

Appendix C - 2

Summary of Air Monitoring Data

Table C - 2.1

**1993 Airborne Radioactive Effluent Monthly Totals (curies)
from the Main Ventilation Stack (ANSTACK)**

Month	Alpha	Beta	H-3
<i>January</i>	5.96±2.38E-08	1.25±0.08E-06	3.90±0.06E-03
<i>February</i>	3.22±1.98E-08	1.34±0.08E-06	2.35±0.05E-03
<i>March</i>	3.02±1.74E-08	1.20±0.07E-06	2.45±0.08E-03
<i>April</i>	3.84±1.71E-08	1.14±0.07E-06	2.91±0.05E-03
<i>May</i>	7.71±2.94E-08	1.96±0.11E-06	4.03±0.05E-03
<i>June</i>	5.98±2.27E-08	1.25±0.08E-06	1.33±0.20E-03
<i>July</i>	2.81±0.44E-07	5.00±0.15E-06	2.48±0.04E-03
<i>August</i>	3.84±2.25E-08	1.42±0.09E-06	2.07±0.04E-03
<i>September</i>	6.80±2.57E-08	1.92±0.10E-06	4.64±0.07E-03
<i>October</i>	1.28±0.33E-07	3.52±0.13E-06	2.79±0.04E-03
<i>November</i>	7.46±2.62E-08	2.60±0.11E-06	7.18±0.21E-04
<i>December</i>	3.72±2.06E-08	2.00±0.10E-06	1.45±0.03E-03
TOTALS	9.25±0.91E-07	2.46±0.03E-05	3.11±0.03E-02

Table C - 2.2

**1993 Airborne Radioactive Effluent Quarterly Totals (curies)
from the Main Ventilation Stack (ANSTACK)**

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	TOTAL
<i>Co-60</i>	0.70±2.26E-08	0.00±2.48E-08	2.25±0.28E-08	-1.75±3.42E-08	1.21±4.81E-08
<i>Sr-90</i>	4.78±0.50E-07	6.34±0.79E-07	2.02±0.13E-06	1.98±1.03E-06	5.11±0.19E-06
<i>I-129</i>	4.24±0.24E-06	4.71±0.25E-06	6.88±0.25E-06	2.89±0.24E-06	1.87±0.05E-05
<i>Cs-134</i>	1.58±2.52E-08	0.77±2.59E-08	-0.58±2.78E-08	0.39±3.09E-08	2.16±5.50E-08
<i>Cs-137</i>	1.99±0.20E-06	2.64±0.26E-06	4.46±0.52E-06	4.12±0.52E-06	1.32±0.08E-05
<i>Eu-154</i>	0.00±7.55E-08	-3.97±8.19E-08	4.72±6.55E-08	-0.08±1.01E-07	-0.01±1.64E-07
<i>U-232</i>	-0.58±2.41E-08	-1.40±3.09E-08	-3.14±7.86E-09	1.52±4.17E-08	-0.78±5.78E-08
<i>U-233/234</i>	1.46±1.51E-08	0.45±4.63E-09	7.08±9.43E-09	0.90±8.98E-09	2.30±2.05E-08
<i>U-235</i>	0.65±6.64E-09	0.45±4.63E-09	0.55±5.53E-09	0.90±8.98E-09	0.26±1.33E-08
<i>U-236</i>	3.27±8.55E-09	0.45±4.63E-09	0.55±5.53E-09	0.90±8.98E-09	0.52±1.43E-08
<i>U-238</i>	0.65±6.64E-09	0.45±4.63E-09	0.55±5.53E-09	1.52±1.70E-08	1.68±1.96E-08
<i>Pu-238</i>	7.55±8.30E-09	1.06±1.03E-08	6.29±2.36E-08	2.83±1.80E-08	1.09±0.32E-07
<i>Pu-239/240</i>	2.36±1.36E-08	2.91±1.59E-08	7.86±2.62E-08	2.83±1.80E-08	1.60±0.38E-07
<i>Am-241</i>	3.27±1.76E-08	3.70±1.85E-08	1.65±0.34E-07	7.98±3.09E-08	3.15±0.53E-07
<i>Total U (grams)</i>	1.96±2.89E-02	-1.80±4.73E-02	0.81±2.28E-02	4.89±7.20E-02	5.87±9.37E-02

Table C - 2.3

Comparison of 1993 Main Stack Exhaust Radioactivity Concentrations with Department of Energy Guidelines

Isotope	Half-life (years)	Total Ci Released ^a	Bequerels	Average Concentration (μCi/mL)	DCG (μCi/mL)	% of DCG
Alpha	N/A	9.25±0.91E-07	3.42±0.34E+04	1.24±0.12E-15	N/A ^b	--
Beta	N/A	2.46±0.03E-05	9.10±0.11E+05	3.31±0.04E-14	N/A ^b	--
H-3	12.35	3.11±0.03E-02	1.15±0.01E+09	4.18±0.04E-11	1.00E-07	0.0
Co-60	5.27	1.21±4.81E-08	0.45±1.78E+03	1.62±6.46E-17	8.00E-11	0.0
Sr-90	29.124	5.11±0.19E-06	1.89±0.07E+05	0.69±2.57E-14	9.00E-12	<0.1
I-129	1.57E+07	1.87±0.05E-05	6.93±0.18E+05	2.52±0.07E-14	7.00E-11	0.0
Cs-134	2.06	2.16±5.50E-08	0.80±2.04E+03	2.90±7.40E-17	2.00E-10	0.0
Cs-137	30	1.32±0.08E-05	4.88±0.30E+05	0.18±1.08E-13	4.00E-10	0.0
Eu-154	8.8	-0.01±1.64E-07	-0.03±6.07E+03	-0.01±2.20E-16	5.00E-11	0.0
U-232 ^c	72	-0.78±5.78E-08	-0.29±2.14E+03	-1.04±7.77E-17	2.00E-14	<0.4
U-233/234 ^c	2.45E+05	2.30±2.05E-08	8.51±7.59E+02	3.09±2.76E-17	9.00E-14	0.0
U-235 ^c	7.10E+08	0.26±1.33E-08	0.94±4.92E+03	0.34±1.79E-16	1.00E-13	0.0
U-236 ^c	3.45E+06	0.52±1.43E-08	1.91±5.29E+02	0.70±1.92E-16	1.00E-13	0.0
U-238 ^c	4.47E+09	1.68±1.96E-08	6.22±7.25E+02	2.26±2.63E-17	1.00E-13	0.0
Pu-238	87.07	1.09±0.32E-07	4.04±1.20E+03	0.15±4.37E-15	3.00E-14	<0.5
Pu-239/240	2.40E+04	1.60±0.38E-07	5.91±1.41E+03	0.22±5.11E-15	2.00E-14	<1.1
Am-241	432	3.15±0.53E-07	1.16±0.20E+04	0.42±7.07E-15	2.00E-14	<2.1
TOTAL % of DCGs^d						<4.3

^a Total volume released at 50,000 cfm = 7.44E+14 mL/year.

^b Derived concentration guides (DCGs) are not specified for gross alpha or gross beta activity.

^c Total Uranium = 5.87±9.37E-02 g; Average = 7.89±12.6E-11 μg/mL.

^d Total percent DCGs for applicable measured radionuclides.

N/A - Not applicable.

DCGs are listed for reference only. They are applicable to average concentration at the site boundary but not to stack concentrations, as might be inferred from their inclusion in this table.

Table C - 2.4**1993 Airborne Radioactive Effluent Monthly Totals (curies)
from the Cement Solidification System Ventilation Stack (ANCSSTK)**

Month	Alpha	Beta
<i>January</i>	2.14±3.40E-09	3.01±0.87E-08
<i>February</i>	3.72±3.52E-09	2.35±0.76E-08
<i>March</i>	3.80±3.37E-09	2.12±0.74E-08
<i>April</i>	3.48±2.83E-09	2.90±0.83E-08
<i>May</i>	4.49±4.29E-09	1.15±0.97E-08
<i>June</i>	3.07±3.46E-09	7.13±9.00E-09
<i>July</i>	5.80±5.01E-09	3.23±9.98E-09
<i>August</i>	5.02±4.25E-09	6.88±8.92E-09
<i>September</i>	2.01±3.70E-09	1.18±0.89E-08
<i>October</i>	3.01±3.88E-09	2.29±9.93E-09
<i>November</i>	0.99±3.16E-09	1.18±0.85E-08
<i>December</i>	1.94±3.73E-09	1.77±9.00E-09
TOTALS	3.95±1.30E-08	1.60±0.31E-07

Table C - 2.5**1993 Airborne Radioactive Effluent Quarterly Totals (curies)
from the Cement Solidification System Ventilation Stack (ANCSSTK)**

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	TOTAL
<i>Co-60</i>	2.34±6.35E-09	0.42±7.87E-09	3.81±6.84E-09	0.60±4.93E-09	0.72±1.32E-08
<i>Sr-90</i>	2.97±5.93E-09	0.66±7.26E-09	0.78±1.51E-08	0.65±5.69E-09	1.21±1.87E-08
<i>I-129</i>	9.76±2.93E-09	1.96±0.46E-08	1.58±0.52E-08	-1.17±6.15E-09	4.40±0.98E-08
<i>Cs-134</i>	5.20±6.77E-09	5.28±8.04E-09	2.69±7.35E-09	1.52±4.66E-09	1.47±1.36E-08
<i>Cs-137</i>	3.59±5.83E-09	-1.16±7.48E-09	-0.67±6.23E-09	5.96±5.42E-09	0.77±1.26E-08
<i>Eu-154</i>	0.99±1.82E-08	-0.48±2.45E-08	-0.20±2.28E-08	0.98±1.57E-08	1.28±4.12E-08
<i>U-232</i>	-2.29±3.49E-09	2.26±2.53E-09	-0.11±2.61E-09	1.73±2.01E-08	1.72±2.07E-08
<i>U-233/234</i>	0.94±9.26E-10	0.94±9.52E-10	-0.29±1.65E-09	1.68±2.76E-09	1.58±3.48E-09
<i>U-235</i>	0.94±9.26E-10	0.94±9.52E-10	0.14±1.42E-09	0.18±1.84E-09	0.51±2.68E-09
<i>U-236</i>	0.94±9.26E-10	0.94±9.52E-10	0.14±1.42E-09	0.18±1.84E-09	0.51±2.68E-09
<i>U-238</i>	0.83±1.41E-09	0.45±1.22E-09	0.14±1.42E-09	0.18±1.84E-09	1.64±2.98E-09
<i>Pu-238</i>	0.10±1.03E-09	0.17±1.72E-09	-0.22±1.27E-09	0.18±1.82E-09	0.24±2.99E-09
<i>Pu-239/240</i>	0.10±1.03E-09	0.17±1.72E-09	0.11±1.09E-09	-1.46±2.60E-09	-1.08±3.46E-09
<i>Am-241</i>	1.35±1.46E-09	-0.66±1.16E-09	2.36±1.91E-09	0.87±2.28E-09	3.92±3.50E-09
<i>Total U (grams)</i>	-1.77±6.04E-03	4.46±4.79E-03	0.04±5.83E-03	2.87±3.04E-02	3.15±3.19E-02

Table C - 2.6

**1993 Airborne Radioactive Effluent Monthly Totals (curies)
from the Contact Size-reduction Facility Ventilation Stack (ANCSRFK)**

Month	Alpha	Beta
<i>January</i>	2.80±2.22E-09	3.33±0.57E-08
<i>February</i>	0.16±1.67E-09	1.65±0.45E-08
<i>March</i>	1.09±1.81E-09	2.71±0.52E-08
<i>April</i>	3.97±2.01E-09	1.26±0.45E-08
<i>May</i>	1.73±2.42E-09	2.44±0.66E-08
<i>June</i>	1.55±1.94E-09	2.22±0.60E-08
<i>July</i>	-0.80±2.32E-09	2.28±0.67E-08
<i>August</i>	1.91±2.27E-09	1.85±0.58E-08
<i>September</i>	7.54±3.05E-09	2.36±0.59E-08
<i>October</i>	3.87±2.69E-09	2.27±0.72E-08
<i>November</i>	2.51±2.78E-09	3.54±0.78E-08
<i>December</i>	1.28±2.84E-09	2.51±0.80E-08
TOTALS	2.76±0.82E-08	2.84±0.22E-07

Table C - 2.7

**1993 Airborne Radioactive Effluent Quarterly Totals (curies)
from the Contact Size-reduction Facility Ventilation Stack (ANCSRFK)**

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	TOTAL
<i>Co-60</i>	-1.76±0.38E-09	-1.03±3.37E-09	1.00±4.56E-09	-1.04±3.88E-09	-2.82±6.88E-09
<i>Sr-90</i>	0.37±2.35E-09	-1.12±3.88E-09	-1.26±3.07E-09	0.73±4.38E-09	-1.28±7.01E-09
<i>I-129</i>	9.00±3.21E-09	-0.14±4.11E-09	4.04±3.03E-09	1.32±4.24E-09	1.42±0.74E-08
<i>Cs-134</i>	-1.20±3.67E-09	0.48±2.82E-09	0.36±4.91E-09	-1.19±3.81E-09	-1.56±7.75E-09
<i>Cs-137</i>	-3.39±3.70E-09	0.74±2.82E-09	0.14±4.56E-09	2.34±3.73E-09	-0.17±7.51E-09
<i>Eu-154</i>	0.71±1.02E-08	-0.67±1.03E-08	0.84±1.52E-08	0.06±1.17E-08	0.94±2.40E-08
<i>U-232</i>	-0.15±3.64E-09	-0.58±1.06E-09	0.12±1.76E-09	1.35±1.23E-08	1.28±1.30E-08
<i>U-233/234</i>	3.39±8.95E-10	0.51±5.23E-10	-0.39±1.71E-09	0.16±1.63E-09	0.16±2.58E-09
<i>U-235</i>	0.71±6.97E-10	2.60±6.67E-10	-0.61±1.10E-09	-0.33±1.90E-09	-0.61±2.40E-09
<i>U-236</i>	0.71±6.97E-10	0.51±5.23E-10	0.74±7.53E-10	0.16±1.63E-09	0.36±2.00E-09
<i>U-238</i>	0.71±1.27E-09	4.81±8.01E-10	0.74±7.53E-10	0.33±2.30E-09	1.59±2.85E-09
<i>Pu-238</i>	0.52±5.18E-10	0.87±8.72E-10	-3.23±8.40E-10	0.16±1.63E-09	-0.02±2.09E-09
<i>Pu-239/240</i>	0.52±5.18E-10	0.87±8.72E-10	0.65±6.43E-10	0.16±1.63E-09	0.36±2.02E-09
<i>Am-241</i>	2.50±6.39E-10	0.15±1.53E-09	0.58±5.75E-10	3.84±9.99E-10	0.85±2.02E-09
<i>Total U (grams)</i>	1.51±2.50E-03	0.38±2.44E-03	-1.10±4.23E-03	2.04±1.88E-02	2.12±1.96E-02

Table C - 2.8

***1993 Airborne Radioactive Effluent Monthly Totals (curies)
from the Supernatant Treatment System Ventilation Stack (ANSTSTK)***

Month	Alpha	Beta
<i>January</i>	1.71±1.73E-09	1.37±0.41E-08
<i>February</i>	-0.59±1.21E-09	8.66±3.44E-09
<i>March</i>	2.01±1.54E-09	1.22±0.37E-08
<i>April</i>	0.86±1.13E-09	1.13±0.37E-08
<i>May</i>	-0.14±1.59E-09	1.32±0.47E-08
<i>June</i>	0.15±1.23E-09	1.41±0.43E-08
<i>July</i>	-0.81±1.63E-09	1.46±0.47E-08
<i>August</i>	0.88±1.63E-09	1.37±0.44E-08
<i>September</i>	0.45±1.56E-09	1.09±0.42E-08
<i>October</i>	1.20±1.70E-09	3.63±4.53E-09
<i>November</i>	2.26±1.80E-09	5.26±3.94E-09
<i>December</i>	0.15±1.59E-09	1.54±4.23E-09
TOTALS	8.13±5.34E-09	1.23±0.14E-07

Table C - 2.9

***1993 Airborne Radioactive Effluent Quarterly Totals (curies)
from the Supernatant Treatment System Ventilation Stack (ANSTSTK)***

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	TOTAL
<i>Co-60</i>	1.20±3.42E-09	0.75±2.68E-09	1.79±3.82E-09	1.20±3.49E-09	4.93±6.75E-09
<i>Sr-90</i>	0.72±3.20E-09	-2.10±3.29E-09	-2.72±3.05E-09	1.00±3.07E-09	-3.09±6.30E-09
<i>I-129</i>	1.60±0.02E-07	1.59±0.02E-07	2.36±0.02E-07	4.45±0.24E-07	1.00±0.03E-06
<i>Cs-134</i>	0.00±2.50E-09	1.21±3.40E-09	-1.21±3.19E-09	-0.61±3.32E-09	-0.61±6.24E-09
<i>Cs-137</i>	0.97±2.36E-09	2.04±3.23E-09	1.07±0.38E-08	5.02±3.91E-09	1.87±0.68E-08
<i>Eu-154</i>	-0.84±8.04E-09	0.50±1.21E-08	1.07±1.21E-08	0.92±1.26E-08	2.41±2.27E-08
<i>U-232</i>	1.28±1.81E-09	-0.75±1.74E-09	-0.22±1.01E-09	-3.07±8.37E-09	-2.76±8.80E-09
<i>U-233/234</i>	0.67±6.65E-10	0.50±4.89E-10	0.14±1.01E-09	0.11±1.07E-09	0.36±1.69E-09
<i>U-235</i>	0.67±6.65E-10	0.50±4.89E-10	0.71±7.14E-10	0.11±1.07E-09	0.29±1.53E-09
<i>U-236</i>	0.67±6.65E-10	0.50±4.89E-10	0.71±7.14E-10	1.06±1.07E-10	0.29±1.53E-09
<i>U-238</i>	3.34±8.62E-11	2.46±6.27E-10	0.71±7.14E-10	0.11±1.07E-09	0.46±1.44E-09
<i>Pu-238</i>	0.50±5.09E-10	0.58±5.85E-10	0.60±6.07E-10	0.10±1.05E-09	0.27±1.44E-09
<i>Pu-239/240</i>	-2.53±6.68E-10	0.58±5.85E-10	0.60±6.07E-10	0.10±1.05E-09	-0.03±1.50E-09
<i>Am-241</i>	3.89±6.40E-10	4.42±5.80E-10	3.57±9.34E-10	0.11±1.07E-09	1.29±1.66E-09
<i>Total U (grams)</i>	2.20±3.14E-03	-0.52±3.01E-03	0.20±2.77E-03	-0.39±1.28E-02	-0.20±1.38E-02

Table C - 2.10**1993 Airborne Radioactive Effluent Monthly Totals (curies)
from the Supercompactor Ventilation Stack (ANSUPCV)**

Month	Alpha	Beta
January	0.77±2.71E-10	2.60±0.74E-09
February	0.26±2.42E-10	2.90±0.68E-09
March	0.26±2.31E-10	2.20±0.65E-09
April	2.06±2.14E-10	1.39±0.62E-09
May	-1.30±2.65E-10	9.74±7.43E-10
June	0.00±2.22E-10	7.90±5.93E-10
July	-0.53±3.22E-10	1.48±0.69E-09
August	-0.53±2.56E-10	1.06±0.60E-09
September	3.48±3.28E-10	1.62±0.68E-09
October	2.68±3.16E-10	1.67±0.86E-09
November	3.50±3.12E-10	1.23±0.72E-09
December	0.00±2.79E-10	4.04±7.58E-10
TOTALS	1.06±0.95E-09	1.83±0.24E-08

Table C - 2.11**1993 Airborne Radioactive Effluent Quarterly Totals (curies)
from the Supercompactor Ventilation Stack (ANSUPCV)**

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	TOTAL
Co-60	-3.02±5.82E-10	4.35±6.27E-10	2.35±7.42E-10	0.42±4.45E-10	0.41±1.22E-09
Sr-90	0.71±4.49E-10	-2.62±6.00E-10	0.00±4.26E-10	-0.11±1.01E-09	-0.30±1.33E-09
Cs-134	0.23±6.26E-10	0.98±5.55E-10	-3.06±6.97E-10	-0.53±4.09E-10	-0.24±1.16E-09
Cs-137	1.91±5.95E-10	7.11±5.78E-10	4.44±5.77E-10	3.87±4.58E-10	1.73±1.11E-09
Eu-154	0.58±2.13E-09	2.58±1.73E-09	-0.67±2.04E-09	-0.24±1.34E-09	2.25±3.68E-09
U-232	2.75±5.20E-10	1.47±1.60E-10	-0.23±1.47E-10	1.16±2.22E-09	1.56±2.29E-09
U-233/234	0.33±1.64E-10	0.44±1.12E-10	0.11±1.12E-10	0.12±1.24E-10	1.00±2.60E-10
U-235	0.84±8.22E-11	0.89±8.80E-11	0.11±1.12E-10	0.62±1.60E-10	0.91±2.30E-10
U-236	0.84±8.22E-11	0.89±8.80E-11	0.11 ±1.12E-10	0.12±1.24E-10	0.41±2.06E-10
U-238	-0.42±1.11E-10	0.44±1.12E-10	0.58±1.42E-10	1.60±2.13E-10	2.20±3.01E-10
Pu-238	0.84±8.35E-11	0.12±1.20E-10	0.98±9.59E-11	-0.76±2.05E-10	-0.45±2.69E-10
Pu-239/240	0.84±8.35E-11	0.12±1.20E-10	0.98±9.59E-11	-0.31±1.80E-10	-0.05±2.51E-11
Am-241	1.82±1.47E-10	0.40±1.08E-10	1.69±1.64E-10	2.00±2.22E-10	5.91±3.31E-10
Total U (grams)	4.18±8.35E-04	3.73±3.78E-04	0.98±4.18E-04	2.09±3.33E-03	2.98±3.48E-03

Table C - 2.12

**1993 Radioactivity Concentrations in Airborne Particulates ($\mu\text{Ci}/\text{mL}$)
at the Fox Valley Air Sampler (AFFXVRD)**

Month	Alpha	Beta	Sr-90	Cs-137
January	8.09±9.07E-16	2.15±0.32E-14		
February	9.76±9.66E-16	2.57±0.34E-14		
March	1.29±1.03E-15	2.10±0.31E-14		
1st Qtr			0.82±1.12E-16	0.91±2.21E-16
April	1.50±1.02E-15	1.59±0.29E-14		
May	1.10±1.08E-15	1.50±0.31E-14		
June	8.14±9.18E-16	1.59±0.31E-14		
2nd Qtr			-0.60±1.06E-16	1.80±2.53E-16
July	0.75±1.06E-15	1.80±0.33E-14		
August	1.58±1.22E-15	2.56±0.37E-14		
September	0.93±1.05E-15	1.95±0.33E-14		
3rd Qtr			-1.15±1.29E-16	0.58±2.75E-16
October	9.17±9.78E-16	1.83±0.33E-14		
November	1.33±1.10E-15	2.32±0.35E-14		
December	1.29±1.14E-15	1.90±0.34E-14		
4th Qtr			-0.07±1.32E-16	-1.59±1.89E-16

Table C - 2.13

**1993 Radioactivity Concentrations in Airborne Particulates ($\mu\text{Ci}/\text{mL}$)
at the Rock Springs Road Air Sampler (AFRSPRD)**

Month	Alpha	Beta	H-3	Sr-90	Cs-137	I-129
January	9.56±9.54E-16	2.05±0.31E-14	0.38±2.42E-13			
February	1.58±1.12E-15	2.40±0.33E-14	1.24±1.58E-13			
March	1.23±1.02E-15	2.16±0.32E-14	4.44±2.32E-13			
1st Qtr				-0.24±1.40E-16	0.71±1.87E-16	4.30±1.31E-16
April	1.25±0.94E-15	1.57±0.28E-14	3.90±3.41E-13			
May	6.64±8.76E-16	1.25±0.27E-14	1.14±0.68E-12			
June	6.97±8.10E-16	1.32±0.27E-14	1.51±8.47E-13			
2nd Qtr				-0.32±1.72E-16	1.00±1.62E-16	8.78±7.73E-17
July	8.24±9.84E-16	1.62±0.30E-14	1.05±1.08E-12			
August	1.30±1.05E-15	2.29±0.33E-14	0.10±1.17E-12			
September	5.32±8.48E-16	1.67±0.29E-14	2.11±8.67E-13			
3rd Qtr				0.32±1.48E-16	0.09±1.61E-16	-0.17±1.01E-16
October	8.72±9.35E-16	1.78±0.32E-14	1.77±6.32E-13			
November	6.99±9.22E-16	2.00±0.33E-14	0.41±4.85E-13			
December	1.10±1.10E-15	1.74±0.33E-14	2.11±3.59E-13			
4th Qtr				-1.33±2.07E-16	1.20±2.33E-16	2.22±8.87E-17

Table C - 2.14**1993 Radioactivity Concentrations in Airborne Particulates ($\mu\text{Ci/mL}$)
at the Route 240 Air Sampler (AFRT240)**

Month	Alpha	Beta	Sr-90	Cs-137
January	9.51±9.70E-16	2.22±0.33E-14		
February	1.65±1.16E-15	2.54±0.34E-14		
March	1.15±0.98E-15	2.31±0.33E-14		
1st Qtr			0.90±1.06E-16	-0.67±2.48E-16
April	1.39±0.96E-15	1.30±0.26E-14		
May	9.31±9.99E-16	1.16±0.28E-14		
June	5.69±8.08E-16	1.24±0.28E-14		
2nd Qtr			-0.40±1.20E-16	1.02±2.49E-16
July	0.97±1.07E-15	1.31±0.29E-14		
August	1.40±1.14E-15	2.00±0.33E-14		
September	0.91±1.08E-15	1.63±0.33E-14		
3rd Qtr			-2.06±9.91E-17	-3.18±2.24E-16
October	7.04±9.08E-16	1.78±0.33E-14		
November	1.33±1.10E-15	2.20±0.34E-14		
December	1.47±1.18E-15	1.99±0.34E-14		
4th Qtr			-0.07±1.23E-16	0.39±2.89E-16

Table C - 2.15**1993 Radioactivity Concentrations in Airborne Particulates ($\mu\text{Ci/mL}$)
at the Springville Air Sampler (AFSPRVL)**

Month	Alpha	Beta	Sr-90	Cs-137
January	1.01±0.99E-15	2.26±0.33E-14		
February	1.04±1.01E-15	2.52±0.34E-14		
March	1.15±0.98E-15	2.25±0.33E-14		
1st Qtr			0.65±1.07E-16	-2.11±2.30E-16
April	1.12±0.91E-15	1.67±0.30E-14		
May	0.98±1.03E-15	1.38±0.30E-14		
June	1.44±1.08E-15	1.32±0.29E-14		
2nd Qtr			-0.73±1.44E-16	-1.26±2.10E-16
July	4.65±9.54E-16	1.63±0.31E-14		
August	1.02±1.06E-15	2.00±0.33E-14		
September	8.36±9.97E-16	1.67±0.31E-14		
3rd Qtr			-2.98±9.87E-17	-1.84±2.85E-16
October	7.12±9.41E-16	1.73±0.33E-14		
November	1.13±1.09E-15	1.91±0.34E-14		
December	1.02±1.12E-15	1.68±0.34E-14		
4th Qtr			1.00±1.51E-16	1.43±2.53E-16

Table C -2.16**1993 Radioactivity Concentrations in Airborne Particulates ($\mu\text{Ci}/\text{mL}$)
at the Thomas Corners Road Air Sampler (AFTCORD)**

Month	Alpha	Beta	Sr-90	Cs-137
<i>January</i>	7.02 \pm 9.36E-16	2.49 \pm 0.35E-14		
<i>February</i>	1.29 \pm 1.12E-15	2.78 \pm 0.37E-14		
<i>March</i>	1.83 \pm 1.20E-15	2.47 \pm 0.35E-14		
1st Qtr			-0.51 \pm 1.93E-16	0.43 \pm 3.11E-16
<i>April</i>	1.49 \pm 1.04E-15	1.67 \pm 0.30E-14		
<i>May</i>	8.58 \pm 9.84E-16	1.11 \pm 0.27E-14		
<i>June</i>	9.15 \pm 9.13E-16	1.26 \pm 0.28E-14		
2nd Qtr			-0.12 \pm 1.30E-16	1.17 \pm 2.75E-16
<i>July</i>	4.55 \pm 9.38E-16	1.41 \pm 0.30E-14		
<i>August</i>	5.03 \pm 9.00E-16	2.06 \pm 0.33E-14		
<i>September</i>	4.62 \pm 8.73E-16	1.44 \pm 0.29E-14		
3rd Qtr			0.08 \pm 1.09E-16	-2.38 \pm 2.20E-16
<i>October</i>	5.93 \pm 9.05E-16	1.83 \pm 0.34E-14		
<i>November</i>	8.07 \pm 9.84E-16	2.26 \pm 0.35E-14		
<i>December</i>	1.19 \pm 1.15E-15	1.83 \pm 0.34E-14		
4th Qtr			-0.95 \pm 1.20E-16	-0.58 \pm 2.33E-16

Table C - 2.17**1993 Radioactivity Concentrations in Airborne Particulates ($\mu\text{Ci}/\text{mL}$)
at the West Valley Air Sampler (AFWEVAL)**

Month	Alpha	Beta	Sr-90	Cs-137
<i>January</i>	7.89 \pm 8.24E-16	1.91 \pm 0.28E-14		
<i>February</i>	1.70 \pm 1.06E-15	2.13 \pm 0.29E-14		
<i>March</i>	1.20 \pm 0.90E-15	1.78 \pm 0.27E-14		
1st Qtr			-4.60 \pm 6.90E-17	0.71 \pm 1.94E-16
<i>April</i>	1.25 \pm 0.88E-15	1.43 \pm 0.26E-14		
<i>May</i>	6.75 \pm 9.54E-16	1.34 \pm 0.30E-14		
<i>June</i>	6.57 \pm 8.56E-16	1.30 \pm 0.29E-14		
2nd Qtr			0.12 \pm 1.32E-16	-0.33 \pm 2.09E-16
<i>July</i>	0.98 \pm 1.16E-15	1.46 \pm 0.32E-14		
<i>August</i>	5.41 \pm 9.54E-16	2.13 \pm 0.35E-14		
<i>September</i>	0.67 \pm 1.19E-15	1.80 \pm 0.40E-14		
3rd Qtr			1.00 \pm 1.72E-16	-0.65 \pm 2.80E-16
<i>October</i>	8.49 \pm 9.79E-16	2.10 \pm 0.35E-14		
<i>November</i>	1.17 \pm 1.08E-15	2.33 \pm 0.35E-14		
<i>December</i>	0.68 \pm 1.00E-15	2.11 \pm 0.36E-14		
4th Qtr			6.16 \pm 2.12E-16	1.23 \pm 2.58E-16

Table C - 2.18

**1993 Radioactivity Concentrations in Airborne Particulates ($\mu\text{Ci}/\text{mL}$)
at the Great Valley Air Sampler (AFGRVAL)**

Month	Alpha	Beta	H-3	Sr-90	Cs-137	I-129
January	9.85±9.84E-16	1.82±0.30E-14	1.21±3.85E-13			
February	1.19±1.05E-15	2.21±0.32E-14	2.54±1.99E-13			
March	9.06±9.10E-16	1.90±0.31E-14	5.19±3.64E-13			
1st Qtr				-0.85±2.01E-16	1.06±2.03E-16	5.21±1.54E-16
April	7.69±8.00E-16	1.57±0.29E-14	3.37±4.04E-13			
May	1.41±1.55E-15	1.64±0.41E-14	4.41±3.21E-13			
June	5.98±8.48E-16	1.59±0.31E-14	0.03±5.20E-13			
2nd Qtr				-0.38±1.93E-16	0.26±2.41E-16	0.92±1.15E-16
July	0.92±1.10E-15	1.70±0.32E-14	2.99±6.65E-13			
August	1.00±1.06E-15	2.54±0.37E-14	0.26±6.92E-13			
September	4.57±9.11E-16	1.75±0.32E-14	1.82±6.77E-13			
3rd Qtr				-0.98±1.70E-15	0.00±3.26E-15	-1.63±1.25E-15
October	5.30±8.60E-16	1.39±0.30E-14	0.00±6.08E-13			
November	1.82±1.21E-15	2.11±0.33E-14	0.32±4.84E-13			
December	0.84±1.02E-15	1.80±0.33E-14	1.07±3.09E-13			
4th Qtr				-0.52±2.05E-16	-0.62±2.46E-16	0.91±1.16E-16

Table C - 2.19

**1993 Radioactivity Concentrations in Airborne Particulates ($\mu\text{Ci}/\text{mL}$)
at the Dunkirk Air Sampler (AFDNKRK)**

Month	Alpha	Beta	Sr-90	Cs-137
January	1.33±1.09E-15	2.21±0.33E-14		
February	1.10±1.04E-15	2.54±0.34E-14		
March	1.11±0.98E-15	2.22±0.33E-14		
1st Qtr			-0.27±1.69E-16	1.39±2.38E-16
April	1.61±1.07E-15	1.64±0.30E-14		
May	1.12±1.10E-15	1.69±0.32E-14		
June	1.05±1.00E-15	1.81±0.33E-14		
2nd Qtr			0.44±1.22E-16	0.48±2.55E-16
July	1.04±1.13E-15	1.86±0.33E-14		
August	1.69±1.24E-15	3.00±0.39E-14		
September	1.21±1.13E-15	2.07±0.34E-14		
3rd Qtr			8.28±9.99E-16	0.08±1.38E-15
October	6.49±9.02E-16	1.45±0.31E-14		
November	1.30±1.10E-15	1.98±0.33E-14		
December	1.08±1.11E-15	1.63±0.33E-14		
4th Qtr			0.15±1.22E-16	-0.12±1.69E-16

Table C - 2.20

**1993 Radioactivity Concentrations in Airborne Particulates ($\mu\text{Ci}/\text{mL}$)
at the Dutch Hill Air Sampler (AFBOEHN)**

Month	Alpha	Beta	Sr-90	Cs-137
<i>January</i>	8.30±9.29E-16	1.95±0.31E-14		
<i>February</i>	1.21±1.05E-15	2.18±0.32E-14		
<i>March</i>	1.25±1.00E-15	2.05±0.31E-14		
1st Qtr			-2.09±8.76E-17	0.74±2.11E-16
<i>April</i>	1.04±0.90E-15	1.46±0.29E-14		
<i>May</i>	7.56±9.90E-16	1.46±0.31E-14		
<i>June</i>	7.71±8.95E-16	1.60±0.31E-14		
2nd Qtr			-0.65±1.19E-16	1.78±2.30E-16
<i>July</i>	0.64±1.01E-15	1.82±0.33E-14		
<i>August</i>	1.13±1.07E-15	2.55±0.36E-14		
<i>September</i>	1.14±1.15E-15	1.64±0.33E-14		
3rd Qtr			-1.68±9.01E-16	4.08±8.47E-16
<i>October</i>	7.96±9.40E-16	1.69±0.32E-14		
<i>November</i>	1.43±1.78E-15	2.08±0.49E-14		
<i>December</i>	0.95±1.08E-15	1.69±0.33E-14		
4th Qtr			0.14±1.32E-16	-0.12±2.00E-16

Table C - 2.21

Radioactivity in Fallout During 1993 (nCi/m²/mo)

Dutch Hill (AFDHFOP)				Fox Valley Road (AFFXFOP)			
Month	Gross Alpha	Gross Beta	H-3 (μCi/mL)	Month	Gross Alpha	Gross Beta	H-3 (μCi/mL)
<i>January</i>	<2.42E-02	2.98E-01	<1.00E-07	<i>January</i>	<3.54E-02	7.42E-01	<1.00E-07
<i>February</i>	<9.58E-03	2.04E-01	<1.00E-07	<i>February</i>	2.30E-02	4.49E-01	<1.00E-07
<i>March</i>	<8.53E-03	1.81E-01	<1.00E-07	<i>March</i>	3.84E-02	1.90E-01	<1.00E-07
<i>April</i>	1.92E-01	6.32E-01	<1.00E-07	<i>April</i>	2.48E-02	2.88E-01	<1.00E-07
<i>May</i>	<2.55E-02	4.51E-01	<1.00E-07	<i>May</i>	1.93E-02	1.36E-01	<1.00E-07
<i>June</i>	<4.70E-02	1.23E+00	<1.00E-07	<i>June</i>	4.53E-02	6.12E-01	<1.00E-07
<i>July</i>	3.37E-02	4.82E-01	<1.00E-07	<i>July</i>	5.09E-02	5.12E-01	<1.00E-07
<i>August</i>	3.01E-02	4.94E-01	<8.28E-08	<i>August</i>	5.53E-02	6.43E-01	<1.00E-07
<i>September</i>	1.14E-01	1.08E+00	<1.00E-07	<i>September</i>	1.54E-01	1.14+00	<1.00E-07
<i>October</i>	<2.90E-02	3.39E-01	<1.00E-07	<i>October</i>	<4.45E-02	4.16E-01	<1.00E-07
<i>November</i>	2.95E-02	4.02E-01	<1.00E-07	<i>November</i>	2.98E-02	3.73E-01	<1.00E-07
<i>December</i>	6.65E-02	4.57E-01	<1.00E-07	<i>December</i>	6.18E-02	4.17E-01	<1.00E-07

Route 240 (AF24FOP)				Thomas Corners Road (AFTCFOP)			
Month	Gross Alpha	Gross Beta	H-3 (μCi/mL)	Month	Gross Alpha	Gross Beta	H-3 (μCi/mL)
<i>January</i>	<2.26E-02	3.96E-01	<1.00E-07	<i>January</i>	<2.67E-02	5.11E-01	<1.00E-07
<i>February</i>	1.71E-02	3.08E-01	<1.00E-07	<i>February</i>	<2.28E-02	4.05E-01	<1.00E-07
<i>March</i>	1.38E-02	1.61E-01	<7.68E-08	<i>March</i>	4.10E-02	2.55E-01	2.23±.81E-07
<i>April</i>	1.64E-02	1.63E-01	<1.00E-07	<i>April</i>	2.53E-02	3.16E-01	<1.00E-07
<i>May</i>	2.77E-02	1.60E-01	<1.00E-07	<i>May</i>	2.40E-02	1.62E-01	<1.00E-07
<i>June</i>	<1.36E-02	4.25E-01	<1.00E-07	<i>June</i>	2.89E-02	3.02E-01	<1.00E-07
<i>July</i>	3.33E-02	4.59E-01	<8.16E-08	<i>July</i>	9.43E-02	5.15E-01	<1.00E-07
<i>August</i>	3.17E-02	5.27E-01	<1.00E-07	<i>August</i>	4.19E-02	7.39E-01	<8.10E-08
<i>September</i>	<4.95E-02	9.63E-01	<1.00E-07	<i>September</i>	<6.19E-02	7.97E-01	<1.00E-07
<i>October</i>	<3.64E-02	4.16E-01	<7.42E-08	<i>October</i>	<4.04E-02	5.78E-01	<1.00E-07
<i>November</i>	4.92E-02	4.16E-01	<8.32E-08	<i>November</i>	4.99E-02	5.02E-01	<1.00E-07
<i>December</i>	4.47E-02	4.79E-01	<1.00E-07	<i>December</i>	6.28E-02	6.56E-01	<1.00E-07

Rain Gage (ANRGFOP)			
Month	Gross Alpha	Gross Beta	H-3 (μCi/mL)
<i>January</i>	<3.23E-02	6.50E-01	<1.00E-07
<i>February</i>	<2.25E-02	5.88E-01	<7.48E-08
<i>March</i>	<1.53E-02	2.60E-01	<7.84E-08
<i>April</i>	4.07E-02	3.28E-01	<1.00E-07
<i>May</i>	<9.56E-03	1.96E-01	<1.00E-07
<i>June</i>	<2.88E-02	5.93E-01	<1.00E-07
<i>July</i>	4.25E-02	4.75E-01	<1.00E-07
<i>August</i>	4.87E-02	3.65E-01	<1.00E-07
<i>September</i>	<6.17E-02	9.01E-01	<1.00E-07
<i>October</i>	<4.22E-02	4.10E-01	<7.87E-08
<i>November</i>	4.48E-02	2.07E-01	9.91±7.68E-08
<i>December</i>	4.62E-02	6.52E-01	<1.00E-07

Table C - 2.22

pH of Precipitation Collected in Fallout Pots in 1993

Month	Dutch Hill (AFDHFOP)	Fox Valley Road (AFFXFOP)	Route 240 (AF24FOP)	Thomas Corners Road (AFTCFOP)	Rain Gage (ANRGFOP)
<i>January</i>	3.79	4.16	3.69	4.02	3.95
<i>February</i>	4.05	4.19	4.10	4.19	4.16
<i>March</i>	3.56	4.90	3.70	4.99	4.06
<i>April</i>	7.25	4.36	3.61	3.88	6.59
<i>May</i>	7.46	5.26	3.50	4.29	7.43
<i>June</i>	7.29	3.97	3.61	3.61	4.02
<i>July</i>	4.40	3.98	4.51	3.98	4.92
<i>August</i>	3.67	3.73	3.61	3.68	5.93
<i>September</i>	4.13	4.08	3.86	3.92	3.96
<i>October</i>	6.39	5.12	4.20	4.02	5.90
<i>November</i>	3.97	4.19	3.97	4.09	6.92
<i>December</i>	3.95	4.15	4.04	4.14	4.19

Table C - 2.23

***1993 Radioactivity Concentrations in Airborne Particulates ($\mu\text{Ci}/\text{mL}$)
at Location AFBLKST***

Month	Alpha	Beta	Sr-90	Cs-137
<i>January</i>	9.47±9.66E-16	1.98±0.31E-14		
<i>February</i>	9.32±9.73E-16	2.38±0.33E-14		
<i>March</i>	1.60±1.26E-15	1.79±0.33E-14		
1st Qtr			0.67±1.12E-16	0.34±2.43E-16
<i>April</i>	6.95±7.70E-16	1.36±0.27E-14		
<i>May</i>	5.60±9.27E-16	1.19±0.29E-14		
<i>June</i>	7.49±9.46E-16	1.26±0.30E-14		
2nd Qtr			-0.63±1.35E-16	0.90±2.16E-16
<i>July</i>	0.63±1.14E-15	1.27±0.32E-14		
<i>August</i>	0.75±1.00E-15	2.37±0.36E-14		
<i>September</i>	0.97±1.06E-15	1.37±0.30E-14		
3rd Qtr			0.20±1.29E-16	1.94±2.73E-16
<i>October</i>	1.30±1.09E-15	1.73±0.32E-14		
<i>November</i>	1.28±1.11E-15	2.31±0.36E-14		
<i>December</i>	1.43±1.17E-15	2.04±0.35E-14		
4th Qtr			-1.16±1.29E-16	0.17±2.65E-16