with the agricultural operation.
- Location of transmission structure (e.g., edge of field, middle of field).

2.2 REGULATORY SETTING

The Farmland Protection Policy Act (FPPA) applies to, “Federal programs, activities or responsibilities of a department, agency, independent commission, or other unit of the Federal Government that involve (a) undertaking, financing, or assisting construction or improvement projects; or (b) acquiring, managing, or disposing of Federal lands and facilities, that will convert Important Farmland.”

The FPPA evaluation is made in two parts: 1) the land evaluation and 2) the site assessment. The Natural Resource Conservation Service (NRCS) may complete the land evaluation part of the rating, and the Federal agency potentially undertaking the project that may cause the conversion (the Department of Energy) may complete the site assessment part of the rating. The site assessment part of the rating may be undertaken after the impacts of the proposed line are available and assumptions for the line are finalized. See Appendix 7.3 for a detailed outline of an FPPA evaluation.

3 EXISTING ENVIRONMENT

3.1.1 Geography and Soils

The Study Area lies within the Mississippi Alluvial Plain, commonly referred to as the Delta, which covers the eastern third of Arkansas. Originally, three main rivers traversed this area from north to south: the Arkansas, the Mississippi, and the Ohio. Over time, these rivers have changed their courses. (See the Plains & Eastern Clean Line Geology, Soils, and Mineral Resourced Technical Report for additional information.) The Arkansas River originally cut through the river valley on the western side of the state and separated the Delta from the Ouachita Mountains, starting at Little Rock. It has since shifted east of its original path, present day Bayou Bartholomew. It flows southeasterly and serves as the eastern border of the lower Delta in southeastern Arkansas. It now connects with the Mississippi River near the southern border of the state. The Ohio River was on the eastern side of the state, but now joins the Mississippi River far north of the Arkansas border. The Mississippi River originally entered in the northeastern Delta and flowed west of the Ohio. It paralleled the Ohio until flowing into it south of the current state line. Today the Mississippi forms the eastern boundary of the state and occupies a channel that was once near the Ohio River. When the rivers shift courses they often cut off their old channels with soil deposits thereby forming still, oxbow lakes. These lakes can be found throughout the Delta and are often accompanied by deep, rich deposits of topsoil.

Several rivers now flow between the Mississippi and Arkansas Rivers in the state, including the St. Francis, L'Anguille, Cache, Black, and White. These rivers drain several bayous and sloughs and are vital to the region's drainage, transportation, and ecosystems. Levees and water control structures have helped create consistency in agricultural production. These structures also supported economic growth. The Delta supports an abundance of wild game, fish, and migratory birds, important components of the Delta economy.

Sandwiched between the original Ohio and Mississippi Rivers was a low, narrow landmass that remained dry. When the glaciers retreated, sand, gravel, and clay from the nearby rivers piled up and formed a prominent ridge. When the silt from nearby areas dried out and became wind-blown, this ridge trapped the soil particles. The resulting loess soil can be as deep as 50 feet in places along what is now called Crowley's Ridge. The Ridge is considered one of Arkansas' Natural Divisions and serves as a prominent demarcation that extends about 150 miles from southeastern Missouri to Helena-West Helena, Arkansas. The area of Arkansas that is east of Crowley's Ridge is bordered by the Mississippi River and is

commonly referred to as the St. Francis Basin. The area of the Delta that is west of the ridge is called the Western Lowlands.

Crowley’s Ridge has remained fairly consistent since it was originally formed. It also contains some unique plant species because of its unique soil characteristics. Protruding as high as 200 feet above the surrounding Delta and containing steep hillsides, the Ridge is particularly vulnerable to erosion from both wind and water. Therefore the most successful agricultural uses for Crowley’s Ridge are those that minimize soil disturbance, such as peach orchards and production of other fruits and vegetables; pasture; and timber.

3.1.2 Applicant Proposed Route (1,000 Foot Width) Land Use and Infrastructure

Table 3-1 summarizes, for the Study Area, the length of the proposed transmission line; the acreage within the 1,000 foot pathway of the transmission line, and an estimate of the extent of farm infrastructure within the 1,000 foot pathway. See the Figure 5-1 for the location of the “Clean Line Links.”

Table 3-1 Applicant Proposed Route: 1,000 Foot Width Land Use and Irrigation Systems

Clean Line Links	Transmission Line Length (Miles)				Land Use in the Proposed Pathway Based on 1,000 Foot Width (Acres)				Irrigation Systems and Farms (Number)				
	Cropland	Pasture	Other	Total	Cropland	Pasture	Other	Total	Irrig. Wells	Relift Pumps	Center Pivots	Farm Tracts	Farm Str.
6-1	5.6	0.0	0.3	5.9	660	0	58	718	0	0	1	15	0
6-2	1.3	0.0	0.3	1.6	153	0	40	193	0	0	0	7	0
6-3	8.6	0.0	1.0	9.7	1038	0	135	1,173	1	1	0	49	3
6-4	6.1	0.0	0.4	6.4	733	0	44	777	1	0	0	17	0
6-5	1.8	0.0	0.1	1.9	214	0	22	236	1	0	0	7	0
6-6	10.5	0.5	5.9	16.9	1253	455	790	2,498	3	0	0	59	5
6-7	7.7	0.0	0.7	8.4	516	0	507	1,023	0	0	0	20	0
6-8	3.6	0.0	0.4	3.9	435	0	41	476	0	0	0	19	1
7-1	23.8	0.0	2.6	26.4	2793	0	403	3,196	2	0	0	85	1
Totals	69.1	0.5	11.6	81.1	7,794	455	2,040	10,289	8	1	1	278	10

It is estimated that within the proposed 1,000-foot-wide route there are about 10,300 acres and 76% of this land is devoted to cropland uses. Only one part of the proposed pathway (Link 6-6 located in Crowley’s Ridge) has pasture and it accounts for only 4% of the total area.

Nearly 300 farm tracts are within the Applicant Proposed Route (APR). In addition, the 1,000-foot-wide APR intersects eight irrigation wells, one tailwater recovery system relift pump, one center pivot irrigation system, and ten farm structures.

3.1.3 Agricultural Sector Profile

3.1.3.1 Crop Production Overview

The four counties in the Study Area are important to the agricultural sector in Arkansas. According to data from the 2007 Agricultural Census, Jackson county ranks 13th out of 75 counties in Arkansas in terms of the value of crops grown; Cross County ranks 11th; Poinsett County ranks 5th; and Mississippi County is the number 1 producer of crops in the state.

Land use in the Study Area is dominated by agriculture with 93% of the land base devoted to farmland. Based on 2007 Agricultural Census data, 98% of Mississippi County is farmland and 95% of Poinsett County is farmland.

In terms of acreage, 87% of the Study Area’s cropland is devoted to soybean, rice, or cotton production. Soybeans are by far the most prevalent crop in the Study Area, accounting for 43% of the cropland acreage in the four-county Study Area. Rice accounts for 23% of the cropland acreage and cotton about 21%. Corn, wheat, and sorghum are grown on about 13% of the cropland in the Study Area. See table 3-2 for additional information.

Table 3-2. Cropland Distribution (2007 Agricultural Census)

Crop	Acres in 4 Project Counties	Percent Acres in Counties
Rice	296,669	23.1%
Cotton	267,541	20.9%
Corn	50,442	3.9%
Soybeans	556,871	43.4%
Wheat	87,234	6.8%
Sorghum	24,207	1.9%
Total	1,282,964	100%

Soybeans are grown in all four Study Area counties and it is the top crop in terms of acres in each county except for Mississippi County where rice accounts for the greatest acreage. Table 3-3 summarizes crop acreage by county.

Table 3-3. Cropland Acreage (2007 Agricultural Census)

Crop	Jackson County	Cross County	Poinsett County	Mississippi County	Study Area
Rice	79,393	77,139	103,725	36,412	296,669
Cotton			51,860	215,681	267,541
Corn	20,805	6,454		23,183	50,442
Soybeans	124,641	138,533	140,138	153,559	556,871
Wheat	26,763	35,877		24,594	87,234
Sorghum	9,290	8,571	6,346		24,207
Total	260,892	266,574	302,069	453,429	1,282,964

3.1.3.1 Farm Operator Demographics

Based on 2007 Agricultural Census data, summarized in Table 3-4, nearly all of the operators in the four counties are white with only 73 minority operators which is 3% of total operators. Statewide, about 6% of farm operators are minorities.

Table 3-4. 2007 Ag Census Farm Operator Race (Number of Operators)

Operator Race	Jackson County	Cross County	Poinsett County	Mississippi County	Study Area
American Indian or Alaska Native	4	2	6	8	20
Asian			2		2
Black or African American	9	19	5	3	36
Native Hawaiian or Other Pacific Islander					-
White	665	531	620	544	2,360
More than One Race	2	8	2	3	15
Total	680	560	635	558	2,433
All Operators of Spanish, Hispanic, or Latino Origin	7		5	6	

3.1.3.2 Livestock Production

There are few livestock and poultry operations in the Study Area. Based on 2007 Agricultural Census data Mississippi County ranks 71st out of 75 counties in Arkansas in terms of the value of livestock and poultry sales; Poinsett County ranks 70th; Cross County ranks 69th; and Jackson County ranks 60th. As Table 3-5 indicates, “cattle and calves” is the most common livestock category in the Study Area. A full two-thirds of all cattle and calves are raised in Jackson County. Horses and ponies are the second most populous livestock category in the Study Area, comprising 8% of the total number of all livestock in the Study Area.

Table 3-5. 2007 Ag Census Farm, Livestock Inventory (Number of Animals)

Livestock Species	Jackson County	Cross County	Poinsett County	Mississippi County	Study Area
Broilers and other meat-type chickens	Cannot be disclosed				
Cattle and calves	10,038	1,662	1,828	1,551	15,079
Horses and ponies	582	271	339	284	1,476
Goats, all	264	205	156	93	718
Sheep and lambs	192				192
Colonies of bees		160	2,515	1,520	4,195

3.1.3.3 Farm Sales

About 44% of the farms in the Study Area had annual sales—as reported in the 2007 Agricultural Census and presented in Table 3-6—below \$25,000 while about a quarter of the farms reported sales greater than \$500,000. Farm sales, however, are heavily weighted toward larger farms.

Table 3-6. 2007 Ag Census Farm, Economic Characteristics, Number of Farms, by Farm Sales Class

Value of Sales	Jackson County	Cross County	Poinsett County	Mississippi County	Study Area
Less than \$1,000 to \$24,999	246	173	159	123	701
\$25,000 to \$99,999	36	46	44	43	169
\$100,000 to \$499,999	106	70	95	68	339
\$500,000 or more	57	75	120	135	387
Total	445	364	418	369	1,596

Grains, oilseeds, dry beans, and dry peas account for almost 90% of sales in the study area. Mississippi County produces the majority of this commodity group, making up almost two-thirds of the total value of sales.

3.1.3.4 Land Values

Cropland prices in the four-county Study Area, like the rest of the US, have increased significantly over the past several years. The National Agricultural Statistics Service 2013 Land Value Summary indicates that cropland prices in all of Arkansas increased from \$1,860 per acre in 2009 to \$2,560 per acre in 2013, an increase of 38% in just four years.

Much of the cropland in the Study Area commands a much higher price than the state average and can cost up to \$5,000 per acre (Farmers National, 2013). Data from the University of Arkansas published crop budgets can be used to corroborate the value of cropland in the Study Area. The crop-acreage weighted average (“composite acre”) net returns to land for the Study Area is about \$331 per acre (2013). With an interest rate of 4.5%, the present value over 30 years for the composite acre is about \$5,600 and could be even higher for precision-leveled irrigated cropland.

There are two reasons for the price premium in the Study Area. First, cropland in the Study Area—especially in areas east of Crowley’s Ridge—has topography and soil depth that allows farmers to precision level their fields. Second, irrigation water is readily available from shallow aquifers. Based on the 2013 Land Value Summary, Arkansas irrigated cropland values were on average 60% higher than non-irrigated cropland. Although net returns per acre can vary by crop and whether or not the crop is irrigated, soybean production provides a good example of the impact of irrigation. Net returns for non-irrigated soybeans is \$129 per acre while net returns for furrow irrigated soybeans is 260% higher at \$471 per acre.

3.1.3.5 2014 Farm Bill

The Farm Bill was enacted on February 7, 2014 and changes it made to the commodity and crop insurance titles may impact farmer decision making, especially in terms of the choice of crops. However, the program regulations for the commodity programs are currently under development and this Study does not evaluate the Farm Bill’s impact on agriculture in the Arkansas Delta.

3.2 CROP PRODUCTION ECONOMICS

3.2.1 Crops

The major crops produced in the area include soybeans, cotton, rice, and corn and minor crops include grain sorghum and winter wheat are also grown (see Figures 3-1 and 3-2). Cotton production dominated the farms in the Delta until several conditions led to its decline starting in the 1930s (Hawkins, Arkansas State University, 2013). In the 1960s, cotton generated about one third of Arkansas' agricultural income and dropped to about 20% in the 1980s. Soybean acreage rapidly increased in the latter half of the 20th century and became the major acreage crop in the 1980s, a distinction it maintains today. As Arkansas rice acreage increased, this area became a major producer. Winter wheat acreage varies annually in both the state and region. In 2010, 2011, and 2012, acreage in the state was 200, 620, and 550 thousand acres, respectively. Winter wheat acreage in the Study Area accounts for about 25% of the state's total production. In the region and state, most of the wheat acreage is "double-cropped" with soybean. Double-cropping refers to a system where a second crop (e.g., soybean) is planted after the first crop (e.g., winter wheat) is harvested, thereby resulting in two crops being harvested on the same acreage in a given year.

Figure 3-1. Acreage of major crops for 2010 and 2011.

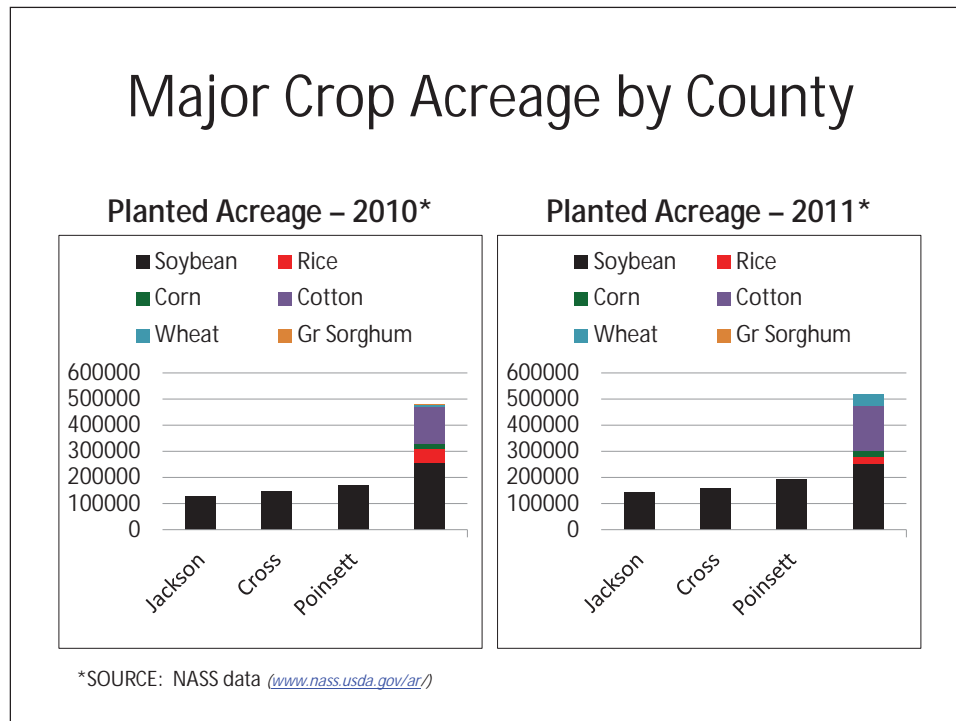
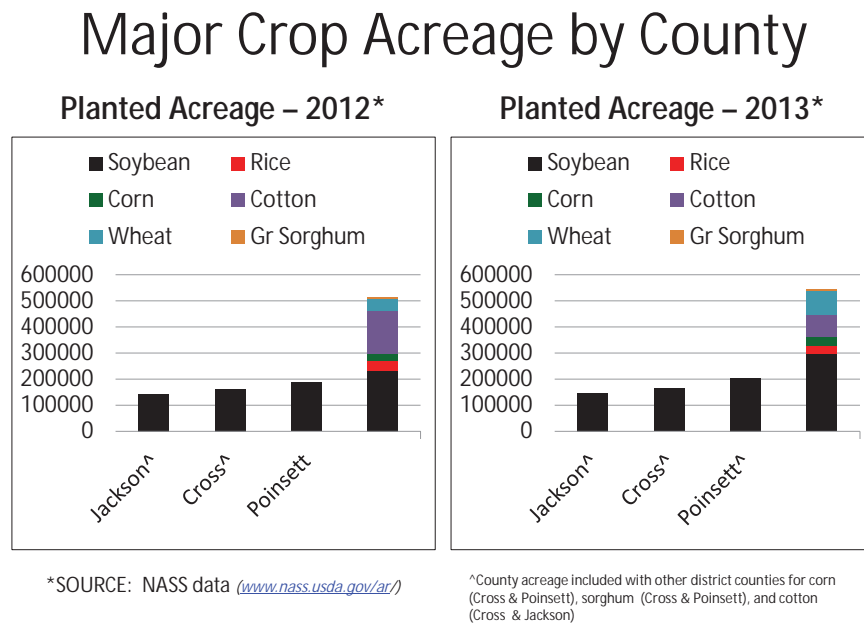


Figure 3-2. Acreage of major crops for 2012 and 2013.



For agronomic, economic, and logistical reasons, farmers typically rotate the crops produced on a given acre. One of the major agronomic considerations is pest control, where weed, insect, and disease control are key factors. Economic considerations include input costs (e.g. fertilizer, seed, and chemicals), equipment costs, and commodity prices. Logistical considerations include the farmers' ability to spread equipment and manpower requirements so that required operations can be accomplished in a timely fashion. Soybeans have become a good rotational partner with all major and minor crops due to the fact that its equipment requirements match those of other grain crops and its input costs, especially fertilizer, are relatively low. Cotton, on the other hand, has unique and expensive equipment requirements combined with higher input costs.

In all four counties, there are more soybean acres than any other crop. In the Western Lowlands counties, rice is the second most commonly planted crop while the acreage of corn, cotton, wheat, and grain sorghum are variable. In Mississippi County, cotton was the second highest crop planted in 2010 - 2012. However, more wheat was planted in 2013, most of which will likely be double-cropped with soybean in 2014. (See Appendix 7.8 for a comparison of county land use data and land use data for the Applicant Proposed Route.) There is no evidence that the crop mix should be any different in the applicant proposed alternative routes than county-level data. Therefore, county-level crop distributions will be used to assess potential impacts in the applicant proposed alternative routes. The acreage of cotton and rice decreased while corn acres were relatively unchanged. These trends show the importance of crop rotation flexibility to growers in the area. Typical rotations in the area include corn:soybean, corn:cotton, rice:soybean, grain sorghum:soybean, and corn:wheat/soybean. Multiple years of a favored crop will often be produced before rotating. The uncertainty of developing farm policy, commodity prices, and pest control make crop rotation flexibility an important farm management strategy.

3.2.2 Farm Infrastructure

Farm buildings and facilities are normally located near the farm headquarters and include structures such as housing, offices, equipment storage sheds, grain bin storage facilities, weigh stations, and repair shops. However, numerous grain bin storage facilities have been constructed in the last few years and may not be included in the aerial photography used to make the analysis of farm infrastructure.

Some farms have a farm communication network that tracks and reports soil moisture, flow rates, water depth, power consumption, and similar data used for farm management. The

communication network was considered, but not evaluated because of the limited number of farms that are expected to be impacted.

3.2.3 Soils

The Delta soils surrounding Crowley’s Ridge can support an abundance of plants. Soils in the area are fairly deep, medium textured, and have mixed mineralogy. Upland soils can be flat to very steep and are generally well drained. Soils in the flood plains tend to contain higher clay content and may range from well drained to poorly drained. The dominant soil orders in the region are Alfisols, Entisols, Inceptisols, and Ultisols (USDA, 2006). Within these orders, the main soil textures include sandy loams, silt loams, clay loams, and clay. These soils are characterized as being seasonally saturated with water or having adequate moisture for plant growth throughout the growing season. The fields in the Study Area are relatively flat. A considerable amount of precision land forming has been done—and is being scheduled—in the four-county area. Farmers and landowners continue to invest in irrigation improvements that reduce groundwater consumption and improve water quality. These improvements are done to make irrigation and drainage more efficient and have increased land values significantly. Irrigated land prices, based on 2013 NASS data, are 60% higher than land that does not have irrigation (see section 3.1.3.4 for more information).

There are subtle differences in the land in the St. Francis Basin versus that in the Western Lowlands. The St. Francis Basin area soils tend to have deeper topsoil, a higher water table, and flatter terrain, all mainly due to their close proximity to the Mississippi River and how they were formed. The Western Lowlands transitions into an area that resembles the Grand Prairie, an area that was covered by native grasses as opposed to forests. In these areas, water tables are typically lower and the topography is more variable, especially as distance from the ridge increases.

3.2.4 Agricultural Water Management Systems

3.2.4.1 Introduction

Although annual rainfall is relatively high in the area, the majority of farmland is irrigated (about 78% in Mississippi County, 75-80% in Jackson County). In addition to being a major capital investment for farmers and landowners, irrigation will impact all aspects of the analysis and thus warrants additional discussion. Arkansas rice is grown under a flooded culture, so it is 100% irrigated. Corn requires timely irrigation to maximize its yield potential

and it too is essentially all irrigated in both the St. Francis Basin and the Western Lowlands. While the majority of cotton and soybean acres are irrigated, there are differences in percentages of irrigated production for these two crops. These differences are apparent for acreage in counties east and west of Crowley’s Ridge (see Tables 3-7 and 3-8).

Table 3-7 Total and Irrigated Cotton Acreage Planted in Arkansas and the Study Area Counties (National Agricultural Statistics Service 2010-2012)

AREA	Arkansas Planted Cotton Acreage for 2010-2012								
	All (k acres)			Irrigated (k acres)			% Irrigated Acreage		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
STATE Total	545.0	680.0	595.0	476.5	606.0	525.0	87	89	88
Jackson Co	8.0	13.4	10.7	NR	NR	NR	*	*	*
Poinsett Co	24.7	34.1	35.0	24.0	NR	NR	97	*	*
Cross Co	32.9	12.0	13.0	NR	NR	NR	*	*	*
MS Co	142.2	174.7	167.9	98.0	124.0	120.0	69	71	71
Total acreage for 10 county district									
NR-not reported; *-could not be calculated									

Table 3-8 Total and Irrigated Soybean Acreage Planted in Arkansas and the Study Area Counties (National Agricultural Statistics Service 2010-2012)

AREA	Arkansas Planted Soybean Acreage for 2010-2012								
	All (k acres)			Irrigated (k acres)			% Irrigated Acreage		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
STATE Total	3190.0	3330.0	3200.0	2348.0	2627.0	2530.0	74	79	79
Jackson Co	129.0	144.0	143.0	102.5	124.0	124.5	79	86	87
Poinsett Co	170.8	190.9	186.0	147.0	173.0	169.5	86	91	91
Cross Co	148.8	158.6	162.2	130.5	144.0	149.0	88	91	92
MS Co	255.5	252.0	230.5	150.0	164.5	149.5	59	65	65

Acreage in Mississippi County, which lies entirely in the St. Francis Basin, contains a lower percentage of irrigated production than counties in the Western Lowlands. Data required to calculate the percentage of irrigated cotton was unavailable for all counties in 2010-2012; however, numbers were available for Mississippi County. Data show that the percentage of irrigated cotton in Mississippi County was about 70%, which lagged about 18% behind the state average. For soybeans, the Mississippi County irrigated acreage was about 65%, which lagged about 14% behind the state percentage. By comparison, irrigated soybean acreage in Jackson, Poinsett, and Cross Counties was 5-13% higher than the state average, and 20-27% higher than the average in Mississippi County. When considering the available evidence, one can confidently assert that the percentage of irrigated production is higher in the Western Lowlands than in the St. Francis Basin.

Irrigation systems include the water source, wells, delivery system, and drainage systems used to get irrigation water on and off the field. Each of these components is strategically placed in the field so that their specific location is connected to their purpose. For example, irrigation wells are generally placed at the highest elevations in the field so that water can be transferred from the highest to the lowest points in the field. Drainage system components are typically placed in the lowest elevations so that they can quickly remove water.

3.2.4.2 Sources of Irrigation Water

Sources of irrigation water include groundwater (pools of water held in underground aquifers) and surface water (bodies of water in waterways, reservoirs, tailwater recovery systems, or other impoundments). Groundwater aquifers are the source of most of the irrigation water used in eastern Arkansas. The condition of these aquifers varies greatly among the three regions. In the St. Francis Basin, there is a great deal of recharge from the Mississippi River and water tables tend to be higher. In the Western Lowlands, groundwater depletion is a major state resource concern and the area is designated as a “Critical Groundwater Area” due to its low water table and continuing decline.

3.2.4.3 Irrigation Delivery Systems

Irrigation wells consist of a pump and motor used to extract water from the source and deliver it to the needed crop. Engines powered by diesel, electricity, natural gas, propane, or gasoline propel the wells. Relift pumps can also be attached to a tractor or power unit and used to pump surface water onto fields.

Common irrigation delivery systems in the area include furrow, flood, and overhead sprinkler irrigation. Furrow and flood delivery systems are the dominant systems employed across the area. Both of these systems depend on gravity to transfer water from its entry point at the highest elevation in the field, down to the lowest part where it is then drained (or maintained in the case of rice production). Underground pipe systems are often used to transfer water to multiple entry points. Furrow irrigation systems deliver water to a pre-established furrow (commonly called middles) that transports water down the rows (also referred to as beds). Flexible plastic pipe, called polypipe, is used for a single season and has largely replaced aluminum or plastic pipes that were previously used to transfer irrigation water. The polypipe is attached to the well, placed in a shallow trench along the highest crest in the field, then positioned perpendicular to the crop rows. A striker is used to punch holes in the filled pipe so that water can run down the middles and provide water to the

developing crop. Continuous, unimpeded middles provide a channel to deliver the water from the top to the bottom of a field.

In flood irrigation systems, water is delivered to the highest point (or multiple high points in the case of multiple inlet systems) in the field then cascaded down a series of levees to the lowest point in the field. In fields that have not been precision leveled, the fields are surveyed and marked to locate elevations that are within a specified range. Contour levees with gated controls are then formed to make “paddies” that only vary inches in elevation from high to low. In rice production, where a flood is maintained for most of the season, paddies that vary by only two inches in elevation are common. Differences in elevation may be up to four inches for crops such as soybeans that are quickly flooded and drained. In some cases, beds may be formed and used in conjunction with levees to assist with drainage on relatively flat fields. This combination of furrow and flood irrigation systems is fairly common in soybeans that are rotated with rice. Precision-leveled fields have had the land formed so that a uniform descent exists from the top to the bottom of a field. Straight levees with gated controls are then formed to allow water to cascade down the field. The most efficient precision-leveled systems are “zero grade” fields where the field has been leveled and is completely uniform in elevation. Small water furrows carry water to interior drainage ditches that contain water control structures, which allows a uniform depth of water to be maintained. These same pipes and structures are used to drain the fields in preparation for harvest or other field work.

A few center pivot irrigation systems are used in the area and it remains the most common overhead system used. This system is preferred to irrigate fields with rolling topography. It pivots at the water source and contains towers that may extend to a length of over 2,600 feet to deliver water over the top of the developing crop. Center pivot systems operate at maximum efficiency when they can make a complete revolution; however, impediments and situations often prevent them from making a complete revolution.

3.2.5 Aerial Application

Aerial application of fertilizer and crop protection chemicals is often used in the Arkansas Delta. Aerial application is most commonly chosen to avoid rutting a field, interfering with irrigation systems, or causing physical damage to the developing crop. Aerial applicators may also be used to cover acreage quickly in cases of inclement weather, poor soil conditions, or urgent pest outbreaks. Deriving an average number of aerial applications can be difficult and misleading because crop production is a biological system with many

weather influenced variables. However, the crop production tables that were developed for each crop (see Appendix 7.6) contain details for activities that are routinely accomplished with aerial applications.

Rice has the greatest number of aerial applications with contour levy production employing an average of five applications and precision-graded field production employing nine applications. Aerial applications for rice include planting, post emergence herbicides, pre-flood fertilizer, mid-season fertilizer, fungicides, and insecticides. Underscoring the importance of aerial applications in rice production, John King, owner of King Farms in Arkansas, is quoted in Agricultural Aviation Magazine as saying, “Right now, we could not grow rice without ag aviation. Most of the things that we apply to our crops—weed control, insecticides, and fertilizers—are applied by air. There are some exceptions; early in the season, before the rice gets very big, you can apply things by ground. But on my farm, at least 70 percent of the inputs are applied by air.” (Jay) Wheat production typically includes three aerial applications and soybean production typically includes aerial applied insecticide and fungicides. Both corn and sorghum are typically produced in the Study Area with a single application of fertilizer.

The dominant aircraft used for aerial application is the fixed-wing, single wing plane equipped with a turbocharged engine. These aircraft are typically equipped with digital global positioning systems (DGPS) or other guidance systems. Aerial applicators are regularly certified and are accustomed to safely applying products. Information in Table 3-9 was adapted from the Aerial Applicators Manual: A National Pesticide Applicator Certification Study Guide (O’Connor-Marer, 2011).

Table 3-9 - Aerial Application Guidelines for Crop Inputs

PRODUCT	FORMULATION/CARRIER	DISTANCE IN FEET		APPLICATION SPEED
		FROM TARGET [^]	SWATH WIDTH	
Herbicide	Water	8 to 12	60	135-140 mph
Insecticide	Water	8 to 12	66	135-140 mph
Fungicide	Water	8 to 12	66	135-140 mph
Fertilizer	Dry Granule	45-70	78*	130 mph

[^] Altitude above the target may be increased in calm conditions or decreased when the wind is higher
^{*} The 78 foot swath width is for the first 100 pounds of material per acre. The swath width should be decreased by 3 feet for each additional 25 pounds of material per acre that is applied. The maximum amount of fertilizer that can be accurately applied is about 200 - 300 pounds per acre, depending on weather conditions.

See Figure 3-3 for an example of aerial application on corn.

Figure 3-3 - Typical Aerial Application



The most common flight pattern used in crop fields is the adjacent swath, also referred to as the back and forth pattern. As the name suggests, this pattern uses straight, parallel swaths to apply products. Applicators are accustomed to turning their spray on and off to avoid overlapping or missing spots in the field as they enter and exit the field. Typically, spray is turned off before ascending from the field and not turned on until the aircraft has descended and lined up for the next pass. When the back and forth pattern is completed, the field is then trimmed for one or two swaths (depending on the applicator's preference) by flying perpendicular to the direction the field was flown. This is done to avoid distorting the spray pattern.

Similarly, pilots are accustomed to maneuvering around obstacles in fields. One common method is to treat the obstacle as if it were the edge of a field as described above. Another method is to stop spraying and pull up as the obstruction is approached, make a 360° turn, fly over the obstacle, drop down, and continue spraying. In cases where wires are positioned high enough to allow safe and accurate application beneath, applicators can fly underneath the wires. In fields where the wires are low, certain conditions allow applications to be made over the top of the obstruction. Because altitude must be increased to accomplish this, applicators will often target these fields for early morning or late evening applications when environmental conditions favoring drift are lower. In all of these scenarios, the application pattern may be slightly skewed and uniformity will be less than if the obstruction were not there. The agronomic impact of these alterations is often minimal, but can be heavily influenced by environmental factors. Conversely, having to make these maneuvers can result in additional costs for the applicator, which will likely be passed on to the grower.

Based on maps of the Study Area developed by Clean Line there are about 25 airfields and airstrips within a few miles of the Applicant Proposed and Alternative Routes. It should be noted that within the Study Area there are several existing transmission lines.

3.2.6 Crop Production

The crop production costs discussed in this section are based on information for the University of Arkansas Crop Enterprise Budgets and they are the same cost information used in Chapters 4 (Potential Impacts) and 5. (Comparison of Alternatives)

3.2.6.1 Rice Production

In rice production, irrigation is the major expense and accounts for about 20% of the total production costs (University of Arkansas Extension Service (UAES) Crop Enterprise Budgets, 2013). As early as a month after planting, rice fields are grown under a continuous flood. Precision land forming results in improved irrigation efficiency. In order of increased production efficiency land is ranked from existing grades, where contour levees are surveyed and formed; to precision-leveled fields, where the terrain is graded to a uniform slope from top to bottom and controlled with straight levees; to zero-graded fields, where the entire field is uniformly flat and water depth is controlled by structures in interior drainage ditches. In zero-graded fields, no levees are used, allowing farmers and landowners to make additional investments in the land and reduce production costs. Still, conventionally seeded rice on existing grades provides a good standard for comparison. In the enterprise budgets (see Appendix 7.6), irrigation expenses for an unimproved field total \$140.38/acre, which is 21.3% of the total operating expenses of \$660.10/acre. In comparison, irrigation expenses in a zero-graded rice field total \$108.03/acre, which is 19.1% of the total production costs of \$565.21/acre. (UAES Crop Enterprise Budgets, 2013).

In rice production, UAES crop enterprise budgets show a typical schedule of field activities for rice grown in various production systems. Appendix 7.6, Tables 3 and 4, display these activities and their associated costs. In Table 7.6 - 3, the activities and costs associated with growing conventional rice with contour levees are shown. The rice production system displayed in the UAES crop enterprise budgets is typical of rice grown in fields that have not been precision leveled. Contour levees are required to maintain the 2-4" flood and the following factors contribute to the overall production costs: 1) additional tillage required to smooth the field from one crop year to the next, 2) surveying costs to mark levees, 3) equipment and labor needed to pull and seed levees, 4) equipment and labor for installing control gates in the levees, 5) controlling weeds on the levees, 6) additional harvest costs in navigating over or between levees, and 7) equipment and labor associated with removing levees. Excluding the harvest costs, costs for this system include operating expenses of

\$607.51 plus unallocated capital recovery costs of \$62.03, which totals \$669.54/acre. In spite of these costs, net returns to the grower (land ownership or rental costs not included) are \$336/acre.

As mentioned previously, a large percentage of the acreage in the area has been precision graded, which makes irrigation more efficient. Since zero graded ground is the most efficient system, activities and associated costs for this system are shown in Table 7.6-4. In this system, all practices associated with establishing levees are eliminated and total production costs are reduced. The pre-harvest production costs for this system include operating expenses of \$503.25 plus unallocated costs of \$48.65 for a total of \$551.90/acre. The net returns in this system are \$454/acre. Compared to contour levees, zero graded fields reduce rice production costs, thereby increasing net returns, by \$118/acre. This additional investment in the land itself is certainly justified by these numbers. The costs and benefits of the precision graded systems, where straight levees are employed, will fall between these two systems.

3.2.6.2 Cotton Production

Cotton remains an important crop in the Study Area despite the decrease of cotton acreage over the past several years. The majority of cotton acres are planted with varieties that have been genetically modified to resist certain herbicides and to repel certain insect pests. The predominant trait package is Bollgard II (B2) insecticide stacked with Roundup Ready Flex (RF) herbicide tolerance. Both of these technologies were developed by the Monsanto Company and are commonly designated as B2RF. The Bollgard II genes offer acceptable control on a broad spectrum of worm pests while the Roundup Ready Flex gene gives the cotton plants the ability to resist Roundup herbicide (active ingredient is glyphosate). With the emergence of weeds that have developed resistance to glyphosate, especially Palmer amaranth (commonly called pigweed), growers are increasing their acreage of Liberty Link (LL) herbicide tolerant cotton. Developed by Bayer Crop Science Company, this gene gives the plants the ability to resist Liberty herbicide (active ingredient is glufosinate) applications, which is a product with a different mode of action from Roundup. Most often, the Liberty Link gene is stacked with the Bollgard II genes, a system referred to as B2LL. After a near 100% market penetration with biotech traits, a few cotton farmers are switching back to conventional cotton that has not been genetically modified with transgenes.

Cotton production activities are listed in Appendix 7.6, Tables 5, 6, and 7 and summarize production activities for B2RF cotton under furrow irrigation, center pivot irrigation, and no irrigation, respectively. Since B2RF remains the dominant trait package, the figures for B2LL

and conventional cotton are not included in this report. However, B2LL costs and net returns are similar to B2RF when comparisons are made within a given irrigation regime. The net return for conventional cotton is reported to be slightly higher than the transgenic systems. A higher system of management, especially with regard to pest control, is required in this system and growers have been hesitant to revert back to conventional varieties.

There are noted differences between costs for furrow (Table 7.6 - 5) versus center pivot (Table 7.6 - 6) irrigation systems. In furrow systems, costs total \$679 while they are \$740 for center pivot systems. In furrow systems, there are more costs for in-season irrigation activities (e.g. irrigation sweep, polypipe usage and retrieval), but less capital costs involved with the system. In center pivot systems, there are fewer in-season activities, but higher capital costs. A review of the per-acre net returns shows higher earnings for the furrow systems (\$161) than in systems irrigated with center pivots (\$100). For these reasons, furrow irrigated systems are used on the majority of cotton acres. The precision grading and land forming that have been performed recently have been done to make furrow irrigation systems more efficient. However, there are fields and situations where the topography makes center pivot irrigation the most cost effective system.

A review of the data shows that regardless of the system used, there is a large economic benefit for irrigated cotton production. Yields for non-irrigated production are reduced by one third, yielding only 800 pounds per acre compared to 1,200 pounds per acre for irrigated production. This reduction in lint yield causes a proportionate reduction in cottonseed, which has become an important income stream for cotton producers.

3.2.6.3 Corn Production

Corn acreage has rapidly increased over the past few years and the high residue crop has become an important part of Arkansas farmers' crop rotation. Similar to cotton, most corn hybrids are stacked gene products, meaning they contain genes that confer resistance to herbicides as well as genes to ward off certain insect pests. As with other crops, the dominant herbicide tolerant gene is Roundup Ready. Corn insect control is achieved by several genes used in combination to control various insect pests. These genes provide economical control of a broad spectrum of root, stalk, leaf, and ear feeding pests. Use of these genes require an Environmental Protection Agency mandated refuge, which is an area where the *Bacillus thuringiensis* (*B.t.*) inserted genes cannot be grown and topical sprays of *B.t.* insecticides cannot be used. The refuge is required to ensure that a percentage of the insect population does not become exposed to the *B.t.* toxin so that the development of insecticide resistance is delayed.

Corn production activities for furrow irrigated, center pivot irrigated, and non-irrigated corn systems are listed in Appendix 7.6, Tables 8, 9, and 10, respectively. In the two irrigation systems, similar yields can be obtained, but the details and requirements for sustaining this level of production varies with the system. This situation is very similar to the water management systems in cotton. In the furrow irrigation system, more field activities are required to get the supplemental water on the field. In the center pivot system, a greater capital investment must be made. According to the enterprise budgets, non-irrigated corn produces about 29% less than irrigated production systems, 125 compared to 175 bushels per acre. Given the higher incidence of aflatoxin (a fungal pest that develops under stressed conditions and reduces the value of the grain) in dryland corn, the economic impact of the yield reduction can be further magnified.

3.2.6.4 Soybean Production

Soybeans comprise the highest acreage of crops in both the state and counties in the Study Area. Potential reasons for the popularity of this crop include its agronomic fit as a rotational companion with all of the other crops, its relatively lower cost of production, its potential to generate a profit, its wide planting window, and its adaptability to various soil types. Being a legume, soybeans generally do not require supplemental nitrogen, although phosphorus and potassium are usually recommended. This leaves weed control and irrigation as the major production costs.

Soybean production underwent a dramatic change with the advent of the Roundup Ready herbicide resistant technology. This technology ushered in a system in which transgenic soybeans that were resistant to glyphosate were planted and Roundup herbicide was used to control a broad spectrum of weeds. The Roundup Ready system also enabled minimum and no-till production systems, which replaced tillage with herbicide applications, thereby improving environmental benefits. The benefits of this system were compromised when weeds started to develop resistance to glyphosate. As with cotton production, glyphosate resistant pigweed is particularly problematic. To achieve effective control of this pest, growers have employed a broader complex of herbicides, including pre-emergence and post-emergence chemistries that provide residual control. Some have switched to Liberty Link soybeans and use Liberty herbicide to control this troublesome pest, and other weeds. A smaller number even reverted back to growing conventional soybeans and are using a combination of selective herbicides and cultural weed control practices. Another important production practice employed is rotating soybeans with crops where more effective weed control can be achieved, a strategy that provides additional justification for crop rotation

flexibility. On irrigated acreage, crops rotated with soybeans include corn, rice, and, to a lesser extent, cotton. On non-irrigated acreage, grain sorghum is the preferred option, but winter wheat is also used as a rotation or substitute crop.

Tables 7.6 - 11 through 14 discuss field activities related to several soybean production systems. There are three common irrigation systems for soybean production: furrow irrigated (Table 7.6 - 11), center pivot irrigated (Table 7.6 - 12), and flood irrigated (Table 7.6 - 13). In addition, there is still a sizeable acreage of non-irrigated soybeans produced (Table 7.6 - 14). Enterprise budgets also exist for other soybean production systems, including Liberty Link and conventional soybeans. When system comparisons are made within an irrigation regime, net returns vary by less than 5%. Therefore, the discussion below is applicable to all systems as the Roundup Ready system is an appropriate indicator of expected returns.

Furrow irrigation systems can be used when soybeans are rotated with corn, cotton, grain sorghum, or rice. With rice, it is most often rotated with fields that contain contour or straight levees. Among the three irrigation systems, it routinely generates the highest net returns, a fact that adds to its popularity among growers. Second in terms of net profit are flood irrigation systems. This system is most often rotated with zero graded rice fields, but can also be rotated with precision graded fields with straight levees or with unlevelled fields that require contour levees. Flood irrigated soybeans can also be used to better manage workload. Center pivot soybean production systems are budgeted to produce the same yields as the other irrigation methods. However, there are higher capital costs for the system, which reduces net returns. As for non-irrigated production, expected yields are reduced by 50% when compared to the irrigated systems. This reduction results in greater than 70% profit loss, when compared to irrigated production.

3.2.6.5 Grain Sorghum Production

Grain sorghum acreage has experienced a slight increase recently. The fact that atrazine can be used to control troublesome weeds, especially pigweed, is a major factor contributing to the increase in sorghum acreage. It is becoming an effective rotational crop on non-irrigated fields or on ground where water quantity may be limited. For several reasons, transgenic seed technologies that have resulted in weed and insect control improvements have not been made in grain sorghum. Consequently, planting seed has remained relatively inexpensive and production practices have not changed much.

Field activities for grain sorghum production are detailed in Appendix tables 7.6 - 15, 16, and 17. The three grain sorghum irrigation systems are furrow irrigated (Table 7.6 - 15), center pivot irrigated (Table 7.6 - 16), and non-irrigated (Table 7.6 - 17). The greatest net return for grain sorghum (\$246/acre) is achieved under furrow irrigated systems; however, under adequate water, this enterprise must compete with corn, which generates a \$489/acre net return. Grain sorghum irrigated with center pivots generates net returns of \$195/acre. Non-irrigated production drops to \$107/acre, mainly due to a 40 bushel/acre (about 36%) yield reduction. Even with the lower net return, grain sorghum remains a valuable option for crop rotation. It is fairly drought tolerant and will consistently produce decent yields under dry conditions. Unlike corn, drought stressed grain sorghum is not attacked by aflatoxins, so its grain quality is maintained. It is a high residue crop that helps build soil tilth. It is also beneficial in integrated pest management, as it has been shown to reduce nematode and disease populations.

3.2.6.6 Wheat Production

Hard red winter is the main class of wheat produced in Arkansas. Acreage can fluctuate with expected prices and the recent increase in the price of all grain has made it an attractive option. The recommended planting dates for wheat in the four counties are October 1 through November 1. When planted in this window, the crop will typically become established before the first killing frost, go dormant, and become vernalized over the winter, then rejuvenate as temperatures warm in the spring. With wheat production, a flurry of activity generally occurs around planting, then again as it breaks dormancy, and finally at harvest. Appendix Table 7.6 - 18 details the field activities associated with wheat production. The seasonal rainfall patterns in northeastern Arkansas typically provide adequate water to produce a normal crop of wheat; therefore, wheat is not irrigated. Commonly, wheat is double-cropped with soybeans. Any field preparation costs associated with seeding the second crop is considered part of the summer crop production, so wheat costs end with harvesting and hauling.

3.2.6.7 Crop Production Summary

A summary of crop production systems, expenses, and revenue for each of the major agronomic crops is below (Table 3-10). A review of these data shows some trends that warrant additional discussion. The increases in grain prices, which are still reflected in these numbers, have resulted in very profitable enterprises for Arkansas farmers. All irrigated corn and soybean production systems are budgeted to generate over \$400/acre in net returns. Rice grown in zero graded fields also shows a \$457/acre net return. While additional expenses (e.g., land rent, capital payments, equipment notes, etc.) must be paid before

profits can be calculated, these figures help explain recent shifts to grain production. There are still ample profit opportunities as grain prices decrease. However, these reduced prices have resulted in farmers growing more cotton, especially when lint prices continue to increase. As stated previously, crop rotation flexibility will be an important component of whole farm management.

Table 3-10. Summary of crop production systems, expenses, and revenue.

Table 19. Summary of crop production systems, expenses, and revenue										
CROP	SEED	IRRIGATION SYSTEM	CROP PRODUCTION EXPENSES/ACRE			CROP REVENUE/ACRE				
			PREHARVEST	POSTHARVEST	TOTAL	YIELD*	\$/UNIT	OTHER**	TOTAL	NET RETURN
Rice	Conventional	Contour	\$ 669.54	\$ 99.20	\$768.74	170	\$ 6.50	\$ -	\$1,105.00	\$ 336.26
Rice	Conventional	Zero	\$ 548.52	\$ 99.20	\$647.72	170	\$ 6.50	\$ -	\$1,105.00	\$ 457.28
Cotton	B2RF	Furrow	\$ 678.72	\$ 145.08	\$823.80	1,200	\$ 0.70	\$145.08	\$ 985.08	\$ 161.28
Cotton	B2RF	Center Pivot	\$ 739.59	\$ 145.08	\$884.67	1,200	\$ 0.70	\$145.08	\$ 985.08	\$ 100.41
Cotton	B2RF	None	\$ 546.65	\$ 96.72	\$643.37	800	\$ 0.70	\$ 96.72	\$ 656.72	\$ 13.35
Corn	Stacked	Furrow	\$ 662.28	\$ 73.50	\$735.78	175	\$ 7.00	\$ -	\$1,225.00	\$ 489.22
Corn	Stacked	Center Pivot	\$ 704.83	\$ 73.50	\$778.33	175	\$ 7.00	\$ -	\$1,225.00	\$ 446.67
Corn	Stacked	None	\$ 450.27	\$ 52.50	\$502.77	125	\$ 7.00	\$ -	\$ 875.00	\$ 372.23
Soybean	Roundup Ready	Furrow	\$ 383.93	\$ 15.00	\$398.93	60	\$14.50	\$ -	\$ 870.00	\$ 471.07
Soybean	Roundup Ready	Center Pivot	\$ 449.30	\$ 15.00	\$464.30	60	\$14.50	\$ -	\$ 870.00	\$ 405.70
Soybean	Roundup Ready	Flood	\$ 398.45	\$ 15.00	\$413.45	60	\$14.50	\$ -	\$ 870.00	\$ 456.55
Soybean	Roundup Ready	None	\$ 298.23	\$ 7.50	\$305.73	30	\$14.50	\$ -	\$ 435.00	\$ 129.27
Grain Sorghum	Conventional	Furrow	\$ 404.40	\$ 25.30	\$429.70	110	\$ 6.15	\$ -	\$ 676.50	\$ 246.80
Grain Sorghum	Conventional	Center Pivot	\$ 456.60	\$ 25.30	\$481.90	110	\$ 6.15	\$ -	\$ 676.50	\$ 194.60
Grain Sorghum	Conventional	None	\$ 306.95	\$ 16.10	\$323.05	70	\$ 6.15	\$ -	\$ 430.50	\$ 107.45
Wheat	Conventional	None	\$ 341.83	\$ 12.65	\$354.48	55	\$ 8.00	\$ -	\$ 440.00	\$ 85.52

*Yields for all grain reported in bushels/acre; cotton yield reported in pounds/acre.
 **Other revenue for cotton is cottonseed sales.

3.3 IMPORTANT FARMLAND

The FPPA evaluation by the Department of Energy is expected to include an evaluation of Regions 6 and 7 in the Arkansas Delta. The western start point of region 6 is at US Route 67 and Route 224 in Jackson County. Region 6 goes east through the Western Lowlands, over Crowley’s Ridge, and into the St. Francis Basin of the Mississippi Delta. This region includes Jackson, Poinsett, and Cross Counties. There are five alternative corridors for parts of region 6. The alternative corridors are: L-1, L-2, L-3, L-4 and L-5. Region 7 is in the St. Francis Basin. The evaluation point for region 7 will start at County Road 56 and Aston Road below Marked Tree in Poinsett County and stop at the Mississippi River in Mississippi County. The region will cross through parts of Poinsett and Mississippi Counties. There are two alternative corridors in Arkansas for region 7. The alternative corridors in Arkansas are M-1 and M-2.

East of Ridge (St. Francis Basin). The St. Francis Basin lies is the eastern end of the Project area and extends from the Mississippi River to Crowley’s Ridge. The major crops grown in the St. Francis Basin are soybeans, rice, corn, and cotton. The ground water is near the

surface and available for irrigation at a low pumping cost. The major soil types in this area include Sharkey silty clay, Alligator clay loam, and Tunica silty clay. These soils are more than 80 inches deep and are on prime farmland drained and protected from flooding. More than 90% of the soils in this area are important farmland soils. The water table is within 0 to 16 inches of the surface and the soils are poorly drained. The soils in this area have drainage systems and are protected from flooding. These soils are flat and on slopes of 0% to 1%. Erosion is not a major concern.

The Ridge (Crowley's Ridge). Crowley's Ridge is a narrow strip of land running north to south and divides the St. Francis Basin from the Western Lowlands areas. The ridge is rolling to very steep. Much of the Ridge is woodland, but hay is grown in this area and there is some pasture. The ground water is deep and the pumping cost is high. The major soil types in the Ridge are Loring silt loam, Brandon silt loam, and Collins silt loam. Loring silt loam and Brandon silt loam are in sloping to very steep areas that are susceptible to erosion. Soils in the Ridge area range from 22 to more than 80 inches deep. The soils are well to moderately well drained, with a water table between 16 to more than 80 inches. The soils in this area are not subject to frequent flooding or ponding. Loring silt loam, found on the flat slopes, is on land of statewide importance; Collins silt loam is found on prime farmland; and Brandon silt loam is not on important farmland. More than 50% of the soils in this area are important farmland soils.

West of Ridge (Western Lowlands). The Western Lowlands are located west of Crowley's Ridge in the western end of region 6 of the Project area. The major crops grown in the Lowlands are soybeans, cotton, corn, and wheat. The ground water is deep and the cost of pumping is high. The major soil types in this area are Henry silt loam, Hillemann silt loam, Crowley silt loam, and Jackport silty clay loam. Hillemann silt loam is on land of statewide importance and all of the other soils are on prime farmland where they are drained and protected from flooding. More than 90% of the soils in this area are important farmland soils and are drained and protected from flooding. These soils have a restrictive feature between 8 and 36 inches, and a water table at 6 to 18 inches. These soils are poorly to somewhat poorly drained. These soils are on flat slopes and are not subject to erosion.

4 POTENTIAL IMPACTS, AVOIDANCE, AND MINIMIZATION

4.1 ANALYSIS ASSUMPTIONS

It is assumed that Clean Line will implement environmental, agricultural, and other mitigation strategies as necessary. Therefore, this chapter will only discuss those adverse effects that may not be fully addressed by the existing mitigation strategies.

4.2 MITIGATION MEASURES

Clean Line's Agricultural Impact Mitigation measures to address impacts on agricultural production include the following:

- **Access Roads and Structures**

Clean Line will use commercially reasonable good faith efforts to work with landowners when determining structure placement and designing access roads. The large majority of access roads will be temporary in nature. These will be removed and land reclaimed following construction. Permanent access roads may be necessary in rare circumstances. Both temporary and permanent roads will be designed and constructed to avoid impeding water flow and to minimize the potential for soil erosion.

- **Drainage and other Soil Conservation Practices**

Clean Line will coordinate with landowners during the easement negotiation process to identify drainage and soil conservation improvements such as ditches, culverts, drainage tiles, levees, and terraces. Clean Line will seek to avoid impacts to these locations whenever possible; however, if impacts do occur, these improvements will be reclaimed or restored to their pre-construction condition. Temporary repairs during construction may be necessary and will be conducted as appropriate. Any permanent reclamation or restoration work conducted by Clean Line or its representatives will incorporate materials and methods of the same or better quality as that of the original improvements.

- **Irrigation**

Clean Line will work to minimize impacts to surface and subsurface irrigation systems located on agricultural lands. When practical, Clean Line will avoid placement of poles or towers in locations that will permanently affect irrigation systems. Clean Line will make an effort to minimize any permanent impacts to irrigation; however, if permanent impacts are unavoidable, Clean Line will consult with landowners and

tenants to identify damages and compensate for the value of these damages. Temporary construction-related impacts to irrigation that result in crop damage, both on and off Right-of-Way, will be mitigated through compensation to the landowner or tenant as appropriate.

- **Soil Restoration**

Clean Line recognizes the importance of topsoil in agricultural lands and is committed to minimizing impacts on this resource. Soils impacted by construction or maintenance activities will be restored as near as practical to pre-disturbance conditions. Soil restoration activities may include topsoil segregation, de-compaction, liming, tillage, or fertilization of impacted soils located both on and off Right-of-Way, or as otherwise agreed to with the landowner. These restoration activities are specific to areas directly affected by project construction or maintenance. Clean Line is committed to timely implementation of restoration practices, weather and landowner permitting. Any restoration activities will be performed during suitable weather conditions, so as not to jeopardize future soil productivity.

- **Construction Reclamation and Clean Up**

Clean Line is committed to responsible and timely reclamation of the construction Right-of-Way and access roads. Clean Line will consult with landowners to determine an appropriate disposal plan for excess aggregate or subsoil materials that are located on the Right-of-Way. Weather and landowner permitting, excess materials will be removed prior to final reclamation activities. Trash and refuse will be removed from the Right-of-Way on a daily basis and littering by construction personnel or Clean Line representatives will not be tolerated.

- **Damage to Private Property**

Clean Line will repair any damage to private property caused by the construction, operation, or maintenance of its projects. Repairs will take place in a timely manner, weather and landowner permitting. If landowners choose to perform their own repair of damaged property, Clean Line will offer compensation based on the commercial rate to complete the repair.

- **Agriculture and Conservation Programs**

Clean Line will consult with landowners and tenants to identify the location of any agriculture or conservation stewardship programs and to understand the criteria for maintaining the integrity of these commitments. Clean Line is committed to working with landowners and tenants to avoid or minimize impacts that would otherwise jeopardize the enrollment of these properties in such programs.

- **Specialty Crops and Organic Farms**

Clean Line recognizes that some forms of agriculture, such as specialty crops or organic farming, incorporate special practices, techniques, or standards to facilitate

crop production. The operation of a transmission line does not preclude specialty agriculture, nor does it reduce eligibility for organic farm certification. Clean Line will consult with landowners and agriculture specialists to identify these specialty lands and, as appropriate, incorporate construction measures to prevent impacts that could otherwise jeopardize any standards or certifications that support these types of agriculture. Construction measures associated with specialty croplands or organic farms will be discussed with landowners and tenants prior to construction.

- **Aerial Application**

Aerial application of herbicides, fungicides, pesticides, and fertilizers is a common practice associated with certain types of crops. The presence of an above ground electric transmission facility may affect aerial application within or near a transmission line Right-of-Way. Clean Line will consider potential impacts to aerial application as well as other permanent agricultural impacts when routing and negotiating easements.

- **Damage to Crops**

Clean Line will work with landowners to develop compensation for lost crop value caused by construction and/or maintenance.

- **AIMA or Project Specific Plans**

Clean Line has developed an Agriculture Impact Mitigation Policy to outline principles for minimizing impacts on agricultural lands. Detailed minimization, reclamation, and mitigation practices will be further defined as specific agricultural issues and concerns associated with each project are identified.

In addition the Study is proposing that the following be added to the Agriculture Impact Mitigation policy.

- **Site Plan for Each Farm**

Clean Line or its representative will work with landowners or their representatives in the development of a site plan for each cropland farm on which construction or maintenance is to be performed. These Site Plans will:

- Clearly identify the estimated cost for each work item that must be performed in order for Clean Line to comply with its Agriculture Impact Mitigation Policy.
- Show preconstruction ground and improvement elevations along with the description and condition of improvements to be impacted.
- Show planned post construction conditions of ground and improvements.
- Identify those work items landowners prefer to undertake.
- Include a schedule for completing each work item.

The site plans will be approved by Clean Line and the landowner prior to construction. After construction is completed, a final inspection will be made with the results being agreed to and certified by both Clean Line and the landowner.

4.3 CONSTRUCTION, MAINTENANCE, AND DECOMMISSIONING

4.3.1 Construction Description

The installation of the Plains and Eastern Clean Line Energy Transmission Project across the Arkansas Delta Study Area will involve construction of about 80 miles of transmission lines. Monopole or lattice-type steel structures ranging from 120 to 200 feet high will be used to support the line. A typical mile of transmission line is as follows:

- Lattice structures are assumed to represent the upper end of the range of impacts, as these have a typical footprint dimension of approximately 28' x 28' (784 square feet), at 4 to 6 structures per mile, (resulting in 3,136 to 4,704 square feet per mile or approximately 0.11 acres per mile).
- Monopole structures are assumed to represent the lower end of the range of potential impacts, as these have a typical footprint dimension of approximately 7' x 7' (9 square feet) at 5 to 7 structures per mile, resulting in 245 to 343 square feet per mile or approximately 0.01 acres per mile.
- There will be four to six structures per mile. Access roads will only be constructed when it is not feasible to use existing roads for constructing the line.
- Temporary construction areas such as multiple-use construction yards, fly yards, tensioning, pulling sites, and wire-splicing sites will be created during project construction.

Construction activities for the transmission lines will include the following activities:

- Preparation of multiple-use construction yards;
- Pre-construction surveys for biological and cultural resources;
- Preparation of the Right of Way;
- Clearing and grading;
- Foundation excavation and installation;
- Structure assembly and erection;
- Conductor stringing;
- Grounding; and
- Cleanup and site restoration.

Clean Line expects the duration of construction to be approximately 24 months from mobilization of equipment to site restoration. The actual construction duration will be dependent on a number of factors such as weather and availability of labor. The construction personnel peak is expected to be approximately 200 workers. This will occur when the tower setting operations begin while several other operations are occurring at the same time, including Right-of-Way clearing, construction of access roads and structure pads, foundation installation, hauling materials, and assembling and erecting structures.

Clean Line will stage construction from multiuse construction yards located at regular intervals (approximately every 25 miles) along the route. Based on a preliminary desktop review of labor resources, Clean Line anticipates that approximately one-half of the workforce can be recruited from within 200 miles of the Project. Construction access will occur at several locations along the transmission line route, resulting in dispersed construction activity and associated traffic.

4.3.2 Maintenance Description

This section describes the activities performed to operate and maintain the Project. The maintenance activities will consist of a Transmission Line Maintenance Program, a Vegetation Management Plan, and a Right-of-Way (ROW) Management Program. The typical ROW for both AC and DC lines will be 150 to 200 feet in width. The final right of way width will be determined during engineering design. (Project Description, May 2014).

4.3.2.1 Permitted Uses within the Right-of-Way

Land use compatible with reliability and safety requirements for HVDC and AC facilities will be permitted in and adjacent to the ROW. Existing land use such as agriculture and grazing, vehicle and pedestrian access, recreational use, and pre-existing compatible use are generally permitted. Incompatible land use within the ROW include construction and maintenance of inhabited dwellings and any use requiring changes in surface elevation that affect electrical clearances of existing or planned facilities.

Good Utility Practice, NERC rules, and the planned design, maintenance, and operation of the line govern height restrictions of activities within the Right-of-Way in order to maintain minimum clearance requirements as determined from the NESC. Once a route is established, Clean Line will review the route for non-standard activities that may require adjustments to minimum clearances.

After the transmission line has been energized, agricultural and non-agricultural land use that is compatible with reliability and safety requirements will be permitted in the ROW, subject to limitations. Limitations on land use will be described in the easement agreements; these limitations may be modified based on site-specific conditions and/or coordination with landowners. Limitations on uses within the ROW could include the following:

- A prohibition on placing a building or structure within the ROW.
- Restrictions on timber or orchards within the ROW.
- Restrictions on grading and land re-contouring within the ROW that would significantly change the ground surface elevation within the ROW.
- Restrictions and required coordination for the construction of future allowed facilities such as fences or irrigation lines within the ROW.
- Restricted access during performance of maintenance activities.

4.3.2.2 Transmission Line Maintenance Program

Clean Line will establish a Transmission Line Maintenance (TLM) program to maintain physical facilities. Through this program, Clean Line will identify, prioritize, and schedule maintenance activities for resolution depending on their potential severity. This section describes the categories and types of maintenance activities, potential staffing, and general safety practices. Maintenance activities can be classified into preventative and corrective activities. Preventative activities are more regular and scheduled in nature. Corrective activities are those that are discovered following an inspection or caused by a discrete event.

The TLM Program would include Program Level Guidelines (PLGs) to address the goals, activities, frequency and duration, and required resources for all maintenance activities. For example, Clean Line PLGs would include, but may not be limited to, the following:

- All transmission structures will be inspected from the ground every 24 months.
- All transmission lattice structures will be climbed and inspected every 10 years (climbing inspection).
- All transmission structures and spans will be patrolled by helicopter every 6 months (aerial inspection).

4.3.2.3 Corrective Activities

Depending on the severity of the issue, corrective activities would be either immediate or scheduled. Activities considered immediate are those that require a response in the case of an event, or imminent threat of an event, that could result in a sustained outage. Immediate corrective maintenance activities tend to be intermittent and random in nature. Scheduled

corrective activities can be delayed, reprioritized and scheduled without risking damage or outages. Scheduled corrective activities tend to be planned and scheduled and/or performed after the event is found.

4.3.2.4 Preventative Activities

Typical preventative maintenance activities anticipated would include various levels of physical inspections of the facility within specific periods. For example, the type of inspections for the HVDC transmission line would likely include:

- Aerial inspection of the line as specified in the PLG's typically on a 6 month rolling schedule. The aerial inspections would typically require a helicopter with a pilot and an observer to perform and record the aerial inspection. This activity might be pursued on a six month PLG and could involve the use of cameras, both visual and thermo vision, to detect hot spots. This activity could increase noise but has essentially no impact on agricultural activities.
- Ground based working patrols will visit each structure and visually inspect the structure as well as the span ahead and back of each structure typically on an annual basis. The ground based working patrols would require a line truck with typically two line hands to perform the inspection at each structure once a year. This activity would have low impact for land issues. In agricultural lands the inspections could be either staged to not conflict with crops during the off season or alternately performed from a modest distance to avoid driving on cultivated land. The activity is essentially limited to driving or walking to the site and performing a visual inspection.
- Climbing inspections of perhaps 10% of the lattice structures to identify loose or bent members, missing bolts, etc. annually. This specific PLG would have all the lattice structures with a climbing inspection performed on a ten year rolling schedule. The climbing inspections would typically require two line trucks or a larger line truck that carries four passengers. The actual climbing inspection would involve either one or two climbers and ground support for each climber requiring about four line hands. This activity would also have low impact for land issues. In agricultural lands, or in other areas of sensitive habitats or land uses, the inspection could be staged during times when there would be minimal impact. Tubular steel structures would likely be excluded from climbing inspections.

4.3.2.5 Vegetation Management Program

Clean Line will develop and implement a Vegetation Management Program (Vegetation Program) that would be organized around the Transmission Vegetation Management Plan

(TVMP) which will be specifically developed to provide metrics, standards, activities, and support the goals of the Vegetation Program.

The Vegetation Specialists will typically rely on helicopter inspection reports, TLM working patrol reports, and contract field inspectors to identify vegetation which requires removal or trimming based on the standards and metrics of the TVMP.

The Vegetation Management Program also carries PLGs and SWPs for danger tree (vegetation) identification, marking, and removal, which is contained within the TVMP.

4.3.2.6 Right of Way Management Program

The Right of Way Management Program will manage the ROW to identify any encroachments on the ROW which either threaten the safe and reliable operation of the HVDC transmission lines or are not compliant with any ROW easement limitations. When encroachments are identified, Clean Line will resolve them with the landowner or tenant to bring the ROW back into a state where land use activities are compatible with the overhead transmission lines.

Clean Line ROW Specialists would review helicopter inspection reports, TLM working patrol reports, and contract field inspectors as appropriate to identify activities encroaching on the ROW. Once identified, the ROW Specialist would inform and work with the landowner or tenant to resolve the encroachment issues. Examples of encroachments that occur after the transmission line is in place might include, for example:

- Non-permitted communication or electrical facilities in the ROW.
- Non-permitted pipelines crossing the ROW.
- Structures such as buildings, swimming pools, or grain elevators, that are not compliant with the ROW easement.
- Earth grading that significantly altered the ground elevation for agricultural or road construction activities

4.3.2.7 Safety and Reliability

Safety and reliability is a primary concern. The Project will be designed to meet or exceed applicable criteria and requirements outlined by organizations such as the Federal Energy Regulatory Commission, the North American Electric Reliability Corporation, NESC, SPP, TVA, the American Society of Civil Engineers, and other applicable federal, state, or local requirements. Safety measures will meet or exceed applicable occupational safety and health standards. The transmission line will be protected with circuit interruption equipment (circuit breakers, disconnects, etc.). If conductor failure occurs, the line will be automatically

de-energized. Lightning protection will be provided by overhead ground wires. Electrical equipment and fencing at the converter stations will be grounded. Vegetation management will occur to minimize potential hazards; trees will be trimmed or removed to prevent accidental grounding contact.

4.3.3 Decommissioning Description

Decommissioning could occur at the end of the useful life and/or if the facility were no longer required. However, a transmission system lifetime can exceed 80 years with proper maintenance. If, at the end of the service life of the Project, and assuming that the facilities are not upgraded or otherwise kept in service, conductors, insulators, and structures could be dismantled and removed. The station structures would be disassembled and either used at another station or sold for scrap. Access roads that have a sole purpose of providing maintenance crews access to the transmission lines would be decommissioned following removal of the structures and lines, or could be decommissioned with the lines in service if determined to no longer be necessary. Clean Line will consult with landowners to assess whether access roads may be serving a larger purpose for landowners, at which point in time, Clean Line may elect to leave the access roads in place. A Decommissioning Plan will be developed prior to decommissioning, but due to the uncertainty of future technology and unknown future environmental requirements, any document will follow appropriate governing requirements at that time.

4.4 POTENTIAL IMPACTS

4.4.1 Agricultural Water Management Systems

4.4.1.1 General Impacts

For all agricultural water management systems, the location of a transmission line structure in a field will have direct and indirect impacts. The direct impact is associated with the long-term loss of production on the land occupied by the structure. The direct impact on crop production can be calculated and growers can be compensated for the loss of production on that land. However, indirect losses from structure construction such as the impacts on annual production are much less straight-forward and will vary depending on the type of agricultural water management system.

Because of the site specific nature of potential structure impacts on agricultural water management, the flexibility to move a structure as little as 50 feet could significantly reduce the impact of transmission line structures on water management systems and net returns.

4.4.1.2 One-Time Impacts: Construction and Decommissioning

In flooded irrigation systems, growers will have to work around structure construction sites when surveying and constructing levees. Farmers may have to move levees to avoid the structure, which could result in levees being out of position.

It is assumed that the impacts related to construction and decommissioning are the same. One of the most important considerations in determining the extent of agricultural damages is the timing of construction. Crop production expenditures, and therefore potential damages, are lowest during the period from October through February. During this period, the investments in production costs for all summer crops are minimal and mainly consist of field work that is completed in the fall in preparation for the next crop. Starting in March, rapid increases in field expenses occur due to the initiation of tillage activities, fertilizer applications, and weed control measures. Following these expenditures, farmers start to plant and manage crops and there is a rapid increase in expenditures that continues until crops are harvested in the fall.

Investments in winter wheat production follow a very different monthly pattern than other crops and can be substantial in the fall and winter months because most expenses occur when farmers are getting the crop planted in October. Additional wheat production costs occur in February and March when fertilizer and weed control applications are made. The wheat farmers' investment continues to increase until the crop is harvested in June.

Construction decommissioning will also create indirect impacts that will affect irrigation and drainage on parts of the field that are not within the construction zone. See section 4.4.2.4, Annual Impacts: Transmission Line Structures, for more detail on the indirect impacts.

4.4.1.3 Periodic Impacts: Operation, Maintenance, and Repair

Operation (e.g., inspections), scheduled maintenance, and unscheduled repairs due to storm damage have the potential to damage crops and agricultural water management systems. Clean line policy shifts inspections and scheduled maintenance to post harvest periods when crop damage is usually eliminated. In addition, inspections can be done from areas outside fields, especially if the structures are sited at the edge of a field instead in the center of the field. When maintenance is needed, any damage to agricultural water management systems

caused by maintenance equipment will be repaired by Clean Line before the next planting season. Given the operation and maintenance scheduling policy and the feasibility of remote inspections little damage is expected from these activities.

Repairs due to storm damage, floods, or other events have a low probability, but if they occur repair activities could significantly damage crop production directly because of repair vehicles or indirectly because of damages to agricultural water management systems.

4.4.1.4 Annual Impacts: Transmission Line Structures

The annual impacts of the transmission line structures discussed in this section are related to how the structure site impacts agricultural water management systems and the logistics of crop production.

With center pivot systems, a structure preventing the pivot arm from making a complete circuit would create areas of non-irrigated land in the field. The resulting dryland area can be measured and the producer could be compensated for the decreased productivity that results. Another option is compensation for any additional modifications required to continue irrigating the blocked portion of the field. In many cases, there are no feasible options to irrigate this portion and any land in the uncovered wedge will remain non-irrigated. Based on data used to assess the 200-foot Representative Right-of-Way for the transmission line, there is very low potential to impact any center pivot irrigation systems.

In furrow irrigated production systems, land downstream from the structures will be converted to non-irrigated production. The predominant row configuration in the area is 12 rows, spaced 38 inches apart, for a total swath width of 38 feet per pass. When beds are being formed, a continuous furrow is created from the top of the field to the bottom. These furrows, commonly called middles, are essential to transferring water within the field. Creating furrows in rows that do not align with equipment passes will require additional time and work. Maneuvering equipment around structures will require field operations to be interrupted and will require more time.

In flooded irrigation systems, power line structures could increase costs related to additional pumping time needed to flood those paddies affected by the structure or adjacent paddies. The number of acres affected would depend on the placement of the structure.

Obstructions, such as the planned structures, will require the farmers to do additional work to establish continuous middles (i.e., furrows between crop rows). Figure 4-1 provides an

example of continuous middles. If a structure were placed in this field, the middles would have to be reconstructed to insure optimal irrigation and drainage efficiency.

Figure 4-1 – Continuous Middles



Timely drainage of a field is just as important as timely irrigation. To accomplish this, drainage systems often include filter strips, permanent dikes, water control structures, drainpipes, and precisely graded ditches. These carefully designed systems work in concert to efficiently drain fields. Placing a structure that interferes with the drainage system could result in costs to modify the drainage system because all of the components are part of a system.

4.4.2 Aerial Application

4.4.2.1 One-Time Impacts: Construction and Decommissioning

If construction and decommissioning can be scheduled after harvest and before planting, there should be minimal impact related to aerial application because of construction activities. If construction and decommissioning occur during the growing season, it is assumed that additional inputs will not be applied to crops in the construction zone because the crop will have been destroyed and therefore there should be no impact to aerial application. As such, construction and decommissioning will have very limited impact on aerial application.

4.4.2.2 Periodic Impacts: Operation, Maintenance, and Repair

It is anticipated that operation, maintenance, and repair activities, like construction and decommissioning activities, will have very little effect on the aerial application of production inputs.

4.4.2.3 Annual Impacts: Transmission Line Structures

The major impact of the Project on aerial application will occur after the project is completed and will continue until the transmission line and the structures are decommissioned.

All of the major crops produced in the Study Area will be adversely affected by the presence of the transmission lines and the transmission line structures. The greatest impact is on rice production, which can have 9 or more aerial applications every year. Although pilots can use strategies to make applications near transmission lines, the presence of power lines adds to the cost of application; reduces yields because the prescribed dose cannot be applied in parts of a field; increases the probability of chemical drift; and poses a safety risk to the pilots.

Figure 4-2 Aerial Application Under Power Lines



An applicator in some cases will have to change flight patterns, which could result in additional application costs. Some applicators will only fly parallel to or over the transmission lines. As for impact on the developing crop, the exact outcome of having to navigate around the obstruction depends on several factors including the products being applied across all crops in the pathway where aerial application of fertilizer and crop protection chemicals are routinely done. With fertilizers, adjustments can be made to maintain a fairly accurate pattern. With crop protection chemicals, applicators may not have as many options to accurately place product, as exact placement requires the aircraft to be closer to the target. Consequently, pest control may be more difficult to achieve.

The effect of the Project is also dependent on the angle between the Project and intended flight pattern (i.e., some may be parallel to flight patterns, some may be perpendicular, and some may be oriented at various angles between the two). With flights that are parallel, adjustments can be made to the swath position so that minimal impact is realized. With flights that are more perpendicular, other adjustments to the application pattern will need to be made (e.g., the pilot could fly up to the structure, make a steep ascent over the structure, make a 360 degree turn, and then dive over the structure to continue application on the other side of the structure), potentially having greater effect on application costs and effectiveness.

4.4.3 Farm Infrastructure

Farm infrastructure includes all buildings on the farm, farm roads, land improvement practices, such as precision-leveled fields, utilities and the on-farm communication network. Agricultural water management facilities are being analyzed in sections 4.4.1.

Based on an analysis of aerial photography, the Applicant Proposed Route (APR) as well as alternative routes do not appear to impact farm buildings and other farm infrastructure. However, there may have been a number of grain storage bins and a few other farm buildings constructed recently in the Study Area that might not be in the aerial photographs used.

Farm roads and precision-leveled fields are the farm infrastructure most likely to be impacted by the project. Automation tools and communication networks are becoming more common as the cost of data transmission and sensors have declined. Some farms have a farm-wide communication network that tracks and reports soil moisture, irrigation flow rates, water depths, power consumption and similar data used in farm management. There is concern by some landowners that installation of the transmission line will have a negative impact on their on-farm communication system.

4.4.3.1 One-Time Impacts: Construction and Decommissioning

The primary impacts on infrastructure during construction operations will be on field roads. There are no buildings or structures that have been identified within the APRs at the present time. Some access roads may have to be constructed and some existing roads may have to be relocated and some will be damaged by the construction equipment. Every farm situation is different in that some farms may have little or no construction and decommissioning impacts while others may be significant. Clean Line will work with each farm owner and develop individual plans that will consider existing infrastructure as well as

anticipated changes and potential communication needs in order to minimize negative impacts as much as possible.

Clean Line’s mitigation policy calls for repairing and restoring on-farm roads and other infrastructure facilities impacted during construction. It will also include a site plan for each farm to assure proper restoration for areas affected by construction.

4.4.3.2 Periodic Impacts: Operation, Maintenance, and Repair

Once Clean Line transmission is in operation the only impacts due to operation, maintenance, and repair will likely occur when the system has to be accessed on the ground during the cropping season. Field roads may be rutted and irrigation and drainage systems interrupted. This could impact overall farming operations such as the planting, cultivation and harvesting of crops. Clean Line will mitigate these impacts as part of its mitigation plan.

4.4.3.3 Annual Impacts: Transmission Line Structures

No annual impacts to farm infrastructure are anticipated.

4.4.4 Economic Impacts

4.4.4.1 One-Time Impacts: Construction and Decommissioning

4.4.4.1.1 Crops

The first part of Section 4.4.4.1.1, including Figures 4-3 and 4-4, discusses the cumulative operating costs by month and by crop. Next, the cumulative production costs are displayed in Table 4-1 on a per composite acre basis and for the acres affected in the Representative Route. This is followed by an analysis of the monetary damages project construction could impose on farmers. The damage assessment analysis uses with and without project evaluation framework.

The primary monetary damages related to construction and decommissioning are associated with the loss of crop revenue and the loss of crop production expenditures (e.g., crop production activities such as tillage, planting, and pesticide application as well as capital recovery costs such as equipment costs and interest payments) on land located in the construction site and any access roads located on cropland; reduced net returns on cropland indirectly affected by construction; and access roads which temporarily damage agricultural water management systems.

In the Study Area, the representative Right of Way for the Project, is about 81 miles long. The Project Description document (Table 2-4) indicates that each mile of the power line will disturb five acres during construction. An analysis of the representative Right-of-Way found that 85% of the land is cropland. This means that project construction will directly impact about 344 acres during construction.

$$(81 \text{ miles}) \times (5 \text{ acres per mile}) \times (85\% \text{ cropland proportion}) = 344 \text{ acres}$$

The estimate of direct monetary damages caused by construction is based on the month that construction begins and the difference between net returns without the Project and net returns with the Project.

The seasonal investments in crop production were tabulated from the crop enterprise budgets. Figures 4-3 and 4-4, based on data from Tables 3 through 18 located in Appendix 7.6, can be used to assess the potential monetary damages related to lost crop production expenditures, if construction began in a given month. The cumulative production costs can provide guidance on the most cost effective time to construct the structures and install the power lines.

The crop production data in Appendix 7.6 is based on data from the University of Arkansas. Appendix 7.6 data includes specific field activities; the type and size of implements; timing of the activity; detailed cost information on field activities; capital recovery costs related to items such as irrigation equipment and interest payments; postharvest costs; gross revenue; and net returns. Appendix 7.7 summarizes the composite acre computation. The tables in Appendix 7.7 use data from Appendix 7.6 and weight the data by crop and irrigation system.

Figure 4-3. Cumulative expenditures for row crop production in Arkansas, January through June, 2013.

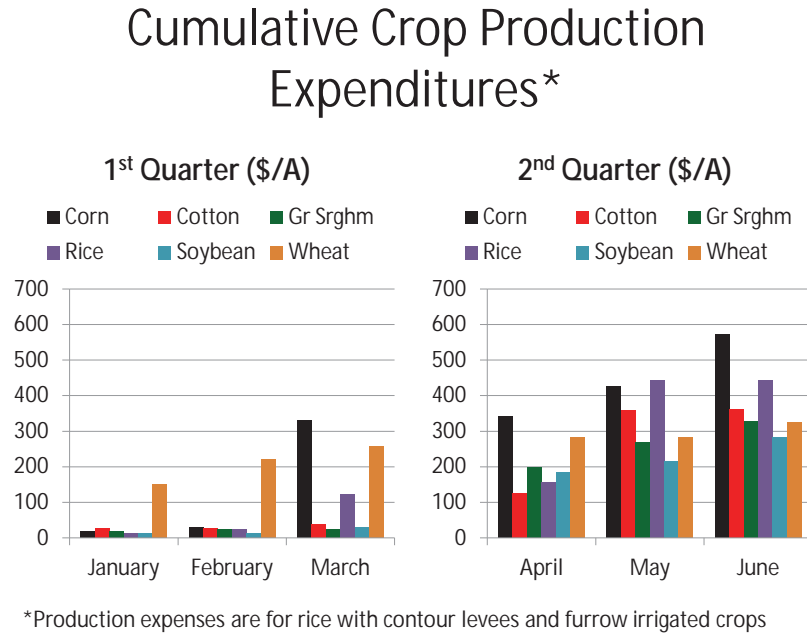


Figure 4-4. Cumulative expenditures for row crop production in Arkansas, July through December, 2013.

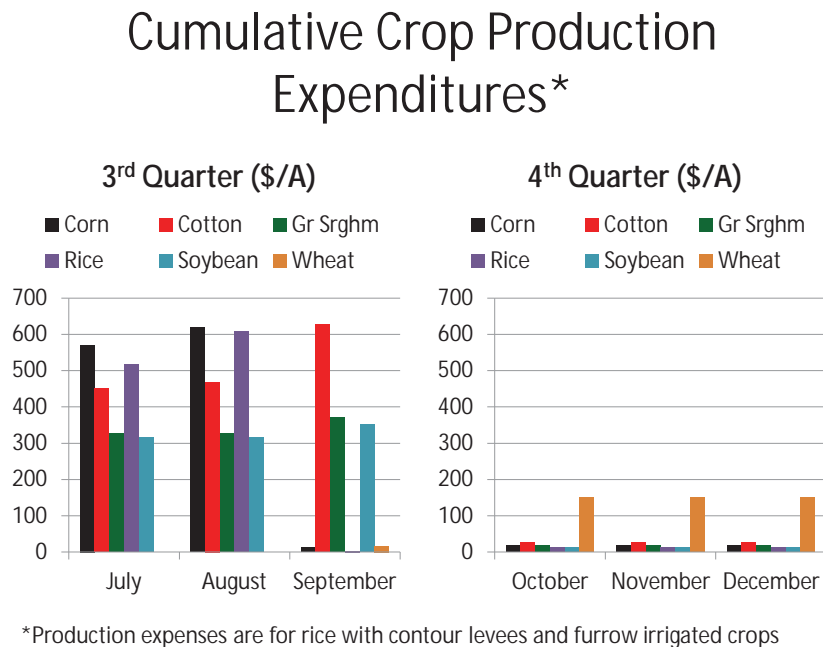


Table 4-1 summarizes the cumulative impacts on farm operating expenses for a composite acre. The composite acre is an acre weighed average of crop expenses for irrigated and non-irrigated corn, soybeans, cotton, rice, wheat, and sorghum. As indicated in Table 4-1, construction in the summer would increase damages significantly. It should also be noted that construction in the fall, in some fields, especially rice, might impact hunting and hunting lease revenue.

Table 4-1. Cumulative Farm Operating Costs by Month for the Representative Route

Month	Cumulative Operating Costs	
	Composite Acre	Representative Route
January	\$25	\$8,462
February	\$31	\$10,592
March	\$60	\$20,581
April	\$161	\$55,272
May	\$289	\$99,425
June	\$344	\$118,202
July	\$369	\$127,004
August	\$407	\$139,990
September	\$264	\$90,673
October	\$148	\$50,853
November	\$25	\$8,462
December	\$25	\$8,462

As displayed in Table 4-1 the potential damages related to operating costs rise significantly over the growing season rising from \$8,500 in November, December and January to a high of \$140,000 in August. This supports the strategy of scheduling construction after harvest, but it does not include net returns foregone or fixed costs and post-harvest costs.

As discussed previously, construction site direct damages can be computed as follows:

$$\text{Construction Site Damages} = \text{Net Returns without Project} - \text{Net returns with Project}$$

Composite acre net returns without the project are estimated to be \$331 per acre. (See Appendix 7.7 for details on the computation of composite acre costs and net returns.)

To compute the composite acre with project net returns, fixed costs or capital recovery costs of \$47 per acre were added to the operating costs. Capital recovery costs include the ownership cost associated with machinery and equipment.

Table 4-2 displays the composite acre and Representative Route cumulative Operating and recovery costs by month. The Cumulative operating and capital recovery costs are the cumulative costs for a given month times the number of acres of cropland in the Representative Route.

Table 4-2. Cumulative Farm Operating and Capital Recovery Costs by Month for the Representative Route

Month	Composite Acre Cumulative Operating and Capital Recovery Costs per Acre	Representative Route Cumulative Operating and Capital Recovery Costs per Acre
January	\$72	\$24,784
February	\$78	\$26,913
March	\$107	\$36,902
April	\$208	\$71,594
May	\$336	\$115,747
June	\$391	\$134,523
July	\$417	\$143,326
August	\$454	\$156,312
September	\$311	\$106,994
October	\$195	\$67,174
November	\$72	\$24,784
December	\$72	\$24,784

Table 4-3 displays only direct costs related to structure construction at the construction site. It does not include damage to the soils, e.g., compaction and ruts; damage to existing on-farm roads; or the creation of construction access roads. The agricultural mitigation policy states that Clean Line will restore soil and farm roads to their pre-construction condition.

Table 4-3. Estimated Monetary Damages Associated the Structure Construction, by Month for the Composite Acre and the Representative Route (without Project Net Returns Minus With Project Net Returns)*

Month	Estimated Monetary Damages Composite Acre (Without Project minus With Project Net Returns)	Estimated Monetary Damages Representative Route (With Project minus Without Project Net Returns)
January	\$78	\$26,784
February	\$84	\$28,914
March	\$439	\$150,851
April	\$539	\$185,542
May	\$668	\$229,696
June	\$722	\$248,472
July	\$748	\$257,275
August	\$786	\$270,261
September	\$642	\$220,943
October	\$527	\$181,123
November	\$78	\$26,784
December	\$78	\$26,784

* The composite acre monetary damages associated with loss of crop production net returns is computed by subtracting the with project net returns per composite acre from the without project net returns per composite acre. The monetary damages associated with the Representative Route are computed by taking the estimated number of crop acres in the Representative Route times the estimated monetary damages per composite acre for each month.

To clarify, for March, the without project net returns are \$331/composite acre (this assumes a full year of costs and returns). With project, the cumulative production costs are \$60/composite acre; the capital recovery costs are \$47/composite acre and the revenue is assumed to be zero for that year. This would mean that the with-project net returns would total -\$107/composite acre. This would mean the damage caused by the project would amount to the loss of net returns without project minus the costs incurring with project or $(\$331) - (-\$107) = \$439$ /composite acre.

4.4.4.1.2 Access Roads

The Project Description (May 2014) states that the paving of roads will be limited to approach aprons at intersections with existing paved roads and all-weather access roads to converter stations, unless otherwise required by jurisdictional authorities. Clean Line will use access roads to access facilities, transmission ROWs, structures, fiber optic regeneration sites, and work areas during construction, operation, and maintenance.

Clean Line does not anticipate the need for a permanent access road along the ROW, but infrequent vehicular travel may be required for maintenance or repair. Clean Line will use existing roads to the extent practicable. Clean Line will locate access between structures in active agricultural areas along fence lines or field lines where practicable to minimize impacts.

Where existing roads are not available, Clean Line will construct new roads. Site conditions, engineering design, construction requirements, adopted environmental protection measures, and relevant permits will govern the specific location of proposed new roads. Clean Line's road construction standards will be in accordance with the appropriate jurisdictions' requirements.

New access roads will be required where the use of existing roads is not practicable. New access roads can range from primitive overland travel roads (unimproved two-track roads) to new bladed roads that are shaped to provide for drainage. In some cases, for example due to soil moisture conditions, Clean Line may surface new bladed roads with gravel. Clean Line will choose the location of new access roads to avoid steep side slopes where practicable.

Based on data from the Projection Description Section 2.4, Table 2-6, the average acres of new access roads needed by the project is about 4.2 acres per mile of mile of new access road. Table 2-7 of the Project Description indicates that about 278 miles of new access roads would be needed to support construction along the entire ROW in Arkansas. The total length of the ROW in Arkansas is about 280 miles which means that each mile of transmission line would require, on average, about 1 mile of new access road. Given the length of the ROW in the Study Area (Region 6 and the Arkansas portion of Region 7) is about 81 miles, about 81 miles of new access road would be required (1.0 miles of access road per mile of ROW). This would mean that about 340 acres (81 miles of access road time 4.2 acres per mile) of access roads would be needed in the Study Area for the Project. Assuming that 85% of these acres are cropland, this would mean that 289 acres of cropland

would be temporarily taken out of production. The economic impact of the new access roads would depend on when the construction occurred and how long they take cropland out of production. As discussed above, monetary damage to crop production is significantly minimized, if like the transmission line structure site construction, the access roads are created after harvest and removed before planting in the spring. If the 289 acres of cropland were taken out of production in August, the monetary damages would total about \$227,000.

The impacts associated with decommissioning would be similar to the construction impacts.

4.4.4.2 Periodic Impacts: Operation, Maintenance, and Repair

Maintenance impacts on agricultural production are expected to be limited. It is assumed that the probability of inspection crews being in the field during the growing and harvest seasons is limited because inspection will be scheduled after harvest and it is estimated that the risk of crop damage from working patrols would remain below 10%. Maintenance inspections will be done remotely where feasible. The distance would depend on the specific goals of the ground inspections. If, for instance, a visual inspection of pier footings is required, this would limit the distance to perhaps 100 to 150 feet for open agricultural fields. However, for the first 15 to 20 years of service the remote distance might be increased to perhaps 250 to 300 feet.

It is estimated that there will be about 400 power line support structures in the Study Area. Based on the assumptions related to maintenance, this would mean that up to 40 structures could be inspected during the growing season each year. However, because inspections can be done from 250 to 300 feet during the first 15 to 20 years and from 100 to 150 feet after 20 years, the damage to crops is limited. If repairs are required, depending on the nature of the repairs, damage could occur to crops, soil, irrigation systems, and precision leveled fields.

4.4.4.3 Annual Impacts: Transmission Line Structures

The monetary impacts of the Project are primarily associated with changes in irrigation systems and changes to aerial chemical application.

4.4.4.3.1 Agricultural Water Management Systems

This analysis assesses the impact of the Project on center pivot irrigation systems and furrow irrigation systems.

The transmission line structures have the potential to materially impact center pivot-irrigated fields depending on the location of structure. If the structure is located near the center of the field the farmer may not be able to irrigate a significant portion of the field. If the structure is sited near the edge of the field, the impact on a 100 acre field will be much smaller than the impact of a structure located near the center of the field.

To illustrate the range of potential impacts to center pivot systems two scenarios are discussed: the first scenario assumes a structure located at the edge of a field that reduces the area irrigated by 5% and the second scenario assumes the structure is located near the center of the field and the irrigated acreage is reduced by 50%. To estimate the monetary impact, net returns to land and labor were computed for an irrigated composite acre that is a weighted average of corn, soybean, cotton, and sorghum net returns based on University of Arkansas crop budgets. The net returns for the irrigated composite acre are \$276 per acre while the dryland net returns are only \$104 per acre, a 62% reduction in net returns. If 5% of the acres of the 100 acre field are converted to dryland production the farmer's net returns for this irrigation system would be reduced by \$860 per year. However, if the structure was located near the middle of the field, near the pivot point, half of the field may be converted to dryland production. In this case the reduction in net returns for the field would amount to \$8,600. With net returns to irrigated land totaling \$27,600 on the 100 acre irrigated field in this example losing the ability to irrigate the whole field would reduce net returns by nearly a third. Which would mean, given the above example, that a change in the ability to irrigate a field could reduce land values by approximately one third.

Assuming a 100 acre field with a structure placed midpoint in the furrow system it is possible to roughly assess the monetary effects of the structure. This would mean that given a structure site that is 28 feet square about 0.7 acres will have furrows blocked downstream from the structure. Using the net return data that was used in the center pivot system evaluation results in a reduction in net returns per acre of \$172. In this case, income would be reduced by \$120 for the field. Siting of the structure at the upper end of the furrows could effectively double the loss in net returns. This analysis does not take into account additional costs related to redesigning and maintaining the furrow irrigation system to ensure consistent water application and drainage on the up-stream side of the structure.

4.4.4.3.2 Aerial Application

The scope of impacts can be assessed by assuming that a 200 foot wide area under a transmission line in a 100 acre field has its yields reduced by 50% because of inadequate application of fertilizer and chemicals. The area affected would be nearly 10% of the field or about 9.5 acres. Reducing yields by an assumed 50% would reduce net returns from \$331

per composite acre to -\$118 per composite acre resulting in a loss of about \$4,300 (net returns without project of \$331/acre minus net returns with project of -\$118/acre equals damages of \$449/acre. \$449/acre times 9.5 acres equals \$4,265) in net returns for the field or a 13% reduction in net returns for the field. Changing the width of the affected area or the yield reduction will change the monetary impact on net returns.

In addition, aerial applicators could incur costs related to increased fuel consumption and additional labor time associated with having to fly less efficient flight patterns.

4.4.4.3.3 Crop Production Logistics

Another potential monetary impact is related to how the transmission line structures will impact the logistics of farming. The presence of a structure in a field will require that the farmer spend additional time maneuvering around the structures. Although there is insufficient data to estimate the cost of the additional time required it should be noted that with large equipment this could add to crop production costs especially when combined with damage to crops caused by maneuvering farm equipment around the structures.

4.4.4.3.4 Potential Impacts on Crop Insurance and Commodity Programs

If the presence of a transmission line and structures results in reduced yields this could affect crop insurance damage assessments and payments, should the crop be damaged from a storm. The reason for this is that the crop insurance program uses a 10-year crop yield history to determine losses and payments. In addition, changes in historical yields could potentially impact payments a farmer might receive from the new Agricultural Risk Coverage (Individual option) program in the 2014 Farm Bill enacted in February 2014.

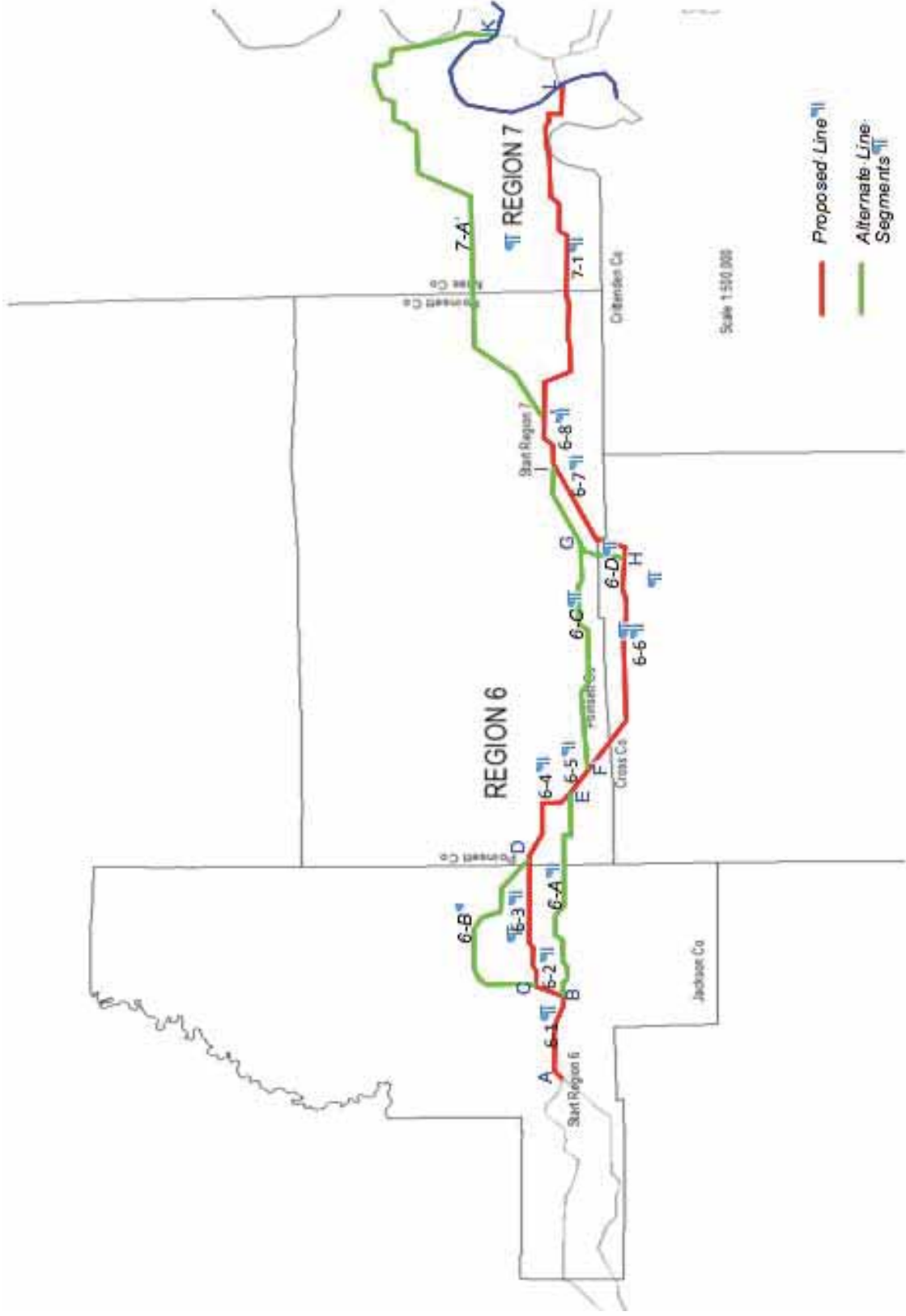
5 COMPARISON OF ALTERNATIVES

5.1 DESCRIPTION OF ALTERNATIVES

The map on the following page (Figure 5-1) provides a key for the analysis of the applicant proposed route and alternative routes. Not all links of the proposed route have a corresponding alternative route. In Region 6 there are three proposed route links with no alternatives: Links 1, 5, and 8. The following summarizes the proposed route and potential alternative routes:

- **Region 6**
 - Proposed Route Link 1 – No alternative, no comparison possible
 - Proposed Route Link 2, Link 3, and Link 4 – Compare to Alternative Route 6-A
 - Proposed Route Link 3 – Compare to Alternative Route 6-B
 - Proposed Route Link 5 – No alternative, no comparison possible
 - Proposed Route Link 6 and Link 7 – Compare to Alternative Route 6-C
 - Proposed Route Link 7 – Compare to Alternative Route 6-D
 - Proposed Route Link 8 – No alternative, no comparison possible
- **Region 7**
 - Proposed Route Link 1 – Alternative Route 7-A

Figure 5-1 Proposed and Alternative Transmission Line Routes



5.2 COMPARISON OF ALTERNATIVE ROUTE IMPACTS

Based on information collected to date, the primary difference in impacts related to the proposed Project and the alternative routes is the length of the routes. Given the data currently available, it is anticipated that the impacts to the agricultural sector will be largely proportional to the length of the route; the longer the route the greater the impact.

The following tables summarize data related to the Applicant Proposed Route for the transmission line as well as alternative routes. The data is based on a 200-foot Right-of-Way for the transmission line. The routes are displayed in Figure 5-1. Note that the information in Table 5-1 begins at Point A on the above map (Figure 5-1) and ends at Point L.

Within the Study Area, the Representative Right-of-Way route is 81 miles long and the Representative ROW includes 1,967 acres. About 85%, or 1,675 acres, of the Representative ROW is cropland. There are an estimated 185 landowners intersected by the Representative ROW. There is potential to encounter 4 irrigation wells, but no irrigation tailwater recovery system pumps are located in the ROW.

Table 5-1. Land Use, Irrigation Systems, and Farm Tracts within the Applicant Proposed Route Representative ROW (200-Foot Wide) and Alternative Routes

Clean Line Link Number	Transmission Line Length (Miles)				Land Use in the Representative ROW of the Applicant Proposed Route and Alternative Routes Based on 200 Foot Width (Acres)				Irrigation Systems and Farm Tracts (Number)		
	Cropland	Pasture	Other	Total	Cropland	Pasture	Other	Total	Irrig. Wells	Relift Pumps	Farms Tracts
6-1	5.6	0.0	0.3	5.9	136	0	8	144	0	0	12
6-2	1.3	0.0	0.3	1.6	32	0	7	39	0	0	5
6-3	8.6	0.0	1.0	9.7	209	0	25	235	1	0	31
6-4	6.1	0.0	0.4	6.4	147	0	9	155	1	0	13
6-5	1.8	0.0	0.1	1.9	45	0	3	47	0	0	5
6-6	10.5	0.5	5.9	16.9	255	11	142	409	2	0	39
6-7	7.7	0.0	0.7	8.4	188	0	17	205	0	0	15
6-8	3.6	0.0	0.4	3.9	86	0	9	95	0	0	13
7-1	23.8	0.0	2.6	26.4	577	0	62	639	0	0	52
Total	69.1	0.5	11.6	81.1	1,675	11	281	1,967	4	0	185
Alt Routes											
6-A	15	0	1	16	362	0	31	393	2	1	31
6-B	11	.4	2	14	277	10	57	344	3	1	36
6-C	19	.7	4	23	451	16	96	564	4	2	50
6-D	8	0	1	9	204	0	19	223	0	0	17
7-A	37	0	2	39	889	0	57	946	2	0	88

Poinsett County has by far the greatest acreage impacted of the four counties accounting for 44% of the land in the Representative Right-of-Way. In addition it has the largest number of landowners impacted. Seven of the eight irrigation pumps potentially affected are in Cross and Poinsett counties.

In terms of the three physiographic regions in the Study Area, the Western Lowlands and the St. Francis Basin contain 98.7% of the cropland impacted by the Project. Crowley’s Ridge has only 21 acres of cropland impacted. (See Table 5-2)

Table 5-2. Applicant Proposed Route, Representative Right of Way: Total Acres by Physiographic Area

Item	Western Lowlands	Crowley's Ridge	St. Francis Basin
Right of Way Total Area (Acres)	862	121	984
Cropland (Acres)	751	21	898

Table 5-3 compares the links of the Applicant Proposed Route land use and other characteristics with alternative routes. The comparison is organized by “Points” (e.g., Point B to Point E) referenced in the map in Figure 5-1.

Table 5-3. Comparison of Alternative Transmission Line Links

Alternate Links Compared to Proposed Links				Based on 200' R/W							
CL Links	Total Line Length mi.	Total R/W Acres	Cropland Length mi.	Cropland Acres	Pasture Length mi.	Pasture Acres	Other Length mi.	Other Acres	Number Tracts	Number Wells	Number Relifts
Map Point B to E											
6-A	16	393	15	362	0	0	1	31	31	2	1
6-2,3,4	18	429	16	388	0	0	2	41	49	2	0
Map Point C to D											
6-B	14	344	11	277	0.4	10	2	57	36	3	1
6-3	10	235	9	209	0	0	1	25	31	1	0
Map Point F to I											
6-C	23	564	19	451	0.7	16	4	96	50	4	2
6-6,7	25	613	18	443	0.5	11	7	159	54	2	0
Map Point H to I											
6-D	9	223	8	204	0	0	1	19	17	0	0
6-7	8	205	8	188	0	0	1	17	15	0	0
Map Point J to K											
7-A	39	946	37	889	0	0	2	57	88	2	0
7-1	26	639	24	577	0	0	3	62	52	0	0

From Map Point B to E, the Applicant Proposed Route (6-2, 6-3, 6-4) is about 2 miles longer than the alternative route (6-A). The Applicant Proposed Route (APR) would increase the total number of cropland acres within the Representative ROW by 26 acres or by about 7%, as compared to the Alternative Route. The APR intersects 18 more tracts, or 58%. The APR would not affect any relift systems in the right of way, as compared to the alternative, which could affect one system.

From Map Point C to D, the Applicant Proposed Route (6-3) is about 4 miles or 40% shorter than the alternative route (6-B). The Applicant Proposed Route would decrease the total number of cropland acres within the Representative ROW by 68 acres or by about 25%, as compared to the Alternative Route. The APR intersects 5 fewer tracts, a reduction of 14%. The APR would not affect any relift systems in the right of way, as compared to the

alternative, which could affect one system. The APR would impact only one irrigation well while the Alternative Route impacts three irrigation wells.

From Map Point F to I, the Applicant Proposed Route (6-6, 6-7) is about two miles or 9% longer than the alternative route (6-C). The Applicant Proposed Route would decrease the total number of cropland acres within the Representative ROW by 8 acres or by about 2%, as compared to the Alternative Route. The APR intersects 4 more tracts, an increase of 8%. The APR would not affect any relift systems in the right-of-way, as compared to the alternative, which could affect two systems. The APR would impact two irrigation wells while the Alternative Route impacts four irrigation wells.

From Map Point H to I, the Applicant Proposed Route (6-7) is about one mile or 11% shorter than the alternative route (6-D). The Applicant Proposed Route would decrease the total number of cropland acres within the Representative ROW by 16 acres or by about 8%, as compared to the Alternative Route. The APR intersects two fewer tracts, an increase of 12%. There are no relift systems or irrigation wells in the APR or the alternative route right-of-ways.

From Map Point J to K, the Applicant Proposed Route (7-1) is about 13 miles or 33% shorter than the alternative route (7-A). The Applicant Proposed Route would decrease the total number of cropland acres within the Representative ROW by 312 acres or by about 35%, as compared to the Alternative Route. The APR intersects 26 fewer tracts, a decrease of 41%. The APR and the Alternative Route would not affect any relift systems in the right-of-way. The APR would not impact any irrigation wells while the Alternative Route impacts two irrigation wells.

6 REFERENCES

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7 APPENDICES

7.1 APPENDIX – AGRICULTURAL IMPACT MITIGATION POLICY

**Clean Line Energy Partners LLC
Agricultural Impact Mitigation Policy
For
Construction, Operation, and Maintenance of Electric Transmission Facilities on
Agricultural Lands**

Clean Line Energy Partners LLC and its subsidiaries (Clean Line) seek to identify measures to minimize, reclaim, and mitigate impacts to agricultural lands during the construction, operation, and maintenance phases of Clean Line’s projects. This Agricultural Impact Mitigation Policy articulates concerns and addresses issues associated with electric transmission line development on agricultural lands and sets forth a general approach to preserve the utility and productivity of these lands.

This policy has been developed to address agriculture impacts that occur partially or wholly on privately owned agricultural lands. It does not address activities on public lands, public rights-of-way, urban areas, or those lands not dedicated to agriculture.

This Agricultural Impact Mitigation Policy does not take the place of an agreement or policy at the project or state level. Some states require a specific Agricultural Impact Mitigation Agreement (AIMA). This policy document offers broad guidance for addressing agricultural issues common to Clean Line’s projects and provides the guidance and foundation for more detailed plans.

Communications

Clean Line is committed to preserving open communications with all landowners and tenants throughout the development of its projects. Clean Line will communicate with landowners and tenants on the status of projects and discuss potential impacts and concerns with respect to specific agriculture operations. Landowners and tenants are encouraged to contact Clean Line with any and all concerns related to agricultural impacts. Agricultural Impact Mitigation Policy

Prior to property access, Clean Line will attempt to notify landowners of upcoming construction-related activities that will occur on their property. For maintenance activities, Clean Line will make every effort to notify landowners prior to accessing their property; however, in emergency situations immediate notifications may not be practical.

Facilities

Clean Line will use commercially reasonable good faith efforts to work with landowners when determining structure placement and designing access roads. The large majority of

access roads will be temporary in nature. These will be removed and land reclaimed following construction. Permanent access roads may be necessary in rare circumstances. Both temporary and permanent roads will be designed and constructed so as not to impede water flow and to minimize the potential for soil erosion.

Drainage and other Soil Conservation Practices

Clean Line will coordinate with landowners during the easement negotiation process to identify drainage and soil conservation improvements such as ditches, culverts, drainage tiles, levees, and terraces. Clean Line will seek to avoid impacts to these locations whenever possible; however, if impacts do occur, these improvements will be reclaimed or restored to their pre-construction condition. Temporary repairs during construction may be necessary and will be conducted as appropriate. Any permanent reclamation or restoration work conducted by Clean Line or its representatives will incorporate materials and methods of the same or better quality as that of the original improvements.

Irrigation

Clean Line will work to minimize impacts to surface and subsurface irrigation systems located on agricultural lands. When practical, Clean Line will avoid placement of poles or towers in locations that will permanently affect irrigation systems. Clean Line will make an effort to minimize any permanent impacts to irrigation; however, if permanent impacts are unavoidable, Clean Line will consult with landowners and tenants to identify damages and compensate for the value of these damages. Temporary construction-related impacts to irrigation that result in crop damage, both on and off Right-of-Way, will be mitigated through compensation to the landowner or tenant (as appropriate).

Soil Restoration

Clean Line recognizes the importance of topsoil in agricultural lands and is committed to minimizing impacts to this resource. Soils impacted by construction or maintenance activities will be restored to as near as practical to pre-disturbance conditions. Soil restoration activities may include topsoil segregation, de-compaction, liming, tillage, or fertilization of impacted soils located both on and off Right-of-Way, or as otherwise agreed to with the landowner. These restoration activities are specific to areas directly affected by project construction or maintenance. Clean Line is committed to the timely implementation of restoration practices, weather and landowner permitting. Any restoration activities will be performed during suitable weather conditions, so as not to jeopardize future soil productivity.

Construction Reclamation and Clean Up

Clean Line is committed to responsible and timely reclamation of the construction Right-of-Way and access roads. Clean Line will consult with landowners to determine an appropriate disposal plan for excess aggregate or subsoil materials that are located on the Right-of-Way. Weather and landowner permitting, excess materials will be removed prior to final reclamation activities. Trash and refuse will be removed from the Right-of-Way on a daily basis; and littering by construction personnel or Clean Line representatives will not be

tolerated.

Damage to Private Property

Clean Line will repair any damage to private property caused by the construction, operation, or maintenance of its projects. Repairs will take place in a timely manner, weather and landowner permitting. If landowners choose to perform their own repair of damaged property, Clean Line will offer compensation based on the commercial rate to complete the repair.

Agriculture and Conservation Programs

Clean Line will consult with landowners and tenants to identify the location of any agriculture or conservation stewardship programs and to understand the criteria for maintaining the integrity of these commitments. Clean Line is committed to working with landowners and tenants to avoid or minimize impacts that would otherwise jeopardize the enrollment of these properties in such programs.

Specialty Crops and Organic Farms

Clean Line recognizes that some forms of agriculture, such as specialty crops or organic farming, incorporate special practices, techniques, or standards to facilitate crop production. The operation of a transmission line does not preclude specialty agriculture, nor does it reduce eligibility for organic farm certification. Clean Line will consult with landowners and agriculture specialists to identify these specialty lands, and as appropriate, incorporate construction measures to prevent impacts that could otherwise jeopardize any standards or certifications that support these types of agriculture. Construction measures associated with specialty croplands or organic farms will be discussed with landowners and tenants prior to construction.

Aerial Application

Aerial application of herbicides, fungicides, pesticides, and fertilizers is a common practice associated with certain types of crops. The presence of an above-ground electric transmission facility may affect aerial application within or near a transmission line right-of-way. Clean Line will consider potential impacts to aerial application as well as other permanent agricultural impacts when routing and negotiating easements.

Damage to Crops

Clean Line will work with landowners to develop compensation for lost crop value caused by construction and/or maintenance

AIMA or Project Specific Plans

Clean Line has developed this Agriculture Impact Mitigation Policy to outline principles for minimizing impacts to agricultural lands. This document is not meant to satisfy the requirements of a state regulated Agricultural Impact Mitigation Agreement (AIMA), nor does it identify the detailed mitigation practices that are typically suggested in state- or project-specific plans. Detailed minimization, reclamation, and mitigation practices will be

further defined as specific agricultural issues and concerns associated with each project are identified.

Proposed addition to the Agricultural Impact Mitigation Policy

In addition the Study is proposing that the following be added to the Agriculture Impact Mitigation policy.

- **Site Plan for Each Farm**

Clean Line or its representative will work with landowners or their representatives in the development of a site plan for each cropland farm on which construction or maintenance is to be performed. These Site Plans will:

- Clearly identify the estimated cost for each work item that must be performed in order for Clean Line to comply with its Agriculture Impact Mitigation Policy.
- Show preconstruction ground and improvement elevations along with the description and condition of improvements to be impacted.
- Show planned post construction conditions of ground and improvements.
- Identify those work items landowners prefer to undertake.
- Include a schedule for completing each work item.

The site plans will be approved by Clean Line and the landowner prior to construction. After construction is completed, a final inspection will be made with the results being agreed to and certified by both Clean Line and the landowner.

7.2 APPENDIX – SUMMARY OF AVAILABLE DATA LAYERS

Available data that can be incorporated into ArcGIS, the primary evaluation tool used for our assessment.

Data Type	Description	Potential for use for irrigation
Cadastral	Public Land Survey System (PLSS) Townships	low
	Public Land Survey System (PLSS) Sections	low
Census	TIGER 2010 Census Blocks	low
	TIGER 2010 Census Block Groups	low
	TIGER 2010 Census Tracts	low
	ESRI Maps County Demographic Statistics by State	low
	ESRI Maps State Demographic Statistics by State	low
	TIGER 2010 State and County Demographic Statistics by State	low
	TIGER 2010 County Social, Economic, Housing Stats by State	low
Climate Precipitation	1961-1990 Monthly Average Precipitation by State	moderate
	1961-1990 Annual Average Precipitation by State	moderate
	1971-2000 Monthly Average Precipitation by State	moderate
	1971-2000 Annual Average Precipitation by State	moderate
	1981-2010 Monthly Average Precipitation by State	moderate
	1981-2010 Annual Average Precipitation by State	moderate
Climate Prismraster	1961-1990 Annual Average Raster Precipitation by State	moderate
	1971-2000 Annual Average Raster Precip and Temp by State	moderate
	1981-2010 Annual Average Raster Precip and Temp by State	moderate
Climate Temperature	1971-2000 Annual Average Minimum Temperature by State	moderate
	1971-2000 Annual Average Maximum Temperature by State	moderate
	1981-2010 Annual Average Minimum Temperature by State	moderate
	1981-2010 Annual Average Maximum Temperature by State	moderate
Common Land Unit	Common Land Units	Highest
Disaster Events	Disaster Response 7.5' Quadrangle Mosaics	low
Easements	NRCS Conservation Easement Areas by State	low

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	NRCS Conservation Easement Points by State	low	
Elevation	LiDAR Elevation Dataset - Bare Earth DEM - 1 Meter	low	
	LiDAR Elevation Dataset - Bare Earth DEM - 2 Meter	low	
	National Elevation Dataset 3 Meter	moderate	
	National Elevation Dataset 10 Meter	moderate	
	National Elevation Dataset 30 meter	moderate	
	National Elevation Dataset 60 meter (AK)	moderate	
	IFSAR Elevation Digital Terrain Model (DTM)	low	
Elevation Derivatives	LiDAR Elevation Dataset - Bare Earth Slope Degree - 1 Meter	low	
	LiDAR Elevation Dataset - Bare Earth Slope Degree - 2 Meter	low	
	LiDAR Elevation Dataset - Bare Earth Slope Percent - 1 Meter	low	
	LiDAR Elevation Dataset - Bare Earth Slope Percent - 2 Meter	low	
	LiDAR Elevation Dataset - Bare Earth Aspect - 1 Meter	low	
	LiDAR Elevation Dataset - Bare Earth Aspect - 2 Meter	low	
	LiDAR Elevation Dataset - Bare Earth Hillshade - 1 Meter	low	
	LiDAR Elevation Dataset - Bare Earth Hillshade - 2 Meter	low	
	IFSAR Elevation Correlation (COR)	low	
	IFSAR Elevation Digital Surface Model (DSM)	low	
	IFSAR Elevation Ortho Rectified Image (ORI)	low	
	Geographic Names	Geographic Names - Populated Places	moderate
		Geographic Names - Non-Populated Places	moderate
Geology	National scale Geology by State	low	
Government Units	NRCS Counties by State	high	
	NRCS States by State	low	
	TIGER/NRCS 113th Congress Districts by State	low	
	TIGER 2010 Urban Areas by State	low	
	ESRI Maps Places by State	low	
	ESRI Maps Postal Inventory by State	low	
	ESRI Maps Postal Boundaries (Zip code) by State	low	
	TIGER 2010 American Indian Lands		
	Federal, State, Tribal, etc. Protected Areas Land Ownership	low	
	Hydrography	National Hydrography Dataset 1:24,000	low
Land Use Land Cover	National Land Cover Dataset by State	low	

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	Cropland Data Layer by State	highest
Landmarks	ESRI Maps Area Landmarks	low
	ESRI Maps Recreation Areas	low
	ESRI Maps Parks	low
	ESRI Maps Institutions	low
	ESRI Maps Retail Centers by State	low
Map Indexes	Quadrangle Index 1:12,000	moderate
	Quadrangle Index 1:20,000	moderate
	Quadrangle Index 1:24,000	moderate
	Quadrangle Index 1:25,000	moderate
	Quadrangle Index 1:63,000	moderate
	Quadrangle Index 1:100,000 by State	moderate
	Quadrangle Index 1 Degree by State	moderate
	Quadrangle Index 1:250,000 by State	moderate
Ortho Imagery	Digital Ortho County Mosaic of 7.5' quads by APFO	high
	ErMapper Ortho Mosaic by NRCS	high
	DOQ Multi-County Mosaic by NRCS	high
	Digital Ortho County Mosaic of 7.5' quads by NRCS	high
	Digital Ortho Quad County Mosaic-Natural Color	high
	Digital Ortho Quad County Mosaic-Color Infrared	high
	Digital Ortho High Resolution Mosaic-Black and White	high
	Digital Ortho High Resolution Mosaic-Natural Color	high
	Digital Ortho High Resolution Mosaic-Color Infrared	high
	Digital Ortho HiRes Proprietary Mosaic-Natural Color	high
	Digital Ortho HiRes Proprietary Mosaic-Color Infrared	high
	NAIP NCGC Derivative Mosaic	low
	2003 National Aq. Imagery Program Mosaic	low
	2004 National Aq. Imagery Program Mosaic	low
	2005 National Aq. Imagery Program Mosaic	low
	2006 National Aq. Imagery Program Mosaic	low
	2007 National Aq. Imagery Program Mosaic	low
	2008 National Aq. Imagery Program Mosaic	low
	2009 National Aq. Imagery Program Mosaic	low
	2010 National Aq. Imagery Program Mosaic	high
2011 National Aq. Imagery Program Mosaic	high	
2012 National Aq. Imagery Program Mosaic	high	
2013 National Aq. Imagery Program Mosaic	high	
Sca Administration	SCA Service Center Areas by State	low
	SCA NRCS Areas by State	low
	SCA NRCS Teams by State	low
Soils	Major Land Resource Areas by State	moderate

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	Common Resource Areas by State	moderate
	Soil Survey Spatial and Tabular Data (SSURGO 2.2)	highest
	U.S. General Soil Map (STATSGO2) by State	moderate
	Gridded Soil Survey Geographic (gSSURGO) by State or Conterminous U.S.	
Topographic Images	Digital Raster Graphic County Mosaic by NRCS	high
	Enhanced Digital Raster Graphic 1:20,000	high
	Enhanced Digital Raster Graphic 1:24,000	high
	Enhanced Digital Raster Graphic 1:25,000	high
	Enhanced Digital Raster Graphic 1:63,360	high
	Enhanced Digital Raster Graphic 1:100,000	high
	Enhanced Digital Raster Graphic 1:250,000	high
Transportation	TIGER 2010 Primary Roads by State	high
	TIGER 2010 Primary and Secondary Roads	highest
	TIGER 2010 Streets	low
	ESRI Maps Highways	low
	ESRI Maps Streets	low
	ESRI Maps Airports by State	low
	ESRI Maps Railroads	high
	ESRI Maps Transportation Terminals by State	low

7.3 APPENDIX – FARMLAND PROTECTION POLICY ACT

- I. Purpose and Requirements of Farmland Protection and Policy Act (FPPA) and Scope of Evaluation
 - A. Purpose of FPPA. The purpose of FPPA is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland. 1/
 - B. Requirements of FPPA. Departments, agencies, independent commissions, and other units of the Federal Government shall use the criteria developed by USDA to identify the quantity of farmland actually converted by Federal programs, and to identify and take into account the adverse effects of Federal programs on the preservation of farmland; to consider alternative actions, as appropriate, that could lessen such adverse effects; and to assure that such Federal programs, to the extent practicable, are compatible with State, unit of local government, and private programs and policies to protect farmland. 1/
 - C. Scope of land covered FPPA. The FPPA applies to conversion of important farmland. Important farmland includes, prime farmland, unique farmland, and farmland other than prime or unique farmland, that is of statewide or local importance for the production of food, feed, fiber, forage, or oilseed crops, as determined by the appropriate State or unit of local government agency or agencies, and that the USDA Secretary determines should be considered as farmland for the purposes of FPPA. 1/
 - D. Scope of programs covered by FPPA. The FPPA applies to “Federal programs, activities or responsibilities of a department, agency, independent commission, or other unit of the Federal Government that involve (a) undertaking, financing, or assisting construction or improvement projects; or (b) acquiring, managing, or disposing of Federal lands and facilities. 1/
 - E. When the evaluation should be made. It is advisable that evaluations and analyses of prospective farmland conversion impacts be made early in the planning process before a site or design is selected, and that, where possible, agencies make the FPPA evaluations part of the National Environmental Policy Act (NEPA) process. Under the agency's own NEPA regulations, some categories of projects may be excluded from NEPA which may still be covered under the FPPA. 1/
 - F. Western Lowlands (West of Crowley’s Ridge)
 - G. Crowley’s Ridge (The Ridge)

H. St. Francis Basin (East from Crowley's Ridge to the Mississippi River in the project area)

II. **Outline of the Regions and the Natural Resource Areas**

A. **Regions to be evaluated under FPPA.** Regions 6 and 7 of the Clean Line project and, the alternative corridors in each of the two regions will be outlined. The FPPA evaluation will be made for all of region 6 and 7 in the Delta of the state of Arkansas. The western start point of region 6 is at US Rt. 67 and Rt. 224 in Jackson County. Region 6 goes east through the Western Lowlands, and over Crowley's Ridge and into the St. Francis Basin of the Mississippi Delta, and includes Jackson, Poinsett and Cross counties. There are five alternative corridors for parts of region 6. The alternative corridors are: L-1, L-2, L-3, L-4 and L-5. Region 7 is all in the St. Francis Basin. The evaluation point for region 7 will start at County Road 56 and Aston Road below Marked Tree in Poinsett County and stop at the Mississippi River in Mississippi County. The region will cross through parts of Poinsett and Mississippi Counties. There are two alternative corridors in Arkansas for region 7. The alternatives corridors in Arkansas are M-1 and M-2.

B. **Define the three land form areas covered by the project.**

1. East of Ridge (St. Francis Basin). The St. Francis Basin is the eastern end of the proposed Clean Line proposed project. The area extends from the Mississippi River to Crowley's Ridge. The major crops grown in the St. Francis Basin are soybeans, rice and corn and cotton. The ground water is near the surface and available for irrigation at a low pumping cost. The major soil types are Sharkey silty clay, Alligator clay loam and Tunica silty clay. These soils are deep and more than 80 inches deep. These soils are prime farmland where drained and protected from flooding. More than 90% of the soils in this reach are important farmland soils. The water table is 0 to 16 inches and the soils are poorly drained. The soils in this are drained and protected from flooding. These soils are flat and on slopes of 0 to 1 percent. Erosion is not a major concerns
2. The Ridge (Crowley's Ridge). The Crowley's Ridge is a narrow strip of land running north to south. Crowley's Ridge is the dividing line between the St. Francis Basin and the Western Lowlands areas. The ridge is rolling to very steep. The major crops grown in the Crowley's Ridge are hay and pasture. Much of Crowley's Ridge is in woodland. The ground water is deep and the pumping cost is high. The major soil types in the ridge area are Loring silt loam, Brandon silt loam and

Collins silt loam. Loring silt loam and Brandon silt loam are sloping area to very steep areas. The sloping and steep areas are subject to erosion. The soils in the ridge area are deep with 22 to more than 80 inches to a restrictive feature. The soils are well to moderately well drained, with a water table between 16 and more than 80 inches. The soils are not subject to frequency flooding or ponding. Collins silt loam is prime farmland, Loring silt loam, on the flat slopes, is land of statewide importance and the steep areas are not important farmland. Brandon silt loam is not important farmland. More than 50% of the soils in this reach are important farmland soils.

3. West of Ridge (Western Lowlands). The Western Lowlands are located west of Crowley's Ridge to the western end of region 6 of the Clean Line project area. The major crops grown in the Lowlands are soybeans, cotton, corn and wheat. The ground water is deep and the cost of pumping is high. The major soil types in this area are Henry silt loam, Hillemann silt loam, Crowley silt loam and Jackport silty clay loam. Hillemann silt loam is land of statewide importance. All of the other soils are prime farmland when drained and protected from flooding. More than 90% of the soils in this reach are important farmland soils. Most of the soils in this area are drained and protected from flooding. These soils have a restrictive feature between 8 and 36 inches, and a water table of 6 to 18 inches. These soils are poorly to somewhat poorly drained. These soils are on flat slopes and are not subject to erosion.

III. Evaluation Process

- A. Request FPPA land evaluation information from the NRCS State Conservationist in Little Rock, Arkansas.

The FPPA rule provides that an agency may make a determination in regard to whether a site is subject to the Act. If an agency elects not to make its own determination, it should make a request to NRCS on Form NRCS-CPA 106, the Farmland Conversion Impact Rating Form for Corridor Type Projects, available at NRCS offices, for determination of whether the site is farmland subject to the Act. If neither the entire site nor any part of it is subject to the Act, then the Act will not apply and NRCS will so notify the agency. If the site is determined by NRCS to be subject to the Act, then NRCS will measure the relative value of the site as farmland on a scale of 0 to 100. The Form NRCS-CPA 106 will be returned to the agency by NRCS.

- B. Secure maps of the section and the alternative corridors and determine acres to be converted, both direct and indirect and provide to NRCS. Based on a photo-based map at a scale of 1 inch to 1320 feet, the following will be determined:
1. Acres to be converted directly as a result of the foot print of poles and other structures. This number will be based on land covered and any other that the easement will not permit farming.
 2. Acres that will become non-farmable as a result of structures. This will be based on the location of structures in the fields and the extent to which the farmer will not be able to plant, irrigate or carry out other farming practices. Both direct and indirect converted acres will be evaluated as converted. In addition to determining the acres converted, the impact of the structures will be used to rate factors #1, #6, #9 and #10.
- C. Complete Form NRCS-CPA-106 for sections 6 and 7 and send the two forms to NRCS and request information for parts I and III for each alternative corridor in the two sections. NRCS State Conservationist will be sent a map at a scale of 1 inch to 2,000 feet (USGS map scale) with the following.
1. Overlay of the alternative corridors to include the location of the proposed 200 feet easement in each the corridors.
 2. Overlay of soil survey map.
- D. Collect needed information for evaluation of the ten factors on Form NRCS-CPA-106.
1. Secure a photo-based map with the following:
 - a. Outline of land ownership and the name of owner at scale of 1320.
 - b. Outline of the three alternative corridors considered for section 6 and two alternative corridors considered for section 7 (with 1,000 feet corridor and 200 feet easement). Footprints should be provided if available.
 - c. On-farm investment (housing, wells, storage, irrigation system, farm roads, drainage).
 2. Land use map
 3. Soil survey map. (With list of important farmland soils and unique farmland location).
 4. Secure information on state and local programs to protect farmland for each alternative corridor in sections 6 and 7.
 5. From the USDA Agricultural Census, secure the average farm size for the four counties that sections 6 and 7 pass through.

6. Develop a list of the off-farm agriculture support services for each alternative corridor in sections 6 and 7.
- E. Evaluate the information secured in “B” above and rate the alternative corridors of sections 6 and 7 for the ten factors listed on Form NRCS-CPA-106. Outline the assumptions used for the evaluation and rating.

After the agency receives from NRCS the score of a corridor’s relative value as described in §658.4(a) and then applies the site assessment criteria which are set forth in §658.5 (b) and (c), the agency will assign to the site a combined score of up to 260 points, composed of up to 100 points for relative value and up to 160 points for the site assessment. With this score the agency will be able to identify the effect of its programs on farmland, and make a determination as to the suitability of the site for protection as farmland. Once this score is computed, USDA recommends: 1/

1. Sites with the highest combined scores are regarded as most suitable for protection under these criteria, and sites with the lowest scores as least suitable.
2. Sites receiving a total score of less than 160 need not be given further consideration for protection and no additional sites will need to be evaluated.
3. Sites receiving scores totaling 160 or more be given increasingly higher levels of consideration for protection.
4. When making decisions on proposed actions for sites receiving scores totaling 160 or more, agency personnel should consider additional alternatives.

F. Rating Factors

1. Area in Nonurban Use – How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?

More than 90 percent—15 points
90 to 20 percent—14 to 1 point(s)
Less than 20 percent—0 points

Assumptions used for the evaluation and rating – Based on the photos, determine the percentage of the area within 1 mile of each alternative corridor in non-urban use for sections 6 and 7.

Rate each alternative corridor according to measurement. Farm buildings will be considered as non-urban.

2. Perimeter in Non-urban Use – How much of the perimeter of the corridor borders is land in non-urban use?

More than 90 percent—10 points
90 to 20 percent—9 to 1 point(s)
Less than 20 percent—0 points

Assumptions used for the evaluation and rating – Based on photos, determine the percentage of the perimeter in non-urban use for each alternative corridor for sections 6 and 7. The perimeter of a site is the 200 feet easement. Farm buildings will be considered as non-urban. Rate each alternative corridor according to measurement.

3. Percent of Corridor Being Farmed – How much of the site has been farmed or managed for a scheduled harvest or timber activity for more than 5 of the last 10 years?

More than 90 percent—20 points
90 to 20 percent—19 to 1 points(s)
Less than 20 percent—0 points

Assumptions used for the evaluation and rating – Based on photos, determine the percentage of each alternative corridor in section 6 and 7 that is being farmed. An area will be considered as farmed if crops are grown or forestland managed for harvest. Streams, wetland, brush and non-farm roads will be considered as not farmed.

4. Protection Provided by State and Local Government – Is the site subject to State or unit of local government policies or programs to protect farmland, or covered by private programs to protect farmland?

Site is protected—20 points
Site is not protected—0 points

Assumptions used for the evaluation and rating – Based on land use planning, policies, and regulations, determine the extent to which land in each alternative corridor in sections 6 and 7, is protected from agricultural conversion by state and local governmental units.

5. Size of Present Farm Unit Compared To Average – Is the farm unit(s) containing the site (before the project) as large as the average-size farming unit in the county? Average farm sizes in each county are available from the NRCS field offices in each State. Data are from the latest available Census of Agriculture, Acreage of Farm Units in Operation with \$1,000 or more in sales.

As large or larger—10 points

Below average—deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average—9 to 0 points

Assumptions used for the evaluation and rating – Based on the photos with the property lines and owner names, determine the size of the farms impacted by the project as compared to the average size for the county for each alternative corridor in sections 6 and 7.

6. Creation of Nonfarmable Farmland – If this site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?

Acres equal to more than 25 percent of acres directly converted by the project—10 points

Acres equal to between 25 and 5 percent of the acres directly converted by the project—9 to 1 point(s)

Acres equal to less than 5 percent of the acres directly converted by the project—0 points

Assumptions used for the evaluation and rating – Based on the photos, the location of the alternative corridors along property lines, the placement of poles, the type of pole, the type of irrigation and water measurements systems, and the crops grown, a determination of the amount of land that will become nonfarmable as a result of the project will be made for each alternative corridor in sections 6 and 7, both direct and indirect.

7. Availability Of Farm Support Services – Does the site have an available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?

All required services are available—5 points

Some required services are available—4 to 1 point(s)

No required services are available—0 points

Assumptions used for the evaluation and rating – Based on information collected in regard to availability of farm support services, rate each alternative corridor according to the extent to which farm support services are available.

8. On-Farm Investments – Does the site have substantial and well-maintained on-farm investments such as barns, other storage buildings, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?

High amount of on-farm investment—20 points

Moderate amount of on-farm investment—19 to 1 point(s)

No on-farm investment—0 points

Assumptions used for the evaluation and rating – Based on photos and collected information for three land type regions, rate each alternative corridor in sections 6 and 7 based on the level of on-farm support investments. On-farm investments will include wells, irrigation systems, farm storage, farm housing, land leveling barns, storage buildings, fruit trees and vines, field terraces, drainage, waterways, or other soil and water conservation measures and any other on farm improvements.

9. Effects Of Conversion On Farm Support Services – Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?

A large reduction in demand for support services if the site is converted—25 points

Some reduction in demand for support services if the site is converted—24 to 1 point(s)

A small reduction in demand for support services if the site is converted—0 points

Assumptions used for the evaluation and rating – Based on ratings for factor #7 above, and photos for alternative corridors, determine the effects of the land conversions on farm support services for sections 6 and 7.

10. Compatibility With Existing Agricultural Use – Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?

Proposed project is incompatible with existing agricultural use of surrounding farmland—10 points

Proposed project is tolerable to existing agricultural use of surrounding farmland—9 to 1 point(s)

Proposed project is fully compatible with existing agricultural use of surrounding farmland—0 points

Assumptions used for the evaluation and rating – Based on the photos, and the location of lines and poles, a determination will be made in regard to compatibility of the Clean Line project with existing agricultural use for each alternative corridor in sections 6 and 7. This evaluation will be based on the extent to which each alternative corridor will be impacted by the project based on location of the Clean Line transmission line and property lines, location of foot print.

IV. Summary

For each of the two sections, outline the alternative corridor that has the lowest farmland conversion rating and the least impact of farmland conversion both direct and indirect.

7.4 APPENDIX – ENVIRONMENTAL AND OTHER PROTECTION MEASURES

These environmental and other protection measures are from the May 214 Project Description. Only those measures relevant to the agricultural issues were considered in the analysis.

Project Plans

Clean Line will develop and implement the following environmental-related plans to avoid or minimize effects to environmental resources from construction, operations and maintenance, and/or decommissioning as appropriate:

- ☐ Transportation and Traffic Management Plan. This plan will describe measures designed to avoid and/or minimize adverse effects associated with the existing transportation system.
- ☐ Restoration Plan. This plan will describe post-construction activities to reclaim disturbed areas.
- ☐ Spill Prevention, Control and Countermeasures (SPCC) Plan. This plan will describe the measures designed to prevent, control, and clean up spills of hazardous materials.
- ☐ Storm Water Pollution Prevention Plan (SWPPP). This plan, consistent with federal and state regulations, will describe the practices, measures, and monitoring programs to control sedimentation, erosion, and runoff from disturbed areas.
- ☐ Transmission Vegetation Management Plan (TVMP). This plan, to be filed with the North American Electric Reliability Corporation (NERC), will describe how Clean Line will conduct work on its right-of-way to prevent outages due to vegetation.
- ☐ Avian Protection Plan (APP). This plan, consistent with Avian Power Line Interaction Committee (APLIC) guidelines, will describe a program of specific and comprehensive actions that, when implemented, reduce risk of avian mortality.
- ☐ Various cultural resources management planning documents, including historic properties treatment plans and unanticipated discoveries plans. These plans will set forth the process that Clean Line will use to identify, evaluate, and treat historic properties and cultural resources encountered during Project construction, operations and maintenance.
- ☐ Construction Security Plan. This plan will describe measures designed to avoid and/or minimize adverse effects associated with breaches in Project security during construction including terrorism, sabotage, vandalism, and theft. The plan will include provisions describing how the Project construction team will coordinate with state and local law enforcement agencies during construction to improve Project security and facilitate security incident response, if required.

Measures

Clean Line will develop and implement the following Environmental Protection Measures to avoid or minimize effects to environmental resources from construction, operations and

maintenance, and/or decommissioning as appropriate. Clean Line will designate certain areas as “environmentally sensitive,” and take actions to avoid and/or minimize effects on these areas to the extent practicable. Environmentally sensitive areas may include, but would not be limited to, wetlands, certain waterbodies, cultural resources, or wildlife habitat.

Categories of Environmental Protection Measures follow:

- ☐ General (GE) Measures;
- ☐ Land Use (LU) Measures;
- ☐ Soils (GEO) and Agriculture (AG) Measures;
- ☐ Fish, Vegetation and Wildlife (FVW) Measures; and
- ☐ Waters, Wetlands, and Floodplains (W).

General (GE) Measures

GE-1 Clean Line will train personnel on health, safety, and environmental matters. Training will include practices, techniques, and protocols required by federal and state regulations and applicable permits.

GE-2 Clean Line will design, construct, maintain, and operate the Project following current Avian and Power Line Interaction Committee guidelines to minimize risk of avian mortality.

GE-3 Clean Line will minimize clearing vegetation within the ROW, consistent with a Transmission Vegetation Management Plan filed with NERC, and applicable federal, state, and local regulations.

GE-4 Vegetation removed during clearing will be disposed of according to federal, state, and local regulations.

GE-5 Any herbicides used during construction and operations and maintenance will be applied according to label instructions and any federal, state, and local regulations.

GE-6 Clean Line will restrict vehicular travel to the ROW and other established areas within the construction, access, or maintenance easement(s).

GE-7 Roads not otherwise needed for maintenance and operations will be restored to preconstruction conditions to the extent practicable. Roads needed for maintenance and operations will be retained.

GE-8 Access controls (e.g., cattle guards, fences, gates) will be installed, maintained, repaired, replaced, or restored as required by regulation, road authority, or as agreed to by landowner.

GE-9 Clean Line will avoid damage to drainage features and other improvements

such as ditches, culverts, levees, tiles, and terraces to the extent practicable. If these features or improvements are inadvertently damaged, they will be repaired and or restored to the extent practicable.

GE-10 Clean Line will work with landowners to repair damage caused by construction, operation, or maintenance activities of the Project, as appropriate. Repairs will take place in a timely manner, weather and landowner permitting.

GE-11 Clean Line will conduct construction, operation, and maintenance activities to minimize the creation of dust. This may include measures such as limitations on equipment type, speed, and/or travel routes utilized. Water, dust palliative, gravel, combinations of these, or similar control measures may be used. Clean Line will implement measures to minimize the transfer of mud onto public roads.

GE-12 Clean Line will avoid remedial structures (e.g., capped areas, monitoring equipment, or treatment wells) on contaminated sites, Superfund sites, CERCLA remediation areas, and other similar areas. Workers will use appropriate protective equipment and appropriate safe working techniques when working at or near contaminated sites.

GE-13 Emergency and spill response equipment will be kept on hand during construction.

GE-14 Clean Line will restrict the refueling and maintenance of vehicles and the storage of fuels and hazardous chemicals within at least 100 feet from wetlands, surface waterbodies, and groundwater wells, or as otherwise required by federal, state, or local regulations.

GE-15 Waste generated during construction or maintenance, including solid waste, petroleum waste, and any potentially hazardous materials will be removed and taken to an authorized disposal facility.

GE-16 Where required by FAA, or in certain areas to protect aviator safety, Clean Line will mark structures and/or conductors and/or shield wires with high visibility markers (i.e., marker balls or other FAA-approved devices).

GE-17 Clean Line will consider noise and radio/television interference in the design of bundle configurations and conductors. To minimize noise and radio/television interference, Clean Line will maintain tension on insulator assemblies and protect the conductor surface from damage during construction.

GE-18 Clean Line will inspect the line from the ground and/or aircraft routinely. Damaged insulators or other equipment causing noise or radio/television interference will be identified and repaired or replaced.

GE-19 Clean Line will properly ground permanent structures (e.g., fences, gates) to reduce the potential for induced voltage and currents onto conductive objects in the ROW.

GE-20 Clean Line will conduct construction and scheduled maintenance activities during daylight hours to the extent practicable.

GE-21 Clean Line will maintain construction equipment in good working order. Equipment and vehicles that show excessive emissions of exhaust gasses and particulates due to poor engine adjustments or other inefficient operating conditions will be repaired or adjusted.

GE-22 Clean Line will impose speed limits during construction for access roads (e.g., to reduce dust emissions, for safety reasons, and for protection of wildlife).

GE-23 Clean Line will maximize the distance between stationary equipment and sensitive noise receptors to the extent practicable.

GE-24 Clean Line will route construction equipment away from sensitive noise receptors to the extent practicable.

GE-25 Clean Line will turn off idling equipment when not in use.

GE-26 When needed, Clean Line will use guard structures, barriers, flaggers, and other traffic controls to minimize traffic delays and road closures.

GE-27 Clean Line will minimize compaction of soils and rutting through appropriate use of construction equipment (e.g., low ground pressure equipment and temporary equipment mats).

GE-28 Hazardous materials and chemicals will be transported, stored, and disposed of according to federal, state, or local regulations or permit requirements.

GE-29 Clean Line will work with landowners and operators of active oil and gas wells, utilities, and other infrastructure to identify and verify the location of facilities and to minimize adverse impacts. Identification may include use of the One Call system and surveying of existing facilities.

GE-30 Clean Line will minimize the amount of time that any excavations remain open.

GE-31 Clean Line will provide sanitary toilets convenient to construction; these will be located greater than 100 feet from any stream or tributary or to any wetland. These facilities will be regularly serviced and maintained; waste disposal will be properly manifested. Employees will be notified of sanitation regulations and will be required to use sanitary facilities.

Land Use (LU) Measures

LU-1 Clean Line will work with landowners and operators to ensure that access is maintained as needed to existing operations (e.g., to oil/gas wells, private lands, agricultural areas, pastures, hunting leases).

LU-2 Clean Line will minimize the frequency and duration of existing road closures to the extent practicable.

LU-3 Clean Line will work with landowners to avoid and minimize impacts to residential landscaping to the extent practicable.

LU-4 Clean Line will coordinate with landowners to site access roads and temporary work areas to minimize impacts to existing operations and structures to the extent practicable.

LU-5 To the extent practicable, Clean Line will site the ROW along existing divisions of land (e.g., agricultural fields and parcel boundaries) and/or adjacent to existing linear infrastructure (e.g., roads, transmission lines, and pipelines).

(GEO) and Agriculture (AG) Measures

GEO-1 As appropriate, Clean Line will stabilize exposed slopes to minimize erosion.

Fish, Vegetation, and Wildlife (FVW) Measures

FVW-1 Clean Line will identify environmentally sensitive vegetation (e.g., wetlands, protected plant species, riparian areas, large contiguous tracts of native prairie). Impacts to these areas will be avoided and/or minimized to the extent practicable.

FVW-2 Clean Line will identify, control, and minimize the spread of non-native invasive species and noxious weeds to the extent practicable.

FVW-3 Clean Line will clearly demarcate boundaries of environmentally sensitive areas during construction to increase visibility to construction crews.

FVW-4 If construction- and/or decommissioning-related activities occur during the migratory bird breeding season, Clean Line will work with USFWS to identify migratory species of concern and conduct pre-construction surveys for active nests for such species. Clean Line will consult with USFWS and/or other resource agencies for guidance on seasonal and/or spatial restrictions designed to avoid and/or minimize adverse effects.

FVW-5 If construction occurs during important time periods (e.g., breeding, migration, etc.) or at close distances to environmentally sensitive areas with vegetation, wildlife, or aquatic resources, Clean Line will consult with USFWS and/or other resource agencies for guidance on seasonal and/or spatial restrictions designed to avoid and/or minimize adverse effects.

FVW-6 Clean Line will avoid and/or minimize construction within 300 feet of caves known to be occupied by threatened or endangered species to the extent practicable.

Waters, Wetlands, and Floodplains (W) Measures

W-1 Clean Line will minimize construction of access roads in special interest waters to the extent practicable.

W-2 Clean Line will identify, avoid, and/or minimize adverse effects to wetlands and waterbodies to the extent practicable. Clean Line will not place structure foundations within the Ordinary High Water Mark of Waters of the United States. Clean Line will locate foundations outside wetlands to the extent practicable.

W-3 Clean Line will establish streamside management zones within 50 feet of both sides of intermittent and perennial streams and along margins of bodies of open water where removal of low-lying vegetation is minimized.

W-4 If used, Clean Line will selectively apply herbicides within streamside management zones.

W-5 Clean Line will construct access roads to minimize disruption of natural drainage patterns including perennial, intermittent, and ephemeral streams.

W-6 Clean Line will not construct counterpoise or fiber optic cable trenches across waterbodies.

W-7 Clean Line will locate spoil piles from foundation excavations and fiber optic cable trenches outside of streamside management zones.

W-8 Dewatering will be conducted in a manner designed to prevent soil erosion (e.g., through discharge of water to vegetated areas and/or the use of flow control devices).

W-9 Clean Line will not construct converter stations within 100-year floodplains to the extent practicable. If impacts to a floodplain are unavoidable, Clean Line will design converter station sites to avoid adverse changes to the base flood elevation.

W-10 Clean Line will limit building new access roads and placement of structure foundations within 100-year floodplains to the extent practicable; however, placement of structures in 100-year floodplains will be required in some areas (e.g., the Mississippi River floodplain).

W-11 Clean Line will locate and minimize impacts to groundwater wells and springs within the construction ROW, to the extent practicable.

W-12 If blasting is required within 150 feet of a spring or groundwater well, Clean Line will conduct preconstruction monitoring of yield and water quality in cooperation with the landowner. In the event of damage, Clean Line will arrange for a temporary water supply through a local supplier until a permanent solution is identified.

W-13 If any groundwater wells are needed to support operational facilities, withdrawal volumes will be limited so as not to adversely affect supplies for other uses.

W-14 Clean Line will ensure that there is no off-site discharge of wastewater from temporary batch plant sites.

W-15 Clean Line will procure water from municipal water systems to the extent practicable.

7.5 APPENDIX – PROJECT MAPS

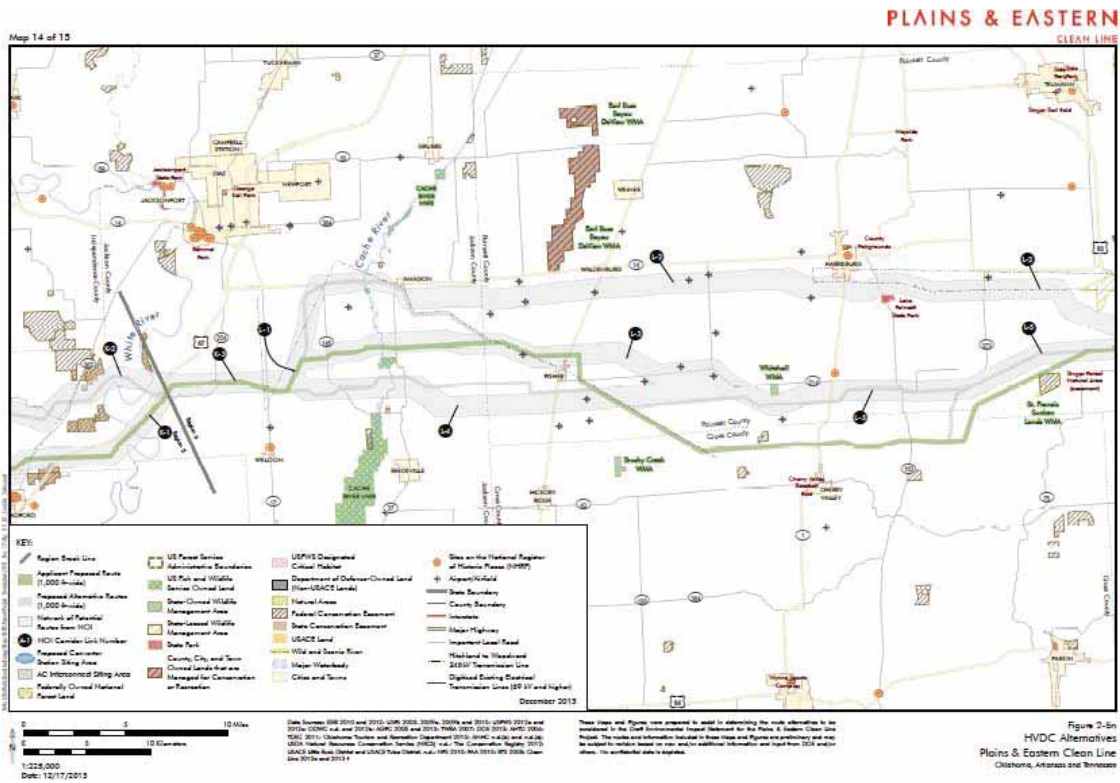


Figure 2-5n
HVDC Alternatives
Plains & Eastern Clean Line
Arkansas, Missouri and Tennessee

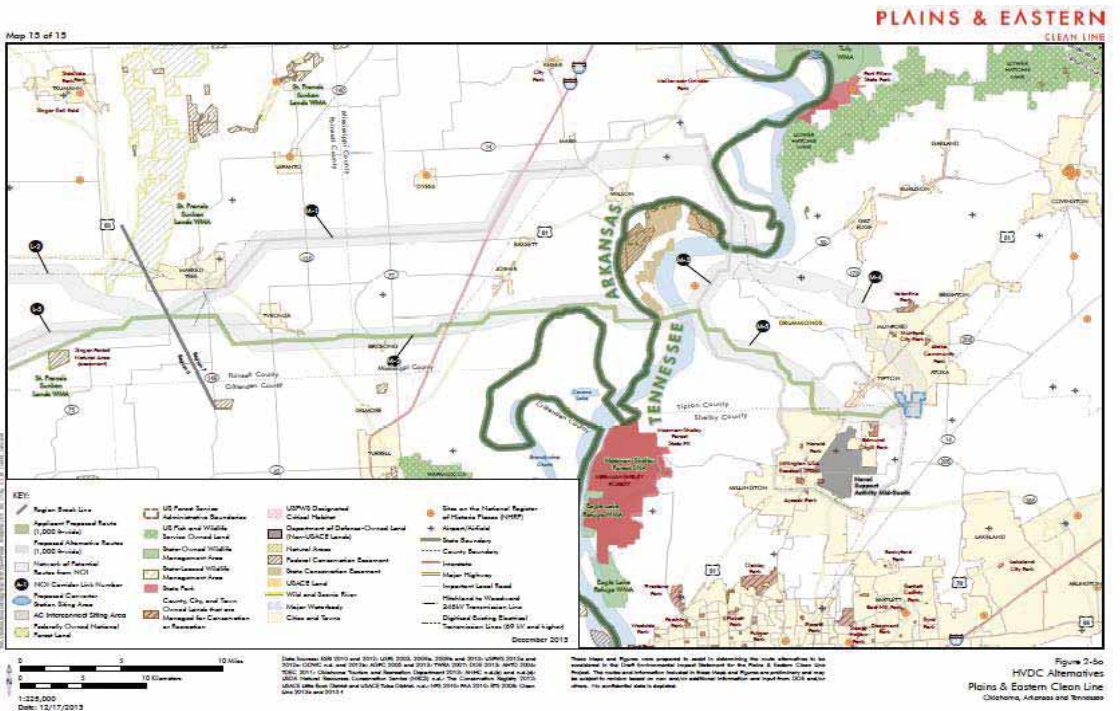


Figure 2-5o
HVDC Alternatives
Plains & Eastern Clean Line
Arkansas, Missouri and Tennessee

7.6 APPENDIX – CROP PRODUCTION DATA

Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)				Cumltv	Date**
				Supply	Machinery	Trips	Cost*		
Disk	Disk	32	Fall/Spring		\$ 6.56	1	\$ 6.56	\$ 18.09	Feb 15
Smooth field	Land Plane	17	Fall/Spring		\$ 5.91	1	\$ 5.91	\$ 24.00	Feb 20
Spring tillage	Field cultivator	36	Early Spring		\$ 4.69	1	\$ 4.69	\$ 28.69	Mar 1
Preplant fertilizer	Custom (ground)	60	Early Spring	\$ 54.40	\$ 6.00	1	\$ 60.40	\$ 89.09	Mar 15
Plant Rice	Grain drill	30	Spring	\$ 22.32	\$ 10.48	1	\$ 32.80	\$121.89	Apr 1
Roll/seal ground	Smooth Roller	32	PRE Emrgnc		\$ 4.11	1	\$ 4.11	\$126.00	Apr 1
PRE herbicides	Self propelled sprayer	90	PRE Emrgnc	\$ 17.12	\$ 2.36	1	\$ 19.48	\$145.48	Apr 1
Cut drainage furrows	PTO ditcher	1	PRE Emrgnc		\$ 0.37	1	\$ 0.37	\$145.85	Apr 1
Survey, pull, seed levees	Surveyor/Levee Plow	8	PRE Emrgnc		\$ 6.72	1	\$ 6.72	\$152.57	Apr 2
Install levee gates	Blade/manual		PRE Emrgnc	\$ 0.60	\$ 1.94	1	\$ 2.54	\$155.11	Apr 2
Flush field	Irrigation well		As needed				\$ -	\$155.11	Apr 8
POST herbicides	Custom (aerial)	63	POST Emrgnc	\$ 53.35	\$ 7.00	1	\$ 60.35	\$215.46	May 20
Preflood fertilizer	Custom (aerial)	60	4-5 lf rice	\$ 73.24	\$ 16.10	1	\$ 89.34	\$304.80	May 20
Spray levees	ATV spray rig	10	Mid-season	\$ 3.73	\$ 0.36	1	\$ 4.09	\$308.89	May 20
Permanent flood	Irrigation well		3-4 lf rice		\$ 134.28	1	\$ 134.28	\$443.17	May 20
Mid-season fertilizer	Custom (aerial)	75	Mid-season	\$ 28.05	\$ 7.00	1	\$ 35.05	\$478.22	Jul 15
Apply fungicides	Custom (aerial)	66	Late season	\$ 31.62	\$ 7.00	1	\$ 38.62	\$516.84	Jul 30
Apply insecticides	Custom (aerial)	66	Late season	\$ 5.04	\$ 7.00	1	\$ 12.04	\$528.88	Aug 5
Drain field (remove gates)	Manual		PRE Harvest				\$ -	\$528.88	Aug 15
Harvest Rice	Combine/rice head	25	Fall		\$ 55.78	1	\$ 55.78	\$584.66	Aug 25
Cart rice to trucks	Tractor/grain cart		Fall		\$ 22.85	1	\$ 22.85	\$607.51	Aug 25
Remove levees/smooth	Levee plow	8	Post harvest		\$ 3.31	1	\$ 3.31	\$ 3.31	Sep 15
Roll stubble	Stubble Roller	32	Post harvest		\$ 4.11	2	\$ 8.22	\$ 11.53	Oct 1
				TOTAL Operating Expenses			\$ 607.51		
				UNALLOCATED CAPITAL RECOVERY ITEMS					
					Irrigation Eqpt		\$ 32.90		
					Miscellaneous		\$ 15.46		
					Interest		\$ 13.67		
				TOTAL Unallocated Costs			\$ 62.03		
				TOTAL PREHARVEST EXPENSES			\$ 669.54		
				POSTHARVEST EXPENSES					
				Hauling	Truck/Trailer	\$0.22	\$ 37.40		
				Drying	Dryer	\$0.35	\$ 59.50		
				Check-off	Research/Promotion	\$0.01	\$ 2.30		
				TOTAL POSTHARVEST EXPENSES			\$ 99.20		
				REVENUE INFORMATION (PER ACRE)					
				Yield (bu/A)	170	Price	\$6.50	\$1,105.00	
				TOTAL REVENUE			\$1,105.00		
				NET VALUE AT HARVEST			\$ 435.46		
				NET RETURNS			\$ 336.26		

*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.
 **Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 60 days from initiation

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Table 4. Field activities for conventional rice production in zero graded fields.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Preplant Burndown	Self propelled sprayer	90	Early Spring	\$ 3.58	\$ 2.36	1	\$ 5.94	\$ 14.16	Mar 1
Cut drainage furrows	PTO ditcher	1	Early Spring		\$ 0.37	1	\$ 0.37	\$ 14.53	Mar 15
Plant Rice	Custom (aerial)	30	Spring	\$ 25.20	\$ 12.00	1	\$ 37.20	\$ 51.73	Apr 1
POST1 herbicides	Custom (aerial)	63	POST Emrgnc	\$ 38.24	\$ 7.00	1	\$ 45.24	\$ 96.97	May 1
POST2 herbicides	Custom (aerial)	63	POST Emrgnc	\$ 20.32	\$ 7.00	1	\$ 27.32	\$ 124.29	May 2
Preflood fertilizer	Custom (aerial)	60	4-5 lf rice	\$ 64.67	\$ 16.10	1	\$ 80.77	\$ 205.06	May 20
Permanent flood	Irrigation well		3-4 lf rice		\$ 108.03	1	\$ 108.03	\$ 313.09	May 20
POST3 herbicides	Custom (aerial)	63	POST Emrgnc	\$ 3.47	\$ 7.00	1	\$ 10.47	\$ 323.56	Jun 15
Mid-season fertilizer	Custom (aerial)	75	Mid-season	\$ 28.05	\$ 7.00	1	\$ 35.05	\$ 358.61	Jul 15
Apply insecticides	Custom (aerial)	66	Late season	\$ 5.04	\$ 7.00	1	\$ 12.04	\$ 370.65	Jul 25
Apply fungicides	Custom (aerial)	66	Late season	\$ 31.62	\$ 7.00	1	\$ 38.62	\$ 409.27	Jul 30
Apply insecticides	Custom (aerial)	66	Late season	\$ 5.04	\$ 7.00	1	\$ 12.04	\$ 421.31	Aug 8
Drain field (remove gates)	Manual		PRE Harvest				\$ -	\$ 421.31	Aug 15
Harvest Rice	Combine/rice head	25	Fall		\$ 55.78	1	\$ 55.78	\$ 477.09	Aug 25
Cart rice to trucks	Tractor/grain cart		Fall		\$ 22.85	1	\$ 22.85	\$ 499.94	Aug 25
Roll stubble	Stubble Roller	32	Post harvest		\$ 4.11	2	\$ 8.22	\$ 8.22	Oct 1
				TOTAL Operating Expenses			\$ 499.94		
				UNALLOCATED CAPITAL RECOVERY ITEMS					
					Irrigation Eqpt		\$ 26.91		
					Miscellaneous		\$ 10.42		
					Interest		\$ 11.25		
				TOTAL Unallocated Costs			\$ 48.58		
				TOTAL PREHARVEST EXPENSES			\$ 548.52		
				POSTHARVEST EXPENSES					
				Hauling	Truck/Trailer	\$0.22	\$ 37.40		
				Drying	Dryer	\$0.35	\$ 59.50		
				Check-off	Research/Promotion	\$0.01	\$ 2.30		
				TOTAL POSTHARVEST EXPENSES			\$ 99.20		
				REVENUE INFORMATION (PER ACRE)					
				Yield (bu/a)	170	Price	\$6.50	\$1,105.00	
				TOTAL REVENUE			\$1,105.00		
				NET VALUE AT HARVEST			\$ 556.48		
				NET RETURNS			\$ 457.28		
*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.									
**Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 60 days from initiation									

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Table 5. Field activities for furrow irrigated, B2RF cotton production.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Preplant Burndown	Self propelled sprayer	90	Early Spring	\$ 7.10	\$ 2.36	1	\$ 9.46	\$ 36.98	Mar 15
Form beds	12 Row hipper	38	Early Spring		\$ 6.17	1	\$ 6.17	\$ 43.15	Apr 1
Preplant Fertilizer	Custom (ground)	60	Spring	\$ 74.97	\$ 6.00	1	\$ 80.97	\$124.12	Apr 15
Do All (Seedbed finisher)	12 Row Do-All	38	Spring		\$ 3.76	1	\$ 3.76	\$127.88	May 1
Plant cotton	12 Row	38	Spring	\$ 106.26	\$ 8.07	1	\$ 114.33	\$242.21	May 1
Preemerge herbicide	Self propelled sprayer	90	Spring	\$ 17.79	\$ 2.36	1	\$ 20.15	\$262.36	May 1
Early POST Herbicide	Self propelled sprayer	90	1-2 If Ctn	\$ 17.12	\$ 2.36	1	\$ 19.48	\$281.84	May 15
Sidedress fertilizer	12R Knife Rig	38	5-6 If Ctn	\$ 40.96	\$ 6.40	1	\$ 47.36	\$329.20	May 30
Mid POST Herbicide/Insecticide	Self propelled sprayer	90	5-6 If Ctn	\$ 26.04	\$ 2.36	1	\$ 28.40	\$357.60	May 30
Irrigation Sweep	12 Row Cultivator	38	8-10 If Ctn		\$ 4.39	1	\$ 4.39	\$361.99	Jun 15
Layby Herbicide	12 Row Hooded Sprayer	38	Early Bloom	\$ 13.79	\$ 4.65	1	\$ 18.44	\$380.43	Jul 10
Lay/punch/retrieve polypipe	Polypipe spool	NA	Early Bloom		\$ 5.95	1	\$ 5.95	\$386.38	Jul 15
Irrigate	Irrigation System	NA	As Needed		\$ 56.84	1	\$ 56.84	\$443.22	Jul 15
Insecticide, Growth Reg [^]	Self propelled sprayer	90	Mid Bloom	\$ 5.50	\$ 2.36	1	\$ 7.86	\$451.08	Jul 20
Insecticide, Growth Reg [^]	Self propelled sprayer	90	Full Bloom	\$ 6.86	\$ 2.36	1	\$ 9.22	\$460.30	Aug 1
Insecticide, Growth Reg [^]	Self propelled sprayer	90	Late Bloom	\$ 6.10	\$ 2.36	1	\$ 8.46	\$468.76	Aug 15
Scouting			Full Season	\$ 9.00		1	\$ 9.00	\$477.76	Sep 1
Boll Weevil eradication			Full Season	\$ 14.00		1	\$ 14.00	\$491.76	
Defoliate Cotton (1st trip) [^]	Self propelled sprayer	90	60% Open	\$ 9.35	\$ 2.36	1	\$ 11.71	\$503.47	Sep 15
Defoliate Cotton (2nd trip) [^]	Self propelled sprayer	90	80% Open	\$ 12.70	\$ 2.36	1	\$ 15.06	\$518.53	Sep 25
Harvest cotton	6 Row Picker	19	Open Cotton		\$ 68.45	1	\$ 68.45	\$586.98	Oct 1
Boll Buggy	W/ tractor	NA	Open Cotton		\$ 17.38	1	\$ 17.38	\$604.36	Oct 1
Module Builder	W/ tractor	NA	Open Cotton		\$ 22.24	1	\$ 22.24	\$626.60	Oct 1
Shred stalks	Rotary shredder	19	Postharvest		\$ 8.82	1	\$ 8.82	\$ 8.82	Oct 2
Paratill	6 Row Subsoiler	19	Fall		\$ 12.53	1	\$ 12.53	\$ 21.35	Oct 15
Re-hip Rows	12 Row hipper	38	Fall		\$ 6.17	1	\$ 6.17	\$ 27.52	Oct 20
TOTAL Operating Expenses							\$ 626.60		
UNALLOCATED CAPITAL RECOVERY ITEMS									
							Irrigation Eqpt	\$ 14.91	
							Miscellaneous	\$ 23.11	
							Interest	\$ 14.10	
							TOTAL Unallocated Costs	\$ 52.12	
							TOTAL PREHARVEST EXPENSES	\$ 678.72	
POSTHARVEST EXPENSES									
				Hauling/Ginning	Module Truck, Gin	\$ 0.09	\$ 108.00		
				Storage/Warehousing	Facility	\$ 0.02	\$ 25.20		
				Check-off	Research/Promotion	\$ 0.01	\$ 11.88		
							TOTAL POSTHARVEST EXPENSES	\$ 145.08	
REVENUE INFORMATION (PER ACRE)									
				Yield (lbs/a)	1200	Price	\$ 0.70	\$ 840.00	
				Cottonseed (Tons/a)	0.9		\$161.20	\$ 145.08	
							TOTAL REVENUE	\$ 985.08	
							NET VALUE AT HARVEST	\$ 306.36	
							NET RETURNS	\$ 161.28	
*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.									
**Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 30 days from initiation									

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Table 6. Field activities for center pivot irrigated, B2RF cotton production.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Preplant Burndown	Self propelled sprayer	90	Early Spring	\$ 7.10	\$ 2.36	1	\$ 9.46	\$ 36.98	Mar 15
Form beds	12 Row hipper	38	Early Spring		\$ 6.17	1	\$ 6.17	\$ 43.15	Apr 1
Preplant Fertilizer	Custom (ground)	60	Spring	\$ 74.97	\$ 6.00	1	\$ 80.97	\$124.12	Apr 15
Do All (Seedbed finisher)	12 Row Do-All	38	Spring		\$ 3.76	1	\$ 3.76	\$127.88	May 1
Plant cotton	12 Row	38	Spring	\$ 106.26	\$ 8.07	1	\$ 114.33	\$242.21	May 1
Preemerge herbicide	Planter	38	Spring	\$ 9.79	-	1	\$ 9.79	\$252.00	May 1
Early POST Herbicide	Self propelled sprayer	90	1-2 lf Ctn	\$ 17.12	\$ 2.36	1	\$ 19.48	\$271.48	May 15
Sidedress fertilizer	12R Knife Rig	38	5-6 lf Ctn	\$ 40.96	\$ 6.40	1	\$ 47.36	\$318.84	May 30
Mid POST Herbicide/Insecticide	Self propelled sprayer	90	5-6 lf Ctn	\$ 26.04	\$ 2.36	1	\$ 28.40	\$347.24	May 30
Layby Herbicide	12 Row Hooded Sprayer	38	Early Bloom	\$ 13.79	\$ 4.65	1	\$ 18.44	\$365.68	Jul 10
Lay/punch/retrieve polypipe	Polypipe spool	NA	Early Bloom		\$ 5.95	1	\$ 5.95	\$371.63	Jul 15
Irrigate	Irrigation System	NA	As Needed		\$ 86.94	1	\$ 86.94	\$458.57	Jul 15
Insecticide, Growth Reg^	Self propelled sprayer	90	Mid Bloom	\$ 5.50	\$ 2.36	1	\$ 7.86	\$466.43	Jul 20
Insecticide, Growth Reg^	Self propelled sprayer	90	Full Bloom	\$ 6.86	\$ 2.36	1	\$ 9.22	\$475.65	Aug 1
Insecticide, Growth Reg^	Self propelled sprayer	90	Late Bloom	\$ 6.10	\$ 2.36	1	\$ 8.46	\$484.11	Aug 15
Scouting			Full Season	\$ 9.00		1	\$ 9.00	\$493.11	Sep 1
Boll Weevil eradication			Full Season	\$ 14.00		1	\$ 14.00	\$507.11	Sep 1
Defoliate Cotton (1st trip)^	Self propelled sprayer	90	60% Open	\$ 9.36	\$ 2.36	1	\$ 11.72	\$518.83	Sep 15
Defoliate Cotton (2nd trip)^	Self propelled sprayer	90	80% Open	\$ 12.70	\$ 2.36	1	\$ 15.06	\$533.89	Sep 25
Harvest cotton	6 Row Picker	19	Open Cotton		\$ 68.45	1	\$ 68.45	\$602.34	Oct 1
Boll Buggy	W/ tractor	NA	Open Cotton		\$ 17.38	1	\$ 17.38	\$619.72	Oct 1
Module Builder	W/ tractor	NA	Open Cotton		\$ 22.24	1	\$ 22.24	\$641.96	Oct 1
Shred stalks	Rotary shredder	19	Postharvest		\$ 8.82	1	\$ 8.82	\$ 8.82	Oct 2
Paratill	6 Row Subsoiler	19	Fall		\$ 12.53	1	\$ 12.53	\$ 21.35	Oct 15
Re-hip Rows	12 Row hipper	38	Fall		\$ 6.17	1	\$ 6.17	\$ 27.52	Oct 20
TOTAL Operating Expenses							\$ 641.96		
UNALLOCATED CAPITAL RECOVERY ITEMS									
^ indicates field activities that may require custom aerial applications to avoid rutting or interference with irrigation (results in ~ \$4.50/a increase for each application).							Irrigation Eqpt	\$ 58.66	
							Miscellaneous	\$ 24.53	
							Interest	\$ 14.44	
TOTAL Unallocated Costs							\$ 97.63		
TOTAL PREHARVEST EXPENSES							\$ 739.59		
POSTHARVEST EXPENSES									
Hauling/Ginning				Module Truck, Gin	\$ 0.09	\$ 108.00			
Storage/Warehousing				Facility	\$ 0.02	\$ 25.20			
Check-off				Research/Promotion	\$ 0.01	\$ 11.88			
TOTAL POSTHARVEST EXPENSES							\$ 145.08		
REVENUE INFORMATION (PER ACRE)									
Yield (lbs/a)				1200	Price	\$ 0.70	\$ 840.00		
Cottonseed (Tons/a)				0.9		\$161.20	\$ 145.08		
TOTAL REVENUE							\$ 985.08		
NET VALUE AT HARVEST							\$ 245.49		
NET RETURNS							\$ 100.41		
*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.									
**Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 30 days from initiation									

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Table 7. Field activities for non-irrigated, B2RF cotton production.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Preplant Burndown	Self propelled sprayer	90	Early Spring	\$ 7.10	\$ 2.36	1	\$ 9.46	\$ 36.98	Mar 15
Form beds	12 Row hipper	38	Early Spring		\$ 6.17	1	\$ 6.17	\$ 43.15	Apr 1
Preplant Fertilizer	Custom (ground)	60	Spring	\$ 58.97	\$ 6.00	1	\$ 64.97	\$108.12	Apr 15
Do All (Seedbed finisher)	12 Row Do-All	38	Spring		\$ 3.76	1	\$ 3.76	\$111.88	May 1
Plant cotton	12 Row	38	Spring	\$ 106.26	\$ 8.07	1	\$ 114.33	\$226.21	May 1
Preemerg herbicide	Planter	38	Spring	\$ 17.79	\$ -	1	\$ 17.79	\$244.00	May 1
Early POST Herbicide	Self propelled sprayer	90	1-2 If Ctn	\$ 17.12	\$ 2.36	1	\$ 19.48	\$263.48	May 15
Sidedress fertilizer	12R Knife Rig	38	5-6 If Ctn	\$ 26.88	\$ 6.40	1	\$ 33.28	\$296.76	May 30
Mid POST Herbicide/Insecticide	Self propelled sprayer	90	5-6 If Ctn	\$ 26.04	\$ 2.36	1	\$ 28.40	\$325.16	May 30
Layby Herbicide	12 Row Hooded Sprayer	38	Early Bloom	\$ 13.79	\$ 4.65	1	\$ 18.44	\$343.60	Jul 10
Insecticide^	Self propelled sprayer	90	Mid Bloom	\$ 4.97	\$ 2.36	1	\$ 7.33	\$350.93	Jul 20
Insecticide, Growth Reg^	Self propelled sprayer	90	Full Bloom	\$ 7.46	\$ 2.36	1	\$ 9.82	\$360.75	Aug 1
Insecticide^	Self propelled sprayer	90	Late Bloom	\$ 4.90	\$ 2.36	1	\$ 7.26	\$368.01	Aug 15
Scouting			Full Season	\$ 9.00		1	\$ 9.00	\$377.01	Sep 1
Boll Weevil eradication			Full Season	\$ 14.00		1	\$ 14.00	\$391.01	Sep 1
Defoliate Cotton^	Self propelled sprayer	90	60% Open	\$ 12.90	\$ 2.36	1	\$ 15.26	\$406.27	Sep 15
Harvest cotton	6 Row Picker	19	Open Cotton		\$ 68.45	1	\$ 68.45	\$474.72	Oct 1
Boll Buggy	W/ tractor	NA	Open Cotton		\$ 17.38	1	\$ 17.38	\$492.10	Oct 1
Module Builder	W/ tractor	NA	Open Cotton		\$ 22.24	1	\$ 22.24	\$514.34	Oct 1
Shred stalks	Rotary shredder	19	Postharvest		\$ 8.82	1	\$ 8.82	\$ 8.82	Oct 2
Paratill	6 Row Subsoiler	19	Fall		\$ 12.53	1	\$ 12.53	\$ 21.35	Oct 15
Re-hip Rows	12 Row hipper	38	Fall		\$ 6.17	1	\$ 6.17	\$ 27.52	Oct 20
TOTAL Operating Expenses							\$ 514.34		
UNALLOCATED CAPITAL RECOVERY ITEMS									
							Irrigation Eqpt	\$ -	
							Miscellaneous	\$ 20.74	
							Interest	\$ 11.57	
							TOTAL Unallocated Costs	\$ 32.31	
							TOTAL PREHARVEST EXPENSES	\$ 546.65	
POSTHARVEST EXPENSES									
Hauling/Ginning				Module Truck, Gin	\$ 0.09	\$ 72.00			
Storage/Warehousing				Facility	\$ 0.02	\$ 16.80			
Check-off				Research/Promotion	\$ 0.01	\$ 7.92			
							TOTAL POSTHARVEST EXPENSES	\$ 96.72	
REVENUE INFORMATION (PER ACRE)									
Yield (lbs/a)				800	Price	\$ 0.70	\$ 560.00		
Cottonseed (Tons/a)				0.6		\$161.20	\$ 96.72		
							TOTAL REVENUE	\$ 656.72	
							NET VALUE AT HARVEST	\$ 110.07	
							NET RETURNS	\$ 13.35	
<i>*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.</i>									
<i>**Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 30 days from initiation</i>									

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Table 8. Field activities for furrow irrigated, stacked gene, corn production.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Preplant Burndown	Self propelled sprayer	90	Early Spring	\$ 7.10	\$ 2.36	1	\$ 9.46	\$ 28.16	Feb 15
Form beds	12 Row hipper	38	Early Spring		\$ 6.17	1	\$ 6.17	\$ 34.33	Mar 15
Preplant Fertilizer	Custom (ground)	60	Early Spring	\$ 159.57	\$ 6.00	1	\$ 165.57	\$199.90	Mar 15
Do All (Seedbed finisher)	12 Row Do-All	38	Early Spring		\$ 3.76	1	\$ 3.76	\$203.66	Mar 20
Plant corn	12 Row	38	Early Spring	\$ 119.46	\$ 8.07	1	\$ 127.53	\$331.19	Mar 20
Early POST Herbicide	Self propelled sprayer	90	2-3 If Corn	\$ 7.02	\$ 2.36	1	\$ 9.38	\$340.57	Apr 10
Sidedress fertilizer	12R Knife Rig	38	V6-V8	\$ 64.26	\$ 6.40	1	\$ 70.66	\$411.23	May 10
Late POST Herbicide	Self propelled sprayer	90	V8	\$ 7.02	\$ 2.36	1	\$ 9.38	\$420.61	May 10
Irrigation Sweep	12 Row Cultivator	38	V10 Corn		\$ 4.39	1	\$ 4.39	\$425.00	May 15
Lay/punch/retrieve polypipe	Polypipe spool	NA	V12 Corn	\$ 3.13	\$ 5.95	1	\$ 9.08	\$434.08	Jun 1
Pretassel fertilizer	Custom (aerial)	60	Pretassel	\$ 63.00	\$ 7.00	1	\$ 70.00	\$504.08	Jun 20
Irrigate	Irrigation System	NA	As Needed		\$ 67.14	1	\$ 67.14	\$571.22	Jun 25
Harvest corn	Combine/8R Header	26	18% Moist		\$ 34.13	1	\$ 34.13	\$605.35	Aug 25
Grain cart	W/ tractor	NA	At harvest		\$ 13.06	1	\$ 13.06	\$618.41	Aug 25
Paratill	6 Row Subsoiler	19	Fall		\$ 12.53	1	\$ 12.53	\$ 12.53	Sep 30
Re-hip Rows	12 Row hipper	38	Fall		\$ 6.17	1	\$ 6.17	\$ 18.70	Oct 15
TOTAL Operating Expenses							\$ 618.41		
UNALLOCATED CAPITAL RECOVERY ITEMS									
Irrigation Eqpt							\$ 17.91		
Miscellaneous							\$ 12.05		
Interest							\$ 13.91		
TOTAL Unallocated Costs							\$ 43.87		
TOTAL PREHARVEST EXPENSES							\$ 662.28		
POSTHARVEST EXPENSES									
Hauling		Truck/Trailer		\$ 0.22	\$ 38.50				
Drying		Grain bin		\$ 0.19	\$ 33.25				
Check-off		Research/Promotion		\$ 0.01	\$ 1.75				
TOTAL POSTHARVEST EXPENSES							\$ 73.50		
REVENUE INFORMATION (PER ACRE)									
Yield (bu/a)		175		Price		\$ 7.00	\$1,225.00		
							\$ -		
TOTAL REVENUE							\$1,225.00		
NET VALUE AT HARVEST							\$ 562.72		
NET RETURNS							\$ 489.22		
*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.									
**Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 30 days from initiation									

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Table 9. Field activities for center pivot irrigated, stacked gene, corn production.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Preplant Burndown	Self propelled sprayer	90	Early Spring	\$ 7.10	\$ 2.36	1	\$ 9.46	\$ 28.16	Feb 15
Form beds	12 Row hipper	38	Early Spring		\$ 6.17	1	\$ 6.17	\$ 34.33	Mar 15
Preplant Fertilizer	Custom (ground)	60	Early Spring	\$ 159.57	\$ 6.00	1	\$ 165.57	\$199.90	Mar 15
Do All (Seedbed finisher)	12 Row Do-All	38	Early Spring		\$ 3.76	1	\$ 3.76	\$203.66	Mar 20
Plant corn	12 Row	38	Early Spring	\$ 119.46	\$ 8.07	1	\$ 127.53	\$331.19	Mar 20
Early POST Herbicide	Self propelled sprayer	90	2-3 If Corn	\$ 7.02	\$ 2.36	1	\$ 9.38	\$340.57	Apr 10
Sidedress fertilizer	12R Knife Rig	38	V6-V8	\$ 64.26	\$ 6.40	1	\$ 70.66	\$411.23	May 10
Late POST Herbicide	Self propelled sprayer	90	V8	\$ 7.02	\$ 2.36	1	\$ 9.38	\$420.61	May 10
Pretassel fertilizer	Custom (aerial)	60	Pretassel	\$ 63.00	\$ 7.00	1	\$ 70.00	\$490.61	Jun 20
Irrigate	Irrigation System	NA	As Needed		\$ 67.14	1	\$ 67.14	\$557.75	Jun 25
Harvest corn	Combine/8R Header	26	18% Moist		\$ 34.13	1	\$ 34.13	\$591.88	Aug 25
Grain cart	W/ tractor	NA	At harvest		\$ 13.06	1	\$ 13.06	\$604.94	Aug 25
Paratill	6 Row Subsoiler	19	Fall		\$ 12.53	1	\$ 12.53	\$ 12.53	Sep 30
Re-hip Rows	12 Row hipper	38	Fall		\$ 6.17	1	\$ 6.17	\$ 18.70	Oct 15
TOTAL Operating Expenses							\$ 604.94		
UNALLOCATED CAPITAL RECOVERY ITEMS									
Irrigation Eqpt							\$ 72.59		
Miscellaneous							\$ 13.69		
Interest							\$ 13.61		
TOTAL Unallocated Costs							\$ 99.89		
TOTAL PREHARVEST EXPENSES							\$ 704.83		
POSTHARVEST EXPENSES									
Hauling		Truck/Trailer		\$ 0.22	\$ 38.50				
Drying		Grain bin		\$ 0.19	\$ 33.25				
Check-off		Research/Promotion		\$ 0.01	\$ 1.75				
TOTAL POSTHARVEST EXPENSES							\$ 73.50		
REVENUE INFORMATION (PER ACRE)									
Yield (bu/a)		175		Price		\$ 7.00	\$1,225.00		
							\$ -		
TOTAL REVENUE							\$1,225.00		
NET VALUE AT HARVEST							\$ 520.17		
NET RETURNS							\$ 446.67		

*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.
 **Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 30 days from initiation

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Table 10. Field activities for non-irrigated, stacked gene, corn production.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Preplant Burndown	Self propelled sprayer	90	Early Spring	\$ 7.10	\$ 2.36	1	\$ 9.46	\$ 28.16	Feb 15
Form beds	12 Row hipper	38	Early Spring		\$ 6.17	1	\$ 6.17	\$ 34.33	Mar 15
Preplant Fertilizer	Custom (ground)	60	Early Spring	\$ 144.32	\$ 6.00	1	\$ 150.32	\$184.65	Mar 15
Do All (Seedbed finisher)	12 Row Do-All	38	Early Spring		\$ 3.76	1	\$ 3.76	\$188.41	Mar 20
Plant corn	12 Row	38	Early Spring	\$ 94.12	\$ 8.07	1	\$ 102.19	\$290.60	Mar 20
Early POST Herbicide	Self propelled sprayer	90	2-3 If Corn	\$ 7.02	\$ 2.36	1	\$ 9.38	\$299.98	Apr 10
Sidedress fertilizer	12R Knife Rig	38	V6-V8	\$ 67.84	\$ 6.40	1	\$ 74.24	\$374.22	May 10
Late POST Herbicide	Self propelled sprayer	90	V8	\$ 7.02	\$ 2.36	1	\$ 9.38	\$383.60	May 10
Harvest corn	Combine/8R Header	26	18% Moist		\$ 34.13	1	\$ 34.13	\$417.73	Aug 25
Grain cart	W/ tractor	NA	At harvest		\$ 13.06	1	\$ 13.06	\$430.79	Aug 25
Paratill	6 Row Subsoiler	19	Fall		\$ 12.53	1	\$ 12.53	\$ 12.53	Sep 30
Re-hip Rows	12 Row hipper	38	Fall		\$ 6.17	1	\$ 6.17	\$ 18.70	Oct 15
TOTAL Operating Expenses							\$ 430.79		
UNALLOCATED CAPITAL RECOVERY ITEMS									
					Irrigation Eqpt		\$ -		
					Miscellaneous		\$ 9.79		
					Interest		\$ 9.69		
TOTAL Unallocated Costs							\$ 19.48		
TOTAL PREHARVEST EXPENSES							\$ 450.27		
POSTHARVEST EXPENSES									
	Hauling		Truck/Trailer	\$ 0.22	\$ 27.50				
	Drying		Grain bin	\$ 0.19	\$ 23.75				
	Check-off		Research/Promotion	\$ 0.01	\$ 1.25				
TOTAL POSTHARVEST EXPENSES							\$ 52.50		
REVENUE INFORMATION (PER ACRE)									
	Yield (bu/a)	125	Price	\$ 7.00	\$ 875.00				
					\$ -				
TOTAL REVENUE							\$ 875.00		
NET VALUE AT HARVEST							\$ 424.73		
NET RETURNS							\$ 372.23		
*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.									
**Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 30 days from initiation									

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Table 11. Field activities for furrow irrigated, RR2Y soybean production.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Preplant Burndown	Self propelled sprayer	90	Early Spring	\$ 14.68	\$ 2.36	1	\$ 17.04	\$ 29.77	Mar 1
Re-hip beds	12 Row hipper	38	Early Spring		\$ 6.17	1	\$ 6.17	\$ 35.94	Apr 1
Preplant Fertilizer	Custom (ground)	60	Spring	\$ 54.40	\$ 6.00	1	\$ 60.40	\$ 96.34	Apr 15
Do All (Seedbed finisher)	12 Row Do-All	38	Spring		\$ 3.76	1	\$ 3.76	\$100.10	Apr 25
Plant soybean	12 Row Twin-Row	38	Spring	\$ 72.00	\$ 10.52	1	\$ 82.52	\$182.62	Apr 25
Early POST Herbicide	Self propelled sprayer	90	V2 Soybean	\$ 17.34	\$ 2.36	1	\$ 19.70	\$202.32	May 8
Late POST Herbicide	Self propelled sprayer	90	V10 Soybean	\$ 9.88	\$ 2.36	1	\$ 12.24	\$214.56	May 29
Irrigation Sweep	12 Row Cultivator	38	8-10 If Ctn		\$ 4.39	1	\$ 4.39	\$218.95	Jun 5
Lay/punch/retrieve polypipe	Polypipe spool	NA	Early Bloom		\$ 5.95	1	\$ 5.95	\$224.90	Jun 5
Irrigate	Irrigation System	NA	As Needed		\$ 56.84	1	\$ 56.84	\$281.74	Jun 25
Insecticide^	Custom (aerial)	75	R2 Soybean	\$ 5.67	\$ 7.00	1	\$ 12.67	\$294.41	Jul 15
Fungicide^	Custom (aerial)	75	R3 Soybean	\$ 14.82	\$ 7.00	1	\$ 21.82	\$316.23	Jul 20
Harvest soybean	Combine w/ 30' Head	30	15% moisture		\$ 24.11	1	\$ 24.11	\$340.34	Sep 1
Grain cart	W/ tractor	NA	15% moisture		\$ 10.15	1	\$ 10.15	\$350.49	Sep 1
Disk field	Tandem disk	32	Postharvest		\$ 6.56	1	\$ 6.56	\$ 6.56	Oct 1
Form beds	12 Row hipper	38	Fall		\$ 6.17	1	\$ 6.17	\$ 12.73	Oct 15
TOTAL Operating Expenses							\$ 350.49		
UNALLOCATED CAPITAL RECOVERY ITEMS									
							Irrigation Eqpt	\$ 14.91	
							Miscellaneous	\$ 10.64	
							Interest	\$ 7.89	
							TOTAL Unallocated Costs	\$ 33.44	
							TOTAL PREHARVEST EXPENSES	\$ 383.93	
POSTHARVEST EXPENSES									
		Hauling	Truck/Trailer	\$ 0.22	\$ 13.20				
		Drying	Grain bin	\$ -	\$ -				
		Check-off	Research/Promotion	\$ 0.03	\$ 1.80				
							TOTAL POSTHARVEST EXPENSES	\$ 15.00	
REVENUE INFORMATION (PER ACRE)									
		Yield (bu/a)	60	Price	\$ 14.50	\$ 870.00			
						\$ -			
							TOTAL REVENUE	\$ 870.00	
							NET VALUE AT HARVEST	\$ 486.07	
							NET RETURNS	\$ 471.07	
*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.									
**Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 30 days from initiation									

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Table 12. Field activities for center pivot irrigated, RR2Y soybean production.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Preplant Burndown	Self propelled sprayer	90	Early Spring	\$ 14.68	\$ 2.36	1	\$ 17.04	\$ 29.77	Mar 1
Re-hip beds	12 Row hipper	38	Early Spring		\$ 6.17	1	\$ 6.17	\$ 35.94	Apr 1
Preplant Fertilizer	Custom (ground)	60	Spring	\$ 54.40	\$ 6.00	1	\$ 60.40	\$ 96.34	Apr 15
Do All (Seedbed finisher)	12 Row Do-All	38	Spring		\$ 3.76	1	\$ 3.76	\$100.10	Apr 25
Plant soybean	12 Row Twin-Row	38	Spring	\$ 72.00	\$ 10.52	1	\$ 82.52	\$182.62	Apr 25
Early POST Herbicide	Self propelled sprayer	90	V2 Soybean	\$ 17.34	\$ 2.36	1	\$ 19.70	\$202.32	May 8
Late POST Herbicide	Self propelled sprayer	90	V10 Soybean	\$ 9.88	\$ 2.36	1	\$ 12.24	\$214.56	May 29
Irrigate	Irrigation System	NA	As Needed		\$ 86.94	1	\$ 86.94	\$301.50	Jun 25
Insecticide^	Custom (aerial)	75	R2 Soybean	\$ 5.67	\$ 7.00	1	\$ 12.67	\$314.17	Jul 15
Fungicide^	Custom (aerial)	75	R3 Soybean	\$ 14.82	\$ 7.00	1	\$ 21.82	\$335.99	Jul 20
Harvest soybean	Combine w/ 30' Head	30	15% moisture		\$ 24.11	1	\$ 24.11	\$360.10	Sep 1
Grain cart	W/ tractor	NA	15% moisture		\$ 10.15	1	\$ 10.15	\$370.25	Sep 1
Disk field	Tandem disk	32	Postharvest		\$ 6.56	1	\$ 6.56	\$ 6.56	Oct 1
Form beds	12 Row hipper	38	Fall		\$ 6.17	1	\$ 6.17	\$ 12.73	Oct 15
TOTAL Operating Expenses							\$ 370.25		
UNALLOCATED CAPITAL RECOVERY ITEMS									
							Irrigation Eqpt	\$ 58.66	
							Miscellaneous	\$ 12.06	
							Interest	\$ 8.33	
TOTAL Unallocated Costs							\$ 79.05		
							TOTAL PREHARVEST EXPENSES	\$ 449.30	
POSTHARVEST EXPENSES									
		Hauling	Truck/Trailer	\$ 0.22	\$ 13.20				
		Drying	Grain bin	\$ -	\$ -				
		Check-off	Research/Promotion	\$ 0.03	\$ 1.80				
							TOTAL POSTHARVEST EXPENSES	\$ 15.00	
REVENUE INFORMATION (PER ACRE)									
		Yield (bu/a)	60	Price	\$ 14.50	\$ 870.00			
								\$ -	
TOTAL REVENUE							\$ 870.00		
NET VALUE AT HARVEST							\$ 420.70		
NET RETURNS							\$ 405.70		
*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.									
**Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 30 days from initiation									

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Table 13. Field activities for flood irrigated, RR2Y soybean production.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Field cultivate	Field cultivator	36	Early Spring		\$ 4.69	1	\$ 4.69	\$ 16.31	Mar 1
Smooth field	Land Plane	17	Early Spring		\$ 5.91	2	\$ 11.82	\$ 28.13	Mar 1
Preplant Burndown	Self propelled sprayer	90	Early Spring	\$ 14.68	\$ 2.36	1	\$ 17.04	\$ 45.17	Apr 1
Preplant Fertilizer	Custom (ground)	60	Spring	\$ 54.40	\$ 6.00	1	\$ 60.40	\$105.57	Apr 15
Plant soybean	Grain Drill	30	Spring	\$ 72.00	\$ 10.48	1	\$ 82.48	\$188.05	Apr 25
Early POST Herbicide	Self propelled sprayer	90	V2 Soybean	\$ 17.34	\$ 2.36	1	\$ 19.70	\$207.75	May 8
Late POST Herbicide	Self propelled sprayer	90	V10 Soybean	\$ 9.88	\$ 2.36	1	\$ 12.24	\$219.99	May 29
Survey levees	Surveyor	NA	R1 Soybean		\$ 5.50	1	\$ 5.50	\$225.49	Jun 25
Pull levees	Levee plow	8	R1 Soybean		\$ 1.10	4	\$ 4.40	\$229.89	Jun 25
Install/Remove gates or levees	Manual	NA	R1 Soybean		\$ 6.10	2	\$ 12.20	\$242.09	Jun 25
Irrigate	Irrigation System	NA	As Needed		\$ 54.31	1	\$ 54.31	\$296.40	Jun 27
Insecticide	Custom (aerial)	75	R2 Soybean	\$ 5.67	\$ 7.00	1	\$ 12.67	\$309.07	Jul 15
Fungicide	Custom (aerial)	75	R3 Soybean	\$ 14.82	\$ 7.00	1	\$ 21.82	\$330.89	Jul 20
Harvest soybean	Combine w/ 30' Head	30	15% moisture		\$ 24.11	1	\$ 24.11	\$355.00	Sep 1
Grain cart	W/ tractor	NA	15% moisture		\$ 10.15	1	\$ 10.15	\$365.15	Sep 1
Disk field	Tandem disk	32	Postharvest		\$ 6.56	1	\$ 6.56	\$ 6.56	Oct 1
Field cultivate	Field cultivator	36	Postharvest		\$ 4.69	1	\$ 4.69	\$ 11.25	Oct 15
Cut drainage furrows	Ditcher	1	Fall		\$ 0.37	1	\$ 0.37	\$ 11.62	Oct 15
TOTAL Operating Expenses							\$ 365.15		
UNALLOCATED CAPITAL RECOVERY ITEMS									
							Irrigation Eqpt	\$ 14.91	
							Miscellaneous	\$ 10.17	
							Interest	\$ 8.22	
TOTAL Unallocated Costs							\$ 33.30		
<i>TOTAL PREHARVEST EXPENSES</i>							<i>\$ 398.45</i>		
POSTHARVEST EXPENSES									
	Hauling		Truck/Trailer	\$ 0.22			\$ 13.20		
	Drying		Grain bin	\$ -			\$ -		
	Check-off		Research/Promotion	\$ 0.03			\$ 1.80		
<i>TOTAL POSTHARVEST EXPENSES</i>							<i>\$ 15.00</i>		
REVENUE INFORMATION (PER ACRE)									
	Yield (bu/a)	60	Price	\$ 14.50			\$ 870.00		
							\$ -		
TOTAL REVENUE							\$ 870.00		
NET VALUE AT HARVEST							\$ 471.55		
NET RETURNS							\$ 456.55		
<i>*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.</i>									
<i>**Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 30 days from initiation</i>									

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Table 14. Field activities for non-irrigated, RR2Y soybean production.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Preplant Burndown	Self propelled sprayer	90	Early Spring	\$ 14.68	\$ 2.36	1	\$ 17.04	\$ 29.77	Mar 1
Re-hip beds	12 Row hipper	38	Early Spring		\$ 6.17	1	\$ 6.17	\$ 35.94	Apr 1
Preplant Fertilizer	Custom (ground)	60	Spring	\$ 54.40	\$ 6.00	1	\$ 60.40	\$ 96.34	Apr 15
Do All (Seedbed finisher)	12 Row Do-All	38	Spring		\$ 3.76	1	\$ 3.76	\$100.10	Apr 25
Plant soybean	12 Row Twin-Row	38	Spring	\$ 72.00	\$ 10.52	1	\$ 82.52	\$182.62	Apr 25
Early POST Herbicide	Self propelled sprayer	90	V2 Soybean	\$ 17.34	\$ 2.36	1	\$ 19.70	\$202.32	May 8
Late POST Herbicide	Self propelled sprayer	90	V10 Soybean	\$ 9.88	\$ 2.36	1	\$ 12.24	\$214.56	May 29
Insecticide^	Custom (aerial)	75	R2 Soybean	\$ 5.67	\$ 7.00	1	\$ 12.67	\$227.23	Jul 15
Fungicide^	Custom (aerial)	75	R3 Soybean	\$ 14.82	\$ 7.00	1	\$ 21.82	\$249.05	Jul 20
Harvest soybean	Combine w/ 30' Head	30	15% moisture		\$ 24.11	1	\$ 24.11	\$273.16	Sep 1
Grain cart	W/ tractor	NA	15% moisture		\$ 10.15	1	\$ 10.15	\$283.31	Sep 1
Disk field	Tandem disk	32	Postharvest		\$ 6.56	1	\$ 6.56	\$ 6.56	Oct 1
Form beds	12 Row hipper	38	Fall		\$ 6.17	1	\$ 6.17	\$ 12.73	Oct 15
TOTAL Operating Expenses							\$ 283.31		
UNALLOCATED CAPITAL RECOVERY ITEMS									
							Irrigation Eqpt	\$ -	
							Miscellaneous	\$ 8.55	
							Interest	\$ 6.37	
							TOTAL Unallocated Costs	\$ 14.92	
							TOTAL PREHARVEST EXPENSES	\$ 298.23	
POSTHARVEST EXPENSES									
		Hauling	Truck/Trailer	\$ 0.22	\$ 6.60				
		Drying	Grain bin	\$ -	\$ -				
		Check-off	Research/Promotion	\$ 0.03	\$ 0.90				
							TOTAL POSTHARVEST EXPENSES	\$ 7.50	
REVENUE INFORMATION (PER ACRE)									
		Yield (bu/a)	30	Price	\$ 14.50		\$ 435.00		
								\$ -	
							TOTAL REVENUE	\$ 435.00	
							NET VALUE AT HARVEST	\$ 136.77	
							NET RETURNS	\$ 129.27	
*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.									
**Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 30 days from initiation									

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Table 15. Field activities for furrow irrigated grain sorghum production.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Preplant Burndown	Self propelled sprayer	90	Early Spring	\$ 3.58	\$ 2.36	1	\$ 5.94	\$ 24.64	Feb 15
Form beds	12 Row hipper	38	Early Spring		\$ 6.17	1	\$ 6.17	\$ 30.81	Apr 1
Preplant Fertilizer	Custom (ground)	60	Early Spring	\$ 103.65	\$ 6.00	1	\$ 109.65	\$140.46	Apr 15
Do All (Seedbed finisher)	12 Row Do-All	38	Early Spring		\$ 3.76	1	\$ 3.76	\$144.22	Apr 15
Plant grain sorghum	12 Row	38	Early Spring	\$ 22.69	\$ 8.07	1	\$ 30.76	\$174.98	Apr 15
PRE Herbicide	Self propelled sprayer	90	PRE Emerg	\$ 20.31	\$ 2.36	1	\$ 22.67	\$197.65	Apr 15
POST Fertilizer	Custom (aerial)	60	V6-V8	\$ 47.88	\$ 11.55	1	\$ 59.43	\$257.08	May 10
POST Herbicide	Self propelled sprayer	90	V6-V8	\$ 4.30	\$ 2.36	1	\$ 6.66	\$263.74	May 10
Irrigation Sweep	12 Row Cultivator	38	V10		\$ 4.39	1	\$ 4.39	\$268.13	May 10
Lay/punch/retrieve polypipe	Polypipe spool	NA	V12	\$ 3.13	\$ 5.95	1	\$ 9.08	\$277.21	Jun 1
Insecticide^	Self propelled sprayer	90	Heading	\$ 3.49	\$ 2.36	1	\$ 5.85	\$283.06	Jun 20
Irrigate	Irrigation System	NA	As Needed		\$ 44.76	1	\$ 44.76	\$327.82	Jun 25
Harvest grain sorghum	Combine w/ Rigid Head	25	15% Moist		\$ 30.88	1	\$ 30.88	\$358.70	Sep 1
Grain cart	W/ tractor	NA	At harvest		\$ 13.06	1	\$ 13.06	\$371.76	Sep 1
Paratill	6 Row Subsoiler	19	Fall		\$ 12.53	1	\$ 12.53	\$ 12.53	Sep 30
Re-hip Rows	12 Row hipper	38	Fall		\$ 6.17	1	\$ 6.17	\$ 18.70	Oct 15
TOTAL Operating Expenses							\$ 371.76		
UNALLOCATED CAPITAL RECOVERY ITEMS									
							Irrigation Eqpt	\$ 12.91	
							Miscellaneous	\$ 11.37	
							Interest	\$ 8.36	
							TOTAL Unallocated Costs	\$ 32.64	
							TOTAL PREHARVEST EXPENSES	\$ 404.40	
POSTHARVEST EXPENSES									
				Hauling	Truck/Trailer	\$ 0.22	\$ 24.20		
				Drying	Grain bin	\$ -	\$ -		
				Check-off	Research/Promotion	\$ 0.01	\$ 1.10		
							TOTAL POSTHARVEST EXPENSES	\$ 25.30	
REVENUE INFORMATION (PER ACRE)									
				Yield (bu/a)	110	Price	\$ 6.15	\$ 676.50	
								\$ -	
							TOTAL REVENUE	\$ 676.50	
							NET VALUE AT HARVEST	\$ 272.10	
							NET RETURNS	\$ 246.80	
<i>*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.</i>									
<i>**Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 30 days from initiation</i>									

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Table 16. Field activities for center pivot irrigated grain sorghum production.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Preplant Burndown	Self propelled sprayer	90	Early Spring	\$ 3.58	\$ 2.36	1	\$ 5.94	\$ 24.64	Feb 15
Form beds	12 Row hipper	38	Early Spring		\$ 6.17	1	\$ 6.17	\$ 30.81	Apr 1
Preplant Fertilizer	Custom (ground)	60	Early Spring	\$ 103.65	\$ 6.00	1	\$ 109.65	\$ 140.46	Apr 15
Do All (Seedbed finisher)	12 Row Do-All	38	Early Spring		\$ 3.76	1	\$ 3.76	\$ 144.22	Apr 15
Plant grain sorghum	12 Row	38	Early Spring	\$ 22.69	\$ 8.07	1	\$ 30.76	\$ 174.98	Apr 15
PRE Herbicide	Self propelled sprayer	90	PRE Emerg	\$ 20.31	\$ 2.36	1	\$ 22.67	\$ 197.65	Apr 15
POST Fertilizer	Custom (aerial)	60	V6-V8	\$ 47.88	\$ 11.55	1	\$ 59.43	\$ 257.08	May 10
POST Herbicide	Self propelled sprayer	90	V6-V8	\$ 4.30	\$ 2.36	1	\$ 6.66	\$ 263.74	May 10
Insecticide^	Self propelled sprayer	90	Heading	\$ 3.49	\$ 2.36	1	\$ 5.85	\$ 269.59	Jun 20
Irrigate	Irrigation System	NA	As Needed		\$ 72.44	1	\$ 72.44	\$ 342.03	Jun 25
Harvest grain sorghum	Combine w/ Rigid Head	25	15% Moist		\$ 30.88	1	\$ 30.88	\$ 372.91	Sep 1
Grain cart	W/ tractor	NA	At harvest		\$ 13.06	1	\$ 13.06	\$ 385.97	Sep 1
Paratill	6 Row Subsoiler	19	Fall		\$ 12.53	1	\$ 12.53	\$ 12.53	Sep 30
Re-hip Rows	12 Row hipper	38	Fall		\$ 6.17	1	\$ 6.17	\$ 18.70	Oct 15
TOTAL Operating Expenses							\$ 385.97		
UNALLOCATED CAPITAL RECOVERY ITEMS									
							Irrigation Eqpt	\$ 49.37	
							Miscellaneous	\$ 12.58	
							Interest	\$ 8.68	
							TOTAL Unallocated Costs	\$ 70.63	
							<i>TOTAL PREHARVEST EXPENSES</i>	<i>\$ 456.60</i>	
POSTHARVEST EXPENSES									
							Hauling Truck/Trailer	\$ 0.22	\$ 24.20
							Drying Grain bin	\$ -	\$ -
							Check-off Research/Promotion	\$ 0.01	\$ 1.10
							<i>TOTAL POSTHARVEST EXPENSES</i>	<i>\$ 25.30</i>	
REVENUE INFORMATION (PER ACRE)									
Yield (bu/a)				110	Price	\$ 6.15	\$ 676.50		
							\$ -		
							TOTAL REVENUE	\$ 676.50	
							NET VALUE AT HARVEST	\$ 219.90	
							NET RETURNS	\$ 194.60	
<i>*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.</i>									
<i>**Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 30 days from initiation</i>									

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Table 17. Field activities for non-irrigated grain sorghum production.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Preplant Burndown	Self propelled sprayer	90	Early Spring	\$ 3.58	\$ 2.36	1	\$ 5.94	\$ 24.64	Feb 15
Form beds	12 Row hipper	38	Early Spring		\$ 6.17	1	\$ 6.17	\$ 30.81	Apr 1
Preplant Fertilizer	Custom (ground)	60	Early Spring	\$ 103.65	\$ 6.00	1	\$ 109.65	\$140.46	Apr 15
Do All (Seedbed finisher)	12 Row Do-All	38	Early Spring		\$ 3.76	1	\$ 3.76	\$144.22	Apr 15
Plant grain sorghum	12 Row	38	Early Spring	\$ 15.71	\$ 8.07	1	\$ 23.78	\$168.00	Apr 15
PRE Herbicide	Self propelled sprayer	90	PRE Emerg	\$ 20.31	\$ 2.36	1	\$ 22.67	\$190.67	Apr 15
POST Fertilizer	Custom (aerial)	60	V6-V8	\$ 35.36	\$ 8.54	1	\$ 43.90	\$234.57	May 10
POST Herbicide	Self propelled sprayer	90	V6-V8	\$ 4.30	\$ 2.36	1	\$ 6.66	\$241.23	May 10
Insecticide^	Self propelled sprayer	90	Heading	\$ 3.49	\$ 2.36	1	\$ 5.85	\$247.08	Jun 20
Harvest grain sorghum	Combine w/ Rigid Head	25	15% Moist		\$ 30.88	1	\$ 30.88	\$277.96	Sep 1
Grain cart	W/ tractor	NA	At harvest		\$ 13.06	1	\$ 13.06	\$291.02	Sep 1
Paratill	6 Row Subsoiler	19	Fall		\$ 12.53	1	\$ 12.53	\$ 12.53	Sep 30
Re-hip Rows	12 Row hipper	38	Fall		\$ 6.17	1	\$ 6.17	\$ 18.70	Oct 15
TOTAL Operating Expenses							\$ 291.02		
UNALLOCATED CAPITAL RECOVERY ITEMS									
							Irrigation Eqpt	\$ -	
							Miscellaneous	\$ 9.38	
							Interest	\$ 6.55	
TOTAL Unallocated Costs							\$ 15.93		
TOTAL PREHARVEST EXPENSES							\$ 306.95		
POSTHARVEST EXPENSES									
		Hauling	Truck/Trailer	\$ 0.22	\$ 15.40				
		Drying	Grain bin	\$ -	\$ -				
		Check-off	Research/Promotion	\$ 0.01	\$ 0.70				
TOTAL POSTHARVEST EXPENSES							\$ 16.10		
REVENUE INFORMATION (PER ACRE)									
		Yield (bu/a)	70	Price	\$ 6.15	\$ 430.50			
							\$ -		
TOTAL REVENUE							\$ 430.50		
NET VALUE AT HARVEST							\$ 123.55		
NET RETURNS							\$ 107.45		
<i>*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.</i>									
<i>**Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 30 days from initiation</i>									

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Table 18. Field activities for wheat production.									
Field Activity	Implement	Width	Timing	COST INFORMATION (PER ACRE)					
				Supply	Machinery	Trips	Cost*	Cumltv	Date**
Disk	Disk	32	Fall		\$ 6.56	1	\$ 6.56	\$ 6.56	Sep 15
Field cultivate	Field cultivator	36	Fall		\$ 4.69	1	\$ 4.69	\$ 11.25	Sep 25
Smooth field	Land Plane	17	Fall		\$ 5.91	1	\$ 5.91	\$ 17.16	Sep 25
Spread fertilizer	Custom (ground)	60	Fall	\$ 82.90	\$ 6.00	1	\$ 88.90	\$106.06	Oct 1
Plant wheat	Grain drill	30	Fall	\$ 34.00	\$ 10.48	1	\$ 44.48	\$150.54	Oct 1
Cut drainage furrows	Ditcher	NA	Fall		\$ 0.37	1	\$ 0.37	\$150.91	Oct 1
POST1 Herbicide^	Self propelled sprayer	90	Early Spring	\$ 16.07	\$ 2.36	1	\$ 18.43	\$169.34	Feb 1
POST1 Fertilizer^	Custom (ground)	60	Early Spring	\$ 28.50	\$ 6.00	1	\$ 34.50	\$203.84	Feb 8
POST2 Herbicide	Custom (aerial)	66	Early Spring	\$ 11.28	\$ 7.00	1	\$ 18.28	\$222.12	Feb 15
POST2 Fertilizer	Custom (aerial)	75	Pre-boot	\$ 28.98	\$ 7.00	1	\$ 35.98	\$258.10	Mar 1
Fungicide	Custom (aerial)	66	Boot	\$ 16.94	\$ 7.00	1	\$ 23.94	\$282.04	Apr 1
Harvest Wheat	Combine/Rigid header	25	15% Moist		\$ 30.88	1	\$ 30.88	\$312.92	Jun 15
Grain cart	W/ tractor	NA	At harvest		\$ 13.06	1	\$ 13.06	\$325.98	Jun 15
TOTAL Operating Expenses							\$ 325.98		
UNALLOACTED CAPITAL RECOVERY ITEMS									
							Irrigation Eqpt	\$ -	
							Miscellaneous	\$ 8.52	
							Interest	\$ 7.33	
							TOTAL Unallocated Costs	\$ 15.85	
							TOTAL PREHARVEST EXPENSES	\$ 341.83	
POSTHARVEST EXPENSES									
							Hauling Truck/Trailer	\$ 0.22	\$ 12.10
							Drying Grain bin	\$ -	\$ -
							Check-off Research/Promotion	\$ 0.01	\$ 0.55
							TOTAL POSTHARVEST EXPENSES	\$ 12.65	
REVENUE INFORMATION (PER ACRE)									
				Yield (bu/a)	55	Price	\$ 8.00	\$ 440.00	
							\$ -		
							TOTAL REVENUE	\$ 440.00	
							NET VALUE AT HARVEST	\$ 98.17	
							NET RETURNS	\$ 85.52	
*Machinery costs reported by task, includes capital recovery, repairs, fuel, and labor.									
**Date indicates target date for initiation of practice. Actual timing is weather dependent and may precede or extend for 30 days from initiation									

7.7 APPENDIX – COMPOSITE ACRE COMPUTATION

Month	Corn			
	Non-Irrig	Pivot Irrig	Furrow Irrig	Wted Ave
January	\$18.70	\$18.70	\$18.70	\$18.70
February	\$28.16	\$28.16	\$28.16	\$28.16
March	\$290.60	\$331.19	\$331.19	\$327.13
April	\$299.98	\$340.57	\$340.57	\$336.51
May	\$383.60	\$420.61	\$425.00	\$420.42
June	\$383.60	\$557.75	\$571.22	\$551.11
July	\$383.60	\$557.75	\$571.22	\$551.11
August	\$430.79	\$604.94	\$618.41	\$598.30
September	\$12.53	\$12.53	\$12.53	\$12.53
October	\$18.70	\$18.70	\$18.70	\$18.70
November	\$18.70	\$18.70	\$18.70	\$18.70
December	\$18.70	\$18.70	\$18.70	\$18.70

Weights	10%	10%	80%	100%
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Yields	125	175	175	170
Price	\$7.00	\$7.00	\$7.00	\$7.00
Gross Returns	\$875	\$1,225	\$1,225	\$1,190
Op Expenses	\$431	\$605	\$618	\$598
Cap Recovery	\$19	\$100	\$44	\$47
Post Harvest	\$53	\$74	\$74	\$71
Total Costs	\$503	\$778	\$736	\$717
Net Returns To Land and Labor	\$372	\$447	\$489	\$473

Plains & Eastern Project – Arkansas Delta Agricultural Economic Impact Study

Month	Soybeans				
	Non-Irrig	Pivot Irrig	Furrow Irrig	Flood Irrig	Wted Ave
January	\$12.73	\$12.73	\$12.73	\$11.62	\$12.40
February	\$12.73	\$12.73	\$12.73	\$11.62	\$12.40
March	\$29.77	\$29.77	\$29.77	\$28.13	\$29.28
April	\$182.62	\$182.62	\$182.62	\$188.05	\$184.25
May	\$214.56	\$214.56	\$214.56	\$219.99	\$216.19
June	\$214.56	\$301.50	\$281.74	\$296.40	\$285.35
July	\$249.05	\$335.99	\$316.23	\$330.89	\$319.84
August	\$249.05	\$335.99	\$316.23	\$330.89	\$319.84
September	\$283.31	\$370.25	\$350.49	\$365.15	\$354.10
October	\$12.73	\$12.73	\$12.73	\$11.62	\$12.40
November	\$12.73	\$12.73	\$12.73	\$11.62	\$12.40
December	\$12.73	\$12.73	\$12.73	\$11.62	\$12.40

Weights	10%	30%	30%	30%	100%
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Yields	30	60	60	60	57
Price	\$14.50	\$14.50	\$14.50	\$14.50	\$14.50
Gross Returns	\$435	\$870	\$870	\$870	\$827
Op Expenses	\$283	\$370	\$350	\$365	\$354
Cap Recovery	\$15	\$79	\$33	\$33	\$45
Post Harvest	\$8	\$15	\$15	\$15	\$14
Total Costs	\$306	\$464	\$399	\$413	\$414
Net Returns To Land and Labor	\$129	\$406	\$471	\$457	\$413

Plains & Eastern Project – Arkansas Delta Agricultural Economic Impact Study

Month	Rice		
	Precision Graded	Contour Levees	Wted Ave
January	\$8.22	\$11.53	\$9.21
February	\$8.22	\$24.00	\$12.95
March	\$14.53	\$89.09	\$36.90
April	\$51.73	\$155.11	\$82.74
May	\$313.09	\$443.17	\$352.11
June	\$409.27	\$443.17	\$419.44
July	\$409.27	\$516.84	\$441.54
August	\$499.94	\$607.51	\$532.21
September	\$8.22	\$3.31	\$6.75
October	\$8.22	\$11.53	\$9.21
November	\$8.22	\$11.53	\$9.21
December	\$8.22	\$11.53	\$9.21

Weights	70%	30%	100%
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Yields	170	170	170
Price	\$6.50	\$6.50	\$7
Gross Returns	\$1,105	\$1,105	\$1,105
Op Expenses	\$500	\$608	\$532
Cap Recovery	\$49	\$62	\$53
Post Harvest	\$99	\$99	\$99
Total Costs	\$648	\$769	\$684
Net Returns To Land and Labor	\$457	\$336	\$421

Plains & Eastern Project – Arkansas Delta Agricultural Economic Impact Study

Month	Cotton			
	Non-Irrig	Pivot Irrig	Furrow Irrig	Wted Ave
January	\$27.52	\$27.52	\$27.52	\$27.52
February	\$27.52	\$27.52	\$27.52	\$27.52
March	\$36.98	\$36.98	\$36.98	\$36.98
April	\$108.12	\$124.12	\$124.12	\$122.52
May	\$325.16	\$347.24	\$357.60	\$352.28
June	\$325.16	\$347.24	\$361.99	\$355.36
July	\$350.93	\$466.43	\$361.99	\$381.77
August	\$368.01	\$484.11	\$451.08	\$449.38
September	\$406.27	\$533.89	\$518.53	\$510.38
October	\$514.34	\$641.96	\$626.60	\$618.45
November	\$27.52	\$27.52	\$27.52	\$27.52
December	\$27.52	\$27.52	\$27.52	\$27.52

Weights	10%	20%	70%	100%
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Yields	800	1,200	1200	1,160
Price	\$0.70	\$0.70	\$0.70	\$0.70
Gross Returns	\$657	\$985	\$985	\$952
Op Expenses	\$514	\$642	\$627	\$618
Cap Recovery	\$32	\$98	\$52	\$59
Post Harvest	\$97	\$145	\$145	\$140
Total Costs	\$643	\$885	\$824	\$818
Net Returns To Land and Labor	\$13	\$100	\$161	\$134

Plains & Eastern Project – Arkansas Delta Agricultural Economic Impact Study

Month	Wheat	Sorghum				Composite Acre
		Non-Irrig	Pivot Irrig	Furrow Irrig	Wted Ave	
January	\$150.91	\$18.70	\$18.70	\$18.70	\$18.70	\$24.60
February	\$222.12	\$24.64	\$24.64	\$24.64	\$24.64	\$30.79
March	\$258.10	\$24.64	\$24.64	\$24.64	\$24.64	\$59.83
April	\$282.04	\$190.67	\$197.65	\$197.65	\$191.37	\$160.67
May	\$282.04	\$241.23	\$263.74	\$268.13	\$243.70	\$289.03
June	\$325.98	\$247.08	\$342.03	\$327.82	\$255.86	\$343.61
July	\$325.98	\$247.08	\$342.03	\$327.82	\$255.86	\$369.20
August	\$325.98	\$291.02	\$385.97	\$371.76	\$299.80	\$406.95
September	\$17.16	\$12.53	\$12.53	\$12.53	\$12.53	\$263.58
October	\$150.91	\$18.70	\$18.70	\$18.70	\$18.70	\$147.83
November	\$150.91	\$18.70	\$18.70	\$18.70	\$18.70	\$24.60
December	\$150.91	\$18.70	\$18.70	\$18.70	\$18.70	\$24.60

Weights	100%	90%	5%	5%	100%	100%
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Yields	55	70	110	110	74	
Price	\$8.00	\$6.15	\$6.15	\$6.15	\$6.15	
Gross Returns	\$440	\$431	\$677	\$677	\$455	\$898.13
Op Expenses	\$326	\$291	\$386	\$372	\$300	\$457.07
Cap Recovery	\$16	\$16	\$71	\$33	\$19	\$47.45
Post Harvest	\$13	\$16	\$25	\$25	\$17	\$62.36
Total Costs	\$354	\$323	\$482	\$430	\$336	\$566.88
Net Returns To Land and Labor	\$86	\$107	\$195	\$247	\$119	\$331.25

Crop Distribution Weights

Crop	Acres of a Given Crop in the 4 Project Counties (Based on 2007 Ag Census Data)	Percent Acres in 4 Project Counties
Rice	296,669	23.1%
Cotton	267,541	20.9%
Corn	50,442	3.9%
Soybeans	556,871	43.4%
Wheat	87,234	6.8%
Sorghum	24,207	1.9%
Total	1,282,964	100%

7.8 APPENDIX - RELIABILITY OF COUNTYWIDE STATISTICAL DATA

Two indicators of the reliability of using countywide statistical data as representative within the preferred and alternates routes selected for consideration by Clean Line are Land Use and Crops Grown.

Land use has been determined for the selected routes for both a 200 foot right of way and the 1000 foot corridors.

The selected 200 foot route land use data is shown in the following table by county.

County	Jackson	Cross	Poinsett	Mississippi	Total
Total R/W acres	392	404	764	405	1965
Cropland acres	356	241	710	366	1673
% Cropland	90.8%	59.7%	92.9%	90.4%	85.1%

The acreage of specific crops grown in the study area varies from year to year and is dependent on a number of factors including crop prices, planned rotations, weather, government programs etc.

Countywide land use data cited in the Report is based on 2007 Census of Agriculture data (the most recent data available at the time the Report was prepared) and is different than the land use data for the 200 foot wide Applicant Proposed Route. These differences may be due to the location of the route (i.e., the route might pass through an area of the county that has more or less cropland), the dates the data were collected, and methods used to analyze the data.

County	Jackson	Cross	Poinsett	Mississippi	Total
Land Area acres	410,880	398,080	488,960	588,800	1,886,720
Cropland acres	260,892	266,574	302,069	453,429	1,282,964
% Cropland	63.5%	67.0%	61.8%	77.0%	68.0%

Countywide data is available by crops (table 3-3) however specific crops grown within the Applicant proposed and alternate routes have not been determined.

APPENDIX K

VISUAL CONTRAST RATING WORKSHEETS AND VISUAL SIMULATIONS



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Appendix C

Visual Contrast Rating Worksheets

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Acronyms and Abbreviations

AC	alternating current
ag	agricultural
AR	Alternative Route
BG	background
FG	foreground (distance zone category, 0 to 0.5 miles)
KOP	Key Observation Point
kV	kilovolt(s)
MG	middleground (distance zone category, 0.5 to 3 miles)
N/A	not applicable
NWR	national wildlife refuge
OK	Oklahoma
PR	Proposed Route
Project, the	Plains & Eastern Clean Line transmission project
rec	recreational
ROW	right-of-way
SR	State Route

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Visual Contrast Rating Worksheets- HVDC Transmission Line, Region 1

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Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 1
PR Link, AR, AC: PR Link 5
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Fort Supply WMA Recreation Area PR
Land Character Unit: Central Great Plains
County, State: Woodward, Oklahoma
Longitude: -99.5734933
Latitude: 36.5508283

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Grasses, scattered trees	Playground, pavilion
Line	Undulating	Horizontal grasses, round and conical trees	Geometric
Color	Light brown	Yellow grasses, light brown trees, dark green evergreens	Yellow, blue, red, tan, brown
Texture	Moderate	Moderate	Fine to moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



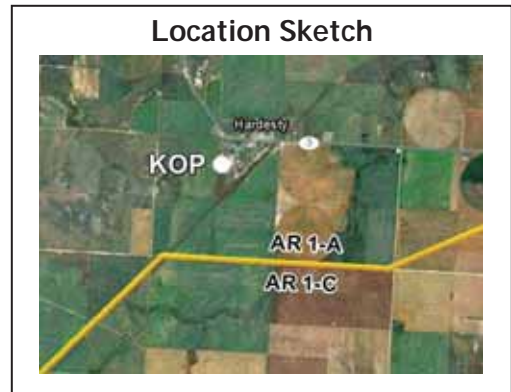
View northeast from the north edge of the Fort Supply Reservoir of a recreation area. Recreational elements and dense vegetation are nearby.

Region 1 PR Link 5 would be located 6.4 miles north of this viewpoint. The PR would not be visible from this viewpoint due to the distance and intervening terrain. The upward sloping land and dense vegetation in the FG and MG would obscure visibility. Construction and operation of the Project would result in no visual contrast.

The visual sensitivity at this KOP is high, as it represents a community recreational area. However, since there is no contrast, there would be no visual impact at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: 1
PR Link, AR, AC: AR 1-A, AR 1-C
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Hardesty AR
Land Character Unit: Southwestern Tablelands
County, State: Texas, Oklahoma
Longitude: -101.1963472
Latitude: 36.6132474

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	FG: flat BG: flat to rolling	FG: low, uniform BG: scattered/uneven	Short, low, vertical
Line	Horizontal, straight	FG: irregular BG: round	Angular, horizontal, vertical telephone poles, metal poles
Color	FG: yellow, beige BG: browns, beige	Brown trees, yellow and beige grasses	Brown, metallic
Texture	FG: coarse BG: medium/smooth	Medium, coarse	Angular, mixed, moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, wide, geometric, angular vertical elements would be regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a row of tall objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View south from near residential area. View includes one tree, shrubs, yellow grasses, small structures, and wood power poles.

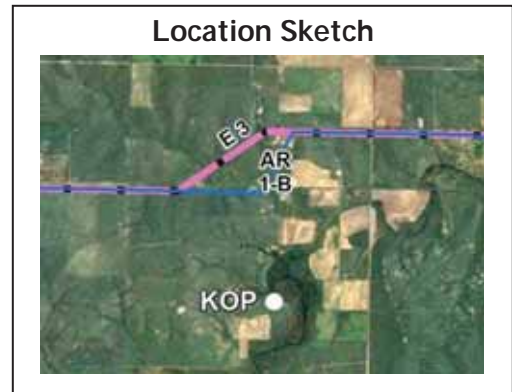
Region 1 AR 1-A and AR 1-C would be located south about 0.8 miles at the closest point to this location. The Project would appear in the MG. Structures and lines would be substantially taller and noticeably wider than the existing low wood power poles and would be a prominent feature in the broad, flat landscape. Their form and regular pattern would be prominent and noticeable. However, because of the distance, their scale would be somewhat similar to existing vertical elements and they would be co-dominant with these. Presumably there would be no vegetation changes due to the location of the line crossing open fields. Construction and operation of the Project would result in moderate visual contrast.

The visual sensitivity at this KOP is high as it represents a view from residential areas. The visual impact at this location would be moderate.

A visual simulation for this view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: 1
PR Link, AR, AC: AR 1-B
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Lake Schultz State Park AR
Land Character Unit: Southwestern Tablelands
County, State: Texas, Oklahoma
Longitude: -101.1662355
Latitude: 36.5448784

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling, some dry washes, low ridges	Low grasses, dense grove of rounded trees in low area	Scattered rural residences in vicinity; small rectilinear forms
Line	Horizontal and gently undulating	Rounded trees; low grasses and shrubs (yucca); gently curving horizontal	Not noticeable
Color	Tan, gray	Yellow grasses and weeds, some light green grass and shrub areas, some light brown trees	Light gray
Texture	Fine to moderate	Fine texture grasses and weeds; moderate to course textured trees	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



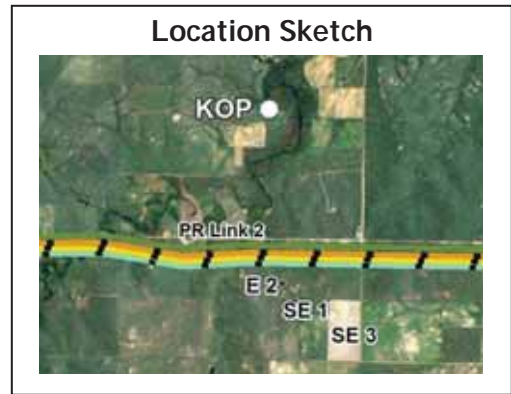
View north from low ridge in west entrance to WMA and state park. View includes dense trees in immediate FG and low ridges in distance. A few scattered residences in vicinity.

Region 1 AR 1-B would be located 0.9 miles north at the closest point to this location. The Project would likely be visible in the distance with the tops of tall vertical transmission structures extending above the horizon line. Because no other similar structures are visible to the north, the upper portions of the structures would introduce new forms in the landscape that would contrast with the existing highly intact and natural appearing landscape. No landform or vegetation changes would be visible. Construction and operation of the Project would result in strong contrast.

The visual sensitivity at this KOP is high as it represents a view from a public park and WMA with trails and dispersed recreation use. The visual impact at this location would be moderately high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: 1
PR Link, AR, AC: PR Link 2
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling, some dry washes, low ridges	Low grasses, some rounded trees in washes	Low fences; tall, narrow vertical monopole power lines
Line	Horizontal and gently undulating	Rounded, horizontal; some low rounded vertical trees	Horizontal fences, vertical power monopoles
Color	Tan, gray	Yellow grasses and weeds, some light green grass and shrub areas, some light brown trees	Dark brown power polls, light brown fence posts
Texture	Fine to moderate	Fine texture grasses and weeds; moderate to course textured trees	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements would be regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate to coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



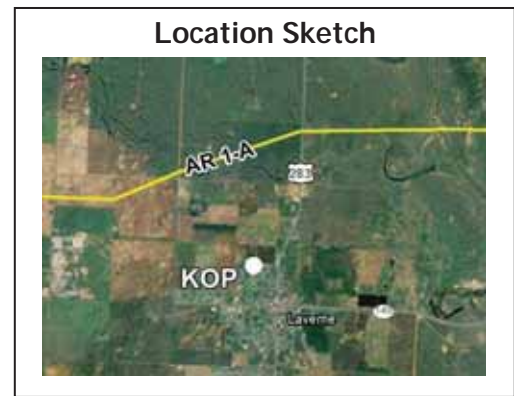
View south from small parking area at entrance to Lake Schultz State Park. View includes grasslands, groups of low trees, fences, and monopole transmission line.

Region 1 PR Link 2 would be located in this view 1.0 miles south at the closest point to this location. The Project would appear in the MG just beyond the closest tree line and row of monopole transmission structures. The Project would follow the existing Hitchland to Woodward 345kV Transmission Line. The form and line of the lattice structure transmission line would appear wider, taller, and more geometric than the existing monopole structures and would add to the number of structures visible in a line across the landscape. Presumably there would be no noticeable landform or vegetation changes. Construction and operation of the Project would result in moderate visual contrast.

The visual sensitivity at this KOP is high as it represents a view from a public park and WMA with trails and dispersed recreation use. The visual impact at this location would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 1
PR Link, AR, AC: AR1-A
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Varied heights. scattered/uneven, clumped	Short, low houses; vertical light poles and existing transmission poles. angular
Line	Horizontal, straight	Irregular, varied	Angular, vertical poles
Color	Yellow to brown and tan	Yellow, brown	White, brown, tan, metal
Texture	Medium	Medium to coarse	Mixed, moderate, uneven

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



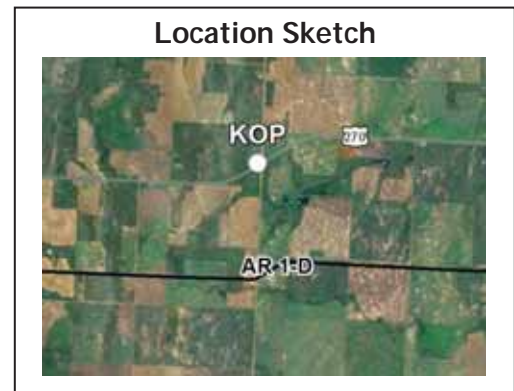
View north from residential neighborhood toward AR 1-A. View includes vertical light poles, existing transmission lines, angular structures of the homes and garages, trees in the distance, and grasses and bushes in the FG.

Region 1 AR 1-A would be visible about 0.9 miles north of this location. The Project would appear in the MG. Towers and lines would be noticeable as they cross open lands and extend above trees and low structures. Their form and scale would appear larger than existing vertical elements in the view. Presumably there would be no landform or vegetation changes due to the location of the line crossing open fields. Construction and operation of the Project would result in moderate contrast.

The visual sensitivity at this KOP is high as it represents a view from a residential area. The visual impact at this location would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 1
PR Link, AR, AC: AR 1-D
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Local Historical Marker AR
Land Character Unit: Southwestern Tablelands
County, State: Beaver, Oklahoma
Longitude: -100.004
Latitude: 36.6187

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Low, uniform; scattered/uneven	Thin vertical transmission monopoles
Line	Smooth, horizontal	Irregular, horizontal	Vertical, straight elements
Color	Yellow, tan, brown	Yellow, tan	Brown, gray
Texture	Medium	Medium to coarse	Uniform, fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine to moderate, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View looking south from the Local Historical Marker on Route 3 (Route 270).

Alternative Route 1-D would be 0.8 miles south of this location. The AR would run adjacent to the existing 345kV transmission line, which is located about 0.6 miles from this location, and the 69kV H-frame wooden poles located about 0.7 miles from this location.

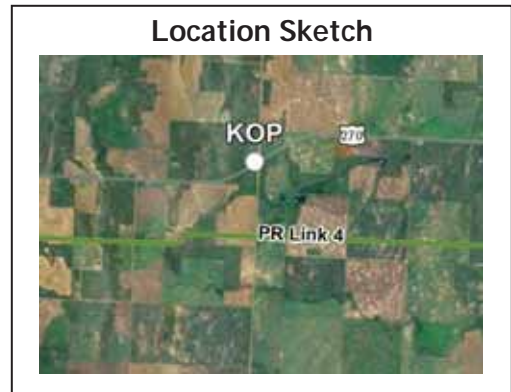
The view from this KOP is panoramic, with 360 degree views in all directions. Vertical elements on the flat terrain are highly visible and noticeable silhouetted against the sky on the horizon. The only structures in the view are the existing transmission lines, including the utility poles for power lines along Route 3/270. The line and texture of the AR transmission line structures would be somewhat different from that of existing structures and the increased density of taller, wider, lattice towers on the horizon would result in moderate contrast. There would be no change to the landforms or vegetation in this view. Construction and operation of the Project would result in moderate contrast.

The visual sensitivity at this KOP is moderate, because the historical marker wayside provides interpretive information and long duration views for visitors and tourists engaged in leisure activities. With moderate visual sensitivity and moderate contrast, the visual impact would be moderately low at this location.



Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 1
PR Link, AR, AC: PR Link 4
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Low, uniform, scattered/uneven	Thin, vertical monopoles regularly spaced in a line
Line	Smooth, horizontal	Irregular, horizontal	Vertical, straight elements
Color	Yellow, tan, brown	Yellow, tan	Brown, gray
Texture	Medium	Medium to coarse	Fine, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine to moderate, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View looking south from the Local Historical Marker on Route 3 (Route 270).

The PR would be 0.6 miles south of this location in the near MG. The PR would run adjacent to the existing 345kV transmission line, which is located 0.6 miles from this location, and the 69kV H-frame wooden poles located about 0.7 miles from this location.

The view from this KOP is panoramic, with 360 degree views in all directions. Vertical elements on the flat terrain are highly visible and noticeable silhouetted against the sky on the horizon. The only structures in the view are the existing transmission lines, including the utility poles for power lines along Route 3/270. The line of the PR transmission line structures would be somewhat different from that of existing structures and the increased density of taller, wider lattice towers on the horizon would result in moderate contrast for form and texture. There would be no changes to the landforms or vegetation in this view. Construction and operation of the Project would result in moderate contrast.

The visual sensitivity at this KOP is moderate, because the historical marker wayside provides interpretive information and long duration views for visitors and tourists engaged in leisure activities. With moderate visual sensitivity and moderate contrast, the visual impact would be moderately low at this location.



Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 1
PR Link, AR, AC: PR Link 5
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low grasses, rounded trees, scattered clusters of trees	Low, one-story residences; thin vertical wood power poles; a few thin vertical poles in distance; tall, round grain silos; low metal building, angular
Line	Horizontal, gently curving	Rounded to horizontal	Geometric, rectilinear, round tanks
Color	Light brown, tan	Yellow grasses, tan/light brown/gray	Blue and white metal structures; beige silo; gray metal tanks; light brown power poles; white residences
Texture	Smooth	Fine texture grasses; coarse textured trees in FG and MG	Medium

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a row of vertical objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



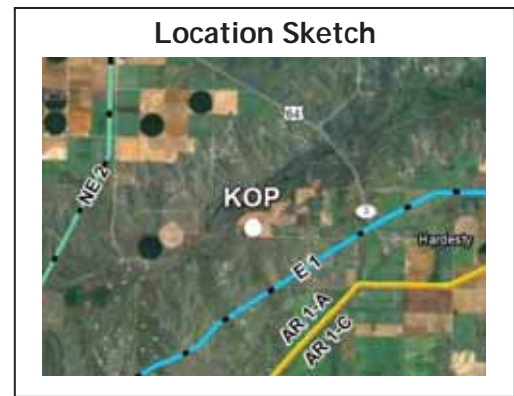
View looking south on Route 46 in May, OK, a small community with some trees, a few structures, and open, rolling landscape.

Region 1 PR Link 5 would be located 0.6 miles south of this viewpoint. The transmission line would appear as a row of vertical objects along the horizon in the MG of this view, where it is not blocked by trees. The scale of the transmission line would be slightly taller or similar to that of existing structures but larger in form. There would be no changes to the landform or vegetation in this view. Construction and operation of the Project would result in moderate contrast.

The visual sensitivity at this KOP is high, as it represents a residential area. Because the level of contrast is moderate, the visual impact would be moderate at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: 1
PR Link, AR, AC: AR 1-A, AR 1-C
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	FG: flat; BG: flat to rolling	Low, uniform, scattered/clumped	Vertical power poles, vertical fence posts
Line	Horizontal, straight, smooth; BG is curving, smooth	Irregular, horizontal	Vertical poles
Color	FG: beige, light tan; BG: dark tan, browns	Yellow, greens, light and dark tans, some brown	Brown power poles
Texture	Smooth to medium	Varied, medium to coarse	Uneven, fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a row of regularly-spaced objects
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View from near the south edge of Optima National Wildlife Refuge. Location serves as an access point for hunters. View includes low, scrubby brush and grasses in FG and scattered trees and a few low vertical power poles in the distance.

Region 1 AR 1-A and AR 1-C would be visible in this view about 2.5 miles southeast of this location. The Project would appear in the distant MG. At this distance, structures and lines would be faintly noticeable as they cross open lands; however, views of these elements may be obstructed by low ridges. Presumably no landform or vegetation changes would be visible. Construction and operation of the Project would result in weak contrast due to distance and the presence of a few vertical elements in the view.

The visual sensitivity at this KOP is high as it represents a view from a National Wildlife Refuge with trails and some interpretive facilities. Because the visual contrast would be weak, the visual impact at this location would be low.

Visual Contrast Rating Worksheets- HVDC Transmission Line, Region 2

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Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: AR 2-B, AR 2-A
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Ames AR
Land Character Unit: Central Great Plains
County, State: Major, Oklahoma
Longitude: -98.1876116
Latitude: 36.2441416

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Scattered trees; low, uniform grasses	Farm and drilling equipment. horizontal fence
Line	Horizontal, slightly curving	Regular, straight; vertical elements	Horizontal fences
Color	Green, brown, yellow	Green, brown, yellow	Brown
Texture	Fine to smooth	Fine to coarse	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View south from south area of community. This view also represents the view from along the historic Cimarron River Branch Cattle Trail.

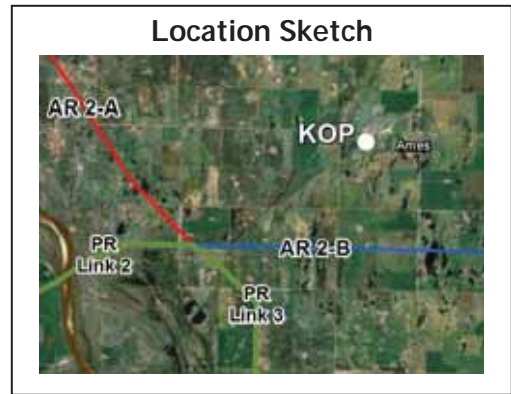
Region 2 AR 2-B would be located 1.3 miles south and AR 2-A would be located about 2.6 miles to the southwest of this location. The AR 2-B transmission line could appear in this view as a row of small objects in the distance, on the horizon, or in front of the distant low hills and trees, where it would not be blocked by trees. The scale of the transmission line would be similar to that of existing structures. There would be no changes to the landform or vegetation in this view. AR 2-B would cross the historic Cimarron River Branch Cattle Trail approximately 2.5 miles southeast of this location; views of the AR from the vicinity of the trail would be similar to this view. AR 2-A to the west and southwest would be similar but less noticeable due to the greater distance. Construction and operation of the Project would result in weak visual contrast.

The visual sensitivity at this KOP is high as it represents views from a residential area and historic trail (i.e., the Cimarron River Branch Cattle Trail). However, since the level of contrast is weak, the visual impact would be low for views from this location.

Region 2 PR Link 3 is located 2.5 miles southwest of this location. See additional KOP Contrast Rating Worksheet.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: PR Link 3
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Scattered trees; low, uniform grasses	Farm and drilling equipment. horizontal fence
Line	Horizontal, slightly curving	Regular, straight; vertical elements	Horizontal fences
Color	Green, brown, yellow	Green, brown, yellow	Brown
Texture	Fine to smooth	Fine to coarse	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View south from south area of community. This view also represents the view from along the historic Cimarron River Branch Cattle Trail.

Region 2 PR Link 3 would be located 2.5 miles to the southwest of this location. The transmission line would appear in this view as a row of small objects in the distance, on the horizon, or in front of the distant low hills and trees, where it is not blocked by trees. The scale of the transmission line would be similar to that of existing structures. The PR would cross the historic Cimarron River Branch Cattle Trail approximately 6.5 miles southeast of this location; views of the PR from the vicinity of the trail would be similar to this view. There would be no changes to the landform or vegetation in this view. Construction and operation of the Project would result in weak contrast.

The visual sensitivity at this KOP is high, as it represents views from a residential area and historic trail (i.e., the Cimarron River Branch Cattle Trail). However, since the level of contrast is weak, the visual impact would be low at this location.

AR 2-B is located 1.3 miles south and AR 2-A is located about 2.6 miles to the southwest of this location. See additional KOP Contrast Rating Worksheet.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: AR 2-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Bison AR
Land Character Unit: Central Great Plains
County, State: Garfield, Oklahoma
Longitude: -97.892445
Latitude: 36.1938

Characteristic Landscape Description:

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Scattered	Short fencing, low geometric buildings
Line	Horizontal, rounding	Horizontal, vertical trees	Angular, horizontal fencing; vertical transmission lines
Color	Yellow, brown	Yellow, brown	Brown
Texture	Moderate	Fine to moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from the north edge of Bison in a residential area. Single family residences are nearby.

Region 2 AR 2-B would be located 1.8 miles north of this viewpoint. The transmission line could appear as a row of vertical objects on the horizon in the distance where it would not be obscured by trees and structures. The trees in the FG would obstruct the majority of the view from this viewpoint. The scale and form of the lattice transmission line would be somewhat different from that of other existing structures in the vicinity. Construction and operation of the AR would result in weak contrast.

The visual sensitivity at this KOP is high, as it represents a residential area. However, since the level of contrast is weak, the visual impact would be low at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: PR Link 3
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Bison PR
Land Character Unit: Central Great Plains
County, State: Garfield, Oklahoma
Longitude: -97.8908056
Latitude: 36.1977642

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Scattered, irregular	Low, geometric structures; fences
Line	Horizontal, curving	Horizontal, vertical trees	Angular, horizontal, vertical transmission lines
Color	Yellow, tan, brown	Yellow, brown	Red, white, gray, metallic
Texture	Moderate to coarse	Moderate to coarse	Moderate, rough

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would create an implied line on the land
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate, rough

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View south from the south edge of Bison in a residential area. Small, scattered residential structures surround the viewpoint.

Region 2 PR Link 3 would be located 1.4 miles south of this viewpoint. The transmission line could appear as a row of vertical objects on the horizon in the distance. The structures would be clearly visible from this viewpoint due to the scattered vegetation and the form and line of the taller lattice PR structures would be somewhat different from existing structures in the landscape. Construction and operation of the Project would result in weak contrast.

The visual sensitivity at this KOP is high, as it represents a residential area. However, since the level of contrast is weak, the visual impact would be low at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: PR Link 1
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Grasses, scattered trees, dense tree lines	Low wood power poles
Line	Slightly undulating	Horizontal grasses, round and conical trees, strong tree lines	Thin vertical power poles
Color	Brown	Yellow grasses, light brown trees, dark green evergreens	Light brown power poles
Texture	Fine	Moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced would form a boundary
Line	No Change	No Change	Tall, vertical elements would create an implied line on the land
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



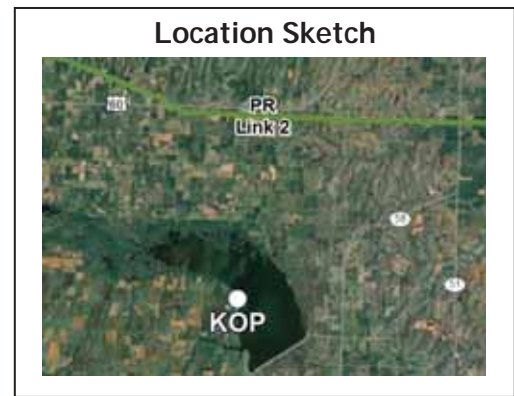
This view is looking northeast toward the PR from a state park recreation area. The topography is low and rolling with grasses and scattered areas of dense shrubs and trees. Vertical elements include trees and power lines.

Region 2 PR Link 1 would be located 0.9 miles northeast of this viewpoint. Depending on where viewers are within the state park, views of the transmission line would be sporadic because of the rolling terrain and vegetation. The tall metal structures would be visible through breaks in FG vegetation and protruding above MG vegetation, resulting in moderate contrast in form, line, color, and texture with existing vegetation and structures in the landscape.

The visual sensitivity at this KOP is high, as it is a state park recreation area. Since the PR would be in the near MG distance zone and the level of contrast is moderate, the visual impact would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: PR Link 2
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Canton WMA and Lake Recreation Area PR
Land Character Unit: Central Great Plains
County, State: Major, Oklahoma
Longitude: -98.6140433
Latitude: 36.119575

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat, large lake	Low grasses, tree line on distant shoreline	N/A
Line	Horizontal	Horizontal	N/A
Color	Reddish brown soil, blue reflective water	Yellow grasses, light brown trees	N/A
Texture	Fine	Fine	N/A

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



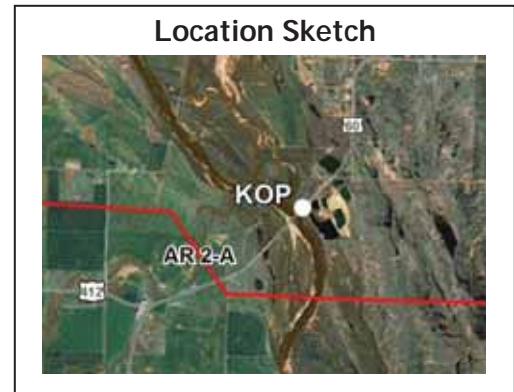
View north from the western edge of Canton Lake. Some recreational elements are nearby.

Region 2 PR Link 2 would be approximately 6.5 miles north of this viewpoint. The PR would be unlikely to be visible from this location and if it was visible, would not be noticeable due to distance and dense vegetation between the viewpoint and the PR. Construction and operation of the Project would result in no contrast.

The visual sensitivity at this KOP is high, as it represents a community recreational area. However, since there is no contrast, there would be no visual impacts at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: AR 2-A
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat, meandering river edge	Dense irregular, riparian	Tall, vertical wood power poles; horizontal bridge and guardrail
Line	Undulating, curving stream; slightly diagonal	Irregular and rounded	Vertical power poles, horizontal bridge
Color	Light red to tan	Light gray, light green, dark brown, dark green, yellow grasses	Dark brown to medium brown poles, metallic guardrail
Texture	Fine to moderate	Moderately course to course	Fine, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View looking south-southwest of river corridor downstream from the highway bridge. Dense, low riparian vegetation borders open river banks.

Alternative Route 2-A would be located 0.7 miles south of this viewpoint. The Oklahoma Gas & Electric Company's Woodward to Cleo Corner 115kV transmission line crosses the Cimarron River at this location, and its wooden T-frame and H-frame structures are prominent in this view. The Project would appear as vertical objects in a line on the horizon, where it is not blocked by trees and structures. The new towers would be substantially taller and have a wider form compared to the shorter single poles in the current view. Any changes to the landform or vegetation (e.g., removal of brush in the ROW) would not be noticeable in this view. Construction and operation of the Project would result in moderate visual contrast.

The visual sensitivity at this KOP is moderate because it is a crossing for a major waterbody, and the level of visual contrast is moderate. Therefore, the visual impact would be moderately low at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: PR Link 2
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Cimarron River Crossing PR
Land Character Unit: Central Great Plains
County, State: Major, Oklahoma
Longitude: -98.255266
Latitude: 36.217845

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling to moderately steep	Dense, irregular, rounded	Flat horizontal linear structure (road); short, vertical elements (barriers and signs of road)
Line	Curving	Irregular, vertical	Straight, horizontal
Color	Brown, tan, blue, white	Yellow, green, grey	Brown, white, gray, yellow, red
Texture	Coarse	Coarse	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View northeast from the highway, crossing the Cimarron River. The area is rural with very little development near the river.

Region 2 PR Link 2 would be located in the immediate FG of this view and parallels the highway at the river crossing. The PR would be highly visible and prominent viewed from the highway in the vicinity of the river crossing. The transmission line would appear as a row of tall objects directly bordering the highway. The form and line of the tall structures would be substantially different than the existing low, horizontal structures. The PR would dominate the landscape at this viewpoint, contributing to a strong degree of contrast.

The visual sensitivity at this KOP is moderate, as it represents a major waterbody. Since the level of contrast is strong and the PR would be visible in the near FG, the visual impact would be moderately high.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: AR 2-A
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Cleo Springs AR
Land Character Unit: Central Great Plains
County, State: Major, Oklahoma
Longitude: -98.4369925
Latitude: 36.4051643

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low, uniform ag fields; tall rounded trees scattered in small clumps	Tall, vertical wood and metal power poles; very tall and thin communications tower
Line	Horizontal	Horizontal and rounded, irregular	Vertical, straight power poles
Color	Light brown	Green ag fields, yellow-green fields in MG, gray brown forested areas	Dark brown to medium brown poles, light gray galvanized metal power poles
Texture	Fine	Fine to medium	Fine, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View south-southeast from Texas Street., near the southern edge of Cleo Springs, OK, near single-family residences and a farm.

Region 2 AR 2-A would be located slightly less than 3.0 miles south of this viewpoint. The Oklahoma Gas and Electric's Cleo Corner to Imo 115kV transmission line is located about 2 miles south-southeast of this viewpoint and the Woodward to Cleo Corner 115kV transmission line is located about the same distance to the south and southwest. Both lines are visible from this viewpoint. The wooden H-frame and monopole transmission structures of the Cleo Corner to Imo 115kV transmission line appear as small vertical objects on the horizon and are barely noticeable at this distance. The Project would appear as a small row of objects on the horizon in the distant MG of this view, where it is not blocked by trees and structures. The form and line of the transmission line would be similar to that of existing structures, although it may appear somewhat smaller and would not always be visible because of atmospheric conditions. There would be no changes to the landform or vegetation in this view. Construction and operation of the Project would result in weak visual contrast.

The visual sensitivity at this KOP is high, as it represents views from a residential area. However, since the level of contrast is weak, the visual impact would be low at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: PR Link 2
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Fairview PR
Land Character Unit: Central Great Plains
County, State: Major, Oklahoma
Longitude: -98.473785
Latitude: 36.2626683

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat, gently rolling in the far distance	Low, uniform ag fields, rounded trees scattered, dense rounded trees in distance	Short vertical wood power poles, tall metal light poles at ball fields; fence around ball field, scattered rec buildings; very tall and thin lattice communications tower
Line	Horizontal	Rounded, irregular on horizon, low rounded trees scattered in FG, horizontal fields	Vertical, straight power poles, horizontal fence
Color	Brown to reddish brown	Yellow grasses, green ag, brown gray trees	Dark brown to medium brown poles, dark gray light poles, metallic fence around ball field; light gray rec buildings
Texture	Fine	Fine to medium	Medium, irregular

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



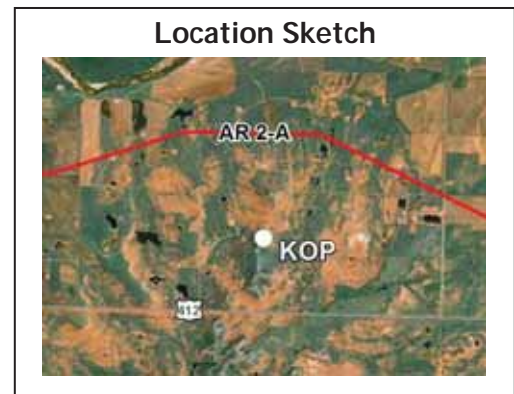
View looking south from the community park and fairgrounds at the south edge of Fairview.

Region 2 PR Link 2 would be located 3.3 miles south of this location. This KOP represents views from the community. Ball fields, open play fields, some short power poles, and the street occupy the FG and open ag fields are visible from the FG and MG. A line of dense trees is visible on the horizon. The transmission line may appear as a row of objects in the BG of this view, on the horizon, where it is not blocked by trees. The scale of the transmission line would be smaller than that of existing structures. There would be no changes to the landforms or vegetation in this view. Construction and operation of the Project would result in weak visual contrast.

The visual sensitivity at this KOP is high, as it represents views from a public park and nearby residences. However, since the level of contrast is weak, the visual impact would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: AR 2-A
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	FG rugged angular buttes, steep cliffs; MG flat open ag fields, river, floodplain; BG low rolling hills; small round lakes and ponds scattered in FG and MG; meandering river in MG	Low ag fields; dense irregular forested areas in distant MG and BG; some scattered angular cedars in FG	Short, round tanks and angular pump jacks in scattered locations in FG and MG, low vertical wood H-frame transmission line in FG
Line	Undulating and horizontal; curving stream and pond edges	Horizontal to irregular; horizontal and straight ag fields	Geometric and angular; low vertical poles
Color	Red and gray, yellowish tan, pond edges reddish orange	Yellow, dark green evergreens, gray trees	Dark green, black, metallic; dark brown, white
Texture	Very coarse edges in FG; smooth MG; moderately coarse BG	Moderate FG; fine to moderate MG; distant MG to BG moderately coarse	Moderate and uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Some regular, geometric cleared areas near structures	Tall vertical elements regularly spaced in a line
Line	No Change	Some straight edges for cleared areas	Vertical elements appear as widely separated row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate, uniform

Degree of Contrast

		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View looking northeast from the north overlook at Gloss Mountain State Park.

Region 2 AR 2-A would be highly visible about 0.8 miles north of this viewpoint. The view from this overlook includes panoramic views of open ag fields, the Cimarron River and its riparian corridor, and patchy forested areas in the distant MG and BG. Also visible from this overlook are small lakes and ponds, rugged exposed rock outcrops and mesa tops, a wood transmission line, and scattered oil and gas facilities.

The Project would be visible extending both west and east across the landscape in the MG and BG. Towers and lines would be noticeable crossing open grasslands and ag fields. Due to the elevation from this vantage point, towers and lines would not extend above the horizon. Changes to landform and vegetation for access roads, pads, and ROW clearing would be visible but not very noticeable. Transmission structures would introduce new vertical forms regularly spaced in a linear pattern across the horizontal landscape. Construction and operation of the Project would result in moderate contrast with the horizontal lines and forms comprising the open, flat landscape.

The visual sensitivity at this KOP is high because it represents a view from a state park. The visual impact at this location would be moderate. A simulation of this view is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: PR Link 2
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Gloss Mountain State Park PR
Land Character Unit: Central Great Plains
County, State: Major, Oklahoma
Longitude: -98.5779553
Latitude: 36.3709764

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	FG rugged angular buttes, steep cliffs; MG and BG broad flat plain	Sparse, scattered clumps, horizontal grasses	Low, horizontal distant development, single vertical communication tower
Line	Angular, straight, horizontal	Horizontal to irregular; horizontal and straight ag fields	Straight
Color	Red, brown, gray, yellowish tan	Yellow, tan, some dark green evergreens	Light gray
Texture	Very coarse in FG; smooth in MG and BG	Fine	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View looking SW from Gloss Mountain State Park. The view from this overlook includes panoramic views of the broad open plains, rugged buttes, and exposed rock outcrops and mesa tops.

Region 2 PR Link 2 would be located about 11 miles south of this viewpoint. Because of the distance, the PR would not be visible with the unaided eye from this location. For this reason, construction and operation of the Project would result in no visual contrast for this location.

The visual sensitivity at this KOP is high because it represents a view from an overlook in a state park. Because there is no visual contrast, the PR would have no visual impact at this location.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: Link 1
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Mooreland PR
Land Character Unit: Central Great Plains
County, State: Woodward, Oklahoma
Longitude: -99.2113232
Latitude: 36.4295485

Characteristic Landscape Description:

	Landform/Water	Vegetation	Structures
Form	Rolling	Low grasses, scattered trees	Tall wood light posts; utility and recreational buildings; ball fields; fences; parking lot
Line	Undulating	Horizontal grasses, round trees	Vertical light posts; geometric structures; horizontal fences
Color	Brown	Yellow grasses, light brown trees	Light brown light posts; white, brown, and gray utility and recreational buildings; gray metal fences; dark gray paved parking lot
Texture	Moderate	Moderate	Moderate to course and mixed variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View looking southwest from a ball field on Meyer Drive near the southern edge of the community.

Region 2 PR Link 1 would be located about 1.8 miles from this location. Views of the Project from this location would be blocked by intervening terrain, vegetation, and structures.

The visual sensitivity at this KOP is high, as it represents views from a park and residential area. However, since the Project would not be visible, there would be no visual impact at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: PR Link 2
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: SR 60 West of Fairview KOP PR
Land Character Unit: Central Great Plains
County, State: Major, Oklahoma
Longitude: -98.6620634
Latitude: 36.2171239

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low grasses and ag fields, scattered trees	Tall vertical wood H-Frame power poles, medium height wood power poles along road; low fence, one story residence and metal barn
Line	Undulating	Rounded irregular and varied	Vertical H-Frame, horizontal fence
Color	Brown	Yellow grasses, green ag, brown gray trees, Dark green cedar trees	Light brown poles, light red with gray roof home, gray-blue metal barn
Texture	Fine to medium	Medium to coarse	Medium

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Removal of vegetation widens geometric ROW	Tall, wide, vertical geometric forms regularly spaced in a line
Line	No Change	Straight edges	Vertical elements appear as row of tall, straight objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Views east along rural highway with some scattered rural residences in vicinity. PR runs parallel to and along the near side of the existing H-frame transmission line.

Region 2 PR Link 2 would be about 1 mile from this location at its closest point, running parallel to the Western Farmers Electric Coop Okeene to Mooreland 115kV line as it crosses SR 60. The PR would cross the highway at an angle about 2 miles east of this location. In this area, the PR would run parallel

to and west of the existing transmission line. The PR would appear prominent in the FG and recede into the MG and BG of the views from the highway in this area. Towers, lines, and changes in vegetation would be very noticeable in the vicinity of the PR crossing of the highway. The taller metal towers in particular would be substantially larger than the existing H-frame towers and would be dominant elements in views in this area. Their scale, form, texture, and metallic color would contrast with the existing structures. Trees, structures, and rolling terrain are likely to obscure views of more distant towers. Changes to the landform in this view and along SR 60 would likely be minimal. Construction and operation of the Project would result in strong visual contrast.

The visual sensitivity at this KOP is high because it represents views from an area of scattered residences and a rural highway identified during scoping as an important resource to consider. Because the level of contrast is strong and it is in the FG distance zone, the visual impact at this location would be high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 27, 2014
Region: 2
PR Link, AR, AC: AR 2-B
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low, ag fields, scattered trees	Medium vertical wood power poles along road, tall metal power poles in MG, low fence, one story residences
Line	Horizontal, slightly undulating	Horizontal and regular ag fields, irregular trees along the road	Vertical power poles, horizontal fence, geometric houses
Color	Brown, medium brown	Green ag, light brown trees, dark green cedar trees	Light brown/gray poles, light red with gray roof home
Texture	Fine	Fine to medium	Moderate and uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View south from unpaved road at south edge of community across open ag field with large transmission line in distant MG.

Region 2 AR 2-B would be located about 3.5 miles south at the closest point to this location and would appear in the background. Views toward the AR from nearby residences are mostly screened by dense vegetation. Looking across the open landscape, the height of the transmission line structures would make them faintly visible above the horizon line. Presumably there would be no landform or vegetation changes due to the location of the line crossing open fields. Construction and operation of the Project would result in weak contrast.

The visual sensitivity at this KOP is high as it represents a view from a residential area. Because visual contrast is weak, the visual impact would be low at this location.

Visual Contrast Rating Worksheets- HVDC Transmission Line, Region 3

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Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: AR 3-C
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Agra AR
Land Character Unit: Central Great Plains
County, State: Lincoln, Oklahoma
Longitude: -96.8722816
Latitude: 35.8969566

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low ag; scattered trees, dense tree in FG	Low, vertical wood power poles; one story residences and utility buildings; fence
Line	Horizontal, slightly undulating	Horizontal ag; irregular rounded trees, conical evergreens in FG	Vertical power poles; horizontal fence; geometric residences
Color	Light brown	Yellow and green grasses; yellow ag; light brown trees, dark green evergreens	Beige, white, red brick, light brown poles
Texture	Fine	Medium to course	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View NNW from north edge of Agra at highway and Main Street, near a small park and high school. Some single-family residences and commercial buildings are nearby.

Region 3 AR 3-C would be located 1.5 miles north of this viewpoint. The transmission line could appear as a row of objects on the horizon in the BG of this view, where it is not blocked by trees and structures. The scale and form of the transmission line would not be different from that of existing structures. There would be no changes to the landforms or vegetation in this view. Construction and operation of the Project would result in weak visual contrast.

The visual sensitivity at this KOP is high, as it represents a residential area. However, since the level of contrast is weak, the visual impact would be low at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: AR 3-C
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Beggs AR
Land Character Unit: Cross Timbers
County, State: Okmulgee, Oklahoma
Longitude: -96.0687444
Latitude: 35.7341985

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Low rolling hills and ridges	Dense scattered trees, low ag	Wood pole power lines
Line	Undulating land line	Undulating, irregular, some hedges of trees	Low vertical power poles, horizontal fences
Color	Brown	Yellow orange ag, light brown trees, dark green evergreens	Light brown poles
Texture	Medium	Fine to medium	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View south from south edge of community. A few rural and scattered residences in vicinity. Views mostly screened by tall trees enclosing area.

Region 3 AR Link 3-C would be located south about 1.5 miles at the closest point to this location. While the Project may be visible in the distance, towers and lines would not likely be noticeable through and above trees at this distance. Although there would be vegetation changes to accommodate the AR, vegetation removal would not be noticeable at this location due to distance and the density of the trees in the FG. Construction and operation of the Project would therefore result in weak contrast.

The visual sensitivity at this KOP is high as it represents a view from residential areas. The visual impact at this location would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: PR Link 4
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Beggs PR
Land Character Unit: Central Irregular Plains
County, State: Okmulgee, Oklahoma
Longitude: -96.082085
Latitude: 35.75552

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling hills and ridges	Dense trees, grasses	Wood pole power lines, one story residences, fences
Line	Undulating land line	Undulating, irregular, hedges and clumps of trees	Low vertical power poles; horizontal fences; geometric residences
Color	Brown	Yellow grasses; light brown trees, dark green evergreens	Light brown poles and fence posts; beige house
Texture	Medium	Medium to coarse	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced form a boundary
Line	No Change	No Change	Tall vertical elements create an implied line on the land
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>





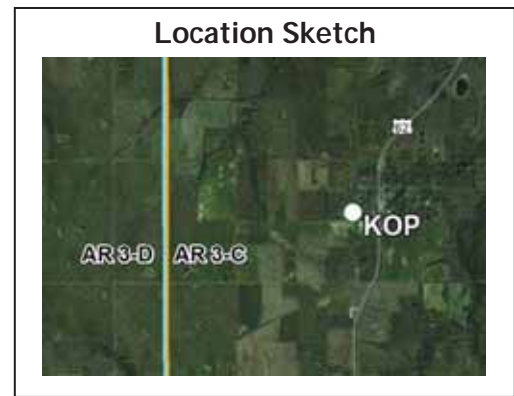
View north from Wetland Environment at Beggs on the northern outskirts of Beggs, adjacent to the high school. Small public use and interpretive area overlooks open fields and scattered trees to the north. The high school is to the south immediately behind this location.

Region 3 PR Link 4 would be located approximately 1.6 miles to the north of this viewpoint. The height of the transmission line structures would make them clearly visible on the horizon. Some scattered green vegetation in the FG would obscure intermittent portions of the transmission line structures. However, the structures would largely be visible, and their form, line, and color would moderately contrast with the surrounding landscape.

The visual sensitivity at this KOP is high, as it represents an environmental education and interpretive facility with trails and visitor facilities in a rural residential setting. Since the level of contrast is moderate, the visual impact at this distance would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 3
PR Link, AR, AC: AR 3-C, AR 3-D
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Boynton AR
Land Character Unit: Central Irregular Plains
County, State: Muskogee, Oklahoma
Longitude: -95.6597533
Latitude: 35.6469

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low ag, scattered trees	One story residences, sheds, low wood power poles, fences
Line	Horizontal	Low grasses, round trees	Vertical wood power poles, horizontal fences, geometric residences
Color	Brown	Orange and yellow grasses, light brown trees, some dark green evergreens	Light brown poles, red fence post, white houses, green gray shed
Texture	Fine	Fine to medium, varied	Fine to medium

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Vertical elements regularly spaced
Line	No Change	No Change	Vertical elements create an implied line on the land
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View west from nearby single family residences. In the immediate FG, there are open agricultural fields, scattered trees, short wood power poles, and an unpaved road. Due to foggy conditions (visibility approximately 0.25 mile), the location of AR 3-C and AR 3-D was not visible.

Region 3 AR 3-C and AR 3-D would be located approximately 1.5 miles west of this viewpoint. The transmission line would appear as a row of low vertical elements that would be partially obscured by scattered vegetation. Visual contrast would be weak.

The visual sensitivity at this KOP is high because of its location in a rural community. Since the level of contrast is weak, the visual impact would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: AR 3-C
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Bristow and Route 66 AR
Land Character Unit: Cross Timbers
County, State: Creek, Oklahoma
Longitude: -96.3858406
Latitude: 35.8136794

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Grasses, dense tree lines	Tall H-frame transmission line
Line	Slightly undulating	Horizontal grasses, strong tree lines	Vertical and geometric H-frame
Color	Brown	Tan and light orange grasses, light brown trees, dark green evergreens	Brown
Texture	Fine to moderate	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View south from the south edge of Bristow at rural residential area with small single family residences nearby.

Region 3, AR 3-C would be located 3.4 miles south of this viewpoint. There would be no visual impacts at this viewpoint due to the upward sloping hills and dense vegetation between the AR and this viewpoint. Construction and operation of the Project would result in no contrast.

The visual sensitivity at this KOP is high, as it represents a residential area. However, since there is no contrast and there would be no visual impacts at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: PR Link 4
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Cimarron River Crossing PR (Region 3)
Land Character Unit: Central Great Plains
County, State: Payne, Oklahoma
Longitude: -96.9049677
Latitude: 36.029223

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to upward slope	Irregular, varied heights, Scattered/uneven	Vertical, tall
Line	Horizontal, curving	Varied, irregular	Vertical
Color	Blue, tan, red, brown	Yellow, brown, red	Brown, black
Texture	Coarse to smooth	Coarse	Uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Cleared vegetation in area of right of way	Tall vertical elements regularly spaced in a line
Line	No Change	Straight edges	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Medium, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



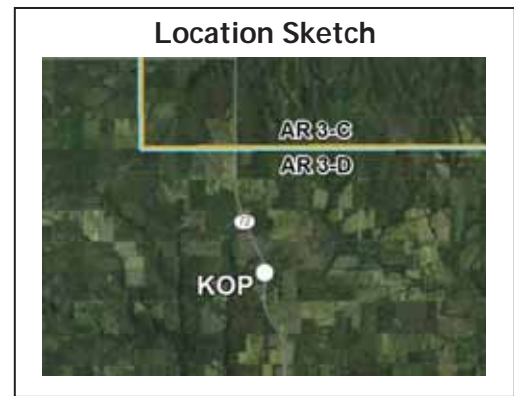
View looking south from the north bank of the Cimarron River. The area is very rural and natural.

PR Link 4 would be located in the immediate FG of this view, providing high visibility of the Project. The transmission line would appear as a tall row of objects directly overhead. The scale and form of the Project would be substantially larger than that of the existing parallel transmission line, and would dominate this view. Clearing of the vegetation in the area of the ROW would be noticeable. Construction and operation of the PR would result in a strong visual contrast.

The visual sensitivity at this KOP is moderate, as it represents a major waterbody. Since the visual contrast is strong, the visual impact would be moderately high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 3
PR Link, AR, AC: AR 3-C, AR 3-D
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Council Hill AR
Land Character Unit: Central Irregular Plains
County, State: Muskogee, Oklahoma
Longitude: -95.6514
Latitude: 35.5584181

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low ag, scattered trees	One story residences, corrugated metal barns, low wood power poles, fences
Line	Horizontal	Low ag and grasses; round trees	Vertical straight wood power poles, horizontal fences, geometric residences and barns
Color	Brown	Orange and yellow grasses; light brown trees, some dark green evergreens	Light brown poles, white fence, metal/gray barns
Texture	Fine	Fine to medium	Fine to medium

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced
Line	No Change	No Change	Tall, straight, vertical elements
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View north from north edge of community. A few single family residences nearby. Large corrugated metal barns or sheds in FG. Trees and low wood power poles line the road. Some small open agricultural fields and fences are also in the FG.

Region 3 AR 3-C and AR 3-D would be located approximately 2.1 miles north of this viewpoint. There is an existing 345kV transmission line about 1 mile to the north, which is not visible from this viewpoint because of the dark green vegetation in the FG that obscures the view. Because the structures would be substantially taller than the trees, the AR is likely to be visible above them. The contrast would be moderate.

The visual sensitivity at this KOP is high, as it represents a residential setting. Since the level of contrast is moderate, the visual impact would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: PR Link 4
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Cushing PR
Land Character Unit: Central Great Plains
County, State: Payne, Oklahoma
Longitude: -96.7853216
Latitude: 35.998155

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Low rolling hills and ridges, oval ponds	Dense scattered trees, low ag on slopes	2 very tall communications towers in MG, one story residences and barns, fences, power poles
Line	Undulating land line; smooth rounded edges of pond	Undulating, irregular, some rounded clumps of trees	Tall vertical communications towers, horizontal fences
Color	Brown, light reflective water	Yellow grasses, orange and yellow ag, light brown trees, dark green cedars	Red, tan, pale green, brown, white
Texture	Medium	Medium to coarse	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced
Line	No Change	No Change	Tall, vertical elements
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View looking southwest from road near south edge of Cushing with rural residences nearby. Views from more developed areas of Cushing are screened by terrain and vegetation. View is across small open agricultural fields, barn, pond, trees, and forested areas. Terrain is characterized by rolling hills and low ridges. An existing transmission line can be seen in the distance (about 1.3 miles away).

Region 3 PR Link 4 would be located approximately 1.4 miles to the southwest of this viewpoint. The transmission line structures would be visible on the horizon as dark gray vertical elements that form an implied line across the landscape. Their form, line, and color would contrast moderately with the surrounding predominantly horizontal landscape.

The visual sensitivity at this KOP is high, as it represents a residential setting. Since the level of contrast is moderate, the visual impact would be moderate at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: AR 3-C
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Depew and Route 66 AR
Land Character Unit: Cross Timbers
County, State: Creek, Oklahoma
Longitude: -96.5079971
Latitude: 35.804044

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling	Varied heights, dense	Vertical, tall
Line	Curving, undulating	Irregular, vertical	Vertical
Color	Brown, yellow	Yellow, brown, green	Brown
Texture	Coarse	Coarse	Uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View northeast from the northern edge of Depew near some single family residences and commercial buildings.

Region 3 AR 3-C would be located 1.4 miles northeast of this viewpoint. The transmission line may appear as a row of objects on the horizon in the distance, where it is not blocked by trees and structures. The dense vegetation would obscure the base of the transmission line structures and any vegetation that would be removed within the right-of-way. The scale and large vertical forms of the tall transmission structures would be somewhat noticeable. However, because of its distance and the presence of some intervening vegetation, construction and operation of the Project would result in weak contrast.

The visual sensitivity at this KOP is high, as it represents a residential area. However, since the level of contrast is weak, the visual impact would be low at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: PR Link 4
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Heyburn Lake PR
Land Character Unit: Cross Timbers
County, State: Creek, Oklahoma
Longitude: -96.3131841
Latitude: 35.9510019

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Very slightly rolling, lake	Grasses, scattered trees, dense tree lines	No structures
Line	Flat to slightly undulating, curving water edge	Horizontal grasses, round trees, strong tree lines along water's edge	N/A
Color	Brown, blue reflective water	Brown grasses, brown trees	N/A
Texture	Fine	Fine	N/A

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



Upward slope from lake shore and distance of route provide no visual of PR.

Region 3 PR Link 4 would be located 4.3 miles at the closest point to this location. Due to distance and dense trees, the PR would not be visible from this location. Construction and operation of the Project would result in no visual contrast from this location.

The visual sensitivity at this KOP is high as it represents a view from a public park and recreational area. Because the PR would not be visible, there would be no visual impact at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 3
PR Link, AR, AC: AR 3-C, AR 3-D
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Honey Springs Battlefield and Rentiesville AR South
Land Character Unit: Central Irregular Plains
County, State: McIntosh, Oklahoma
Longitude: -95.486415
Latitude: 35.530185

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low grasses, scattered trees	Low wood power poles, small footbridge over small creek
Line	Undulating	Low grasses; round trees	Vertical wood power poles, horizontal footbridge
Color	Brown	Yellow grasses; light brown trees	Light brown poles, yellow and gray footbridge
Texture	Fine to medium	Fine to medium	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Small vertical elements regularly spaced
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from small interpretive area, parking lot, and trailhead near south end of historical site just north of Rentiesville. The landscape is composed of scattered trees and open fields. A small bridge, rock interpretive shelter, and several stone monuments are in the immediate vicinity.

Region 3 AR 3-C and AR 3-D would be located approximately 2.9 miles north of this viewpoint. Because of the distance and intervening terrain and vegetation, the transmission line may not be visible from this location or from the community of Rentiesville. If visible, it would appear as a series of small objects on the horizon. Therefore, visual contrast would be weak.



The visual sensitivity at this KOP is high, as it represents a historic interpretive site. Since the level of contrast is weak, the visual impact would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 3
PR Link, AR, AC: AR 3-C, AR 3-D
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Honey Springs Battlefield AR North
Land Character Unit: Central Irregular Plains
County, State: McIntosh, Oklahoma
Longitude: -95.4702089
Latitude: 35.5652215

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low grasses, scattered trees, dense tree line	Very low interpretive trail markers, tall transmission line in near MG, low fence
Line	Undulating	Horizontal grasses, round trees	Tall vertical transmission poles, very low vertical trail markers
Color	Brown	Yellow/orange grasses, light brown trees	Metallic power poles, dark brown/gray trail markers
Texture	Fine to medium	Fine to medium	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced
Line	No Change	No Change	Tall, straight vertical elements
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



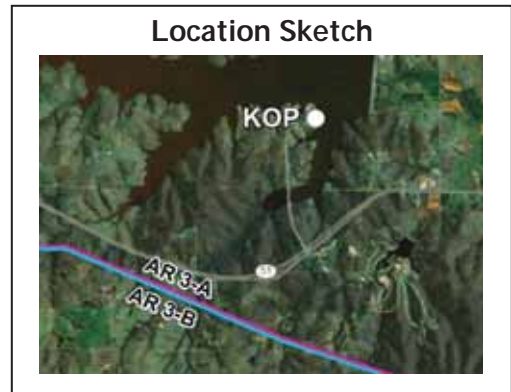
View from interpretive area at north end of battlefield historical site. View includes several interpretive signs placed in open field, dense trees, broken line of trees and shrubs along fence line, and trails in foreground. Existing tall transmission line structures are visible about 0.5 mile away in near middle ground protruding above small trees and shrubs and through openings in vegetation. Foggy day reduced visibility of existing structures on this particular day.

Region 3, AR 3-C and AR 3-D would be located a little less than 0.5 mile north of this viewpoint parallel to and on the near side of the existing transmission line. The ARs would be clearly visible but would repeat the form, line, color, and texture of the existing structures in the landscape. However, because the ARs would be closer to viewers at this location, they would be more dominant in form and line. Therefore, contrast would be moderate.

The visual sensitivity at this KOP is high, as it represents an historic interpretive site. Since the level of contrast is moderate, the visual impact would be moderately high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: AR 3-A, AR 3-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Lake Carl Blackwell AR
Land Character Unit: Central Great Plains
County, State: Payne, Oklahoma
Longitude: -97.2035249
Latitude: 36.1287438

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat lake to rolling hill	Scattered trees in foreground, dense, regular in background	Vertical poles, vertical tower in background
Line	Horizontal water, curving in background	Regular, straight	Vertical
Color	Blue, brown, yellow	Brown, yellow	Brown, metallic
Texture	Moderate to fine to coarse	Fine to coarse	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



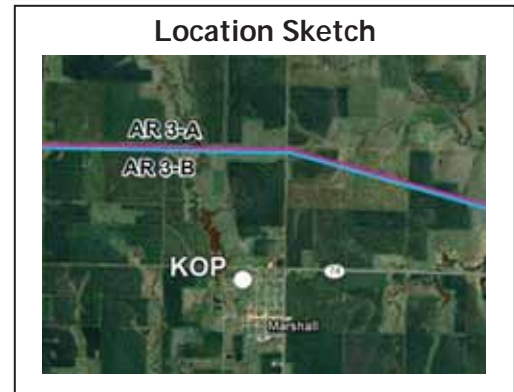
View south from the bank of Lake Carl Blackwell. Some recreational features are nearby.

Region 3 AR 3-A and AR 3-B would be located 2.7 miles south of this location, which was chosen to provide a typical and worst case view of the Project. Due to the distance, tree cover, and topography, it is not likely that the Project would be visible from this viewpoint. Because of this, construction and operation of the Project would result in no visual contrast.

The visual sensitivity at this KOP is high, as it represents a recreational area. However, because the Project would result in no contrast, there would be no visual impacts for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: AR 3-A, AR 3-B
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Marshall AR
Land Character Unit: Central Great Plains
County, State: Garfield, Oklahoma
Longitude: -97.6278053
Latitude: 36.158363

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low, ag fields, clumped and scattered tree line	Low vertical wood power poles; low fences, one story residences
Line	Horizontal, slightly undulating	Horizontal and regular ag fields, irregular rounded trees	Vertical power poles, horizontal fence, geometric houses
Color	Brown	Green ag, light brown trees, Dark green cedar trees	White, red, tan, gray, brown wood power poles
Texture	Fine	Fine to medium	Moderate and mixed variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from small residential community. Scattered single family residences and small open fields. Wood power poles, fences, and scattered trees.

Region 3 ARs 3-A and 3-B would be partially visible in the MG of this view, about 1 mile north at the closest point to this location. Towers and lines would be somewhat noticeable as they cross open lands. Towers and lines would extend above trees or existing structures. Presumably there would be no landform or vegetation changes due to the location of the line crossing open fields. Construction and operation of the Project would result in weak contrast due to existing vertical elements in the FG.

The visual sensitivity at this KOP is high as it represents a view from a residential area. The visual impact at this location would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: PR Link 1
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Marshall PR
Land Character Unit: Central Great Plains
County, State: Logan, Oklahoma
Longitude: -97.6305307
Latitude: 36.151958

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low, ag fields, clumped and scattered tree line	Low, vertical wood power poles in MG; low fences, one story residences and barns
Line	Horizontal, slightly undulating	Horizontal and regular ag fields, irregular rounded trees	Vertical power poles, horizontal fence, geometric houses and barns
Color	Brown	Yellow grasses; green ag, light brown trees, dark green evergreens	Blue, tan, white, brown, brown wood power poles and fence posts, dark green oil tanks
Texture	Fine to medium	Fine to medium	Moderate and mixed variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced form a line
Line	No Change	No Change	Tall, vertical elements create an implied line on the land
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



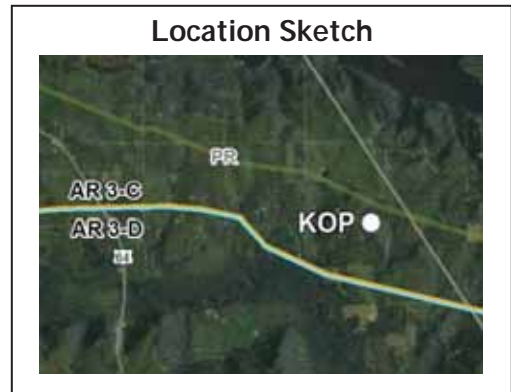
View south-southwest from the southwest edge of the community near residences and a ball field. Open agricultural fields and undulating to gently rolling terrain. Trees are mostly in low drainages between fields. There are some fences, scattered structures, and wood power poles. There are also some small oil and gas features (tanks, pump jacks) that are scattered across the landscape.

Region 3 PR Link 1 would be located approximately 3.1 miles to the south-southwest of this viewpoint. Looking across the open landscape, the transmission line structures would be faintly visible along the horizon line. The dark green vegetation associated with drainages may slightly obscure the structures and help break up the pattern of regularly spaced vertical elements. The structures would have weak contrast.

The visual sensitivity at this KOP is high, as it represents a rural residential area. Since the level of contrast is weak, the visual impact would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 3
PR Link, AR, AC: AR 3-C, AR 3-D
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Irregular, scattered	Vertical
Line	Smooth to curving	Irregular, vertical	Vertical, straight
Color	Brown, yellow	Brown, yellow	Red, brown
Texture	Moderate	Moderate to coarse	Uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine to moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



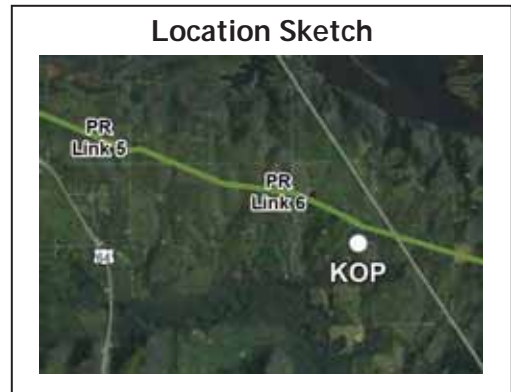
View south from a rural country road with some single family residences nearby.

Region 3, AR 3-C and AR 3-D would be located approximately 0.7 mile south of this viewpoint. The transmission line would appear as a row of objects on the horizon in the background of this view, where it is not blocked by trees and structures. The scale and form of the transmission line would be larger and noticeably different from that of the existing lower structures in the view. However, it would be farther in the distance, and the AR structures would be co-dominant with the existing ones. Construction and operation of the Project would result in moderate visual contrast.

The visual sensitivity at this KOP is high, as it represents a rural residential area. Since the level of contrast is moderate, the visual impact would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 3
PR Link, AR, AC: PR Link 6
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: McLain PR
Land Character Unit: Central Irregular Plains
County, State: Muskogee, Oklahoma
Longitude: -95.2549053
Latitude: 35.5662618

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Tall, clumped/scattered	Vertical, varied
Line	Curving, undulating	Vertical, varied	Vertical
Color	Brown, gray, yellow	Yellow, green, brown	Brown, gray
Texture	Coarse to very coarse	Coarse	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View east from a rural country road with some single family residences nearby.

Region 3 PR Link 6 would be located 0.2 miles to the north of this location; however, views to the north from here would be obscured by terrain. In this view, the PR would be approximately 0.7 miles east. The dark green vegetation in the FG and MG would obscure the base of the transmission line structures and any vegetation that would be removed within the corridor. The tops of the structures would be clearly visible above the tree line. The form and line of the transmission structures would be similar to the existing 345kV structures the PR would parallel, one of which is visible in this view. For these reasons, construction and operation of the Project would result in weak visual contrast.

The visual sensitivity at this KOP is high, as it represents a rural residential area. Since the level of contrast would be weak, the visual impact would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: AR 3-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Mehan AR
Land Character Unit: Central Great Plains
County, State: Payne, Oklahoma
Longitude: -96.9374031
Latitude: 36.0440971

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling hills	Irregular, flat, dense	Vertical, short, irregular
Line	Horizontal, curving	Straight, vertical	Vertical, angular
Color	Red, green, yellow	Green, yellow, brown	Red, gray, black
Texture	Moderate	Fine to moderate	Uniform, angular

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine to moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View northeast from the eastern edge of Mehan. There are single family residences in the area with open fields in the FG of the view.

Region 3 AR 3-B would be located approximately 0.7 mile northeast of this viewpoint. The dark green/brown vegetation in the FG would obscure the base of the transmission line structures and any vegetation that would be removed within the corridor. The tops of the structures could potentially be visible above the tree line. The form and line of the tall AR lattice structures would be different from and more dominant than the existing structures and vegetation. The scale of the structures would be greater, contributing to a moderate degree of contrast.

The visual sensitivity at this KOP is high, as it represents a residential area. Since the level of contrast is moderate, the visual impact would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: PR Link 3
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Mehan PR
Land Character Unit: Central Great Plains
County, State: Payne, Oklahoma
Longitude: -96.9374031
Latitude: 36.0440971

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling to moderate	Scattered, irregular	Vertical, angular
Line	Curving, horizontal	Vertical, straight	Angular, vertical
Color	Yellow, brown, blue	Yellow, brown	Brown, red
Texture	Moderate	Moderate to coarse	Uniform, moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate to coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View south from the eastern edge of Mehan. There are single family residences in the area with open fields in the FG of the view.

Region 3, PR Link 3 would be located approximately 0.4 mile south in the FG distance zone of this viewpoint. The dark green vegetation in the FG would obscure the majority of the bases of the transmission line structures. The upper portions of the structures would be clearly visible extending above the tree line. The form and line of the transmission line structures would be noticeably different from the existing structures in the landscape. The scale of the structures would be greater, contributing to strong visual contrast.

The visual sensitivity at this KOP is high, as it represents a rural residential area. Since the level of contrast is strong, the visual impact would be high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: AR 3-A, AR 3-B
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Mulhall AR
Land Character Unit: Central Great Plains
County, State: Logan, Oklahoma
Longitude: -97.4072016
Latitude: 36.064495

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling	Scattered trees	Low vertical wood power poles; street light poles; one story residences and businesses; historic two story sandstone building
Line	Slightly undulating	Irregular rounded trees	Vertical power poles and light poles, geometric commercial buildings
Color	Brown	Yellow and green grasses, light brown trees	Pale green, white, orange, red, light brown, blue
Texture	Fine	Medium	Moderate and mixed variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from center of Mulhall on main road through town (Hwy 77). View from small park on north side of town was blocked by small hill and trees. Commercial area and single family residences. Tall trees scattered. Short wood light and power poles. Wood and sandstone buildings.

Region 3 ARs 3-A and 3-B would be located 3.0 miles north at its closest point to this location. The Project would appear in the near BG. There is an existing transmission line running from the southwest to the northeast about 1 mile north of this location. Those existing towers are not noticeable from this location. Therefore, presumably the Project towers and lines are not likely to be noticeable due to the distance, forested areas, and FG structures. Construction and operation of the Project would result in no contrast.

The visual sensitivity at this KOP is high as it represents a view from the town center. There would be no visual impact at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: Region 3
PR Link, AR, AC: PR Link 3
Evaluator(s): J. Donaldson/K. Siekmann
Key Observation Point: Mulhall PR
Land Character Unit: Central Great Plains
County, State: Logan, Oklahoma
Longitude: -97.40747
Latitude: 36.0576966



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling, low ridge near MG	Low ag, dense trees	Low vertical wood power poles, fence, one story residences (behind us), tall transmission lines in BG
Line	Mostly horizontal and slightly undulating	Horizontal ag field, irregular rounded trees	Vertical power poles, geometric residences, horizontal fence, vertical lattice transmission structures
Color	Brown	Yellow and green grasses, yellow ag field, light brown trees, dark green evergreens	Brown power poles and fence posts
Texture	Fine	Fine to medium	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced form a boundary
Line	No Change	No Change	Tall, vertical elements create an implied line on the land
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View south-southwest from south edge of town at entry sign on Hwy 77. A few single family residences nearby. View is across open fields and forested areas toward low ridge in distance.

Region 3 PR Link 3 would be located approximately 1.0 mile to the south-southwest of this viewpoint. The height of the transmission line structures would make them clearly visible above the trees that follow the road, rail line, and drainages that traverse this landscape. The dark green vegetation would obscure the lower portion of the transmission line structures and from this viewpoint would hide any vegetation removal within the corridor. The PR would result in moderate contrast.

The visual sensitivity at this KOP is high, as it represents a residential area. Since the level of contrast is moderate, the visual impact at this location would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: Region 3
PR Link, AR, AC: AR 3-C
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Okmulgee KOP AR
Land Character Unit: Central Irregular Plains
County, State: Okmulgee, Oklahoma
Longitude: -95.9621466
Latitude: 35.6824233

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling hills and ridges	Low ag, scattered trees and tree lines, dense trees on ridge	One story residences; barns/sheds, low wood power poles; fences, pumpjack and tanks
Line	Undulating land line	Undulating, irregular, hedges and clumps of trees	Low vertical wood power poles, horizontal fences; geometric residences
Color	Brown	Yellow ag and grasses; light brown trees, some dark green evergreens	Light brown poles and fence posts, white house; green barn, dark gray roof
Texture	Medium	Fine to medium, varied	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced form a boundary
Line	No Change	No Change	Tall vertical elements create an implied line on the land
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from rural intersection in front of church and school and a few rural residences nearby. View across open agricultural field with a forested low hill in distance.

Region 3 AR 3-C would be located approximately 1.5 miles to the north of this viewpoint. At this distance, the transmission line structures would be slightly discernible against the dark green backdrop of vegetation on the hill in the distance. As the elevation of the hill increases from east to west, the view of the transmission line would be largely obscured. The tops of structures may be slightly visible above the ridgeline. The form and line of the taller lattice transmission line structures would be somewhat different from other structures visible in the FG, and contrast would be weak.

The visual sensitivity at this KOP is high, as it represents a rural residential area. Since the level of contrast is weak, the visual impact would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: Region 3
PR Link, AR, AC: AR 3-C, AR 3-D
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Oktaha School AR
Land Character Unit: Central Irregular Plains
County, State: Muskogee, Oklahoma
Longitude: -95.47128
Latitude: 35.5777383

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low grasses, scattered trees and dense tree line	Tall transmission line in MG, fence, parking lot light poles, one-story bus garage and other metal school building structures
Line	Horizontal to slightly undulating	Horizontal grasses; round trees	Tall, vertical transmission poles, vertical light poles, horizontal fence, geometric buildings
Color	Brown	Yellow/orange grasses; light brown trees	Metallic power poles, blue light poles, red/brown fence posts, tan bus garage, white and blue school buildings, some bright yellow concrete posts and railings
Texture	Fine to medium	Medium to coarse	Moderate and mixed variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced
Line	No Change	No Change	Tall, vertical elements with straight lines
Color	No Change	No Change	No Change
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



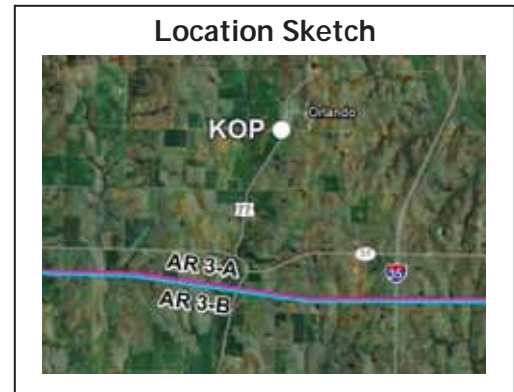
View southeast from school and baseball field area. Upper portions of existing transmission line structures are visible above trees in FG. Metal light poles, barbed wire fence, gravel parking area, small open field, and dense low tree line are in immediate FG. Metal school buildings and ball fields are nearby.

Region 3 AR 3-C and AR 3-D would be located approximately 0.4 miles south of this viewpoint. Although the transmission line would be behind the existing line to the south, its height would make it clearly visible above the trees. Because of its close proximity, the taller lattice transmission line would be more dominant in form and line than the existing structures. Therefore, visual contrast would be weak.

The visual sensitivity at this KOP is high because of its location at a recreation facility in a residential area. Since the level of contrast is weak, the visual impact would be moderate. A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: AR-3A, AR-3B
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Irregular, scattered trees, tall to short grasses	Vertical fence and transmission poles
Line	Horizontal to curving	Regular, straight	Vertical
Color	Red, brown, tan	Yellow, brown, green	Brown
Texture	Moderate to coarse	Coarse	Moderate and uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View south from the southern edge of Orlando. There are single-family residences in the area with open fields in the FG.

Region 3 AR 3-A and AR 3-B would be located 2.7 miles south of this viewpoint. The distance between the Project and this viewpoint reduce the visibility of the ARs, and the gently rolling terrain and scattered vegetation would mostly obscure views of the Project. The form and line of the Project would not be noticeably different from existing structures. However, the scale of the structures would be greater. This would provide a weak degree of contrast.

The visual sensitivity at this KOP is high, as it represents a residential area. Since the level of contrast is weak, the visual impact would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: Region 3
PR Link, AR, AC: AR 3-C
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Perkins AR
Land Character Unit: Central Great Plains
County, State: Payne, Oklahoma
Longitude: -97.0184566
Latitude: 35.9783816

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low ag; scattered trees, dense tree line	Low, vertical wood power poles, one story residences, fence, taller power poles in distant FG
Line	Horizontal	Horizontal ag; irregular rounded trees	Vertical power poles, horizontal fence, geometric residences
Color	Brown	Yellow and green grasses; yellow ag; light brown trees	Gray and red brick houses, light brown power poles and fence posts
Texture	Fine	Fine to medium	Fine to moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced form a boundary
Line	No Change	No Change	Tall, vertical elements create an implied line on the land
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View east from southeast edge of Perkins. There are single family residences in the area and open fields in the foreground of the view.

Region 3 AR 3-C would be located in the near MG, approximately 0.6 mile east of this viewpoint. The dark green vegetation in the MG would obscure the base of the transmission line structures and any vegetation that would be removed within the corridor. The tops of the structures would be clearly visible above the tree line. The scale, form, and line of the tall lattice transmission structures would be noticeably different from those of existing structures in the landscape, resulting in moderate visual contrast.

The visual sensitivity at this KOP is high, as it represents views from a residential area. Since the level of contrast is moderate, the visual impact would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: Region 3
PR Link, AR, AC: AR 3-C
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Preston AR
Land Character Unit: Cross Timbers
County, State: Okmulgee, Oklahoma
Longitude: -95.9943916
Latitude: 35.71189

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat, very gently rolling	Low, open field; scattered trees and tree lines	One-story residences; sheds; low wood power poles; fences; large newly constructed commercial building
Line	Horizontal	Low grasses; round trees	Low vertical wood power poles; horizontal fences; geometric residences
Color	Brown	Yellow grasses; light brown trees; some dark green evergreens	Brown poles and fence posts; metal rail fence; white, gray, green, brown, peach houses
Texture	Fine	Fine to medium, varied	Fine to medium

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	ROW forest clearing	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	Thickness may change from dark green	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



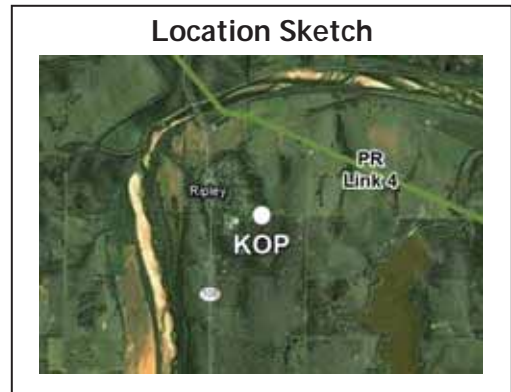
View south from Jim Waller Sports Complex in Preston. Residences in vicinity. View is across Old Highway 75 and open field with dense forest in distance.

Region 3 AR 3-C would be located 0.6 miles south of this viewpoint. The transmission line would appear as a row of tall objects on the horizon in this view, where it is not blocked by trees and structures. The AR structures would be dominant elements in this view. ROW clearing would be required for the transmission line, but would not be noticeable from this location. There would be no changes to the landforms in this view. Construction and operation of the Project would result in strong visual contrast.

The visual sensitivity at this KOP is high, as it represents a park in a residential area. The level of contrast is strong. Therefore, the visual impact would be moderately high at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: PR Link 4
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Ripley PR
Land Character Unit: Central Great Plains
County, State: Payne, Oklahoma
Longitude: -96.8976356
Latitude: 36.0150168

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to gently rolling	Low, uniform; scattered trees	Vertical
Line	Horizontal to curving	Regular, scattered vertical/slanted	Vertical
Color	Red, tan, brown	Yellow, brown	Brown, white
Texture	Smooth to medium	Fine to medium	Vertical, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine to moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View looking northeast from the eastern edge of Ripley. There are some residences in the area with open fields in the FG of the view.

Region 3 PR Link 4 would be located 0.7 miles northeast of this viewpoint. The transmission line would appear as a row of objects on the horizon in the distance, where it is not blocked by trees or structures. The form and line of the transmission line would be noticeably different from existing structures in the landscape because of their tall height and scale. Construction and operation of the Project would result in moderate visual contrast from this location.

The visual sensitivity at this KOP is high, as it represents views from a residential area. Since the level of contrast is moderate, the visual impact would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: AR 3-C
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Shamrock AR
Land Character Unit: Cross Timbers
County, State: Creek, Oklahoma
Longitude: - 96.58634
Latitude: 35.9120589

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Low, uniform in FG tall/clumped in BG	Vertical, short; angular buildings
Line	Horizontal, curving	Vertical to rounded	Vertical, irregular
Color	Brown, yellow	Yellow, brown, tan	Brown, white, gray
Texture	Smooth to coarse	Medium	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View southwest from rural road. There are some rural, single family residences in the area with open fields and scattered/clumped vegetation.

Region 3 AR 3-C would be located 3 miles southwest of this location. Due to the distance, tree cover, and topography, it is not likely that the Project would be visible from this viewpoint. Because of this, construction and operation of the Project would result in no visual contrast.

The visual sensitivity at this KOP is high, as it represents views from a residential area. However, because the Project would result in no contrast, there would be no visual impacts for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: PR Link 4
Evaluator(s): Z. Michalk / J. Peterson
Key Observation Point: Shamrock PR
Land Character Unit: Cross Timbers
County, State: Creek, Oklahoma
Longitude: - 96.58634
Latitude: 35.9120589



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Low, uniform in foreground Tall/clumped in background	Vertical, short
Line	Horizontal, curving	Vertical to rounded	Vertical
Color	Brown, yellow	Yellow, brown, tan	Brown, green
Texture	Smooth to coarse	Medium	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced form a boundary
Line	No Change	No Change	Tall vertical elements create an implied line on the land
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View northwest from rural residential area. View includes flat to rolling terrain and open grasslands with scattered clumps of trees making way to more dense trees in the background.

Proposed Route Link 4 is located approximately 1.2 miles to the northwest of this viewpoint. The transmission line structures would be visible, appearing as gray vertical elements silhouetted against the sky, with no other discernable vertical features. The structures would form a line on the land and be a noticeable element in spectators' views to the north and northwest. At this distance, the visual contrast would be moderate.

The visual sensitivity at this KOP is high as it is a rural residential area. With moderate visual contrast at this distance, the visual impact would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 28, 2014
Region: 3
PR Link, AR, AC: PR Link 1, AR 3-A, AR 3-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Stillwater PR and AR
Land Character Unit: Central Great Plains
County, State: Payne, Oklahoma
Longitude: -97.1065702
Latitude: 36.0819066

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Grasses, dense tree lines in MG	Several residences, tall communications tower, short light posts
Line	Slightly undulating	Horizontal grasses, strong tree lines in distance	Geometric, vertical communications tower and light posts
Color	brown	Tan grasses, brown trees	Tan, brick, reddish browns residences, black communications tower
Texture	Fine	Fine	Moderate to coarse

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View south from a large subdivision in the Stillwater suburbs. The area is dense with single family residences.

Region 3 AR 3-A and AR 3-B would be located just over 2.0 miles south of this viewpoint, and PR Link 1 is 2.9 miles to the south. From this viewpoint, neither the AR nor PR would be visible due to topography, dense vegetation, and distance. There would be no visual contrast from this area.

The visual sensitivity at this KOP is high, as it represents a residential area. Since there is no visual contrast, there would be no visual impact.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 3
PR Link, AR, AC: PR Link 5
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Summit PR
Land Character Unit: Central Irregular Plains
County, State: Muskogee, Oklahoma
Longitude: - 95.4292335
Latitude: 35.6608338

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Scattered, irregular	Tall, vertical, lattice
Line	Horizontal, straight	Regular, vertical	Vertical
Color	Brown, yellow	Green, yellow, brown	Brown, gray
Texture	Moderate	Moderate	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View southwest from the southern edge of Summit. There are rural, single-family residences in the area with open fields in the FG.

Region 3 PR Link 5 would be located 0.15 miles west of this viewpoint. The transmission line would appear as a row of tall objects in the FG. Because the PR would run parallel to an existing lattice structure transmission, its line and form would be similar. However, because the PR would be sited on the near side of the existing line, it would appear larger in scale and more prominent. There would be no visible changes to the landform or vegetation in this view. Construction and operation of the Project would result in a moderate degree of contrast.

The visual sensitivity at this KOP is high, as it represents views from a residential area. Since the level of contrast is moderate, the visual impact would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 3
PR Link, AR, AC: PR Link 5
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Taft PR
Land Character Unit: Central Irregular Plains
County, State: Muskogee, Oklahoma
Longitude: -95.5485002
Latitude: 35.7616607

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Grasses, scattered trees, dense tree lines	Wood power poles, a few single story residences
Line	Slightly undulating	Horizontal grasses, round trees, strong tree lines	Vertical power poles, geometric residences
Color	Brown	Yellow and green grasses, brown trees	Brown power poles, white residences
Texture	Fine to moderate	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View south from a small neighborhood street in Taft. There are single-family residences in the area with dense vegetation in the MG.

Region 3 PR Link 5 would be located 3.5 miles south of this viewpoint. From this viewpoint, the Project would not be visible due to topography, dense vegetation, and distance. Construction and operation of the Project would result in no visual contrast from this location.

The visual sensitivity at this KOP is high, as it represents a residential area. Since there is no visual contrast, there would be no visual impact.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 3
PR Link, AR, AC: PR Link 6, AR 3-C, AR 3-D, AR 3-E
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Webbers Falls Reservoir PR and AR
Land Character Unit: Central Irregular Plains
County, State: Muskogee, Oklahoma
Longitude: -95.2632383
Latitude: 35.5962692

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Grasses, scattered trees, dense tree lines in MG	Playground
Line	Horizontal to slightly undulating	Horizontal grasses, strong tree lines, round trees	Thin geometric
Color	Brown	Yellow/tan grasses, brown trees, some dark green evergreens	Yellow, red, green, blue
Texture	Fine	Moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View southwest from a recreation area. The PR and ARs would run near/parallel to an existing line. Sloping hills and dense forests provide no views of the existing line.

Region 3 PR Link 6 would be located southwest about 1.5 miles. This line would run on the near side of the existing Muskogee to Pittsburg 345kV line. Region 3 ARs 3-C, 3-D, and 3-E would be 2.5 miles at the closest point to this location and run on the far side of the existing Gore to Weleetka 161kV line. Due to distance and dense trees, the Project would not be visible from this point. Construction and operation of the Project would result in no visual contrast.

The visual sensitivity at this KOP is high as it represents a view from a public park and recreation area. There would be no visual impact at this location from the PR or ARs.

Visual Contrast Rating Worksheets- HVDC Transmission Line, Region 4

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Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 6
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Alma AR
Land Character Unit: Arkansas Valley
County, State: Crawford, Arkansas
Longitude: -94.2169016
Latitude: 35.4648833

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling; distant ridge; small ditch meandering through FG	Low grasses and ag; scattered trees; dense trees lines; dense on ridge	Vertical H-frame power poles; Very tall communications tower; barns; fences
Line	Slightly undulating	Horizontal grasses; rounded trees	Vertical power poles and communications tower; horizontal fences; geometric barns
Color	Brown	Brown and green grasses; yellow ag; brown trees	Dark brown poles; dark brown fence posts; white and dark brown barn
Texture	Fine	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements would be regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



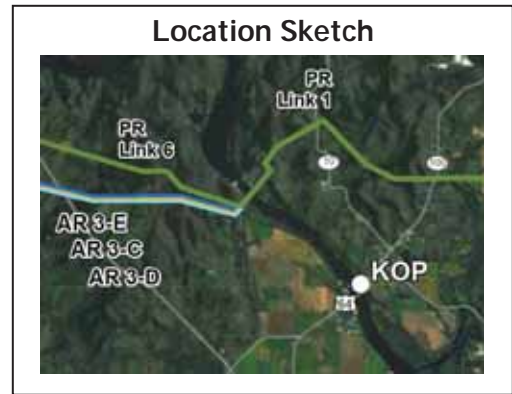
View southwest toward PR across open field. Residences are on low bluff along east side of road. View includes open grasslands, wetlands, creek, scattered trees, dense forest, low forested ridge in distance, wood power poles, and tall communications tower on distant ridge. Also, wood double pole power line, white metal sheds, and two tall communications towers are in view to northwest.

Region 4 PR Link 6 would be located in this view, about 0.5 miles at the closest point to this location. The Project would appear in the MG or MG and recede as you travel north of the KOP. Traveling south from the KOP about .75 miles, the PR would cross over Rt. 160/Henry Rd. Structures and lines would be noticeable because they would cross open lands on the near side of distant tree lines. Structures and lines would extend above the distant tree lines. Presumably there would be no landform or vegetation changes due to the location of the line crossing open fields. Construction and operation of the Project would result in a contrast that would be moderate.

The visual sensitivity at this KOP is high as it represents a view from residential areas. The visual impact at this location would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: PR Link 1, AR 3-D, AR 3-C, AR 3-E, AR 4-B
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling; distant hills; wide meandering river	Low shrub/scrub along banks; scattered trees and dense tree lines along banks; dense trees on hills in MG	Tall communications tower in MG; lock and dam upriver
Line	Undulating landlines; curving river and banks	Irregular shrub/scrub; round trees	Tall vertical communications tower; horizontal lock and dam
Color	Red/brown banks; gray/blue reflective water	Light brown shrub/scrub; light brown trees	Gray/metallic communications tower; gray lock/dam
Texture	Moderate	Medium to course	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements would be regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View northwest from historic ferry crossing and boat launch ramp at Summers Ferry Park Historical Site on east bank of Arkansas River at Gore. Site includes picnic and recreation areas, fishing, parking lot, and boat launch ramp.

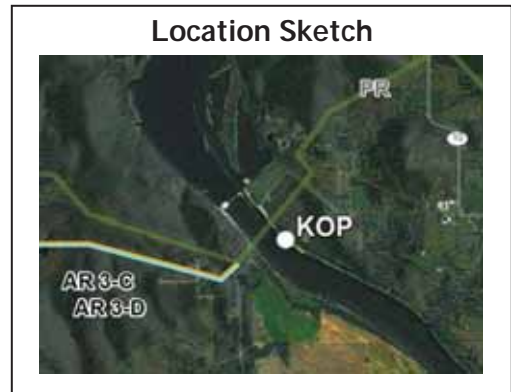
Region 4 PR Link 1, AR 3-D, AR 3-C, AR 3-E, and AR 4-B would be located about 3 miles northwest up river from this point. The Project would appear in the distant MG. Dense vegetation in the distance and along the river edges would obscure the base of the transmission line structures and any vegetation that would be removed within the corridor. Towers would be faintly visible extending above the distant tree lines. Construction and operation of the Project would result in weak contrast.

The visual sensitivity at this KOP is high as it represents a view from a public recreation area. The visual impact at this location would be low.

Visual simulations for views from this area are provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: AR 3-C, AR 3-D
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to moderately steep	Scattered to dense	Tall, vertical, geometric
Line	Horizontal to diagonal	Irregular, vertical	Vertical, straight
Color	Blue to brown, dark tan	Yellow, green, brown	Red, white, gray
Texture	Fine to coarse	Coarse	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical, geometric elements regularly spaced
Line	No Change	No Change	Tall, vertical elements would create strong, straight lines
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



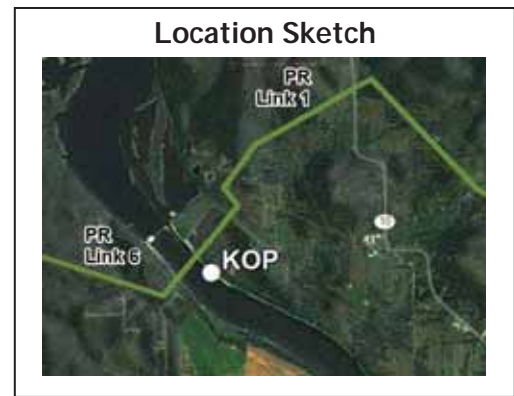
View west from the east bank of the Arkansas River. View includes expansive water in FG, dark green vegetation lining the river banks, and transmission lines on the low bluff along the river.

AR 3-C and AR 3-D would be located 0.5 miles southwest of this viewpoint. The AR would be visible on the far bank in the vicinity of the existing transmission structures in this view. The new structures would be clearly visible extending well above the trees on the low bluff in front of most of the existing structures in the view. Although somewhat more prominent than these structures, the AR would be similar to and co-dominant with the existing structures. The additional clearing of vegetation for the AR would not be noticeable from the river. Construction and operation of the Project would result in weak visual contrast from this location.

The visual sensitivity at this KOP is moderate as it represents a view of a major waterbody crossing and an already heavily impacted site. Because the visual contrast is weak, the visual impact of the AR would be moderately low at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: PR Link 1
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Arkansas River PR
Land Character Unit: Central Irregular Plains
County, State: Muskogee, Oklahoma
Longitude: -95.1617566
Latitude: 35.5488177

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to moderately steep	Scattered to dense	Tall, vertical, geometric
Line	Horizontal to diagonal	Irregular, vertical	Vertical, straight
Color	Blue to brown, dark tan	Yellow, green, brown	Red, white, gray, metallic
Texture	Fine to coarse	Coarse	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Widening of corridor	Tall, vertical geometric elements regularly spaced
Line	No Change	Line of trees would be altered and open area would create horizontal and vertical edges at river edge	Tall, vertical elements create strong, straight lines
Color	No Change	More lighter colored grasses, less darker foliage	No Change
Texture	No Change	More fine textured grasses, less coarser foliage	Moderate to coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View from east bank of the Arkansas River. Expansive water in FG with dark green dense vegetation lining river banks. Topography rises away from river. Existing transmission lines dominate the horizon and ridgeline.

PR Link 1 would be located approximately 0.2 miles to the northwest, west, and southwest of this viewpoint. The PR would span the river and cross parallel to and on the near side of existing lines shown in this view. The transmission line structures would be clearly visible, appear larger, and be more prominent than the existing structures. Consequently, they would appear more dominant than these due to their proximity to this viewpoint. Additional clearing of vegetation and widening of the existing corridor where the line crosses the river would be evident at the river's edges and create some horizontal and straight edges. Construction and operation of the Project would result in moderate visual contrast from this location.

The visual sensitivity at this KOP is moderate, as it represents a major waterbody crossing and an already heavily impacted site. Since the level of contrast is moderate, the visual impact at this distance would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 7
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Aux Arc Park PR
Land Character Unit: Arkansas Valley
County, State: Franklin, Arkansas
Longitude: -93.8231716
Latitude: 35.4787883

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling; wide river; low ridge in distance; low hill in FG	Low grasses; scattered trees; dense trees on banks and ridges	Low, vertical power poles; large manufacturing facility; residential structures; tall buildings; tall communication tower
Line	Slightly undulating; gradual banks; straight waterline	Low horizontal grasses; strong tree line at banks	Vertical wood power poles; geometric and rectilinear buildings
Color	Dark brown; gray reflective water	Brown grasses; brown trees; dark green evergreens	White, brown, red/brown, gray, and beige structures; dark brown power poles; gray communications tower
Texture	Moderate	Moderate to coarse	Moderate and mixed variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced form a boundary
Line	No Change	No Change	Tall, vertical elements create an implied line on the land
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



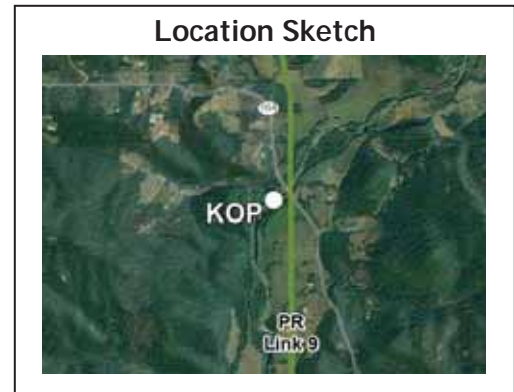
View north from park and campground along southwest edge of Arkansas River. View includes broad open water, low hills and ridges, dense trees along banks, numerous buildings and other structures on far shore, including power poles and a tall lattice communication tower on hilltop.

Region 4 PR Link 7 would be located approximately 2.8 miles to the north of this viewpoint. The structures would be subordinate to the surrounding matrix of forms, lines, colors, and textures of dark green vegetation and structures in the urban development. Scattered vegetation in the immediate FG would obscure intermittent portions of the transmission line structures. The contrast would be weak.

The visual sensitivity at this KOP is high, as it represents a park near a small residential area. Since the level of contrast is weak, the visual impact at this distance would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 4
PR Link, AR, AC: PR Link 9
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Big Piney Creek PR
Land Character Unit: Arkansas Valley
County, State: Pope, Arkansas
Longitude: -93.1832422
Latitude: 35.5044041

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat (creek) to gently upward rolling	Irregular, clumped to scattered, tall	Horizontal bridge, varied
Line	Horizontal to curving	Vertical, straight, varied	Horizontal
Color	Blue, brown, gray, yellow	Brown, green, yellow	Gray, brown
Texture	Smooth to medium to coarse	Medium to coarse	Uniform, moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Vegetation cleared at right of way	Tall vertical elements regularly spaced in a line
Line	No Change	Clear cut vertical lines at the right of way	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View northeast from a recreation access point at Big Piney Creek downstream of the Highway 164 crossing. The area is primarily natural and rural, with some recreation facilities.

PR Link 9 would be located less than 0.2 miles northeast of this viewpoint. The PR would cross the stream just beyond the bridge and would cross the highway near the creek's south bank. The dark green/brown vegetation in the foreground would obscure the base of the transmission structures in this view; however, the structures and areas where vegetation is removed within the ROW corridor would be visible from the road and from areas along the creek used by recreationists. The tops of the structures would be visible on either side of the creek. The transmission conductors crossing over the creek would also be visible. The form and line of the Project would not be noticeably different from the existing Alma to Dardanelle 138kV transmission line that the Project parallels to the west in this area. The scale of the structures would be similar to and co-dominant with the existing transmission line; however, the addition of new structures and widening and clearing of vegetation in the ROW would alter the texture and add to the contrast for vegetation and structures in views in this area. For these reasons, construction and operation of the Project would result in moderate visual contrast.

Visual sensitivity at this KOP is high because it represents views from an area used for recreation and leisure. Because the visual contrast is moderate, the visual impact would be moderately high for this location.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: AR 4-A, AR 4-D
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Bluff Hole Park AR
Land Character Unit: Arkansas Valley
County, State: Crawford, Arkansas
Longitude: -94.0357433
Latitude: 35.5013283

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low grasses; scattered trees; dense tree lines	Low, wood power poles; tall, vertical power poles; wood fence
Line	Horizontal and undulating	Low horizontal grasses; round trees	Vertical poles; horizontal fence
Color	Dark brown	Yellow/green grasses; brown trees; dark green evergreens	Light brown poles; dark gray power poles; Light brown fence; brown
Texture	Fine	Fine to course	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from the entry to the park and picnic area. View includes roadway, entry gate and signs, rail fence, tall metal power poles, lower wood power poles, lines of tall trees, and some open grassy areas.

Region 4 ARs 4-A and 4-D would be located approximately 2.7 miles to the north of this viewpoint. The elevated road and tall trees would likely obscure views of the transmission line from most of the park. The transmission line structures may be barely visible above the trees as small gray vertical elements in the distance. Construction and operation of the Project would result in weak visual contrast from this location.

Because this is a park, the visual sensitivity at this location is high. Because there is weak visual contrast, the visual impact at this location would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 6
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Bluff Hole Park PR
Land Character Unit: Arkansas Valley
County, State: Crawford Arkansas
Longitude: -94.0357433
Latitude: 35.5013283

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low grasses; scattered trees; dense tree lines	Low wood power poles; tall vertical power poles; wood fence
Line	Horizontal and undulating	Low horizontal grasses; round trees	Vertical poles; horizontal fence
Color	Dark brown	Yellow/green grasses; brown trees; dark green evergreens	Light-brown poles; dark gray power poles; light-brown fence; brown
Texture	Fine	Fine to course	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements would be regularly spaced forming a boundary
Line	No Change	No Change	Tall, vertical elements would create an implied line on the land
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



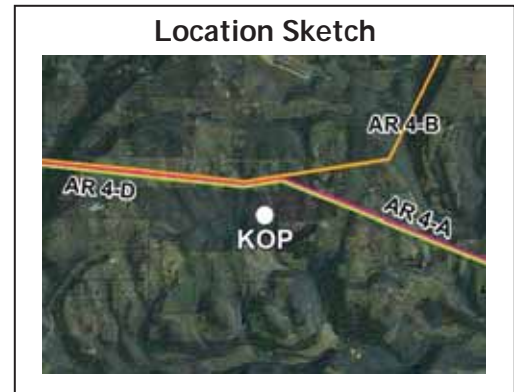
Views north from the entry to the park and picnic area. Bottom view includes roadway, entry gate and signs, rail fence, tall metal power poles, lower wood power poles, lines of tall trees, and some open grassy areas.

Region 4 PR Link 6 would be located approximately 1.7 miles north of this viewpoint. The elevated road and tall trees would likely obscure views of the transmission line from most of the park. The transmission line structures could barely be visible above the trees as small gray vertical elements in the distance. Construction and operation of the Project would result in weak visual contrast from this location.

Because this is a park, the visual sensitivity at this KOP is high. With weak visual contrast, the visual impact from this location would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: AR 4-A, AR 4-D
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Boys and Girls Camp AR
Land Character Unit: Arkansas Valley
County, State: Crawford, Arkansas
Longitude: -92.450413
Latitude: 35.3727505

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Low to tall and dense	Short, vertical
Line	Horizontal	Horizontal to vertical	Vertical
Color	Brown, tan	Brown, yellow, green	Green, white, brown
Texture	Smooth to coarse	Even to medium	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View north from the youth camp with camp facilities nearby.

ARs 4-A and 4-D would be located approximately 0.3 miles north of this viewpoint. The dark green vegetation in the FG would obscure views of the bases of the lattice structures of the transmission lines and any vegetation that would be removed within the corridor. The tops of the structures would be highly visible protruding above the tree line. The form and line of the transmission line would be different from any existing structures in the landscape, and the scale of the structures would be greater, resulting in strong contrast.

The visual sensitivity at this KOP is high, as it represents the view from a recreation area. Since the level of contrast is strong, the visual impact would be high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: AR 4-A, AR 4-B
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling, lake	Low grasses, scattered trees, dense tree lines at water's edge	Small park benches and tables
Line	Sloping toward lake, slightly curving water edge	Horizontal grasses, round and conical trees, strong tree lines on opposite shore	Geometric benches and tables
Color	Light brown	Yellow and green grasses, light brown trees, dark green evergreens	Brown
Texture	Fine to moderate	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from recreational area at Brushy Creek Reservoir.

AR 4-A would be located 2.2 miles north of this viewpoint. There would be no visual impacts at this viewpoint due to the distance, topography, and dense vegetation between the viewpoint and the AR. Construction and operation of the Project would result in no visual contrast.

The visual sensitivity at this KOP is high, as it represents a recreation area. However, since there is no contrast, there would be no visual impact at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: PR Link 3
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Brushy Creek Reservoir and Sallisaw State Park PR
Land Character Unit: Boston Mountains
County, State: Sequoyah, Oklahoma
Longitude: -94.8186205
Latitude: 35.5409866

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling, lake	Low grasses, scattered trees, dense tree lines at water's edge	Small park benches and tables
Line	Sloping toward lake, slightly curving water edge	Horizontal grasses, round and conical trees, strong tree lines on opposite shore	Geometric benches and tables
Color	Light brown	Yellow and green grasses, light brown trees, dark green evergreens	Brown
Texture	Fine to moderate	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

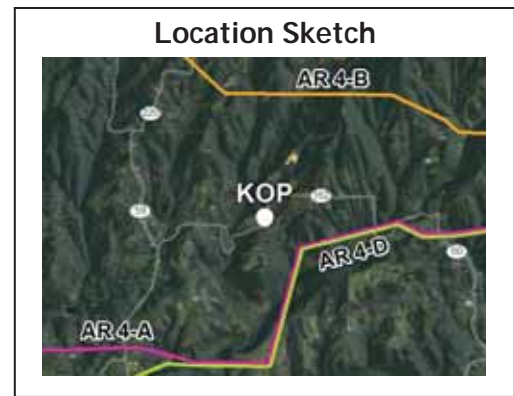
There is no photo available for the view south from this location.

PR Link 3 would be located 2.8 miles south of this viewpoint. There would be no visual impacts at this viewpoint due to the distance, topography, and dense vegetation between the viewpoint and the Project. Construction and operation of the Project would result in no visual contrast.

The visual sensitivity at this KOP is high, as it represents a view from a recreation area. However, since there is no contrast, there would be no visual impact at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: AR 4-A, AR 4-D
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Cedarville AR
Land Character Unit: Boston Mountains
County, State: Crawford, Arkansas
Longitude: -94.3356883
Latitude: 35.5766273

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low, uniform in FG; scattered to dense in MG	Vertical existing telephone poles
Line	Undulating, curving	Regular, vertical, straight	Vertical
Color	Yellow, brown, black	Yellow, brown, green	Brown
Texture	Smooth to medium to coarse	Fine to coarse	Uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



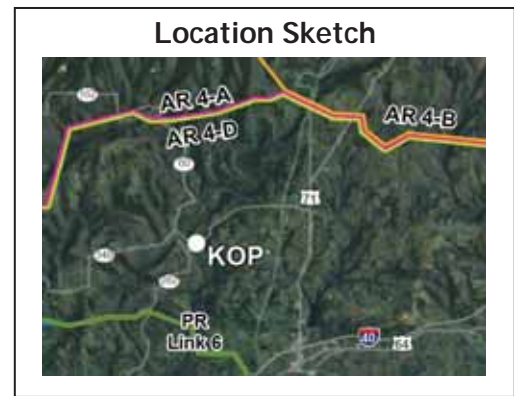
View southeast from a partially developed subdivision. There are single-family residences in the area with open fields in the FG.

AR 4-D would be located approximately 0.8 miles southeast of this viewpoint. The dark green vegetation in the FG would obscure views of the bases of the transmission structures and vegetation that would be removed within the corridor. The tops of the structures would be clearly visible above the tree line. The scale, form, and line of the transmission line would be prominent and noticeably different from existing structures in the landscape. Construction and operation of the Project would result in strong visual contrast.

The visual sensitivity at this KOP is high, as it represents a view from a residential area. Since the level of contrast is strong, the visual impact would be moderately high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: AR 4-A, AR 4-C, AR 4-D
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: City Park / Ball fields and Rudy AR
Land Character Unit: Arkansas Valley
County, State: Crawford, Arkansas
Longitude: -94.2704339
Latitude: 35.527435

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Very slightly rolling	Low grasses, scattered trees, dense trees in MG	One story residences, sheds, garages, recreational buildings, wood power poles, light posts, fences
Line	Horizontal	Horizontal grasses, round trees, strong tree lines in MG	Geometric buildings, vertical power poles and light posts, horizontal fences
Color	Brown	Yellow grasses, light brown trees, dark green evergreens	Brown, white, gray, blue, and yellow buildings, tan light poles, light brown power poles
Texture	Fine	Fine to moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



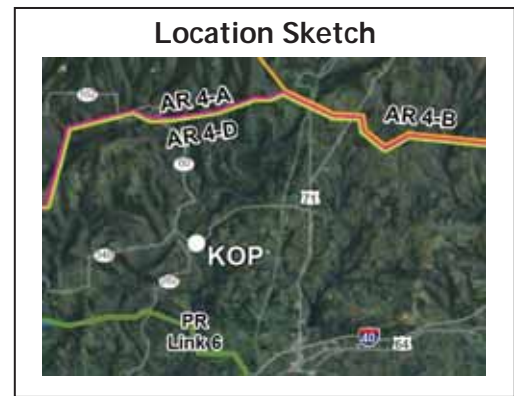
View north from a community ball field. Recreational facilities and single-family residences are nearby.

ARs 4-A, 4-C, and 4-D would be located 3.2 miles north of this viewpoint. The AR lines would not be visible from this viewpoint due to the distance, topography, and dense vegetation between the viewpoint and the ARs. Construction and operation of the Project would result in no visual contrast.

The visual sensitivity at this KOP is high, as it represents a community recreational area. However, since there is no contrast, there would be no visual impacts at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 6
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: City Park / Ball fields and Rudy PR
Land Character Unit: Arkansas Valley
County, State: Crawford, Arkansas
Longitude: -94.2704339
Latitude: 35.527435

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Very slightly rolling	Low grasses, scattered trees, dense trees in MG	One story residences, sheds, garages, recreational buildings, wood power poles, light posts, fences
Line	Horizontal	Horizontal grasses, round trees, strong tree lines in MG	Geometric buildings, vertical power poles and light posts, horizontal fences
Color	Brown	Yellow grasses, light brown trees, dark green evergreens	Brown, white, gray, blue, and yellow buildings, tan light poles, light brown power poles
Texture	Fine	Fine to moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



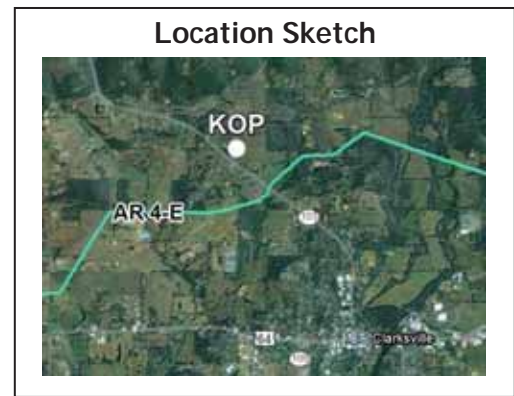
View southwest from a community ball field. Recreational facilities and single family residences are nearby.

PR Link 6 would be located 2 miles southwest of this viewpoint. The PR line would not be visible from this viewpoint due to the distance, topography, and dense vegetation between the viewpoint and the PR. Construction and operation of the Project would result in no visual contrast.

The visual sensitivity at this KOP is high, as it represents a view from a community recreational area. However, since there is no contrast, there would be no visual impacts at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 4
PR Link, AR, AC: AR 4-E
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Clarksville AR
Land Character Unit: Arkansas Valley
County, State: Johnson, Arkansas
Longitude: -93.4824818
Latitude: 35.494466

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling; pond; distant low ridges	Low grasses and ag; some scattered trees; dense tree lines; dense trees on ridges	Low wood power poles; taller metal pole transmission line; H-frame power poles; tall communications tower; one story residences in MG
Line	Undulating, round pond	Horizontal grasses and ag; round trees	Vertical power poles; horizontal fences; geometric structures
Color	Brown, gray reflective water	Yellow grasses and ag fields; light brown trees; dark green evergreens	White and red houses; light brown wood power poles; reddish brown and black fence posts; gray metal power poles; black H-frame power poles
Texture	Moderate	Moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Some removal of vegetation for ROW	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical straight elements in a row
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Medium, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View southeast toward AR from north edge of community near residences. View includes grassy ag fields, fences, small pond, low forested ridges, forested areas, some scattered trees, residences, a tall communication tower on the horizon in the MG, tall metal transmission structures, smaller wood H-frame transmission structures, wood power poles, and a road.

AR 4-E would be located about 0.4 miles southeast at its closest point to this location. The AR would be visible in the FG and MG. Structures and lines would extend above the distant tree lines and be noticeable as they cross open land on the near side of the trees. Structures and lines would be dominant vertical features in the rural and natural landscape. Changes to vegetation due to ROW clearing could be visible but not very noticeable. Construction and operation of the Project would result in a strong visual contrast.

The visual sensitivity at this KOP is high as it represents a view from a residential area. Because visual contrast is strong, the visual impact at this location would be high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 4
PR Link, AR, AC: PR Link 9
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Clarksville PR
Land Character Unit: Arkansas Valley
County, State: Johnson, Arkansas
Longitude: -93.4824818
Latitude: 35.494466

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling; pond; distant low ridges	Low grasses and ag; some scattered trees; dense tree lines; dense trees on ridges	Low wood power poles; taller metal pole transmission line; H-frame power poles; tall communications tower; one story residences in MG
Line	Undulating, round pond	Horizontal grasses and ag; round trees	Vertical power poles; horizontal fences; geometric structures
Color	Brown, gray reflective water	Yellow grasses and ag fields; light brown trees; dark green evergreens	White and red houses; light brown wood power poles; reddish brown and black fence posts; gray metal power poles; black H-frame power poles
Texture	Moderate	Moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



A photo is not available for the view looking north from this location. This photo shows the view southeast from the north edge of the community. Residences are nearby. The view north is similar but includes more residences, FG trees, and other vegetation.

Region 4 PR Link 9 would be located 2.5 miles north of this point. The PR would not be visible from this location due to its distance and intervening terrain and forests. Because the PR would not be visible from this location, construction and operation of the PR would result in no visual contrast.

The visual sensitivity at this KOP is high as it represents a view from a residential area. Because there would be no visual contrast, there would be no visual impact for the PR at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 6
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Clear Creek Park PR
Land Character Unit: Arkansas Valley
County, State: Crawford, AR
Longitude: -94.1653083
Latitude: 35.4369933

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling; broad area of water with horizontal banks	Some low grasses; scrub/shrub along banks; scattered trees; dense trees lines on banks	Low vertical light poles; very low parking lot signage
Line	Slightly undulating; horizontal creek banks	Strong tree line at bank edge; round trees	Vertical light poles and signage posts
Color	Dark brown; murky green water	Brown shrub/scrub; orange/brown trees in FG; brown and gray trees	Brown and black poles and signs
Texture	Moderate	Moderate to course	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



Views northeast (top) and north (bottom) from park and boat launch area. Views include wide section of stream, scattered trees and shrubs, parking lot, signs, vertical light poles, and dense line of trees along far stream bank. Large group picnic shelter and various smaller picnic areas are nearby.

Region 4 PR Link 6 would be located 1.4 miles north of this viewpoint. Views of the transmission line from this area would be obscured by the tall trees in the FG. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a park. With no visual contrast, there would be no visual impact.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 4
PR Link, AR, AC: AR 4-E
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Coal Hill AR
Land Character Unit: Arkansas Valley
County, State: Johnson, Arkansas
Longitude: -93.6546614
Latitude: 35.4426649

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling	Low grasses and ag; scattered trees; some dense tree lines	Low wood power poles; one story residences; small barns, sheds; fences; parking area
Line	Undulating	Horizontal grasses and ag; round trees	Vertical wood poles; horizontal fences; geometric structures
Color	Brown	Yellow and green grasses and ag fields; light brown trees; dark green evergreens	White and red houses; beige, white, gray and blue barns; white fences; light brown power poles and fence posts; yellow school buses
Texture	Moderate	Moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



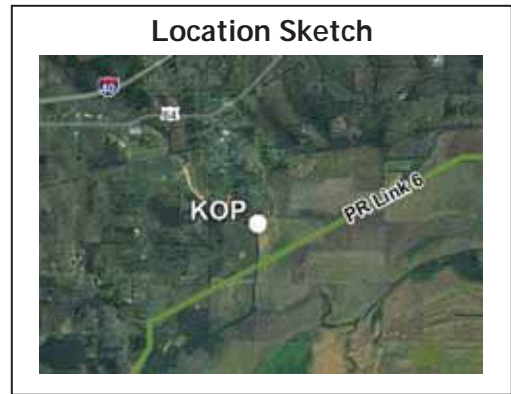
View north-northeast from north edge of community near school and residences. View includes low rolling ridges, roadway, school bus parking area, shed, residences, outbuildings, fences, wood power poles, open agricultural fields, scattered trees, and dense areas of trees along low ridges.

Region 4 AR 4-E would be located 3.2 miles north of this viewpoint. The transmission line would not be visible due to distance, terrain, and tall trees obstructing northern views. Construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this location is high because it represents views from rural residences. With no visual contrast, there would be no visual impact.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 6
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat; slightly rolling; low distant ridges	Low ag; dense tree lines in the distance; dense trees on ridges	Low sheds; small tanks in field
Line	Slightly undulating	Strong tree lines in the distance; horizontal ag	Rectilinear
Color	Red brown and dark brown	Yellow and green ag; brown trees	White; tan; blue
Texture	Fine	Fine	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements would be regularly spaced in a line
Line	No Change	No Change	Vertical, straight elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View southeast from southeast edge of Dyer. View is across an open ag field with dense line of trees in the distance and low forested ridge in the BG. Low hill to east in BG. Single-family residences nearby.

Region 4 PR Link 6 would be located about 0.3 miles at its closest point to this location. The Project would appear in the FG extending across open fields from the southwest to the northeast. Towers and lines would extend above the horizon and be prominent and noticeable crossing the open fields. Presumably there would be no apparent changes to landform or vegetation due to the line crossing flat open fields. Construction and operation of the Project would result in strong visual contrast.

The visual sensitivity at this KOP is high because it represents a view from a residential area. Because the visual contrast is strong, the visual impact would be high at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 7
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: East Side City Park PR
Land Character Unit: Arkansas Valley
County, State: Franklin, Arkansas
Longitude: -93.8213078
Latitude: 35.4877681

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling; wide meandering creek; distant ridges; low hill in FG	Low grasses and scrub/shrub on banks; scattered trees; dense trees on banks and ridges	Bridge; guardrail; small pavilion structures; tall wood transmission poles; tall communications tower; low power poles; light posts; residences
Line	Slightly undulating; gradual banks; curving waterline	Low horizontal grasses and scrub/shrub; strong tree line at banks	Horizontal bridge; vertical power poles; geometric pavilions and residences
Color	Dark brown; murky brown water	Yellow and green grasses; light brown scrub/shrub; brown trees; dark green evergreens	Gray bridge and guardrail; light brown power poles; orange/red, tan and gray residences
Texture	Moderate	Moderate to coarse	Fine to moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from park at water's edge. View includes open water, grassy area, dense forested areas along banks, residences, tall metal power poles.

Region 4 PR Link 7 would be located approximately 2.1 miles north of this viewpoint. Views of the transmission line from this area would be obscured by the tall trees in the FG. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a park. With no visual contrast, there would be no visual impact.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: PR Link 3, AR 4-C
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Field of Dreams PR and AR
Land Character Unit: Arkansas Valley
County, State: Crawford, Arkansas
Longitude: -94.3845466
Latitude: 35.4596766

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling	Low grasses; dense trees lines	Vertical light poles; recreation buildings and dugouts; fences; large residences on ridge
Line	Undulating	Horizontal grasses; strong tree lines	Vertical light poles; horizontal fences; geometric buildings
Color	Brown	Yellow and green grasses; brown trees, some dark green evergreens	Gray light poles; white, gray, green, and brown recreational buildings; gray fences; tan and brown houses
Texture	Moderate	Moderate	Coarse and variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



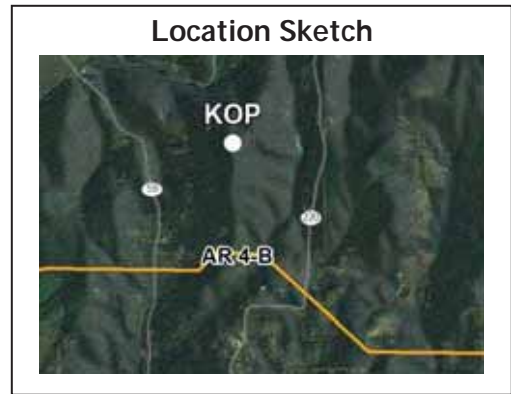
View north from Field of Dreams ball field.

Region 4 PR Link 3 would be about 2.6 miles north and AR 4-C would be located approximately 2.3 miles north of this viewpoint. The view north is obscured by dense trees on the horizon along the slightly elevated freeway. Numerous tall metal light poles, power lines, fences, and structures in the immediate FG create a cluttered view. Because the PR and AR would not be visible from this location, construction and operation of the Project would result in no visual contrast.

This location is a recreation area and has high visual sensitivity. Because there is no contrast, there would be no visual impact at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: AR 4-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Fire Tower Lookout AR
Land Character Unit: Boston Mountains
County, State: Crawford, Arkansas
Longitude: - 94.36622
Latitude: 35.631165

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling to moderately steep	Irregular, dense	Tall, vertical
Line	Curving to diagonal	Horizontal, vertical	Vertical
Color	Yellow, brown	Brown, yellow	Gray
Texture	Moderate to coarse	Moderate to coarse	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



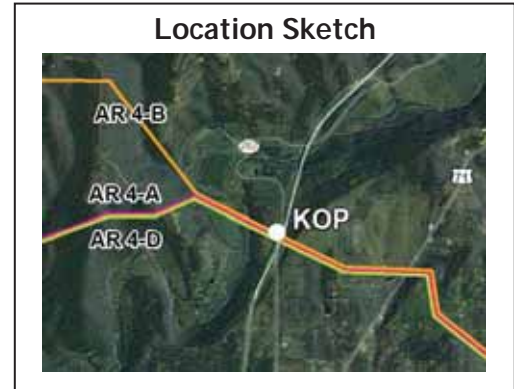
View south from a camping area with tall communication towers nearby. Viewpoint is on the top of a hill with dense vegetation surrounding the camp area.

AR 4-B would be located about 0.9 miles south of this viewpoint. From this area, the Project would not be visible due to topography, dense vegetation, and distance. Because the Project would not be visible from this area, construction and operation of the Project would result in no visual contrast.

The visual sensitivity at this KOP is high, as it represents a view from a recreation area on a national forest. Because there is no contrast from this location, there would be no visual impact.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: AR 4-A, AR 4-D, AR 4-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Frog Bayou Creek AR
Land Character Unit: Arkansas Valley
County, State: Crawford, Arkansas
Longitude: -94.219578
Latitude: 35.5762693

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling hills	Tall, dense, regular	Horizontal rail and bridge, vertical silhouetted water tower in background
Line	Undulating, curving	Vertical, straight	Horizontal bridge, vertical
Color	Brown, tan	Brown, green, tan	Brown, gray
Texture	Medium to coarse	Medium to coarse	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	Flat, straight	Vegetation cleared for ROW	Tall vertical elements regularly spaced in a line
Line	Straight and angled	Straight lines at ROW edges	Vertical elements in line
Color	Increased brown, tan	Increased yellow, tan	Light gray, metallic
Texture	Added coarseness	Some added coarseness	Moderate, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View west from Highway 282 overlooking Frog Bayou Creek. The area is mostly rural and natural in character. The view includes a railroad line and bridge, rural residences, farming operation, open fields, riparian vegetation, scattered trees and shrubs, and densely forested hills and ridges. Interstate 540, a designated scenic byway, is immediately behind this viewpoint.

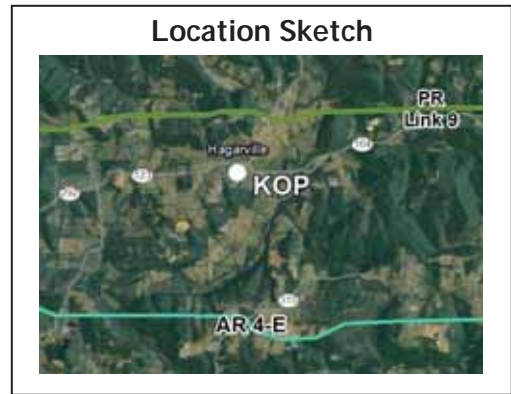
AR 4-A and AR 4-D would be located less 0.1 miles west and south from this viewpoint and cross Frog Bayou Creek approximately 0.3 miles to the west. AR 4-B would branch off to the northwest from these routes near the far edge of the valley floor and base of the forested hillslope. The transmission line would appear as a row of tall geometric objects traversing the valley and steep hills. It would be especially noticeable in the valley and extending diagonally along the near ridge above the stream. Vegetation cleared from the Project ROW and landform grading for access roads and structure pads would be highly visible from this viewpoint. The vertical and geometric form and line of the structures would be substantially different from existing low and horizontal structures in the landscape, and the scale of the Project would cause it to be prominent. The Project would introduce a major new dominant feature to the landscape for views in this area. For these reasons, construction and operation of the Project would result in strong visual contrast.

The visual sensitivity at this KOP is high, as it represents a crossing of a major waterbody viewed from the vicinity of a scenic byway. Because visual contrast is strong, the visual impact would be high.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: AR 4-E
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently to moderately rolling	Scattered/clumped in the FG; more dense in the BG; various heights	Short, low; vertical fencing and existing transmission poles; angular buildings (houses, barns, etc.)
Line	Curving, undulating	Regular, straight, vertical	Angular, vertical, horizontal
Color	Brown, gray, yellow	Yellow, brown, green	Brown, gray, white, red
Texture	Medium to coarse	Medium to coarse	Varied/mixed, uneven

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

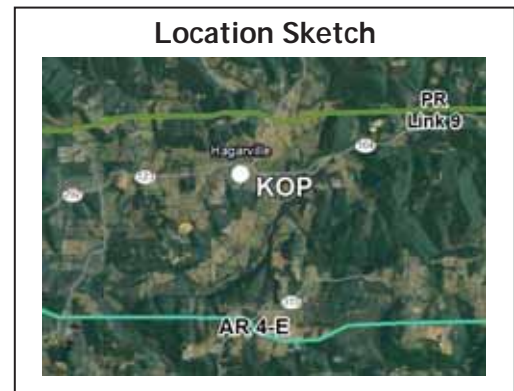
There is no photograph available for this viewpoint.

AR 4-E would be located approximately 2.3 miles south of this viewpoint. The AR would not be visible from this location due to distance, topography, and dense vegetation between the viewpoint and the AR. Construction and operation of the Project would result in no visual contrast.

The visual sensitivity at this KOP is high, as it represents views from a residential area. However, since there is no contrast, there would be no visual impacts at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 9
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Hagarville PR
Land Character Unit: Arkansas Valley
County, State: Johnson, Arkansas
Longitude: -93.3258131
Latitude: 35.513978

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently to moderately rolling	Scattered/clumped in the foreground; more dense in the background; various heights	Short, low; vertical fencing and existing transmission poles; angular buildings (houses, barns, etc.)
Line	Curving, undulating	Regular, straight, vertical	Angular, vertical, horizontal
Color	Brown, gray, yellow	Yellow, brown, green	Brown, gray, white, red
Texture	Medium to coarse	Medium to coarse	Varied/mixed; uneven

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine to moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



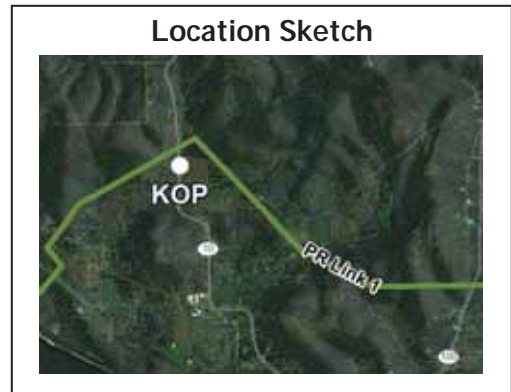
View northeast from the southern edge of Hagarville. There are single family residences in the area and open fields in the immediate foreground of the view.

PR Link 9 would be located approximately 1.0 mile northeast of this viewpoint. This viewpoint overlooks a valley where the PR would be located, providing high visibility of the Project. Dense forests and high hills in the MG and BG would help blend the PR with its surroundings. The tall forms and vertical lines of the Project would be noticeably different from the existing structures in the landscape and, where visible, the PR would be a dominant element. However, because the structures would be at a lower elevation in the valley, they would not be visible on the skyline this location. Construction and operation of the Project would therefore result in moderate visual contrast.

Visual sensitivity at this location is high because it represents views from residences. Since the level of contrast for the PR is moderate, the visual impact would be moderate at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: PR Link 1
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Highway 10 PR
Land Character Unit: Boston Mountains
County, State: Muskogee, Oklahoma
Longitude: -95.1404971
Latitude: 35.5684565

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling	Scattered to dense	Short, vertical
Line	Curving	Vertical, irregular	Vertical poles, horizontal
Color	Brown, yellow	Yellow, green, brown, red	Black, brown, white
Texture	Moderate to coarse	Moderate to coarse	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Swathe of vegetation would be removed	Tall, vertical elements would be regularly spaced forming a boundary
Line	No Change	Cleared corridor would form sharp edges	Tall, vertical elements would create strong straight lines on the land
Color	No Change	Lighter grasses would replace darker green trees	Light gray, metallic
Texture	No Change	Moderate	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Viewpoint is characterized by gently rolling terrain with scattered to dense vegetation in the FG and MG. Forested hill provides dark green backdrop. Some scattered rural residences are nearby. The highway is well-traveled by recreationists traveling to and from recreation areas along the Arkansas River, including the nearby Webbers Falls Reservoir and Greenleaf Lake State Park.

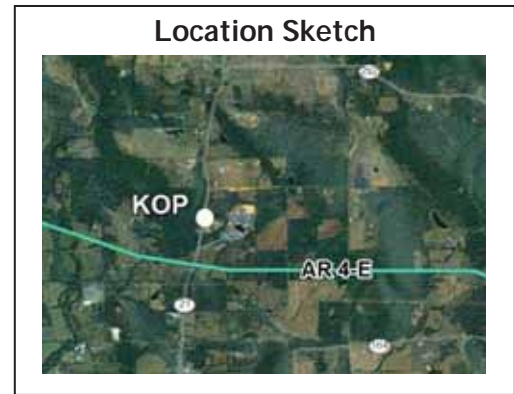
PR Link 1 would cross the road less than 0.2 miles north of the KOP. The transmission line would traverse the open field in the FG to the northwest beyond the dark vegetation that follows the drainage. The structures would be dominant vertical elements in the landscape and would sharply contrast against the sky. Vegetation would be removed to the east of the scenic byway, increasing contrast as travelers approach the crossing. Construction and operation of the Project would result in strong visual contrast from this location.

The visual sensitivity at this KOP is moderate since it is a view from a well-traveled highway used by recreationists and has residences nearby. With strong visual contrast, the visual impact at this location would be moderately high.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 4
PR Link, AR, AC: AR 4-E
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Highway 21 Scenic Byway AR
Land Character Unit: Arkansas Valley
County, State: Johnson, Arkansas
Longitude: -93.432098
Latitude: 35.4935711

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling; small pond; distant ridges	Low grasses; scattered trees; dense tree lines; dense trees on ridges	Low wood power poles; tall communication towers on distant ridge; one story residences; metal maintenance building; fences
Line	Undulating; round pond	Horizontal grasses; round and conical trees	Vertical power poles; horizontal fences; geometric structures
Color	Brown, gray reflective water	Yellow grasses; light brown trees; dark green evergreens	White, red, and brown houses; beige maintenance building; brown wood power poles; gray metal fence
Texture	Moderate	Moderate to coarse	Moderate to coarse

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Swathe of vegetation removed	Tall, vertical elements regularly spaced
Line	No Change	Cleared corridor will form sharp edge	Tall, straight, vertical elements
Color	No Change	Lighter grasses will replace darker green trees	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



The south-southeast viewpoint includes forested ridges in MG and BG, two tall communication towers on distant ridge top, rows of trees, scattered trees and shrubs, small pond, fences, wood power poles, a roadway, grassy areas along road, county road department maintenance shed, tall chain link fence and gate, sign, mail boxes, and residences.

Region 4 AR 4-E would cross the road approximately 0.4 miles to the south-southeast of this location. The transmission line would traverse an open field with scattered dark green trees to the east against a mixed background of trees in the MG. This distant matrix in conjunction with existing power lines adjacent to the road would provide some visual absorption for the transmission line structures, reducing contrast. However, because of their tall vertical form, the structures would be a dominant vertical element in the landscape. The lower portion of the structures would be partially obscured by vegetation, but the tops would strongly contrast against the sky. Vegetation within the corridor would be removed causing weak contrast. Construction and operation of the Project would result in a strong visual contrast.

Visual sensitivity at this location is high because it represents views from a scenic byway. With strong visual contrast, the visual impact at this location would be high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: AR 4-A
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Highway 82 AR
Land Character Unit: Boston Mountains
County, State: Sequoyah, Oklahoma
Longitude: -94.9732527
Latitude: 35.5304996

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling to moderately steep	Dense, regular	Vertical, tall
Line	Curving, undulating	Regular, straight	Vertical
Color	Yellow, brown, gray	Yellow, green, brown, red	Gray, metallic
Texture	Moderate to coarse	Coarse	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Vegetation would be cleared where ROW is located	Tall, vertical elements regularly spaced in a line
Line	No Change	Some straight edges	Vertical, straight, and geometric elements
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



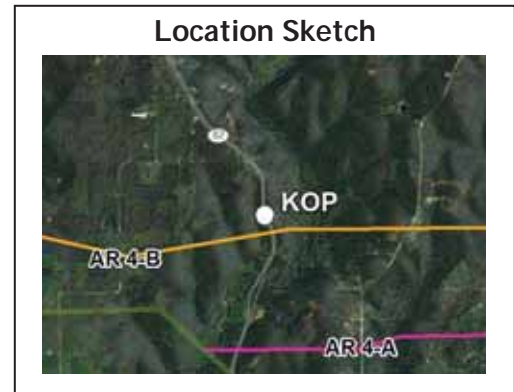
View to southwest from the highway with dense vegetation in the area. The highway is well-travelled by recreationists traveling to and from Tenkiller Reservoir and associated state parks.

AR 4-A would be located less than 0.1 miles southwest from this viewpoint. The AR would appear as a tall row of objects crossing the highway in the immediate FG. The AR would be prominent and dominant due to its proximity, scale, and form. Although similar to the existing 345kV transmission line in the view, the AR would be separate from it, skylined, and much closer to this viewpoint. Construction and operation of the AR would result in a strong visual contrast.

The visual sensitivity at this KOP is moderate, as it represents a view from a well-traveled road used by recreationists. Because the level of contrast for the AR is strong, the visual impact for it would be moderately high at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: AR 4-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Highway 82 AR
Land Character Unit: Boston Mountains
County, State: Sequoyah, Oklahoma
Longitude: -94.9696436
Latitude: 35.5453333

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling to steep	Dense, regular	Vertical, short
Line	Undulating, curving	Regular, straight	Vertical
Color	Brown, yellow	Yellow, brown, green	Gray
Texture	Coarse	Coarse	Uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Vegetation would be cleared where the ROW would be located	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View south from Highway 82. There are single-family residences in the area with dense vegetation in the FG and MG. The highway is well-travelled by recreationists traveling to and from Tenkiller Reservoir and associated state parks.

AR 4-B would be located approximately 0.2 miles south of this viewpoint. The dark green and brown vegetation in the FG and MG would obscure the base of the transmission line structures and vegetation that would be removed within the corridor. The tops of the structures would be clearly visible above the tree line. The form and line of the transmission line would be noticeably different from existing structures in the landscape. The scale of the structures would be substantially greater, and they would be a dominant element in views in the area. Construction and operation of the Project would result in a strong contrast.

The visual sensitivity at this KOP is high as it represents a view from an area of scattered residences and a well-traveled road used by recreationists. Since the level of contrast is strong, the visual impact would be high at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: PR Link 3
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling to moderately steep	Dense, regular	Vertical, tall
Line	Curving, undulating	Regular, straight	Vertical
Color	Yellow, brown, gray	Yellow, green, brown, red	Gray, metallic
Texture	Moderate to coarse	Coarse	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Vegetation would be cleared where ROW would be located	Tall, vertical elements regularly spaced in a line
Line	No Change	Some straight edges	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



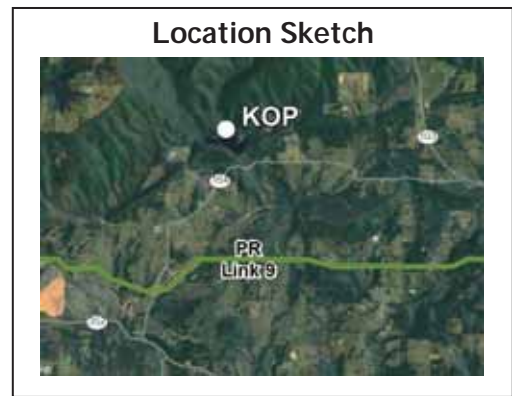
View to southwest from the highway with dense vegetation in the area. The highway is well-travelled by recreationists traveling to and from Tenkiller Reservoir and associated state parks.

Region 4 PR Link 3 would be located 0.3 miles southwest of this viewpoint. The PR would appear as a tall row of objects crossing the highway, running parallel to the existing transmission line in the FG. The PR would be somewhat noticeable and add to the number of structures in views from this area. However, its contrast would be reduced because it would run parallel to and on the far side of the existing lattice transmission structures and be similar to them in scale, form, color, and line. Therefore, construction and operation of the PR would result in weak visual contrast.

The visual sensitivity at this KOP is moderate, as it represents a view from a well-traveled road used by recreationists. Because the level of contrast for the PR is weak, the visual impact would be moderately low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 4
PR Link, AR, AC: PR Link 9
Evaluator(s): Z. Michalk / J. Peterson
Key Observation Point: Horsehead Lake Recreation Area PR
Land Character Unit: Arkansas Valley
County, State: Johnson, Arkansas
Longitude: -93.6377374
Latitude: 35.5647935



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling, meandering water body	Grasses, vertical trees, some fallen trees, dense trees on ridge	No Structures
Line	undulating	Horizontal grasses and tree lines on ridges, vertical trees in MG	N/A
Color	Dark brown, gray reflective water	Yellow, brown trees,	N/A
Texture	Moderate	Moderate to coarse	N/A

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



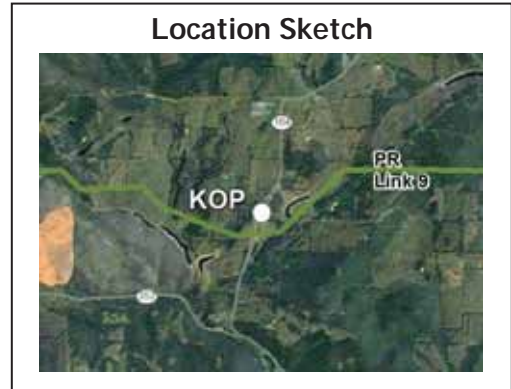
View south from a dry lake bed on national forest land near the southern boundary of the Ozark National Forest.

Region 4 PR Link 9 would be located approximately 2.1 miles south of this viewpoint. Views of the PR from this area would be obscured by tall trees and terrain. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a recreation area on a national forest. With no visual contrast, there would be no visual impact.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 4
PR Link, AR, AC: PR Link 9
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling	Scattered to dense, varied height	Vertical posts, irregular various structures, angular building
Line	Curving to undulating	Irregular, vertical	Angular, vertical, geometric
Color	Brown, yellow	Yellow, brown	White, black, yellow, gray, brown
Texture	Medium to Coarse	Medium to Coarse	Mixed/variable, uneven

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Vegetation will be cleared where ROW is located	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical straight elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View southeast from the town of Hunt. There are single family residences and commercial buildings in the area with dense vegetation in the FG.

PR Link 9 would be located approximately 0.2 miles southeast of this viewpoint. The dark green vegetation in the FG would obscure views of the bases of the transmission structures and most areas within the ROW corridor cleared of vegetation. The tops of the structures would be clearly visible above the treeline. The form, line, and scale of the PR would be much taller and more prominent than the existing structures in the landscape. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is strong, the visual impact would be high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 7
Evaluator(s): Z. Michalk, J. Peterson



Key Observation Point: Interstate 40 (Scenic Highway) Rest Stop PR
Land Character Unit: Arkansas Valley
County, State: Franklin, Arkansas
Longitude: -93.837264
Latitude: 35.5184199

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to slightly Rolling	Scattered and clumped trees; open natural, rounded	Short, horizontal existing fence
Line	Horizontal, smooth, slightly curving	Rounded, curved, varied	Horizontal, low, straight
Color	Yellow, brown	Yellow, brown, green	Gray
Texture	Smooth to medium	Fine to coarse	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Open, rectilinear, cleared right of way	Tall vertical elements regularly spaced in a line
Line	No Change	Vertical and horizontal straight lines in the ROW	Vertical elements appear as tall, straight, geometric objects in a row
Color	No Change	Expansion of yellow grasses	Light gray, metallic
Texture	No Change	Finer texture grasses	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View north from a developed rest stop for westbound Interstate 40, a designated scenic highway. Area includes rest rooms, visitor information, parking areas, picnic facilities, open landscaped area with lawn and scattered trees.

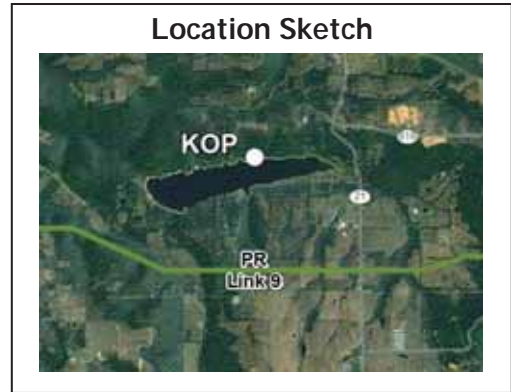
PR Link 7 would be located approximately 200 feet north of this viewpoint and would cross the northern portion of the rest area grounds. The Project would be clearly visible where it would cross the open field and trees in the immediate FG, introducing a new dominant element in views from this area. Clearing of the existing vegetation in the ROW would substantially change the form and line and somewhat change the color and texture of the vegetation in this view. Construction and operation of the Project would result in strong visual contrast for this and other views throughout the rest stop area.

The visual sensitivity at this KOP is high, as it represents views from a scenic highway. Because the visual contrast is strong, the visual impact would be high at this location.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 4
PR Link, AR, AC: PR Link 9
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Lake Ludwig PR
Land Character Unit: Arkansas Valley
County, State: Johnson, Arkansas
Longitude: -93.4435138
Latitude: 35.5385464

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat, large lake	Grasses, dense tree lines on far water's edge	No structures
Line	Horizontal	Strong tree lines at water's edge	N/A
Color	Brown, reflective gray water	Yellow grasses, brown trees	N/A
Texture	Fine	Fine	N/A

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Vertical elements regularly spaced
Line	No Change	No Change	Vertical elements create an implied line on the land
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



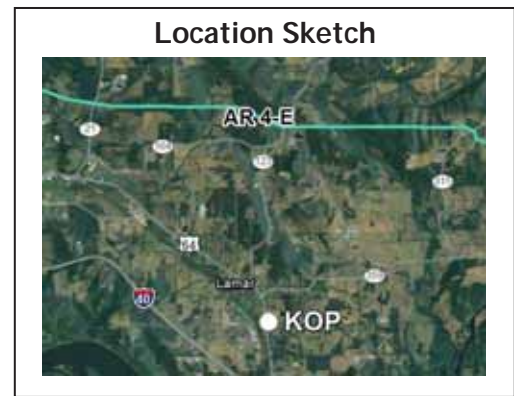
View south from a recreation lake. View includes open water edged with dark green trees. There is rising terrain in the MG. No structures are present.

PR Link 9 would be located approximately 0.9 miles south of this viewpoint. Views of the PR from this location and other areas of the lake would most likely be obscured by tall trees and terrain. However, if visible, the tops of the structures would appear as small grey vertical elements silhouetted above the irregular treeline. The regular spacing of the structures would form a line of objects in a predominantly natural setting. For these reasons, construction and operation of the Project would result in weak visual contrast.

Visual sensitivity at this KOP is high because it represents views from a recreational lake. Because the visual contrast is weak, the visual impact would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 4
PR Link, AR, AC: AR 4-E
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Lamar AR
Land Character Unit: Arkansas Valley
County, State: Johnson, Arkansas
Longitude: -93.3853992
Latitude: 35.435087

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling; distant ridges	Low grasses and ag; scattered trees; dense tree lines; dense trees on ridges	Low wood power poles; tall communications tower; one story residences; church; metal barns; fences
Line	Slightly undulating	Horizontal grasses and ag; round trees and strong tree lines	Vertical power poles; horizontal fences; geometric structures
Color	Brown	Yellow grasses and ag; light brown trees; dark green evergreens	White, red, beige, green, and brown houses; red, gray, white barns; light brown wood power poles; brown fence posts
Texture	Fine to moderate	Fine to moderate	Moderate and mixed variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from near south edge of community. View includes open ag fields, scattered trees, rows of trees, forested hills and ridges, church, residences, barns, fences, metal sheds, low wood power poles, low wood light poles.

Region 4 AR 4-E would be located north about 3.25 miles at the closest point to this location. AR is unlikely to be visible in view due to distance, terrain, and trees blocking distant views. If visible, the Project would appear in the background. However, structures, lines and any vegetation removal would not be noticeable through and above tree lines at this distance. Construction and operation of the Project would result in no visual contrast.

The visual sensitivity at this KOP is high as it represents a view from residential areas. Because there would be no visual contrast, there would be no visual impact at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 3
Evaluator(s): J. Donaldson/K. Siekmann
Key Observation Point: Lee Creek PR
Land Character Unit: Boston Mountains
County, State: Sequoyah, Oklahoma
Longitude: -94.409034
Latitude: 35.4883901



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Steep rolling hills	Low grasses and scrub/shrub; dense trees; natural	Low, vertical light poles; small utility buildings; dock; paved area; tall H-frame powerline in MG
Line	Undulating	Horizontal grasses; rounded and conical trees; tall trees form strong curving line along road edge	Vertical light poles; vertical powerline; horizontal dock and railing
Color	Brown	Yellow grasses; red brown and gray trees, dark green evergreens	Gray poles; dark gray asphalt; light brown and dark brown buildings
Texture	Moderate to course	Coarse	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Linear element would be created by vegetation clearing for ROW	Tall, vertical elements regularly spaced
Line	No Change	Straight lines and edges of ROW	Vertical straight elements create
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



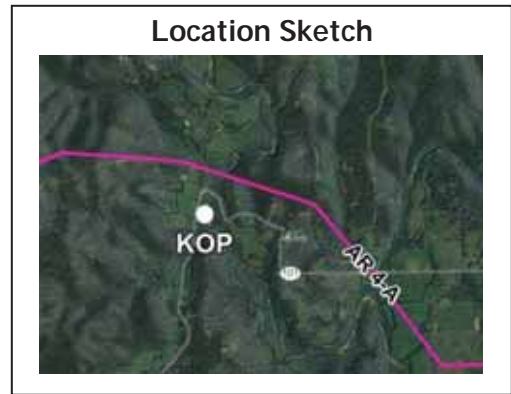
View north from boat launch area and fishing pier at lake on Lee Creek. Viewpoint includes wood light poles, parking lot, small restroom, and dense forest with mixed evergreen and deciduous trees. Because of the rising terrain to the north, an existing wood pole power line structure is barely visible.

Region 4 PR Link 3 would be located approximately 0.5 miles north of this viewpoint. From this vantage point, the PR would likely be obscured by terrain and tall trees. However, the PR would be highly visible to recreationists on and around the lake, most often in the MG. In this case, the tops of the structures would appear as gray vertical elements above the irregular tree line. The PR would be behind the existing transmission line up the hill from the lake, so this would somewhat diminish the level of structural contrast for the PR. However, the PR would be larger, wider, and more dominant than the existing H-frame transmission line. The regular spacing of structures would form a line above the existing transmission line and tree line and be a dominant linear element in the mostly natural forested landscape. Vegetation cleared for the ROW would appear as a straight linear form across the forested rounded terrain. Construction and operation of the Project would result in strong visual contrast from many areas in and around the lake.

Because of the recreational nature of the lake and its surrounding area, the visual sensitivity at this KOP is high. With strong visual contrast for views in the MG distance zone, the visual impact would be moderately high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: AR 4-A
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Little Lee Creek (Scenic River) AR 4-A
Land Character Unit: Boston Mountains
County, State: Sequoyah, Oklahoma
Longitude: -94.557027
Latitude: 35.5731705

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat creek, rolling hills	Scattered, irregular, dense at places	Vertical existing poles
Line	Horizontal, undulating	Regular, straight	Vertical
Color	Blue, brown, yellow	Brown, yellow, green	Brown
Texture	Coarse	Moderate to coarse	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical geometric elements regularly spaced
Line	No Change	No Change	Tall, vertical straight elements
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View looking northeast from bridge crossing of designated scenic river. The view includes the river and riparian vegetation in FG and forested terrain rising to the northeast.

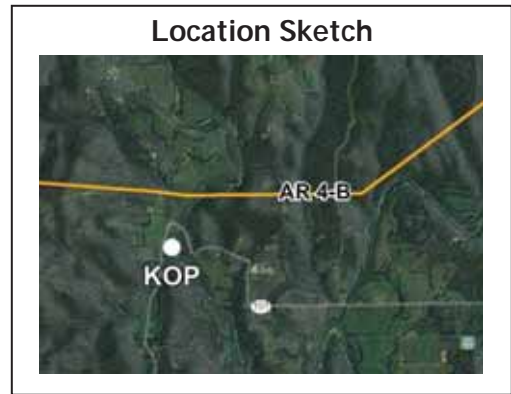
AR 4-A would cross the designated scenic river less than 0.4 miles northeast of this viewpoint. Dense low vegetation along the river corridor would obscure the lower portions of some and all of other nearby transmission structures from this viewpoint; however, the upper portions of some structures would be clearly visible above the tree line and prominent. The AR would be highly visible from areas in the vicinity of this viewpoint where screening vegetation is not as prevalent and from the river itself for people using the river for recreation and leisure. Because the visual character of the area appears to be primarily natural, the introduction of the AR would attract attention and be a dominant element in views of this area. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a scenic river. Because the visual contrast is strong, the visual impact would be high for this location.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: AR 4-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Little Lee Creek (Scenic River) AR 4-B
Land Character Unit: Boston Mountains
County, State: Sequoyah, Oklahoma
Longitude: -94.557027
Latitude: 35.5731705

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat creek, rolling hills	Scattered, irregular, dense at places	Vertical existing poles
Line	Horizontal, undulating	Regular, straight	Vertical
Color	Blue, brown, yellow	Brown, yellow, green	Brown
Texture	Coarse	Moderate to coarse	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical, geometric elements regularly spaced
Line	No Change	No Change	Tall, vertical straight lines
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



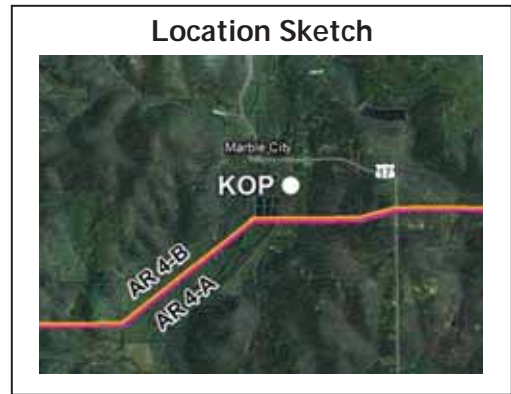
View looking northeast from a bridge crossing of the designated scenic river. The view includes the river and riparian vegetation in FG and forested terrain rising to the northeast.

AR 4-B would cross the designated scenic river approximately 0.4 miles northeast of this viewpoint. Dense, low vegetation along the river corridor would obscure the lower portions of some or all of other nearby transmission structures from this viewpoint; however, the upper portions of some structures would be clearly visible above the tree line and prominent. The AR would be highly visible from areas in the vicinity of this viewpoint where screening vegetation is not as prevalent, and also from the river itself for people using the river for recreation and leisure. Because the visual character of area appears to be primarily natural, the introduction of the AR would attract attention and be a dominant element in views of this area. For these reasons, construction and operation of the Project would result in a strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a scenic river. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: AR 4-A, AR 4-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Marble City AR
Land Character Unit: Boston Mountains
County, State: Sequoyah, Oklahoma
Longitude: -94.8229673
Latitude: 35.5772522

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Scattered, irregular	Short, vertical
Line	Horizontal to curving	Straight, vertical	Angular, vertical
Color	Yellow, brown	Yellow, brown, green	White, brown, gray
Texture	Moderate	Moderate to coarse	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Vegetation will be cleared where ROW passes through	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



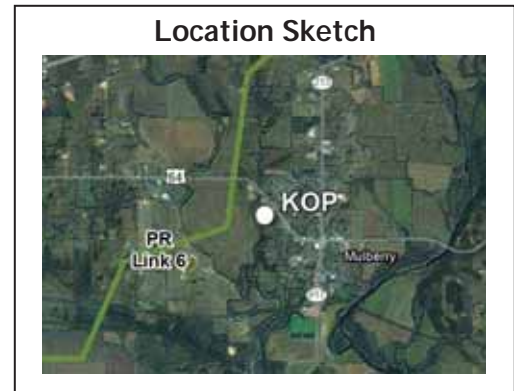
View southeast from the southern edge of Marble City. There are single-family residences in the area with open fields in the FG.

ARs 4-A and 4-B would be located about 0.3 miles southeast of this viewpoint. The transmission line would appear as a row of tall objects, where it is not blocked by trees and structures. The scale and form of the transmission line would be taller and more noticeable than the existing wood pole structures in the current view. There would be no noticeable changes to the landform and the only changes in the vegetation would be where the ROW is cleared; however, this is unlikely to be very noticeable in most views from this area. Construction and operation of the Project would result in a strong visual contrast.

The visual sensitivity at this KOP is high as it represents a view from a residential area. Since the level of contrast is strong, the visual impact would be high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 6
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Mulberry Park PR
Land Character Unit: Arkansas Valley
County, State: Crawford, Arkansas
Longitude: -94.059885
Latitude: 35.505635

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat and slightly rolling	Low grasses and ag; scattered trees; tree lines; low shrubs along bluff edge	Playground
Line	Strong horizontal line in field; slightly undulating	Low horizontal grasses and ag	Low vertical and horizontal playground structures
Color	Red brown and dark brown	Yellow grasses; green and yellow ag	Gray, lime, and navy play structures
Texture	Fine	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements would be regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



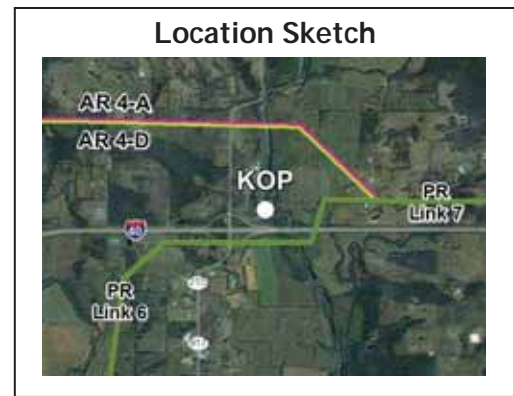
Views west from the park. Views are from low bluff across open ag field with line of trees in distance. Scattered trees, cleared area, and play equipment in the FG. PR would be very visible from this elevated location. Park is new, partially completed, and appears to still be under construction.

Region 4 PR Link 6 would be located in this view about 0.3 miles west at its closest point. The Project would appear in the FG. Structures and lines would be highly noticeable and attract attention as they cross open lands on the near side of a distant line of trees. Structures and lines would extend well above the tree tops and be dominant elements in the landscape. Presumably there would be no landform or vegetation changes due to the location of the line crossing open fields. Construction and operation of the Project would result in strong visual contrast.

The visual sensitivity at this KOP is high as it represents a view from a public park with nearby residences. Because the visual contrast is strong, the visual impact at this location would be high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: AR 4-A, AR 4-D, PR Link 7
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Mulberry River and Trail of Tears AR and PR
Land Character Unit: Arkansas Valley
County, State: Crawford, Arkansas
Longitude: -94.0410551
Latitude: 35.5302942

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Scattered/clumped	Angular, vertical, and crisscross form of the bridge; horizontal and vertical form of the existing transmission lines
Line	Horizontal at the water; curving at the banks	Irregular, vertical, straight	Angular, vertical, horizontal
Color	Blue, green, brown, tan	Brown, green, yellow	Gray, white, rust, brown
Texture	Ripley to coarse	Coarse	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View east from bridge crossing the Mulberry River. A few rural residences are widely scattered in the area and Interstate 40 is just south of this location. A single-pole transmission line crosses the river in the FG, but structures aren't easily visible due to the trees screening views of them.

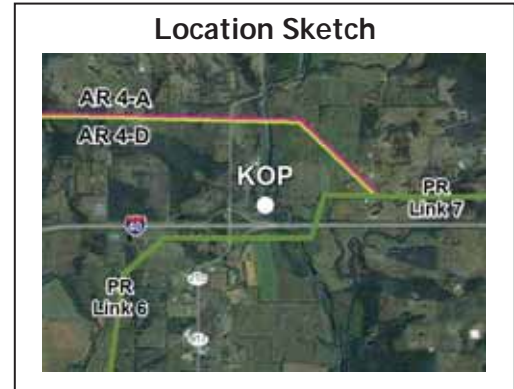
AR 4-A and AR 4-D would cross the Mulberry River 0.7 miles north and be located 0.7 miles northeast of this location. The AR would intersect with PR Link 7 about 0.9 miles east of this location. In this view looking east from the bridge crossing the river, the transmission structures would be mostly screened by dense FG vegetation along the river. However, the transmission line would be viewed by people who would use the river for recreation and leisure activities in the vicinity of where it would cross the river. Where the AR is not screened by dense vegetation in the vicinity of its river crossing, the form and line of the structures would be noticeably different from the existing structures in the landscape, their mass and scale would be greater, and they would appear prominent in these views. Construction and operation of the Project would result in strong visual contrast for views of it in the vicinity of its crossing of the river.

Visual sensitivity at this location is high because it represents views from a national historic trail. Since the level of contrast is strong, the visual impact would be moderately high at this location.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 6
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Mulberry River and Trail of Tears PR
Land Character Unit: Arkansas Valley
County, State: Crawford, Arkansas
Longitude: -94.0410551
Latitude: 35.5302942

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Scattered/clumped	Angular, vertical, and criss-cross form of the bridge. Horizontal and vertical form of the existing transmission lines
Line	Horizontal at the water; Curving at the banks	Irregular, vertical and straight	Angular, vertical, horizontal
Color	Blue, green, brown, tan	Brown, green, yellow	Gray, white, rust, brown
Texture	Ripply to Coarse	Coarse	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View east from bridge crossing the Mulberry River. A few rural residences are widely scattered in the area, and Interstate 40 is just south of this location. A single-pole transmission line crosses the river in the FG, but structures aren't easily visible due to the trees screening views of these.

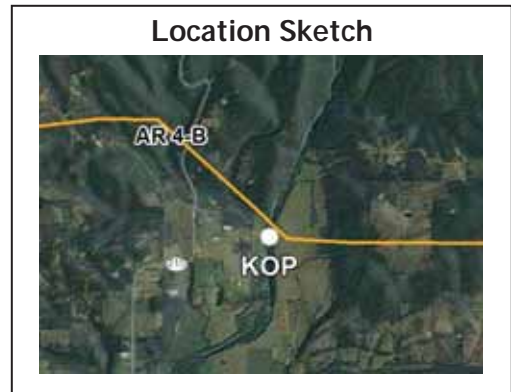
PR Link 6 would cross the Mulberry River approximately 0.4 miles south of this location, and the PR in this view is 0.4 miles east. The transmission line structures would be visible where they are not blocked by FG vegetation. The form and line of the structures would be noticeably different from the existing structures in the landscape. However, the mass and scale of the structures would be greater, and visible structures in the vicinity would be prominent. Construction and operation of the Project would result in strong visual contrast from this location and the surrounding area.

Visual sensitivity at this location is high because it represents views from a national historic trail. Since the level of contrast is strong, the visual impact would be high at this location.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: AR 4-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Mulberry River AR
Land Character Unit: Arkansas Valley
County, State: Franklin, Arkansas
Longitude: -94.0207392
Latitude: 35.5676077

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat (river) to rolling (banks)	Tall, uniform, dense	N/A
Line	Horizontal to curving	Regular, vertical	N/A
Color	Blue, green, brown, yellow	Brown, yellow	N/A
Texture	Smooth to coarse	Coarse	N/A

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Some removal of vegetation for ROW	Tall, vertical elements regularly spaced in a line
Line	No Change	Straight vertical and horizontal lines from vegetation removal	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	Some texture change from removal of trees	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View from east bank of the river. AR would be crossing the river to the north. Both banks are lined with dense forest.

AR 4-B would be visible less than 0.1 miles north of this location crossing the river. The Project would appear in the near FG. Structures and lines would be noticeable as they would cross extremely close to this point and over open water. Structures and lines would extend above the tree lines. Presumably there would be no landform change; however, vegetation would be cleared for the ROW. Construction and operation of the Project would result in strong visual contrast.

The visual sensitivity at this KOP is high as it represents a view from an accessible public recreation area along the river. Because visual contrast is strong, the visual impact at this location would be high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 7
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Dense vegetation surrounding the lake and low grasses on dam structure	N/A
Line	Horizontal to slightly undulating	Vertical, irregular	N/A
Color	Blue, green, brown	Green, brown	N/A
Texture	Smooth to medium	coarse	N/A

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



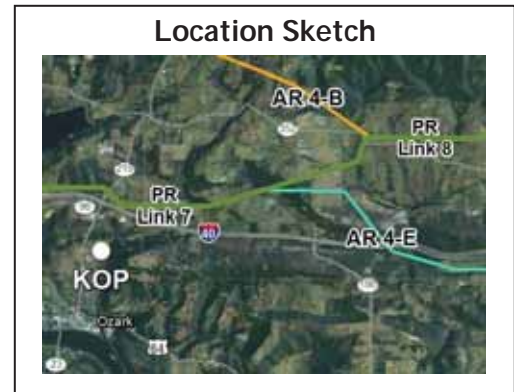
View looking southwest from the boat launch ramp at the northwest corner of Ozark City Lake.

Region 4, PR Link 7 would be located approximately 0.6 miles southwest of this viewpoint. Views of the transmission line from this area would be obscured by terrain and tall trees in the FG. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a public recreation area. With no visual contrast, there would be no visual impact.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: Region 4
PR Link, AR, AC: PR Link 7AR 4-B, AR 4-E
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Ozark PR and AR
Land Character Unit: Arkansas Valley
County, State: Franklin, Arkansas
Longitude: -93.8196489
Latitude: 35.5037907

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling; ridge in near MG	Low grasses and ag; dense tree lines	Low wood power poles; one story residences; small barns and sheds; fences
Line	Flat to slightly undulating	Strong tree lines; horizontal grasses and ag	Vertical wood poles; horizontal fences; geometric structures
Color	Dark brown	Yellow grasses and ag; brown trees; dark green evergreens	White house; brown barns; light brown power poles and fence posts
Texture	Fine to moderate	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Small vertical elements widely spaced along ridge top
Line	No Change	No Change	Vertical straight short
Color	No Change	No Change	Light gray
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from north edge of community near residences. View is across open fields and dense forest. Low forested ridge in FG. View includes low end power poles, fences, hay bales, and a rural residence.

PR Link 7 would be located approximately 0.8 miles north of this viewpoint. AR 4-B and AR 4-E would be located about 3.7 miles north and would not be visible from this area because of intervening terrain and vegetation obscuring views. The uppermost portions of the PR transmission line structures may be visible above the forested ridgeline. If so, they would appear as small vertical elements silhouetted against the sky and would not be easily noticed. Construction and operation of the Project would result in weak visual contrast.

Visual sensitivity at this location is high because it represents views from rural residences. Since the level of contrast for the PR is weak, the visual impact would be low at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: Region 4
PR Link, AR, AC: PR Link 3
Evaluator(s): J. Donaldson/K. Siekmann
Key Observation Point: Robert S. Kerr Reservoir PR
Land Character Unit: Arkansas Valley
County, State: Muskogee, Oklahoma
Longitude: -94.8669583
Latitude: 35.3979216



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling; wide meandering waterbody	Low grasses; scattered trees and tree lines; dense trees on water's edge	Wood power pole; few pavilions; restroom structures
Line	Undulating; straight to curving water edge	Horizontal grasses; round trees; strong tree lines along water	Vertical power poles; geometric pavilions and restroom structures
Color	Brown, reflective gray water	Yellow and green grasses; light brown trees, some dark green evergreens	Light brown power poles; brown pavilions; tan and green restroom
Texture	Moderate	Moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



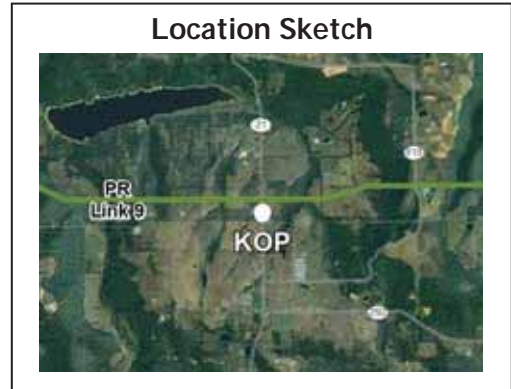
The view north is characterized by tall trees in the FG, open water, and forested hills in the MG.

Region 4 PR Link 3 is located approximately 7.0 miles north of the KOP. At this distance, the PR would be obscured by trees and terrain. Construction and operation of the Project would result in no visual contrast from this location.

Because of the recreational nature of the reservoir, the visual sensitivity at this KOP is high. With no visual contrast, there would be no impact.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 4
PR Link, AR, AC: PR Link 9
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Route 21 (Scenic Byway) PR
Land Character Unit: Arkansas Valley
County, State: Johnson, Arkansas
Longitude: -93.4284963
Latitude: 35.5232425

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Varied heights, scattered/clumped	Vertical, short, horizontal lines
Line	Curving, undulating	Regular, vertical	Vertical
Color	Brown, black, yellow	Green, brown, yellow	Gray, white, red
Texture	Coarse	Coarse	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



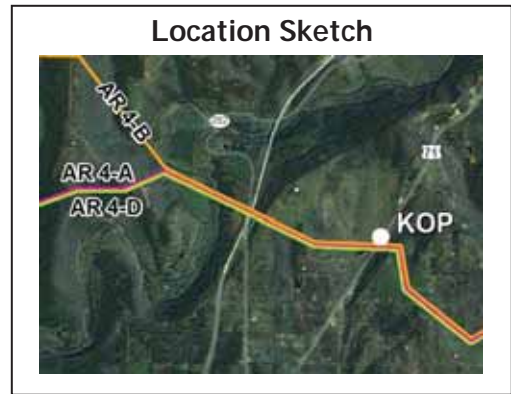
View north along the Route 21 Scenic Byway. The area is very rural with only a few single family residences in the vicinity.

PR Link 9 would be located approximately 0.1 miles north of this viewpoint. The transmission line would be clearly visible as a tall row of metal lattice structures crossing the highway and traversing open fields. The form and scale of the Project would be larger and more prominent than existing structures in the landscape, and it would be a dominant element in form and line. Although vegetation clearing in the ROW would be visible, it would not be highly noticeable or attract attention. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a scenic byway. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: AR 4-A
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Route 71 (Scenic Byway) AR
Land Character Unit: Arkansas Valley
County, State: Crawford, Arkansas
Longitude: -94.2001331
Latitude: 35.5724975

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to gently rolling	Scattered/uneven	Vertical, low, varied in height, angular
Line	Curving, undulating	Straight, vertical	Vertical, angular
Color	Tan, brown	Brown, yellow, green	Brown, gray, white
Texture	Smooth to medium	Medium to coarse	Mixed/moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Cleared area where the ROW would be located	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



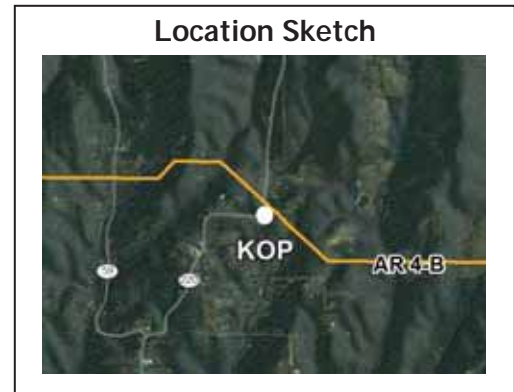
View south from Route 71. Some rural, single family residences in the area with open fields in the FG.

AR 4-A would be located approximately 0.1 miles south of this viewpoint. The transmission line would appear as a tall prominent row of objects running perpendicular to Route 71. The scale and form of the Project would be more massive than the existing structures and the AR would be dominant in this view. There would also be a change in the vegetation where the ROW would be cleared and straight edges created. Construction and operation of the Project would result in a strong contrast.

The visual sensitivity at this KOP is high, as it represents a scenic byway. Since the contrast is strong to moderate, the visual impact would be high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: AR 4-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Route 220 (Scenic Highway) AR
Land Character Unit: Boston Mountains
County, State: Crawford, Arkansas
Longitude: -94.3559689
Latitude: 35.6115395

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling hills	Dense, regular	Vertical, low wood power poles
Line	Curving, undulating	Straight, regular	Vertical wood poles and horizontal curving road
Color	Black, yellow, brown, green, tan	Green, brown, yellow	Yellow, gray, brown
Texture	Coarse	Coarse to very coarse	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Swathe of vegetation would be removed	Tall, vertical elements regularly spaced forming a boundary
Line	No Change	Cleared corridor would form sharp edge	Vertical elements would appear as a horizontal row of tall objects
Color	No Change	Lighter grasses would replace darker green trees	Light gray, metallic
Texture	No Change	Fine to moderate	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View north from Route 220 just south of the AR crossing. Existing wood pole power line is present and vertical elements include street signs and the poles. Land slopes downward with dense forest on both sides of the road.

AR 4-B would be located less than 0.1 miles north of this viewpoint. The transmission line structures would be highly dominant elements in the landscape. There would also be a noticeable clearing of vegetation for the ROW, which would have strong straight edges. Because of the dense forest and sloping, curving roads, the transmission line would be most visible and noticeable in the vicinity of the road crossing. Construction and operation of the Project would result in strong visual contrast.

Because this is a scenic highway, the visual sensitivity at this KOP is high. With strong visual contrast, the visual impact would be high at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: PR Link 3
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Sallisaw PR
Land Character Unit: Arkansas Valley
County, State: Sequoyah, Oklahoma
Longitude: -94.778245
Latitude: 35.48944

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling; distant ridge, small pond near road in FG	Low grasses and ag; scattered trees and tree lines; dense trees on ridge	Low wood power poles; one story residences; fences
Line	Undulating	Horizontal grasses and ag; round trees, straight tree line along road edges	Vertical power poles; horizontal fences; rectilinear residences
Color	Reddish brown	Yellow grasses and ag; light brown trees, some dark green evergreens	Light-brown power poles; tan, white and green, and dark brown houses; peach roof; reddish brown fence
Texture	Moderate	Fine to moderate	Fine to moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements would be regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a row of tall, straight objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View north-northeast from Highway 59 near residences and restaurant. PR would cross highway just north of this position. View includes roadway, open fields, scattered trees, forested low hills and ridge in distance, single-family homes, wood power poles, small pond, fences, and other structures along road to north.

Region 4 PR Link 3 would be located about 0.5 miles north-northeast at the closest point to this location. The Project would cross SR 59 north of Sallisaw. The Project would appear in the near MG crossing open fields with scattered trees. Towers and lines would extend above the tree lines. Presumably there would be no landscape change and very few noticeable changes to vegetation in this view. Structures would be tall, prominent elements in the landscape. Construction and operation of the Project would result in moderate contrast.

The visual sensitivity at this KOP is high as it represents a view from residential areas. The visual impact at this location would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: AR 4-C
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Scott Farm AR
Land Character Unit: Boston Mountains
County, State: Crawford, Arkansas
Longitude: - 94.3570818
Latitude: 35.5007464

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to downward sloping	Smooth to dense	Short, angular
Line	Horizontal to downward curving	Regular in FG, dense trees in BG	Angular
Color	Brown, dark tan	Yellow, brown, green	Earth tones, red brick, brown
Texture	Fine to moderate	Fine to moderate	Moderate, angular

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View south from a residential subdivision near Highway 59. There are large, single-family residences nearby.

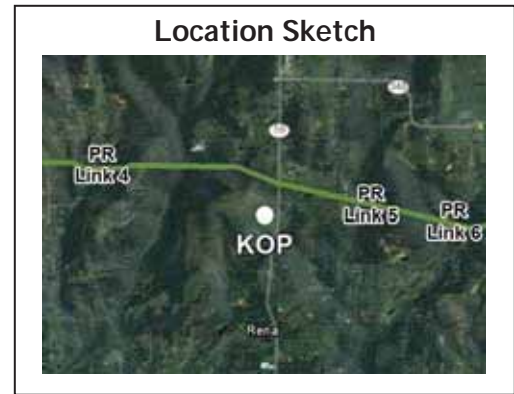
Region 4 AR 4-C would be located approximately 0.7 miles south of this viewpoint. The subdivision sits on a high bluff making the Project potentially visible in FG views from several residences which are less than 0.5 miles from the AR. The form and line of the transmission line would be noticeably different from the existing low structures in the view. The scale and form of the structures would appear massive at this close distance and the structures would be highly noticeable in the FG. The dark green vegetation and rolling hills would obscure the base of the transmission line structures and any vegetation that would be removed within the corridor. The tops of the structures would be clearly visible above nearby trees in the FG. Although dominant in the FG, the AR structures would not be silhouetted against the sky and would tend to somewhat blend with the surrounding landscape. Construction and operation of the Project would result in moderate visual contrast.

The visual sensitivity at this KOP is high, as it represents a residential area. Since the level of contrast is moderate, the visual impact would be moderate.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: PR Link 5
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Scott Farm PR
Land Character Unit: Boston Mountains
County, State: Crawford, Arkansas
Longitude: - 94.3570818
Latitude: 35.5007464

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to downward sloping	Smooth to dense	Short, angular; tall, thin linear communication towers
Line	Horizontal to downward curving	Regular in FG, dense trees in BG	Angular buildings, straight towers
Color	Brown, dark tan	Yellow, brown, green	Earth tones, red brick, brown, red and white lattice tower, gray towers
Texture	Fine to moderate	Fine to moderate	Fine to moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a row of tall objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate to coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View north from a residential subdivision near Highway 59. There are large, single-family residences in the area.

PR Link 5 would be located approximately 0.3 miles north of this viewpoint. The subdivision sits on a high bluff, meaning the Project would be highly visible from several residences in this subdivision which are less than 0.3 miles from the PR. The form and line of the transmission line would be noticeably different from the existing tall, thinner structures in the view due to the Project's close proximity. Although lower in height, the scale of the structures would appear more massive than the existing structures. Because they would be closer and appear more massive, the PR structures would be highly noticeable in the FG. Although dominant in the FG, the PR structures would not be silhouetted against the sky and would tend to somewhat blend with the surrounding landscape. Construction and operation of the Project would result in moderate visual contrast.

The visual sensitivity at this KOP is high, as it represents a view from a residential area. Since the level of contrast is moderate, the visual impact would be moderately high.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: Region 4
PR Link, AR, AC: PR Link 3
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Sequoyah NWR Boat Launch PR
Land Character Unit: Arkansas Valley
County, State: Sequoyah, Oklahoma
Longitude: -94.9734316
Latitude: 35.4335883

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low ag; dense tree lines in distance	No structures
Line	Horizontal	Horizontal ag; strong tree lines	N/A
Color	Light brown	Yellow, green, and brown ag; light brown trees	N/A
Texture	Fine	Fine	N/A

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



Views from the boat launch ramp at the NWR include open grasslands, wetlands, ag fields, and dense forests. The refuge visitor center to the north, although closer to the PR, is surrounded by tall trees that would obscure any views of the transmission line.

Region 4 PR Link 3 would be located approximately 5.0 miles north of this viewpoint. The distance, in combination with terrain and forested areas, would prevent visibility of the PR. Construction and operation of the Project would result in no visual contrast from this location.

Because this is a wildlife preserve, the visual sensitivity at this KOP is high. Since there is no visual contrast, there would be no visual impact.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: PR Link 3
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Sequoyah's Cabin PR
Land Character Unit: Arkansas Valley
County, State: Sequoyah, Oklahoma
Longitude: -94.6525
Latitude: 35.5135

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling; distant ridge	Low grasses; scattered trees; dense trees on ridge	Small stone buildings; low stone wall perimeter; cylindrical water tower in the far west
Line	Undulating	Horizontal grasses; round trees	Horizontal stone wall; rectilinear buildings
Color	Brown	Yellow grasses; light brown trees, dark green evergreens	Dark brown and gray stone wall and buildings; blue water tower
Texture	Moderate	Moderate to course	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Vertical elements, small in scale, regularly spaced
Line	No Change	No Change	Short, straight
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View south from Sequoyah's Cabin historic site. Extensive interpretive exhibits and historic features are located throughout the grounds. The area includes the historic cabin and interpretive center, offices and classrooms, information and gift center, sitting areas, and picnic facilities.

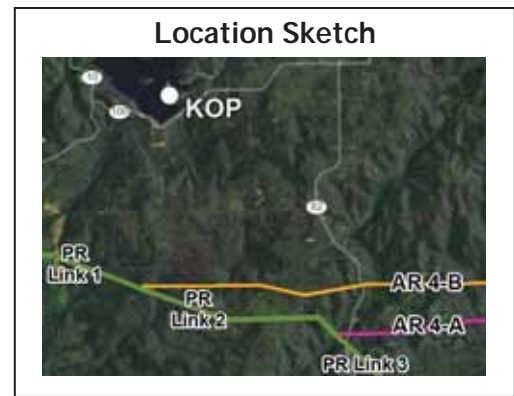
Region 4 PR Link 3 would be located about 1.2 miles south from this location. Although the PR would be visible from the entry drive and portions of the PR may be visible from some areas on the grounds, views south from most areas of the historic site are screened by tall trees enclosing the area. Any visible portions of structures would appear as small, light gray forms extending above distant trees on the horizon. Because views of the PR would be mostly screened by tall trees, it would not appear as a dominant element in the landscape and is unlikely to be very noticeable or attract attention. Construction and operation of the Project would result in weak visual contrast for this location.

The visual sensitivity at this KOP is high because it represents a view from a historic landmark area with visitor and interpretive facilities. Because this area has weak visual contrast, the visual impact at this location would be low.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: PR Link 1, AR 4-A, AR 4-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Tenkiller State Park PR and AR
Land Character Unit: Boston Mountains
County, State: Sequoyah, OK
Longitude: -95.0381084
Latitude: 35.6009304

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling, large waterbody	Grasses, scrub/shrub, dense trees on far shoreline	No structures
Line	Undulating; smooth, slightly curving water edge	Round and irregular scrub/shrub, strong tree lines on far shoreline	N/A
Color	Brown, gray reflective water	Green and tan grasses, brown scrub/shrub, dark green evergreens, brown trees	N/A
Texture	Fine to moderate	Fine to moderate	N/A

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



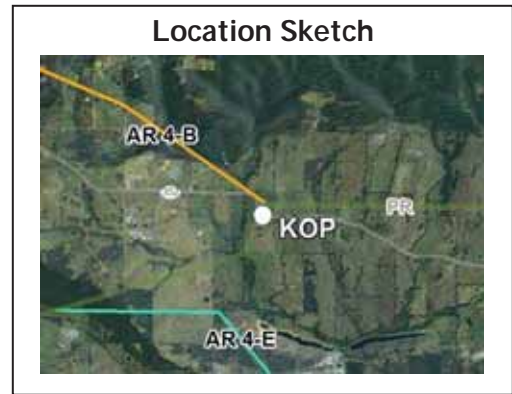
Viewpoint is in a state park. Due to distance and terrain, the PR and AR are not visible from this KOP.

PR Link 1, AR 4-A, and AR 4-B would be located approximately 4 miles south of this viewpoint. The PR and ARs would not be visible from this KOP due to terrain, vegetation, and distance. Construction and operation of the Project would result in no visual contrast from this location.

Because this is a state park, the visual sensitivity at this KOP is high. With no visual contrast, there would be no visual impact.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 4
PR Link, AR, AC: AR 4-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Trail of Tears (Highway 352) AR
Land Character Unit: Arkansas Valley
County, State: Franklin, Arkansas
Longitude: - 93.7418955
Latitude: 35.5278124

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to slightly rolling	Scattered/uneven to dense	Vertical, tall, varied
Line	Horizontal to curving	Irregular, vertical	Vertical, straight
Color	Brown, yellow	Yellow, brown	Brown, white, gray
Texture	Medium to coarse	Medium	Moderate, mixed

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Wide linear ROW	Tall, vertical elements regularly spaced in a line
Line	No Change	Straight edges	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



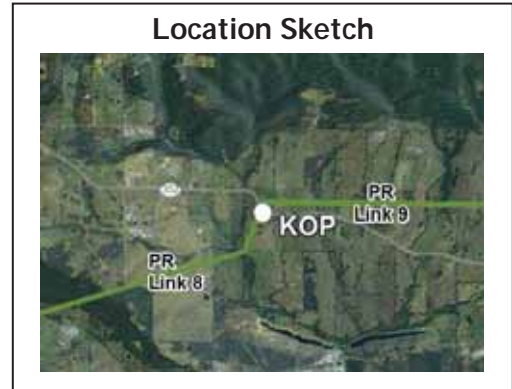
View northwest from Highway 352 and the historic Trail of Tears. There are single-family residences in the area and open fields in the FG.

Region 4 AR 4-B would be located approximately 0.1 miles northwest of this viewpoint. The open lands with scattered vegetation would allow fairly extensive views of the AR. The transmission line would appear as a row of tall metal objects running parallel to and then crossing the highway. The form and scale of the transmission line would be greater than that of the existing shorter wood 138 kV H-frame structures in the landscape. The AR lattice structures would appear wider and more three-dimensional compared to the more two-dimensional wood H-frame structures. Vegetation clearing in the ROW would create some linear open areas and straight edges that would be apparent, but not highly noticeable. For these reasons, construction and operation of the Project would result in moderate visual contrast.

Visual sensitivity at this KOP is high because it represents views from a national historic trail. Because the visual contrast is moderate, the visual impact would be moderately high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 4
PR Link, AR, AC: PR Link 8
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Trail of Tears (Highway 352) PR
Land Character Unit: Arkansas Valley
County, State: Franklin, Oklahoma
Longitude: - 93.7418955
Latitude: 35.5278124

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to slightly rolling	Scattered/uneven to dense	Vertical, tall, varied
Line	Horizontal to curving	Irregular, vertical	Vertical, straight
Color	Brown, yellow	Yellow, brown	Brown, white, gray
Texture	Medium to coarse	Medium	Moderate, mixed

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Wide linear ROW	Tall vertical elements regularly spaced in a line
Line	No Change	Straight edges	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



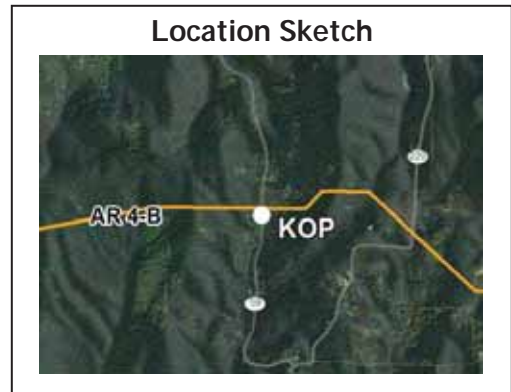
A photo of the view southwest from this location is not available. The photo above shows the view northwest from Highway 352 and the historic Trail of Tears. The view southwest is similar but includes more open fields lined with tall trees and does not include the existing 138kV H-frame transmission line. There are single family residences in the area.

PR Link 8 would be located about 150 feet northwest of this viewpoint and extend southwest from this location. The open lands with scattered vegetation allow broad views of the PR. The transmission line would appear as a row of tall metal objects crossing open fields, hedgerows, and scattered forest pockets. The form and scale of the transmission line would be substantially greater than those of other low structures in the vicinity. The AR lattice structures would appear wide and geometric, and the PR would introduce a dominant new feature in the landscape. Vegetation clearing in the ROW would create some linear open areas and straight edges that would be apparent but not highly noticeable. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a national historic trail. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: AR 4-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Trail of Tears (Route 59) AR
Land Character Unit: Boston Mountains
County, State: Crawford, Arkansas
Longitude: - 94.3778897
Latitude: 35.6154464

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to rolling	Irregular, scattered, and dense in BG	Vertical existing low wood power poles
Line	Horizontal to curving	Straight, regular	Straight, vertical wood poles; horizontal gently curving roads
Color	Brown, yellow, gray	Brown, yellow, green	Brown, white, yellow
Texture	Moderate to coarse	Moderate to coarse	Varied, fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Cleared area where the ROW would be located	Tall, vertical elements regularly spaced in a line
Line	No Change	Clearings with straight edges	Vertical elements would appear as a horizontal row of tall objects
Color	No Change	Added grasses in cleared ROW opening	Light gray, metallic
Texture	No Change	Fine to moderate	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



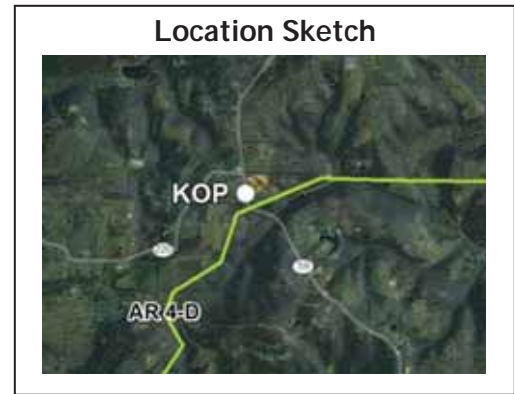
View north from Route 59 and the historic Trail of Tears. Some rural, single-family residences are in the area with open fields in the foreground.

AR 4-B would be located less than 0.1 miles north of this viewpoint. The transmission line would appear as a tall row of objects running perpendicular to Route 59. The scale and form of the Project would be more dominant than the existing low structures in the vicinity. There would also be a noticeable clearing of vegetation for the ROW, which would open a wide cleared area through the forest and have strong straight edges. Construction and operation of the Project would result in strong visual contrast.

The visual sensitivity at this KOP is high, as it represents a national historic trail through a national forest where viewers are primarily recreationists. Since the level of contrast is strong, the visual impact would be high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: AR 4-D
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Trail of Tears and Scenic Highway 220 AR
Land Character Unit: Boston Mountains
County, State: Crawford, Arkansas
Longitude: - 94.3766033
Latitude: 35.5406448

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling to moderately steep	Irregular, densely scattered	Vertical, medium height
Line	Curving, undulating	Regular, straight	Vertical, thin, straight
Color	Brown, dark tan	Yellow, brown, green	Brown, white, red
Texture	Coarse	Fine to moderate	Fine to moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Blocks of vegetation removed	Tall, vertical elements regularly spaced
Line	No Change	Cleared corridor would form straight sharp edges	Tall, vertical elements in a line
Color	No Change	Light green grasses would replace darker green trees	Light gray, metallic
Texture	No Change	Moderate	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



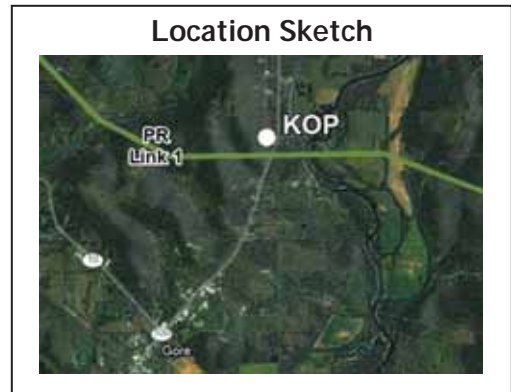
Rolling hills with dense forests and scattered open areas. Fencing and wooden power poles occur in the FG.

AR 4-D would be approximately 0.1 miles southeast of this viewpoint. The transmission line would run perpendicular to the road and cross it just beyond the turn sign in the photo. The transmission line structures would be highly dominant elements in the landscape. The straight lines of the cleared corridor would be very noticeable to all travelers with little screening by vegetation or terrain. Construction and operation of the Project would result in strong visual contrast.

Because this is a scenic highway, the visual sensitivity at this KOP is high. With strong visual contrast, the visual impact at this location would be high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: PR Link 1
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Trail of Tears State Route 100 PR
Land Character Unit: Boston Mountains
County, State: Sequoyah, OK
Longitude: -95.0985865
Latitude: 35.5560261

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling	Low grasses along road; dense tree lines along roadside	Low power poles; one story residences
Line	Undulating	Horizontal grasses; trees form vertical edge along roadway	Low vertical power poles; rectilinear residences
Color	Brown	Green and yellow grasses; light brown trees, dark green evergreens	Light brown power poles; tan, white houses
Texture	Fine to moderate	Medium to coarse	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Some removal of vegetation for ROW	Tall vertical elements regularly spaced in a line
Line	No Change	Straight vertical and horizontal lines from vegetation removal	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	Some texture change from removal of trees	Moderate, uniform

Degree of Contrast

sDegree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



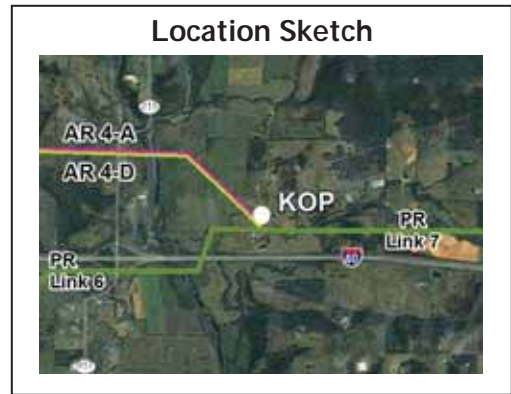
View south of PR crossing the Trail of Tears along SR 100, a scenic byway. View includes roadway, wood pole power lines lining both sides of road, and dense forest on both sides of road.

Region 4 PR Link 1 would be located in this view less than 0.2 miles south of this location crossing State Route 100. The Project would appear in the FG. Dense trees lining the roadway would obscure the base of the transmission line structures. Towers and lines would be noticeable, as they would cross very close to this point and over open roadway and would extend above the treelines. Presumably, there would be no landform change; however, vegetation changes would occur to accommodate the ROW through the densely tree-lined roadway. Construction and operation of the Project would result in strong visual contrast.

The visual sensitivity at this KOP is high as it represents a view from a national historic trail and scenic byway that is well travelled by recreationists. The visual impact at this location would be high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: AR 4-A, AR 4-D
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Trail of Tears Wire Road AR
Land Character Unit: Arkansas Valley
County, State: Franklin, Arkansas
Longitude: - 94.0250991
Latitude: 35.5327867

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to gently rolling	Vertical, regular	Vertical form of the existing lines; angular structures; horizontal road
Line	Horizontal slightly curving	Regular, vertical, straight	Angular, vertical, horizontal
Color	Brown, yellow	Yellow, brown, green	Gray, brown, black, yellow
Texture	Smooth to medium	Medium	Mixed/moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements would be regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View southwest from highway and national historic trail with rural, single-family residences nearby, and open fields in the FG.

AR 4-A and AR 4-D would be located less than 0.1 miles southwest of this viewpoint. The transmission line for the AR would appear as a tall row of geometric objects crossing the highway, historic trail, and open fields. The scale and form of the transmission line would be noticeably different from that of the existing structures due to its size and proximity to the viewpoint. Construction and operation of the Project for the AR would result in strong contrast at this location.

The visual sensitivity at this location is high, as it represents a view from a national historic trail. Since the level of contrast is strong, the visual impact would be high for the AR at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 6
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Trail of Tears Wire Road PR
Land Character Unit: Arkansas Valley
County, State: Franklin, Arkansas
Longitude: - 94.0250991
Latitude: 35.5327867

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to gently rolling	Vertical, regular	Vertical form of the existing lines; angular structures; horizontal road
Line	Horizontal slightly curving	Regular, vertical, straight	Angular, vertical, horizontal
Color	Brown, yellow	Yellow, brown, green	Gray, brown, black, yellow
Texture	Smooth to medium	Medium	Mixed/moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements would be regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



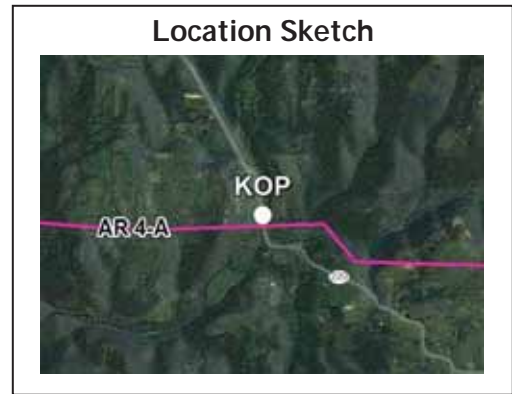
View southwest from highway and national historic trail with rural, single-family residences nearby, and open fields in the FG.

Region 4 PR Link 6 would be located 0.2 miles southwest of this viewpoint, where it would cross road. The transmission line for the PR would appear as a tall row of geometric objects crossing the highway, historic trail, and open fields. The scale and form of the transmission line would be noticeably different from that of the existing structures due to its size and proximity to the viewpoint. Construction and operation of the Project for the PR would result in strong contrast at this location.

The visual sensitivity at this location is high, as it represents a view from a national historic trail. Since the level of contrast is strong, the visual impact would be high for the PR at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: AR 4-A, 4-B, 4-C, and 4-D
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Uniontown Highway (Scenic Highway) AR
Land Character Unit: Boston Mountains
County, State: Crawford, Arkansas
Longitude: - 94.4297976
Latitude: 35.5522906

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling to flat to rolling	Dense to scattered to dense	Vertical, short
Line	Undulating	Irregular, vertical	Vertical
Color	Brown, yellow, green	Brown, yellow, green	Brown/rust
Texture	Moderate to coarse	Moderate to coarse	Uniform, fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Cleared area where the ROW would be located	Tall, vertical elements regularly spaced in a line
Line	No Change	Straight edges through trees	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



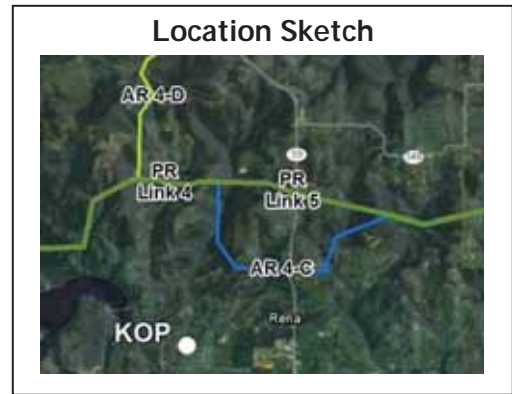
View south from the Uniontown Highway. Some rural, single-family residences in the area with open fields in the FG, dense trees in clusters.

AR 4-A would be located approximately 0.1 miles south of this viewpoint. The transmission line would appear as a tall row of lattice structures running perpendicular to the Uniontown Highway. The scale and form of the Project would be highly dominant relative to the existing low structures. There would also be straight edges along the ROW where the vegetation is cleared. Construction and operation of the Project would result in a strong contrast.

The visual sensitivity at this KOP is high, as it represents a scenic highway. Since the level of contrast is strong, the visual impact would be high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: Region 4
PR Link, AR, AC: PR Links 4 and 5; AR 4-C, AR 4-D
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Van Buren PR and AR
Land Character Unit: Arkansas Valley
County, State: Crawford, Arkansas
Longitude: -94.3794183
Latitude: 35.4777466

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling; small, meandering creek	Low grasses; scattered trees; some dense trees lines	Low, vertical power poles; one story residences and barns; bridge; fences
Line	Undulating, meandering creek	Horizontal grasses; rounded trees	Vertical power poles; horizontal fences; geometric houses and barns
Color	Brown	Yellow and green grasses; brown trees, some dark green evergreens	Light-brown poles; dark-brown houses; dark-brown, red, and gray barns; white fence; metallic gray guardrail
Texture	Moderate	Moderate	Mixed

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



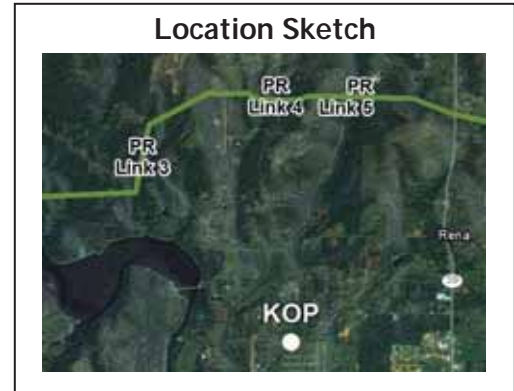
View northwest from residential neighborhood with single-family residences nearby. View includes open grassy fields, fences, small bridge, roadway, wood power poles, small corrugated metal barn, residences, scattered trees, and dense grove of trees.

Region 4 PR Link 4, PR Link 5, and AR 4-D would be about 2 miles, or further, north to northeast from this viewpoint. AR 4-C would be 1.1 miles northeast from this viewpoint. Views north and northeast toward these would be obscured by tall trees and terrain in the FG and MG. Consequently, construction and operation of the Project for PR Link 4, PR Link 5, AR 4-D, and AR 4-C would result in no visual contrast.

Because this is a rural residential area, the visual sensitivity at this KOP is high. Because there would be no visual contrast, there would be no visual impact.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: Region 4
PR Link, AR, AC: PR Link 3
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Van Buren PR
Land Character Unit: Arkansas Valley
County, State: Crawford, Arkansas
Longitude: -94.3794183
Latitude: 35.4777466

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling; small meandering creek	Low grasses; scattered trees; some dense trees lines	Low vertical power poles; one story residences and barns; bridge; fences
Line	Undulating, creek meandering	Horizontal grasses; rounded trees	Vertical power poles; horizontal fences; geometric houses and barns
Color	Brown	Yellow and green grasses; brown trees, some dark green evergreens	Light brown poles; dark brown houses; dark brown, red, and gray barns; white fence; metallic gray guardrail
Texture	Moderate	Moderate	Mixed

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Subtle vertical elements regularly spaced
Line	No Change	No Change	Subtle vertical elements create a line on the land
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



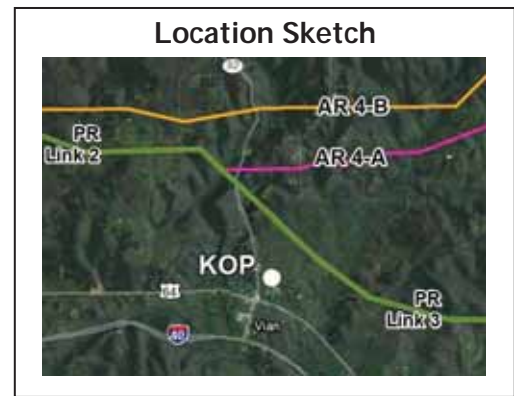
View northwest toward PR from near single family residences. View includes open grassy fields, fences, small bridge, roadway, wood power poles, small corrugated metal barn, residences, scattered trees, and dense grove of trees.

Region 4 PR Link 3 would be located approximately 1.8 miles northwest of this viewpoint. The PR would likely be obscured by tall trees and rolling terrain in the FG and MG. If structures are visible, only their top portions would be seen above the tree line as subtle gray vertical elements. Construction and operation of the Project would result in weak visual contrast.

Because this is a rural residential area, the visual sensitivity at this KOP is high. With weak visual contrast, the visual impact would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: AR 4-A, AR 4-B
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Vian AR
Land Character Unit: Arkansas Valley
County, State: Sequoyah, OK
Longitude: -94.9646476
Latitude: 35.5035875

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling; distant ridge	Low grasses and ag; scattered trees and tree lines; dense trees on ridge	Wood double pole power line; low power poles; one story residences; a few barn structures; fence; large transmission line in MG
Line	Slightly undulating	Horizontal grasses and ag; round trees	Vertical power poles; horizontal fence; rectilinear residences
Color	Brown	Yellow grasses and ag; light brown trees, dark green evergreens	Light brown power poles; tan, white and dark brown houses; tan barn
Texture	Moderate	Medium to course	Fine to moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View from northeast Vian looking north and northeast across open field with some scattered trees. Single-family residences nearby. Existing wood double pole transmission lines in FG. Large metal tower transmission line is barely visible in far MG or BG. Distant forested hills frame backdrop. Some residential structures and outbuildings are visible in FG or near MG.

AR 4-A and AR 4-B would be located north about 1.8 and 2.8 miles, respectively, from this point. Due to the distance, the structures would most likely not be visible. The dark green vegetation in the MG would obscure the base of the transmission structures and any vegetation clearing for the ROW. Construction and operation of the Project would result in weak contrast due to the distance and heavily forested areas.

The visual sensitivity at this KOP is high as it represents a view from residential areas. The visual impact at this location would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: PR Link 3
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Vian Lake PR
Land Character Unit: Boston Mountains
County, State: Sequoyah, Oklahoma
Longitude: - 94.9724094
Latitude: 35.519779

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to moderately steep	Irregular, dense	Tall, vertical
Line	Horizontal to diagonal	Horizontal, vertical	Vertical, straight
Color	Blue, yellow, brown	Brown, yellow	Gray, metallic
Texture	Moderate to coarse	Moderate to coarse	Uniform, moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Vegetation cleared in area of the ROW	Tall, vertical elements regularly spaced in a line
Line	No Change	Vertical and horizontal lines in the ROW	Vertical elements would appear as a row of tall, straight objects
Color	No Change	Expansion of yellow grasses	Light gray, metallic
Texture	No Change	Finer texture grasses	Moderate, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View northeast from the western edge of Vian Lake. There are recreational features in the area with dense vegetation surrounding the majority of the lake.

PR Link 3 would be located approximately 0.2 miles northeast of this viewpoint across the lake. The Project would parallel an existing transmission line visible in this view. The new lattice structures would be clearly visible from this viewpoint and most other locations around the lake. The form and line of the PR would be similar to the existing structures, but it would be taller, closer, and more noticeable than these. Clearing of vegetation would substantially change the form, line, color, and texture of vegetation in this view. Because vegetation would be removed from the expanded ROW, the existing structures would be more visible and the new PR structures would also be visible and attract attention. Construction and operation of the Project would result in strong contrast from this and other locations in the vicinity of the lake.

The visual sensitivity at this KOP is high, as it represents a view from a recreational area. Because the visual contrast is strong, the visual impact would be high at this location.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 1, 2014
Region: 4
PR Link, AR, AC: PR Link 3
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Vian PR
Land Character Unit: Arkansas Valley
County, State: Sequoyah, Oklahoma
Longitude: -94.9646476
Latitude: 35.5035875

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling; distant ridge	Low grasses and ag; scattered trees and tree lines; dense trees on ridge	Wood double pole power line; low power poles; one story residences; a few barn structures; fence; large transmission line in MG
Line	Slightly undulating	Horizontal grasses and ag; round trees	Vertical power poles; horizontal fence; rectilinear residences
Color	Brown	Yellow grasses and ag; light brown trees, dark green evergreens	Light-brown power poles; tan, white and dark brown houses; tan barn
Texture	Moderate	Medium to course	Fine to moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements would be regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View from northeast Vian looking north and northeast across open field with some scattered trees. Single-family residences nearby. Existing wood double pole transmission lines in FG. Large metal tower transmission line is barely visible in far MG or BG. Distant forested hills frame backdrop. Some residential structures and outbuildings are visible in FG or near MG.

Region 4 PR Link 3 would be located about 0.7 miles in the near MG at its closest point to this location. The Project would appear in the MG just past the closest line of scattered trees. The Project would parallel the existing Muskogee to Fort Smith 345kV line. There would be no noticeable landform or vegetation changes. Construction and operation of the Project would result in moderate contrast since the transmission line would be noticeably different in scale, form, and line from existing structures in the landscape.

The visual sensitivity at this KOP is high as it represents a view from residential areas. The visual impact at this location would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: Region 4
PR Link, AR, AC: PR Link 6
Evaluator(s): J. Donaldson/K. Siekmann
Key Observation Point: Vine Prairie Park PR
Land Character Unit: Arkansas Valley
County, State: Crawford, Arkansas
Longitude: -94.0610566
Latitude: 35.483885



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling; wide meandering water slough; distant ridges	Low grasses and scrub/shrub on banks; scattered trees; dense trees on banks and ridges	Bridge over water; large paved area; low rail fence
Line	Slightly undulating; gradual banks; curving waterline	Low horizontal grasses and scrub/shrub; strong tree line at banks	Horizontal bridge and rail fence
Color	Red brown and dark brown; murky green water	Yellow grasses; light brown scrub/shrub; brown trees; dark green evergreens	Gray and brown bridge
Texture	Moderate	Coarse	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Subtle vertical elements regularly spaced
Line	No Change	No Change	Subtle vertical elements
Color	No Change	No Change	Light gray
Texture	No Change	No Change	No change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View northwest from park and boat launch area. View includes parking area, bridge, slough, grassy area, signs, scattered trees in FG and dense trees along stream banks and on forested low rolling terrain. Terrain rises slightly toward the north and northwest.

Region 4 PR Link 6 would be located approximately 1.5 miles northwest of this viewpoint. The PR would likely be obscured by the terrain and tall trees in the FG and MG. If structures are visible, only the topmost portions would be seen above the treeline as subtle gray vertical elements. Construction and operation of the Project would result in weak visual contrast from this location.

Visual sensitivity at this location is high because this is a park. With weak visual contrast, the visual impact would be low at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: Region 4
PR Link, AR, AC: PR Link 7
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling; low distant ridge	Low grasses and recreational fields; dense tree lines; some scattered trees	Low wood power pole; low wood light posts; low utility sheds
Line	Slightly undulating	Strong tree lines; horizontal grasses	Vertical wood poles; rectilinear structures
Color	Dark brown	Yellow grasses; brown trees; some reddish brown trees; some dark green evergreens	Beige; brown; brown poles
Texture	Fine to moderate	Moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from park complex includes open grassy area, dense line of deciduous trees, forest ridge in distance, tall evergreen conifers in FG, tall single and double pole power line, and small shed. Baseball fields, picnic pavilions, and metal service buildings are nearby.

Region 4 PR Link 7 would be located approximately 2 miles north of this viewpoint. Views of the transmission line from this area would be obscured by terrain and tall trees. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a park near a substantial residential population. With no visual contrast, there would be no visual impact at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: AR 4-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: White Oak AR
Land Character Unit: Arkansas Valley
County, State: Franklin, Arkansas
Longitude: -93.8837575
Latitude: 35.5521898

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling	Low ag and grasses, scattered trees, dense tree lines	Fence, shed, power poles
Line	Slightly undulating	Horizontal ag and grasses, strong tree lines	Vertical power poles, horizontal fences, low geometric buildings
Color	Brown	Yellow ag and grasses, brown trees, dark green evergreens	Brown power poles, reddish brown fence posts, tan buildings
Texture	Fine	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from a small, rural road running between White Oak and Cravens. There are single family residences in the area.

AR 4-B would be located approximately 0.9 miles north of this viewpoint. Views of the transmission line from this area would be obscured by intervening topography and dense vegetation. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from residences. Because there is no visual contrast, there would be no visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: Region 4
PR Link, AR, AC: PR Link 7
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: White Oak Park PR
Land Character Unit: Arkansas Valley
County, State: Franklin, Arkansas
Longitude: -93.9621583
Latitude: 35.4927383

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling; wide meandering water slough; distant ridges	Low grasses and scrub/shrub on banks; dense trees on hill sides, banks, and ridges	Steps and dock
Line	Steep hillside; gradual banks; curving waterline	Low horizontal grasses and scrub/shrub; strong tree line at banks	Liner dock juts into water
Color	Brown; gray reflective water	Yellow grasses; light brown scrub/shrub; brown trees; dark green evergreens	Gray; light brown
Texture	Moderate	Coarse	Moderate against water

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



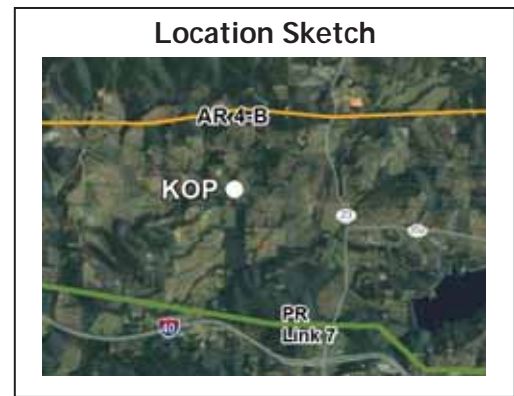
The park is at the edge of a lake surrounded by ridges and dense forest.

Region 4 PR Link 7 would be located approximately 3 miles to the north of this viewpoint. The transmission line would not be visible due to distance, terrain, and tall trees obscuring views to the north.

The visual sensitivity at this location is high, as it is a park. However, because there would be no contrast, there would be no visual impact at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 2, 2014
Region: 4
PR Link, AR, AC: PR Link 7
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: White Oak PR
Land Character Unit: Arkansas Valley
County, State: Franklin, Arkansas
Longitude: -93.8837575
Latitude: 35.5521898

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling	Low ag and grasses, scattered trees, dense tree lines	Fence, shed, power poles
Line	Slightly undulating	Horizontal ag and grasses, strong tree lines	Vertical power poles, horizontal fences, low geometric buildings
Color	Brown	Yellow ag and grasses, brown trees, dark green evergreens	Brown power poles, reddish brown fence posts, tan buildings
Texture	Fine	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



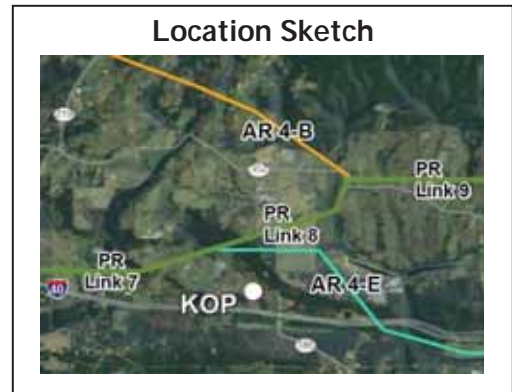
View south from a small, rural road running between White Oak and Cravens. There are single family residences nearby.

PR Link 7 would be located approximately 1.5 miles south of this viewpoint. Views of the transmission line from this area would be obscured by intervening topography and dense vegetation. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from residences. With no visual contrast, there would be no visual impact.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: Region 4
PR Link, AR, AC: AR 4-B
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Wiederkehr Village and Highway 186, AR 4-B
Land Character Unit: Arkansas Valley
County, State: Franklin, Arkansas
Longitude: -93.763129
Latitude: 35.5093548

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling; ridge in near MG	Low grasses and ag; dense tree lines	Low wood power poles; one story residences; small barns and sheds; fences
Line	Flat to slightly undulating	Strong tree lines; horizontal grasses and ag	Vertical wood poles; horizontal fences; geometric structures
Color	Brown	Yellow grasses and ag; brown trees; dark green evergreens	Beige, white, and brown houses; brown barns; light brown power poles and fence
Texture	Fine to moderate	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Small vertical elements
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



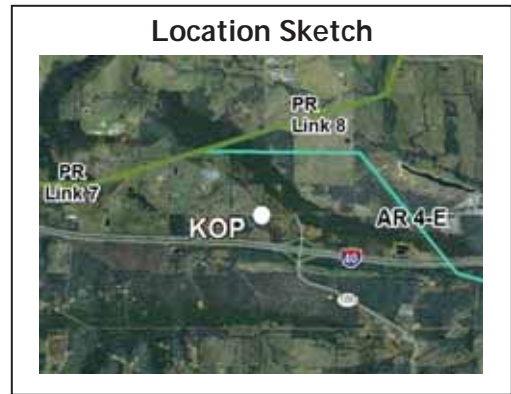
View from road looking northwest across an open field with dense forest beyond. View is from the road west of the northern terminus of Highway 186. View includes open grassy agricultural field, barbed wire fences, residence, small windmill, barn, and related structures. Forested low ridge is in MG. Several residences are in the vicinity.

Region 4 AR 4-B would be located approximately 3.4 miles to the northwest of this viewpoint. The transmission line would not likely be visible from this KOP due to terrain, tall trees, and distance. If it were visible, it would appear as a series of barely noticeable gray vertical forms extending above the trees in the BG. Construction and operation of the Project would result in weak visual contrast.

Because this represents views from nearby residences, the visual sensitivity at this KOP is high. With weak visual contrast, there would be low visual impact from this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: Region 4
PR Link, AR, AC: AR 4-E
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Wiederkehr Village and Highway 186, AR 4-E
Land Character Unit: Arkansas Valley
County, State: Franklin, Arkansas
Longitude: -93.763129
Latitude: 35.5093548

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling; ridge in near MG	Low grasses and ag; dense tree lines	Low wood power poles; one story residences; small barns and sheds; fences
Line	Flat to slightly undulating	Strong tree lines; horizontal grasses and ag	Vertical wood poles; horizontal fences; geometric structures
Color	Brown	Yellow grasses and ag; brown trees; dark green evergreens	Beige, white, and brown houses; brown barns; light brown power poles and fence
Texture	Fine to moderate	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced would form a boundary
Line	No Change	No Change	Tall, vertical elements would create an implied line on the land
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



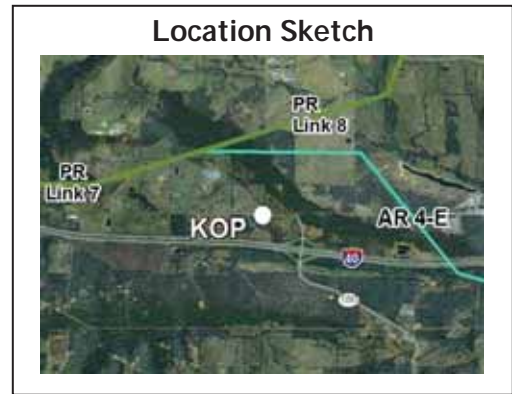
View from road west of northern terminus of Highway 186 looking northwest across open field with dense forest beyond. View includes open grassy agricultural field, barbed wire fences, residence, small windmill, barn, and related structures. Forested low ridge is in MG. Several residences are in the vicinity.

Region 4 AR 4-E would be located approximately 0.6 miles to the northwest of this viewpoint. The transmission line would be partially visible in front of the distant forested hill and would be somewhat noticeable extending above the ridgeline in this view. Construction and operation of the Project would result in weak visual contrast.

Because this KOP represents views from nearby residences, its visual sensitivity is high. With weak visual contrast, the visual impact would be low for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: Region 4
PR Link, AR, AC: PR Link 8
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Wiederkehr Village and Highway 186 PR Link 8
Land Character Unit: Arkansas Valley
County, State: Franklin, Arkansas
Longitude: -93.763129
Latitude: 35.5093548

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling; ridge in near MG	Low grasses and ag; dense tree lines	Low wood power poles; one story residences; small barns and sheds; fences
Line	Flat to slightly undulating	Strong tree lines; horizontal grasses and ag	Vertical wood poles; horizontal fences; geometric structures
Color	Brown	Yellow grasses and ag; brown trees; dark green evergreens	Beige, white, and brown houses; brown barns; light brown power poles and fence
Texture	Fine to moderate	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced
Line	No Change	No Change	Tall, vertical elements
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View from road looking northwest across open field with dense forest beyond. View is from road west of northern terminus of Highway 186. View includes open grassy agricultural field, barbed wire fences, residence, small windmill, barn, and related structures. Forested low ridge is in MG. Several residences are in the vicinity.

Region 4 PR Link 8 would be located approximately 0.7 miles northwest of this viewpoint. The transmission line could be partially visible in front of the distant forested hill and could be noticeable extending above the ridgeline in this view. Construction and operation of the Project would result in weak visual contrast.

Because this KOP represents views from nearby residences, its visual sensitivity is high. With weak visual contrast, the visual impact would be low for this location.

Visual Contrast Rating Worksheets- HVDC Transmission Line, Region 5

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Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 5
PR Link, AR, AC: AR 5-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Boy Scout Campground AR
Land Character Unit: Arkansas Valley
County, State: Van Buren, Arkansas
Longitude: -92.450413
Latitude: 35.3727505

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Dense trees	Pavilion
Line	Slightly undulating	Strong tree lines	Geometric
Color	Brown	Brown trees	Brow
Texture	Moderate	Moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



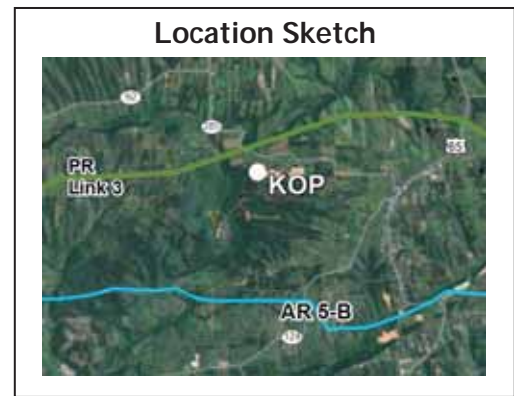
View south from the outer edge of the Boy Scout camp. The main campground and other recreational facilities are nearby, at a lower elevation, and surrounded by dense forest.

AR 5-B would be located 2.1 miles south of this viewpoint. The AR would not be visible from this area due to terrain and dense forest blocking the views. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a recreation area. Because there would be no visual contrast, there would be no visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 5
PR Link, AR, AC: PR Link 3
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Boy Scout Campground PR
Land Character Unit: Arkansas Valley
County, State: Van Buren, Arkansas
Longitude: -92.450413
Latitude: 35.3727505

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Dense trees	Pavilion
Line	Slightly undulating	Strong tree lines	Geometric
Color	Brown	Brown trees	Brown
Texture	Moderate	Moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



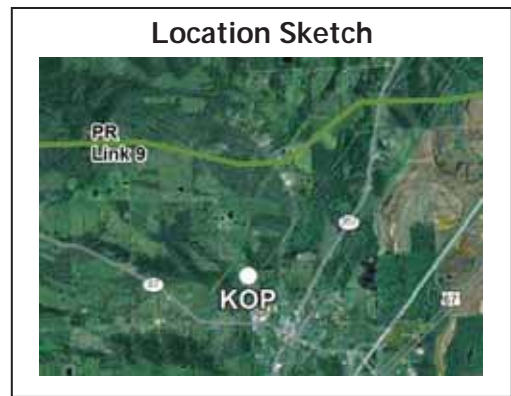
View of recreation area near the outer edge of the Boy Scout camp. The main campground and other recreational facilities are nearby, at a lower elevation, and surrounded by dense forest.

PR Link 3 would be located 0.5 miles north of this viewpoint. The PR would not be visible from this area due to terrain and dense forest blocking the views. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a recreation area. Because there would be no visual contrast, there would be no visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: PR Link 9
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Grasses, scattered trees, dense tree lines	Few single family residences
Line	Slightly undulating	Horizontal grasses, round and conical trees, strong tree lines	Geometric
Color	Brown	Yellow grasses, light brown trees, dark green evergreens	Tan, white, gray
Texture	Fine	Moderate	Fine to moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



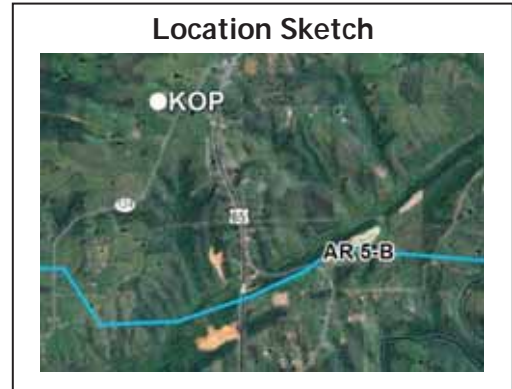
View northwest from a residential area north of the community.

Region 5 PR Link 9 would be located about 0.9 miles north of this viewpoint. The PR would not be visible from this area due to terrain and tall trees blocking the views. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because there would be no visual contrast, there would be no visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2013
Region: 5
PR Link, AR, AC: AR 5-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Damascus AR
Land Character Unit: Arkansas Valley
County, State: Van Buren, Arkansas
Longitude: -92.422028
Latitude: 35.3609551

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Scattered/uneven, varied heights	Varied heights, angular, rectilinear, scattered
Line	Slightly undulating	Vertical, varied	Vertical, angular, geometric
Color	Brown, yellow	Yellow, light brown, dark green	Brown, tan
Texture	Fine	Fine to moderate	Fine to moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View southwest from a residential area near the southern edge of the community.

Region 5 AR 5-B would be located about 1.5 miles south of this viewpoint. The AR would not be visible from this area due to terrain and dense forest blocking the views. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a recreation area. Because there would be no visual contrast, there would be no visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2013
Region: 5
PR Link, AR, AC: PR Link 3
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Damascus PR
Land Character Unit: Arkansas Valley
County, State: Van Buren, Arkansas
Longitude: -92.4092388
Latitude: 35.3746807

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling to rolling	Scattered/uneven, varied heights	Varied heights, angular, rectilinear, scattered
Line	Curving to undulating	Vertical, varied	Vertical, angular, geometric
Color	Brown, yellow	Green, orange, yellow, brown	Red, brown, tan, white
Texture	Medium	Fine to medium	Mixed/variable, moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



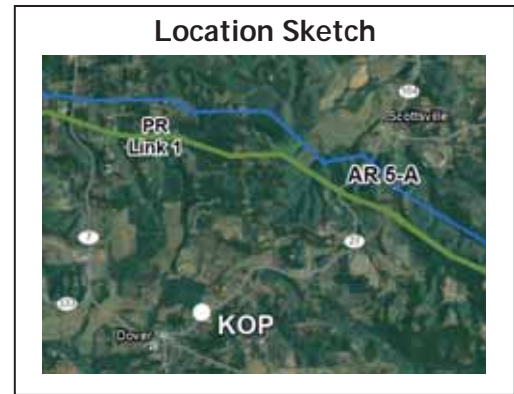
View north-northwest toward valley from Route 29 near the northern edge of community. Vegetation is widely scattered in the foreground and becomes denser in the distance.

Region 5 PR Link 3 would be located about 0.7 miles north from this viewpoint. The PR would be somewhat noticeable crossing Route 29 and open lands on the near side of distant trees. Towers and lines would extend and be visible above existing structures and tree lines, but would not be prominent in most views from the community. Its form and scale would be greater than other elements in the landscape. Changes to landform and vegetation would not be noticeable from this area. For these reasons, construction and operation of the Project would result in moderate visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is moderate, the visual impact would be moderate for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: Region 5
PR Link, AR, AC: PR Link 1, AR 5-A
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Dover and J.P. Lovelady Ball Park PR and AR
Land Character Unit: Arkansas Valley
County, State: Pope, Arkansas
Longitude: -93.1029886
Latitude: 35.4077391

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling, ridges in MG	Low grasses and ag, scattered trees, dense tree lines, dense trees on ridges	Low wood power poles, one story residences, fences
Line	Slightly undulating	Horizontal grasses and ag, round trees and strong tree lines	Vertical power poles, horizontal fences, geometric structures
Color	Brown	Yellow grasses and ag, light brown trees, dark green evergreens	White, beige, and brown houses; light brown wood power poles; brown fence posts
Texture	Moderate	Moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



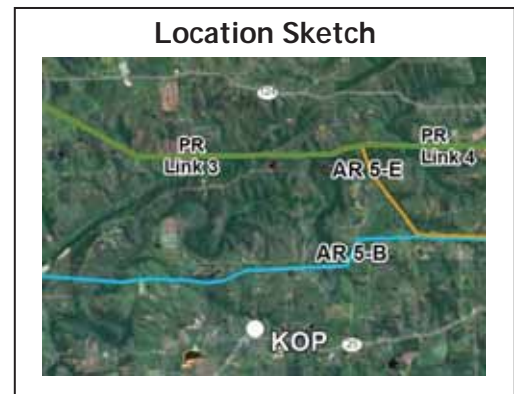
View north-northwest from park at north side of Dover community. View includes low forested ridge in distance, ag fields in valley, scattered trees, residences, wood power poles, roadway, and fences.

Region 5 PR Link 1 would be located about 2.8 miles at its closest point to this location, and AR 5-A would be located about 3.2 miles at its closest point to this location. Views of the either transmission line from this area would be obscured by intervening topography and dense vegetation. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a recreation area. Because there is no visual contrast, there would be no visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: PR Link 3, AR 5-B, AR 5-E
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Guy PR and AR
Land Character Unit: Arkansas Valley
County, State: Faulkner, Arkansas
Longitude: -92.3311738
Latitude: 35.3276361

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling	Grasses, ag, scattered trees, dense tree lines	Single family residences, wood power poles, fences
Line	undulating	Horizontal grasses, round and conical trees, strong tree lines	Vertical power poles, horizontal fences, geometric residences
Color	Brown	Yellow grasses, light brown trees, dark green evergreens	Light brown power poles, white, tan, brown houses, brown fence posts
Texture	Moderate	Moderate	Fine to moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from a residential area in the north central part of the community.

Region 5 PR Link 3 would be located about 2.8 miles north of this viewpoint. AR 5-B and AR 5-E would be located about 1 mile and 3 miles north of this location, respectively. Neither the PR nor the ARs would be visible from this area due to terrain and dense forest blocking the views. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because there would be no visual contrast, there would be no visual impact for this location.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 5
PR Link, AR, AC: PR Link 1, AR 5-A
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Hector PR and AR
Land Character Unit: Arkansas Valley
County, State: Pope, Arkansas
Longitude: -92.9750059
Latitude: 35.448357

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Very slightly rolling	Low grasses, dense tree line along roadway, scattered trees	Single family residences, power poles
Line	Slightly undulating	Horizontal grasses, strong tree lines, round trees	Geometric residences, vertical power poles
Color	Brown	Brown grasses, light brown trees	White, brick residences, brown power poles
Texture	Fine	Moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



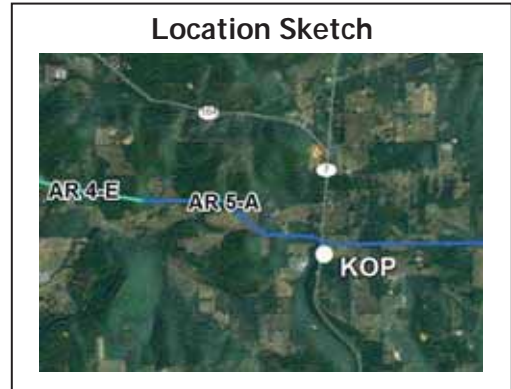
View south from near a residential area. Dense vegetation lines much of the road in this area.

Region 5 PR Link 1 would be about 2.5 miles south at the closest point to this location. AR 5-A would be located about 3 miles south from this viewpoint. Neither the PR nor AR would be visible from this area due to terrain and dense forest blocking the views. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. With no visual contrast, there would be no visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 5
PR Link, AR, AC: AR 5-A
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to gently Rolling	Scattered, various heights, regular	Short horizontal fences, Vertical transmission poles
Line	Curving/undulating	Rounded, varied	Vertical, straight
Color	Brown, clack, yellow	Yellow, brown, green	Brown, gray, rust
Texture	Medium to coarse	Medium to coarse	Moderate, mixed

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Open, rectilinear	Tall vertical elements regularly spaced in a line
Line	No Change	Straight edges	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate to coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



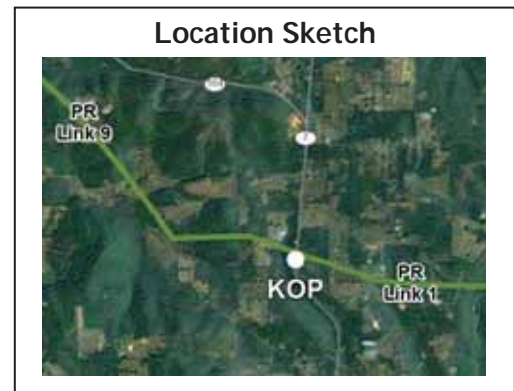
View north from the Highway 7 Scenic Byway. There are scattered, rural residences in the area.

AR 5-A would be located less than 0.1 miles north of this viewpoint. The dark green vegetation in the FG would obscure the base of the transmission line structures. Areas where vegetation is removed within the ROW corridor are likely to be noticeable. The tops of the structures would be clearly visible above the treeline. The form and line of the transmission line would be noticeably different from existing structures in the landscape. The scale of the structures would be large, and they would appear as a dominant feature in views of this area. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a scenic byway. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 5
PR Link, AR, AC: PR Link 1
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Highway 7 (Scenic Byway) PR
Land Character Unit: Arkansas Valley
County, State: Pope, Arkansas
Longitude: -93.1392632
Latitude: 35.4534724

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling	Tall, uniform, dense	Short, thin
Line	Curving	Straight, regular	Straight, smooth
Color	Black, brown, yellow	Green, orange, brown, yellow	Yellow, black green, gray
Texture	Moderate to coarse	Medium to coarse	Uniform, smooth

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Some removal of vegetation for ROW	Tall vertical elements regularly spaced in a line
Line	No Change	Straight edges	Vertical straight elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate to coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



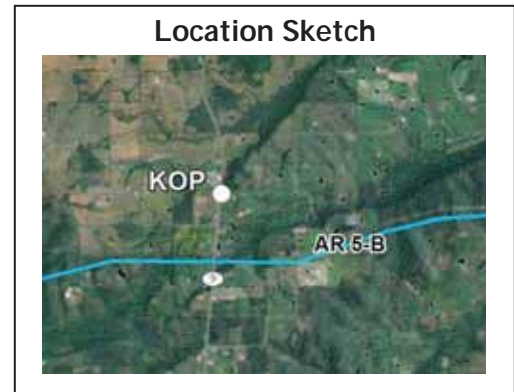
View north from the Highway 7 Scenic Byway. Dense forests on both sides of the road may partially screen some views of PR.

Region 5 PR Link 1 would be located less than 0.1 miles north from this viewpoint. The PR would cross over Highway 7 at a slight angle from perpendicular. The dark green vegetation in the FG would obscure the lower portions of the transmission line structures. Areas where vegetation is removed within the ROW corridor would be noticeable close to the ROW; for more distant views, the dense vegetation would screen these areas. The tops of the structures would be clearly visible above the treeline. The form and line of the transmission line would be noticeably different from existing structures in the landscape. The scale of the structures would be large, and they would appear as dominant features in views of this area. For these reasons, construction and operation of the Project would result in strong visual contrast.

The visual sensitivity at this KOP is high, as it represents a view from a scenic byway. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: AR 5-B
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Highway 9 Scenic Highway AR
Land Character Unit: Arkansas Valley
County, State: Van Buren, Conway, Arkansas
Longitude: -92.5638893
Latitude: 35.3486764

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Low grasses and ag, scattered trees, dense tree lines	One story residences, metal and wood barns, low wood power poles, fences
Line	Slightly undulating	Horizontal grasses and ag; round trees, strong tree line in distance	Vertical power poles, horizontal fences, rectilinear houses and barns
Color	Brown	Yellow grasses and ag, light brown trees, dark green evergreens	White, beige, and brown houses and barns; light brown power poles; reddish brown fence posts
Texture	Fine	Fine to moderate	Fine to moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	Some removal of ROW vegetation in horizontal line	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



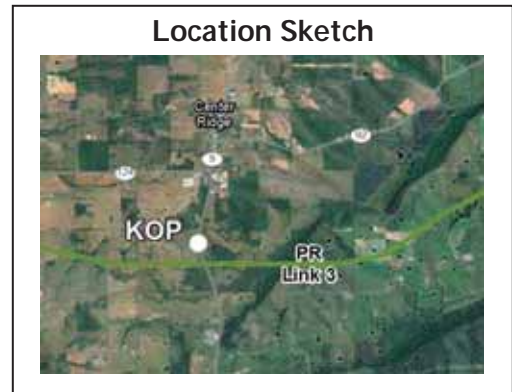
View south toward AR from scenic highway. View includes low rolling terrain, low forested ridge, scattered trees, grassy open fields, fences, residences, barns, sheds, wood power poles, roadway, and small commercial business with sign.

Region 5 AR 5-B would be located a little over 0.5 miles south from this viewpoint in the near MG. The Project would be noticeable where it crosses over Scenic Highway Route 9 and traverses open fields with scattered trees. Towers and lines would extend above the tops of trees, be taller than other vertical features, and introduce a prominent new feature into the landscape. Changes to landform would not be evident from this location, and some clearing of vegetation could be slightly visible. For these reasons, construction and operation of the Project would result in moderate visual contrast.

Visual sensitivity at this KOP is high because it represents views from a scenic highway. Because the visual contrast is moderate, the visual impact would be moderate for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: PR Link 5
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Highway 9 Scenic Highway PR
Land Character Unit: Arkansas Valley
County, State: Conway County, Arkansas
Longitude: -92.5662183
Latitude: 35.3618129

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Low grasses and ag, scattered trees, dense tree lines	One story residences, metal and wood barns, low wood power poles, fences
Line	Slightly undulating	Horizontal grasses and ag, round trees, strong undulating tree line in FG	Vertical power poles, horizontal fences, rectilinear houses and barns
Color	Brown	Yellow grasses and ag, light brown trees, dark green evergreens	Blue, beige, brown houses and barns; light brown power poles; reddish brown fence posts
Texture	Fine	Moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Some removal of vegetation for ROW is rectilinear	Tall vertical elements regularly spaced in a line
Line	No Change	Straight vertical and horizontal lines from vegetation removal	Vertical elements will appear as a straight row of tall objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



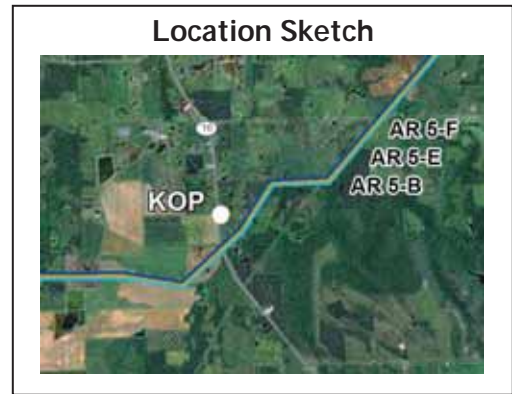
View south toward PR along scenic highway. View includes scattered trees, dense forest, roadway, open grassy area, wood power poles, and fences.

Region 5 PR Link 5 would cross over Scenic Highway Route 9 about 0.2 miles south of this location. The Project would be highly noticeable crossing the highway, open fields, and trees and be a dominant feature in views from the highway. Towers and lines would extend well above the tops of trees, be much taller than other vertical features, and introduce a prominent new feature in the landscape. Changes to landform would not be evident from this location; however, some clearing of vegetation would be noticeable. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a scenic highway. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: AR 5-B, AR 5-E, AR 5-F
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to gently rolling	Varied heights, scattered; open in foreground to more dense in background	Vertical, varied
Line	Smooth to slightly curving	Irregular, vertical, varied	Vertical, geometric
Color	Brown, yellow	Brown, yellow	Brown, black, yellow
Texture	Smooth to medium	Medium to coarse	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Mass of trees would be slightly smaller	Tall vertical elements regularly spaced form a boundary
Line	No Change	Edge of trees will change slightly	Tall vertical elements create an implied line on the land
Color	No Change	No change	Light gray, metallic
Texture	No Change	No change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



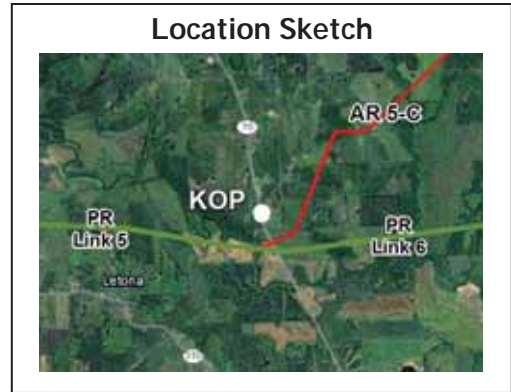
View south from the Highway 16 scenic highway. View includes a flat plain with open fields, patches of dense trees, the roadway, low wood power poles, and fences. A low ridge is visible in the distance.

Region 5 AR 5-B, AR 5-E, and AR 5-F would cross the highway and open fields at an angle in front of the trees a little over 0.2 miles southeast of this viewpoint. The transmission line would be a prominent element traversing the open fields in the FG and silhouetted against the dark green trees and sky. The structures would be dominant vertical elements in the rural and natural landscape. Areas where vegetation is removed within the ROW corridor would be somewhat noticeable in the FG. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a scenic highway. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: AR 5-C
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Highway 16 Scenic Highway AR 5-C
Land Character Unit: Arkansas Valley
County, State: White, Arkansas
Longitude: -91.8056916
Latitude: 35.3707951

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling, low distant ridges	Low grasses, scattered trees, dense trees on ridges	Low wood power poles, fences
Line	Slightly undulating	Horizontal grasses, round tree	Horizontal fences, vertical power poles
Color	Brown	Yellow grasses, light brown trees, dark green evergreens	Light brown power poles and fence posts
Texture	Fine	Fine	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Some removal of vegetation for ROW	Tall vertical elements regularly spaced form a boundary
Line	No Change	No Change	Tall vertical elements create an implied line on the land
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View south from the Highway 16 scenic highway. View includes low ridges, broad valley, open fields, and fences.

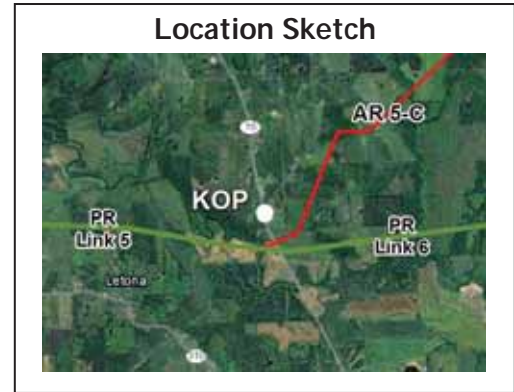
Region 5 AR 5-C crosses the highway and open fields a little less than 0.3 miles southeast of this viewpoint. The transmission line would be a prominent element traversing the open fields in the FG and silhouetted against dark green trees and the sky. The structures would be dominant vertical elements in the rural and natural landscape. Areas where vegetation is removed within the ROW corridor are likely

to be somewhat noticeable. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a scenic byway. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: PR Link 6
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Highway 16 Scenic Highway PR
Land Character Unit: Arkansas Valley
County, State: White, Arkansas
Longitude: -91.8056916
Latitude: 35.3707951

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling, low distant ridges	Low grasses, scattered trees, dense trees on ridges	Low wood power pole, fences
Line	Slightly undulating	Horizontal grasses, round tree	Horizontal fences, vertical power poles
Color	Brown	Yellow grasses, light brown trees, dark green evergreens	Light brown power poles and fence posts
Texture	Fine	Fine	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Some removal of vegetation for ROW	Tall vertical elements regularly spaced form a boundary
Line	No Change	No Change	Tall vertical elements create an implied line on the land
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



S



View south from the Highway 16 scenic highway. View includes low ridges, broad valley, open fields, and fences.

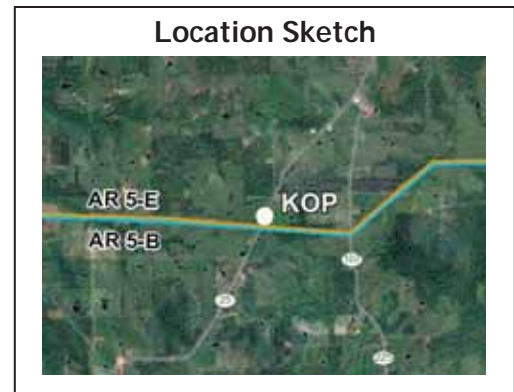
Region 5 PR Link 6 would cross the highway and open fields a little over 0.3 miles southeast of this viewpoint. The transmission line would be a prominent element traversing the open fields in the FG and silhouetted against dark green trees and the sky. The structures would be dominant vertical elements in the rural and natural landscape. Areas where vegetation is removed within the ROW corridor are likely

to be somewhat noticeable. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a scenic byway. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: AR 5-B, AR 5-E
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Highway 25 Scenic Highway AR
Land Character Unit: Arkansas Valley
County, State: Faulkner, Oklahoma
Longitude: -92.2456794
Latitude: 35.3465988

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to gently Rolling	Scattered, varied heights, Irregular	Medium, vertical power poles; low geometric structures
Line	Smooth, slightly curving	Vertical, varied, irregular	Vertical, horizontal, angular, straight
Color	Brown, yellow, tan	Brown, yellow, green	Brown
Texture	Medium	Medium to coarse	Moderate to coarse

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Some removal of vegetation for ROW	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



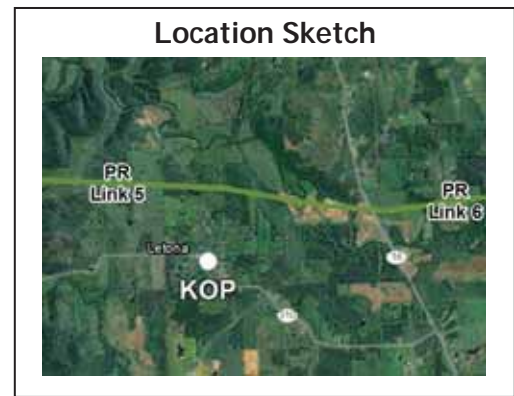
View south from the Highway 25 scenic highway. There are scattered rural residences and commercial buildings nearby and scattered to dense vegetation on both sides of the road.

Region 5 AR 5-B and AR 5-E would cross the highway about 0.1 miles south of this viewpoint. The structures would be clearly visible above the trees. The form and line of the transmission line would be noticeably different from existing structures in the landscape. The scale of the structures would be large, and they would appear as a dominant feature in views of this area. Areas where vegetation is removed within the ROW corridor are likely to be somewhat noticeable. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a scenic highway. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: PR Link 5
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to gently rolling	Low grasses, scattered trees	One story residences, sheds, wood power poles, fences
Line	Flat	Horizontal grasses; round tree	Vertical power poles, horizontal fences, rectilinear houses and barns
Color	Brown	Yellow grasses, light brown trees, dark green evergreens	White, yellow and brown houses and barns; light brown power poles, brown fences
Texture	Fine	Fine	Moderate and mixed variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View north from residential area near center of community. View includes scattered trees, residences, roads, and wood power poles.

Region 5 PR Link 5 would be located approximately 0.6 miles north of this viewpoint. The residential structures in the FG and dense vegetation in the BG would obscure views of the lower portions of the transmission structures and any vegetation that would be removed within the corridor. The tops of the structures would be visible above the treeline. The form, line, and scale of the transmission line would be noticeably different from existing structures in the landscape and the structures would introduce a dominant feature into views from the community. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is strong, the visual impact would be moderately high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 5
PR Link, AR, AC: PR Link 1, PR Link 2, AR 5-A
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Pope Co. Residential Cluster PR and AR
Land Character Unit: Arkansas Valley
County, State: Pope, Arkansas
Longitude: -92.969324
Latitude: 35.3935392

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling, ridges in near MG	Low grasses, scattered trees, dense trees on ridges	Low wood power poles, one story residences, fences
Line	Undulating	Horizontal grasses, round trees and strong tree lines	Vertical power poles, horizontal fences, geometric structures
Color	Brown	Yellow grasses, light brown trees, dark green evergreens	White, beige, and brown houses; light brown wood power poles; brown fence posts
Texture	Moderate	Moderate	Fine to moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



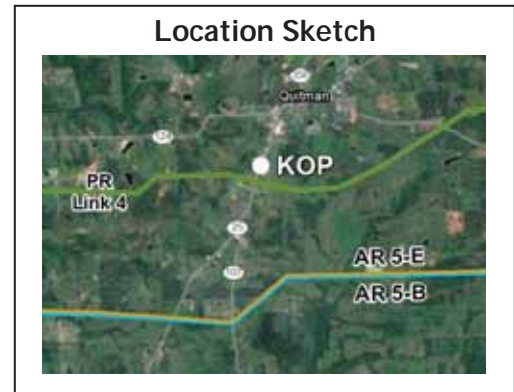
View north-northwest from near a small church and residences. View includes wood power poles, residences, open grassy field, scattered trees, forested low hills and ridges.

Region 5 PR Link 1, PR Link 2, and AR 5-A would be located approximately 0.8 miles north of this viewpoint. Views of the transmission lines from this area would be obscured by intervening topography and dense vegetation. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from residences. Because there is no visual contrast, there would be no visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: AR 5-B, AR 5-E
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling; distant ridges	Low grasses, scattered trees, dense tree lines, dense trees on ridges	One story residences, metal barns, low wood power poles, fences
Line	Slightly undulating	Horizontal grasses, round tree	Vertical power poles, horizontal fences, rectilinear houses and barns
Color	Brown	Yellow grasses, light brown trees, dark green evergreens	White, red, beige, and brown houses and barns; light brown power poles; white fences
Texture	Fine	Moderate	Moderate and mixed variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Small elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View south from south edge of community. Residences, church, and commercial buildings are nearby. View includes low hills and ridges in distance, forested areas on distant slopes, scattered trees, open field, roadway, wood power poles, residences, metal buildings and sheds, signs, and fences.

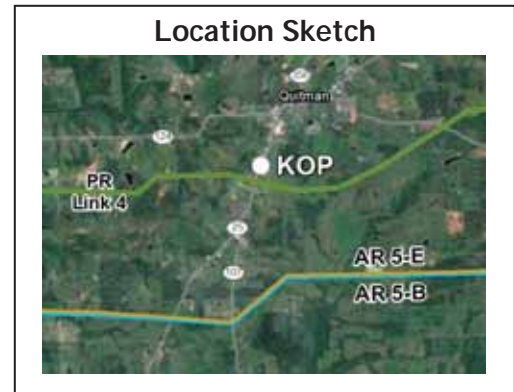
Region 5 AR 5-B and AR 5-E would be located about 1.4 miles south of this viewpoint. Some structures would be barely visible above the trees. The scale of the structures would be small, and they would not be very noticeable in views from this area. For these reasons, construction and operation of the Project would result in weak visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because there is weak visual contrast, the visual impact would be low for this location.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: PR Link 4
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling, distant ridges	Low grasses, scattered trees, dense tree lines, dense trees on ridges	One story residences, metal barns, low wood power poles, fences
Line	Slightly undulating	Horizontal grasses, round tree	Vertical power poles, horizontal fences, rectilinear houses and barns
Color	Brown	Yellow grasses, light brown trees, dark green evergreens	White, red, beige, and brown houses and barns; light brown power poles; white fences
Texture	Fine	Moderate	Moderate and mixed

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Some removal of vegetation for ROW	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical, straight elements in a row
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View south from south edge of community. Residences, church, and commercial buildings are nearby. View includes low hills and ridges in distance, forested areas on distant slopes, scattered trees, open field, roadway, wood power poles, residences, metal buildings and sheds, signs, and fences.

Region 5 PR Link 4 would cross the highway about 0.2 miles south of this viewpoint. Towers and lines would be very prominent crossing the open field on the near side of residences and extending above the trees and existing structures. The form and line of the transmission structures would be noticeably different from existing structures in the landscape. The scale of the structures would be large, and they would appear as dominant feature in views of this area. Areas where vegetation is removed within the ROW corridor may be somewhat noticeable. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is strong, the visual impact would be high for this location.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: PR Link 4, AR 5-B, AR 5-E, AR 5-F
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Rose Bud City Park PR and AR
Land Character Unit: Arkansas Valley
County, State: White, Arkansas
Longitude: -92.0793944
Latitude: 35.3293567

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Grasses, scattered trees, dense trees in the distance	Light posts, fences, pavilions, ball field, single story residences, large garages
Line	Horizontal to slightly undulating	Horizontal grasses, round and conical trees	Vertical light post, horizontal fences, geometric pavilions, house and garages
Color	Brown	Yellow grasses, brown trees, dark green evergreens	Gray light post, gray fences, yellow, blue, brown, tan building structures
Texture	Fine	Moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



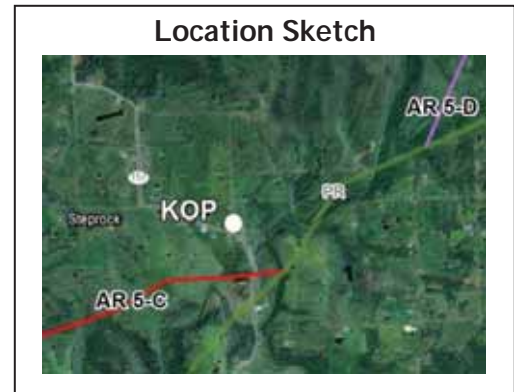
View north from a city park near the southern edge of the community. View includes scattered dark green trees in FG and dark vegetation in distance. Picnic pavilions, fencing, light poles, and other structures are also visible.

Region 5 PR Link 4 is located approximately 3.4 miles north of this viewpoint. AR 5-B, AR 5-E, and AR 5-F are located approximately 2.1 miles north of this viewpoint. Views of the PR and ARs from this area would be obscured by tall trees and terrain. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a community park. Because there would be no visual contrast, there would be no visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: AR 5-C
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Steprock AR
Land Character Unit: Arkansas Valley
County, State: White, Arkansas
Longitude: -91.6744351
Latitude: 35.4262912

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling; distant ridge	Low grasses and ag, scattered trees, dense tree lines, dense trees on ridge	One story residences, sheds, wood power poles, fences, large 500kV transmission lines
Line	Undulating	Horizontal grasses, round trees	Vertical power poles, horizontal fences, rectilinear houses and sheds, tall geometric transmission towers
Color	Brown	Yellow grasses and ag, light brown trees, dark green evergreens	White, beige, red and brown houses and sheds, light brown power poles, reddish brown fence posts, gray transmission towers
Texture	Fine	Moderate	Moderate and mixed variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	No change
Texture	No Change	No Change	No change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



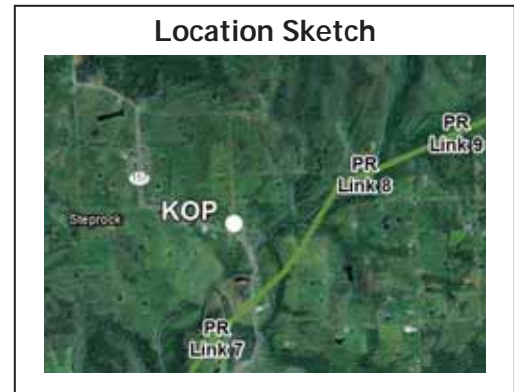
View south-southeast from community. View includes flat and gently rolling terrain, forested area, scattered trees, open grassy fields, a 500 kV transmission line, wood power poles, residences, sheds, and fences.

Region 5 AR 5-C would be located a little over 0.4 miles south from this location. The existing Independence (AR) to Genpower Keo 500kV transmission line is less than 0.2 miles from this viewpoint and is a dominant element in this view. Towers and lines of the AR would be visible above the trees; however, they would be subordinate to the existing structures in the FG. Changes to landform and vegetation would not be visible from this location. For these reasons, construction and operation of the Project would result in weak visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is weak, the visual impact would be moderate for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: PR Link 7, Link 8
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Steprock PR
Land Character Unit: Arkansas Valley
County, State: White, Arkansas
Longitude: -91.6744351
Latitude: 35.4262912

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling, distant ridge	Low grasses and ag, scattered trees, dense tree lines, dense trees on ridge	One story residences, sheds, wood power poles, fences, large 500kV transmission lines
Line	Undulating	Horizontal grasses, round trees	Vertical power poles, horizontal fences, rectilinear houses and sheds, tall geometric transmission towers
Color	Brown	Yellow grasses and ag, light brown trees, dark green evergreens	White, beige, red and brown houses and sheds; light brown power poles; reddish brown fence posts; gray transmission towers
Texture	Fine	Moderate	Moderate and mixed variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



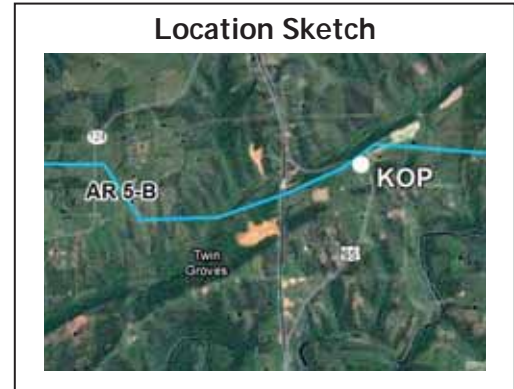
View south-southeast from community. View includes flat and gently rolling terrain, forested area, scattered trees, open grassy fields, a 500kV transmission line, wood power poles, residences, sheds, and fences.

Region 5 PR Link 7 and Link 8 would be located about 0.6 miles south from this location. The existing Independence (AR) to Genpower Keo 500kV transmission line is less than 0.2 miles from this viewpoint and is a dominant element in this view. Towers and lines of the AR would be visible above the trees; however, they would be subordinate to the existing structures in the FG. Changes to landform and vegetation would not be visible from this location. For these reasons, construction and operation of the Project would result in weak visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is weak, the visual impact would be low for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: AR 5-B
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling	Tall, clumped/uneven, dense in background	Low vertical
Line	Downward curving	Rounded, irregular	Vertical, geometric, straight
Color	Brown, yellow	green, orange, yellow, brown	Yellow, black, green, brown
Texture	Medium to coarse	Coarse, varied	Fine, variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Some removal of vegetation for ROW	Tall vertical elements regularly spaced in a line
Line	No Change	Straight vertical and horizontal lines from vegetation removal	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View northwest from near rural residences near the north edge of community.

Region 5 AR 5-B would be located less than 0.1 miles northwest of this viewpoint. Although dense trees line the roadway, towers and lines would be visible crossing the roadway and extending above the trees. The tops of the structures would be clearly visible above the treeline. The form and line of the transmission line would be noticeably different from existing structures in the landscape. The scale of the structures would be large, and they would appear as dominant features in views in this area. The lower portions of the transmission line structures would be obscured by the dense vegetation. The AR would be a dominant element in views in this area. It is unlikely that landform changes would be evident; however, vegetation clearing is likely to be visible for views near the ROW. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: PR Link 3
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling	Tall, clumped/uneven, dense in background	Vertical
Line	Downward curving	Straight, vertical, irregular	Vertical, geometric
Color	Brown, yellow	Green, orange, yellow, brown	Yellow, black, green, brown
Texture	Medium to coarse	Coarse, varied	Moderate, mixed/variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



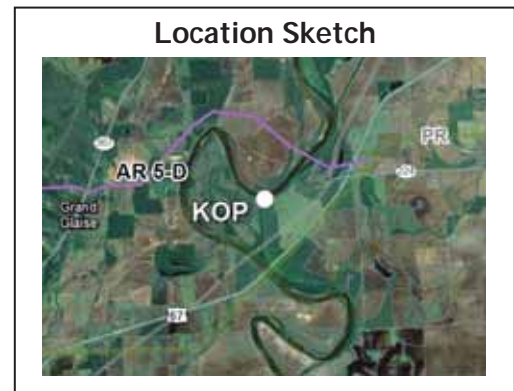
View northwest from near rural residences near the north edge of community.

Region 5 PR Link 3 would be located about 3 miles north of this viewpoint. The PR would not be visible from this area due to terrain and dense forest blocking the views. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a recreation area. Because there would be no visual contrast, there would be no visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: AR 5-D
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: White River AR
Land Character Unit: Mississippi Alluvial Plain
County, State: Jackson, Arkansas
Longitude: - 91.3500297
Latitude: 35.4848674

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat (water) to steep (banks)	Clumped to scattered, varied heights, dense	Tubular, angular, horizontal bridge
Line	Horizontal to diagonal	Straight, vertical, varied	Angular, other
Color	Blue, brown, yellow	Brown, green, yellow	White, gray, black
Texture	Smooth to medium to coarse	Medium to coarse	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Swathe of vegetation removed	Tall vertical elements regularly spaced form a boundary
Line	No Change	Cleared corridor will form sharp edge	Tall vertical elements create an implied line on the land
Color	No Change	No Change	Light gray, metallic
Texture	No Change	Moderate	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View northeast from south bank of river near Jackson Road 177. View includes flat water surface and low, fine-textured vegetation on both sides of the river.

AR 5-D would be located approximately 1.0 mile northeast of this viewpoint. The open land with low, fine-textured vegetation would allow extensive views of the AR. The transmission line would appear as a row of tall metal objects crossing flat, open land and the river. The form and scale of the transmission line would attract viewers' attention and result in it being a dominant feature in this landscape. Vegetation clearing in the ROW would create some linear open areas and straight edges that would be noticeable. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is moderate because it represents views from a major waterbody. Because the visual contrast is strong, the visual impact would be moderate for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 5
PR Link, AR, AC: PR Link 9
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat (river) to steep (banks)	Dense, regular, varied	Horizontal (bridge)
Line	Smooth to diagonal	Rounded, horizontal	Horizontal
Color	Blue, brown, tan	Brown, green, yellow	Gray, white, black
Texture	Smooth to coarse	Fine	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Rectilinear where vegetation is cleared for ROW	Tall vertical elements regularly spaced in a line
Line	No Change	Straight edges	Vertical, straight elements in line
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



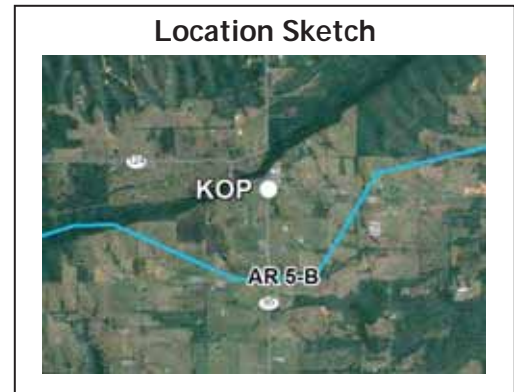
View southeast from Highway 67 bridge over the White River. View includes open water, sloping riverbanks, and a mix of dense trees fine-textured vegetation on both sides of the river.

PR Link 9 would be located about 300 feet southeast of this viewpoint and runs parallel to the bridge and highway. Because of its close proximity to the highway, the PR would be highly visible and a dominant element in views from the highway. The transmission line would appear as a row of tall metal objects crossing flat, open land and the river. The form and scale of the transmission line would attract viewers' attention and result in it being a dominant feature in this landscape. Vegetation clearing in the ROW would create some linear open areas and straight edges that would be noticeable. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is moderate because it represents views from a major waterbody. Because the visual contrast is strong, the visual impact would be moderately high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 5
PR Link, AR, AC: AR 5-B
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Wonderview School AR
Land Character Unit: Arkansas Valley
County, State: Conway, Arkansas
Longitude: -92.7306592
Latitude: 35.3265419

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling; distant ridge	Low grasses; scattered trees; dense trees on ridges	Low wood power poles; one story residences
Line	Slightly undulating;	Horizontal grasses; round trees and strong tree lines	Vertical power poles; geometric structures
Color	Brown	Yellow grasses; light brown trees; dark green evergreens	White, beige, red, and brown houses; light brown wood power poles; brown fence posts
Texture	Fine to moderate	Fine	Fine and mixed

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View south-southwest from school and nearby residences. View includes open fields, low gently rolling terrain, forested areas, rows of evergreen trees along roadway, road, scattered trees, residences, graded area for development, wood power poles, a barn, and street signs.

Region 5 AR 5-B would be located about 0.7 miles south from this viewpoint. The Project would be noticeable crossing over Highway 95 and traversing open fields with scattered trees. Towers and lines would extend above the tops of distant trees, be taller than other vertical features, and introduce a prominent new feature in the landscape. Changes to landform or vegetation would not be evident from this location. For these reasons, construction and operation of the Project would result in moderate visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is moderate, the visual impact would be moderate for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 5
PR Link, AR, AC: PR Link 3
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Wonderview School PR
Land Character Unit: Arkansas Valley
County, State: Conway, Arkansas
Longitude: -92.73025
Latitude: 35.3287292

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling, distant ridges	Dense tall trees in immediate FG	Some distant structures
Line	Undulating, steep drop off	Vertical trees	Distant rectilinear
Color	Brown	Light brown trees, dark green evergreens	Light
Texture	Moderate	Moderate to coarse	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Small vertical elements regularly spaced
Line	No Change	No Change	Straight horizontal line of elements
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from school and nearby residences. View is mostly screened by FG trees and dense vegetation, with some intermittent views of the broad valley below, some distant structures, some cleared patches, and heavily forested low rolling hills and ridges.

Region 5 PR Link 3 would be located about 1.8 miles north from this viewpoint. Due to its distance and intervening terrain and dense trees, the Project would not be easily visible and is unlikely to be noticeable from this area. Although structures would extend above the tops of distant trees, where visible, the PR would appear as a line of small regularly spaced elements in the landscape. Changes to landform or vegetation would not be evident from this location. For these reasons, construction and operation of the Project would result in weak visual contrast.

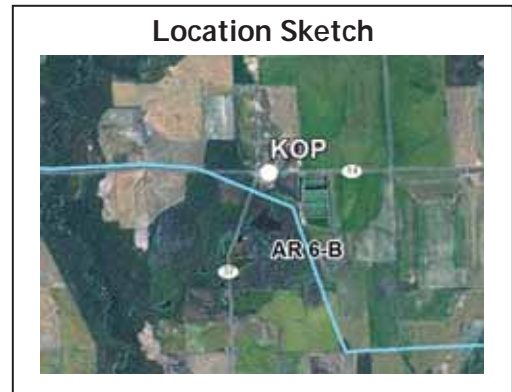
Visual sensitivity at this KOP is high because it represents views from a residential area. Because there would be weak visual contrast, the visual impact would be low for this location.

Visual Contrast Rating Worksheets- HVDC Transmission Line, Region 6

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Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 6
PR Link, AR, AC: AR 6-B
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Amagon AR
Land Character Unit: Mississippi Alluvial Plain
County, State: Jackson, Arkansas
Longitude: -91.1092894
Latitude: 35.5617462

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low grasses; scattered trees; dense forested tree lines	Wood power poles; one story residences and sheds in FG; fences
Line	Horizontal	Horizontal grasses; strong tree lines; round trees	Vertical power poles; rectilinear structures; horizontal fences
Color	Brown	Yellow grasses; light brown trees; dark green evergreens	Light brown power poles; beige, tan, white, red and brown residences; gray metal fence
Texture	Fine	Medium	Medium

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Medium, coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View west from center of community. View includes residences, commercial buildings, wood power poles, sheds, signs, fences, roadways, scattered trees and shrubs.



View south-southwest from center of community.

Region 6, AR 6-B would be located about 0.2 miles south and about 0.4 miles west of this viewpoint.

The AR would be visible and very noticeable in FG views from residences in the community. Towers and lines would be noticeable as they cross the highway to the west. Towers and lines would extend above the tree lines to the south when not obstructed by trees and structures in the immediate FG. The AR structures would be similar in line and color to the existing H-frame 161kV transmission line it would parallel south and west of the community; however, the AR would be taller and more dominant in form than the existing transmission line. Changes to vegetation and landform would not be apparent in views from this area. For these reasons, construction and operation of the Project would result in moderate visual contrast.

Visual sensitivity for this KOP is high because it represents views from a residential area. Because the visual contrast is moderate, the visual impact would be moderately high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: 6
PR Link, AR, AC: PR Link 6
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Varied heights, scattered to more dense in certain areas	Vertical (existing telephone poles)
Line	Horizontal	Irregular, varied	Vertical
Color	Brown, yellow	Brown, yellow	Brown
Texture	Smooth to medium	Medium	Uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine to moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



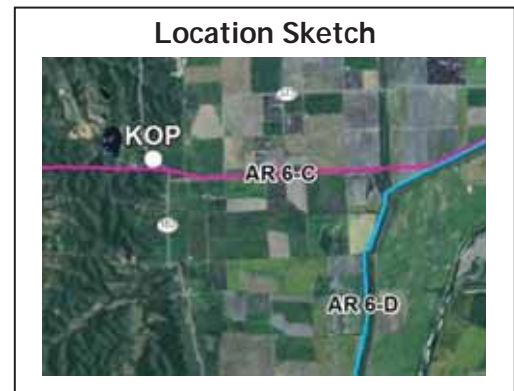
View north from the north edge of Cherry Valley. The view includes open fields in the FG, dense trees, a few low structures, and a power line. There are single family residences nearby.

Region 6 PR Link 6 is located approximately 0.9 miles north of this viewpoint. The dark green/brown vegetation in the MG would obscure the base of the transmission line structures and any vegetation that would be removed within the corridor. The tops of the structures would be clearly visible above the treeline. The form and scale of the transmission line would be noticeably different from the existing single-pole transmission line in the view by being larger, with taller and wider structures. The PR would introduce a prominent new feature in the landscape. For these reasons, construction and operation of the Project would result in moderate visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is moderate, the visual impact would be moderate for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: 6
PR Link, AR, AC: AR 6-C, AR 6-D
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Crowley's Ridge Scenic Byway AR
Land Character Unit: Mississippi Valley Loess Plains
County, State: Poinsett, Arkansas
Longitude: -90.6794
Latitude: 35.468

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Scattered, clumped	Short, vertical (existing power poles)
Line	Horizontal	Vertical, varied	Vertical, straight
Color	Brown, yellow	Brown	Brown
Texture	Smooth	Medium	Uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Area of vegetation removed	Tall vertical geometric elements regularly spaced
Line	No Change	Cleared corridor will form sharp edge	Tall vertical elements in straight line
Color	No Change	Lighter grasses will replace darker green trees	Light gray, metallic
Texture	No Change	Moderate	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



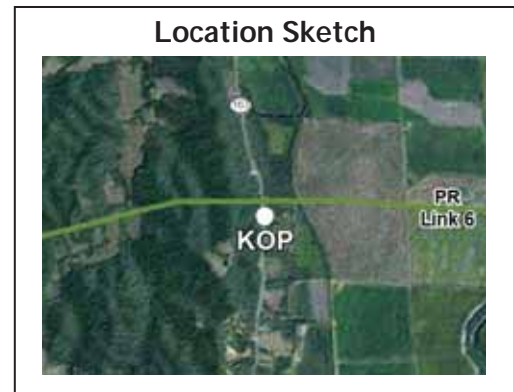
View southeast from scenic byway. This viewpoint is bounded on the west with dense forest that ends abruptly at the roadway, creating a strong curved edge in the landscape.

Region 6 AR 6-C would be located approximately 0.2 miles southeast of this viewpoint. AR 6-D would be located approximately 2.8 miles southeast of this viewpoint and would appear as a series of small vertical objects in the distance. AR 6-C would be highly visible crossing open fields and the scenic byway in the FG. It would introduce new vertical elements in the FG and be a dominant element in the landscape. The form, line, color, and texture of the transmission structures would be noticeably different from existing structures in the distance. Areas where vegetation is removed within the ROW corridor would create straight edges and be noticeable. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a scenic byway. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: 6
PR Link, AR, AC: PR Link 6
Evaluator(s): Z. Michalk/ J. Peterson



Key Observation Point: Crowley's Ridge Scenic Byway PR
Land Character Unit: Mississippi Alluvial Plains
County, State: Cross, Arkansas
Longitude: -90.6711
Latitude: 35.428

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling to rolling	Dense, tall	Vertical (existing telephone poles)
Line	Curving to undulating	Vertical, regular, varied	Vertical
Color	Brown, black, tan	Green, brown, tan	Brown
Texture	Medium to coarse	Coarse	Uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Area of vegetation removed	Tall, vertical elements regularly spaced
Line	No Change	Cleared corridor would form sharp edge	Tall, vertical elements would create a straight line
Color	No Change	Lighter grasses would replace darker green trees	Light gray, metallic
Texture	No Change	Moderate	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



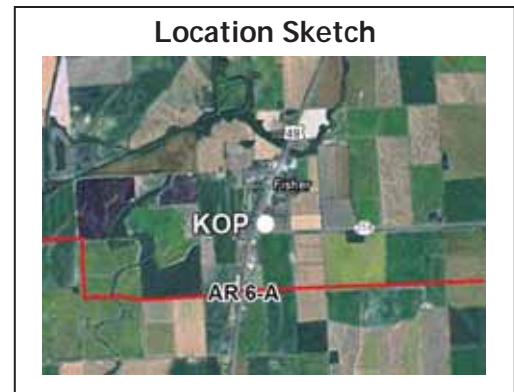
View north from scenic byway. View includes roadway lined with dense forest on both sides and a wood pole power line paralleling one side.

Region 6 PR Link 3 is located approximately 0.1 miles north of this viewpoint. The transmission line would introduce new vertical elements in the FG that would extend above the tree tops and be a dominant element in the landscape. The form, line, color, and texture of the transmission structures would be noticeably different from the existing shorter wood pole structures. Vegetation removed within the ROW corridor would create rectilinear openings with straight edges and be highly noticeable. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a scenic byway. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: 6
PR Link, AR, AC: AR 6-A
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Fisher and Park AR
Land Character Unit: Mississippi Alluvial Plain
County, State: Poinsett, Arkansas
Longitude: -90.9741708
Latitude: 35.4868132

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Varied heights, Scattered/uneven	Angular, vertical, varied
Line	Horizontal	Irregular, vertical, varied	Angular (houses, buildings), Vertical (existing telephone poles, street signs)
Color	Brown, yellow	Yellow, green, brown	White, brown, tan, earth tones, red
Texture	Smooth to medium	Medium to coarse	Moderate, mixed/varied

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced
Line	No Change	No Change	Tall vertical elements in straight line
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View south from the entrance to a park in a residential area near the south edge of the community. Land is flat with some scattered trees and other vegetation in the FG and MG.

Region 6 AR 6-A would be located approximately 0.5 miles south of this viewpoint. The transmission line would be clearly visible crossing the open field in front of the distant trees, and it would be a dominant feature with tall vertical structures regularly spaced in a line. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a park and residential area. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: 6
PR Link, AR, AC: PR Link 4
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Fisher and Park PR
Land Character Unit: Mississippi Alluvial Plain
County, State: Poinsett, Arkansas
Longitude: -90.9741708
Latitude: 35.4868132

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Varied heights, scattered/uneven	Angular, vertical, varied
Line	Horizontal	Irregular, vertical, varied	Angular (houses, buildings), Vertical (existing telephone poles, street signs)
Color	Brown, yellow	Yellow, green, brown	White, brown, tan, earth tones
Texture	Smooth to medium	Medium to coarse	Moderate, mixed/varied

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced
Line	No Change	No Change	Tall vertical elements in line
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



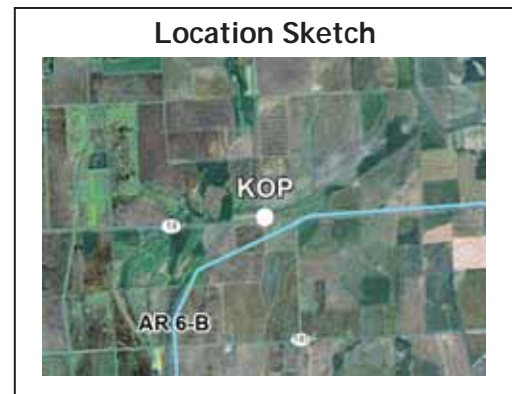
View east from the entrance to a park in a residential area near the south edge of the community. Land is flat with some scattered trees and other vegetation in the FG and MG.

Region 6 PR Link 4 is located approximately 1 mile east of this viewpoint. The transmission line would be partially visible crossing the open field beyond the FG trees. Where visible from the community, it would be a dominant feature with tall vertical structures regularly spaced in a line. However, the PR's otherwise strong contrast would be somewhat reduced by the presence of the existing smaller transmission line that would be nearby. For these reasons, construction and operation of the Project would result in moderate visual contrast.

Visual sensitivity at this KOP is high because it represents views from a park and residential area. Because the visual contrast is moderate, the visual impact would be moderate for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 6
PR Link, AR, AC: AR 6-B
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Highway 14 Scenic Highway AR
Land Character Unit: Mississippi Alluvial Plain
County, State: Jackson, Arkansas
Longitude: -91.1808087
Latitude: 35.5643097

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low grasses and ag, some scattered trees, dense tree lines	Wood power poles, building structures in the far distance, church, tall lattice communications tower in far distance
Line	Horizontal	Horizontal grasses and ag, Strong tree lines	Vertical power poles and communications tower, rectilinear structures in the far distance
Color	Brown	Yellow grasses and ag, light brown trees, some dark green evergreens	Light brown power poles gray communication towers; gray, white, red and yellow building structures
Texture	Fine	Fine	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced form a boundary
Line	No Change	No Change	Tall vertical elements create an implied line on the land
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View east from a side road along Highway 14 scenic highway about 4 miles west of Amagon. The view includes flat open fields and wetlands, the roadway, dense bottomland forest in the MG, wood power poles, and a tall lattice communication tower barely visible in the BG.

AR 6-B would cross the road from the south approximately 0.3 miles east of this viewpoint and parallel the highway for about 3 miles. The AR would be visible and very noticeable in FG views from the scenic highway. The AR structures would be substantially taller and more dominant in form than the existing wood pole power line paralleling the highway and attract attention of travelers on the scenic highway. Changes to vegetation and landform would not be apparent in views from this area. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity for this KOP is high because it represents views from a scenic highway. Because the visual contrast is strong, the visual impact would be high for this location.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 6
PR Link, AR, AC: AR 6-A
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Scattered/uneven, varied heights	Vertical (existing transmission lines)
Line	Horizontal	Straight, vertical, irregular	Vertical, straight
Color	Brown, tan	Brown, yellow	Brown, gray
Texture	Smooth to slightly medium	Medium	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Row of small vertical elements
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from Highway 17 near the north edge of Weldon. View includes agricultural fields, the roadway, wood power poles, small clusters of trees, and a transmission line in the distance. Single family residences are nearby.

AR 6-A would be located approximately 2.8 miles northeast of this viewpoint. The open landscape allows expansive views. The closest structures to the existing transmission line in this view are about 1.7 miles north. Similar to the existing transmission line, the AR would appear in the distance as a row of vertical objects lining the flat horizon; however, the AR structures would be farther away and smaller in scale. Although visible, the AR would appear co-dominant with or subordinate to the existing transmission line. For these reasons, construction and operation of the Project would result in weak visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is weak, the visual impact would be low for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: 6
PR Link, AR, AC: PR Link 1
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Scattered/uneven, varied heights	Vertical (existing transmission lines)
Line	Horizontal	Straight, vertical, Irregular	Vertical
Color	Brown, tan	Brown, yellow	Brown, gray
Texture	Smooth to slightly medium	Medium	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Row of small vertical elements
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View north from Highway 17 near the north edge of Weldon. View includes agricultural fields, the roadway, wood power poles, small clusters of trees, and a transmission line in the distance. Single family residences are nearby.

Region 6 PR Link 1 would be located approximately 2.6 miles north of this viewpoint. The open landscape allows expansive views. The closest structures in the existing transmission line in this view are about 1.7 miles north. Similar to the existing transmission line, the PR would appear in the distance as a row of vertical objects lining the flat horizon; however, the PR structures would be farther away and smaller in scale. Although visible, the PR would appear co-dominant with the existing transmission line. For these reasons, construction and operation of the Project would result in weak visual contrast.

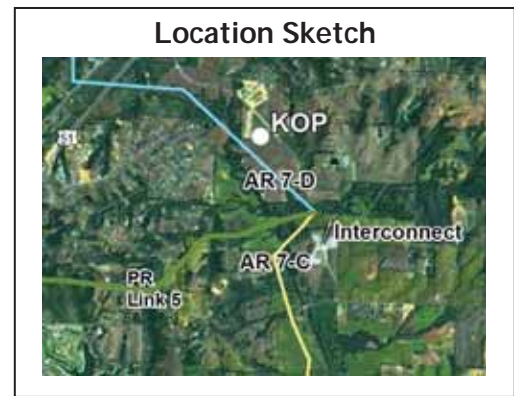
Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is weak, the visual impact would be low for this location.

Visual Contrast Rating Worksheets- HVDC Transmission Line, Region 7

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Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: Region 7
PR Link, AR, AC: AR 7-D
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Atoka AR 7-D
Land Character Unit: Mississippi Valley Loess Plains
County, State: Shelby and Tipton, TN
Longitude: -89.8113322
Latitude: 35.399701

Characteristic Landscape Description:

	Landform/Water	Vegetation	Structures
Form	Flat	Low ag; dense tree lines	Tall, thin communication tower
Line	Horizontal	Horizontal ag; strong undulating tree lines	Vertical, straight
Color	Brown	Light brown ag; light brown trees	Gray
Texture	Fine	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Removal of rectilinear area of vegetation for ROW	Tall vertical geometric elements regularly spaced in a line
Line	No Change	Some straight abrupt edges from vegetation removal	Vertical elements in straight line
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Coarse, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



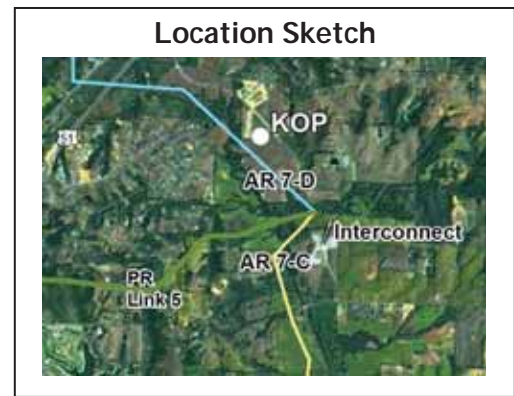
View southwest from edge of residential neighborhood. View includes flat open field, dense forest edge, and one tall lattice communication tower in the distance (out of view to the left).

Region 7 AR 7-D would be located less than 0.2 miles southwest of this viewpoint and would run northwest and southeast. AR towers and lines would be very noticeable crossing open fields on the near side of the tree line. Towers and lines would extend well above the trees. Changes to vegetation would be noticeable where the line crosses through dense trees to the west, and a wide area of trees would be removed for the ROW. Construction and operation of the Project would result in strong contrast.

The visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is strong, the visual impact of AR 7-D would be high at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: Region 7
PR Link, AR, AC: PR Link 5, AR 7-C, Representative TN Interconnect
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Atoka AR and PR
Land Character Unit: Mississippi Valley Loess Plains
County, State: Shelby and Tipton, TN
Longitude: -89.8113322
Latitude: 35.399701

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low ag; dense tree lines	Tall thin communication tower
Line	Horizontal	Horizontal ag; strong undulating tree lines	Vertical, straight
Color	Brown	Light brown ag; light brown trees	Gray
Texture	Fine	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View southwest from edge of residential neighborhood. View includes flat open field, dense forest edge, and one tall lattice communication tower in the distance (out of view to the left).

Region 7 PR Link 5, AR 7-C, and the representative Tennessee interconnect would be located south about 0.7 miles or farther from this location and would not be visible in views from this area due to intervening tall trees. Construction and operation of the Project for these Project elements would result in no visual contrast from this location.

The visual sensitivity at this KOP is high because it represents views from a residential neighborhood. Because there would be no visual contrast, there would be no visual impact for these Project elements at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: PR Link 5, AR 7-D
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Atoka Community Park PR and AR
Land Character Unit: Mississippi Valley Loess Plains
County, State: Tipton, TN
Longitude: -89.7808197
Latitude: 35.4383934

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low grasses, dense tree lines	Ball fields, wood light posts, flag pole, fences, park signs, pavilions, small recreational structures
Line	Horizontal	Horizontal grasses; strong tree lines	Vertical light posts, vertical flag pole, horizontal fences, rectilinear signs, geometric building structures
Color	Brown	Light brown trees	Light brown poles, gray metal fences, flag poles, beige, brown and green building structures, beige signage
Texture	Fine	Moderate	Coarse

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



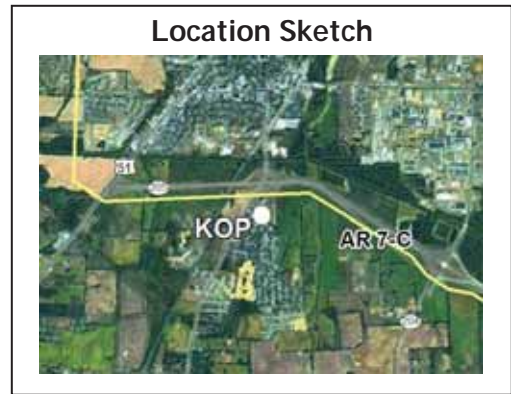
View southwest from a community park and recreation facility. View includes recreation facilities, fields, and dense trees in the FG.

Region 7 PR Link 5 and AR 7-D would be located southwest from this viewpoint approximately 4.0 and 3.2 miles, respectively. Neither the PR nor the AR would be visible from this area due to dense trees in the FG blocking the views. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a public recreational area. Because there would be no visual contrast, there would be no visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: AR 7-C
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Aycock Park and Millington AR
Land Character Unit: Mississippi Valley Loess Plains
County, State: Shelby, Arkansas
Longitude: -89.8994633
Latitude: 35.3264488

Characteristic Landscape Description:

	Landform/Water	Vegetation	Structures
Form	Flat to very slightly rolling	Low grasses; scattered trees; dense tree lines	Wood power poles; one story building; ball field; fences; tall transmission towers; highway
Line	Horizontal; slightly undulating	Horizontal grasses; round trees; dense tree lines	Vertical power poles; rectilinear buildings; horizontal geometric transmission towers
Color	Brown	Green grasses; light brown trees; dark green evergreens	Light brown power poles; gray metal transmission towers; white and red brick building; gray metal fences and back stop
Texture	Fine	Moderate	Fine to moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Some clearing creating rectilinear forms	Tall vertical geometric elements regularly spaced
Line	No Change	Straight edges	Tall vertical elements in straight line
Color	No Change	No Change	No Change
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



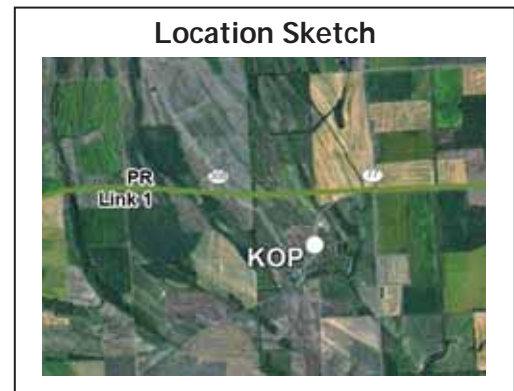
View north-northeast from neighborhood park. View includes flat open play fields, open lawn areas, dense line of trees, scattered trees, raised highway on berm, wood power poles, metal lattice transmission structures, brick building, highway overcrossing, metal bridge, benches, and picnic tables.

Region 7 AR 7-C would be located less than 0.2 miles north of this viewpoint and would cross the northern portion of the park. The transmission line would be located just beyond the building in the photo. The AR would parallel an existing 161kV line on its near side in this view. Tall transmission structures would appear in the FG and extend well above the tops of the trees. Because of their closer proximity, the structures would appear much larger than those of the existing 161kV transmission structures visible from the park. Although similar in form, line, color, and texture to the existing 161kV transmission line, the AR would be a more dominant feature for most views within the park. Changes to landform and vegetation would be apparent for some views within the northern part of the park where the ROW would be cleared of tall trees and other vegetation and create straight edges. The AR would be highly noticeable and attract viewers' attention for this and other views within the park. For these reasons, construction and operation of the Project would result in moderate visual contrast.

The visual sensitivity at this KOP is high because it represents views from a neighborhood park in a residential area. Because the visual contrast is moderate, the visual impact would be moderately high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: 7
PR Link, AR, AC: PR Link 1
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Birdsong PR
Land Character Unit: Mississippi Alluvial Plain
County, State: Mississippi, Arkansas
Longitude: -90.259825
Latitude: 35.4614044

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Open to scattered	Vertical
Line	Horizontal	Irregular, vertical	Vertical
Color	Brown	Brown, green	Brown
Texture	Smooth	Smooth to medium	Uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a straight row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine to moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



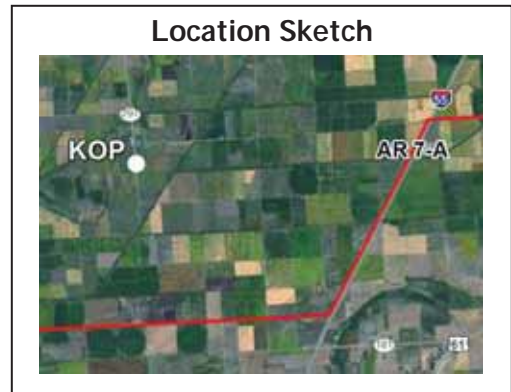
View north from the north edge of Birdsong. There are single family residences in the area. The view includes open fields and short wood power poles in the FG and distant lines of trees and some vertical structures in the distance.

Region 7 PR Link 1 would be located 0.4 miles north of this viewpoint. Views are expansive in this flat and open landscape, and the tall transmission structures would be highly noticeable as a row of tall vertical structures in the foreground of this view. The form and line of the structures would be different from existing structures in the landscape, and their scale would be much greater. The PR would be a dominant feature given its distance from the community and the open landscape. For these reasons, construction and operation of the Project would result in strong visual contrast.

The visual sensitivity at this KOP is high because it represents views from a rural residential area. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: 7
PR Link, AR, AC: AR 7-A
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Dyess AR
Land Character Unit: Mississippi Alluvial Plain
County, State: Mississippi, Arkansas
Longitude: -90.2136578
Latitude: 35.5850777

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low grasses and ag, scattered trees, dense tree lines in distance	Wood power poles, one story residences
Line	Horizontal	Horizontal grasses and ag, round trees, horizontal tree lines in distance	Vertical power poles, rectilinear structures
Color	Brown	Yellow grasses and ag, light brown trees	Light brown power poles, yellow, tan, and beige houses
Texture	Fine	Fine	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a row of small objects
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



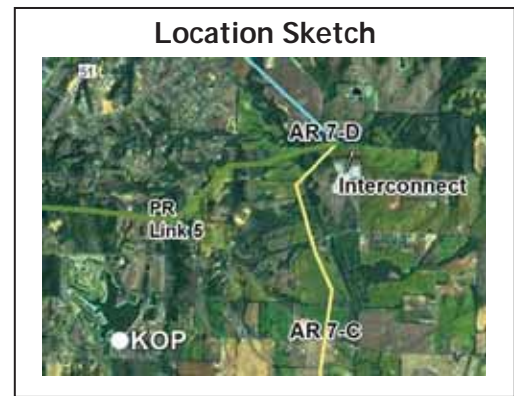
View south from south edge of community, with single family residences nearby. View includes expansive open fields, distant tree lines, wood power poles, residence, shed, cluster of trees around residence, and roadway.

Region 7 AR 7-A would be located about 2.6 miles south at the closest point to this location. Region 7 PR Link 1 would be located another 5 miles south of the AR line and would not be easily visible. In this flat and open landscape, views are expansive and the transmission structures would be faintly visible as a series of small, regularly spaced, vertical objects lining the horizon. Some structures may be screened by intervening vegetation or structures. The form and line of the structures would be different from existing structures in the landscape; however, the AR would not be a dominant feature given its distance from the community. For these reasons, construction and operation of the Project would result in weak visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is weak, the visual impact would be low for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: AR 7-C, AR 7-B, AR 7-D, and the representative Tennessee interconnect
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Edmund Orgill Park AR
Land Character Unit: Mississippi Valley Loess Plains
County, State: Shelby, TN
Longitude: -89.8377467
Latitude: 35.3684674

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling; large pond	Low grasses; scattered trees; dense forested tree lines	Pavilions; fences; small docks
Line	Undulating; curving pond edges	Horizontal grasses; round trees; strong tree lines	Rectilinear pavilions; horizontal fences; horizontal docks
Color	Brown; gray reflective water	Yellow and green grasses; light brown trees	Brown and gray pavilions; brown fence posts; gray metal dock railings
Texture	Moderate	Moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>





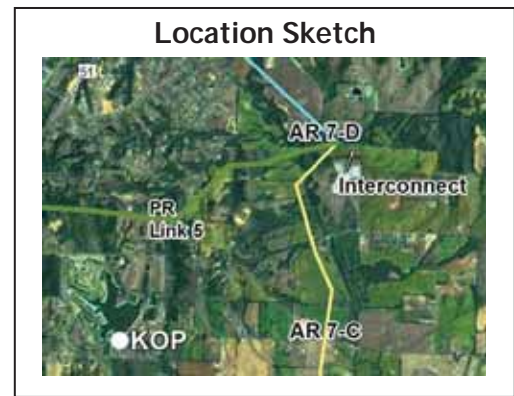
Views north-northwest, north, north-northeast, and northeast from south end of lake in large regional park. Views include open water, dense forest in distance, some scattered trees and shrubs, gently rolling terrain, some open grassy areas, a small picnic shelter, wood fences, a metal ramp, a metal structure in the lake, a low dam to the east, and a boat launch ramp in the immediate FG.

Region 7 AR 7-C is 1.7 miles from this location. AR 7-B, AR 7-D, and the representative Tennessee interconnect line are farther than 1.7 miles. Due to their distances and intervening terrain and dense trees, these transmission lines would not be visible from this viewpoint. For these reasons, construction and operation of the Project for these transmission lines would result in no visual contrast.

The visual sensitivity at this KOP is high because it represents views from a park and recreation area. Because there is no visual contrast, there would be no visual impact for these transmission lines from this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: PR Link 5
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling; large pond	Low grasses; scattered trees; dense forested tree lines	Pavilions; fences; small docks
Line	Undulating; curving pond edges	Horizontal grasses; round trees; strong tree lines	Rectilinear pavilions; horizontal fences; horizontal docks
Color	Brown; gray reflective water	Yellow and green grasses; light brown trees	Brown and gray pavilions; brown fence posts; gray metal dock railings
Texture	Moderate	Moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Small vertical objects regularly spaced
Line	No Change	No Change	Straight row
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>





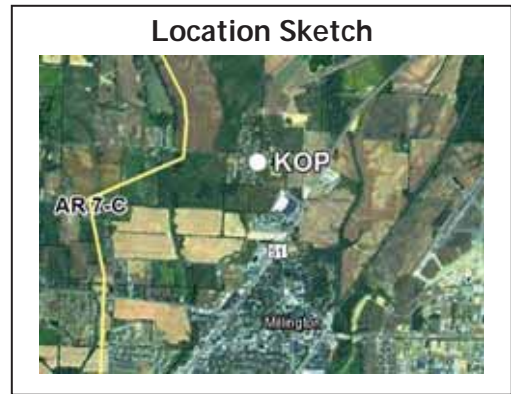
Views north-northwest, north, north-northeast, and northeast from south end of lake in large regional park. Views include open water, dense forest in distance, some scattered trees and shrubs, gently rolling terrain, some open grassy areas, a small picnic shelter, wood fences, a metal ramp, a metal structure in the lake, a low dam to the east, and a boat launch ramp in the immediate FG.

Region 7 PR Link 5 would be located 1.0 mile north of this viewpoint. At this distance, the tops of structures may be visible as regularly spaced small vertical objects extending above the tree tops. Although potentially visible, the PR is unlikely to be very noticeable or attract attention of viewers at the park due to the small portions of structures that may be visible. For these reasons, construction and operation of the PR would result in weak contrast from this location.

The visual sensitivity at this KOP is high because it represents views from a park and recreation area. Because the visual contrast is weak, the visual impact of the PR would be low at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: AR 7-C
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low grasses; scattered trees; dense forested tree lines	Low power poles; one story residences and sheds; fences
Line	Horizontal	Horizontal grasses; round trees; strong tree lines	Geometric houses; vertical power poles; horizontal fences
Color	Brown	Green grasses; light brown trees; dark green evergreens	Tan, blue, red, white, yellow and beige house; light brown power poles; brown fences
Texture	Fine	Moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced form a boundary
Line	No Change	No Change	Tall vertical elements create an implied line on the land
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View west from a public park in a residential neighborhood. View includes an the roadway, wood power poles and lines, an open field, residences, scattered trees, and dense forest in the distance.

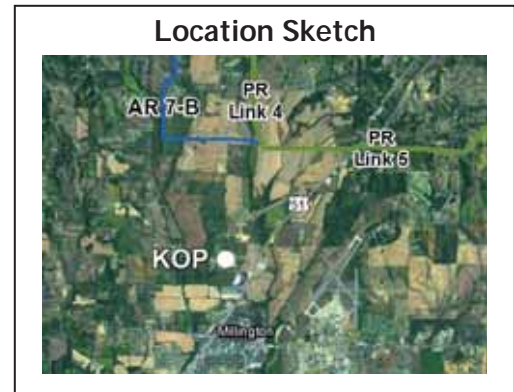
Region 7 AR 7-C would be located 0.6 miles west of this viewpoint. The transmission line structures would be partially visible above and between the FG trees. Trees and structures in the FG would obscure lower portions of the transmission line structures; however, upper portions of the structures would be visible, and their form, line, color, and texture would vary from those of other structures in the area. For structures that are visible, they would appear taller and wider than other vertical elements and be visible on the skyline above the dense line of trees. For these reasons, construction and operation of the Project would result in moderate contrast.

Visual sensitivity at this KOP is high because it represents views from a park and residential area. Because contrast is moderate and the AR is in the near MG, the visual impact of the AR would be moderate at this location.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: PR Link 5, AR 7-B
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low grasses; scattered trees; dense forested tree lines	Low power poles; one story residences and sheds; fences
Line	Horizontal	Horizontal grasses; round trees; strong tree lines	Geometric houses; vertical power poles; horizontal fences
Color	Brown	Green grasses; light brown trees; dark green evergreens	Tan, blue, red, white, yellow and beige house; light brown power poles; brown fences
Texture	Fine	Moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

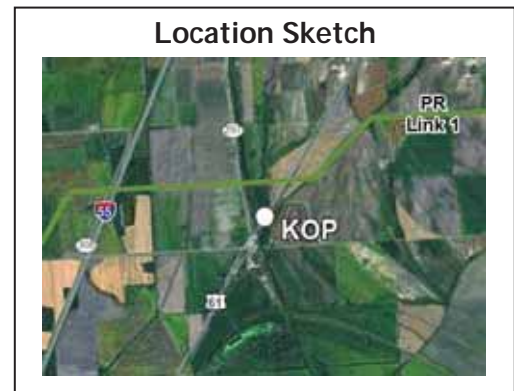


Region 7 PR Link 5 and AR 7-B would be located approximately 2 miles north of this viewpoint. The Project would not be visible from this area due to intervening structures and trees in the FG. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

The visual sensitivity at this KOP is high because it represents views from a park and residential area. Because there would be no visual contrast, there would be no visual impact at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: 7
PR Link, AR, AC: PR Link 1
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Highway 61 (Scenic Byway) PR
Land Character Unit: Mississippi Alluvial Plain
County, State: Mississippi, Arkansas
Longitude: -90.1804502
Latitude: 35.4697898

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Scattered/uneven to open field	Vertical (existing power poles)
Line	Horizontal	Irregular, vertical	Vertical
Color	Brown, black	Brown, yellow	Brown
Texture	Smooth to medium	Medium	Uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a straight row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View northeast from Highway 61 scenic byway near the north edge of Frenchmans Bayou. There are some single family residences in the area. The view includes dense vegetation lining the highway and open fields beyond.

Region 7 PR Link 1 would cross the scenic byway approximately 0.4 miles northeast of this viewpoint. Dense, low vegetation along the highway would obscure the lower portions of transmission structures from this viewpoint; however, the upper portions of structures would be clearly visible and prominent above the treeline. The PR would be highly visible from areas nearer the crossing that are clear of roadside vegetation. The Project would be a dominant feature in views in the vicinity of the crossing. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a scenic byway. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: 7
PR Link, AR, AC: AR 7-A
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Johnny Cash Home AR
Land Character Unit: Mississippi Alluvial Plain
County, State: Mississippi, Arkansas
Longitude: -90.2452116
Latitude: 35.597795

Characteristic Landscape Description:

	Landform/Water	Vegetation	Structures
Form	Flat	Low grasses and ag; scattered trees; dense tree lines in distance	Wood power poles; one story residence; fences; barn in distance
Line	Horizontal	Horizontal grasses and ag; round trees; horizontal tree lines in distance	Vertical power poles; rectilinear structures; horizontal fences
Color	Brown	Yellow grasses and ag; light brown trees; dark green evergreens	Light brown power poles; white and green house; brown barn in distance; gray metal fences
Texture	Fine	Fine	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a row of small objects
Color	No Change	No Change	No change
Texture	No Change	No Change	No change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View south from Johnny Cash's boyhood home, currently undergoing historic renovation. View includes historic home and barn, interpretive signs, expansive fields, several trees, wood power poles, chain link fence, and lines of dense trees in distance.

Region 7 AR 7-A would be located about 3.5 miles south at its closest point to this location. Region 7 PR Link 1 would be located another 5 miles south of the AR line and would not be easily visible. In this flat and open landscape, views are expansive and the transmission structures would be only faintly visible as a series of small, regularly spaced, vertical objects lining the horizon. Some structures may be screened by intervening vegetation or structures. The form and line of the structures would be different from existing structures in the landscape; however, the AR would not be a dominant feature given its distance from this historic site. For these reasons, construction and operation of the Project would result in weak visual contrast.

Visual sensitivity at this KOP is high because it represents views from a historical site with visitor and interpretive facilities. Because the visual contrast is weak, the visual impact would be low for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: 7
PR Link, AR, AC: PR Link 1
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Joiner PR
Land Character Unit: Mississippi Alluvial Plains
County, State: Mississippi, Arkansas
Longitude: -90.1478451
Latitude: 35.5053599

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Open to scattered and clumped	Vertical (existing power poles); angular (houses, buildings)
Line	Horizontal	Vertical, regular	Vertical, angular
Color	Brown, black	Brown, yellow	White, gray, brown
Texture	Smooth	Fine to medium	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine to moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



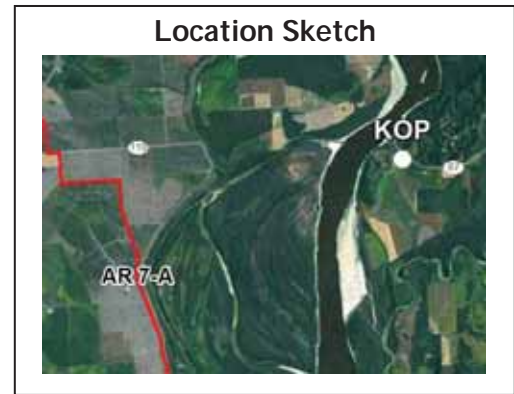
View south from the southern edge of Joiner. There are single family residences in the area. View includes open fields, scattered vegetation, irrigation equipment, wood power poles, a residence, and the roadway.

Region 7 PR Link 1 would be located 1.7 miles south of this viewpoint. Views are expansive in this flat and open landscape, and the tall transmission structures would be visible as a series of regularly spaced vertical objects lining the horizon. Some structures may be screened by intervening vegetation or structures. The form and line of the structures would be different from existing structures in the landscape; however, the PR would not be a dominant feature given its distance from the community. For these reasons, construction and operation of the Project would result in weak visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is weak, the visual impact would be low for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: AR 7-A
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Lower Hatchie National Wildlife Refuge AR
Land Character Unit: Mississippi Valley Loess Plains
County, State: Lauderdale, TN
Longitude: -89.8823202
Latitude: 35.6104225

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling, meandering river	Grasses, dense trees on ridges	No structures
Line	Horizontal to slightly undulating; curving water edge	Horizontal grasses, strong tree lines on ridges	N/A
Color	Brown, reflective gray water	Yellow/tan grasses, brown trees	N/A
Texture	Fine	Fine	N/A

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View west from national wildlife refuge. View includes gently rolling terrain, broad Mississippi River floodplain, and tree covered low hills in the distance.

Region 7 AR 7-A would be located approximately 4.7 miles west of this viewpoint. The AR would not be visible from this area due to terrain and dense forest blocking the views. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a wildlife refuge with visitor and interpretive facilities and dispersed recreation use. Because there would be no visual contrast, there would be no visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: 7
PR Link, AR, AC: AR 7-A
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Marked Tree AR
Land Character Unit: Mississippi Alluvial Plain
County, State: Poinsett, Arkansas
Longitude: -90.4135036
Latitude: 35.5234366

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to gently rolling	Low grasses, scattered trees, dense tree lines	Wood power poles, tall light poles, one story residences, utility and recreational buildings, ball fields, fences
Line	Horizontal, slightly undulating	Horizontal grasses; round trees	Vertical power and light poles rectilinear structures, horizontal fences
Color	Brown	Yellow grasses, light brown trees	Light brown power poles; beige, tan, white, and brown buildings; gray metal fences and distant transmission structures
Texture	Fine	Moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	No Change
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View southeast from a municipal park. View includes recreation fields, building, residences, elevated highway, fences, scattered trees, open grassy area, tall wood light poles, low wood power poles, metal shed, baseball backstop, and distant transmission line.

Region 7 AR 7-A would be located approximately 1.0 mile southeast of this viewpoint. The AR would be located beyond the ballfield, elevated highway and interchange, and the existing Marked Tree to Lepanto 161kV line. The structures and vegetation in the FG would obscure the lower portions of the transmission structures. Although the upper portions of the structures would be visible, they would be similar in form and line to the existing transmission structures and would not be readily noticeable in views from this area. For these reasons, construction and operation of the Project would result in weak visual contrast.

Visual sensitivity at this KOP is high because it represents views from a municipal park and residential area. Because visual contrast would be weak, there would be low visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: 7
PR Link, AR, AC: PR Link 1
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Marked Tree PR
Land Character Unit: Mississippi Alluvial Plain
County, State: Poinsett, Arkansas
Longitude: -90.4135036
Latitude: 35.5234366

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to gently rolling	Low grasses; scattered trees; dense tree lines	Wood power poles; tall light poles; one story residences; utility and recreational buildings; ball fields; fences
Line	Horizontal; slightly undulating	Horizontal grasses; round trees	Vertical power and light poles; rectilinear structures; horizontal fences
Color	Brown	Yellow grasses; light brown trees	Light brown power poles; beige, tan, white, and brown residences; beige and tan utility buildings; gray metal fences
Texture	Fine	Moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View southeast from a municipal park. View includes recreation fields, building, residences, elevated highway, fences, scattered trees, open grassy area, tall wood light poles, low wood power poles, metal shed, baseball backstop, and distant transmission line.

Region 7 PR Link 1 would be located approximately 2.2 miles south at the closest point to this location. The PR would parallel a segment of the existing Marked Tree to Lepanto 161kV line for a portion of its length. Because of the distance and intervening terrain, structures, and vegetation, it is very unlikely that the PR would be visible. If any portion of it were visible, it would not be noticeable. For these reasons, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a municipal park and residential area. Because there would be no visual contrast, there would be no visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 4, 2014
Region: Region 7
PR Link, AR, AC: AR 7-A
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: McGavock-Grider Park AR
Land Character Unit: Mississippi Alluvial Plain
County, State: Mississippi, Arkansas
Longitude: -89.981245
Latitude: 35.6510816

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low grasses and ag, scattered trees, dense treelines	Wood power poles
Line	Horizontal	Horizontal grasses and ag, tall round trees, horizontal tree lines	Vertical power poles
Color	Brown	Yellow grasses and ag, light brown trees	Light brown power poles
Texture	Fine	Fine	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View south-southwest from a public park on State Route 61 south of Osceola. View includes open fields, distant tree line, wood power poles, and large trees at park in FG.

Region 7 AR 7-A would be located approximately 1.8 miles south-southwest of this viewpoint. Views are expansive in this flat and open landscape, and the transmission structures would be visible as a series of regularly spaced, vertical objects lining the horizon. Some structures may be screened by intervening vegetation or structures. The form and line of the structures would be different from existing structures in the landscape; however, the AR would not be a dominant feature. For these reasons, construction and operation of the Project would result in weak visual contrast.

Visual sensitivity at this KOP is high because it represents views from a public park. Because the visual contrast is weak, the visual impact would be low for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: Region 7
PR Link, AR, AC: AR 7-C
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low ag; dense forested tree line	Transmission tower in far distance
Line	Horizontal	Horizontal ag; strong tree lines	Vertical transmission tower
Color	Brown	Yellow and green ag; light brown trees	Light gray structure
Texture	Fine	Fine to moderate	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical geometric elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear in straight line
Color	No Change	No Change	Medium gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View southeast from edge of residential neighborhood. View includes open field, dense tree line, wood power poles, and one metal lattice transmission tower. Residences are nearby.

Region 7 AR 7-C would be located about 0.3 miles southeast of this viewpoint. The AR would parallel an existing 161kV line on the near side in this view. Tall transmission structures would appear in the FG just beyond the tree line and would extend well above the tops of the trees. The structures would appear much larger, and their form and line would be different from, those of the existing transmission structure in the view. From this distance, the AR would be a dominant feature in the landscape. Changes to landform and vegetation would be screened by the trees. For these reasons, construction and operation of the Project would result in strong visual contrast.

The visual sensitivity at this KOP is high because it represents views from a residential neighborhood. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: AR 7-C
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Millington USA Baseball STDM AR
Land Character Unit: Mississippi Valley Loess Plains
County, State: Shelby, TN
Longitude: -89.9049566
Latitude: 35.3361133

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to very slightly rolling	Low grasses; scattered trees; dense tree lines	Low power poles, light posts, fences, structures; parking lot; small lattice communication tower; residences
Line	Horizontal	Horizontal grasses; round trees; strong tree lines	Vertical, thin, straight poles and posts; straight edges
Color	Brown	Green grasses; light brown trees; dark green evergreens	Metallic fences, light posts; brown power poles; yellow foul poles; tan, brown, green, yellow, white, reddish buildings
Texture	Fine	Moderate	Moderate to coarse

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical, geometric elements in straight row
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Medium, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





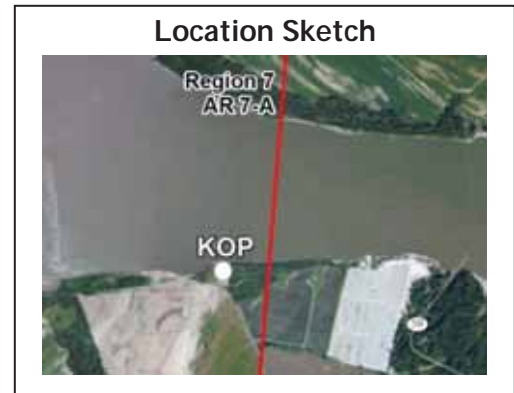
Views south-southwest and west from within baseball park complex. View includes flat open turf areas, tall line of trees, scattered trees, metal buildings, small green and gray building, tall metal light poles, low wood power poles, baseball field with small structures, chain link fences, parking lots, and roadway. View to west also includes brick city hall building, residences, and tall lattice communication tower in distance.

Region 7 AR 7-C would be located 0.5 miles south at its closest point to this viewpoint and 1.2 miles west of this viewpoint. In views south and southwest, the upper portions of structures would be visible above the trees. The AR would parallel an existing 161kV line on its far side to the south. The structures would appear large, and their form and line would be different from those of the existing thin straight poles in the FG. From this distance, the AR would be noticeable; however, the various vertical metal poles in the FG would reduce the PR's contrast and it would be co-dominant with them. Changes to landform and vegetation would be screened by the trees. For these reasons, construction and operation of the Project would result in moderate visual contrast. For views of the AR to the west, contrast would be less.

The visual sensitivity at this KOP is high because it represents views from a recreation facility. Because the visual contrast is moderate, the visual impact would be moderately high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: AR 7-A
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Mississippi River and Trail of Tears AR
Land Character Unit: Mississippi Alluvial Plain
County, State: Tipton, Tennessee
Longitude: -89.9540486
Latitude: 35.5151889

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Rolling (bank) to flat (river) to rolling (bank)	Dense, open, dense	Tall, vertical, geometric (existing transmission lines)
Line	Curving to horizontal to curving	Regular, straight, varied	Vertical, straight
Color	Brown, blue, brown	Brown, yellow, tan	Gray, white, black
Texture	Coarse to smooth to coarse	Coarse	Uniform, fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Some removal of vegetation for ROW	Tall vertical, geometric, angular elements; curving conductors with small round balls attached
Line	No Change	Straight, vertical, and horizontal lines from vegetation removal	Vertical, straight, angular; curving conductors
Color	No Change	No Change	Light gray, metallic, brightly colored safety balls
Texture	No Change	Some texture change from removal of trees	Moderate, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View northeast from boat ramp on east bank of river. View includes open water, dense riparian forest edges, and existing transmission structures about 1 mile east.

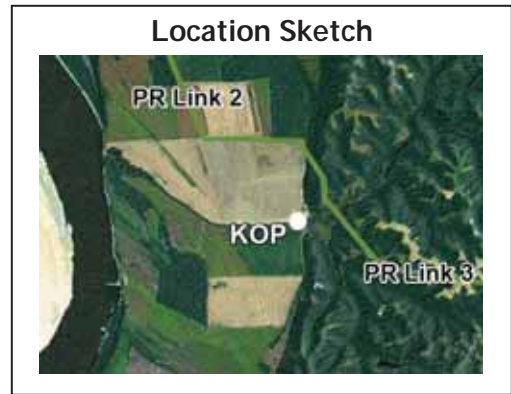
Region 4 AR 7-A would be located less than a 0.3 miles east and north of this location where it would cross the river. The tall, vertical, geometric crossing structures on both sides of the river would be prominent in the FG and MG. The existing Shelby to Sans Souci 500kV line crossing structures, located about 1 mile east, are prominent features in the view. However, the AR structures would be very close to this viewpoint and the conductors spanning the open water would have brightly colored balls attached for safety. These elements would be much larger in scale and very noticeable and prominent in views from this and surrounding areas. Structures and lines would extend well above the tree lines and be a dominant element in the landscape. In addition, intermittent flashing red safety lights on the tops of the tall crossing structures would introduce new sources of lighting for nighttime views. Presumably there would be no noticeable landform change; however, vegetation changes would be noticeable along the river edge where vegetation is removed for the ROW. For these reasons, construction and operation of the Project would result in strong visual contrast.

The visual sensitivity at this KOP is high as it represents a view from a scenic recreation access area and national historic trail. Because the visual contrast would be strong, the visual impact would be high at this location.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: PR Link 1
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Mississippi River and Trail of Tears PR
Land Character Unit: Mississippi Alluvial Plain
County, State: Tipton, Tennessee
Longitude: -89.9633319
Latitude: 35.447267

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to gently rolling	Open in the FG, dense in the BG	Short, low, other (Irrigation structure)
Line	Horizontal to slightly rolling	Open to vertical and regular	Geometric, horizontal
Color	Brown, red	Brown	Gray
Texture	Smooth	Even to coarse	Moderate, other

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical, geometric, angular elements regularly spaced in a line; curving conductors
Line	No Change	No Change	Vertical straight, angular; curving conductors
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View northwest from local road near the Mississippi River and historic Trail of Tears. View includes open water, dense riparian forest edges, open tilled farmland, and irrigation equipment.

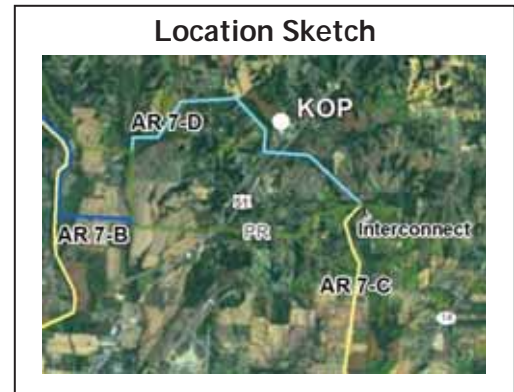
PR Link1 would be located approximately 0.7 miles north from this viewpoint. The PR would cross the river about 2.5 miles northwest of this location and be visible within the MG distance zone. The tall vertical, geometric crossing structures on both sides of the river would be prominent in the MG and introduce new vertical forms in an area where none currently exist. Towers and lines would extend well above the tree lines and be a dominant element in the landscape. In addition, intermittent flashing red safety lights on the tops of the tall crossing structures would introduce new sources of lighting for nighttime views. Presumably, there would be no noticeable landform change. For these reasons, construction and operation of the Project would result in strong visual contrast.

The visual sensitivity at this KOP is high as it represents a view of a crossing of a major river and national historic trail. Because the visual contrast would be strong, the visual impact would be moderately high at this location.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: AR 7-D
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Munford AR 7-D
Land Character Unit: Mississippi Valley Loess Plains
County, State: Tipton, TN
Longitude: -89.831321
Latitude: 35.4166113

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Low grasses; scattered trees; dense forested tree lines	Wood power poles; one story residences, sheds and garages; fences; tall geometric 500kV structures
Line	Horizontal to slightly undulating	Horizontal grasses; strong tree lines; round trees	Vertical power poles; rectilinear structures; horizontal fences; geometric transmission tower
Color	Brown	Yellow and green grasses; light brown trees; dark green evergreens	Light brown power poles; white, black, beige, and tan, residences; beige and blue garages; light brown fence; gray metal fence; gray metal transmission towers
Texture	Fine	Moderate	Moderate to coarse

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	Some removal of vegetation for ROW	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	Coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



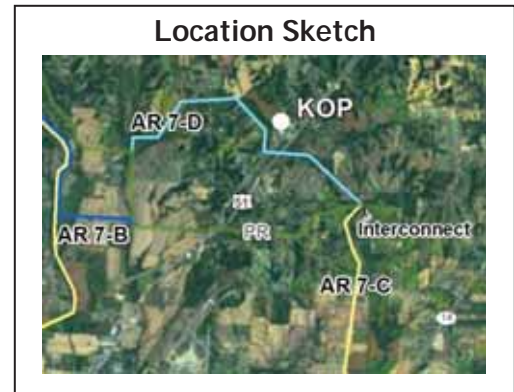
View southwest from mixed residential and commercial area. View includes open grassy area, scattered trees, dense forest, roads, metal buildings, residences, wood power poles, and tall metal lattice transmission structures.

Region 7 AR 7-D would be located about 0.4 miles southwest from this location and would parallel the existing Shelby to Sans Souci 500kV line. In this view, the AR would appear in the foreground just beyond the existing transmission line and dense line of trees. The dark green vegetation in the FG would obscure the lower portions of the structures and partially screen them. Upper portions of the structures would be noticeable. Changes to landform and vegetation would not be visible in this view. Because the AR would parallel the existing 500kV transmission line and be slightly farther away in this view, and their structures would be similar in form, line, color, and texture, the AR and existing transmission line would be co-dominant. However, the AR would increase the number of structures visible in the area, thus adding to the texture. For these reasons, construction and operation of the Project would result in weak visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is weak, the visual impact would be moderate for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: : PR Link 5, AR 7-B, AR 7-C, Representative TN Interconnect
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Munford PR and AR
Land Character Unit: Mississippi Valley Loess Plains
County, State: Tipton, TN
Longitude: -89.831321
Latitude: 35.4166113

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Low grasses; scattered trees; dense forested tree lines	Wood power poles; one story residences, sheds and garages; fences; tall geometric 500kV structures
Line	Horizontal to slightly undulating	Horizontal grasses; strong tree lines; round trees	Vertical power poles; rectilinear structures; horizontal fences; geometric transmission tower
Color	Brown	Yellow and green grasses; light brown trees; dark green evergreens	Light brown power poles; white, black, beige, and tan, residences; beige and blue garages; light brown fence; gray metal fence; gray metal transmission towers
Texture	Fine	Moderate	Moderate to coarse

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



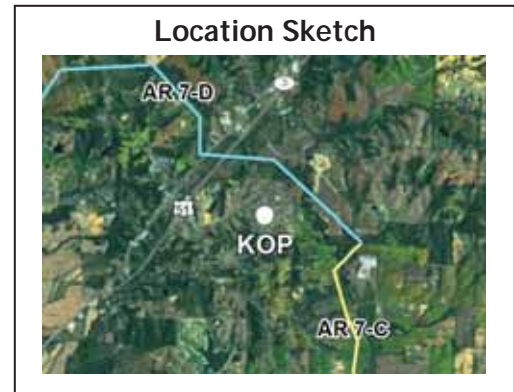
View southwest from mixed residential and commercial area. View includes open grassy area, scattered trees, dense forest, roads, metal buildings, residences, wood power poles, and tall metal lattice transmission structures.

Region 7 PR Link 5 would be located about 2.0 miles south, and AR 7-B, AR 7-C, and the Representative Tennessee Interconnect would all be located more than 4.5 miles away. Due to intervening tall trees in the FG, none of these elements of the Project would be visible from this viewpoint. Because these Project elements would not be visible from this location, construction and operation would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential neighborhood. Because there would be no visual contrast, there would be no visual impact for these Project elements from this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: AR 7-D
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Rhodes Estates AR
Land Character Unit: Mississippi Valley Loess Plains
County, State: Tipton, TN
Longitude: -89.8247574
Latitude: 35.3961056

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low grasses; scattered trees; dense treelines	Wood power poles; one and two story residences; fences; tall 500kV line in MG
Line	Undulating	Horizontal grasses; strong tree lines	Vertical power poles; geometric homes; horizontal fences; geometric transmission line; curving conductors
Color	Brown	Green grasses; light brown trees; dark green evergreens	Light brown power poles; tan, brick, beige, white, and light green homes; light brown fences; gray, metallic tower
Texture	Fine to moderate	Moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No change	No change	No Change
Line	No change	No change	No Change
Color	No change	No change	No Change
Texture	No change	No change	Fine to moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View northeast from within a residential neighborhood. View includes gently sloping and slightly rolling terrain, scattered trees, dense forest, wood power poles, tall metal lattice transmission structures, residences, and the roadway.

Region 7 AR 7-D would be located approximately 0.6 miles to the northeast in the near MG. The existing transmission 500kV transmission structure in the view is approximately halfway between this KOP and the AR. Intervening vegetation and terrain would partially screen the AR, limiting views of it to the upper portions of structures and conductors. Although visible, the AR would be farther away and would appear similar to but less dominant than the existing transmission line in scale, form, line, color, and texture. For these reasons, construction and operation of the Project would result in weak contrast.

The visual sensitivity at this KOP is high because it represents a view from a residential area. Because contrast is weak and the AR is in the near MG, the visual impact of the AR at this location would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: PR Link 5
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Rhodes Estates PR
Land Character Unit: Mississippi Valley Loess Plains
County, State: Tipton, TN
Longitude: -89.8247574
Latitude: 35.3961056

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low grasses; scattered trees; dense treelines	Wood power poles; one and two story residences
Line	Undulating	Horizontal grasses; strong tree lines	Vertical power poles; geometric homes
Color	Brown	Green grasses; light brown trees; dark green evergreens	Light brown power poles; tan, brick and beige homes
Texture	Fine to moderate	Moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No change	No change	Tall, vertical transmission towers
Line	No change	No change	Tall, vertical, straight edges, curving conductors
Color	No change	No change	Gray, metallic tower
Texture	No change	No change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



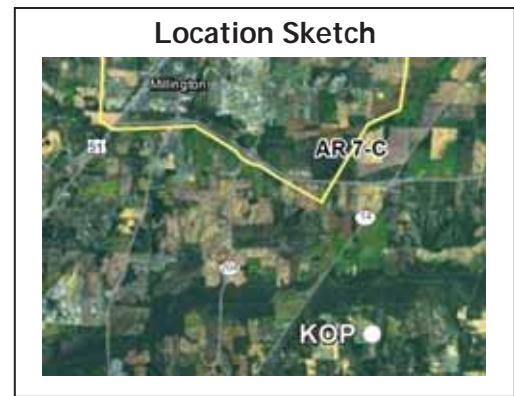
View southeast from within a residential neighborhood. View includes gently sloping and slightly rolling terrain, scattered trees, dense forest, wood power poles, residences, and the roadway.

Region 7 PR Link 5 would be located approximately 0.6 miles to the southeast in the near MG. Intervening vegetation and terrain would partially to mostly screen the PR, limiting views of it to the upper portions of structures and conductors for some residences in the area. For views in which it is visible in the neighborhood, the PR would result in weak contrast in line, color, and texture, but moderate contrast in form because it would appear taller than other vertical elements in the view and be visible on the skyline above the dense forest. For these reasons, construction and operation of the Project would result in moderate contrast.

The visual sensitivity at this KOP is high because it represents a view from a residential area. Because contrast is moderate and the PR is in the near MG, the visual impact of the PR would be moderate at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: AR 7-C
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Rockyford Park AR
Land Character Unit: Mississippi Valley Loess Plains
County, State: Shelby, TN
Longitude: -89.8332691
Latitude: 35.2633778

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Very slightly rolling, pond in FG	Grasses, scattered trees, dense trees in distance, round pond	Single family residences
Line	Slightly undulating, smooth curving water edge	Horizontal grasses, round trees, curved pond edge	Geometric
Color	Brown	Tan, brown and green grasses, brown trees, some dark green evergreens	Tan, white, gray
Texture	Fine to moderate	Moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	No Change
Line	No Change	No Change	No Change
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



View northwest from a neighborhood park in the Rockyford Subdivision. There are single family residences in the area. View includes pond, open turf areas, trees, benches, and adjacent residences.

AR 7-C would be located 2.9 miles northwest of this viewpoint. The AR would not be visible from this park due to intervening terrain and trees in the FG blocking the views. Because the Project would not be visible from this location, construction and operation of the Project would result in no visual contrast.

Visual sensitivity at this KOP is high because it represents views from a local/municipal park and residential area. Because there would be no visual contrast, there would be no visual impact for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: 7
PR Link, AR, AC: AR 7-A
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Tyronza AR
Land Character Unit: Mississippi Alluvial Plain
County, State: Poinsett, Arkansas
Longitude: - 90.3645837
Latitude: 35.4903822

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Scattered/Uneven, Open Space	Vertical (power poles)
Line	Horizontal	Regular, Varied	Vertical
Color	Brown, Tan	Brown	Brown
Texture	Smooth	Fine to Medium	Uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View northwest from the west edge of Tyrone. There are single family residences in the area. The view includes open fields, wood power poles, and some trees in the FG and MG of the view.

AR 7-A would be located approximately 2.4 miles northwest of this viewpoint. In this flat and open landscape, views are expansive, and the tall transmission structures would be partially or intermittently visible in the distance on the horizon. Vegetation in the distance would obscure the lower portions of structures in views from the community. The form and line of the structures would be different from existing structures in the landscape and their scale would be greater; however, the PR would not be a dominant feature given its distance from the community. For these reasons, construction and operation of the Project would result in weak visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is weak, the visual impact would be low for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: 7
PR Link, AR, AC: PR Link 1
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Tyronza PR
Land Character Unit: Mississippi Alluvial Plain
County, State: Poinsett, Arkansas
Longitude: - 90.3645837
Latitude: 35.4903822

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Scattered, clumped in some areas	Angular (house), vertical (fence posts and existing power poles)
Line	Horizontal	Vertical, regular	Angular, vertical
Color	Brown, tan	Brown, yellow	Tan, white, brown
Texture	Smooth	Medium	Moderate; varied

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate; Uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



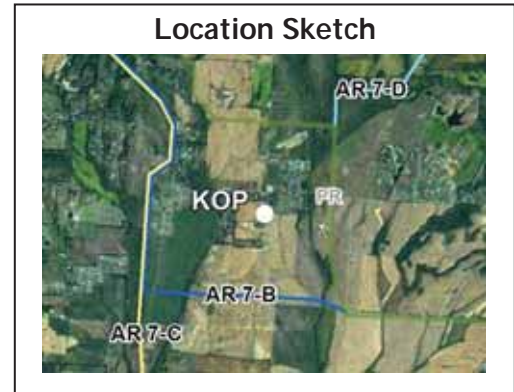
View southwest from the west edge of Tyrone. There are single family residences in the area. The view includes scattered trees, open fields, wood power poles, and a single residence in the FG. Highway 63 is about 0.4 miles west, and there are some structures and trees in the distance.

Region 7 PR Link 1 would be located approximately 2.0 miles southwest of this viewpoint. In this flat and open landscape, views are expansive and the tall transmission structures would be partially or intermittently visible in the distance on the horizon. Vegetation in the FG and MG would obscure the lower portions of many of the structures in views from the community. The tops of structures may be visible in some locations, as well as entire structures where there is little vegetation screening. The form and line of the structures would be different from existing structures in the landscape; however, the PR would not be a dominant feature given its distance from the community. For these reasons, construction and operation of the Project would result in weak visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is weak, the visual impact would be low for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: AR 7-B
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Wilkinsville AR
Land Character Unit: Mississippi Valley Loess Plains
County, State: Tipton, Tennessee
Longitude: - 89.8971189
Latitude: 35.4007746

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Open to scattered/clumped vegetation	Short, low, horizontal irrigation facilities
Line	Horizontal	Irregular, vertical	Geometric, thin, straight
Color	Brown, yellow, tan	Brown, tan, green	Gray, metallic
Texture	Smooth to medium	Smooth to medium	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Straight, vertical elements would appear as row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



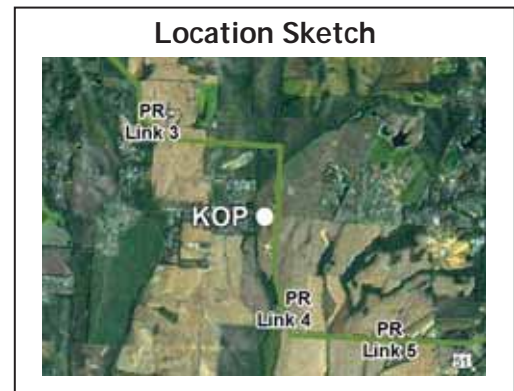
View south-southeast from the southern edge of Wilkinsville. There are single-family residences nearby. View includes open fields, irrigation equipment, and lines of low trees and shrubs.

AR 7-B would be located 0.7 miles south of this viewpoint. The transmission line would appear as a row of tall, vertical objects in the near MG of this view. Low vegetation in the FG and MG would obscure the lower portions of some of the transmission line structures; however, the upper portions of the structures would be clearly visible above the tree line. The form and scale of the transmission line would be noticeably different from existing horizontal irrigation facilities in the view by being vertical, with tall and wide structures. The AR would introduce a dominant new feature in the landscape. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is strong, the visual impact would be moderately high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: PR Link 4
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Wilkinsville PR
Land Character Unit: Mississippi Valley Loess Plains
County, State: Tipton, Tennessee
Longitude: -89.88902
Latitude: 35.4023898

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat to gently rolling	Scattered/clumped in the FG to more open in the MG.	Short, low irrigation structures, vertical power poles
Line	Horizontal to slightly rolling	Regular, straight, vertical	Vertical, straight
Color	Brown	Brown	Gray, brown
Texture	Smooth	Medium	fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical geometric elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of geometric objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate to coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View southeast from the eastern edge of Wilkinsville. There are single family residences in the area. View includes open fields, scattered/clumped vegetation, low wood power poles, irrigation equipment.

Region 7 PR Link 4 would be located 0.1 miles east of this viewpoint. Low vegetation in the FG may obscure the lowest portions of some transmission structures from this viewpoint; however, the most of the structures would be clearly visible and prominent crossing open fields. The form and scale of the transmission line would be noticeably different from existing horizontal irrigation facilities and short wood power poles in the view. The tall and wide geometric forms and lines of the transmission structures would be substantially larger in scale than other structures in the view. The PR would be highly visible in views throughout the area and introduce a dominant new feature in the landscape. For these reasons, construction and operation of the Project would result in strong visual contrast.

Visual sensitivity at this KOP is high because it represents views from a residential area. Because the visual contrast is strong, the visual impact would be high for this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 5, 2014
Region: Region 7
PR Link, AR, AC: AR 7-A
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Wilson Park AR
Land Character Unit: Mississippi Alluvial Plain
County, State: Mississippi, Arkansas
Longitude: -90.051595
Latitude: 35.572745

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low grasses and ag; scattered trees	Wood power poles
Line	Horizontal	Horizontal grasses and ag; tall round trees	Vertical power poles
Color	Brown	Yellow grasses and ag; light brown trees	Light brown power poles
Texture	Fine	Fine	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Vertical elements regularly spaced
Line	No Change	No Change	Vertical elements create a row of low objects
Color	No Change	No Change	Light gray
Texture	No Change	No Change	Fine

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View northwest from Hudson Wren Memorial Park near the northwest edge of Wilson. View includes open agricultural fields, large tree in FG, road, and wooden power poles paralleling roadway.

Region 7 AR 7-A would be located approximately 1.8 miles northwest of this location. Views are expansive in this flat and open landscape, and the transmission structures would be visible as a series of regularly spaced, vertical objects lining the horizon. Some structures may be screened by intervening vegetation or structures. The form and line of the structures would be different from existing structures in the landscape; however, the AR would not be a dominant feature. For these reasons, construction and operation of the Project would result in weak visual contrast.

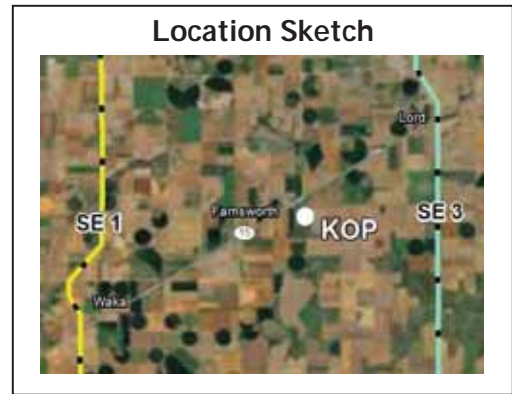
Visual sensitivity at this KOP is high because it represents views from a public park and residential area. Because the visual contrast is weak, the visual impact would be low for this location.

Visual Contrast Rating Worksheets- AC Collection System

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Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: AC Analysis Area
PR Link, AR, AC: SE-3
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Farnsworth AC - 2
Land Character Unit: High Plains
County, State: Ochiltree County, Texas
Longitude: -100.9642382
Latitude: 36.3135546

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Very flat	Low, uniform	Distant thin vertical structures, one very tall vertical structure, one pump jack
Line	horizontal	Horizontal regular	Thin vertical
Color	Medium brown	Green and some yellow grasses	Light gray
Texture	Very fine	Very fine, new growth	Very fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No change	No change	Very thin, small elements, regularly spaced
Line	No change	No change	Low vertical elements in line along horizon
Color	No change	No change	No change
Texture	No change	No change	No change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



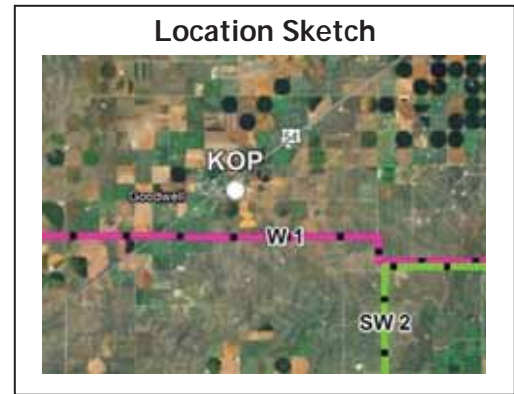
View looking east from southeast edge of Farnsworth. Single family residences are nearby.

AC Analysis Area Connector SE-3 would be barely visible approximately 4.0 miles east of this viewpoint. The transmission line would appear as a series of low vertical elements evenly spaced along the horizon in the BG. Its scale and form would not be noticeably different from other vertical elements in the view; however, it would add to the number of vertical elements in the view and appear as a line of regularly spaced forms extending along the horizon. Its very light gray color and fine texture would be similar to other distance vertical elements in the view, and there would be no noticeable changes to landform or vegetation. For these reasons, construction and operation of the Project would result in weak contrast.

The visual sensitivity at this KOP is high because it represents the view from a residential area. However, because the contrast is weak and the AC connector line is in the BG distance zone, the visual impact at this location would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: AC Analysis Area
PR Link, AR, AC: AC W-1
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Goodwell AC
Land Character Unit: High Plains
County, State: Texas, Oklahoma
Longitude: -101.6203604
Latitude: 36.5922852

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low grasses, scrub brush, clumped trees	Short, low; scattered
Line	Horizontal, straight	Horizontal, vertical trees	Angular, horizontal; vertical fence posts and telephone lines
Color	Yellow, brown	Yellow	Earth tones, gray
Texture	Medium	Medium to coarse	Uneven/Mixed

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine to Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



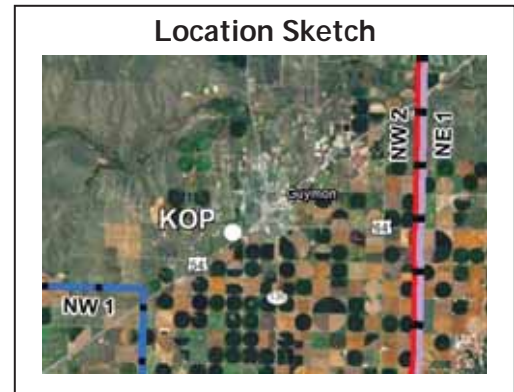
View south from a small residential community in Goodwell. Some single family residences are nearby.

AC W-1 would be located 1.3 miles south of this viewpoint. The transmission line may appear as a row of objects on the horizon, where it not blocked by trees and structures. The scale and form of the taller lattice towers of the Project would be somewhat different from that of the existing vertical poles in this view. There would be no noticeable changes to the landform or vegetation in this view. Construction and operation of the Project would result in moderate visual contrast.

The visual sensitivity at this KOP is high, as it represents a residential area. However, since the level of contrast is moderate, there would be a moderate visual impact at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: AC Analysis Area
PR Link, AR, AC: AC NW-1
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Guymon AC (1)
Land Character Unit: High Plains
County, State: Texas County, Oklahoma
Longitude: -101.4987922
Latitude: 36.672046

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling	Low, uniform; smooth, regular	Short, low
Line	Smooth, horizontal, undulating	Regular, rounded	Horizontal, vertical telephone poles
Color	Yellow, light tan	Yellow, light tan	Dark brown, brown
Texture	Smooth	Fine, smooth	Moderate, mixed

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Fine

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



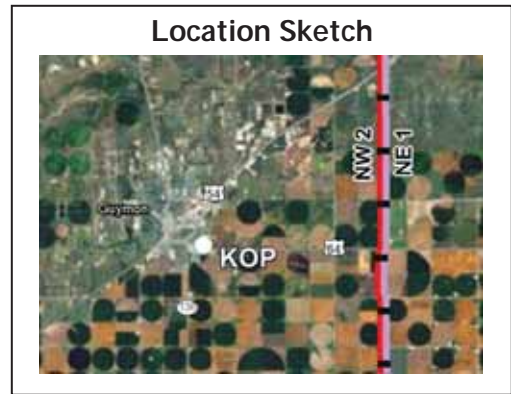
View southwest from southwest edge of Guymon overlooking an empty residential lot. A dense, single family subdivision is located at this viewpoint.

NW-1 would be located 3.2 miles southwest from this viewpoint. The transmission line may appear as a row of objects on the horizon in the BG of this view. The rolling hillside in the FG would obscure the base of the transmission line structures. The tops of the structures may be visible, but due to the distance of the Project, the scale and form of the structures would not be noticeably different from existing structures in the landscape. Construction and operation of the Project would result in weak contrast.

The visual sensitivity at this KOP is high, as it represents a residential area. However, since the level of contrast is weak, the visual impact would be low at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: AC Analysis Area
PR Link, AR, AC: AC NE-1, NW-2
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Scattered/uneven	Short, low; dispersed, scattered
Line	Straight, vertical	Varied, vertical	Low, horizontal, angular
Color	Beige, light tan	Tan, beige, yellow	Earth tones, gray
Texture	Medium, coarse	Fine to medium	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View east from a community park in Guymon. Some single family residences are nearby.

AC NE-1 and AC NW-2 would be located 3.7 miles east of this viewpoint. The transmission line may appear as a small row of objects on the horizon, where it is not blocked by structures or trees. Because of the many existing structures and the distance of the new transmission line, its scale and form would not be noticeably different from those of the existing structures. There would be no changes to landform or vegetation in this view. Construction and operation of the Project would result in weak contrast.

The visual sensitivity at this KOP is high. The presence of existing structures and the distance of the proposed Project result in weak contrast. Therefore the visual impact at this location would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: Region 1
PR Link, AR, AC: E-1
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Hardesty AC
Land Character Unit: Southwestern Tablelands
County, State: Texas, Oklahoma
Longitude: -101.1963472
Latitude: 36.6132474

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	FG: Flat BG: Flat to rolling	FG: low, uniform BG: Scattered/uneven	Short, low
Line	Horizontal, straight	FG: irregular BG: round	Angular, horizontal, vertical telephone poles, metal poles
Color	FG: Yellow, beige BG: Browns, beige	Brown trees, yellow and beige grasses	Brown, metallic
Texture	FG: coarse BG: medium/smooth	Medium, coarse	Mixed/variable

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical geometric elements regularly spaced in a line
Line	No Change	No Change	Angular, vertical elements in row
Color	No Change	No Change	Light Gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View northwest from the southwestern edge of Hardesty from a residential street. Some single family residences are nearby.

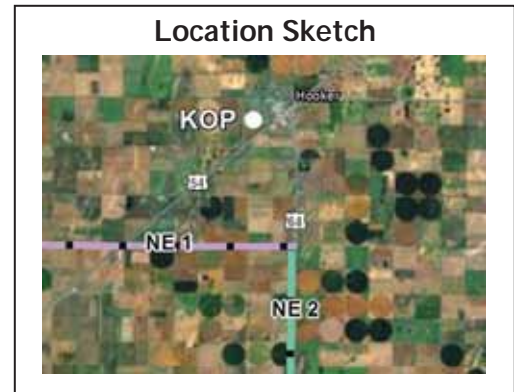
AC E-1 would be located a little more than 0.5 miles northwest of this viewpoint. The Project would appear in the middleground. Structures would be clearly visible and would be a dominant feature due to the flat, open landscape. The form and line of the new transmission structures would be noticeably different from the existing structures in the FG due to their taller size, wider form, and close proximity. The scale of the structures would be greater, and their form and regular pattern would be prominent and noticeable. Construction and operation of the Project would result in moderate visual contrast.

The visual sensitivity at this KOP is high, as it represents views from a residential area. Since the level of contrast is moderate, the visual impact would be moderate.

A visual simulation for the view from this location is provided in Appendix D.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: AC Analysis Area
PR Link, AR, AC: AC NE-1, NE-2
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Hooker AC
Land Character Unit: High Plains
County, State: Texas, Oklahoma
Longitude: -101.2221916
Latitude: 36.856705

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low, uniform; smooth, regular	Short, low metallic structures; vertical, telephone poles
Line	Horizontal, smooth	Horizontal	Horizontal metallic buildings, vertical telephone poles
Color	Yellows, browns, and greens	Yellow, green	Brown poles, blue metal fence poles, white metal buildings
Texture	Medium to smooth	Even, varied	Moderate, mixed

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



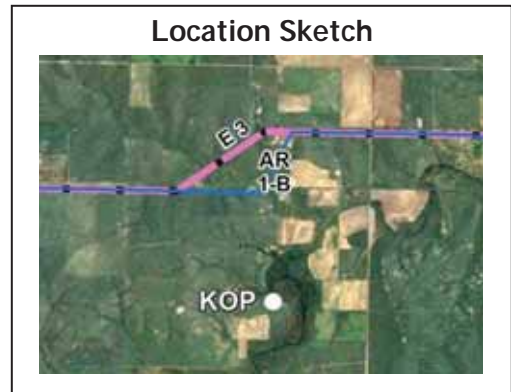
View south from a baseball field in southern Hooker. Single family residences and recreational facilities are nearby.

NE-1 and NE-2 would be located 2.5 miles south of this viewpoint. The existing structures in the FG and MG would blend with the proposed structure. The scale and form of the transmission line would not be different from those of the existing structures. There would be no changes to the landforms or vegetation in this view. Construction and operation of the Project would result in weak visual contrast.

The visual sensitivity at this KOP is high as it represents a community recreation area. However, since the level of contrast is weak, the visual impact would be low at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: 1
PR Link, AR, AC: AC E-3
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Lake Schultz State Park AC
Land Character Unit: Southwestern Tablelands
County, State: Texas, Oklahoma
Longitude: -101.1662355
Latitude: 36.5448784

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling, some dry washes, low ridges	Low grasses, dense grove of rounded trees in low area	Scattered rural residences in vicinity; small rectilinear forms
Line	Horizontal and gently undulating	Rounded trees; low grasses and shrubs (yucca); gently curving horizontal	Not noticeable
Color	Tan, gray	Yellow grasses and weeds, some light green grass and shrub areas, some light brown trees	Light gray
Texture	Fine to moderate	Fine texture grasses and weeds; moderate to course textured trees	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



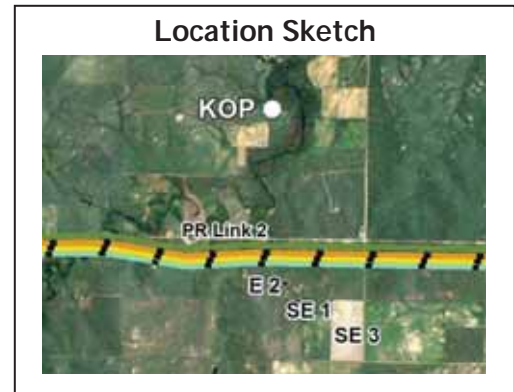
View north from low ridge in west entrance to WMA and state park. View includes dense trees in immediate FG and low ridges in distance. A few scattered residences in the vicinity.

Region 1 AC E-3 would be located 1.2 miles northwest at the closest point to this location. The Project would likely be visible in the distance with the upper portions of tall vertical transmission structures extending above the horizon line. Because no other similar structures are visible to the north, the upper portions of the structures would introduce new forms in the landscape that would contrast with the existing highly intact and natural appearing landscape. No landform or vegetation changes would be visible. Construction and operation of the Project would result in strong contrast.

The visual sensitivity at this KOP is high as it represents a view from a public park and WMA with trails and dispersed recreation use. The visual impact at this location would be moderately high.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: Region1
PR Link, AR, AC: ACs E-2, SE-1, SE-3
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Gently rolling, some dry washes, low ridges	Low grasses, some rounded trees in washes	Low fences; tall narrow vertical monopole power lines
Line	Horizontal and gently undulating	Rounded, horizontal; some low rounded vertical trees	Horizontal fences, vertical power monopoles
Color	Tan, gray	Yellow grasses and weeds, some light green grass and shrub areas, some light brown trees	Dark brown power polls, light brown fence posts
Texture	Fine to moderate	Fine texture grasses and weeds; moderate to course textured trees	Moderate, uniform

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical geometric elements regularly spaced in a line
Line	No Change	No Change	Vertical angular elements in a line
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate to coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



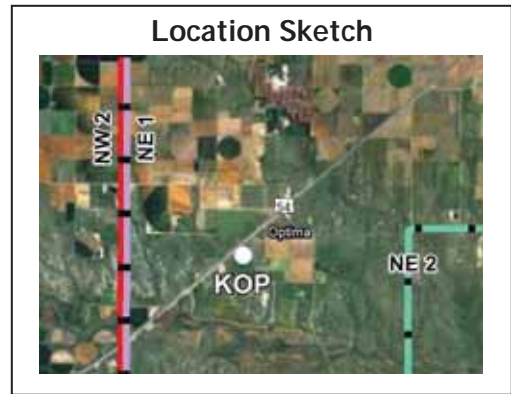
View south from small parking area at entrance to Lake Schultz State Park. View includes grasslands, groups of low trees, fences, and transmission line.

Region 1 ACs E-2, SE-1, and SE-3 would be located in this view 1.0 miles south at the closest point to this location. The Project would appear in the MG just beyond the closest tree line and row of monopole transmission structures. The Project would follow the existing Hitchland to Woodward 345kV Transmission Line. The form and line of the lattice structure transmission line would appear wider, taller, and more geometric than the existing monopole structures and would add to the number of structures visible in a line across the landscape. Presumably there would be no noticeable landform or vegetation changes. Construction and operation of the Project would result in moderate visual contrast.

The visual sensitivity at this KOP is high as it represents a view from a public park and WMA with trails and dispersed recreation use. The visual impact at this location would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: AC Analysis Area
PR Link, AR, AC: NW-2, NE-1, NE-2
Evaluator(s): Z. Michalk / J. Peterson



Key Observation Point: Optima AC
Land Character Unit: Southwestern Tablelands
County, State: Texas, Oklahoma
Longitude: -101.3582083
Latitude: 36.7553816

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low grasses and scrub brush; medium height trees in the immediate FG	Short, low in the FG, none in the BG
Line	Horizontal, straight	Horizontal, straight	Angular, horizontal; vertical telephone poles
Color	Yellow, brown	Yellow	Earth tones, white, brown
Texture	Smooth to medium	Medium	Mixed, uneven

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements will appear as a horizontal row of objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View west from the southwestern edge of Optima near single family homes.

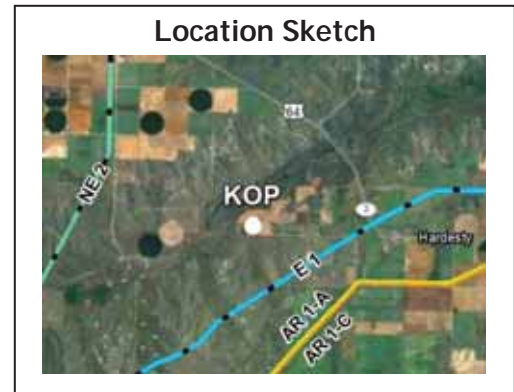
AC NE-1 and NW-2 would be located 2.4 miles west of this viewpoint. The transmission line may appear as a row of objects on the horizon where it is not blocked by the existing trees and structures. The flat, open lands provide visibility of the structures; however, at this distance, the structures would not be very noticeable. There would be no changes to the landforms or vegetation in this view. Construction and operation of NE-1 and NW-2 would result in weak contrast.

AC NE-2 would be located 3.5 miles east of this viewpoint. Structures for NE-2 would be similar to those of NE-1 and NW-2 but would appear smaller and be less noticeable at the farther distance. Construction and operation of the NE-2 also would result in weak contrast.

The visual sensitivity at this KOP is high, as it represents views from a residential area. However, since the level of contrast is weak for NE-1, NW-2, and NE-2, the visual impact would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: 1
PR Link, AR, AC: AC E-1
Evaluator(s): Z. Michalk / J. Peterson



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	FG: flat BG: flat to rolling	Low, uniform, scattered/clumped	Vertical power poles, vertical fence posts
Line	Horizontal, straight, smooth; BG is curving, smooth	Irregular, horizontal	Vertical poles
Color	FG: beige, light tan BG: dark tan, browns	Yellow, greens, light and dark tans, some brown	Brown power poles
Texture	Smooth to medium	Varied, medium to coarse	Uneven, fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Tall, vertical elements regularly spaced in a line
Line	No Change	No Change	Vertical elements would appear as a row of regularly- spaced objects
Color	No Change	No Change	Light gray, metallic
Texture	No Change	No Change	Moderate, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



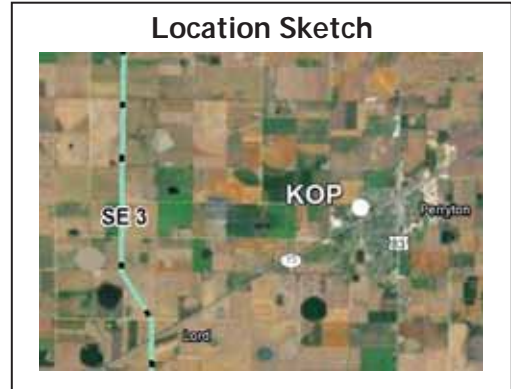
View southeast from near the south edge of Optima National Wildlife Refuge. Location serves as an access point for hunters. View includes low, scrubby brush and grasses in FG and scattered trees and a few low vertical power poles in distance.

Region 1 AC E-1 would be visible in this view about 1.3 miles southeast of this location in the MG. At this distance, structures would be noticeable in the open landscape. The form and line of the new lattice structures would be taller and wider than the existing wood power poles visible in the distance. Also, the new structures would add to the number of vertical structures in views from this area. However, because of their distance they would be co-dominant with these. Presumably no landform or vegetation changes would be noticeable. Construction and operation of the Project would result in moderate visual contrast due to distance and the presence of existing vertical elements in the view.

The visual sensitivity at this KOP is high as it represents a view from a National Wildlife Refuge with trails and some interpretive facilities. Because the visual contrast is moderate, the visual impact at this location would be moderate.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: AC Analysis Area
PR Link, AR, AC: SE-3
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Very flat	Low grasses, rounded trees, scattered	Low one story residents, low rounded tanks, vertical wood power poles, tall metal power poles in distance
Line	Horizontal	Rounded to horizontal	Geometric, rectilinear, round tanks
Color	Tan	Yellow and tan/light brown/gray	Yellow, dull red, white tanks, sage green recreational building, light brown power poles, white vinyl fence around park
Texture	Smooth	Fine texture grasses; course textured trees in FG	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Very thin, low elements, regularly spaced
Line	No Change	No Change	Low vertical elements in line along horizon
Color	No Change	No Change	No Change
Texture	No Change	No Change	No Change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



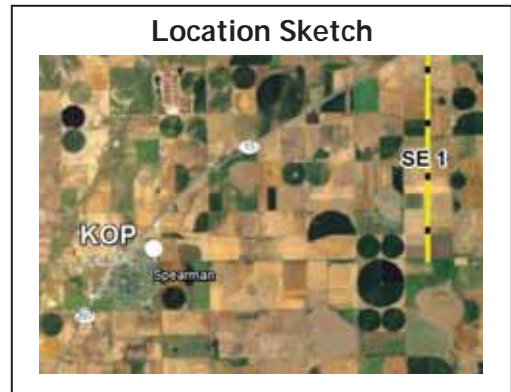
View looking northwest from Leatherman Park in northwest Perryton. Fairgrounds and residences are nearby.

AC Analysis Area SE-3 would be barely visible approximately 5.0 miles west of this viewpoint. The transmission line would appear as a series of low vertical elements evenly spaced along the horizon in the BG. Its scale and form would be different from other elements in the view by being substantially smaller and less noticeable. The AC connector line would add almost imperceptibly to the number of elements in the view and, where not screened by intervening structures and vegetation, would appear as a series of regularly spaced forms extending along the horizon. Its very light gray color and fine texture would be similar to other distance vertical elements in the view and there would be no noticeable changes to landform or vegetation. For these reasons, construction and operation of the Project would result in no visual contrast.

The visual sensitivity at this KOP is high because it represents the view from a public park and nearby residences. However, because the Project results in no visual contrast and the AC connector line is in the BG distance zone, there would be no visual impact at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 25, 2014
Region: 1
PR Link, AR, AC: AC SE-1
Evaluator(s): J. Donaldson/K. Siekmann



Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low, horizontal, grassland	Rectilinear, low buildings and tanks; vertical wood power poles
Line	Horizontal, straight	Horizontal	Angular, rounded buildings and tanks
Color	Tan, beige, gray	Yellow grasses; green, irregular fields	Light gray, yellow, mustard, white, metallic
Texture	Flat, smooth, fine	Fine	Coarse

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No Change	No Change	Very thin, small elements, regularly spaced
Line	No Change	No Change	Low vertical elements in line along horizon
Color	No Change	No Change	Very light gray
Texture	No Change	No Change	Very fine

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

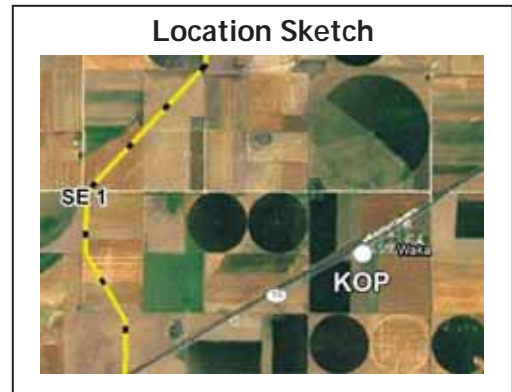


AC Connector SE-1 would be barely visible approximately 5.6 miles east of this viewpoint. The transmission line would appear as a series of low vertical elements evenly spaced along the horizon in the BG. Its scale and form would not be noticeably different from other vertical elements in the view and would be mostly obscured by residential structures in the FG; however, it would add to the number of vertical elements in the view and appear as a line of regularly spaced forms extending along the horizon. Its very light gray color and fine texture would be similar to other distant vertical elements in the view and there would be no noticeable changes to landform or vegetation. For these reasons, construction and operation of the Project would result in weak contrast.

The visual sensitivity at this KOP is high because it represents the view from a residential area. However, because the contrast is weak and the AC connector line is in the BG distance zone, the visual impact at this location would be low.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: February 26, 2014
Region: AC Analysis Area
PR Link, AR, AC: SE-1
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Waka AC
Land Character Unit: High Plains
County, State: Ochiltree County, Texas
Longitude: -101.0502916
Latitude: 36.2796216

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat	Low ag, scattered trees	Vertical power poles, horizontal irrigation structures, one story residences
Line	Horizontal	Horizontal regular, round trees	Low vertical power poles, thin horizontal irrigation structures
Color	Brown	Brown and yellow grasses and ag	Light brown power poles, gray irrigation structures
Texture	Fine	Fine	Fine

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No change	No change	Tall vertical power poles, regularly spaced
Line	No change	No change	Vertical elements in series appear as horizontal row
Color	No change	No change	Light gray, metallic
Texture	No change	No change	Fine, uniform

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



View looking west from southwest edge of Waka. Single family residences are nearby.

AC Analysis Area SE-1 would be visible approximately 2.0 to 2.2 miles west of this viewpoint. The transmission line would appear as a series of low vertical elements evenly spaced along the horizon in the MG. Its scale and form would not be noticeably different from other vertical elements in the view; however, it would add to the number of vertical elements in the view and appear as a line of regularly spaced forms extending along the horizon. Its metallic gray color and fine texture would be similar to other elements in the view, and there would be no noticeable changes to landform or vegetation. For these reasons, construction and operation of the Project would result in weak visual contrast.

The visual sensitivity at this KOP is high because it represents the view from a residential area. However, because the contrast is weak and the AC connector line is in the MG distance zone, the visual impact at this location would be low.

Visual Contrast Rating Worksheets- Converter Stations

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Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 3, 2014
Region: 5
PR Link, AR, AC: Representative AR Interconnect
Evaluator(s): J. Donaldson/K. Siekmann



Key Observation Point: Atkins Interconnection
Land Character Unit: Arkansas Valley
County, State: Pope, Arkansas
Longitude: -92.9355335
Latitude: 35.2681325

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Flat, gently rolling	Low grasses; dense tree lines	Wood power poles; one story residences; barns
Line	Horizontal to slightly undulating	Horizontal grasses; strong tree lines	Vertical power poles; rectilinear homes and barns
Color	Brown	Tan grasses; light brown trees	Light brown power poles; white homes; red barns
Texture	Fine	Moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	No change	No change	No change
Line	No change	No change	No change
Color	No change	No change	No change
Texture	No change	No change	No change

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



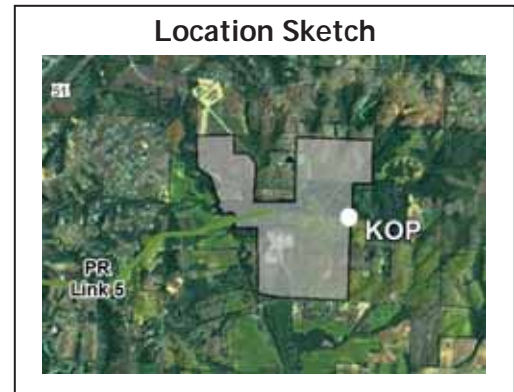
View looking north northeast toward Atkins converter station interconnection line from the northern edge of Atkins. Several rural residences are nearby.

The Atkins converter station interconnection transmission line would be approximately 4 miles north-northeast and would not be visible from this area due to the distance and intervening trees and terrain. Construction and operation of the Project would result in no visual contrast.

The visual sensitivity at this KOP is high because it represents a view from a residential area. Because the Project would not be visible from this area, there would be no visual impact at this location.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: Converter Station and Interconnection
Evaluator(s): J. Donaldson / K. Siekmann



Key Observation Point: Shelby Converter Station-1
Land Character Unit: Mississippi Valley Loess Plains
County, State: Tipton, Tennessee
Longitude: -89.7928642
Latitude: 35.388804

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Low ag; dense, forested tree lines	Tall, geometric transmission lines; existing geometric sub-station; rectilinear utility buildings
Line	Undulating	Horizontal ag; rounded tree lines	Vertical and geometric transmission towers
Color	Brown	Brown and yellow ag; light brown trees; green and tan shrubs	Gray metal transmission towers and converter station; beige buildings
Texture	Fine	Fine to moderate	Coarse

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	Flat	Some trees and ag removed, geometric	Tall, geometric structures; mixed rectilinear and vertical
Line	Straight, horizontal, undulating	Straight tree lines, vertical and horizontal edges, most rounded lines would remain	Varied straight, vertical, angular, geometric
Color	No Change	Less brown, yellow green	No Change
Texture	No Change	No Change	Very coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



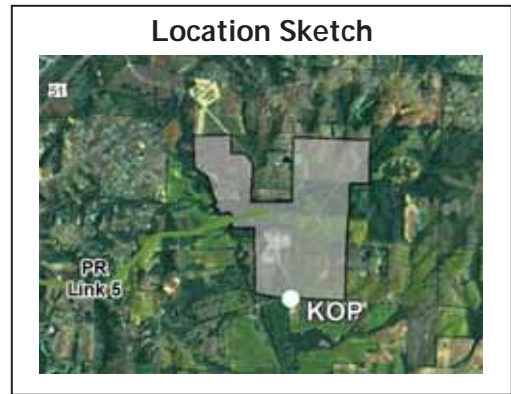
View looking southwest, from an area with residences nearby, toward where the Shelby Converter Station and interconnection transmission line would be. View includes flat to gently rolling terrain, scattered trees, dense forested areas, open ag fields, numerous large metal lattice transmission structures, an existing substation, and some distant low buildings.

Depending on its precise siting location and configuration, the Shelby Converter Station would be located in the FG approximately 0.2 miles west of this viewpoint. The interconnection transmission line would run between the converter station and the existing Shelby substation, which is approximately 0.5 miles from this location. Intervening terrain would partially screen the lower portions of the converter station, including the large valve hall building, and the interconnection transmission line would be mostly screened behind the converter station. Thus views of both the converter station and interconnection transmission line would be limited to the upper portions of structures and conductors. From this viewpoint, the converter station would be highly noticeable in the FG and would be a dominant element in the landscape. Although the form, line, and color of most of the structures would be similar to those of the existing substation and lattice transmission structures, it would appear much larger in scale and substantially coarser in texture due to its proximity to this viewpoint. Substantial grading and removal of agricultural land and some other vegetation would change the form and character of the rolling agricultural landscape in this area. For these reasons, construction and operation of the Shelby Converter Station and interconnection transmission line would result in an overall strong contrast for this location.

The visual sensitivity at this KOP is high because it represents a view from an area with nearby residences. Because contrast is strong and the converter station would be in the FG, its visual impact would be high for this KOP.

Plains and Eastern Clean Line Transmission Project Visual Contrast Rating Worksheet

Date: March 6, 2014
Region: 7
PR Link, AR, AC: Converter Station and Interconnection
Evaluator(s): J. Donaldson / K. Siekmann



Key Observation Point: Shelby Converter Station-2
Land Character Unit: Mississippi Valley Loess Plains
County, State: Shelby, Tennessee
Longitude: -89.8016594
Latitude: 35.3795859

Characteristic Landscape Description

	Landform/Water	Vegetation	Structures
Form	Slightly rolling	Low ag; dense, forested tree lines	Tall, geometric transmission lines; existing geometric sub-station; rectilinear utility buildings
Line	Undulating	Horizontal ag, undulating tree lines	Vertical and geometric transmission towers
Color	Brown	Brown and yellow ag, light brown trees, green and tan shrubs	Gray metal transmission towers
Texture	Fine	Fine to moderate	Moderate

Proposed Activity Description (Facility)

	Landform/Water	Vegetation	Structures
Form	Flat, undulating	Some trees and ag would be removed, geometric	Numerous tall geometric structures, mixed rectilinear and vertical
Line	Straight, horizontal; undulating	No Change	Varied straight, vertical, angular, geometric
Color	No Change	No Change	Gray metallic structures, brown and tan building
Texture	No Change	No Change	Moderate to coarse

Degree of Contrast

Degree of Contrast		Features											
		Landform/Water				Vegetation				Structures			
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Elements	Form	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Line	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Color	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Texture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



View looking northeast toward open fields east of the existing substation from an area with residences nearby. View includes flat to gently rolling terrain, scattered trees, dense forested areas, open ag fields, wood power poles, and several large metal lattice transmission structures.

Depending on its precise siting location and configuration, the Shelby Converter Station would be located in the far FG and near MG 0.5 miles north of this location. The interconnection transmission line would run between the converter station and the existing substation, which is approximately 0.4 miles from this location. Because of its broad profile, the converter station would be noticeable in views from this location; however, most of the structures comprising the converter station would appear similar in form, line, color, and texture to the existing substation and either similar to or smaller in scale viewed from this distance and direction. An exception to this would be the large valve hall metal building that would be located near the south edge of the converter station and appear prominent in views from the south and possibly other directions. The building would be rectilinear in form and large in scale and contrast with other structures in the view. With the exception of the valve hall building, the structures comprising the existing substation and transmission lines would be closer to the KOP and appear larger in scale and more dominant than those of the converter station and interconnection line. Changes to landform and vegetation would be visible, but not very noticeable, from this direction and distance. For these reasons, construction and operation of the Project would result in an overall moderate contrast.

The visual sensitivity at this KOP is high because it represents views from a residential area. Because overall contrast is moderate and the converter station and transmission line would be in the far FG and near MG, the visual impact of the Project viewed from this location would be moderately high.

A visual simulation for the view from this location is provided in Appendix D.

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Appendix D

Visual Simulations

APPENDIX L

REPTILES AND AMPHIBIANS, MAMMALS, FISH, AND AQUATIC
INVERTEBRATES POTENTIALLY OCCURRING WITHIN THE ROI



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APPENDIX L
REPTILES AND AMPHIBIANS, MAMMALS, FISH, AND AQUATIC INVERTEBRATES POTENTIALLY OCCURRING WITHIN THE ROI

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REPTILES AND AMPHIBIANS, MAMMALS, FISH, AND AQUATIC INVERTEBRATES POTENTIALLY OCCURRING WITHIN THE ROI

**Table 1:
Reptile and Amphibians Potentially Occurring within the ROI (by State)**

Common Name	Scientific Name	Oklahoma	Arkansas	Tennessee	Texas ¹
Blanchard's cricket frog	<i>Acris blanchard</i>		X		
Northern cricket frog	<i>Acris crepitans</i>	X		X	
Southern cricket frog	<i>Acris gryllus</i>	X		X	
Copperhead	<i>Agkistrodon contortrix</i>	X		X	
Southern copperhead	<i>Agkistrodon contortrix contortrix</i>		X		
Cottonmouth	<i>Agkistrodon piscivorous</i>			X	
Western cottonmouth	<i>Agkistrodon piscivorous leucostoma</i>	X	X		
American alligator	<i>Alligator mississippiensis</i>		X		
Ringed salamander	<i>Ambystoma annulatum</i>		X		
Spotted salamander	<i>Ambystoma maculatum</i>		X	X	
Marbled salamander	<i>Ambystoma opacum</i>		X	X	
Mole salamander	<i>Ambystoma talpoideum</i>		X	X	
Narrow-mouthed salamander	<i>Ambystoma texanum</i>	X			
Small-mouthed salamander	<i>Ambystoma texanum</i>		X	X	
Tiger salamander	<i>Ambystoma tigrinum</i>	X		X	X
Three-toed amphiuma	<i>Amphiuma tridactylum</i>		X	X	
Dwarf American toad	<i>Anaxyrus americanus charlesmithi</i>		X		
Great Plain's toad	<i>Anaxyrus cognatus</i>	X			
Fowler's toad	<i>Anaxyrus fowleri</i>		X		
Red-spotted toad	<i>Anaxyrus punctatus</i>	X			
Woodhouse's toad	<i>Anaxyrus woodhousii</i>	X		X	
Rocky Mountain toad	<i>Anaxyrus woodhousii woodhousii</i>		X		
Northern green anole	<i>Anolis carolinensis</i>		X		
Midland smooth softshell	<i>Apalone mutica mutica</i>		X		
Spiny softshell	<i>Apalone spinifera</i>		X		X
Glossy snake	<i>Arizona elegans</i>				X
Kansas glossy snake	<i>Arizona elegans elegans</i>	X			
Six-lined racerunner	<i>Aspidoscelis sexlineata</i>				X
Prairie racerunner	<i>Aspidoscelis sexlineata viridis</i>		X		
American toad	<i>Bufo americanus</i>	X		X	
Great Plains toad	<i>Bufo cognatus</i>				X
Western green toad	<i>Bufo debilis</i>	X			
Texas toad	<i>Bufo speciosus</i>	X			
Southern toad	<i>Bufo terrestris</i>	X			
Woodhouse's toad	<i>Bufo woodhousii</i>				X
Eastern wormsnake	<i>Carphophis amoenus</i>			X	
Midwestern wormsnake	<i>Carphophis amoenus helenae</i>		X		
Western wormsnake	<i>Carphophis vermis</i>	X	X		
Scarletsnake	<i>Cemophora coccinea</i>			X	
Northern scarletsnake	<i>Cemophora coccinea copei</i>	X	X		
Snapping turtle	<i>Chelydra serpentina</i>		X	X	X

**Table 1:
Reptile and Amphibians Potentially Occurring within the ROI (by State)**

Common Name	Scientific Name	Oklahoma	Arkansas	Tennessee	Texas ¹
Eastern snapping turtle	<i>Chelydra serpentina serpentina</i>	X			
Southern painted turtle	<i>Chrysemys dorsalis</i>		X		
Painted turtle	<i>Chrysemys picta</i>			X	
Six-lined racerunner	<i>Cnemidophorus sexlineatus</i>			X	
North American racer	<i>Coluber constrictor</i>	X	X	X	X
Eastern coachwhip	<i>Coluber flagellum flagellum</i>		X		
Western diamond-backed rattlesnake	<i>Crotalus atrox</i>	X	X		
Timber rattlesnake	<i>Crotalus horridus</i>	X	X	X	
Prairie rattlesnake	<i>Crotalus viridis</i>	X			X
Eastern collared lizard	<i>Crotaphytus collaris</i>		X		X
Ozark hellbender	<i>Cryptobranchus alleganiensis bishopi</i>		X		
Western chicken turtle	<i>Deirochelys reticularia miaria</i>		X		
Ouachita dusky salamander	<i>Desmognathus brimleyorum</i>		X		
Spotted dusky salamander	<i>Desmognathus conanti</i>		X		
Ring-necked snake	<i>Diadophis punctatus</i>	X	X	X	X
Great Plains ratsnake	<i>Elaphe emoryi</i>	X			
Black ratsnake	<i>Elaphe obsoleta obsoleta</i>	X			
Coal skink	<i>Eumeces anthracinus pluvialis</i>	X			
Five-lined skink	<i>Eumeces fasciatus</i>	X			
Southern two-lined salamander	<i>Eurycea cirrigera</i>			X	
Long-tailed salamander	<i>Eurycea longicauda</i>	X		X	
Dark-sided salamander	<i>Eurycea longicauda melanopleura</i>		X		
Cave salamander	<i>Eurycea lucifuga</i>		X		
Many-ribbed Graybelly salamander	<i>Eurycea multiplicata griseogaster</i>	X	X		
Many-ribbed salamander	<i>Eurycea multiplicata multiplicatasp.</i>		X		
Oklahoma salamander	<i>Eurycea tynesensis</i>	X	X		
Red-bellied mudsnake	<i>Farancia abacura</i>			X	
Western mudsnake	<i>Farancia abacura reinwardtii</i>		X		
Eastern narrow-mouthed toad	<i>Gastrophryne carolinensis</i>	X	X	X	
Western narrow-mouthed toad	<i>Gastrophryne olivacea</i>	X	X		
Northern map turtle	<i>Graptemys geographica</i>		X		
Mississippi map turtle	<i>Graptemys kohni</i>	X	X		
Ouachita map turtle	<i>Graptemys ouachitensis ouachitensis</i>		X		
False map turtle	<i>Graptemys pseudogeographica</i>			X	
Ouachita map turtle	<i>Graptemys pseudogeographica ouachitensis</i>	X		X	
Four-toed salamander	<i>Hemidactylum scutatum</i>		X		
Western hog-nosed snake	<i>Heterodon nasicus</i>	X			
Plains hog-nosed snake	<i>Heterodon nasicus</i>				X
Eastern hog-nosed snake	<i>Heterodon platirhinos</i>	X	X	X	X
Common lesser earless lizard	<i>Holbroolda maculata</i>				X

REPTILES AND AMPHIBIANS, MAMMALS, FISH, AND AQUATIC INVERTEBRATES POTENTIALLY OCCURRING WITHIN THE ROI

**Table 1:
Reptile and Amphibians Potentially Occurring within the ROI (by State)**

Common Name	Scientific Name	Oklahoma	Arkansas	Tennessee	Texas ¹
Big-voiced treefrog	<i>Hyla avivoca</i>			X	
Western bird-voiced treefrog	<i>Hyla avivoca avivoca</i>		X		
Cope's gray treefrog	<i>Hyla chrysoscelis</i>		X	X	
Green treefrog	<i>Hyla cinerea</i>		X	X	
Spring peeper	<i>Hyla crucifer</i>	X		X	
Barking treefrog	<i>Hyla gratiosa</i>			X	
Gray treefrog	<i>Hyla versicolor</i>	X	X	X	
Chihuahuan nightsnake	<i>Hypsiglena jani</i>				X
Texas nightsnake	<i>Hypsiglena torquata jani</i>	X			
Mississippi mud turtle	<i>Kinostemon subrubrum hippocrepsis</i>	X	X		
Yellow mud turtle	<i>Kinosternon flavescens</i>	X			X
Prairie kingsnake	<i>Lampropeltis calligaster</i>	X	X		
Speckled kingsnake	<i>Lampropeltis getula holbrooki</i>	X	X		
Common kingsnake	<i>Lampropeltis getula</i>				X
Black kingsnake	<i>Lampropeltis nigra</i>			X	
Milksnake	<i>Lampropeltis triangulum</i>	X	X	X	
Plains threadsnake	<i>Leptotyphlops dulcis dissectus</i>	X			
Crawfish frog	<i>Lithobates areolatus ssp.</i>		X		
Plains leopard frog	<i>Lithobates blairi</i>	X	X		
American bullfrog	<i>Lithobates catesbeianus</i>	X	X	X	
Green frog	<i>Lithobates clamitans</i>	X	A	X	
Pickerel frog	<i>Lithobates palustris</i>		X	X	
Southern leopard frog	<i>Lithobates sphenoccephalus utricularius</i>		X		
Wood frog	<i>Lithobates sylvaticus</i>		X		
Alligator snapping turtle	<i>Macrochelys temminckii</i>	X	X	X	
Coachwhip	<i>Masticophis flagellum</i>	X		X	X
Mudpuppy	<i>Necturus maculosus</i>	X		X	
Red River mudpuppy	<i>Necturus maculosus louisianensis</i>		X		
Mississippi green watersnake	<i>Nerodia cyclopion</i>		X	X	
Plain-bellied watersnake (Yellowbelly)	<i>Nerodia erythrogaster flavigaster</i>	X	X	X	
Plain-bellied watersnake (Blotched)	<i>Nerodia erythrogaster transversa</i>	X	X		X
Southern watersnake	<i>Nerodia fasciata</i>			X	
Broad-banded watersnake	<i>Nerodia fasciata confluens</i>		X		
Diamond-backed watersnake	<i>Nerodia rhombifer</i>	X			X
Northern diamond-backed watersnake	<i>Nerodia rhombifer rhombifer</i>		X	X	
Northern watersnake	<i>Nerodia sipedon</i>	X		X	
Midland watersnake	<i>Nerodia sipedon pleuralis</i>		X		
Central newt	<i>Notophthalmus viridescens louisianensis</i>		X		
Eastern newt	<i>Notophthalmus viridescens</i>			X	
Rough greensnake	<i>Opheodrys aestivus</i>			X	

**Table 1:
Reptile and Amphibians Potentially Occurring within the ROI (by State)**

Common Name	Scientific Name	Oklahoma	Arkansas	Tennessee	Texas ¹
Northern rough greensnake	<i>Ophiodrys aestivus</i>	X	X		
Slender glass lizard	<i>Ophisaurus attenuatus</i>			X	
Western slender glass lizard	<i>Ophisaurus attenuatus attenuatus</i>		X		
Great Plains ratsnake	<i>Pantherophis emoryi</i>		X		X
Red cornsnake	<i>Pantherophis guttatus</i>			X	
Texas ratsnake	<i>Pantherophis obsoletus</i>		X		
Gray ratsnake	<i>Pantherophis spiloides</i>			X	
Texas horned lizard	<i>Phrynosoma cornutum</i>				X
Gophersnake	<i>Pituophis catenifer</i>				X
Bullsnake	<i>Pituophis catenifer sayi</i>	X			
Pinesnake	<i>Pituophis melanoleucus</i>			X	
Southern coal skink	<i>Plestiodon anthracinus pluvialis</i>		X		
Five-lined skink	<i>Plestiodon fasciatus</i>	X	X	X	
Southeastern five-lined skink	<i>Plestiodon inexpectatus</i>			X	
Broad-headed skink	<i>Plestiodon laticeps</i>		X	X	
Great Plains skink	<i>Plestiodon obsoletus</i>				X
Southern prairie skink	<i>Plestiodon septentrionalis obtusirostris</i>		X		
Western slimy salamander	<i>Plethodon albagula</i>		X		
Ozark zigzag salamander	<i>Plethodon angustidavus</i>		X		
Northern slimy salamander	<i>Plethodon glutinosus</i>	X			
Mississippi slimy salamander	<i>Plethodon mississippi</i>			X	
Rich Mountain salamander	<i>Plethodon ouachitae</i>	X			
Southern red-backed salamander	<i>Plethodon serratus</i>		X		
Spring peeper	<i>Pseudacris crucifer</i>		X		
Spotted chorus frog	<i>Pseudacris clarkii</i>	X			X
Upland chorus frog	<i>Pseudacris ferixum</i>		X		
Cajun chorus frog	<i>Pseudacris fouquettei</i>		X		
Strecker's chorus frog	<i>Pseudacris streckeri</i>	X	X		
Striped chorus frog	<i>Pseudacris triseriata</i>	X		X	
River cooter	<i>Pseudemys concinna</i>			X	
Eastern river cooter	<i>Pseudemys concinna concinna</i>		X		
Missouri river cooter	<i>Pseudemys concinna hieroglyphics</i>	X			
Cooter	<i>Pseudemys floridana hoyi</i>	X			
Crawfish frog	<i>Rana areolatus</i>	X		X	
Plain's leopard frog	<i>Rana blairi</i>				X
American bullfrog	<i>Rana catesbeianus</i>				X
Northern leopard frog	<i>Rana pipiens</i>	X			
Southern leopard frog	<i>Rana utricularius</i>	X		X	
Graham's crayfish snake	<i>Regina grahami</i>	X	X		
Gulf crayfish snake	<i>Regina rigida sinicola</i>		X		
Queensnake	<i>Regina septemvittata</i>		X		

REPTILES AND AMPHIBIANS, MAMMALS, FISH, AND AQUATIC INVERTEBRATES POTENTIALLY OCCURRING WITHIN THE ROI

**Table 1:
Reptile and Amphibians Potentially Occurring within the ROI (by State)**

Common Name	Scientific Name	Oklahoma	Arkansas	Tennessee	Texas ¹
Long-nosed snake	<i>Rhinocheilus lecontei</i>				X
Texas long-nosed snake	<i>Rhinocheilus lecontei tessellatus</i>	X			
Western spadefoot toad	<i>Scaphiopus hammondi</i>	X			
Eastern spadefoot	<i>Scaphiopus holbrookii</i>	X	X	X	
Hurter's spadefoot	<i>Scaphiopus hurterii</i>		X		
Prairie lizard	<i>Sceloporus consobrinus</i>		X		
Eastern fence lizard	<i>Sceloporus undulatus</i>			X	X
Prairie lizard	<i>Sceloporus undulatus</i>				X
Little brown skink	<i>Scincella lateralis</i>		X	X	
Lesser siren	<i>Siren intermedia</i>			X	
Western lesser siren	<i>Siren intermedia nettingi</i>		X		
Western massasauga rattlesnake	<i>Sistrurus catenatus tergeminus</i>	X			
Western pygmy rattlesnake	<i>Sistrurus miliarius streckeri</i>	X	X		
Groundsnake	<i>Sonora semiannulata</i>	X			X
Plains spadefoot	<i>Spea bombifrons</i>	X	X		X
Mexican spadefoot	<i>Spea multiplicata</i>	X			X
Eastern musk turtle	<i>Stemotherus odoratus</i>	X	X	X	
Dekay's brownsnake	<i>Storeria dekayi</i>			X	
Brownsnake	<i>Storeria dekayi texana</i>	X			
Midland brownsnake	<i>Storeria dekayi wrightorum</i>		X		
Red-bellied snake	<i>Storeria occipitomaculata</i>		X	X	
Flat-head snake	<i>Tantilla gracilis</i>	X	X		
Plains black-headed snake	<i>Tantilla nigriceps</i>				X
Three-toed box turtle	<i>Terrapene carolina triunguis</i>	X	X	X	
Ornate box turtle	<i>Terrapene omata omata</i>	X	X		X
Western black-necked gartersnake	<i>Thamnophis cyrtopsis cyrtopsis</i>	X			
Checkered gartersnake	<i>Thamnophis mxcianus</i>				X
Marcy's checkered gartersnake	<i>Thamnophis marcianus marcianus</i>	X			
Western ribbonsnake	<i>Thamnophis proximus</i>			X	X
Orange-striped ribbonsnake	<i>Thamnophis proximus proximus</i>	X	X		
Plains gartersnake	<i>Thamnophis radix</i>	X			X
Eastern ribbonsnake	<i>Thamnophis sauritus</i>			X	
Common gartersnake	<i>Thamnophis sirtalis</i>	X		X	
Eastern gartersnake	<i>Thamnophis sirtalis sirtalis</i>		X		
Southeastern crowned snake	<i>Tontine coronata</i>			X	
Plains black-headed snake	<i>Tontine nigriceps</i>	X			
Pond slider	<i>Trachemys scripta</i>			X	X
Common or red-eared slider	<i>Trachemys scripta elegans</i>	X	X		
Smooth softshell turtle	<i>Trionyx muticus</i>	X			
Western spiny softshell turtle	<i>Trionyx spiniferus hartwegi</i>	X		X	
Lined snake	<i>Tropidoclonion lineatum</i>	X			X

**Table 1:
Reptile and Amphibians Potentially Occurring within the ROI (by State)**

Common Name	Scientific Name	Oklahoma	Arkansas	Tennessee	Texas ¹
Rough earthsnake	<i>Virginia striatula</i>	X	X	X	
Smooth earthsnake	<i>Virginia valence</i>			X	
Western smooth earthsnake	<i>Virginia valeriae elegans</i>	X	X		

1 Note that this is a conservative estimate of the wildlife species that could occur in the limited portion of Texas in which the ROI crosses. Sources: CNAH (2013), OBS (2013), OKSnakes (2013), HOA (2013), Scott and Redmond (2008), Redmond and Scott (1996), Herps of Texas (2013)

REPTILES AND AMPHIBIANS, MAMMALS, FISH, AND AQUATIC INVERTEBRATES POTENTIALLY OCCURRING WITHIN THE ROI

**Table 2:
Mammals Potentially Occurring within the ROI (by State)**

Common Name	Scientific Name	Oklahoma	Arkansas	Tennessee	Texas ¹
Pronghorn	<i>Antilocapra Americana</i>	X			X
Northern pygmy mouse	<i>Baiomys taylori</i>				X
Ringtail	<i>Bassaricus astutus</i>				X
Southern short-tailed shrew	<i>Blarina carolinensis</i>			X	
Coyote	<i>Canis latrans</i>	X	X	X	X
American beaver	<i>Castor canadensis</i>	X	X	X	X
Elk	<i>Cervus elaphus</i>	X	X	X	
Hispid pocket mouse	<i>Chaetodipus hispidus</i>	X			X
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>				X
Ozark big-eared bat	<i>Corynorhinus townsendii ingens</i>	X	X		
Yellow-faced pocket gopher	<i>Cratogeomys castanops</i>				X
North American least shrew	<i>Cryptotis parva</i>			X	X
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>				X
Nine-banded armadillo	<i>Dasyus novemcinctus</i>		X	X	X
Virginia opossum	<i>Didelphis virginiana</i>	X	X	X	
Ord's kangaroo rat	<i>Dipodomys ordii</i>				X
Big brown bat	<i>Eptesicus fuscus</i>			X	X
Porcupine	<i>Erethizon dorsatum</i>				X
Plains pocket gopher	<i>Geomys bursarius</i>	X			X
Southern flying squirrel	<i>Glaucomys volans</i>			X	
Silver-haired bat	<i>Lasionycteris noctivagans</i>				X
Eastern red bat	<i>Lasiurus borealis</i>			X	X
Hoary bat	<i>Lasiurus cinereus</i>				X
Black-tailed jackrabbit	<i>Lepus californicus</i>	X	X		X
Northern American river otter	<i>Lontra canadensis</i>	X	X	X	X
Bobcat	<i>Lynx rufus</i>	X	X	X	X
Groundhog	<i>Marmota monax</i>		X	X	
Striped skunk	<i>Mephitis mephitis</i>	X	X	X	X
Prairie vole	<i>Microtus ochrogaster</i>			X	X
Woodland vole	<i>Microtus pinetorum</i>			X	
House mouse	<i>Mus musculus</i>				X
Long-tailed weasel	<i>Mustela frenata</i>			X	
American mink	<i>Mustela vison</i>		X	X	
Nutria	<i>Myocastor coypus</i>	X	X		
Western small-footed myotis	<i>Myotis ciliolabrum</i>				X
Gray bat	<i>Myotis grisescens</i>	X	X		
Northern long-eared bat	<i>Myotis septentrionalis</i>	X	X	X	
Indiana bat	<i>Myotis sodalis</i>	X	X	X	
Fringed myotis	<i>Myotis thysanodes</i>				X
Cave myotis	<i>Myotis velifer</i>				X
White-throated woodrat	<i>Neotoma albigula</i>				X

Table 2:
Mammals Potentially Occurring within the ROI (by State)

Common Name	Scientific Name	Oklahoma	Arkansas	Tennessee	Texas ¹
Southern Plains woodrat	<i>Neotoma micropus</i>				X
Big free-tailed bat	<i>Noctinomops femorosacca</i>				X
Desert shrew	<i>Notiosorex crawfordi</i>				X
Evening bat	<i>Nycticeius humeralis</i>			X	
Mule deer	<i>Odocoileus hemionus</i>				X
White-tailed deer	<i>Odocoileus virginianus</i>	X	X	X	X
Common muskrat	<i>Ondatra zibethicus</i>	X	X	X	
Northern grasshopper mouse	<i>Onychomys leucogaster</i>				X
Marsh rice rat	<i>Oryzomys palustris</i>			X	
Tri-colored bat	<i>Perimyotis subflavus</i>			X	
Plains pocket mouse	<i>Perognathus flavescens</i>				X
Silky pocket mouse	<i>Perognathus flavus</i>	X			X
Merriam's pocket mouse	<i>Perognathus merriami</i>				X
Brush mouse	<i>Peromyscus boylii</i>				X
Cotton deermouse	<i>Peromyscus gossypinus</i>			X	
White-footed mouse	<i>Peromyscus leucopus</i>	X		X	X
Deer mouse	<i>Peromyscus maniculatus</i>	X			X
North American short-tailed deermouse	<i>Peromyscus maniculatus bardii</i>			X	
White-ankled mouse	<i>Peromyscus pectoralis</i>				X
Western pipistrelle	<i>Pipistrellus hesperus</i>				X
Raccoon	<i>Procyon lotor</i>	X	X	X	X
Norway rat	<i>Rattus norvegicus</i>				X
Roof rat	<i>Rattus rattus</i>				X
Fulvous harvest mouse	<i>Reithrodontomys fulvescens</i>				X
Western harvest mouse	<i>Reithrodontomys megalotis</i>				X
Plains harvest mouse	<i>Reithrodontomys montanus</i>	X			X
Eastern mole	<i>Scalopus aquaticus</i>			X	X
Eastern gray squirrel	<i>Sciurus carolinensis</i>		X	X	
Eastern fox squirrel	<i>Sciurus niger</i>		X	X	
Hispid cotton rat	<i>Sigmodon hispidus</i>	X		X	X
Mexican ground squirrel	<i>Spermophilus mexicanus</i>				X
Spotted ground squirrel	<i>Spermophilus spilosoma</i>				X
Thirteen-lined ground squirrel	<i>Spermophilus tridecemlineatus</i>	X			X
Eastern spotted skunk	<i>Spilogale putorius</i>		X		X
Swamp rabbit	<i>Sylvilagus aquaticus</i>		X	X	
Desert cottontail	<i>Sylvilagus audubonni</i>	X			X
Eastern cottontail rabbit	<i>Sylvilagus floridanus</i>	X	X	X	X
Mexican free-tailed bat	<i>Tadarida brasiliensis</i>	X			X
Eastern chipmunk	<i>Tamias striatus</i>		X	X	

Table 2:
Mammals Potentially Occurring within the ROI (by State)

Common Name	Scientific Name	Oklahoma	Arkansas	Tennessee	Texas ¹
American badger	<i>Taxidea taxus</i>		X		X
Gray fox	<i>Urocyon cinereoargenteus</i>	X	X	X	X
American black bear	<i>Ursus americanus</i>		X	X	
Swift fox	<i>Vulpes velox</i>				X
Red fox	<i>Vulpes vulpes</i>	X	X	X	

1 Note that this is a conservative estimate of the wildlife species that could occur in the limited portion of Texas in which the ROI occurs.

Sources: AGFC (2011, 2013), ASM (2013), ODWC (2013), TWRA (2013a, 2013b)

APPENDIX L
REPTILES AND AMPHIBIANS, MAMMALS, FISH, AND AQUATIC INVERTEBRATES POTENTIALLY OCCURRING WITHIN THE ROI

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REPTILES AND AMPHIBIANS, MAMMALS, FISH, AND AQUATIC INVERTEBRATES POTENTIALLY OCCURRING WITHIN THE ROI

Table 3:
Fish Species Potentially Occurring within the ROI (by State)

Common Name ¹	Scientific Name	Oklahoma	Arkansas	Tennessee	Texas ²
Alligator gar	<i>Atractosteus spatula</i>	X	X	X	X
American eel	<i>Anguilla rostrata</i>	X	X	X	
Banded darter	<i>Etheostoma zonale</i>	X	X		
Banded pygmy sunfish	<i>Elassoma zonatum</i>		X	X	
Bigeye shiner	<i>Notropis boops</i>	X	X		
Bigmouth buffalo	<i>Ictiobus cyperinellus</i>		X	X	
Black buffalo	<i>Ictiobus niger</i>		X	X	
Black bullhead catfish	<i>Ameiurus melas</i>	X	X	X	X
Black crappie	<i>Pomoxis nigromaculatus</i>	X	X		X
Black tail shiner	<i>Cyprinella venusta</i>		X	X	
Blackspotted topminnow	<i>Fundulus olivaceus</i>	X	X	X	
Blacktail shiner	<i>Notropis venustus</i>		X	X	
Bleeding shiner	<i>Notropis zonatus</i>		X		
Blue catfish	<i>Ictalurus furcatus</i>	X	X		
Bluegill	<i>Lepomis macrochirus</i>	X	X	X	X
Bluntnose minnow	<i>Pimephales notatus</i>	X	X	X	
Bowfin	<i>Amia calva</i>	X	X	X	
Brindled madtom	<i>Noturus miurus</i>	X	X	X	
Brook silverside	<i>Labidesthes sicculus</i>	X	X	X	
Brook trout	<i>Salvenius fontinalis</i>		X		
Brown bullhead	<i>Ameiurus nebulosus</i>	X	X	X	
Brown trout	<i>Salmo trutta</i>	X	X		
Bullhead catfish	<i>Ameiurus spp.</i>			X	
Bullhead minnow	<i>Pimephales vigilax</i>		X	X	
Central stoneroller	<i>Campostoma anomalum</i>	X	X	X	X
Chain pickerel	<i>Esox niger</i>		X	X	
Channel catfish	<i>Ictalurus punctatus</i>	X	X	X	X
Common carp	<i>Cyprinus carpio</i>	X	X	X	X
Creek chub	<i>Semotilus atromaculatus</i>		X	X	
Creek chubsucker	<i>Erimyzon oblongus</i>	X	X	X	
Crystal darter	<i>Ammocrypta asprella</i>		X		
Cutthroat trout	<i>Oncorhynchus clarkii</i>		X		
Dollar sunfish	<i>Lepomis marginatus</i>		X	X	
Emerald shiner	<i>Notropis atherinoides</i>	X	X	X	X
Fantail darter	<i>Etheostoma flabellare</i>	X	X		
Fathead minnow	<i>Pimephales promelas</i>	X	X	X	X
Flathead catfish	<i>Pylodictis olivaris</i>	X	X	X	X
Flathead chub	<i>Hybopsis gracilis</i>	X	X	X	
Flier	<i>Centrarchus macropterus</i>		X	X	

**Table 3:
 Fish Species Potentially Occurring within the ROI (by State)**

Common Name ¹	Scientific Name	Oklahoma	Arkansas	Tennessee	Texas ²
Freckled madtom	<i>Noturus nocturnus</i>	X	X	X	
Freshwater drum	<i>Aplodinotus grunniens</i>	X	X	X	X
Gilt darter	<i>Percina evides</i>		X		
Gizzard shad	<i>Dorosoma cepedianum</i>	X	X	X	X
Golden redhorse	<i>Moxostoma erythrurum</i>	X	X		
Golden shiner	<i>Notemigonus crysoleucas</i>	X	X	X	X
Golden topminnow	<i>Fundulus chrysotus</i>		X	X	
Goldeye	<i>Hiodon alosoides</i>	X	X	X	
Goldfish	<i>Carassius auratus</i>	X	X	X	X
Grass carp	<i>Ctenopharyngodon idella</i>	X	X	X	X
Grass pickerel	<i>Esox americanus</i>		X	X	
Green sunfish	<i>Lepomis cyanellus</i>	X	X	X	X
Greenside darter	<i>Etheostoma blennioides</i>	X	X		
Hornyhead chub	<i>Nocomis biguttatus</i>		X		
Johnny darter	<i>Etheostoma nigrum</i>	X	X		
Lake sturgeon	<i>Acipenser fulvescens</i>	X	X		
Largemouth bass	<i>Micropterus salmoides</i>	X	X	X	X
Logperch	<i>Percina caprodes</i>	X	X	X	
Longear sunfish	<i>Lepomis megalotis</i>	X	X	X	X
Longnose gar	<i>Lepisosteus osseus</i>	X	X	X	
Mimic shiner	<i>Notropis volucellus</i>	X	X	X	
Mississippi silvery minnow	<i>Hybognathus nuchalis</i>	X	X	X	
Northern hog sucker	<i>Hypentelium nigricans</i>	X	X	X	
Northern studfish	<i>Fundulus catenatus</i>	X	X		
Orangespotted sunfish	<i>Lepomis humilis</i>		X	X	
Orangethroat darter	<i>Etheostoma spectabile</i>	X	X		
Ozark bass	<i>Ambloplites constellatus</i>		X		
Ozark minnow	<i>Notropis nubilus</i>	X	X		
Paddlefish	<i>Polyodon spathula</i>	X	X	X	
Pirate perch	<i>Aphredoderus sayanus</i>		X	X	
Plains killifish	<i>Fundulus zebrinus</i>	X			X
Pugnose shiner/minnow	<i>Notropis emiliae</i>	X	X	X	
Quillback	<i>Cariodes cyprinus</i>	X	X	X	
Rainbow darter	<i>Etheostoma caeruleum</i>		X		
Rainbow smelt	<i>Osmerus mordax</i>		X	X	
Rainbow trout	<i>Oncorhynchus mykiss</i>	X	X	X	
Red shiner	<i>Notropis lutrensis</i>	X	X	X	X
Redear sunfish	<i>Lepomis microlophus</i>	X	X	X	

REPTILES AND AMPHIBIANS, MAMMALS, FISH, AND AQUATIC INVERTEBRATES POTENTIALLY OCCURRING WITHIN THE ROI

Table 3:
Fish Species Potentially Occurring within the ROI (by State)

Common Name ¹	Scientific Name	Oklahoma	Arkansas	Tennessee	Texas ²
Redfin darter	<i>Etheostoma whipplei</i>	X	X		
Redfin shiner	<i>Notropis umbratilis</i>	X	X	X	
River carpsucker	<i>Carpiodes carpio</i>	X	X	X	
River darter	<i>Percina shumardi</i>		X	X	
River redhorse	<i>Moxostoma carinatum</i>	X	X		
Rosyface shiner	<i>Notropis rubellus</i>	X	X		
Sand shiner	<i>Notropis stramineus</i>	X			X
Sauger	<i>Sander canadensis</i>	X	X	X	
Scaly sand darter	<i>Ammocrypta vivax</i>		X	X	
Shortnose gar	<i>Lepisosteus platostomus</i>		X	X	
Shovelnose sturgeon	<i>Scaphirhynchus platyrhynchus</i>	X	X	X	X
Silver chub	<i>Hybopsis storeiana</i>			X	
Slender madtom	<i>Noturus exilis</i>	X	X		
Slenderhead darter	<i>Percina phoxocephala</i>	X	X		
Smallmouth bass	<i>Micropterus dolomieu</i>	X	X	X	X
Smallmouth buffalo Skipjack shad	<i>Alosa chrysochloris</i>	X	X	X	
Smallmouth buffalo	<i>Ictiobus bubalus</i>	X	X	X	X
Southern redbully dace	<i>Phoxinus erythrogaster</i>	X	X		
Speckled chub	<i>Hybopsis aestivalis</i>	X	X	X	X
Speckled darter	<i>Etheostoma stigmaeum</i>	X	X		
Spotfin shiner	<i>Notropis spilopterus</i>	X	X		
Spotted bass	<i>Micropterus punctulatus</i>	X	X	X	X
Spotted gar	<i>Lepisosteus oculatus</i>	X	X	X	
Spotted sucker	<i>Minytrema melanops</i>	X	X	X	
Starhead topminnow	<i>Fundulus notti</i>		X	X	
Steelcolor shiner	<i>Cyprinella whipplei</i>		X	X	
Stippled darter	<i>Etheostoma punctulatum</i>	X	X		
Stonecat	<i>Noturus flavus</i>		X	X	
Streamline chub	<i>Hybopsis dissimilis</i>		X		
Striped bass	<i>Morone saxatilis</i>	X	X		X
Striped shiner	<i>Notropis chrysocephalus</i>	X	X	X	
Suckermouth minnow	<i>Phenacobius mirabilis</i>	X	X	X	X
Tadpole madtom	<i>Noturus gyrinus</i>	X	X	X	
Taillight shiner	<i>Notropis maculatus</i>		X	X	
Walleye	<i>Stizostedion vitreum</i>	X	X	X	
Warmouth	<i>Lepomis gulosus</i>	X	X	X	X
Weed shiner	<i>Notropis texanus</i>		X		
Western mosquitofish	<i>Gambusia affinis</i>	X	X	X	X

Table 3:
Fish Species Potentially Occurring within the ROI (by State)

Common Name ¹	Scientific Name	Oklahoma	Arkansas	Tennessee	Texas ²
Western sand darter	<i>Ammocrypta clara</i>		X		
White bass	<i>Morone chrysops</i>	X	X	X	X
White crappie	<i>Pomoxis annularis</i>	X	X		X
White sucker	<i>Catostomus commersoni</i>	X	X	X	
Whitetail minnow	<i>Notropis galacturus</i>		X		
Yellow bass	<i>Morone mississippiensis</i>	X	X	X	X
Yellow bullhead catfish	<i>Ictalurus natalis</i>	X	X	X	X
Yellow perch	<i>Perca flavescens</i>			X	

1 This table does not include ESA-listed fish species.

2 Includes species in the Texas Panhandle region.

Sources: Pigg (1987), Clean Line (2013, 2014), TPWD (2014), USGS (2014)

Table 4:
Aquatic Invertebrate Species Potentially Occurring within the ROI (by State)

Common Name ¹	Scientific Name ¹	Oklahoma	Arkansas	Tennessee	Texas ²
Bivalve Mollusks³					
Bankclimber	<i>Plectomerus dombeyanus</i>		X	X	
Black sandshell	<i>Ligumia recta</i>		X		
Bleufer	<i>Potamilus purpuratus</i>	X	X	X	X
Butterfly	<i>Ellipsaria lineolata</i>		X		
Creeper	<i>Strophitus undulatus</i>	X	X	X	
Deertoe	<i>Truncilla truncata</i>	X	X	X	
Eastern elliptio	<i>Elliptio complanata</i>	X			
Ebonyshell	<i>Fusconaia ebena</i>	X	X	X	
Elephantear	<i>Elliptio crassidens</i>			X	
Elktoe	<i>Alasmidonta marginata</i>	X	X		
Ellipse	<i>Venustaconcha ellipsiformis</i>		X		
Fat mucket	<i>Lampsilis siliquoidea</i>		X	X	
Fawnsfoot	<i>Truncilla donaciformis</i>		X		
Flat floater	<i>Anodonta suborbiculata</i>	X	X	X	
Flutedshell	<i>Lasmigona costata</i>	X	X		
Fragile papershell	<i>Leptodea fragilis</i>	X	X	X	
Hickorynut	<i>Obovaria olivaria</i>	X	X		
Giant floater	<i>Pyganodon grandis</i>		X	X	X
Lilliput	<i>Toxolasma parvum</i>	X	X	X	
Little spectaclecase	<i>Villosa lienosa</i>		X	X	
Long fingernail clam	<i>Musculium transversum</i>				X
Mapleleaf	<i>Quadrula quadrula</i>		X	X	X
Monkeyface	<i>Quadrula metanevra</i>		X		
Mucket	<i>Actinonaias ligamentina</i>		X	X	
Ohio pigtoe	<i>Pleurobema cordatum</i>		X	X	
Paper pondshell	<i>Utterbackia imbecillis</i>	X	X	X	
Pimpleback	<i>Quadrula pustulosa</i>	X	X	X	X
Pink papershell	<i>Potamilus ohioensis</i>	X	X	X	
Pistolgrip	<i>Quadrula verrucosa</i>		X	X	
Plain pocketbook	<i>Lampsilis cardium</i>	X	X	X	
Pocketbook	<i>Lampsilis ovata</i>			X	
Pondhorn	<i>Unio merus tetralasmus</i>	X	X	X	
Pondmussel	<i>Ligumia subrostrata</i>	X	X	X	
Purple lilliput	<i>Toxolasma lividum</i>		X		
Purple wartyback	<i>Cyclonaias tuberculata</i>	X	X		
Pyramid pigtoe	<i>Pleurobema rubrum</i>		X		
Rainbow	<i>Villosa iris</i>		X		
Rock pocketbook	<i>Arcidens confragosus</i>		X	X	
Round pigtoe	<i>Pleurobema sintoxia</i>		X		
Shiny peaclam	<i>Pisidium nitidum</i>				X

Table 4:
Aquatic Invertebrate Species Potentially Occurring within the ROI (by State)

Common Name ¹	Scientific Name ¹	Oklahoma	Arkansas	Tennessee	Texas ²
Slippershell mussel	<i>Alasmidonta viridis</i>		X		
Southern hickorynut	<i>Obovaria jacksoniana</i>		X	X	
Southern rainbow	<i>Villosa vibex</i>			X	
Striate peaclam	<i>Pisidium punctiferum</i>				X
Tapered pondhorn	<i>Unio merus declivis</i>		X	X	
Texas lilliput	<i>Toxolasma texasense</i>		X	X	
Threehorn wartyback	<i>Obliquaria reflexa</i>	X	X	X	
Threeridge	<i>Amblema plicata</i>	X	X	X	X
Ubiquitous peaclam	<i>Pisidium casertanum</i>				X
Wabash pigtoe	<i>Fusconaia flava</i>	X	X	X	
Wartyback	<i>Quadrula nodulata</i>	X	X	X	
Washboard	<i>Megaloniais nervosa</i>		X	X	
White heelsplitter	<i>Lasmigona complanata</i>	X	X	X	
Yellow sandshell	<i>Lampsilis teres</i>	X	X	X	
Decapods^{3,4}					
Crayfish species	<i>Cambarellus</i> spp.		X	X	
Crayfish species	<i>Cambarus</i> spp.	X	X	X	
Crayfish species	<i>Fallicambarus</i> spp.		X	X	
Crayfish species	<i>Faxonella</i> spp.		X		
Crayfish species	<i>Orconectes</i> spp.	X	X	X	
Crayfish species	<i>Procambarus</i> spp.	X	X	X	X
Freshwater shrimp species	<i>Macrobrachium</i> spp.	X	X	X	
Mississippi grass shrimp	<i>Palaemonetes kadiakensis</i>		X		

1 For the purposes of this table, aquatic macroinvertebrates include bivalve mollusks (mussels and clams) and decapods (crayfish and shrimp).

2 Includes species in the Texas Panhandle region.

3 This table does not include ESA-listed aquatic invertebrates.

4 Given the large numbers of species and the scarcity of detailed range maps, only genus level names are listed.

Sources: Clean Line (2014), NatureServe (2014), Ziser (2012), Branson (1982, 1983, 1984)

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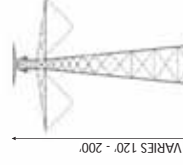


Visual Resources

Plains & Eastern Clean Line

Hardesty AR

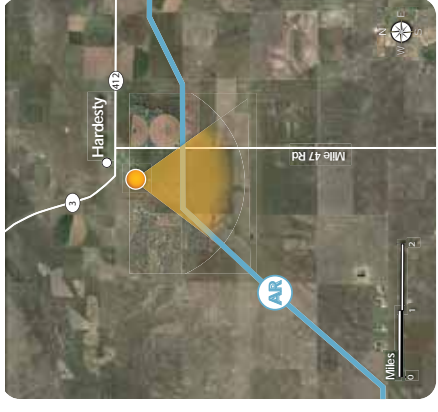
Photo Information



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LOCATION: TEXAS COUNTY, OKLAHOMA
LENS LENGTH: 50 MM
VIEW/LOOKING: SOUTH
VIEW OF: REGION 1 AR 1-A AND AR 1-C

LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend
 PHOTO LOCATION
 PROPOSED AR CENTERLINE



Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.



Visual Resources

Plains & Eastern Clean Line

Hardesty AR

Photo Information

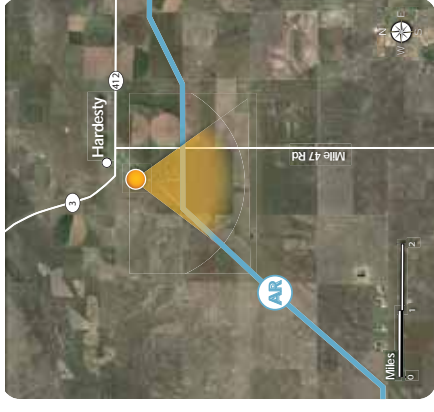
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TIME:	5:07 PM
LOCATION:	TEXAS COUNTY OKLAHOMA
LENS LENGTH:	50 MM
VIEW/LOOKING:	SOUTH
VIEW OF:	REGION 1 AR 1-A AND AR 1-C

MONOPOLE STRUCTURE:

- GALVANIZED FINISH
- STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

VARIES 120' - 160'

View Location



Legend

- PHOTO LOCATION
- PROPOSED AR CENTERLINE



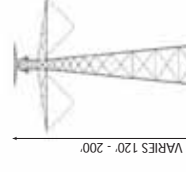
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Visual Resources

Plains & Eastern Clean Line

Cimarron River Crossing PR

Photo Information



DATE: 3/12/2014
TIME: 1:10 PM
LOCATION: MAJOR COUNTY, OKLAHOMA
LENS LENGTH: 50 MM
VIEW LOOKING: NORTHEAST
VIEW OF: REGION 2 PR LINK 2

LATTICE STRUCTURE:

- GALVANIZED FINISH
- STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 - 195 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

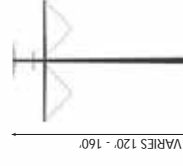
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.



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Visual Resources Plains & Eastern Clean Line Cimarron River Crossing PR

Photo Information



MONOPOLE STRUCTURE:

- GALVANIZED FINISH
- STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120' - 195' FEET

DATE: 3/17/2014
TIME: 1:10 PM
LOCATION: MAJOR COUNTY, OKLAHOMA
LENS LENGTH: 50 MM
VIEW LOOKING: NORTHEAST
VIEW OF: REGION 2 PR LINK 2

View Location



Legend

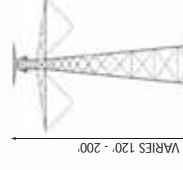
- PHOTO LOCATION
- PROPOSED PR CENTERLINE

Visual Resources

Plains & Eastern Clean Line

Gloss Mountain State Park AR

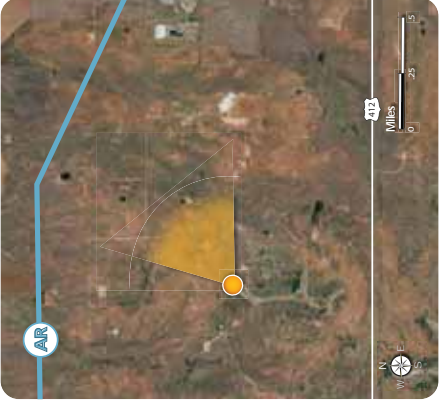
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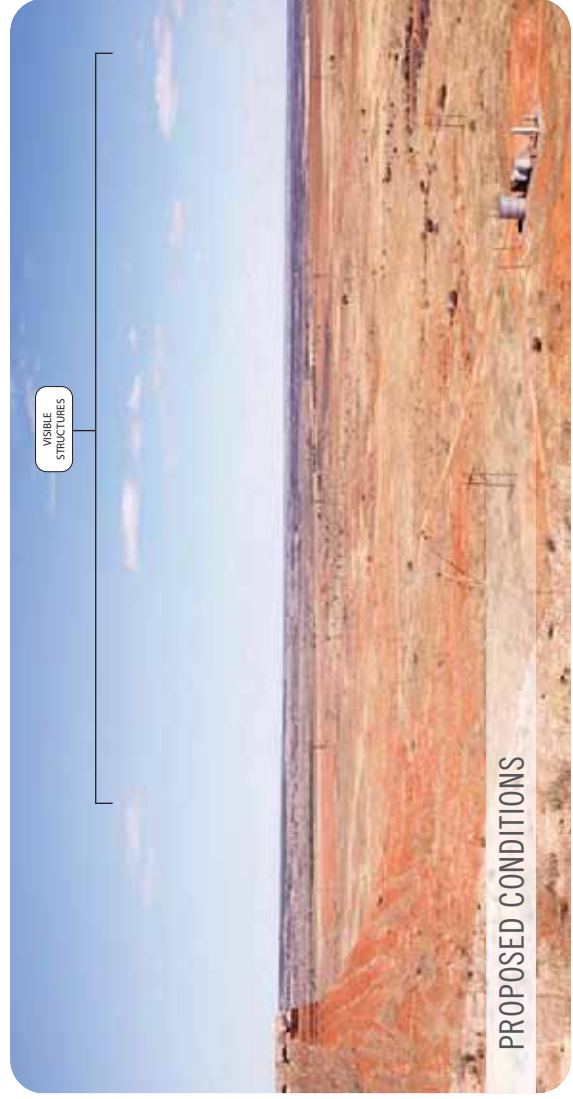
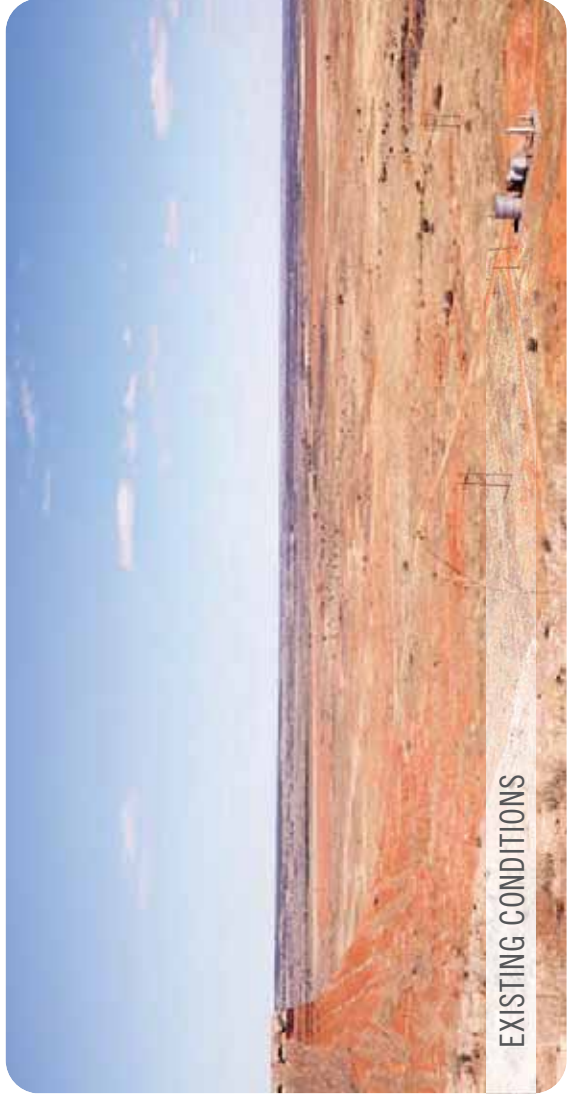
DATE: 3/12/2014
TIME: 2:12 PM
LOCATION: MAJOR COUNTY, OKLAHOMA
LENS LENGTH: 50 MM
VIEW LOOKING: NORTHEAST
VIEW OF: REGION 2, AR 2-A

LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend
 PHOTO LOCATION
 PROPOSED AR CENTERLINE

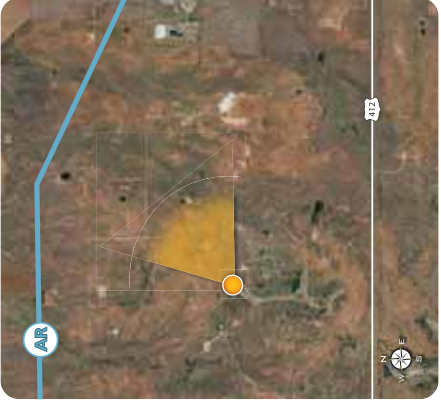


Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources
 Plains & Eastern Clean Line
Gloss Mountain State
Park AR

Photo Information	
DATE:	3/12/2014
TIME:	2:12 PM
LOCATION:	MAJOR COUNTY, ARKANSAS
LENS LENGTH:	50 MM
VIEW LOOKING:	EAST
VIEW OF:	REGION 2, AR 2-A
MONOPOLE STRUCTURE: • GALVANIZED FINISH	

View Location



Legend

- PHOTO LOCATION
- PROPOSED CENTERLINE

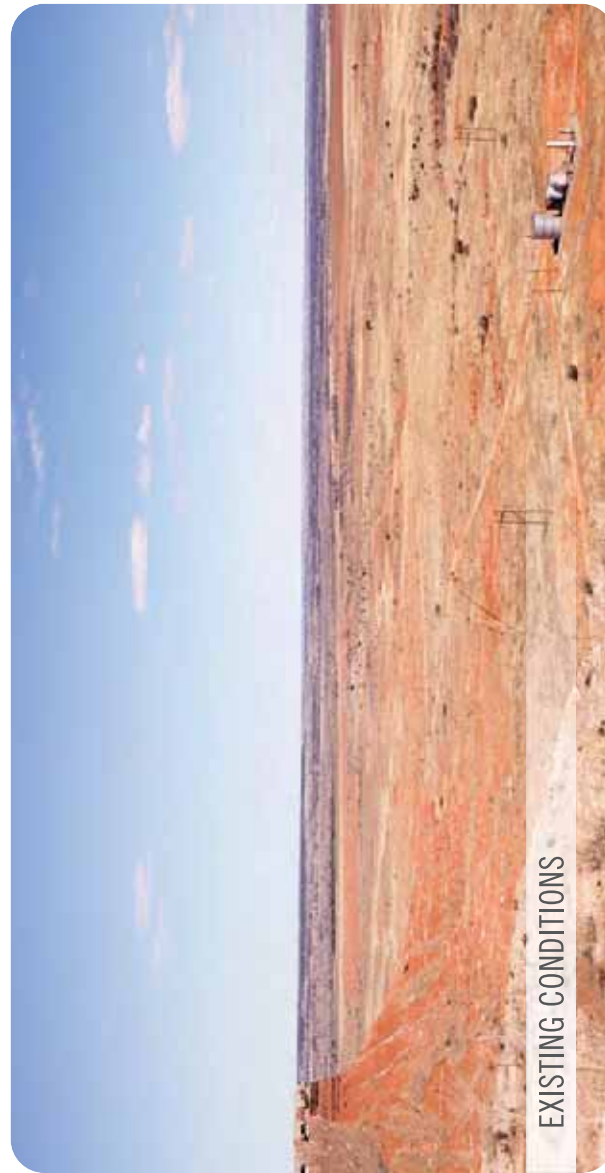


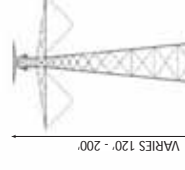
Photo simulations are for discussion purposes only. Final design may change pending public and regulatory review.

Visual Resources

Plains & Eastern Clean Line

Gloss Mountain State Park PR

Photo Information



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3/12/2014

TIME:
2:12 PM

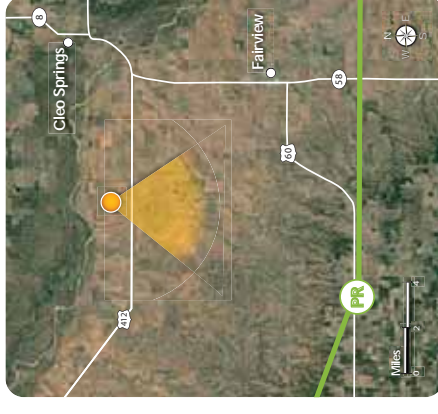
LOCATION:
MAJOR COUNTY,
OKLAHOMA
LENS LENGTH:
50 MM

VIEW LOOKING:
SOUTH

VIEW OF:
REGION 2 PR LINK 2

LATTICE STRUCTURE:
• GALVANIZED FINISH
• STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE



EXISTING CONDITIONS



STRUCTURES ARE APPROXIMATELY 1.1 MILES AWAY. DUE TO DISTANCE, EXISTING TERRAIN AND VEGETATION, STRUCTURES ARE NOT VISIBLE.

PROPOSED CONDITIONS

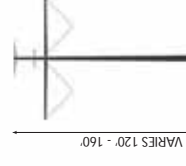
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

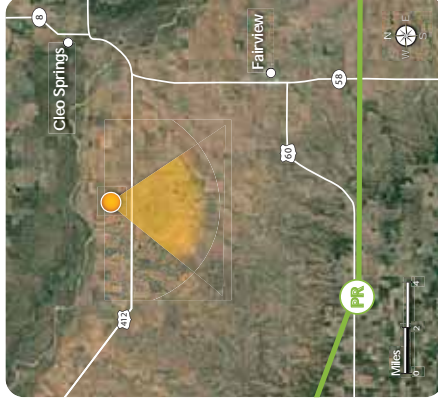
Gloss Mountain State Park PR

Photo Information



MONOPOLE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

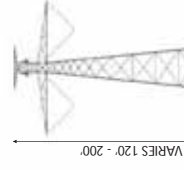
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Visual Resources

Plains & Eastern Clean Line

Arkansas River and Gore PR

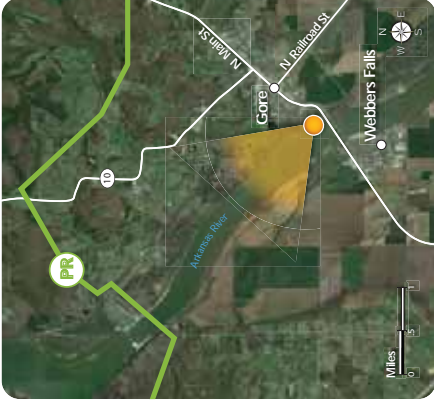
Photo Information



DATE: 3/17/2014
TIME: 4:09 PM
LOCATION: SEQUOYAH COUNTY, OKLAHOMA
LENS LENGTH: 50 MM
VIEW LOOKING: NORTHWEST
VIEW OF: REGION 3, PR LINK 6 AND REGION 4, PR LINK 1

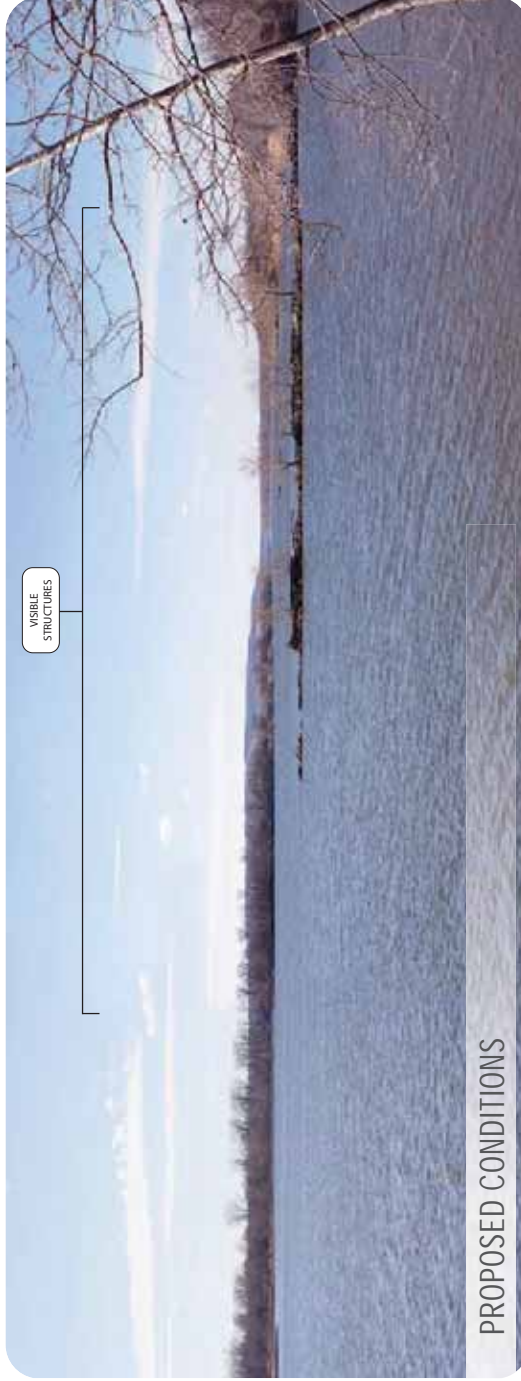
LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 105 - 185 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE



Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.



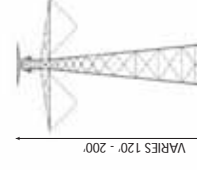
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Visual Resources

Plains & Eastern Clean Line

Oktaha and Oktaha School AR

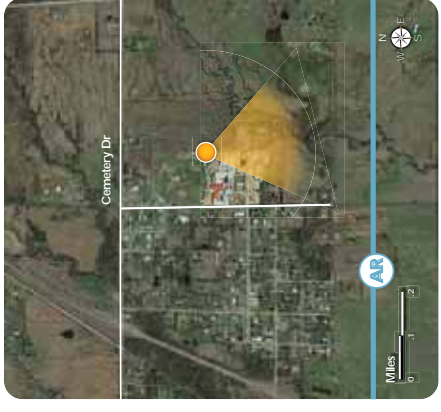
Photo Information



DATE: 3/11/2014
TIME: 5:47 PM
LOCATION: MUSKOGEE COUNTY, OKLAHOMA
LENS LENGTH: 50 MM
VIEW LOOKING: SOUTHEAST
VIEW OF: REGION 3 AR 3-C AND AR 3-D

LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 - 130 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED AR CENTERLINE



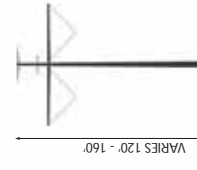
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Oktaha and Oktaha School AR

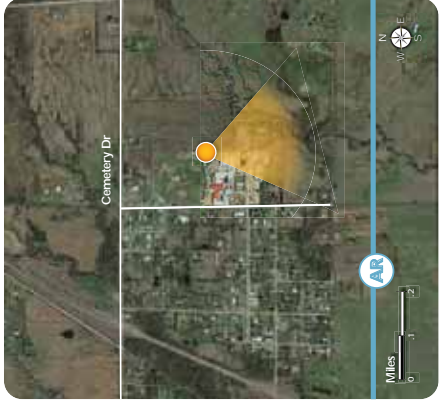
Photo Information



- MONOPOLE STRUCTURE:
- GALVANIZED FINISH
 - STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120' - 130' FEET

DATE: 3/11/2014
TIME: 5:47 PM
LOCATION: MUSKOGEE COUNTY, OKLAHOMA
LENS LENGTH: 50 MM
VIEW LOOKING: SOUTHEAST
VIEW OF: REGION 3 AR 3-C AND AR 3-D

View Location



Legend

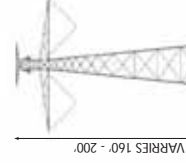
- PHOTO LOCATION
- PROPOSED AR CENTERLINE

Visual Resources

Plains & Eastern Clean Line

Stillwater AR

Photo Information



VARRIES 160 - 200

DATE:
3/12/2014

TIME:
11:57 AM

LOCATION:
LOGAN COUNTY,
OKLAHOMA

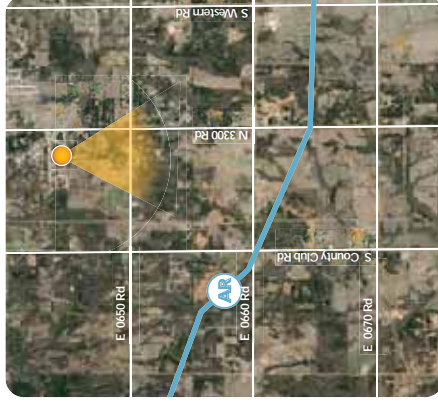
LENS LENGTH:
50 MM

VIEW LOOKING:
SOUTH

VIEW OF:
REGION 3 AR 3-A AND
AR 3-B

LATTICE STRUCTURE:
• GALVANIZED FINISH
• STRUCTURE HEIGHTS IN
THIS SIMULATION ARE
SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED AR CENTERLINE



EXISTING CONDITIONS



VISIBLE STRUCTURES

PROPOSED CONDITIONS

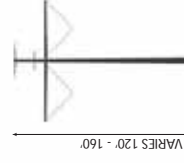
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Stillwater AR

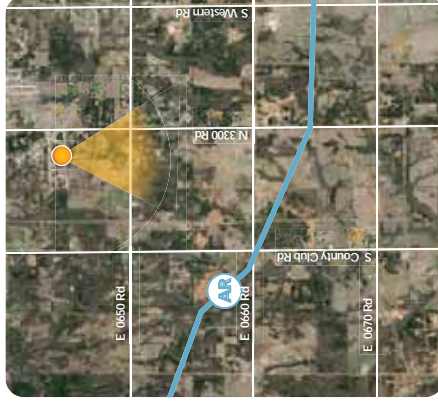
Photo Information



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 VIEW LOOKING: SOUTH
 VIEW OF: REGION 3 AR 3-A AND AR 3-B

MONOPOLE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED AR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

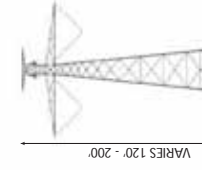
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Stillwater PR

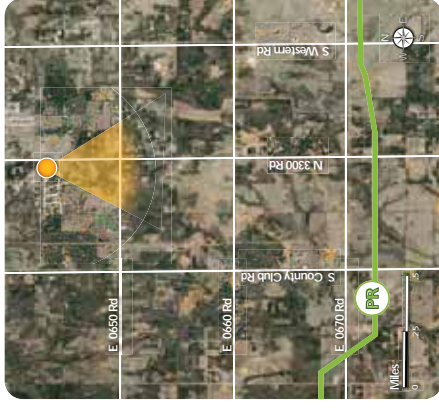
Photo Information



DATE: 3/12/2014
TIME: 11:57 AM
LOCATION: STILLWATER, LOGAN COUNTY, ARKANSAS
LENS LENGTH: 50 MM
VIEW/LOOKING: SOUTH
VIEW OF: REGION 3, PR LINK 1 AND PR LINK 2

LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 100 - 120 FEET

View Location



Legend
 PHOTO LOCATION
 PROPOSED PR CENTERLINE



EXISTING CONDITIONS



STRUCTURES ARE APPROXIMATELY 2.9 MILES AWAY. DUE TO DISTANCE, EXISTING TERRAIN AND VEGETATION, STRUCTURES ARE NOT VISIBLE.

PROPOSED CONDITIONS

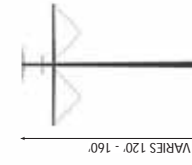
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Visual Resources

Plains & Eastern Clean Line

Stillwater PR

Photo Information

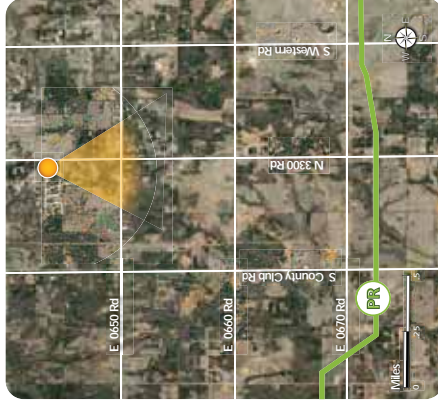


MONOPOLE STRUCTURE:

- GALVANIZED FINISH
- STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 100' - 120 FEET

DATE: 3/12/2014
TIME: 11:57 AM
LOCATION: STILLWATER, LOGAN COUNTY, ARKANSAS
LENS LENGTH: 50 MM
VIEW LOOKING: SOUTH
VIEW OF: REGION 3, PR LINK 1 AND PR LINK 2

View Location



Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE



EXISTING CONDITIONS



STRUCTURES ARE APPROXIMATELY 2.9 MILES AWAY. DUE TO DISTANCE, EXISTING TERRAIN AND VEGETATION, STRUCTURES ARE NOT VISIBLE.

PROPOSED CONDITIONS

Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Arkansas River and Gore PR and AR

Photo Information

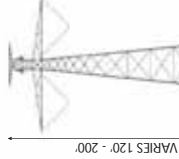
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 TIME: 4:09 PM

LOCATION: SEQUOYAH COUNTY, OKLAHOMA

LENS LENGTH: 50 MM

VIEW LOOKING: NORTHWEST

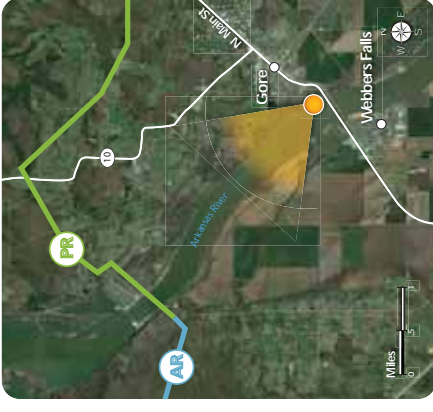
VIEW OF: REGION 4, PR LINK 1 AND REGION 3, AR 3-C AND AR 3-D



LATTICE STRUCTURE:

- GALVANIZED FINISH
- STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 105 - 185 FEET

View Location

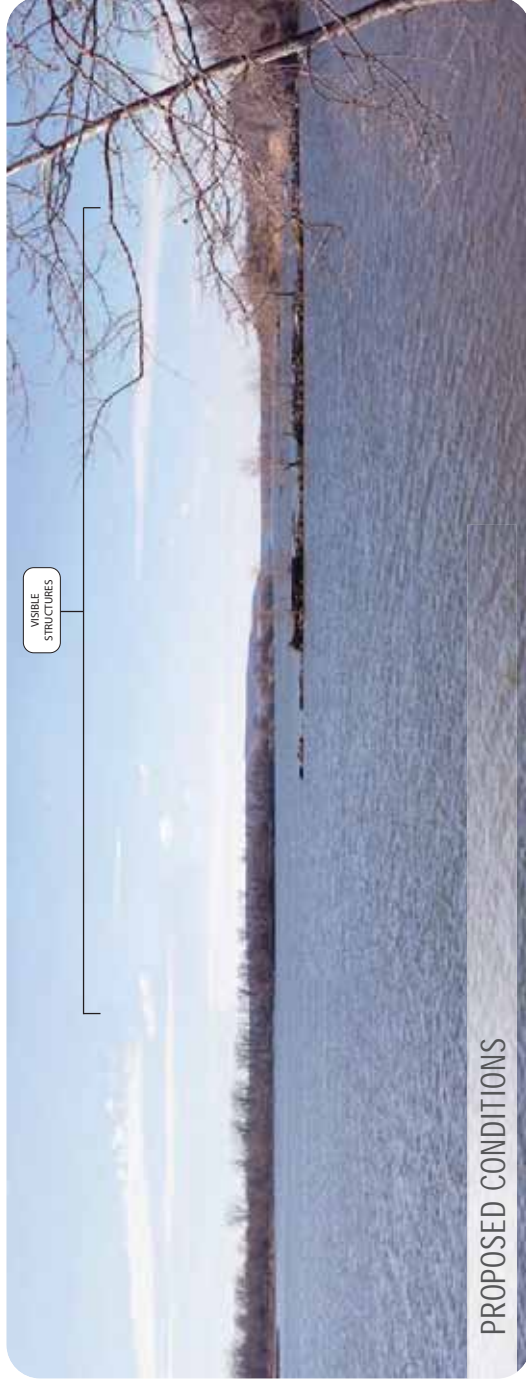


Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE
- PROPOSED AR CENTERLINE



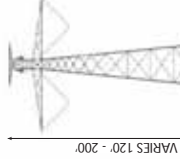
EXISTING CONDITIONS



PROPOSED CONDITIONS

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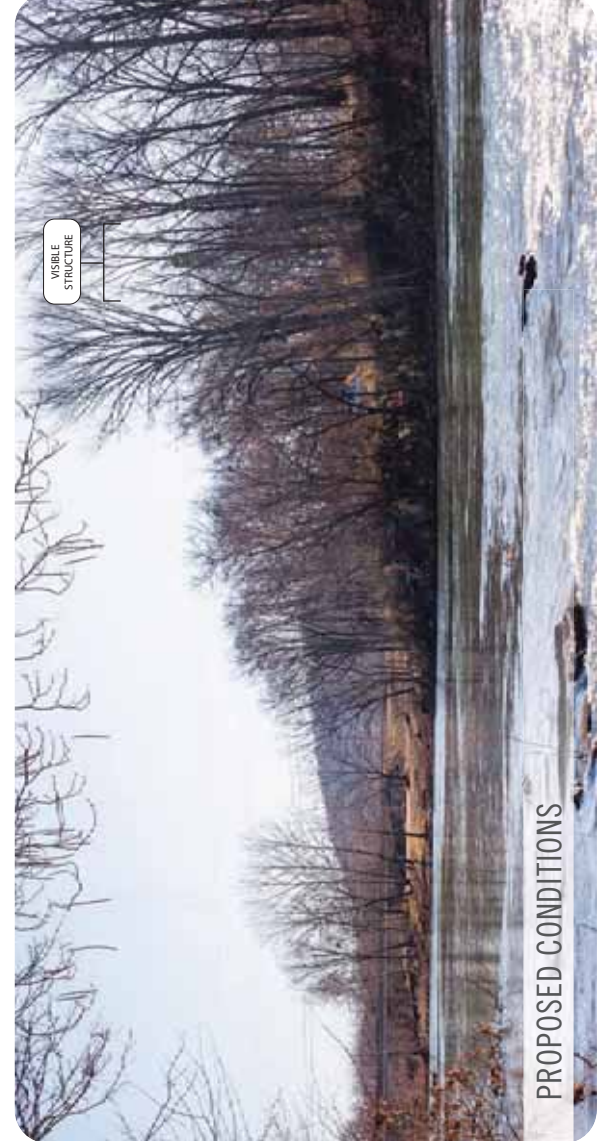
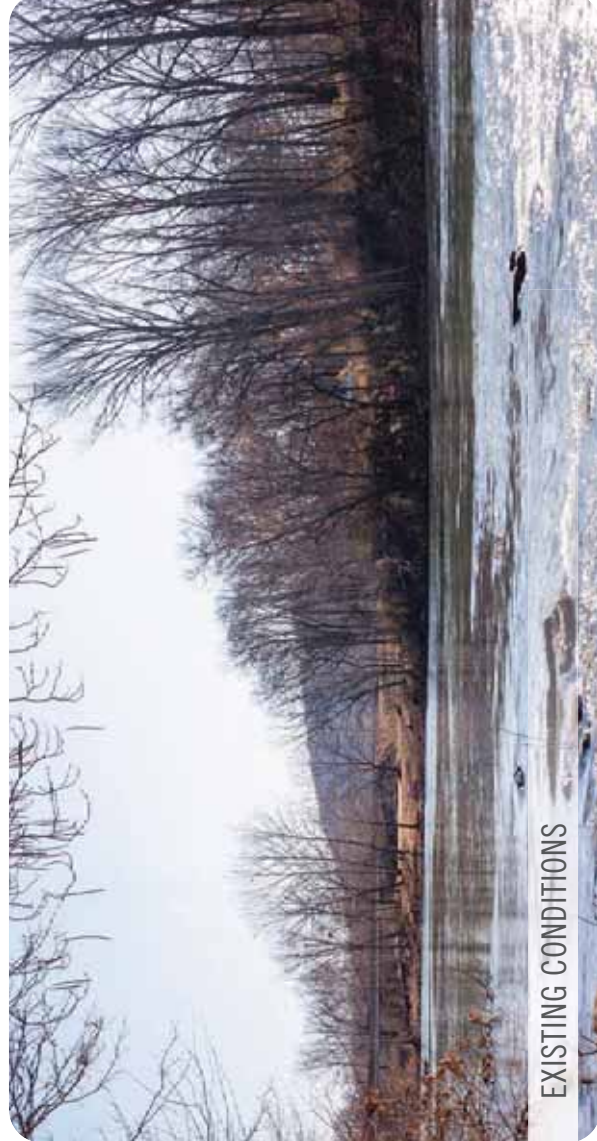
Visual Resources Plains & Eastern Clean Line Big Piney Creek PR

Photo Information	
	<p>DATE: 3/11/2014</p> <p>TIME: 9:56 AM</p> <p>LOCATION: POPE COUNTY, ARKANSAS</p> <p>LENS LENGTH: 50 MM</p> <p>VIEW LOOKING: EAST</p> <p>VIEW OF: REGION 4, PR LINK 9</p>
<p>LATTICE STRUCTURE:</p> <ul style="list-style-type: none"> • GALVANIZED FINISH • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 140 FEET 	

View Location



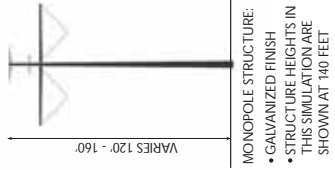
- Legend**
-  PHOTO LOCATION
 -  PROPOSED PR CENTERLINE



Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources Plains & Eastern Clean Line Big Piney Creek PR

Photo Information	
DATE:	3/11/2014
TIME:	9:56 AM
LOCATION:	POPE COUNTY, ARKANSAS
LENS LENGTH:	50 MM
VIEW LOOKING:	EAST
VIEW OF:	REGION 4, PR LINK 9



View Location

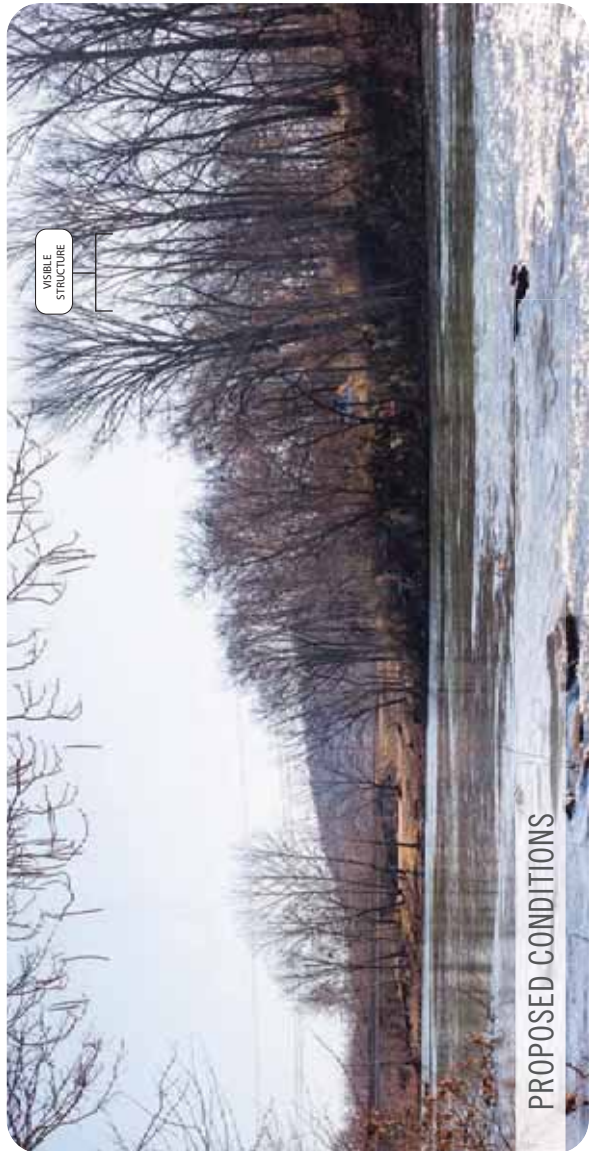


Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.



EXISTING CONDITIONS



PROPOSED CONDITIONS

Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Frog Bayou Creek AR

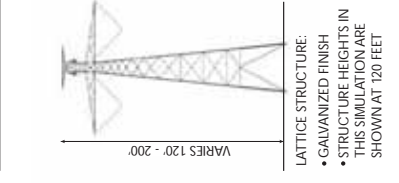
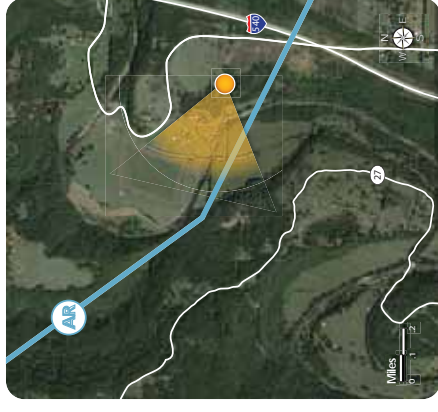


Photo Information

DATE: 3/11/2014
TIME: 12:37 PM
LOCATION: CRAWFORD COUNTY, ARKANSAS
LENS LENGTH: 50 MM
VIEW LOOKING: WEST, NORTHWEST
VIEW OF: REGION 4 AR 4-A, AR 4-D AND AR 4-B

- LATTICE STRUCTURE:**
- GALVANIZED FINISH
 - STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED AR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

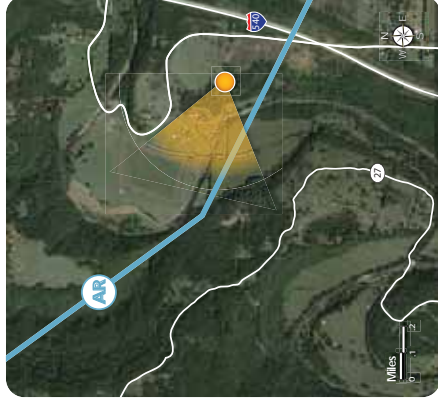
Frog Bayou Creek AR

Photo Information

DATE: 3/11/2014
TIME: 12:37 PM
LOCATION: CRAWFORD COUNTY, ARKANSAS
LENS LENGTH: 50 MM
VIEW LOOKING: WEST, NORTHWEST
VIEW OF: REGION 4 AR 4-A, AR 4-D AND AR 4-B

VARIES 120' - 160'

View Location



Legend

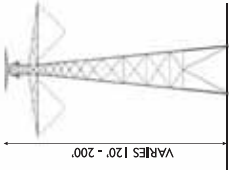
- PHOTO LOCATION
- PROPOSED AR CENTERLINE

Visual Resources

Plains & Eastern Clean Line

Highway 10 PR

Photo Information

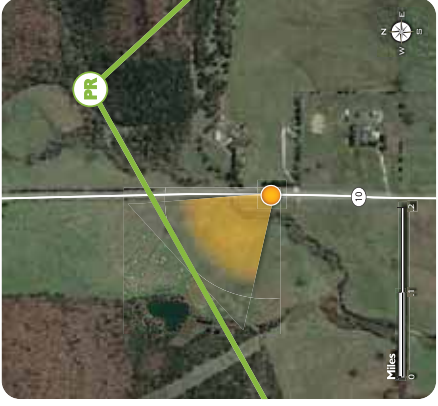


DATE: 3/11/2014
TIME: 4:28 PM
LOCATION: MUSKOGEE COUNTY, OKLAHOMA
LENS LENGTH: 50 MM
VIEW LOOKING: NORTHWEST
VIEW OF: REGION 4, PR LINK I

LATTICE STRUCTURE:

- GALVANIZED FINISH
- STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 185 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.



EXISTING CONDITIONS



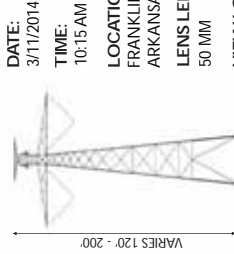
PROPOSED CONDITIONS

Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources
 Plains & Eastern Clean Line
Interstate 40 Scenic
Highway Rest Stop PR

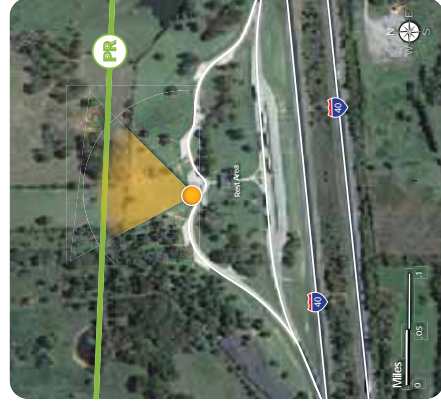
Photo Information

DATE: 3/11/2014
 TIME: 10:15 AM
 LOCATION: FRANKLIN COUNTY, ARKANSAS
 LENS LENGTH: 50 MM
 VIEW LOOKING: NORTH
 VIEW OF: REGION 4, PR LINK 7



LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE



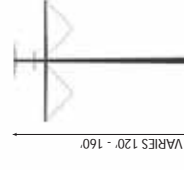
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Interstate 40 Scenic Highway Rest Stop PR

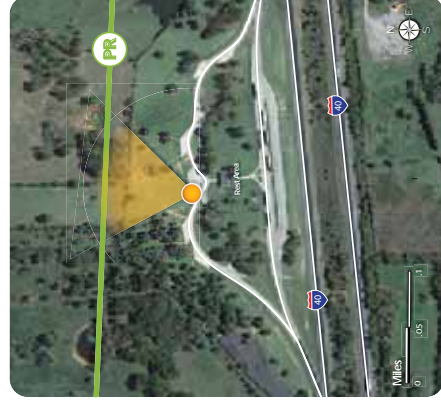
Photo Information



DATE: 3/11/2014
TIME: 10:15 AM
LOCATION: FRANKLIN COUNTY, ARKANSAS
LENS LENGTH: 50 MM
VIEW/LOOKING: NORTH
VIEW OF: REGION 4, PR LINK 7

MONOPOLE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE

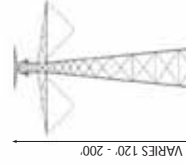


Visual Resources

Plains & Eastern Clean Line

Little Lee Creek Scenic River AR

Photo Information



DATE: 3/1/2014
TIME: 6:20 PM
LOCATION: SHELBY COUNTY, TENNESSEE
LENS LENGTH: 50 MM
VIEW LOOKING: NORTHEAST
VIEW OF: REGION 4, AR 4-A

LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 150 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED AR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

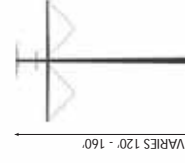
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Little Lee Creek Scenic River AR

Photo Information



DATE: 3/1/2014
TIME: 6:20 PM
LOCATION: SHELBY COUNTY, TENNESSEE
LENS LENGTH: 50 MM
VIEW LOOKING: NORTHEAST
VIEW OF: REGION 4, AR 4-A

View Location



Legend

- PHOTO LOCATION
- PROPOSED AR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

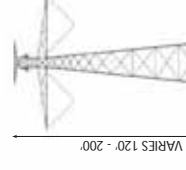


Visual Resources

Plains & Eastern Clean Line

Mulberry River and Trail of Tears AR and PR

Photo Information

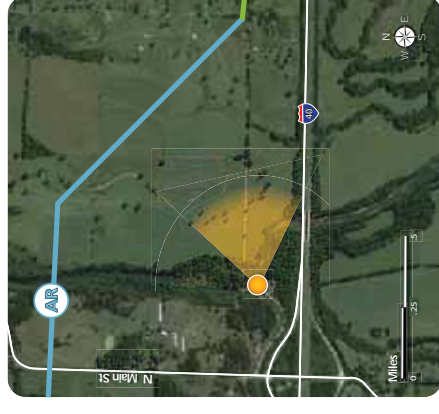


DATE: 3/11/2014
TIME: 11:57 AM
LOCATION: CRAWFORD COUNTY ARKANSAS
LENS LENGTH: 50 MM
VIEW LOOKING: EAST
VIEW OF: REGION 4, AR 4-A, AR 4-D AND PR LINK 7

LATTICE STRUCTURE:

- GALVANIZED FINISH
- STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE
- PROPOSED AR CENTERLINE



Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.



EXISTING CONDITIONS



PROPOSED CONDITIONS

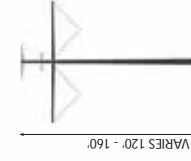
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Mulberry River and Trail of Tears AR and PR

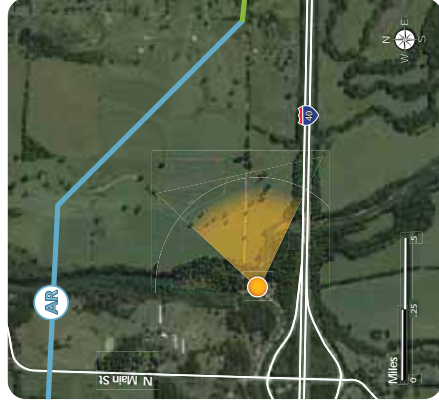
Photo Information



DATE: 3/11/2014
TIME: 11:57 AM
LOCATION: CRAWFORD COUNTY, ARKANSAS
LENS LENGTH: 50 MM
VIEW/LOOKING: EAST
VIEW OF: REGION 4, AR 4-A, AR 4-D AND PR LINK 7

MONOPOLE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE
- PROPOSED AR CENTERLINE





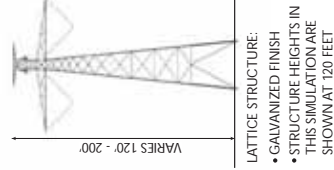
Visual Resources

Plains & Eastern Clean Line

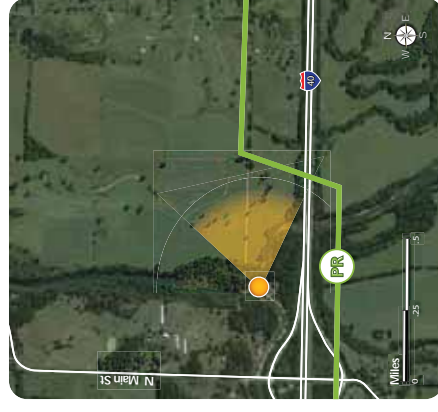
Mulberry River and Trail of Tears PR

Photo Information

DATE: 3/11/2014
TIME: 11:57 AM
LOCATION: CRAWFORD COUNTY, ARKANSAS
LENS LENGTH: 50 MM
VIEW LOOKING: EAST
VIEW OF: REGION 4, PR LINK 6 AND PR LINK 7



View Location



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Visual Resources

Plains & Eastern Clean Line

Mulberry River and Trail of Tears PR

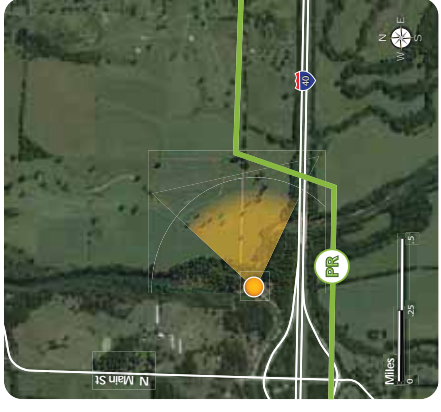
Photo Information

DATE: 3/11/2014
TIME: 11:57 AM
LOCATION: CRAWFORD COUNTY, ARKANSAS
LENS LENGTH: 50 MM
VIEW LOOKING: EAST
VIEW OF: REGION 4, PR LINK 6 AND PR LINK 7

MONOPOLE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

VARIES 120' - 160'

View Location



Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE



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Visual Resources

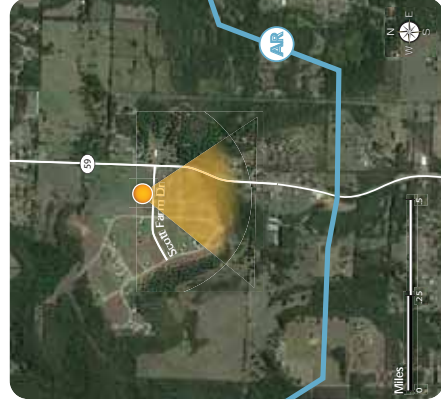
Plains & Eastern Clean Line

Scott Farm AR

Photo Information

DATE: 3/11/2014
 TIME: 11:57 AM
 LOCATION: CRAWFORD COUNTY ARKANSAS
 LENS LENGTH: 50 MM
 VIEW LOOKING: SOUTH
 LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED AR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

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Visual Resources

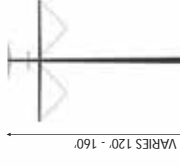
Plains & Eastern Clean Line

Scott Farm AR

Photo Information

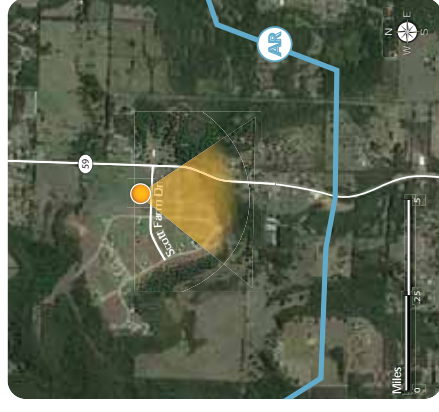
DATE: 3/11/2014
 TIME: 11:57 AM
 LOCATION: CRAWFORD COUNTY, ARKANSAS
 LENS LENGTH: 50 MM

VIEW LOOKING: SOUTH
 VIEW OF: REGION 4, AR 4-C



MONOPOLE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED AR CENTERLINE



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Visual Resources
 Plains & Eastern Clean Line
Scott Farm PR

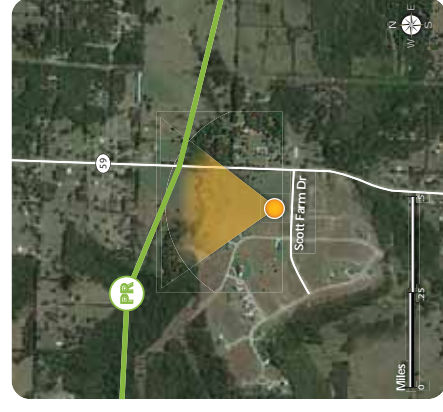
Photo Information

DATE: 3/17/2014
TIME: 1:15 PM
LOCATION: CRAWFORD COUNTY, ARKANSAS
LENS LENGTH: 50 MM
VIEW LOOKING: NORTH
VIEW OF: REGION 4, PR LINK 5

LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 130 FEET

VARIES 120' - 200'

View Location



Legend

● PHOTO LOCATION
 — PROPOSED PR CENTERLINE

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Visual Resources
 Plains & Eastern Clean Line
Scott Farm PR

Photo Information

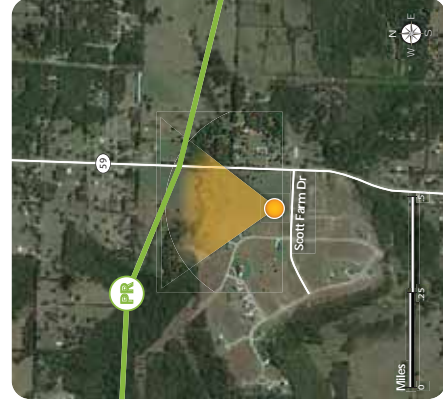
DATE:	3/11/2014
TIME:	1:15 PM
LOCATION:	CRAWFORD COUNTY, ARKANSAS
LENS LENGTH:	50 MM
VIEW LOOKING:	NORTH
VIEW OF:	REGION 4, PR LINK 5

MONOPOLE STRUCTURE:

- GALVANIZED FINISH
- STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 130 FEET

VARIES 120' - 160'

View Location

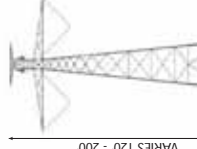


Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE

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Visual Resources Plains & Eastern Clean Line Sequoyah's Cabin PR

Photo Information	
	<p>DATE: 3/11/2014</p> <p>TIME: 2:46 PM</p> <p>LOCATION: SEQUOYAH COUNTY, OKLAHOMA</p> <p>LENS LENGTH: 50 MM</p> <p>VIEW LOOKING: SOUTH</p> <p>VIEW OF: REGION 4, PR LINK 3</p>
VARIES 120' - 200'	<p>LATTICE STRUCTURE:</p> <ul style="list-style-type: none"> • GALVANIZED FINISH • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

-  PHOTO LOCATION
-  PROPOSED PR CENTERLINE



EXISTING CONDITIONS



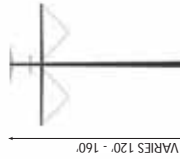
PROPOSED CONDITIONS

Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Sequoyah's Cabin PR

Photo Information	
DATE:	3/11/2014
TIME:	2:46 PM
LOCATION:	SEQUOYAH COUNTY, OKLAHOMA
LENS LENGTH:	50 MM
VIEW LOOKING:	SOUTH
VIEW OF:	REGION 4, PR LINK 3
	
MONOPOLE STRUCTURE: • GALVANIZED FINISH • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET	

View Location



Legend

-  PHOTO LOCATION
-  PROPOSED PR CENTERLINE



EXISTING CONDITIONS

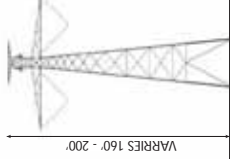


PROPOSED CONDITIONS

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Visual Resources Plains & Eastern Clean Line Vian Lake PR

Photo Information



VARRIES 160 - 200

DATE: 3/17/2014
TIME: 3:40 PM
LOCATION: SEQUOYA COUNTY, OKLAHOMA
LENS LENGTH: 50 MM
VIEW LOOKING: NORTHEAST
VIEW OF: REGION 4, PR LINK 3

LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET



EXISTING CONDITIONS



PROPOSED CONDITIONS

View Location



Legend

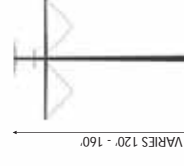
-  PHOTO LOCATION
-  PROPOSED PR CENTERLINE



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Visual Resources Plains & Eastern Clean Line Vian Lake PR

Photo Information



DATE: 3/17/2014
 TIME: 3:40 PM
 LOCATION: SEQUOYA COUNTY, OKLAHOMA
 LENS LENGTH: 50 MM
 VIEW LOOKING: NORTHEAST
 VIEW OF: REGION 4, PR LINK 3

EXISTING CONDITIONS



View Location



Legend
 PHOTO LOCATION
 PROPOSED PR CENTERLINE



PROPOSED CONDITIONS



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Visual Resources

Plains & Eastern Clean Line

Guy AR

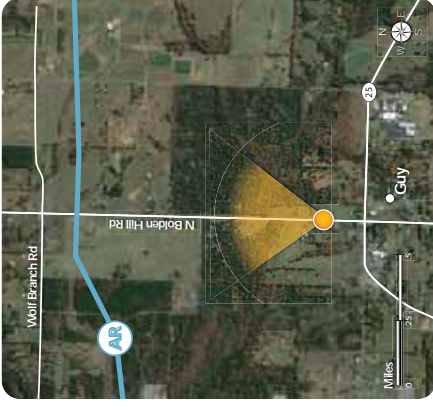
Photo Information



DATE: 3/10/2014
 TIME: 6:04 PM
 LOCATION: FAULKNER COUNTY, ARKANSAS
 LENS LENGTH: 50 MM
 VIEW LOOKING: NORTH
 VIEW OF: REGION 5, AR 5-B

LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED AR CENTERLINE



EXISTING CONDITIONS

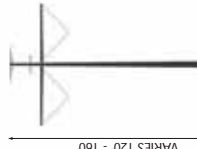


PROPOSED CONDITIONS

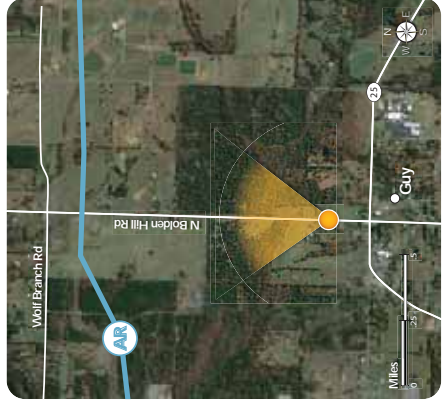
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources Plains & Eastern Clean Line Guy AR

Photo Information	
DATE:	3/10/2014
TIME:	6:04 PM
LOCATION:	FAULKNER COUNTY, ARKANSAS
LENS LENGTH:	50 MM
VIEW LOOKING:	NORTH
VIEW OF:	REGION 5, AR 5-B

	VARIES 120' - 160'
LATTICE STRUCTURE:	
• GALVANIZED FINISH	
• STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET	

View Location



Legend

-  PHOTO LOCATION
-  PROPOSED AR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

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Visual Resources

Plains & Eastern Clean Line

Guy PR

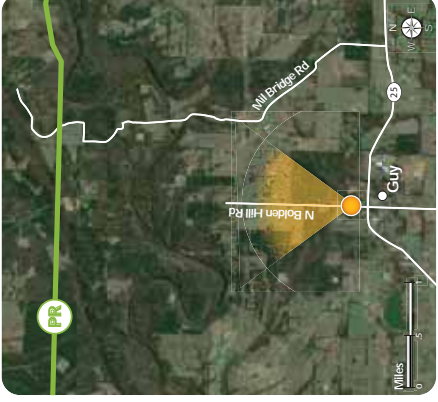
Photo Information



DATE: 3/10/2014
 TIME: 6:04 PM
 LOCATION: FAULKNER COUNTY, ARKANSAS
 LENS LENGTH: 50 MM
 VIEW LOOKING: NORTH
 VIEW OF: REGION 5, PR LINK 4

LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE



EXISTING CONDITIONS



STRUCTURES ARE APPROXIMATELY 2.8 MILES AWAY. DUE TO DISTANCE, EXISTING TERRAIN AND VEGETATION, STRUCTURES ARE NOT VISIBLE.

PROPOSED CONDITIONS

Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

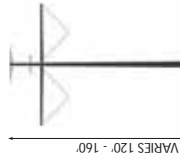
Visual Resources

Plains & Eastern Clean Line

Guy PR

Photo Information

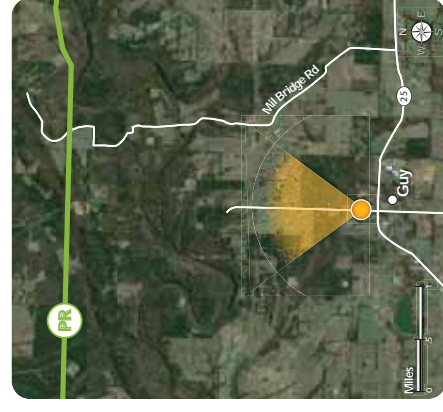
DATE: 3/10/2014
TIME: 6:04 PM
LOCATION: FAULKNER COUNTY, ARKANSAS
LENS LENGTH: 50 MM
VIEW LOOKING: NORTH
VIEW OF: REGION 5, PR LINK 4



MONOPOLE STRUCTURE:

- GALVANIZED FINISH
- STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED PR CENTERLINE



EXISTING CONDITIONS



STRUCTURES ARE APPROXIMATELY 2.8 MILES AWAY. DUE TO DISTANCE, EXISTING TERRAIN AND VEGETATION, STRUCTURES ARE NOT VISIBLE.

PROPOSED CONDITIONS

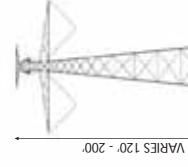
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Quitman AR

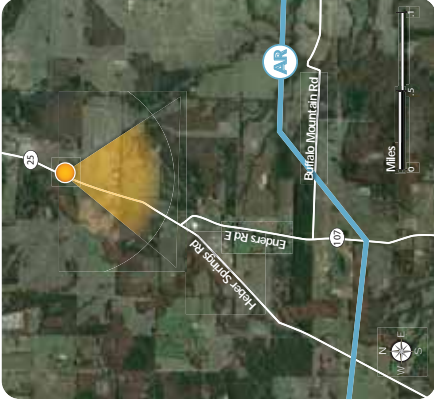
Photo Information



DATE: 3/10/2014
TIME: 5:34 PM
LOCATION: FAULKNER AND CLEBURNE COUNTIES, ARKANSAS
LENS LENGTH: 50 MM
VIEW/LOOKING: SOUTH
VIEW OF: REGION 5, AR 5-BAND AR 5-E

LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 - 130 FEET

View Location



Legend

-  PHOTO LOCATION
-  PROPOSED AR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

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EXISTING CONDITIONS



PROPOSED CONDITIONS

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Visual Resources

Plains & Eastern Clean Line

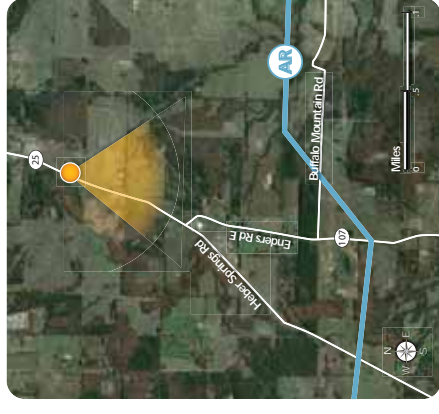
Quitman AR

Photo Information

DATE: 3/10/2014
TIME: 5:34 PM
LOCATION: FAULKNER AND CLEBURNE COUNTIES, ARKANSAS
LENS LENGTH: 50 MM
VIEW LOOKING: SOUTH
VIEW OF: REGION 5, AR 5-BAND AR 5-E

MONOPOLE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 - 130 FEET

View Location



Legend

PHOTO LOCATION
 PROPOSED AR CENTERLINE

Visual Resources

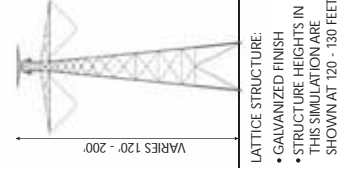
Plains & Eastern Clean Line

Quitman PR

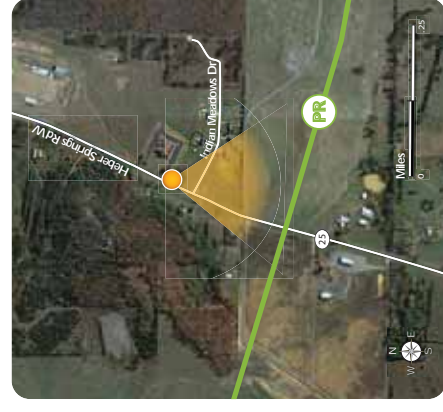
Photo Information

DATE: 3/10/2014
 TIME: 5:34 PM
 LOCATION: CLEBURNE COUNTY, ARKANSAS
 LENS LENGTH: 50 MM
 VIEW/LOOKING: SOUTH
 VIEW/OFF: REGION 5, PR LINK 4

LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 - 130 FEET



View Location



- Legend
- PHOTO LOCATION
 - PROPOSED PR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

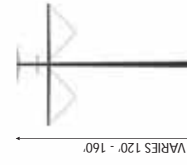
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Quitman PR

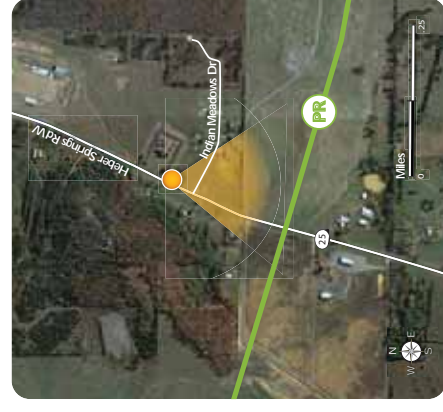
Photo Information



DATE: 3/10/2014
 TIME: 5:34 PM
 LOCATION: CLEBURNE COUNTY, ARKANSAS
 LENS LENGTH: 50 MM
 VIEW/LOOKING: SOUTH
 VIEW/OFF: REGION 5, PR LINK 4

MONOPOLE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120' - 130 FEET

View Location



Legend
 PHOTO LOCATION
 PROPOSED PR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

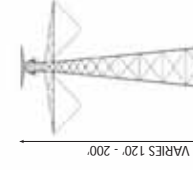
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Highway 14 Scenic Highway AR

Photo Information



DATE:
3/10/2014

TIME:
3:32 PM

LOCATION:
JACKSON COUNTY,
ARKANSAS

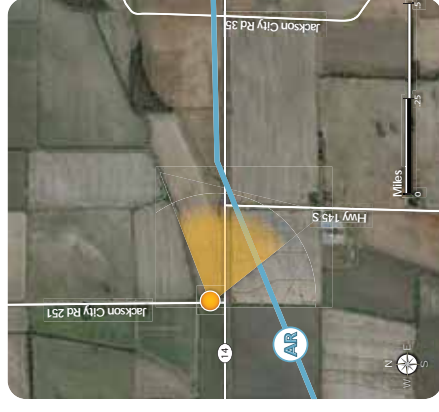
LENS LENGTH:
50 MM

VIEW/LOOKING:
EAST

VIEW OF:
REGION 6, AR 6-B

LATTICE STRUCTURE:
• GALVANIZED FINISH
• STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

-  PHOTO LOCATION
-  PROPOSED AR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

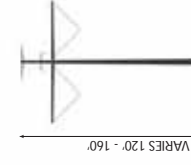
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Highway 14 Scenic Highway AR

Photo Information



DATE:
3/10/2014

TIME:
3:32 PM

LOCATION:
JACKSON COUNTY,
ARKANSAS

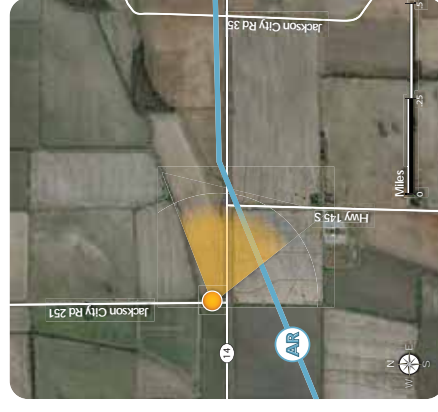
LENS LENGTH:
50 MM

VIEW/LOOKING:
EAST

VIEW OF:
REGION 6, AR 6-B

MONOPOLE STRUCTURE:
• GALVANIZED FINISH
• STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location

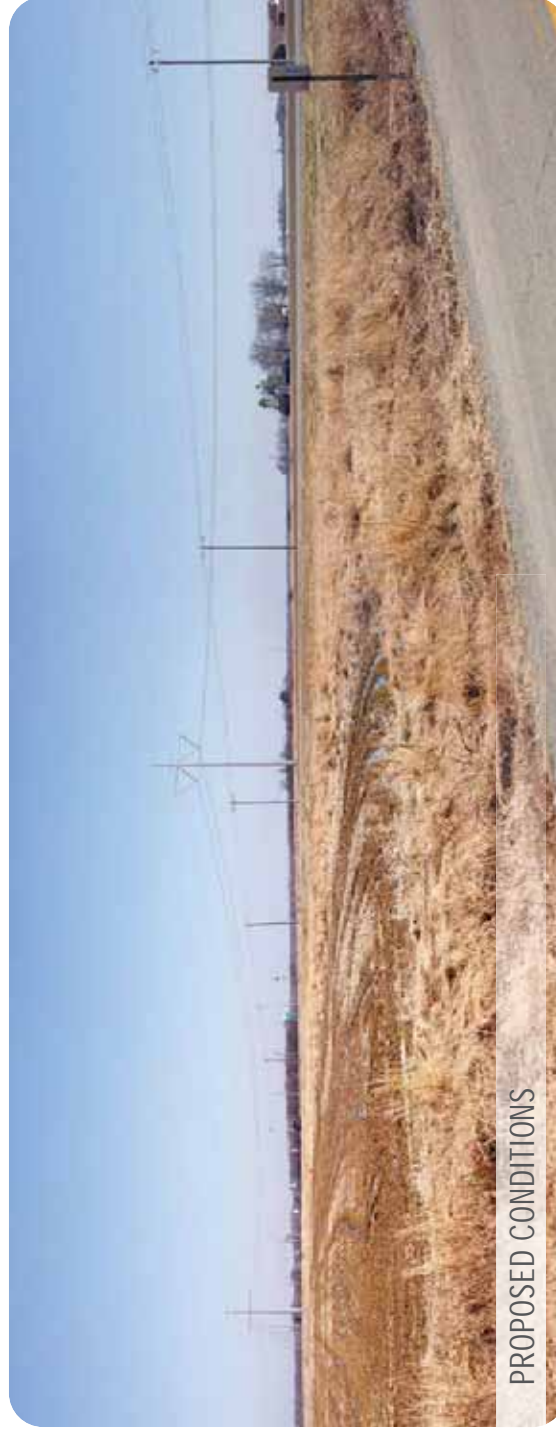


Legend

- PHOTO LOCATION
- PROPOSED AR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

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Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

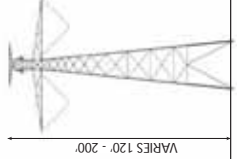
Visual Resources

Plains & Eastern Clean Line

Harold Park and Millington AR

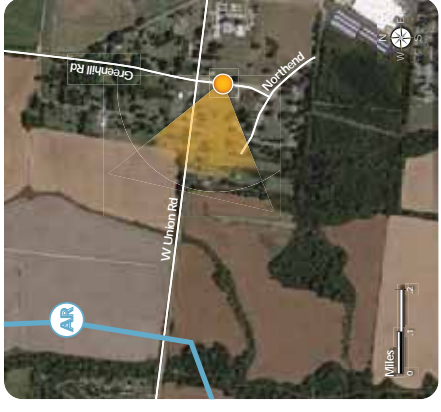
Photo Information

DATE: 3/10/2014
TIME: 11:25 AM
LOCATION: SHELBY COUNTY, TENNESSE
LENS LENGTH: 50 MM
VIEW LOOKING: WEST
VIEW OF: REGION 7 AR 7-C



LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend
 ● PHOTO LOCATION
 — PROPOSED AR CENTERLINE





EXISTING CONDITIONS



PROPOSED CONDITIONS

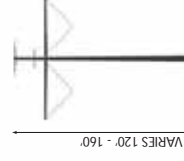
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Harold Park and Millington AR

Photo Information

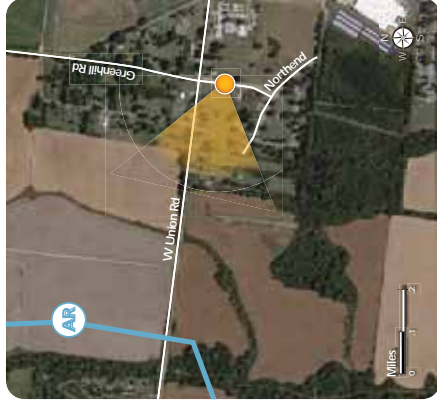


VARIES 120' - 160'

DATE: 3/10/2014
 TIME: 11:25 AM
 LOCATION: SHELBY COUNTY, TENNESSEE
 LENS LENGTH: 50 MM
 VIEW LOOKING: WEST
 VIEW OF: REGION 7 AR 7-C

MONOPOLE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



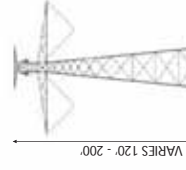
Legend
 PHOTO LOCATION
 PROPOSED AR CENTERLINE

Visual Resources

Plains & Eastern Clean Line

Marked Tree AR

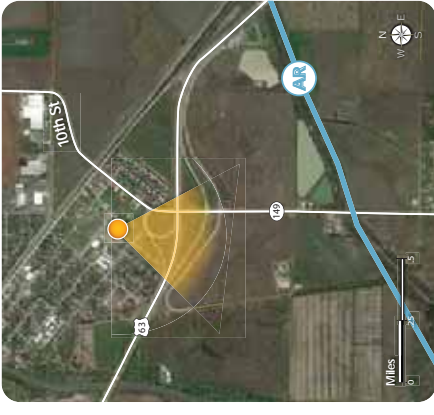
Photo Information



DATE: 3/10/2014
 TIME: 2:22 PM
 LOCATION: POINSETT COUNTY, ARKANSAS
 LENS LENGTH: 50 MM
 VIEW/LOOKING: SOUTH
 VIEW/OFF: REGION 7, AR 7-A

LATTICE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED AR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

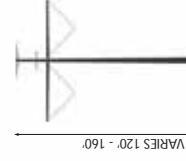
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Marked Tree AR

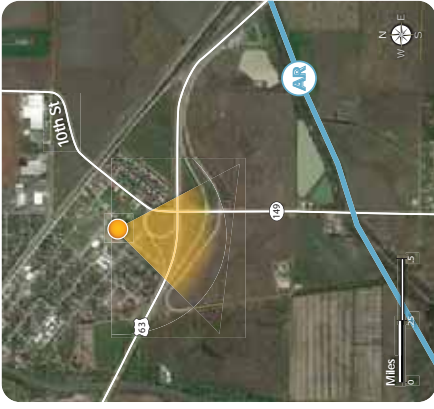
Photo Information



DATE: 3/10/2014
TIME: 2:22 PM
LOCATION: POINSETT COUNTY, ARKANSAS
LENS LENGTH: 50 MM
VIEW/LOOKING: SOUTH
VIEW OF: REGION 7, AR 7-A

MONOPOLE STRUCTURE:
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED AR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

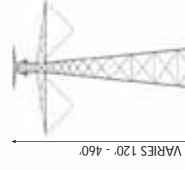
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources

Plains & Eastern Clean Line

Mississippi River and Trail of Tears AR

Photo Information



- GALVANIZED FINISH
- STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 120 - 460 FEET

DATE: 3/10/2014

TIME: 12:33 PM

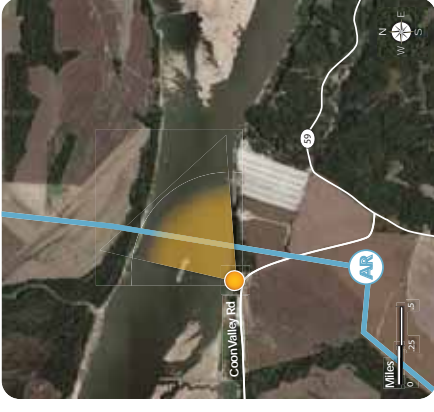
LOCATION: TIPTON COUNTY, TENNESSEE

LENS LENGTH: 50 MM

VIEW LOOKING: NORTHEAST

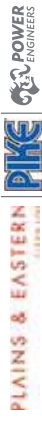
VIEW OF: REGION 7 AR 7-A

View Location



Legend

- PHOTO LOCATION
- PROPOSED AR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

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EXISTING CONDITIONS



PROPOSED CONDITIONS

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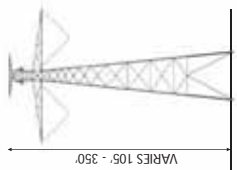
Visual Resources

Plains & Eastern Clean Line

Mississippi River and Trail of Tears PR

Photo Information

DATE: 3/10/2014
TIME: 11:53 AM
LOCATION: TIPTON COUNTY, TENNESSEE
LENS LENGTH: 50 MM
VIEW LOOKING: NORTHWEST
VIEW OF: REGION 7 PR LINK 1, PR LINK 2, AND PR LINK 3



View Location



Legend

-  PHOTO LOCATION
-  PROPOSED PR CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

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Visual Resources

Plains & Eastern Clean Line

Hardesty AC

Photo Information

DATE: 3/12/2014

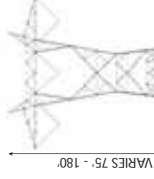
TIME: 5:08 PM

LOCATION: TEXAS COUNTY, OKLAHOMA

LENS LENGTH: 50 MM

VIEW LOOKING: WEST, NORTHWEST

VIEW OF: REGION 1 AC COLLECTION LINE E1



VARIES 75' - 180'

LATTICE STRUCTURE:

- GALVANIZED FINISH
- STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 118 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED AC CENTERLINE



EXISTING CONDITIONS



PROPOSED CONDITIONS

Visual Resources

Plains & Eastern Clean Line

Hardesty AC

Photo Information

DATE: 3/12/2014
TIME: 5:08 PM

LOCATION: TEXAS COUNTY, OKLAHOMA

LENS LENGTH: 50 MM

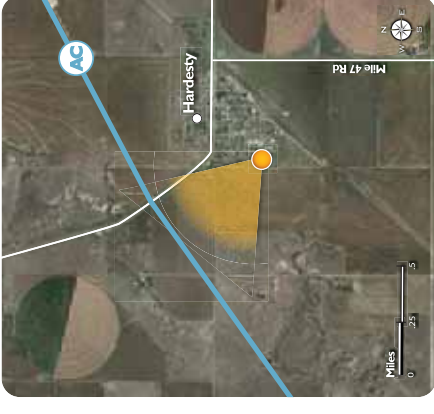
VIEW LOOKING: WEST, NORTHWEST

VIEW OF: REGION 1 AC COLLECTION LINE E 1



MONOPOLE STRUCTURE
 • GALVANIZED FINISH
 • STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 125 FEET

View Location



Legend

- PHOTO LOCATION
- PROPOSED AC CENTERLINE

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Visual Resources

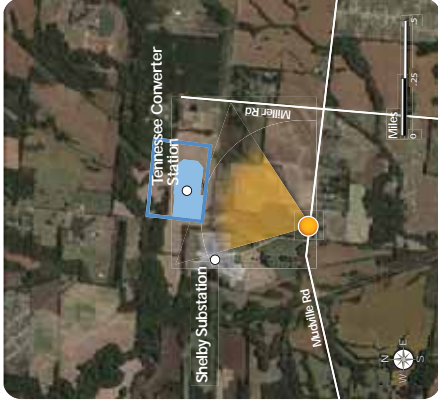
Plains & Eastern Clean Line

Tennessee Converter Station

Photo Information

DATE: 3/10/2014
LENS LENGTH: 50 MM
TIME: 10:43 AM
VIEW LOOKING: NORTH
LOCATION: SHELBY & TIPTON COUNTY, TENNESSEE
VIEW OF: REGION 7

View Location



- Legend
- PHOTO LOCATION
 - PROPOSED TENNESSEE CONVERTER STATION
 - PROPOSED TENNESSEE CONVERTER STATION PROPERTY LINE



EXISTING CONDITIONS



PROPOSED CONDITIONS - CONCEPTUAL AND SUBJECT TO CHANGE

Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

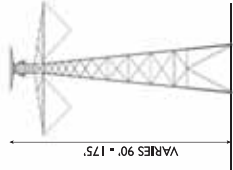
Visual Simulations for Route Variations

Simulation for Region 4 PR Link 3, Variation 2



Visual Resources Plains & Eastern Clean Line Sequoyah County, Oklahoma

Photo Information



DATE:
3/26/2015

TIME:
2:54 PM

LOCATION:
SEQUOYA COUNTY,
OKLAHOMA

LENS LENGTH:
50 MM

VIEW LOOKING:
SOUTHWEST

VIEW OF:
REGION 4 PR LINK 3

LATTICE STRUCTURE:

- GALVANIZED FINISH
- STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 90 - 175 FEET

View Location



Legend

- PHOTO LOCATION
- CENTERLINE OF REPRESENTATIVE RIGHT-OF-WAY

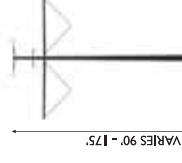
Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Simulation for Region 4 PR Link 3, Variation 2



Visual Resources Plains & Eastern Clean Line Sequoyah County, Oklahoma

Photo Information



DATE:
3/26/2015

TIME:
2:34 PM

LOCATION:
SEQUOYA COUNTY,
OKLAHOMA

LENS LENGTH:
50 MM

VIEW LOOKING:
SOUTHWEST

VIEW OF:
REGION 4 PR LINK 3

MONOPOLE STRUCTURE:

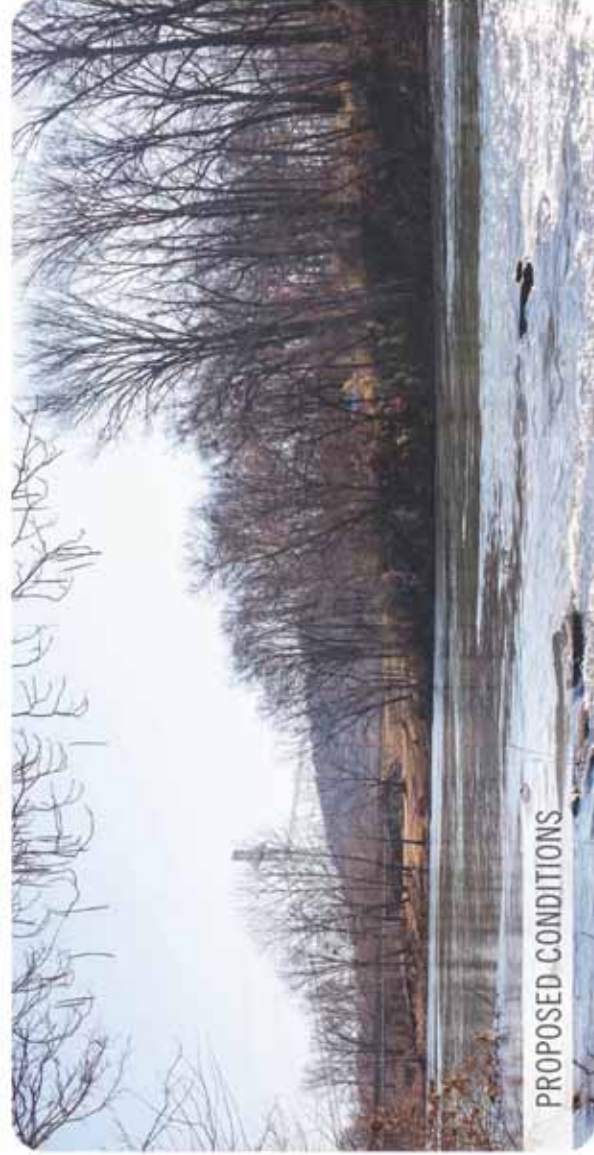
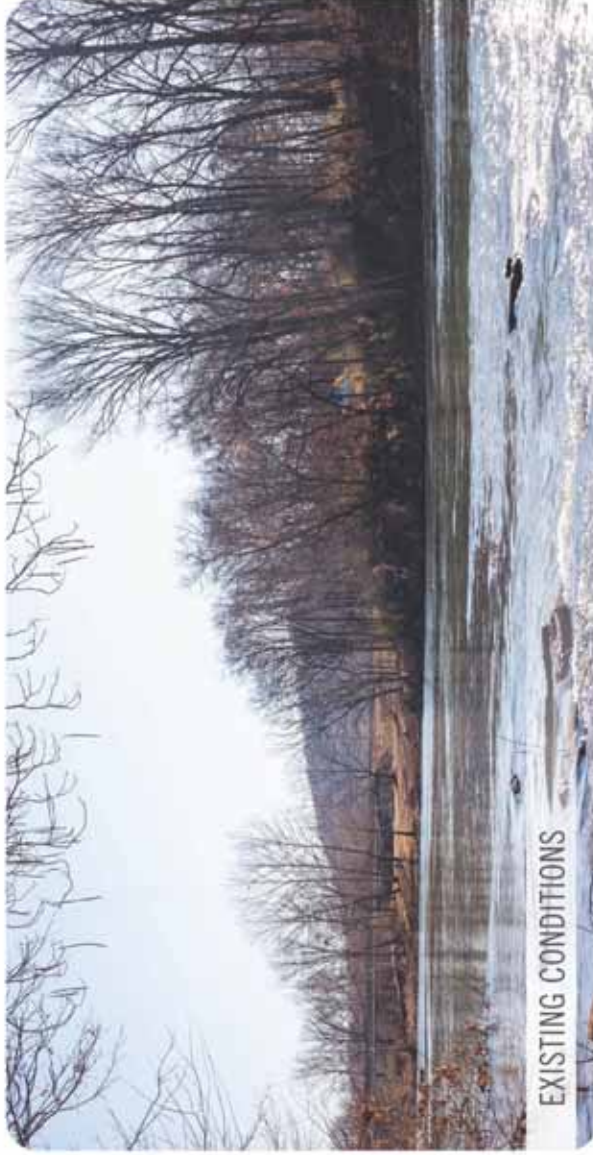
- GALVANIZED FINISH
- STRUCTURE HEIGHTS IN THIS SIMULATION ARE SHOWN AT 90° - 175 FEET

View Location



Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Simulation for Region 4 PR Link 9, Variation 1



Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources Plains & Eastern Clean Line Big Piney Creek PR

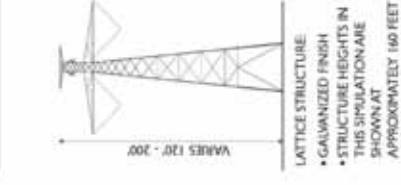


Photo Information

DATE: 3/11/2014
TIME: 9:56 AM
LOCATION: POPE COUNTY, ARKANSAS
LENS LENGTH: 50 MM
VIEW LOOKING: EAST
VIEW OF: REGION 4, PR LINK 9

View Location



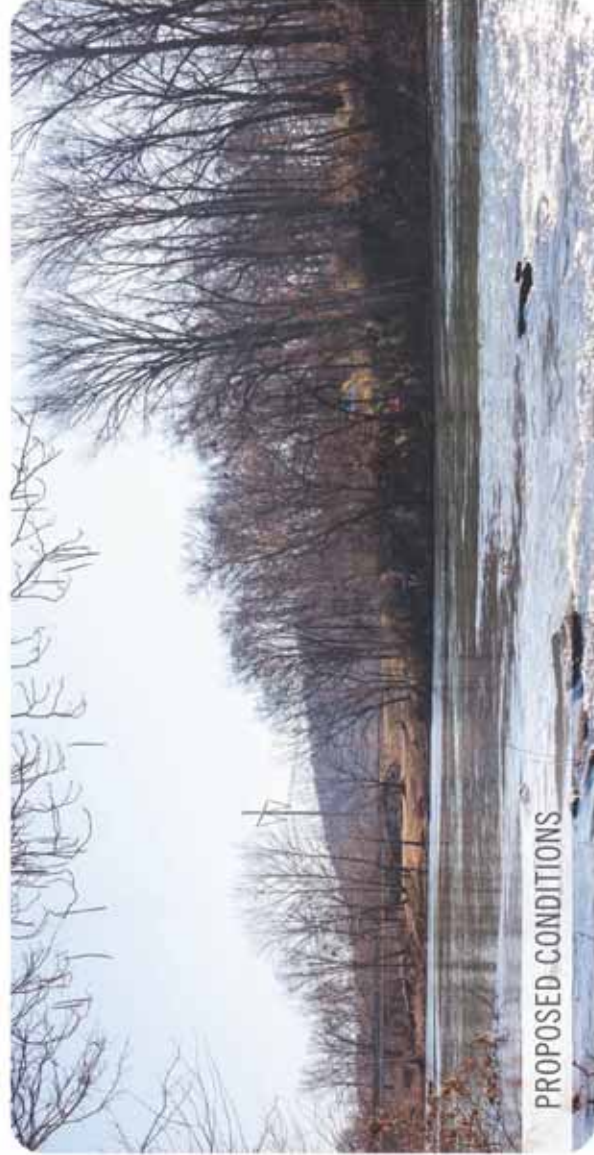
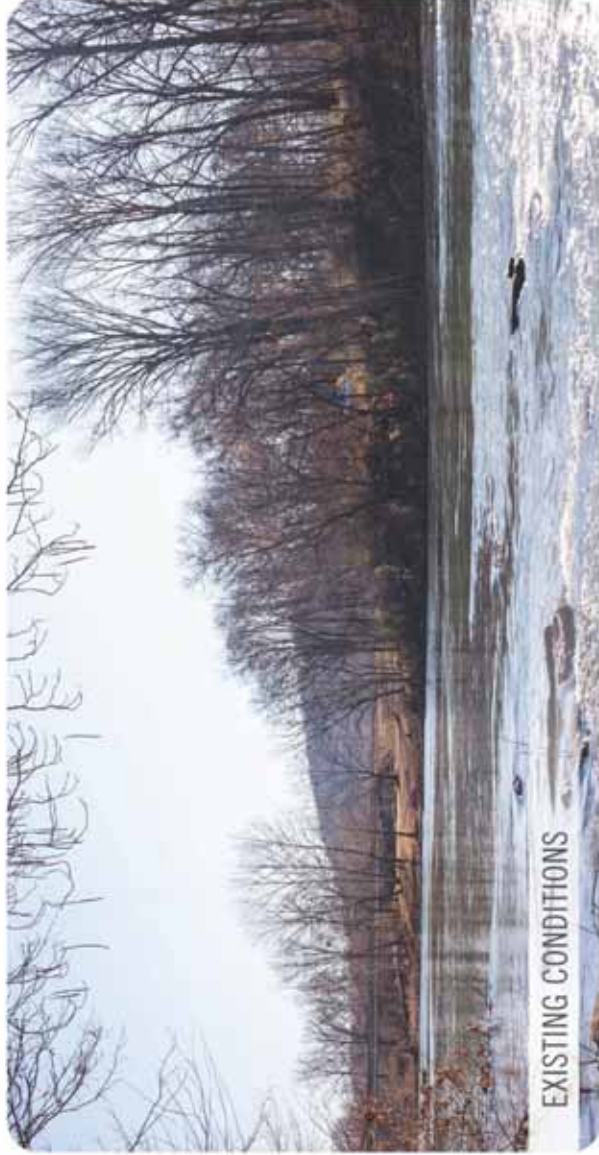
Legend

- PHOTO LOCATION
- PROPOSED PR CENTRLINE

PLAINS & EASTERN
ENGINEERS



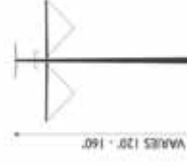
Simulation for Region 4 PR Link 9, Variation 1



Visual simulation is representative of a typical case only and is subject to regulatory approval and final engineering design. Final structure sizes, heights, configurations, materials, and finishes, as well as conductor sag, vegetation clearing, and access roads, may vary on a site-by-site basis.

Visual Resources Plains & Eastern Clean Line Big Piney Creek PR

Photo Information



DATE: 3/11/2014
TIME: 9:56 AM
LOCATION: POPE COUNTY, ARKANSAS
LENS LENGTH: 50 MM
VIEW LOOKING: EAST

VIEW OF: REGION 4, PR LINK 9
APPROXIMATELY 150 FEET

View Location



Legend

-  PHOTO LOCATION
-  PROPOSED PR CENTERLINE

PLAINS & EASTERN
UTILITY LINE

