

## Exhibit A

### ENSR Modeling in Support of Individual Unit Operation



**Table 3-3 AERMOD Modeling Results for SO<sub>2</sub> – Maximum Load  
Unit 1 at 100% Load, SO<sub>2</sub> Emission Rate = 0.84 lb/MMBtu**

Year	Pollutant	Averaging Period	AERMOD-PRIME	Monitored Background	AERMOD-PRIME + Background	NAAQS	Impact Location		Distance	Direction	Ground Elevation	Flagpole Elevation
							X (m)	Y (m)				
Predicted Concentrations (µg/m <sup>3</sup> )												
2000	SO <sub>2</sub>	3-hour	628.9	238.4	867.3	1300	322700.9	4298819.5	232.2	333	10.3	39.6
		24-hour	299.1	51.0	350.1	365	322770.8	4298791.5	182.7	349	6.1	39.6
		Annual	37.3	15.7	53.0	80	322880.8	4298542.5	102.7	133	6.7	0.0
2001	SO <sub>2</sub>	3-hour	727.0	238.4	965.4	1300	322763.3	4298799.5	192.1	347	6.5	39.6
		24-hour	313.0	51.0	364.0	365	322755.8	4298806.0	200.1	346	6.5	39.6
		Annual	34.8	15.7	50.5	80	322880.8	4298542.5	102.7	133	6.7	0.0
2002	SO <sub>2</sub>	3-hour	783.5	238.4	1,021.9	1300	322700.9	4298819.5	232.2	333	10.3	39.6
		24-hour	294.4	51.0	345.4	365	322770.8	4298791.5	182.7	349	6.1	39.6
		Annual	29.7	15.7	45.4	80	322880.8	4298542.5	102.7	133	6.7	0.0
2003	SO <sub>2</sub>	3-hour	519.6	238.4	758.0	1300	322858.6	4298648.5	64.6	56	4.1	0.0
		24-hour	222.6	51.0	273.6	365	322880.8	4298542.5	102.7	133	6.7	0.0
		Annual	22.5	15.7	38.2	80	322919.7	4298385.0	254.3	153	8.9	0.0
2004	SO <sub>2</sub>	3-hour	584.7	238.4	823.1	1300	322700.9	4298819.5	232.2	333	10.3	39.6
		24-hour	283.0	51.0	334.0	365	322880.8	4298542.5	102.7	133	6.7	0.0
		Annual	25.8	15.7	41.5	80	322880.8	4298542.5	102.7	133	6.7	0.0

\* SO<sub>2</sub> background concentrations for 24-hour averaging period are less than 51 µg/m<sup>3</sup> during periods when the highest impacts from Unit 1 are predicted.



**Table 3-5 AERMOD Modeling Results for PM<sub>10</sub>  
Unit 1 at 100% Load, Fugitive Dust Sources Reduced to 20% except Coal Pile**

Year	Pollutant	Averaging Period	AERMOD-PRIME	Monitored Background	AERMOD-PRIME + Background*	NAAQS	Impact Location		Distance	Direction	Ground Elevation	Flagpole Elevation
							X (m)	Y (m)				
2000	PM <sub>10</sub>	24-hour	48.5	45	93.5	150	322810.6	4298329.0	283.1	179	10.6	0.0
		Annual	10.8	21	31.8	50	322910.1	4298434.0	206.7	150	7.7	0.0
2001	PM <sub>10</sub>	24-hour	55.3	45	100.3	150	322810.6	4298329.0	283.1	179	10.6	0.0
		Annual	12.0	21	33.0	50	322904.4	4298462.5	179.5	146	8.3	0.0
2002	PM <sub>10</sub>	24-hour	48.3	45	93.3	150	322810.6	4298329.0	283.1	179	10.6	0.0
		Annual	11.1	21	32.1	50	322904.4	4298462.5	179.5	146	8.3	0.0
2003	PM <sub>10</sub>	24-hour	41.4	45	86.4	150	322810.6	4298329.0	283.1	179	10.6	0.0
		Annual	11.7	21	32.7	50	322810.6	4298329.0	283.1	179	10.6	0.0
2004	PM <sub>10</sub>	24-hour	40.6	45	85.6	150	322810.6	4298329.0	283.1	179	10.6	0.0
		Annual	10.5	21	31.5	50	322810.6	4298329.0	283.1	179	10.6	0.0

\* The highest PM<sub>10</sub> background air quality concentrations over the past three years (2001-2003) were obtained from the monitors located at 2675 Sherwood Hall Lane or Cob Run, Lee Road. Both monitors are in Fairfax County.



**Table 3-6 AERMOD Modeling Results for NOx  
Unit 1 at 100% Load, NOx Emission Rate = 0.45 lb/MMBtu**

Year	Pollutant	Averaging Period	AERMOD-PRIME	Monitored Background	AERMOD-PRIME + Background *	NAAQS	Impact Location		Distance	Direction	Ground Elevation	Flagpole Elevation
							X (m)	Y (m)				
2000	NO <sub>2</sub>	Annual	14.9	48.9	63.8	100	322880.8	4298542.5	102.7	133	6.7	0.0
2001	NO <sub>2</sub>	Annual	13.9	48.9	62.8	100	322880.8	4298542.5	102.7	133	6.7	0.0
2002	NO <sub>2</sub>	Annual	11.9	48.9	60.8	100	322880.8	4298542.5	102.7	133	6.7	0.0
2003	NO <sub>2</sub>	Annual	9.0	48.9	57.9	100	322919.7	4298385.0	254.3	153	8.9	0.0
2004	NO <sub>2</sub>	Annual	10.3	48.9	59.2	100	322880.8	4298542.5	102.7	133	6.7	0.0

\* NOx concentrations were multiplied by 0.75 to obtain NO<sub>2</sub> estimates in accordance with USEPA guidelines.



Table 3-3 AERMOD Modeling Results For SO<sub>2</sub> - 107 MW (Maximum Load)

Year	Pollutant	Averaging Period	AERMOD-PRIME	Monitored Background	AERMOD-PRIME + Background *		NAAQS	Impact Location		Distance	Direction	Ground Elevation	Flagpole Elevation
					Predicted Concentrations (Dg/m <sup>3</sup> )			X (m)	Y (m)				
2000	SO <sub>2</sub>	3-hour	493.7	238.4	732.1	1300	322787.7	4298786.0	174.8	354	4.6	39.6	
		24-hour	297.0	60.3	357.3	365	322787.7	4298786.0	174.8	354	4.6	39.6	
		Annual	37.2	15.7	52.9	80	322787.7	4298786.0	174.8	354	4.6	39.6	
2001	SO <sub>2</sub>	3-hour	547.8	238.4	786.2	1300	322787.7	4298786.0	174.8	354	4.6	39.6	
		24-hour	287.5	60.3	327.8	365	322787.7	4298786.0	174.8	354	4.6	39.6	
		Annual	41.3	15.7	57.0	80	322787.7	4298786.0	174.8	354	4.6	39.6	
2002	SO <sub>2</sub>	3-hour	477.3	238.4	715.7	1300	322787.7	4298786.0	174.8	354	4.6	39.6	
		24-hour	280.1	60.3	340.4	365	322787.7	4298786.0	174.8	354	4.6	39.6	
		Annual	35.2	15.7	50.9	80	322787.7	4298786.0	174.8	354	4.6	39.6	
2003	SO <sub>2</sub>	3-hour	413.5	238.4	651.9	1300	322787.7	4298786.0	174.8	354	4.6	39.6	
		24-hour	210.5	60.3	270.8	365	322787.7	4298786.0	174.8	354	4.6	39.6	
		Annual	18.1	15.7	33.8	80	322787.7	4298786.0	174.8	354	4.6	39.6	
2004	SO <sub>2</sub>	3-hour	429.9	238.4	668.3	1300	322787.7	4298786.0	174.8	354	4.6	39.6	
		24-hour	188.9	60.3	229.2	365	322787.7	4298786.0	174.8	354	4.6	39.6	
		Annual	24.9	15.7	40.6	80	322787.7	4298786.0	174.8	354	4.6	39.6	

Note: Mirant is controlling SO<sub>2</sub> emissions by 70% using Trona.

\* SO<sub>2</sub> background air quality data was based on the highest concentrations over the past three years (2001 - 2003) from the monitor located at 517 N. Saint Asaph St. Alexandria, VA

Unit 4 SO<sub>2</sub> emissions were calculated in exactly the same manner as the August 2005 modeling report except that an emission factor of 1.2 lb SO<sub>2</sub>/MMBtu and a control efficiency of 70% was used instead of the permit limit of 1.52 lb SO<sub>2</sub>/MMBtu. Historical data indicate that the power plant emits less than 1.2 lb SO<sub>2</sub>/MMBtu. The equivalent SO<sub>2</sub> emissions rate using 70% control efficiency is 1.2 lb SO<sub>2</sub>/MMBtu x (1.0 - 0.7) = 0.36 lb SO<sub>2</sub>/MMBtu.



Table 3-4 AERMOD Modeling For PM10 - 107 MW (Maximum Load)

Year	Pollutant	Averaging Period	AERMOD-PRIME	Monitored Background	AERMOD-PRIME + Background*	NAAQS	Impact Location		Distance	Direction	Ground Elevation	Flagpole Elevation
							X (m)	Y (m)				
2000	PM10	24-hour	50.6	45	95.6	150	322787.7	4298786.0	174.8	354	4.6	39.6
		Annual	9.5	21	30.5	50	322810.6	4298329.0	283.1	179	10.6	0.0
2001	PM10	24-hour	55.2	45	100.2	150	322810.6	4298329.0	283.1	179	10.6	0.0
		Annual	10.6	21	31.6	50	322904.4	4298462.5	179.5	146	10.6	0.0
2002	PM10	24-hour	48.3	45	93.3	150	322810.6	4298329.0	283.1	179	10.6	0.0
		Annual	9.9	21	30.9	50	322904.4	4298462.5	179.5	146	8.3	0.0
2003	PM10	24-hour	41.3	45	86.3	150	322810.6	4298329.0	283.1	179	10.6	0.0
		Annual	11.5	21	32.5	50	322810.6	4298329.0	283.1	179	10.6	0.0
2004	PM10	24-hour	40.6	45	85.6	150	322810.6	4298329.0	283.1	179	4.1	0.0
		Annual	10.3	21	31.3	50	322810.6	4298329.0	283.1	179	10.6	0.0

\* PM10 background air quality data was based on the highest concentrations over the past three years (2001-2003) from the monitors located at 2675 Sherwood Hall Lane or Cob Run, Lee Road. Both monitors are in Fairfax County.

Table 3-5 AERMOD Modeling for NO<sub>2</sub> - 107 MW (Maximum Load)

Year	Pollutant	Averaging Period	AERMOD-PRIME	Monitored Background	AERMOD-PRIME + Background *	NAAQS	Impact Location		Distance	Direction	Ground Elevation		Flagpole Elevation	
							X (m)	Y (m)			m	m	m	m
2000	NO <sub>2</sub>	Annual	18.6	48.9	67.5	100	322787.7	4298786.0	174.8	354	4.6	39.6	39.6	
2001	NO <sub>2</sub>	Annual	20.6	48.9	69.5	100	322787.7	4298786.0	174.8	354	4.6	39.6	39.6	
2002	NO <sub>2</sub>	Annual	17.6	48.9	66.5	100	322787.7	4298786.0	174.8	354	4.6	39.6	39.6	
2003	NO <sub>2</sub>	Annual	9.0	48.9	57.9	100	322787.7	4298786.0	174.8	354	4.6	39.6	39.6	
2004	NO <sub>2</sub>	Annual	12.4	48.9	61.3	100	322787.7	4298786.0	174.8	354	4.6	39.6	39.6	

NO<sub>x</sub> concentrations were multiplied by 0.75 to obtain NO<sub>2</sub> estimates in accordance with USEPA guidelines.

Mirant Potomac, Alexandria, Virginia  
 Maximum Impacts Predicted by AERMOD-PRIME  
 Highest, Second-Highest Short-term and Highest Annual Concentrations

SO<sub>2</sub> Results for All 3 Units - Highest Concentrations Over All 5 Years  
 Use normalized concentrations to back-calculate SO<sub>2</sub> emission rate (on 'Emissions' tab) that would produce NAAQS compliance.

Year	Averaging Period	AERMOD-PRIME		AERMOD-PRIME Concentrations to be Below NAAQS ( $\mu\text{g}/\text{m}^3$ )	Monitored Background	AERMOD- PRIME + Background ( $\mu\text{g}/\text{m}^3$ )	NAAQS	Impact Location		Distance	Direction	Ground Elevation m	Flagpole Elevation m
		Normalized Concentrations ( $\mu\text{g}/\text{m}^3$ )	Maximum					X (m)	Y (m)				
Unit 2 (Max)	3-hour	11.1	1060.6	1060.6	238.4	1,299.0	1300	322858.6	4298648.5	84.6	56	4.1	0.0
	24-hour	6.0	340	340	24.0	364.0	365	322880.8	4298542.5	102.7	133	6.7	0.0
	Annual	0.9	63.3	63.3	15.7	79.0	80	322880.8	4298542.5	102.7	133	6.7	0.0
Unit 2 (Min)	3-hour	15.3	1060.6	1060.6	238.4	1,299.0	1300	322858.6	4298648.5	64.6	56	4.1	0.0
	24-hour	10.7	341	341	23.0	364.0	365	322854.0	4298627.0	51.0	73	5.0	0.0
	Annual	1.8	63.3	63.3	15.7	79.0	80	322854.0	4298627.0	51.0	73	5.0	0.0
Unit 3 (Max)	3-hour	12.5	1060.6	1060.6	238.4	1,299.0	1300	322717.6	4298716.5	222.4	337	8.8	39.6
	24-hour	7.9	311	311	53.0	364.0	365	322787.7	4298786.0	174.8	354	4.6	39.6
	Annual	1.2	63.3	63.3	15.7	79.0	80	322787.7	4298786.0	174.8	354	4.6	39.6
Unit 3 (Min)	3-hour	18.7	1060.6	1060.6	238.4	1,299.0	1300	322787.7	4298786.0	174.8	354	4.6	39.6
	24-hour	17.3	331	331	33.0	364.0	365	322787.7	4298786.0	174.8	354	4.6	39.6
	Annual	2.5	63.3	63.3	15.7	79.0	80	322787.7	4298786.0	174.8	354	4.6	39.6
Unit 5 (Max)	3-hour	8.4	1060.6	1060.6	238.4	1,299.0	1300	322787.7	4298786.0	174.8	354	4.6	39.6
	24-hour	3.4	311	311	53.0	364.0	365	322787.7	4298786.0	174.8	354	4.6	39.6
	Annual	0.4	63.3	63.3	15.7	79.0	80	322787.7	4298786.0	174.8	354	4.6	39.6
Unit 5 (Min)	3-hour	22.5	1060.6	1060.6	238.4	1,299.0	1300	322787.7	4298786.0	174.8	354	4.6	39.6
	24-hour	10.8	322	322	42.0	364.0	365	322787.7	4298786.0	174.8	354	4.6	39.6
	Annual	1.5	63.3	63.3	15.7	79.0	80	322787.7	4298786.0	174.8	354	4.6	39.6



PM<sub>10</sub> Results for All 3 Units - Highest Concentrations Over All 5 Years  
 PM<sub>10</sub> @ 0.06 lb/MMBtu

Year	Averaging Period	AERMOD-PRIME	Monitored Background	AERMOD-PRIME + Background	NAAQS	Impact Location		Distance	Direction	Ground Elevation	Flagpole Elevation
		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )		X (m)	Y (m)				
Unit 2 (Max)	24-hour	48.4	45.0	93.4	150	322810.6	4298329.0	283.1	179	10.6	0.0
	Annual	9.3	21.0	30.3	50	322810.6	4298329.0	283.1	179	10.6	0.0
Unit 2 (Min)	24-hour	48.4	45.0	93.4	150	322810.6	4298329.0	283.1	179	10.6	0.0
	Annual	9.3	21.0	30.3	50	322810.6	4298329.0	283.1	179	10.6	0.0
Unit 3 (Max)	24-hour	48.4	45.0	93.4	150	322810.6	4298329.0	283.1	179	10.6	0.0
	Annual	9.3	21.0	30.3	50	322810.6	4298329.0	283.1	179	10.6	0.0
Unit 3 (Min)	24-hour	48.5	45.0	93.5	150	322810.6	4298329.0	283.1	179	10.6	0.0
	Annual	9.3	21.0	30.3	50	322810.6	4298329.0	283.1	179	10.6	0.0
Unit 5 (Max)	24-hour	48.4	45.0	93.4	150	322810.6	4298329.0	283.1	179	10.6	0.0
	Annual	9.3	21.0	30.3	50	322810.6	4298329.0	283.1	179	10.6	0.0
Unit 5 (Min)	24-hour	48.5	45.0	93.5	150	322810.6	4298329.0	283.1	179	10.6	0.0
	Annual	9.4	21.0	30.4	50	322810.6	4298329.0	283.1	179	10.6	0.0

NO<sub>2</sub> Results for All 3 Units - Highest Concentrations Over All 5 Years  
 NO<sub>2</sub> @ 0.45 lb/MMBtu for Unit 2, 0.24 lb/MMBtu for Units 3 & 5

Year	Averaging Period	AERMOD-PRIME	AERMOD-PRIME	Monitored Background	AERMOD-PRIME + Background	NAAQS	Impact Location		Distance	Direction	Ground Elevation	Flagpole Elevation
		Normalized Concentrations (µg/m <sup>3</sup> )	Concentrations Including Emissions (µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )		X (m)	Y (m)				
Unit 2 (Max)	Annual*	0.9	37.8	48.9	86.7	100	322880.8	4298542.5	102.7	133	6.7	0.0
	Annual*	1.8	35.7	48.9	84.6	100	322854.0	4298627.0	51.0	73	5.0	0.0
Unit 3 (Max)	Annual*	1.2	28.4	48.9	77.3	100	322787.7	4298786.0	174.8	354	4.6	39.6
	Annual*	2.5	21.2	48.9	70.1	100	322787.7	4298786.0	174.8	354	4.6	39.6
Unit 5 (Max)	Annual*	0.4	10.2	48.9	59.1	100	322787.7	4298786.0	174.8	354	4.6	39.6
	Annual*	1.5	13.5	48.9	62.4	100	322787.7	4298786.0	174.8	354	4.6	39.6

\* Assumes 75% NOx to NO<sub>2</sub> conversion.