

**Errata page for U.S. Department of Energy
Portsmouth Gaseous Diffusion Plant
Annual Site Environmental Report – 2011
(DOE/PPPO/03-0381&D1,
FBP-ER-PRO-WD-RPT-0017, Revision 2)**

During an evaluation of radiological dose, it was discovered that an error was made in the calculation of dose at the ambient air monitoring stations involving the misapplication of the conversion factor converting concentration to dose. The following corrections to the report referenced above have been made to respond to this error.

<u>Page</u>	<u>Correction</u>
4-6	Section 4.3.4, third paragraph, last sentence. Corrected the ambient air dose as follows: “The net dose for each station ranged from 0 at stations with a lower dose than the background station to 0.13 mrem/year at station A9, which is near the southwestern corner of the PORTS property boundary.”
4-6	Section 4.3.4, fourth paragraph. Revised the paragraph as follows: “The highest net dose measured at the ambient air monitoring stations (0.13 mrem/year at station A9) is less than the 10 mrem/year NESHAP limit for airborne radiological releases and 100 mrem/year DOE limit for all radiological releases from a facility.”
4-17	Section 4.6.1, last paragraph, second sentence. Corrected the ambient air dose as follows: “The highest net dose calculation for the off-site ambient air stations (0.13 mrem/year) was at station A9, which is southwest of the plant on Old U.S. Route 23.”

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**Errata page for U.S. Department of Energy
Portsmouth Gaseous Diffusion Plant
Annual Site Environmental Data – 2011
(DOE/PPPO/03-0382&D1,
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<u>Page</u>	<u>Correction</u>
3-2	Table 3.3. Dose calculations for ambient air monitoring stations – 2011. A replacement for Table 3.3 (pages 3-2 through 3-5) is provided following this Errata page.

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Table 3.2. Predicted radiation doses from airborne releases at PORTS – 2011

Effective dose to:	DOE releases	All PORTS releases (DOE and USEC, Inc.)
Maximally exposed individual (mrem/year)	0.032	0.032
Population ^a (person-rem/year)	0.35	0.35

^aPopulation within 50 miles (80 km) of plant site.

Table 3.3. Dose calculations for ambient air monitoring stations – 2011

Station	Parameter ^a	Dose ^b (mrem/year)	Total dose for station ^c	Net dose for station ^d
A3	Americium-241	7.2E-03		
	Neptunium-237	2.6E-04		
	Plutonium-238	4.0E-03		
	Plutonium-239/240	2.6E-03		
	Technetium-99	1.1E-01		
	Uranium-233/234	1.5E-02		
	Uranium-235	8.8E-04		
	Uranium-236	8.8E-05	(0.15)	
	Uranium-238	1.0E-02	1.5E-01	0
A6	Americium-241	2.8E-03		
	Neptunium-237	1.5E-04		
	Plutonium-238	5.2E-03		
	Plutonium-239/240	1.6E-03		
	Technetium-99	1.4E-01		
	Uranium-233/234	1.4E-02		
	Uranium-235	1.3E-03		
	Uranium-236	1.7E-04	(0.17)	
	Uranium-238	1.0E-02	1.7E-01	0
A8	Americium-241	6.4E-03		
	Neptunium-237	0.0E+00		
	Plutonium-238	4.0E-03		
	Plutonium-239/240	3.0E-03		
	Technetium-99	1.2E-01		
	Uranium-233/234	1.7E-02		
	Uranium-235	6.8E-04		
	Uranium-236	1.7E-04	(0.16)	
	Uranium-238	9.3E-03	1.6E-01	0

Table 3.3. Dose calculations for ambient air monitoring stations – 2011 (continued)

Station	Parameter ^a	Dose ^b (mrem/year)	Total dose for station ^c	Net dose for station ^d
A9	Americium-241	3.4E-03		
	Neptunium-237	1.5E-04		
	Plutonium-238	1.7E-03		
	Plutonium-239/240	2.0E-03		
	Technetium-99	2.7E-01		
	Uranium-233/234	1.6E-02		
	Uranium-235	5.1E-04		
	Uranium-236	7.9E-05	(0.31)	(0.13)
A10	Uranium-238	1.2E-02	3.1E-01	1.3E-01
	Americium-241	2.7E-03		
	Neptunium-237	1.3E-04		
	Plutonium-238	3.9E-03		
	Plutonium-239/240	3.1E-02		
	Technetium-99	1.2E-01		
	Uranium-233/234	4.1E-02		
	Uranium-235	2.0E-03		
A12	Uranium-236	3.2E-04	(0.21)	(0.03)
	Uranium-238	1.2E-02	2.1E-01	3.0E-02
	Americium-241	5.4E-03		
	Neptunium-237	2.3E-04		
	Plutonium-238	2.7E-03		
	Plutonium-239/240	2.4E-03		
	Technetium-99	6.4E-02		
	Uranium-233/234	2.1E-02		
A15	Uranium-235	1.0E-03		
	Uranium-236	1.7E-04	(0.11)	
	Uranium-238	1.3E-02	1.1E-01	0
	Americium-241	4.0E-03		
	Neptunium-237	5.5E-04		
	Plutonium-238	8.3E-03		
	Plutonium-239/240	2.4E-03		
	Technetium-99	8.5E-02		
A23	Uranium-233/234	9.3E-03		
	Uranium-235	1.5E-03		
	Uranium-236	1.2E-04	(0.21)	
	Uranium-238	8.0E-03	1.2E-01	0
	Americium-241	5.5E-03		
	Neptunium-237	6.2E-04		
	Plutonium-238	2.5E-03		
	Plutonium-239/240	8.1E-03		
A23	Technetium-99	1.8E-01		
	Uranium-233/234	2.6E-02		
	Uranium-235	1.4E-03		
	Uranium-236	3.2E-04	(0.23)	(0.05)
	Uranium-238	1.1E-02	2.3E-01	5.0E-02

Table 3.3. Dose calculations for ambient air monitoring stations – 2011 (continued)

Station	Parameter ^a	Dose ^b (mrem/year)	Total dose for station ^c	Net dose for station ^d
A24	Americium-241	2.9E-03		
	Neptunium-237	0.0E+00		
	Plutonium-238	9.6E-03		
	Plutonium-239/240	2.5E-03		
	Technetium-99	1.0E-01		
	Uranium-233/234	1.7E-02		
	Uranium-235	8.8E-04		
	Uranium-236	8.8E-05	(0.15)	
A28	Uranium-238	9.9E-03	1.5E-01	0
	Americium-241	3.0E-03		
	Neptunium-237	5.1E-04		
	Plutonium-238	1.5E-03		
	Plutonium-239/240	2.6E-03		
	Technetium-99	1.1E-01		
	Uranium-233/234	1.5E-02		
	Uranium-235	1.6E-03		
A29	Uranium-236	5.5E-05	(0.14)	
	Uranium-238	9.8E-03	1.4E-01	0
	Americium-241	5.9E-03		
	Neptunium-237	3.3E-04		
	Plutonium-238	1.4E-03		
	Plutonium-239/240	2.8E-03		
	Technetium-99	1.3E-01		
	Uranium-233/234	1.9E-02		
A36	Uranium-235	1.5E-03		
	Uranium-236	7.8E-05	(0.17)	
	Uranium-238	9.1E-03	1.7E-01	0
	Americium-241	3.6E-03		
	Neptunium-237	6.2E-04		
	Plutonium-238	6.2E-03		
	Plutonium-239/240	2.2E-03		
	Technetium-99	9.8E-02		
A37	Uranium-233/234	2.2E-02		
	Uranium-235	1.2E-03		
	Uranium-236	8.7E-05	(0.14)	
	Uranium-238	1.1E-02	1.4E-01	0
	Americium-241	2.6E-03		
	Neptunium-237	3.7E-04		
	Plutonium-238	2.6E-03		
	Plutonium-239/240	2.5E-03		
A37	Technetium-99	1.5E-01		
	Uranium-233/234	1.5E-02		
	Uranium-235	2.6E-04		
	Uranium-236	6.6E-05	(0.18)	
	Uranium-238	9.1E-03	1.8E-01	-

Table 3.3. Dose calculations for ambient air monitoring stations – 2011 (continued)

Station	Parameter ^a	Dose ^b (mrem/year)	Total dose for station ^c	Net dose for station ^d
A41	Americium-241	2.4E-03		
	Neptunium-237	0.0E+00		
	Plutonium-238	1.4E-03		
	Plutonium-239/240	3.1E-03		
	Technetium-99	4.8E-02		
	Uranium-233/234	1.6E-02		
	Uranium-235	1.6E-03		
	Uranium-236	3.7E-05	(0.086)	
T7	Uranium-238	1.3E-02	8.6E-02	0
	Americium-241	4.5E-03		
	Neptunium-237	5.3E-04		
	Plutonium-238	4.1E-03		
	Plutonium-239/240	1.2E-01		
	Technetium-99	5.9E-02		
	Uranium-233/234	1.5E-02		
	Uranium-235	1.1E-03		
	Uranium-236	1.4E-04	(0.22)	(0.04)
	Uranium-238	9.2E-03	2.2E-01	4.0E-02

^aParameters listed in **bold** type were detected at least once in the samples collected in 2011 (see Table 2.8).

^bThe dose calculation is based on the maximum detection of each parameter at each station. For parameters that were not detected, half of the highest undetected result for the parameter was used to calculate the activity of each parameter in ambient air that is the basis for the dose. Measurements are provided in scientific notation. The number and sign (+ or -) to the right of the "E" indicate the number of places to the right or left of the decimal point. For example, 3.4E-04 is 0.00034 (the decimal point moves four places to the left); 2.1E+02 is 210 (the decimal point moves two places to the right).

^cThe total dose is provided in scientific notation and standard numeric format (in parentheses).

^dThe net dose is calculated by subtracting the total dose at Station A37 (background) from the total dose calculated for each station (the net dose is recorded as zero for stations with a gross dose less than the background station). The net dose is provided in scientific notation and standard numeric format (in parentheses).