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NESHAP Area-Specific Dose-Release Factors for Potential Onsite Member-of-the-Public Locations at SRS using CAP88-PC Version 4.0

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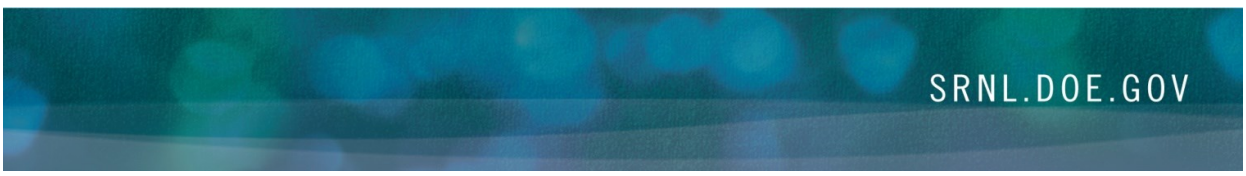
SRNL-STI-2017-00450

Revision 0 –August 2017



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EXECUTIVE SUMMARY

The Environmental Protection Agency (EPA) requires the use of the computer model CAP88-PC to estimate the total effective doses (TED) for demonstrating compliance with 40 CFR 61, Subpart H (EPA 2006), the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations. As such, CAP88 Version 4.0 was used to calculate the receptor dose due to routine atmospheric releases at the Savannah River Site (SRS). For estimation, NESHAP dose-release factors (DRFs) have been supplied to Environmental Compliance and Area Closure Projects (EC&ACP) for many years. DRFs represent the dose to a maximum receptor exposed to 1 Ci of a specified radionuclide being released into the atmosphere. They are periodically updated to include changes in the CAP88 version, input parameter values, site meteorology, and location of the maximally exposed individual (MEI). In this report, the DRFs were calculated for potential radionuclide atmospheric releases from 13 SRS release points. The three potential onsite MEI locations to be evaluated are B-Area, Three Rivers Landfill (TRL), and Savannah River Ecology Lab Conference Center (SRELCC) with TRL's onsite workers considered as members-of-the-public, and the potential future constructions of dormitories at SRELCC and Barracks at B-Area. Each MEI location was evaluated at a specified compass sector with different area to receptor distances and was conducted for both ground-level and elevated release points. The analysis makes use of area-specific meteorological data (Viner 2014). The resulting DRFs are compared to the 2014 NESHAP offsite MEI DRFs for three operational areas; A-Area, H-Area, and COS for a release rate of 1 Ci of tritium oxide at 0 ft. elevation. CAP88 was executed again using the 2016 NESHAP MEI release rates for 0 and 61 m stack heights to determine the radionuclide dose at TRL from the center-of-site (COS).

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

CAP88	Clean Air Assessment Package-1988
COS	Center of site
DOE	U. S. Department of Energy
EPA	U. S. Environmental Protection Agency
MEI	Maximally Exposed Individual
NESHAP	National Emission Standards for Hazardous Air Pollutants
SRNL	Savannah River National Laboratory
SRS	Savannah River Site
TED	Total effective dose
DRF	Dose-Release Factor
TRL	Three Rivers Landfill
SRELCC	Savannah River Ecology Laboratory Conference Center
EC&ACP	Environmental Compliance and Area Closure Projects

1.0 Introduction

Operations at the Savannah River Site (SRS) results in releases of small amounts of radioactive materials to the atmosphere. For regulatory compliance purposes, potential offsite radiological doses are estimated annually using computer models that follow U.S Nuclear Regulatory Commission (NRC) regulatory guides (NRC1977a and 1977b). The Environmental Protection Agency (EPA) requires the use of the computer model CAP88 to estimate the total effective dose (TED) for demonstrating compliance with 40 CFR 61, Subpart H (EPA 2006), the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations. The most recent version, CAP88-PC Version 4.0 was used for the calculations found in this report and is referred to hereafter as CAP88.

NESHAP dose-release factors (DRFs) have been supplied to Environmental Compliance and Area Closure Projects (EC&ACP) for many years. DRFs represent the dose to a maximally exposed individual (MEI) member-of-the-public from a unit release (1 Ci) of a specified radionuclide being released SRS operating areas into the atmosphere. The DRFs are simply a ratio of the TED to the release rate and, therefore, are directly scalable. The DRF values listed in the Appendix A can be applied to expected release values from each area to estimate the potential dose to an individual adult at each location. They are periodically updated to include changes in the CAP88 version, input parameter values, site meteorology, and location of the MEI.

The purpose of this report is to develop DRFs for three potential onsite MEI locations (B-Area Barracks, Three Rivers Landfill (TRL), and SREL Conference Center (SRELCC)) with TRL's onsite workers considered as members-of-the-public, and the potential future constructions of dormitories at SRELCC and a Barracks at B-Area.

2.0 Methods

All TED calculations were made to reference the three onsite MEI locations; B-Area Barracks with coordinates (431240, 3682975), Three Rivers Landfill at (431570, 3680408), and SREL Conference Center at (442767, 3694665) seen on Figure 2.1. Meteorological data (Viner 2014) and area-specific distances listed in Tables 2.1, 2.2, and 2.3 were used as inputs in CAP88 to complete the dose assessment.

All stack heights and radionuclides used in this assessment are from the 2014 NESHAP area specific dose-release factors report (Moore et al. 2014). For determining the DRFs for an adult individual, CAP88 was executed for the ground-level releases and various stack height releases of 1 Ci for each radionuclide, from each of the three potential MEI onsite locations, to each designated operational area at SRS. Each operational area was evaluated at a specified compass sector in the direction of each of the potential onsite MEI with different source-to-receptor distances and specified meteorological data file.

The resulting DRFs from the potential onsite MEI locations were compared to the DRFs of the current offsite MEI for all 13 areas. The comparison was focused on three operational areas, A-area, Cos, and H-Area for a release rate of 1 Ci of tritium oxide at 0 ft. elevation. The potential onsite MEI with the largest percent difference in DRF values from the offsite MEIs in is TRL. The total dose at TRL was then compared to the total dose at the current offsite MEI for COS. The current 2016 NESHAP MEI release rates was used to determine the dose of each radionuclide, found in Appendix B, at TRL. Each radionuclide was evaluated for two stack height releases; 0 m and 61 m. elevation. Due to the source-to-receptor distance and meteorological input data, the TRL MEI is expected to receive a larger dose and therefore a larger percent increase from the current offsite MEI dose.

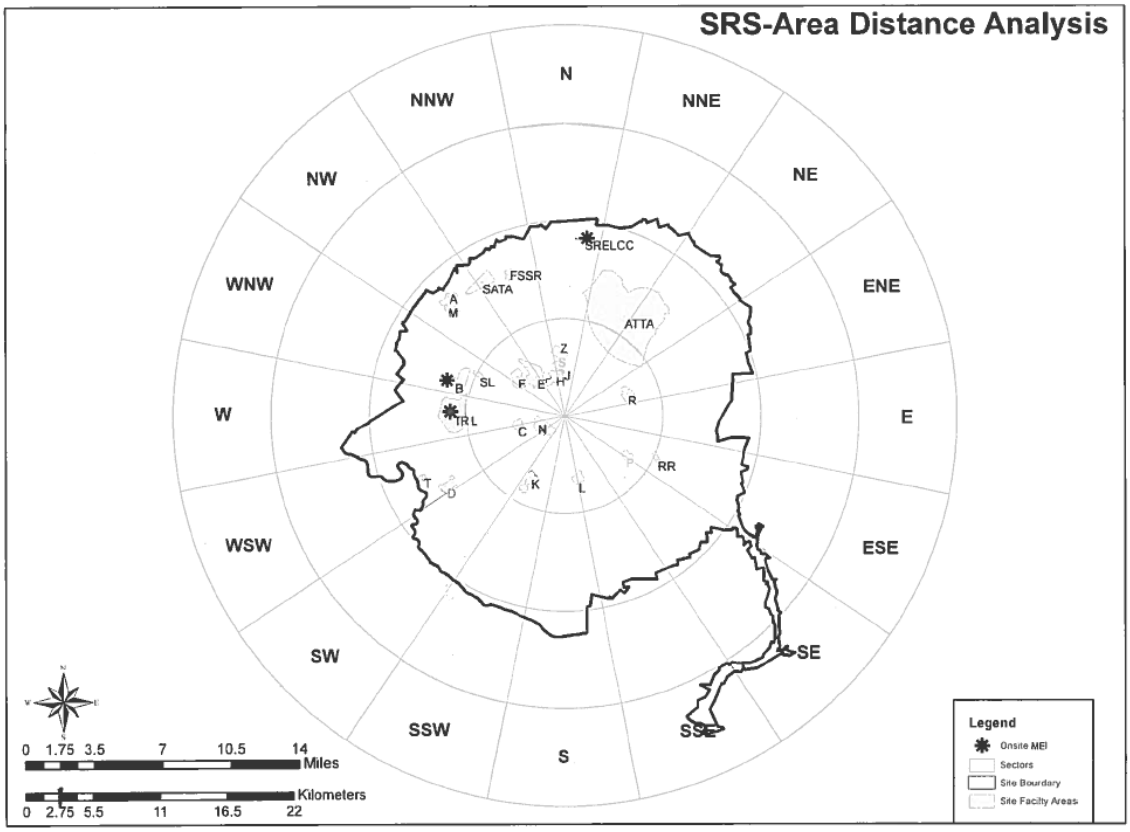


Figure 2.1. Potential Onsite MEI Locations.

Table 2.1. Input Parameter Values for MEI location B-Area Barracks

	A	B	C	COS	E	F
Direction:	S	W	WNW	WNW	W	W
Distance (m):	6961	598	6832	10111	7346	5814
Met File:	CAP88 M88A0711	CAP88 M88F0711	CAP88 M88C0711	CAP88 M88H0711	CAP88 M88H0711	CAP88 M88F0711
Sources:	4	2	2	2	1	5
Height (m):	0, 12, 16, 31	0, 12	0, 61	0, 61	0	0, 33.5, 40, 44, 61

	H	K	L	M	N	S	Z
Direction:	W	NW	NW	S	WNW	W	WSW
Distance (m):	9234	10504	13518	6180	8178	9105	9490
Met File:	CAP88 M88H0711	CAP88 M88K0711	CAP88 M88L0711	CAP88 M88A0711	CAP88 M88C0711	CAP88 M88H0711	CAP88 M88H0711
Sources:	6	4	2	1	1	4	4
Height (m):	0, 16, 31, 40, 44, 61	0, 15, 16, 40	0, 61	0	0	0, 12, 16, 44	0, 12, 16, 44

Table 2.2. Input Parameter Values for MEI location Three Rivers Landfill

	A	B	C	COS	E	F
Direction:	S	S	WNW	W	WSW	WSW
Distance (m):	9533	2522	5545	9352	7563	6177
Met File:	CAP88 M88A0711	CAP88 M88F0711	CAP88 M88C0711	CAP88 M88H0711	CAP88 M88H0711	CAP88 M88F0711
Sources:	4	2	2	2	1	5
Height (m):	0, 12, 16, 31	0, 12	0, 61	0, 61	0	0, 33.5, 40, 44, 61

	H	K	L	M	N	S	Z
Direction:	WSW	NW	WNW	S	W	WSW	WSW
Distance (m):	9397	8457	11830	8757	7138	9433	10114
File:	CAP88 M88H0711	CAP88 M88K0711	CAP88 M88L0711	CAP88 M88A0711	CAP88 M88C0711	CAP88 M88H0711	CAP88 M88H0711
Sources:	6	4	2	1	1	4	4
Height (m):	0, 16, 31, 40, 44, 61	0, 15, 16, 40	0, 61	0	0	0, 12, 16, 44	0, 12, 16, 44

Table 2.3. Input Parameter Values for MEI location SREL Conference Center

	A	B	C	COS	E	F
Direction:	ENE	NE	NNE	N	NNE	NNE
Distance (m):	12317	16047	16397	14745	12167	12757
Met File:	CAP88 M88A0711	CAP88 M88F0711	CAP88 M88C0711	CAP88 M88H0711	CAP88 M88H0711	CAP88 M88F0711
Sources:	4	2	2	2	1	5
Height (m):	0, 12, 16, 31	0, 12	0, 61	0, 61	0	0, 33.5, 40, 44, 61

	H	K	L	M	N	S	Z
Direction:	NNE	NNE	N	ENE	NNE	NNE	NNE
Distance (m):	11458	20214	19961	12744	15693	10940	9716
File:	CAP88 M88H0711	CAP88 M88K0711	CAP88 M88L0711	CAP88 M88A0711	CAP88 M88C0711	CAP88 M88H0711	CAP88 M88H0711
Sources:	6	4	2	1	1	4	4
Height (m):	0, 16, 31, 40, 44, 61	0, 15, 16, 40	0, 61	0	0	0, 12, 16, 44	0, 12, 16, 44

3.0 Results and Conclusion

Upon execution of CAP88, the DRFs for the potential onsite MEI locations; the B-Area Barracks, TRL, and SRELCC were listed in the Appendix A under the specified release location, stack height, and compass sector direction, and source-to-receptor distance. The DRFs were then compared to the DRFs of the current offsite MEIs for the 13 operational areas with focus on three areas; A-Area, COS, and H-Area. The three offsite MEIs listed in Table 3.1 are the 2014 NESHAP area-specific DRFs for tritium oxide documented by Moore et al. (2014). Since tritium oxide releases account for a large percent, nearly 90% of the annual dose at SRS, the emission of tritium oxide is used to compare the DRFs for each potential onsite MEI location to the DRFs of the three offsite MEIs for A-Area, H-Area, and COS. Table 3.1 lists the input parameters used in CAP88 for the 2014 NESHAP offsite MEIs.

Table 3.1. NESHAP Dose-Release Factors in mrem/Ci for Offsite MEIs

Location	A-Area	COS	H-Area
Release Height (m)	0	0	0
MaxIndSector	NW	N	N
Distance (m)	727	15706	12378
H-3 (Oxide)	1.39E-04	1.51E-06	2.03E-06

Table 3.2 presents the DRFs for tritium oxide for the 13 operational areas with focus on the three potential onsite MEIs and the 2014 NESHAP offsite MEIs at 0 ft. elevation. Differences in the DRFs at the 2014 NESHAP offsite MEIs and the potential onsite MEIs are largely due to source-to-receptor distances and the meteorological dataset. The SRNL Atmospheric Technologies Group (ATG) has updated the five-year meteorological datasets with the appropriate wind speed modification to stability class calculation (Viner 2014) used to reflect the current DRF values for B-Area, TRL, and SRELCC. The DRFs for A-Area is larger at the offsite MEI than potential onsite MEIs. Since A-Area is located near the site boundary, the source-to-receptor distance is shorter for the offsite MEI than the distances to the potential onsite MEI locations as depicted on Figure 3.1. On the other hand, the source-to-receptor distances at COS and H-area are longer to the offsite MEI than the potential onsite MEIs (Figure 3.2). Thus, the potential onsite MEI DRFs for COS and H-Area are larger than the DRF at the offsite MEI. The effect on area-specific dose release factors will vary because of the distance and meteorological data used from the various site areas to B-Area, TRL, and SRELCC.

Table 3.3 shows the largest percent difference in dose from the 2014 NESHAP offsite MEIs are at TRL. For this reason, TRL was evaluated for the total dose per radionuclide for two stack height releases and then compared to the current offsite MEI dose for COS using the 2016 NESHAP release rates. Table 3.4 lists the dose received from the radionuclides with the highest fraction of the dose and the complete list of dose per radionuclides is found in Appendix B. Results show that there is a 41% increase in dose at TRL.

The location of the current offsite MEI is north at the site boundary, while the TRL is located in the west. According to the 2007-2011 wind rose seen on Figure 3.3, the wind blows north northeast, with the more turbulent winds at the east resulting in the dispersion of radionuclides such that radionuclides with shorter half-lives released at COS decrease significantly before reaching the current offsite MEI location. Winds in the west are calmer and explain why there is not a larger percent difference in the dose at TRL considering the close proximity of the potential onsite MEI to the operational areas. Aside from the source-to-receptor distance and stack heights, SRS attributes this increase in dose to the meteorological data.

Table 3.2 Comparison of DRFs for Tritium Oxide at 0 ft. Elevation for Current Offsite MEIs and the Potential Onsite MEI locations

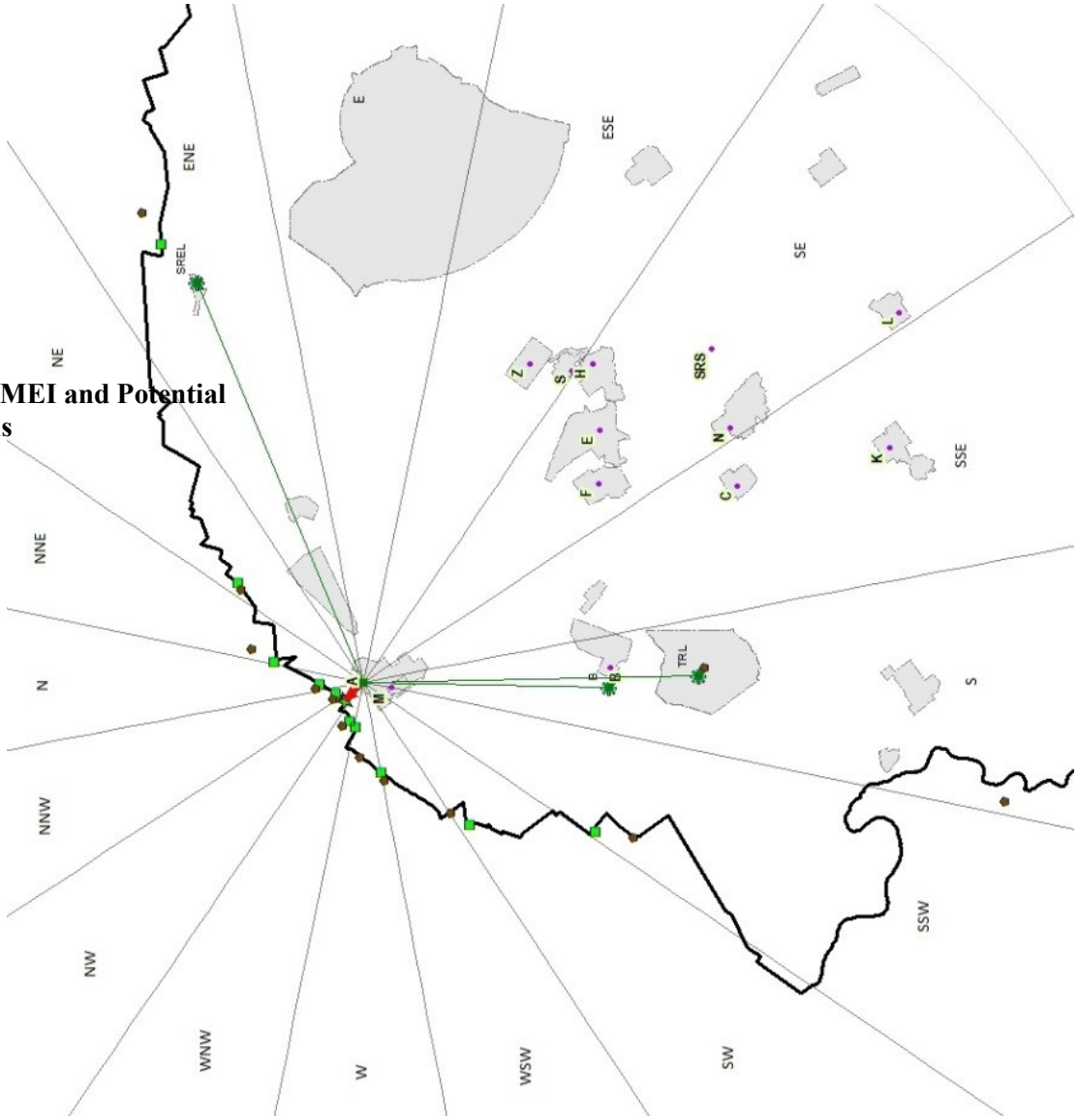
	Dose-Release Factors (mrem/Ci)			
2017 Radioactive Operational Areas	**Current Offsite MEI**	**B-Area**	**TRL**	**SRELCC**
A-Area	1.39E-04	2.86E-06	1.82E-06	2.09E-06
B-Area	7.36E-06	2.00E-04	1.15E-05	1.54E-06
C-Area	1.88E-06	3.07E-06	4.14E-06	1.35E-06
COS	1.51E-06	1.80E-06	2.05E-06	1.63E-06
E-Area	2.23E-06	2.91E-06	3.11E-06	2.02E-06
F-Area	2.56E-06	4.75E-06	5.35E-06	1.95E-06
H-Area	2.03E-06	2.09E-06	2.27E-06	2.17E-06
K-Area	2.20E-06	2.17E-06	2.93E-06	1.14E-06
L-Area	1.73E-06	1.31E-06	1.37E-06	1.13E-06
M-Area	5.35E-05	3.38E-06	2.06E-06	2.00E-06
N-Area	1.60E-06	2.37E-06	3.14E-06	1.43E-06
S-Area	1.76E-06	2.13E-06	2.25E-06	2.30E-06
Z-Area	2.46E-06	2.23E-06	2.04E-06	2.68E-06

Table 3.3 Percent Difference of Potential Onsite MEI to Current Offsite MEI

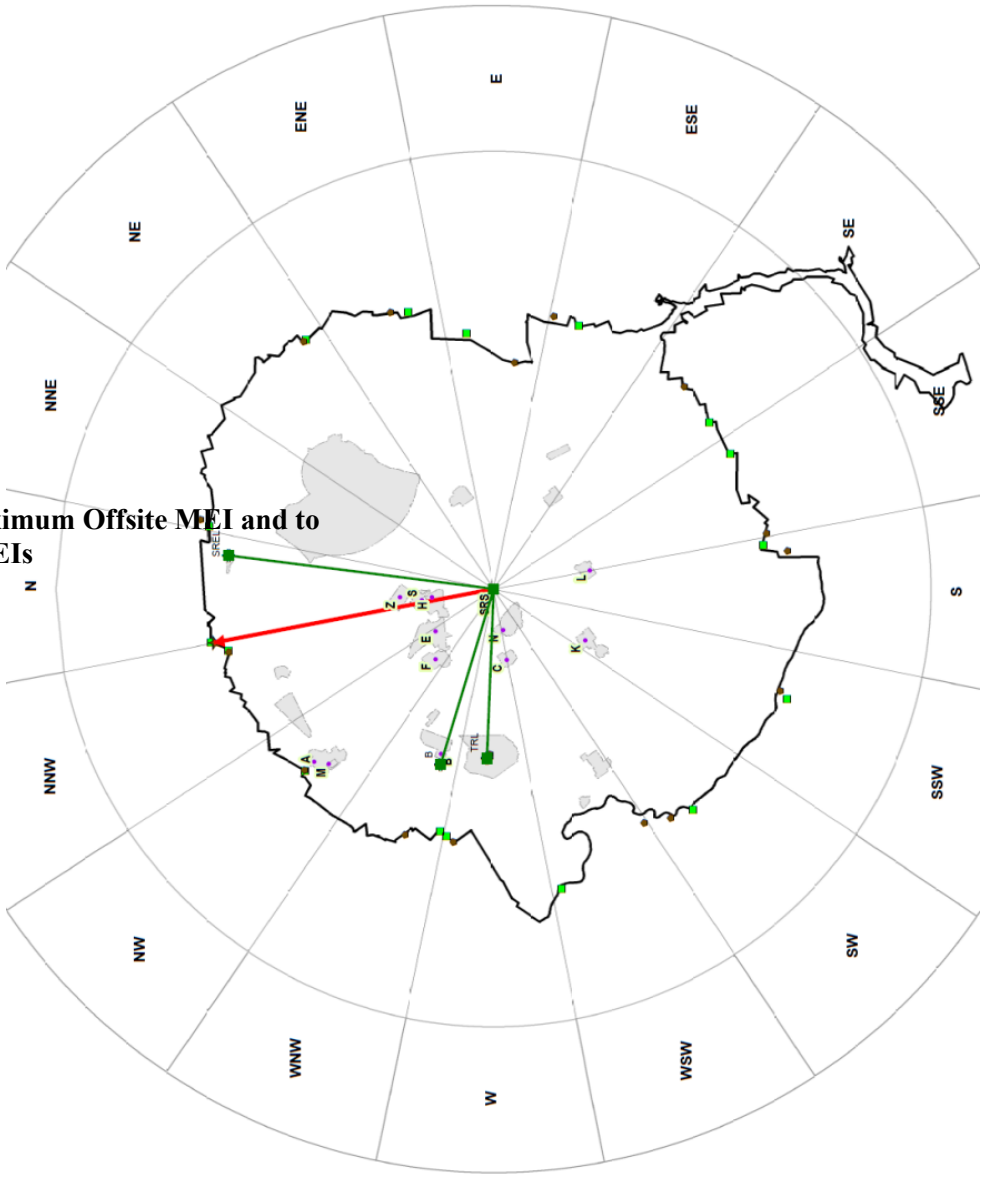
	Percent Difference from Offsite MEI(%)		
Operational Areas	**B-Area**	**TRL**	**SRELCC**
A-Area	192	195	194
COS	18	31	8
H-Area	3	11	7

Table 3.4 Radionuclide Dose Comparison for Offsite MEI and TRL for COS

Radionuclide	**Releases (Curies)**		**Offsite MEI Dose (mrem)**	**Potential TRL MEI Dose (mrem)**	**Percentage Increase (%)**	**Fraction of Dose**
	0 m	**61 m**				
H-3 (oxide)	2.24E+03	1.76E+04	2.12E-02	2.98E-02	41	0.88
H-3 (elemental)	0.00E+00	1.88E+03	1.56E-03	2.28E-03	46	0.065
Cs-137	1.25E-03	7.80E-03	8.60E-04	1.23E-03	43	0.036
Unidentified beta	2.17E-03	9.59E-04	2.39E-04	3.58E-04	50	0.010
Other	4.08E-02	3.96E+03	2.77E-04	3.47E-04	25	0.009
Total	**2.24E+03**	**2.35E+04**	**2.41E-02**	**3.40E-02**	**41**	**1.00**



1 A-Area Distances to Offsite MEI and Potential Onsite MEI Locations



of Site (COS) Distances to Maximum Offsite MEI and to Three Potential Onsite MEIs

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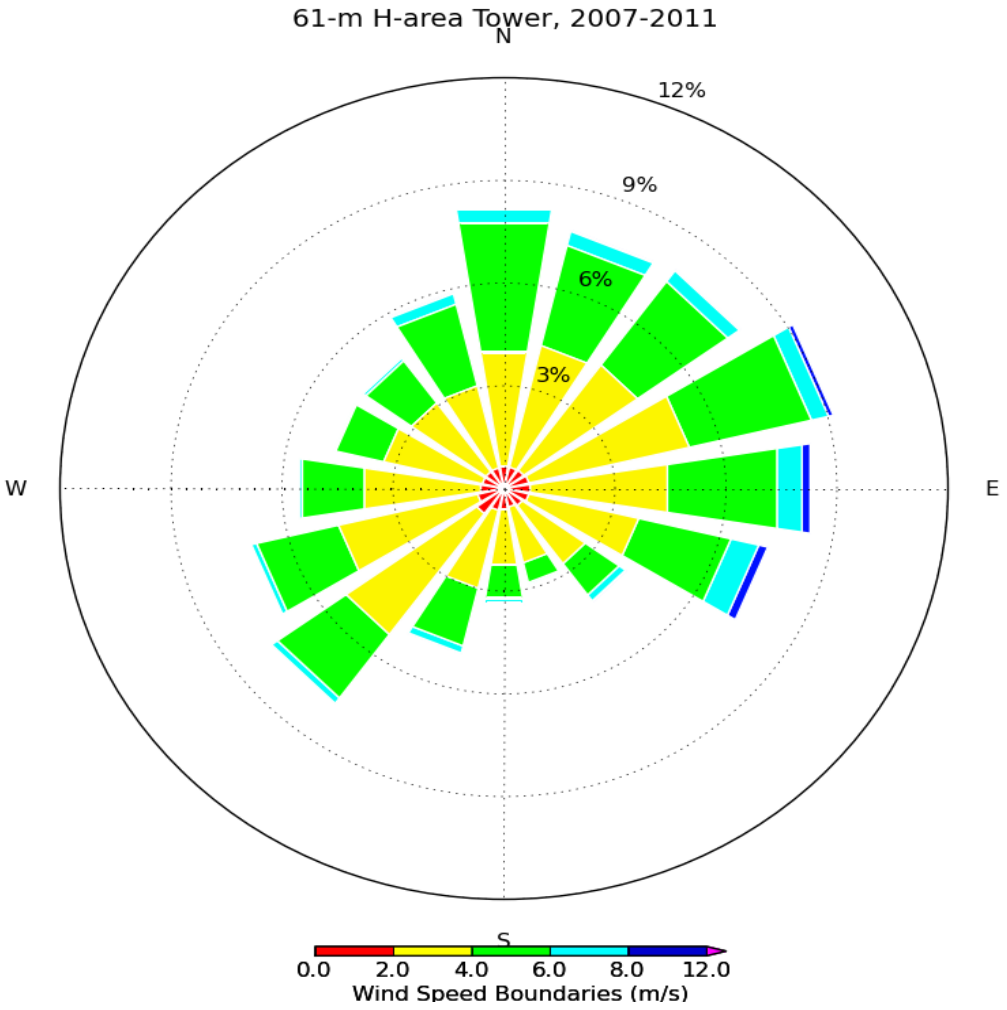
Figure 3.3. Savannah River Site Wind Rose



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5.0 APPENDIX A. NESHAP Dose-Release Factors for potential onsite locations B-Area Barracks, Three Rivers Landfill, and SREL Conference Center (Tables 1-3)3

Table 1: NESHAP Dose-Release Factors for B-Area in mrem/Ci (Release Rate of 1 Ci/yr)

Location	A	A	A	A	B	B	C	C	COS
Release Heights (m)	0	12	16	31	0	12	0	61	0
MaxIndSector	S	S	S	S	W	W	WNW	WNW	WNW
Distance (m)	6961	6961	6961	6961	598	598	6832	6832	10111
Ag-110m + P	1.36E-02	1.39E-02	1.38E-02	1.30E-02	8.60E-01	6.13E-01	1.76E-02	1.45E-02	1.19E-02
Am-241	6.95E-01	7.10E-01	6.99E-01	6.19E-01	6.64E+01	4.42E+01	8.76E-01	5.57E-01	5.14E-01
Am-242m + P	6.29E-01	6.43E-01	6.33E-01	5.61E-01	6.01E+01	4.00E+01	7.93E-01	5.04E-01	5.13E-01
Am-243 + P	7.28E-01	7.44E-01	7.33E-01	6.51E-01	6.83E+01	4.55E+01	9.19E-01	5.94E-01	5.44E-01
Ar-41	5.62E-06	5.43E-06	5.29E-06	4.55E-06	6.03E-04	3.87E-04	7.10E-06	4.05E-06	3.79E-06
Be-7	5.51E-05	5.67E-05	5.63E-05	5.29E-05	3.51-03	2.50E-03	7.16E-05	5.87E-05	4.82E-05
Bi-214 + P	5.64E-05	5.48E-05	5.39E-05	4.74E-05	1.60E-02	1.06E-02	7.82E-05	4.85E-05	2.20E-05
C-14 (CO2)	4.96E-04	4.80E-04	4.69E-04	4.07E-04	3.28E-02	2.10E-02	5.16E-04	2.97E-04	2.99E-04
Ce-141	1.58E-04	1.62E-04	1.60E-04	1.48E-04	1.07E-02	7.45E-03	1.95E-04	1.50E-04	1.25E-04
Ce-144 + P	2.41E-03	2.47E-03	2.45E-03	2.27E-03	1.64E-01	1.14E-01	3.01E-03	2.33E-03	1.94E-03
Cm-242	6.87E-02	7.02E-02	6.91E-02	6.10E-02	6.67E+00	4.42E+00	8.67E-02	5.45E-02	5.07E-02
Cm-244	4.31E-01	4.41E-01	4.34E-01	3.84E-01	4.14E+01	2.75E+01	5.43E-01	3.44E-01	3.18E-01
Cm-245 + P	7.38E-01	7.54E-01	7.42E-01	6.58E-01	7.00E+01	4.66E+01	9.30E-01	5.95E-01	5.47E-01
Co-57	8.56E-04	8.78E-04	8.72E-04	8.21E-04	5.05E-02	3.60E-02	1.06E-03	8.70E-04	7.06E-04
Co-58	1.80E-03	1.84E-03	1.83E-03	1.72E-03	1.08E-01	7.70E-02	2.25E-03	1.84E-03	1.50E-03
Co-60	8.41E-02	8.62E-02	8.57E-02	8.06E-02	5.24E+00	3.74E+00	1.08E-01	8.90E-02	7.30E-02
Cr-51	2.68E-05	2.75E-05	2.73E-05	2.57E-05	1.59E-03	1.13E-03	3.31E-05	2.71E-05	2.19E-05
Cs-134	7.50E-02	7.68E-02	7.63E-02	7.19E-02	3.88E+00	2.77E+00	8.60E-02	7.07E-02	5.60E-02
Cs-137 + P	1.55E-01	1.59E-01	1.58E-01	1.49E-01	8.38E+00	5.98E+00	1.83E-01	1.50E-01	1.20E-01
Eu-152	7.72E-02	7.85E-02	7.79E-02	7.33E-02	4.92E+00	3.51E+00	1.00E-01	8.23E-02	6.79E-02
Eu-154	5.95E-02	6.02E-02	5.98E-02	5.62E-02	3.79E+00	2.70E+00	7.69E-02	6.31E-02	5.20E-02
Eu-155	1.87E-03	1.84E-03	1.83E-03	1.71E-03	1.18E-01	8.35E-02	2.34E-03	1.90E-03	1.57E-03
F-18	5.14E-06	5.26E-06	5.18E-06	4.63E-06	5.72E-04	3.84E-04	6.72E-06	4.48E-06	3.55E-06
H-3 (Oxide)	2.86E-06	2.77E-06	2.70E-06	2.34E-06	2.00E-04	1.28E-04	3.07E-06	1.77E-06	1.80E-06
Hg-203 (vapor)	1.34E-04	1.30E-04	1.27E-04	1.09E-04	1.18E-02	7.56E-03	1.66E-04	9.46E-05	1.01E-04
I-129 (vapor)	1.82E-03	1.76E-03	1.72E-03	1.48E-03	1.60E-01	1.43E+02	2.25E-03	1.28E-03	1.37E-03
I-131 (vapor)	3.78E-04	3.66E-04	3.57E-04	3.06E-04	3.32E-02	7.75E-01	4.66E-04	2.66E-04	2.84E-04
I-133 (vapor)	7.74E-05	7.49E-05	7.30E-05	6.27E-05	6.91E-03	9.64E-03	9.55E-05	5.46E-05	5.77E-05
Kr-85	2.74E-08	2.65E-08	2.59E-08	2.22E-08	2.40E-06	1.54E-06	3.38E-08	1.93E-08	2.06E-08
Kr-85m	7.13E-07	6.89E-07	6.72E-07	5.77E-07	6.79E-05	4.35E-05	8.87E-07	5.07E-07	5.13E-07
Kr-87	3.29E-06	3.19E-06	3.11E-06	2.67E-06	3.87E-04	2.48E-04	4.21E-06	2.40E-06	2.12E-06
Kr-88 + P	1.32E-05	1.29E-05	1.27E-05	1.10E-05	1.33E-03	8.60E-04	1.66E-05	9.77E-06	9.25E-06
Mn-54	4.95E-03	5.05E-03	5.02E-03	4.72E-03	3.14E-01	2.24E-01	6.43E-03	5.28E-03	4.34E-03
Na-22	4.99E-02	5.12E-02	5.01E-02	4.78E-02	2.95E+00	2.11E+00	6.21E-02	5.11E-02	4.14E-02
Nb-94	3.16E-01	3.24E-01	3.22E-01	3.03E-01	2.02E+01	1.45E+01	4.14E-01	3.41E-01	2.81E-01
Nb-95	5.79E-04	5.94E-04	5.90E-04	5.53E-04	3.73E-02	2.65E-02	7.50E-04	6.11E-04	5.03E-04
Ni-59	2.21E-04	2.26E-04	2.25E-04	2.12E-04	1.05E-02	7.50E-03	2.40E-04	1.97E-04	1.54E-04
Ni-63	4.52E-04	4.62E-04	4.59E-04	4.33E-04	2.15E-02	1.53E-02	4.90E-04	4.02E-04	3.12E-04
Np-237 + P	4.39E-01	4.49E-01	4.42E-01	3.95E-01	3.97E+01	2.66E+01	5.53E-01	3.67E-01	3.31E-01
Np-239	1.99E-05	2.03E-05	2.01E-05	1.82E-05	1.69E-03	1.15E-03	2.55E-05	1.79E-05	1.57E-05
Pa-233	2.02E-04	2.35E-04	2.33E-04	2.17E-04	1.53E-02	1.07E-02	2.87E-04	2.26E-04	1.87E-04
Pa-234	1.52E-05	1.82E-05	1.80E-05	1.63E-05	1.59E-03	1.08E-03	2.30E-05	1.62E-05	1.38E-05
Pa-234m	2.29E-16	2.33E-16	2.30E-16	2.05E-16	2.84E-06	1.84E-06	1.08E-10	7.60E-11	6.46E-11
Pb-212 + P	2.30E-03	2.33E-03	2.29E-03	2.02E-03	2.31E-01	1.53E-01	2.89E-03	1.81E-03	1.65E-03
Pb-214 + P	1.96E-04	1.98E-04	1.95E-04	1.71E-04	3.20E-02	2.12E-02	2.64E-04	1.64E-04	1.02E-04

Location	A	A	A	A	B	B	C	C	COS
Release Heights (m)	0	12	16	31	0	12	0	61	0
MaxIndSector	S	S	S	S	W	W	WNW	WNW	WNW
Distance (m)	6961	6961	6961	6961	598	598	6832	6832	10111
Pm-144	1.06E-02	1.09E-02	1.08E-02	1.02E-02	6.83E-01	4.87E-01	1.39E-02	1.14E-02	9.39E-03
Pm-146	2.49E-02	2.55E-02	2.54E-02	2.39E-02	1.61E+00	1.14E+00	3.26E-02	2.68E-02	2.21E-02
Pm-147	1.39E-04	1.42E-04	1.40E-04	1.28E-04	1.04E-02	7.09E-03	1.67E-04	1.19E-04	1.02E-04
Pm-148	1.23E-04	1.26E-04	1.25E-04	1.16E-04	8.64E-03	6.02E-03	1.56E-04	1.21E-04	1.01E-04
Pm-148m + P	1.98E-03	2.03E-03	2.02E-03	1.89E-03	1.28E-01	9.07E-02	2.64E-04	1.64E-04	1.71E-03
Pr-144	1.27E-07	1.30E-07	1.28E-07	1.13E-07	4.42E-05	2.94E-05	1.90E-07	1.20E-07	4.83E-08
Pu-236	3.13E-01	3.19E-01	3.14E-01	2.78E-01	3.00E+01	1.99E+01	3.94E-01	2.49E-01	2.31E-01
Pu-238	7.68E-01	7.84E-01	7.72E-01	6.83E-01	7.34E+01	4.88E+01	9.67E-01	6.13E-01	5.66E-01
Pu-239 + P	8.37E-01	8.55E-01	8.42E-01	7.45E-01	8.01E+01	5.32E+01	1.05E+00	6.69E-01	6.18E-01
Pu-240	8.37E-01	8.55E-01	8.42E-01	7.45E-01	8.01E+01	5.32E+01	1.05E+00	6.69E-01	6.18E-01
Pu-241	1.53E-02	1.56E-02	1.54E-02	1.36E-02	1.46E+00	9.73E-01	1.93E-02	1.22E-02	1.13E-02
Pu-242	7.95E-01	8.12E-01	7.99E-01	7.07E-01	7.60E+01	5.05E+01	1.00E+00	6.35E-01	5.86E-01
Ra-226 + P	5.70E-01	5.85E-01	5.80E-01	5.44E-01	3.58E+01	2.54E+01	7.17E-01	5.79E-01	4.75E-01
Ra-228 + P	3.51E-01	3.60E-01	3.57E-01	3.34E-01	2.08E+01	1.46E+01	4.17E-01	3.32E-01	2.70E-01
Rh-106	1.78E-19	1.81E-19	1.80E-19	1.66E-19	2.56E-06	1.63E-06	4.73E-21	4.79E-21	5.74E-20
Ru-103 + P	4.90E-04	5.03E-04	4.99E-04	4.68E-04	3.15E-02	2.23E-02	6.27E-04	5.07E-04	4.18E-04
Ru-106 + P	4.62E-03	4.74E-03	4.70E-03	4.40E-03	2.89E-01	2.04E-01	5.75E-03	4.62E-03	3.78E-03
Sb-124	2.49E-03	2.56E-03	2.54E-03	2.38E-03	1.59E-01	1.13E-01	3.21E-03	2.61E-03	2.15E-03
Sb-125 + P	8.24E-03	8.45E-03	8.39E-03	7.89E-03	5.26E-01	3.75E-01	1.07E-02	8.80E-03	7.24E-03
Se-79	3.40E-02	3.48E-02	3.46E-02	3.26E-02	1.60E+00	1.14E+00	3.68E-02	3.03E-02	2.35E-02
Sm-151	9.19E-05	9.39E-05	9.27E-05	8.35E-05	7.63E-03	5.14E-03	1.12E-04	7.68E-05	6.77E-05
Sn-123	1.22E-03	1.25E-03	1.24E-03	1.16E-03	6.84E-02	4.82E-02	1.41E-03	1.13E-33	9.06E-04
Sn-126 + P	4.39E-01	4.50E-01	4.47E-01	4.21E-01	2.79E+01	1.99E+01	5.72E-01	4.71E-01	3.87E-01
Sr- 89	8.62E-04	8.82E-04	8.75E-04	8.20E-04	4.80E-02	3.38E-02	9.89E-04	7.91E-04	6.34E-04
Sr-90 + P	1.37E-01	1.40E-01	1.40E-01	1.32E-01	6.84E+00	4.87E+00	1.54E-01	1.26E-01	9.91E-02
Tc-99	2.37E-02	2.43E-02	2.41E-02	2.27E-02	1.24E+00	8.87E-01	2.74E-02	2.25E-02	1.79E-02
Te-127	1.60E-06	1.64E-06	1.61E-06	1.42E-06	1.61E-04	1.07E-04	2.04E-06	1.29E-06	1.17E-06
Te-129	6.17E-07	6.30E-07	6.21E-07	5.52E-07	7.99E-05	5.33E-05	8.16E-07	5.28E-07	3.93E-07
Th-228 + P	6.10E-01	6.23E-01	6.13E-01	5.42E-01	5.87E+01	3.90E+01	7.71E-01	4.88E-01	4.52E-01
Th-229 + P	1.45E+00	1.48E+00	1.46E+00	1.29E+00	1.35E+02	9.00E+01	1.82E+00	1.18E+00	1.08E+00
Th-230 + P	8.32E-01	8.52E-01	8.44E-01	7.79E-01	5.95E+01	4.12E+01	1.04E+00	7.93E-01	6.69E-01
Th-232 + P	1.17E+00	1.20E+00	1.19E+00	1.09E+00	8.65E+01	5.95E+01	1.47E+00	1.10E+00	9.32E-01
Th-234 + P	4.59E-04	4.69E-04	4.65E-04	4.32E-04	3.00E-02	2.08E-02	5.53E-04	4.28E-04	3.54E-04
Tl-208	6.74E-09	6.59E-09	6.48E-09	5.67E-09	8.82E-04	5.80E-04	2.08E-08	1.28E-08	1.30E-10
U-232 + P	1.00E+00	1.02E+00	1.01E+00	9.10E-01	8.65E+01	5.83E+01	1.27E+00	8.68E-01	7.72E-01
U-233 + P	1.51E+00	1.54E+00	1.52E+00	1.35E+00	1.40E+02	9.35E+01	1.90E+00	1.23E+00	1.12E+00
U-234 + P	8.88E-01	9.10E-01	9.01E-01	8.30E-01	6.44E+01	4.45E+01	1.11E+00	8.40E-01	7.11E-01
U-235 + P	8.58E-02	8.78E-02	8.69E-02	7.94E-02	6.69E+00	4.58E+00	1.09E-01	7.97E-02	6.86E-02
U-236	5.24E-02	5.36E-02	5.28E-02	4.73E-02	4.60E+00	3.08E+00	6.49E-02	4.32E-02	3.87E-02
U-238 + P	7.41E-02	7.58E-02	7.50E-02	6.84E-02	5.86E+00	4.00E+00	9.36E-02	6.78E-02	5.87E-02
Xe-133	1.55E-07	1.50E-07	1.47E-07	1.26E-07	1.37E-05	8.77E-06	1.91E-07	1.09E-07	1.17E-07
Xe-133m	1.46E-07	1.41E-07	1.37E-07	1.18E-07	1.29E-05	8.25E-06	1.80E-07	1.03E-07	1.09E-07
Xe-135	1.20E-06	1.16E-06	1.13E-06	9.71E-07	1.09E-04	7.02E-05	1.48E-06	8.47E-07	8.82E-07
Y-88	5.30E-03	5.43E-03	5.40E-03	5.07E-03	3.39E-01	2.42E-01	6.91E-03	5.66E-03	4.66E-03
Y-91	5.63E-04	5.76E-04	5.71E-04	5.32E-04	3.51E-02	2.45E-02	6.72E-04	5.27E-04	4.32E-04
Zn-65	1.75E-02	1.79E-02	1.78E-02	1.68E-02	8.64E-01	6.16E-01	1.95E-02	1.60E-02	1.26E-02
Zr-95 + P	2.60E-03	2.67E-03	2.65E-03	2.49E-03	1.68E-01	1.20E-01	3.38E-03	2.76E-03	2.27E-03

Location	COS	E	F	F	F	F	F	H	H
Release Heights (m)	61	0	0	33.5	40	44	61	0	16
MaxIndSector	WNW	W	W	W	W	W	W	W	W
Distance (m)	10111	7346	5814	5814	5814	5814	5814	9234	9234
Ag-110m + P	1.09E-02	2.02E-02	2.79E-02	2.58E-02	2.47E-02	2.40E-02	2.14E-02	1.51E-02	1.54E-02
Am-241	3.96E-01	8.81E-01	1.48E+00	1.25E+00	1.15E+00	1.08E+00	8.47E-01	6.21E-01	6.35E-01
Am-242m + P	3.87E-01	7.98E-01	1.34E+00	1.13E+00	1.04E+00	9.81E-01	7.67E-01	5.62E-01	5.75E-01
Am-243 + P	4.25E-01	9.33E-01	1.55E+00	1.31E+00	1.21E+00	1.14E+00	9.03E-01	6.60E-01	6.75E-01
Ar-41	2.60E-06	6.84E-06	1.24E-05	9.61E-06	8.76E-06	8.25E-06	6.35E-06	4.60E-06	4.49E-06
Be-7	4.43E-05	8.20E-05	1.13E-04	1.05E-04	1.00E-04	9.74E-05	8.69E-05	6.11E-05	6.27E-05
Bi-214 + P	1.73E-05	6.24E-05	1.58E-04	1.32E-04	1.21E-04	1.14E-04	8.77E-05	3.16E-05	3.23E-05
C-14 (CO2)	2.01E-04	4.82E-04	7.80E-04	6.08E-04	5.54E-04	5.22E-04	4.01E-04	3.46E-04	3.35E-04
Ce-141	1.10E-04	2.10E-04	3.07E-04	2.76E-04	2.61E-04	2.52E-04	2.17E-04	1.54E-04	1.58E-04
Ce-144 + P	1.72E-03	3.28E-03	4.76E-03	4.29E-03	4.07E-03	3.93E-03	3.41E-03	2.41E-03	2.47E-03
Cm-242	3.87E-02	8.70E-02	1.47E-01	1.24E-01	1.13E-01	1.07E-01	8.33E-02	6.12E-02	6.26E-02
Cm-244	2.45E-01	5.46E-01	9.21E-01	7.74E-01	7.11E-01	6.72E-01	5.24E-01	3.85E-01	3.93E-01
Cm-245 + P	4.24E-01	9.39E-01	1.57E+00	1.33E+00	1.22E+00	1.15E+00	9.05E-01	6.63E-01	6.78E-01
Co-57	6.48E-04	1.18E-03	1.64E-03	1.51E-03	1.45E-03	1.41E-03	1.25E-03	8.81E-04	9.03E-04
Co-58	1.38E-03	2.52E-03	3.49E-03	3.22E-03	3.09E-03	3.00E-03	2.67E-03	1.88E-03	1.93E-03
Co-60	6.72E-02	1.24E-01	1.71E-01	1.58E-01	1.51E-01	1.47E-01	1.31E-01	9.24E-02	9.47E-02
Cr-51	2.01E-05	3.68E-05	5.11E-05	4.71E-05	4.50E-05	4.38E-05	3.90E-05	2.74E-05	2.81E-05
Cs-134	5.13E-02	9.12E-02	1.27E-01	1.17E-01	1.12E-01	1.09E-01	9.71E-02	6.80E-02	6.97E-02
Cs-137 + P	1.10E-01	1.97E-01	2.73E-01	2.53E-01	2.42E-01	2.35E-01	2.10E-01	1.47E-01	1.51E-01
Eu-152	6.25E-02	1.16E-01	1.60E-01	1.48E-01	1.41E-01	1.37E-01	1.23E-01	8.64E-02	8.69E-02
Eu-154	4.78E-02	8.87E-02	1.23E-01	1.13E-01	1.08E-01	1.05E-01	9.40E-02	6.62E-02	6.78E-02
Eu-155	1.43E-03	2.67E-03	3.73E-03	3.43E-03	3.27E-03	3.18E-03	2.82E-03	1.99E-03	2.04E-03
F-18	2.85E-06	6.68E-06	1.17E-05	9.97E-06	9.22E-06	8.77E-06	7.04E-06	4.48E-06	4.58E-06
H-3 (Oxide)	1.21E-06	2.91E-06	4.75E-06	3.70E-06	3.37E-06	3.18E-06	2.44E-06	2.09E-06	2.03E-06
Hg-203 (vapor)	6.91E-05	1.67E-04	2.79E-04	2.17E-04	1.98E-04	1.87E-04	1.44E-04	1.19E-04	1.16E-04
I-129 (vapor)	9.38E-04	2.27E-03	3.79E-03	2.95E-03	2.69E-03	2.54E-03	1.95E-03	1.62E-03	1.58E-03
I-131 (vapor)	1.94E-04	4.70E-04	7.86E-04	6.12E-04	5.58E-04	5.26E-04	4.05E-04	3.36E-04	3.27E-04
I-133 (vapor)	3.94E-05	9.60E-05	1.62E-04	1.26E-04	1.15E-04	1.08E-04	8.33E-05	6.83E-05	6.65E-05
Kr-85	1.41E-08	3.41E-08	5.70E-08	4.44E-08	4.05E-08	3.81E-08	2.94E-08	2.44E-08	2.37E-08
Kr-85m	3.51E-07	8.78E-07	1.52E-06	1.18E-06	1.08E-06	1.01E-06	7.81E-07	6.13E-07	5.50E-07
Kr-87	1.46E-06	3.98E-06	7.43E-06	5.78E-06	5.27E-06	4.96E-06	3.82E-06	2.61E-06	2.35E-06
Kr-88 + P	6.56E-06	1.63E-05	2.86E-05	2.27E-05	2.08E-05	1.96E-05	1.52E-05	1.12E-05	1.11E-05
Mn-54	4.00E-03	7.40E-03	1.02E-02	9.44E-03	9.04E-03	8.79E-03	7.85E-03	5.52E-03	5.66E-03
Na-22	3.81E-02	6.95E-02	9.61E-02	8.88E-02	8.51E-02	8.27E-02	7.39E-02	5.19E-02	5.32E-02
Nb-94	2.59E-01	4.79E-01	6.60E-01	6.11E-01	5.85E-01	5.69E-01	5.08E-01	3.57E-01	3.66E-01
Nb-95	4.61E-04	8.56E-04	1.19E-03	1.10E-03	1.05E-03	1.02E-03	9.05E-04	6.37E-04	6.53E-04
Ni-59	1.40E-04	2.45E-04	3.41E-04	3.15E-04	3.01E-04	2.93E-04	2.61E-04	1.82E-04	1.87E-04
Ni-63	2.85E-04	4.98E-04	6.96E-04	6.41E-04	6.14E-04	5.96E-04	5.31E-04	3.71E-04	3.80E-04
Np-237 + P	2.63E-01	5.67E-01	9.26E-01	7.89E-01	7.30E-01	6.93E-01	5.54E-01	4.03E-01	4.12E-01
Np-239	1.31E-05	2.70E-05	4.23E-05	3.68E-05	3.43E-05	3.28E-05	2.71E-05	1.94E-05	1.91E-05
Pa-233	1.67E-04	3.16E-04	4.54E-04	4.12E-04	3.91E-04	3.78E-04	3.30E-04	2.33E-04	2.33E-04
Pa-234	1.15E-05	2.42E-05	3.85E-05	3.35E-05	3.13E-05	2.99E-05	2.47E-05	1.72E-05	1.69E-05
Pa-234m	5.38E-11	1.55E-16	8.69E-14	6.90E-14	6.17E-14	5.73E-14	4.13E-14	1.02E-18	9.73E-19
Pb-212 + P	1.26E-03	2.88E-03	4.95E-03	4.15E-03	3.80E-03	3.59E-03	2.78E-03	2.00E-03	2.05E-03
Pb-214 + P	7.92E-05	2.33E-04	4.92E-04	4.11E-04	3.76E-04	3.55E-04	2.74E-04	1.36E-04	1.39E-04

Location	COS	E	F	F	F	F	F	H	H
Release Heights (m)	61	0	0	33.5	40	44	61	0	16
MaxIndSector	WNW	W	W	W	W	W	W	W	W
Distance (m)	10111	7346	5814	5814	5814	5814	5814	9234	9234
Pm-144	8.63E-03	1.60E-02	2.21E-02	2.04E-02	1.96E-02	1.90E-02	1.70E-02	1.19E-02	1.20E-02
Pm-146	2.03E-02	3.76E-02	5.20E-02	4.80E-02	4.60E-02	4.47E-02	3.99E-02	2.81E-02	2.82E-02
Pm-147	8.55E-05	1.71E-04	2.66E-04	2.32E-04	2.17E-04	2.08E-04	1.72E-04	1.24E-04	1.21E-04
Pm-148	8.94E-05	1.71E-04	2.49E-04	2.25E-04	2.13E-04	2.06E-04	1.78E-04	1.26E-04	1.26E-04
Pm-148m + P	1.56E-03	2.90E-03	4.05E-03	3.72E-03	3.56E-03	3.46E-03	3.07E-03	2.16E-03	2.21E-03
Pr-144	3.85E-08	1.49E-07	3.94E-07	3.31E-07	3.03E-07	2.86E-07	2.23E-07	7.18E-08	7.01E-08
Pu-236	1.77E-01	3.96E-01	6.68E-01	5.61E-01	5.15E-01	4.87E-01	3.80E-01	2.79E-01	2.69E-01
Pu-238	4.36E-01	9.71E-01	1.64E+00	1.38E+00	1.26E+00	1.19E+00	9.33E-01	6.84E-01	6.61E-01
Pu-239 + P	4.76E-01	1.06E+00	1.79E+00	1.50E+00	1.38E+00	1.30E+00	1.02E+00	7.46E-01	7.63E-01
Pu-240	4.76E-01	1.06E+00	1.79E+00	1.50E+00	1.38E+00	1.30E+00	1.02E+00	7.46E-01	7.63E-01
Pu-241	8.69E-03	1.94E-02	3.26E-02	2.74E-02	2.52E-02	2.38E-02	1.86E-02	1.36E-02	1.40E-02
Pu-242	4.51E-01	1.01E+00	1.70E+00	1.43E+00	1.31E+00	1.24E+00	9.67E-01	7.09E-01	7.25E-01
Ra-226 + P	4.32E-01	8.00E-01	1.12E+00	1.03E+00	9.83E-01	9.54E-01	8.44E-01	5.95E-01	6.10E-01
Ra-228 + P	2.43E-01	4.46E-01	6.34E-01	5.78E-01	5.50E-01	5.33E-01	4.69E-01	3.30E-01	3.38E-01
Rh-106	2.42E-20	1.41E-19	1.34E-19	1.28E-19	1.23E-19	1.20E-19	1.05E-19	5.87E-20	6.12E-20
Ru-103 + P	3.81E-04	7.08E-04	9.91E-04	9.10E-04	8.69E-04	8.44E-04	1.92E-09	5.27E-04	5.40E-04
Ru-106 + P	3.43E-03	6.36E-03	8.97E-03	8.20E-03	7.82E-03	7.59E-03	6.69E-03	4.72E-03	4.84E-03
Sb-124	1.97E-03	3.65E-03	5.08E-03	4.68E-03	4.47E-03	4.34E-03	3.86E-03	2.72E-03	2.79E-03
Sb-125 + P	6.66E-03	1.23E-02	1.70E-02	1.57E-02	1.51E-02	1.46E-02	1.31E-02	9.19E-03	9.42E-03
Se-79	2.15E-02	3.74E-02	5.20E-02	4.80E-02	4.60E-02	4.47E-02	3.99E-02	2.78E-02	2.85E-02
Sm-151	5.48E-05	1.14E-04	1.84E-04	1.58E-04	1.47E-04	1.40E-04	1.13E-04	8.18E-05	8.37E-05
Sn-123	8.16E-04	1.48E-03	2.10E-03	1.92E-03	1.83E-03	1.77E-03	1.56E-03	1.10E-03	1.12E-03
Sn-126 + P	3.57E-01	6.59E-01	9.09E-01	8.41E-01	8.05E-01	7.83E-01	6.99E-01	4.92E-01	5.04E-01
Sr- 89	5.71E-04	1.04E-03	1.47E-03	1.34E-03	1.28E-03	1.24E-03	1.09E-03	7.67E-04	7.86E-04
Sr-90 + P	9.07E-02	1.60E-01	2.22E-01	2.05E-01	1.97E-01	1.91E-01	1.70E-01	1.19E-01	1.22E-01
Tc-99	1.64E-02	2.92E-02	4.05E-02	3.74E-02	3.58E-02	3.48E-02	3.11E-02	2.18E-02	2.23E-02
Te-127	8.98E-07	2.04E-06	3.49E-06	2.93E-06	2.69E-06	2.54E-06	1.99E-06	1.42E-06	1.45E-06
Te-129	3.10E-07	7.80E-07	1.45E-06	1.23E-06	1.13E-06	1.07E-06	8.47E-07	5.02E-07	4.88E-07
Th-228 + P	3.48E-01	7.76E-01	1.31E+00	1.10E+00	1.01E+00	9.54E-01	7.46E-01	5.47E-01	5.59E-01
Th-229 + P	8.43E-01	1.85E+00	3.07E+00	2.60E+00	2.39E+00	2.27E+00	1.79E+00	1.31E+00	1.34E+00
Th-230 + P	5.85E-01	1.13E+00	1.67E+00	1.49E+00	1.41E+00	1.36E+00	1.17E+00	8.30E-01	8.50E-01
Th-232 + P	8.06E-01	1.58E+00	2.36E+00	2.10E+00	1.98E+00	1.90E+00	1.62E+00	1.15E+00	1.18E+00
Th-234 + P	3.12E-04	5.90E-04	8.61E-04	7.75E-04	7.34E-04	7.08E-04	6.12E-04	4.33E-04	4.44E-04
Tl-208	1.10E-10	5.95E-09	1.08E-07	8.84E-08	8.02E-08	7.51E-08	5.65E-08	5.42E-10	5.52E-10
U-232 + P	6.29E-01	1.32E+00	2.10E+00	1.81E+00	1.68E+00	1.60E+00	1.31E+00	9.45E-01	9.67E-01
U-233 + P	8.77E-01	1.92E+00	3.19E+00	2.70E+00	2.49E+00	2.36E+00	1.86E+00	1.36E+00	1.39E+00
U-234 + P	6.18E-01	1.20E+00	1.78E+00	1.59E+00	1.50E+00	1.45E+00	1.24E+00	8.80E-01	9.02E-01
U-235 + P	5.86E-02	1.17E-01	1.77E-01	1.56E-01	1.47E-01	1.41E-01	1.19E-01	8.50E-02	8.70E-02
U-236	3.08E-02	6.58E-02	1.08E-01	9.17E-02	8.47E-02	8.05E-02	6.44E-02	4.68E-02	4.55E-02
U-238 + P	4.97E-02	9.98E-02	1.53E-01	1.34E-01	1.26E-01	1.21E-01	1.01E-01	7.24E-02	7.42E-02
Xe-133	7.97E-08	1.93E-07	3.23E-07	2.52E-07	2.29E-07	2.16E-07	1.67E-07	1.38E-07	1.34E-07
Xe-133m	7.50E-08	1.81E-07	3.03E-07	2.36E-07	2.15E-07	2.03E-07	1.56E-07	1.29E-07	1.26E-07
Xe-135	6.03E-07	1.48E-06	2.52E-06	1.96E-06	1.79E-06	1.68E-06	1.30E-06	1.05E-06	9.40E-07
Y-88	4.29E-03	7.94E-03	1.10E-02	1.01E-02	9.71E-03	9.44E-03	8.42E-03	5.92E-03	6.07E-03
Y-91	3.84E-04	7.16E-04	1.03E-03	9.36E-04	8.89E-04	8.59E-04	7.48E-04	5.28E-04	5.41E-04
Zn-65	1.15E-02	2.03E-02	2.82E-02	2.60E-02	2.49E-02	2.42E-02	2.16E-02	1.51E-02	1.55E-02
Zr-95 + P	2.08E-03	3.87E-03	5.38E-03	4.96E-03	4.74E-03	4.61E-03	4.10E-03	2.88E-03	2.96E-03

Location	H	H	H	H	K	KIS	K	K	L	L
Release Heights (m)	31	40	44	61	0	15	16	40	0	61
MaxIndSector	W	W	W	W	NW	NW	NW	NW	NW	NW
Distance (m)	9234	9234	9234	9234	10504	10504	10504	10504	13518	13518
Ag-110m + P	1.52E-02	1.49E-02	1.48E-02	1.41E-02	1.41E-02	1.45E-02	1.45E-02	1.36E-02	7.81E-03	5.98E-02
Am-241	6.07E-01	5.80E-01	5.66E-01	5.03E-01	6.80E-01	6.98E-01	6.96E-01	6.03E-01	3.74E-01	2.71E-01
Am-242m + P	5.50E-01	5.25E-01	5.13E-01	4.56E-01	6.16E-01	6.32E-01	6.30E-01	5.46E-01	3.39E-01	2.45E-01
Am-243 + P	6.47E-01	6.19E-01	6.05E-01	5.41E-01	7.16E-01	7.34E-01	7.33E-01	6.38E-01	3.94E-01	2.89E-01
Ar-41	4.20E-06	3.98E-06	3.87E-06	3.40E-06	5.15E-06	4.97E-06	4.95E-06	4.12E-06	2.61E-06	1.65E-06
Be-7	6.17E-05	6.06E-05	6.00E-05	5.74E-05	5.73E-05	5.90E-05	5.90E-05	5.53E-05	3.17E-05	2.82E-05
Bi-214 + P	3.10E-05	2.98E-05	2.92E-05	2.62E-05	3.06E-05	3.14E-05	3.13E-05	2.75E-05	9.31E-06	7.06E-06
C-14(CO2)	3.09E-04	2.88E-04	2.79E-04	2.38E-04	3.49E-04	3.38E-04	3.36E-04	2.79E-04	2.16E-04	1.39E-04
Ce-141	1.54E-04	1.50E-04	1.48E-04	1.39E-04	1.49E-04	1.53E-04	1.53E-04	1.41E-04	8.48E-05	7.18E-05
Ce-144 + P	2.42E-03	2.36E-03	2.33E-03	2.19E-03	2.33E-03	2.39E-03	2.39E-03	2.20E-03	1.31E-03	1.12E-03
Cm-242	5.97E-02	5.70E-02	5.56E-02	4.93E-02	6.75E-02	6.92E-02	6.90E-02	5.96E-02	3.70E-02	2.65E-02
Cm-244	3.76E-01	3.59E-01	3.50E-01	3.11E-01	4.22E-01	4.33E-01	4.32E-01	3.74E-01	2.32E-01	1.67E-01
Cm-245 + P	6.48E-01	6.20E-01	6.05E-01	5.39E-01	7.23E-01	7.42E-01	7.40E-01	6.42E-01	3.98E-01	2.89E-01
Co-57	8.89E-04	8.72E-04	8.63E-04	8.23E-04	8.17E-04	8.41E-04	8.41E-04	7.90E-04	4.67E-04	4.16E-04
Co-58	1.89E-03	1.86E-03	1.84E-03	1.76E-03	1.75E-03	1.80E-03	1.80E-03	1.69E-03	9.91E-04	8.81E-04
Co-60	9.33E-02	9.16E-02	9.08E-02	8.68E-02	8.62E-02	8.89E-02	8.88E-02	8.34E-02	4.80E-02	4.27E-02
Cr-51	2.76E-05	2.71E-05	2.68E-05	2.55E-05	2.54E-05	2.62E-05	2.62E-05	2.45E-05	1.45E-05	1.29E-05
Cs-134	6.83E-02	6.69E-02	6.62E-02	6.29E-02	6.17E-02	6.35E-02	6.34E-02	5.97E-02	3.74E-02	3.36E-02
Cs-137 + P	1.48E-01	1.45E-01	1.44E-01	1.37E-01	1.34E-01	1.38E-01	1.38E-01	1.30E-01	7.98E-02	7.15E-02
Eu-152	8.69E-02	8.57E-02	8.49E-02	8.13E-02	8.10E-02	8.35E-02	8.34E-02	7.83E-02	4.45E-02	3.96E-02
Eu-154	6.68E-02	6.57E-02	6.51E-02	6.22E-02	6.21E-02	6.40E-02	6.40E-02	6.00E-02	3.41E-02	3.03E-02
Eu-155	2.00E-03	1.97E-03	1.95E-03	1.86E-03	1.88E-03	1.93E-03	1.93E-03	1.81E-03	1.03E-03	9.11E-04
F-18	4.42E-06	4.25E-06	4.17E-06	3.78E-06	4.65E-06	4.78E-06	4.77E-06	4.21E-06	2.28E-06	1.74E-06
H-3 (Oxide)	1.87E-06	1.75E-06	1.70E-06	1.46E-06	2.17E-06	2.10E-06	1.79E-06	1.73E-06	1.31E-06	8.42E-07
Hg-203 (vapor)	1.09E-04	1.03E-04	9.98E-05	8.74E-05	1.37E-04	1.32E-04	1.31E-04	1.09E-04	7.73E-05	4.82E-05
I-129 (vapor)	1.48E-03	1.39E-03	1.36E-03	1.19E-03	1.86E-03	1.79E-03	1.78E-03	1.48E-03	1.05E-03	6.55E-04
I-131 (vapor)	3.06E-04	2.89E-04	2.81E-04	2.46E-04	3.84E-04	3.71E-04	3.69E-04	3.06E-04	2.17E-04	1.35E-04
I-133 (vapor)	6.22E-05	5.87E-05	5.71E-05	5.00E-05	7.80E-05	7.54E-05	7.50E-05	6.21E-05	4.37E-05	2.73E-05
Kr-85	2.22E-08	2.09E-08	2.04E-08	1.78E-08	2.79E-08	2.69E-08	2.68E-08	2.22E-08	1.58E-08	9.84E-09
Kr-85m	5.50E-07	5.28E-07	5.13E-07	4.50E-07	6.94E-07	6.71E-07	6.68E-07	5.54E-07	3.75E-07	2.35E-07
Kr-87	2.35E-06	2.26E-06	2.20E-06	1.93E-06	2.88E-06	2.79E-06	2.78E-06	2.31E-06	1.39E-06	8.86E-07
Kr-88 + P	1.04E-05	9.88E-06	9.62E-06	8.48E-06	1.25E-05	1.23E-05	1.22E-05	1.03E-05	6.53E-06	4.28E-06
Mn-54	5.58E-03	5.48E-03	5.43E-03	5.19E-03	5.17E-03	5.33E-03	5.33E-03	5.00E-03	2.85E-03	2.53E-03
Na-22	5.23E-02	5.13E-02	5.08E-02	4.85E-02	4.81E-02	4.95E-02	4.95E-02	4.65E-02	2.74E-02	2.44E-02
Nb-94	3.61E-01	3.55E-01	3.52E-01	3.37E-01	3.35E-01	3.45E-01	3.45E-01	3.24E-01	1.84E-01	1.64E-01
Nb-95	6.43E-04	6.31E-04	6.25E-04	5.97E-04	5.99E-04	6.17E-04	6.17E-04	5.78E-04	3.32E-04	2.93E-04
Ni-59	1.83E-04	1.79E-04	1.76E-04	1.67E-04	1.63E-04	1.68E-04	1.68E-04	1.58E-04	1.04E-04	9.33E-05
Ni-63	3.72E-04	3.63E-04	3.59E-04	3.39E-04	3.32E-04	3.41E-04	3.41E-04	3.20E-04	2.11E-04	1.90E-04
Np-237 + P	3.96E-01	3.80E-01	3.72E-01	3.35E-01	4.30E-01	4.42E-01	4.41E-01	3.87E-01	2.37E-01	1.78E-01
Np-239	1.91E-05	1.86E-05	1.83E-05	1.68E-05	2.00E-05	2.06E-05	2.05E-05	1.84E-05	1.10E-05	8.61E-06
Pa-233	2.33E-04	2.29E-04	2.26E-04	2.13E-04	2.23E-04	2.30E-04	2.30E-04	2.12E-04	1.26E-04	1.08E-04
Pa-234	1.69E-05	1.65E-05	1.62E-05	1.49E-05	1.76E-05	1.81E-05	1.80E-05	1.61E-05	9.34E-06	7.36E-06
Pa-234m	9.73E-19	9.10E-19	9.10E-19	8.07E-19	6.02E-19	6.17E-19	6.16E-19	5.31E-19	1.19E-19	6.73E-20
Pb-212 + P	1.95E-03	1.86E-03	1.82E-03	1.61E-03	2.21E-03	2.27E-03	2.26E-03	1.95E-03	1.19E-03	8.49E-04
Pb-214 + P	1.33E-04	1.28E-04	1.25E-04	1.12E-04	1.40E-04	1.43E-04	1.43E-04	1.25E-04	5.35E-05	3.96E-05

Location	H	H	H	H	K	KIS	K	K	L	L
Release Heights (m)	31	40	44	61	0	15	16	40	0	61
MaxIndSector	W	W	W	W	NW	NW	NW	NW	NW	NW
Distance (m)	9234	9234	9234	9234	10504	10504	10504	10504	13518	13518
Pm-144	1.20E-02	1.18E-02	1.17E-02	1.12E-02	1.12E-02	1.15E-02	1.15E-02	1.08E-02	6.16E-03	5.47E-03
Pm-146	2.82E-02	2.79E-02	2.76E-02	2.64E-02	2.63E-02	2.71E-02	2.71E-02	2.55E-02	1.45E-02	1.29E-02
Pm-147	1.21E-04	1.18E-04	1.16E-04	1.07E-04	1.25E-04	1.28E-04	1.28E-04	1.15E-04	7.18E-05	5.73E-05
Pm-148	1.26E-04	1.23E-04	1.22E-04	1.15E-04	1.22E-04	1.26E-04	1.25E-04	1.15E-04	6.81E-05	5.78E-05
Pm-148m + P	2.18E-03	2.14E-03	2.12E-03	2.02E-03	2.03E-03	2.10E-03	2.09E-03	1.96E-03	1.13E-03	9.95E-04
Pr-144	7.01E-08	6.81E-08	6.68E-08	6.05E-08	6.72E-08	6.88E-08	6.87E-08	6.09E-08	1.86E-08	1.44E-08
Pu-236	2.69E-01	2.60E-01	2.54E-01	2.25E-01	3.06E-01	3.14E-01	3.13E-01	2.71E-01	1.68E-01	1.21E-01
Pu-238	6.61E-01	6.39E-01	6.23E-01	5.54E-01	7.50E-01	7.70E-01	7.68E-01	6.65E-01	4.13E-01	2.98E-01
Pu-239 + P	7.29E-01	6.97E-01	6.80E-01	6.04E-01	8.18E-01	8.39E-01	8.38E-01	7.25E-01	4.50E-01	3.25E-01
Pu-240	7.29E-01	6.97E-01	6.80E-01	6.05E-01	8.18E-01	8.40E-01	8.38E-01	7.25E-01	4.50E-01	3.25E-01
Pu-241	1.33E-02	1.27E-02	1.24E-02	1.10E-02	1.50E-02	1.53E-02	1.53E-02	1.33E-02	8.23E-03	5.94E-03
Pu-242	6.92E-01	6.61E-01	6.46E-01	5.74E-01	7.77E-01	7.97E-01	7.95E-01	6.88E-01	4.27E-01	3.09E-01
Ra-226 + P	5.99E-01	5.87E-01	5.81E-01	5.52E-01	5.59E-01	5.76E-01	5.75E-01	5.37E-01	3.16E-01	2.77E-01
Ra-228 + P	3.31E-01	3.24E-01	3.20E-01	3.02E-01	3.09E-01	3.18E-01	3.17E-01	2.95E-01	1.82E-01	1.59E-01
Rh-106	5.24E-20	4.46E-20	4.10E-20	2.63E-20	9.09E-20	9.41E-20	9.36E-20	6.86E-20	1.42E-19	1.21E-19
Ru-103 + P	5.31E-04	5.20E-04	5.15E-04	4.90E-04	4.96E-04	5.11E-04	5.11E-04	4.77E-04	2.77E-04	2.43E-04
Ru-106 + P	4.75E-03	4.65E-03	4.60E-03	4.36E-03	4.44E-03	4.57E-03	4.57E-03	4.26E-03	2.52E-03	2.21E-03
Sb-124	2.74E-03	2.69E-03	2.67E-03	2.54E-03	2.55E-03	2.63E-03	2.63E-03	2.46E-03	1.42E-03	1.25E-03
Sb-125 + P	9.28E-03	9.12E-03	9.03E-03	8.64E-03	8.62E-03	8.88E-03	8.87E-03	8.33E-03	4.76E-03	4.22E-03
Se-79	2.79E-02	2.73E-02	2.70E-02	2.55E-02	2.48E-02	2.55E-02	2.55E-02	2.40E-02	1.59E-02	1.43E-02
Sm-151	8.06E-05	7.75E-05	7.59E-05	6.88E-05	8.53E-05	8.76E-05	8.74E-05	7.73E-05	4.82E-05	3.70E-05
Sn-123	1.10E-03	1.07E-03	1.06E-03	1.00E-03	1.02E-03	1.04E-03	1.04E-03	9.72E-04	6.12E-04	5.37E-04
Sn-126 + P	4.97E-01	4.88E-01	4.84E-01	4.63E-01	4.60E-01	4.74E-01	4.74E-01	4.45E-01	2.54E-01	2.26E-01
Sr- 89	7.68E-04	7.50E-04	7.41E-04	6.99E-04	7.10E-04	7.30E-04	7.30E-04	6.79E-04	4.29E-04	3.76E-04
Sr-90 + P	1.20E-01	1.17E-01	1.16E-01	1.10E-01	1.07E-01	1.11E-01	1.10E-01	1.04E-01	6.66E-02	5.98E-02
Tc-99	2.19E-02	2.14E-02	2.12E-02	2.01E-02	1.98E-02	2.04E-02	2.04E-02	1.91E-02	1.19E-02	1.07E-02
Te-127	1.39E-06	1.33E-06	1.30E-06	1.15E-06	1.55E-06	1.59E-06	1.59E-06	1.38E-06	8.32E-07	6.01E-07
Te-129	4.88E-07	4.73E-07	4.63E-07	4.17E-07	5.23E-07	5.36E-07	5.35E-07	4.69E-07	2.41E-07	1.80E-07
Th-228 + P	5.34E-01	5.10E-01	4.98E-01	4.43E-01	6.00E-01	6.16E-01	6.14E-01	5.32E-01	3.29E-01	2.38E-01
Th-229 + P	1.28E+00	1.23E+00	1.20E+00	1.07E+00	1.42E+00	1.45E+00	1.45E+00	1.26E+00	7.81E-01	5.73E-01
Th-230 + P	8.30E-01	8.08E-01	7.97E-01	7.46E-01	8.11E-01	8.35E-01	8.34E-01	7.63E-01	4.56E-01	3.81E-01
Th-232 + P	1.15E+00	1.12E+00	1.10E+00	1.03E+00	1.14E+00	1.17E+00	1.17E+00	1.07E+00	6.39E-01	5.28E-01
Th-234 + P	4.33E-04	4.22E-04	4.17E-04	3.91E-04	4.16E-04	4.28E-04	4.27E-04	3.93E-04	2.41E-04	2.05E-04
Tl-208	5.36E-10	5.19E-10	5.11E-10	4.65E-10	2.65E-10	2.70E-10	2.70E-10	2.54E-10	3.46E-12	3.08E-12
U-232 + P	9.33E-01	8.99E-01	8.82E-01	8.03E-01	9.88E-01	1.01E+00	1.01E+00	8.98E-01	5.46E-01	4.20E-01
U-233 + P	1.33E+00	1.28E+00	1.25E+00	1.12E+00	1.47E+00	1.51E+00	1.51E+00	1.31E+00	8.11E-01	5.96E-01
U-234 + P	8.79E-01	8.56E-01	8.44E-01	7.88E-01	8.65E-01	8.90E-01	8.89E-01	8.11E-01	4.85E-01	4.04E-01
U-235 + P	8.46E-02	8.21E-02	8.09E-02	7.50E-02	8.53E-02	8.77E-02	8.76E-02	7.92E-02	4.73E-02	3.84E-02
U-236	4.55E-02	4.41E-02	4.32E-02	3.89E-02	4.97E-02	5.10E-02	5.09E-02	4.47E-02	2.78E-02	2.09E-02
U-238 + P	7.20E-02	6.98E-02	6.87E-02	6.35E-02	7.31E-02	7.52E-02	7.50E-02	6.76E-02	4.06E-02	3.27E-02
Xe-133	1.26E-07	1.19E-07	1.15E-07	1.01E-07	1.58E-07	1.52E-07	1.52E-07	1.26E-07	8.91E-08	5.56E-08
Xe-133m	1.17E-07	1.11E-07	1.08E-07	9.45E-08	1.48E-07	1.43E-07	1.42E-07	1.17E-07	8.32E-08	5.19E-08
Xe-135	9.40E-07	9.01E-07	8.76E-07	7.68E-07	1.19E-06	1.15E-06	1.15E-06	9.50E-07	6.60E-07	4.13E-07
Y-88	5.98E-03	5.87E-03	5.82E-03	5.56E-03	5.55E-03	5.72E-03	5.72E-03	5.37E-03	3.06E-03	2.72E-03
Y-91	5.29E-04	5.16E-04	5.09E-04	4.79E-04	5.01E-04	5.15E-04	5.15E-04	4.76E-04	2.93E-04	2.52E-04
Zn-65	1.52E-02	1.48E-02	1.47E-02	1.39E-02	1.36E-02	1.40E-02	1.40E-02	1.31E-02	8.45E-03	7.60E-03
Zr-95 + P	2.91E-03	2.86E-03	2.83E-03	2.70E-03	2.71E-03	2.80E-03	2.79E-03	2.62E-03	1.50E-03	1.32E-03

Location	M	N	S	S	S	S	Z	Z	Z	Z
Release Heights (m)	0	0	0	12	16	44	0	12	16	44
MaxIndSector	S	WNW	W	W	W	W	WSW	WSW	WSW	WSW
Distance (m)	6180	8178	9105	9105	9105	9105	9490	9490	9490	9490
Ag-110m + P	1.59E-02	1.40E-02	1.53E-02	1.57E-02	1.57E-02	1.51E-02	1.74E-02	1.78E-02	1.78E-02	1.72E-02
Am-241	8.32E-01	6.69E-01	6.35E-01	6.51E-01	6.49E-01	5.77E-01	7.14E-01	7.33E-01	7.30E-01	6.54E-01
Am-242m + P	7.53E-01	6.06E-01	5.75E-01	5.90E-01	5.88E-01	5.23E-01	6.46E-01	6.63E-01	6.61E-01	5.93E-01
Am-243 + P	8.70E-01	7.04E-01	6.74E-01	6.92E-01	6.90E-01	6.17E-01	7.59E-01	7.79E-01	7.76E-01	7.00E-01
Ar-41	6.81E-06	5.28E-06	4.72E-06	4.65E-06	4.60E-06	3.96E-06	5.27E-06	5.20E-06	5.14E-06	4.46E-06
Be-7	6.47E-05	5.67E-05	6.22E-05	6.38E-05	6.38E-05	6.11E-05	7.06E-05	7.24E-05	7.24E-05	6.96E-05
Bi-214 + P	7.35E-05	4.84E-05	3.30E-05	3.38E-05	3.37E-05	3.05E-05	3.50E-05	3.58E-05	3.57E-05	3.25E-05
C-14 (CO2)	5.87E-04	3.98E-04	3.53E-04	3.47E-04	3.42E-04	2.84E-04	3.62E-04	3.56E-04	3.51E-04	2.94E-04
Ce-141	1.86E-04	1.53E-04	1.57E-04	1.61E-04	1.61E-04	1.51E-04	1.74E-04	1.79E-04	1.79E-04	1.68E-04
Ce-144 + P	2.83E-03	2.36E-03	2.46E-03	2.52E-03	2.52E-03	2.37E-03	2.75E-03	2.82E-03	2.82E-03	2.66E-03
Cm-242	8.22E-02	6.62E-02	6.25E-02	6.42E-02	6.39E-02	5.67E-02	7.04E-02	7.23E-02	7.20E-02	6.44E-02
Cm-244	5.16E-01	4.15E-01	3.93E-01	4.03E-01	4.02E-01	3.57E-01	4.42E-01	4.54E-01	4.52E-01	4.05E-01
Cm-245 + P	8.82E-01	7.12E-01	6.77E-01	6.95E-01	6.92E-01	6.17E-01	7.62E-01	7.82E-01	7.79E-01	7.00E-01
Co-57	1.00E-03	8.40E-04	8.97E-04	9.20E-04	9.20E-04	8.78E-04	9.99E-04	1.02E-03	1.02E-03	9.82E-04
Co-58	2.10E-03	1.78E-03	1.91E-03	1.96E-03	1.96E-03	1.87E-03	2.14E-03	2.19E-03	2.19E-03	2.10E-03
Co-60	9.84E-02	8.58E-02	9.41E-02	9.64E-02	9.64E-02	9.23E-02	1.06E-01	1.09E-01	1.09E-01	1.05E-01
Cr-51	3.14E-05	2.62E-05	2.79E-05	2.86E-05	2.86E-05	2.72E-05	3.10E-05	3.18E-05	3.18E-05	3.04E-05
Cs-134	8.78E-02	6.81E-02	6.92E-02	7.09E-02	7.09E-02	6.73E-02	7.41E-02	7.59E-02	7.59E-02	7.24E-02
Cs-137 + P	1.82E-01	1.45E-01	1.50E-01	1.54E-01	1.53E-01	1.46E-01	1.63E-01	1.67E-01	1.67E-01	1.59E-01
Eu-152	8.95E-02	7.94E-02	8.79E-02	9.01E-02	9.01E-02	8.64E-02	1.00E-01	1.03E-01	1.03E-01	9.89E-02
Eu-154	6.87E-02	6.09E-02	6.74E-02	6.91E-02	6.91E-02	6.62E-02	7.68E-02	7.87E-02	7.88E-02	7.58E-02
Eu-155	2.10E-03	1.85E-03	2.02E-03	2.07E-03	2.07E-03	1.98E-03	2.30E-03	2.36E-03	2.36E-03	2.26E-03
F-18	6.28E-06	4.97E-06	4.59E-06	4.71E-06	4.70E-06	4.27E-06	5.14E-06	5.28E-06	5.26E-06	4.81E-06
H-3 (Oxide)	3.38E-06	2.37E-06	2.13E-06	2.09E-06	2.07E-06	1.73E-06	2.23E-06	2.20E-06	2.17E-06	1.83E-06
Hg-203 (vapor)	1.59E-04	1.28E-04	1.22E-04	1.20E-04	1.19E-04	1.02E-04	1.38E-04	1.36E-04	1.34E-04	1.16E-04
I-129 (vapor)	2.16E-03	1.74E-03	1.66E-03	1.63E-03	1.61E-03	1.38E-03	1.87E-03	1.84E-03	1.82E-03	1.57E-03
I-131 (vapor)	4.48E-04	3.60E-04	3.43E-04	3.38E-04	3.34E-04	2.86E-04	3.87E-04	3.82E-04	3.77E-04	3.26E-04
I-133 (vapor)	9.18E-05	7.36E-05	6.97E-05	6.87E-05	6.79E-05	5.82E-05	7.87E-05	7.76E-05	7.67E-05	6.63E-05
Kr-85	3.25E-08	2.61E-08	2.49E-08	2.45E-08	2.42E-08	2.08E-08	2.81E-08	2.77E-08	2.74E-08	2.37E-08
Kr-85m	8.52E-07	6.74E-07	6.26E-07	6.17E-07	6.10E-07	5.24E-07	7.04E-07	6.94E-07	6.87E-07	5.94E-07
Kr-87	4.04E-06	3.08E-06	2.68E-06	2.64E-06	2.61E-06	2.25E-06	2.98E-06	2.94E-06	2.91E-06	2.53E-06
Kr-88 + P	1.59E-05	1.25E-05	1.15E-05	1.14E-05	1.13E-05	9.83E-06	1.29E-05	1.28E-05	1.27E-05	1.11E-05
Mn-54	5.76E-03	5.09E-03	5.62E-03	5.76E-03	5.76E-03	5.52E-03	6.40E-03	6.56E-03	6.56E-03	6.31E-03
Na-22	5.84E-02	4.92E-02	5.28E-02	5.41E-02	5.41E-02	5.17E-02	5.89E-02	6.04E-02	6.04E-02	5.80E-02
Nb-94	3.69E-01	3.28E-01	3.64E-01	3.73E-01	3.73E-01	3.58E-01	4.15E-01	4.26E-01	4.26E-01	4.10E-01
Nb-95	6.78E-04	5.93E-04	6.49E-04	6.65E-04	6.65E-04	6.36E-04	7.37E-04	7.55E-04	7.55E-04	7.25E-04
Ni-59	2.59E-04	1.90E-04	1.86E-04	1.90E-04	1.90E-04	1.79E-04	1.92E-04	1.97E-04	1.97E-04	1.87E-04
Ni-63	5.29E-04	3.88E-04	3.77E-04	3.87E-04	3.87E-04	3.65E-04	3.90E-04	4.00E-04	4.00E-04	3.79E-04
Np-237 + P	5.23E-01	4.25E-01	4.12E-01	4.22E-01	4.21E-01	3.79E-01	4.63E-01	4.75E-01	4.74E-01	4.30E-01
Np-239	2.36E-05	1.97E-05	1.98E-05	2.04E-05	2.03E-05	1.87E-05	2.25E-05	2.30E-05	2.30E-05	2.13E-05
Pa-233	2.70E-04	2.26E-04	2.38E-04	2.44E-04	2.44E-04	2.30E-04	2.66E-04	2.73E-04	2.73E-04	2.59E-04
Pa-234	2.13E-05	1.76E-05	1.75E-05	1.80E-05	1.79E-05	1.65E-05	1.98E-05	2.03E-05	2.03E-05	1.88E-05
Pa-234m	2.54E-15	6.63E-17	1.26E-18	1.29E-18	1.29E-18	1.15E-18	9.48E-19	9.71E-19	9.68E-19	8.82E-19
Pb-212 + P	2.74E-03	2.19E-03	2.05E-03	2.10E-03	2.09E-03	1.86E-03	2.31E-03	2.37E-03	2.36E-03	2.11E-03
Pb-214 + P	2.49E-04	1.80E-04	1.41E-04	1.45E-04	1.44E-04	1.41E-04	1.53E-04	1.57E-04	1.57E-04	1.42E-04

Location	M	N	S	S	S	S	Z	Z	Z	Z
Release Heights (m)	0	0	0	12	16	44	0	12	16	44
MaxIndSector	S	WNW	W	W	W	W	WSW	WSW	WSW	WSW
Distance (m)	6180	8178	9105	9105	9105	9105	9490	9490	9490	9490
Pm-144	1.24E-02	1.10E-02	1.22E-02	1.25E-02	1.25E-02	1.19E-02	1.39E-02	1.42E-02	1.42E-02	1.37E-02
Pm-146	2.91E-02	2.58E-02	2.86E-02	2.93E-02	2.93E-02	2.81E-02	3.26E-02	3.34E-02	3.34E-02	3.21E-02
Pm-147	1.64E-04	1.29E-04	1.26E-04	1.29E-04	1.29E-04	1.18E-04	1.38E-04	1.42E-04	1.42E-04	1.31E-04
Pm-148	1.45E-04	1.22E-04	1.28E-04	1.32E-04	1.32E-04	1.24E-04	1.44E-04	1.48E-04	1.48E-04	1.40E-04
Pm-148m + P	2.32E-03	2.02E-03	2.20E-03	2.25E-03	2.25E-03	2.15E-03	2.49E-03	2.55E-03	2.55E-03	2.45E-03
Pr-144	1.78E-07	1.14E-07	7.53E-08	7.71E-08	7.68E-08	6.99E-08	7.91E-08	8.10E-08	8.08E-08	7.41E-08
Pu-236	3.74E-01	3.01E-01	2.85E-01	2.92E-01	2.91E-01	2.59E-01	3.20E-01	3.29E-01	3.27E-01	2.93E-01
Pu-238	9.18E-01	7.38E-01	6.99E-01	7.18E-01	7.15E-01	6.36E-01	7.86E-01	8.07E-01	8.04E-01	7.21E-01
Pu-239 + P	1.00E+00	8.05E-01	7.63E-01	7.83E-01	7.80E-01	6.94E-01	8.58E-01	8.80E-01	8.77E-01	7.86E-01
Pu-240	1.00E+00	8.06E-01	7.63E-01	7.83E-01	7.80E-01	6.94E-01	8.58E-01	8.80E-01	8.77E-01	7.86E-01
Pu-241	1.83E-02	1.47E-02	1.39E-02	1.43E-02	1.43E-02	1.27E-02	1.57E-02	1.61E-02	1.60E-02	1.44E-02
Pu-242	9.51E-01	7.65E-01	7.24E-01	7.43E-01	7.40E-01	6.58E-01	8.14E-01	8.36E-01	8.33E-01	7.46E-01
Ra-226 + P	6.68E-01	5.66E-01	6.06E-01	6.21E-01	6.21E-01	5.91E-01	6.79E-01	6.96E-01	6.96E-01	6.65E-01
Ra-228 + P	4.12E-01	3.28E-01	3.36E-01	3.45E-01	3.44E-01	3.25E-01	3.66E-01	3.76E-01	3.76E-01	3.56E-01
Rh-106	1.17E-21	2.54E-19	5.60E-20	5.92E-20	5.83E-20	3.91E-20	6.44E-20	6.82E-20	6.71E-20	4.42E-20
Ru-103 + P	5.75E-04	4.96E-04	5.36E-04	5.50E-04	5.50E-04	5.24E-04	6.05E-04	6.21E-04	6.21E-04	5.94E-04
Ru-106 + P	5.42E-03	4.54E-03	4.81E-03	4.93E-03	4.92E-03	4.68E-03	5.36E-03	5.49E-03	5.49E-03	5.24E-03
Sb-124	2.92E-03	2.54E-03	2.77E-03	2.84E-03	2.84E-03	2.71E-03	3.13E-03	3.21E-03	3.21E-03	3.08E-03
Sb-125 + P	9.64E-03	8.49E-03	9.36E-03	9.59E-03	9.60E-03	9.19E-03	1.06E-02	1.09E-02	1.09E-02	1.05E-02
Se-79	3.98E-02	2.91E-02	2.83E-02	2.91E-02	2.90E-02	2.74E-02	2.93E-02	3.00E-02	3.00E-02	2.85E-02
Sm-151	1.09E-04	8.67E-05	8.35E-05	8.57E-05	8.54E-05	7.74E-05	9.25E-05	9.49E-05	9.46E-05	8.62E-05
Sn-123	1.43E-03	1.11E-03	1.12E-03	1.15E-03	1.15E-03	1.08E-03	1.20E-03	1.23E-03	1.23E-03	1.16E-03
Sn-126 + P	5.13E-01	4.53E-01	5.01E-01	5.13E-01	5.13E-01	4.92E-01	5.70E-01	5.84E-01	5.85E-01	5.62E-01
Sr- 89	1.01E-03	7.80E-04	7.81E-04	8.01E-04	8.00E-04	7.54E-04	8.36E-04	8.57E-04	8.57E-04	8.11E-04
Sr-90 + P	1.61E-01	1.22E-01	1.21E-01	1.24E-01	1.24E-01	1.18E-01	1.28E-01	1.31E-01	1.31E-01	1.25E-01
Tc-99	2.77E-02	2.17E-02	2.22E-02	2.27E-02	2.27E-02	2.16E-02	2.38E-02	2.44E-02	2.44E-02	2.33E-02
Te-127	1.92E-06	1.55E-06	1.54E-02	1.58E-02	1.57E-02	1.49E-02	1.63E-06	1.68E-06	1.67E-06	1.50E-06
Te-129	7.66E-07	5.88E-07	5.16E-07	5.29E-07	5.27E-07	4.76E-07	5.73E-07	5.88E-07	5.86E-07	5.32E-07
Th-228 + P	7.29E-01	5.89E-01	5.59E-01	5.74E-01	5.71E-01	5.08E-01	6.30E-01	6.30E-01	6.44E-01	5.77E-01
Th-229 + P	1.73E+00	1.40E+00	1.34E+00	1.37E+00	1.37E+00	1.22E+00	1.50E+00	1.54E+00	1.54E+00	1.39E+00
Th-230 + P	9.80E-01	8.17E-01	8.46E-01	8.68E-01	8.67E-01	8.11E-01	9.48E-01	9.72E-01	9.71E-01	9.14E-01
Th-232 + P	1.38E+00	1.15E+00	1.18E+00	1.21E+00	1.20E+00	1.12E+00	1.32E+00	1.35E+00	1.35E+00	1.26E+00
Th-234 + P	5.40E-04	4.34E-04	4.42E-04	4.53E-04	4.53E-04	4.24E-04	4.86E-04	4.98E-04	4.98E-04	4.69E-04
Tl-208	1.86E-08	4.10E-09	1.45E-06	1.49E-06	1.49E-06	1.32E-06	4.64E-10	4.73E-10	4.72E-10	4.47E-10
U-232 + P	1.19E+00	9.77E-01	9.65E-01	9.90E-01	9.87E-01	8.99E-01	1.09E+00	1.11E+00	1.11E+00	1.02E+00
U-233 + P	1.80E+00	1.45E+00	1.39E+00	1.43E+00	1.42E+00	1.27E+00	1.56E+00	1.60E+00	1.60E+00	1.44E+00
U-234 + P	1.05E+00	8.71E-01	8.98E-01	9.20E-01	9.19E-01	8.59E-01	1.01E+00	1.03E+00	1.03E+00	9.67E-01
U-235 + P	1.01E-01	8.47E-02	8.67E-02	8.89E-02	8.88E-02	8.23E-02	9.76E-02	1.00E-01	1.00E-01	9.33E-02
U-236	6.25E-02	4.99E-02	4.78E-02	4.90E-02	4.89E-02	4.40E-02	5.32E-02	5.46E-02	5.45E-02	4.94E-02
U-238 + P	8.77E-02	7.28E-02	7.39E-02	7.58E-02	7.56E-02	6.99E-02	8.31E-02	8.52E-02	8.51E-02	7.91E-02
Xe-133	1.84E-07	1.48E-07	6.36E-10	6.50E-10	6.48E-10	5.99E-10	1.59E-07	1.57E-07	1.55E-07	1.34E-07
Xe-133m	1.73E-07	3.48E-08	1.32E-07	1.30E-07	1.28E-07	1.10E-07	1.49E-07	1.47E-07	1.45E-07	1.25E-07
Xe-135	1.42E-06	1.14E-06	1.07E-06	1.05E-06	1.04E-06	8.94E-07	1.21E-06	1.19E-06	1.18E-06	1.02E-06
Y-88	6.20E-03	5.47E-03	1.41E-07	1.39E-07	1.37E-07	1.17E-07	6.86E-03	7.03E-03	7.04E-03	6.76E-03
Y-91	6.61E-04	5.29E-04	6.03E-03	6.18E-03	6.18E-03	5.92E-03	5.89E-04	6.04E-04	6.03E-04	5.70E-04
Zn-65	2.05E-02	1.54E-02	5.38E-04	5.52E-04	5.51E-04	5.18E-04	1.62E-02	1.66E-02	1.66E-02	1.58E-02
Zr-95 + P	3.05E-03	2.68E-03	2.94E-03	3.01E-03	3.01E-03	2.88E-03	3.34E-03	3.42E-03	3.42E-03	3.29E-03

Table 2: NESHAP Dose-Release Factors for Three Rivers Landfill (TRL) in mrem/Ci (Release Rate of 1 Ci/yr)

Location	A	A	A	A	B	B	C	C	COS
Release Heights (m)	0	12	16	31	0	12	0	61	0
MaxIndSector	S	S	S	S	S	S	WNW	WNW	W
Distance (m)	9533	9533	9533	9533	2522	2522	5545	5545	9352
Ag-110m + P	8.99E-03	9.26E-03	9.24E-03	8.87E-03	4.25E-02	4.22E-02	2.31E-02	1.82E-02	1.48E-02
Am-241	4.33E-01	4.46E-01	4.41E-01	4.03E-01	2.58E+00	2.52E+00	1.20E+00	7.08E-01	6.09E-01
Am-242m + P	3.92E-01	4.04E-01	4.00E-01	3.65E-01	2.34E+00	2.28E+00	1.08E+00	6.42E-01	5.51E-01
Am-243 + P	4.55E-01	4.68E-01	4.64E-01	4.25E-01	2.68E+00	2.62E+00	1.25E+00	7.55E-01	6.47E-01
Ar-41	3.31E-06	3.22E-06	3.16E-06	2.79E-06	2.26E-05	2.10E-05	9.93E-06	5.31E-06	4.50E-06
Be-7	3.65E-05	3.77E-05	3.75E-05	3.60E-05	1.73E-04	1.72E-04	9.41E-05	7.37E-05	6.01E-05
Bi-214 + P	2.13E-05	2.20E-05	2.17E-05	1.97E-05	4.40E-04	4.30E-04	1.31E-04	7.55E-05	3.04E-05
C-14 (CO2)	3.16E-04	3.08E-04	3.02E-04	2.69E-04	2.05E-03	1.92E-03	6.96E-04	3.76E-04	3.40E-04
Ce-141	1.03E-04	1.06E-04	1.05E-04	9.99E-05	5.40E-04	5.34E-04	2.58E-04	1.89E-04	1.51E-04
Ce-144 + P	1.57E-03	1.62E-03	1.61E-03	1.53E-03	8.11E-03	8.02E-03	3.99E-03	2.93E-03	2.37E-03
Cm-242	4.27E-02	4.40E-02	4.35E-02	3.96E-02	2.56E-01	2.50E-01	1.19E-01	6.95E-02	6.00E-02
Cm-244	2.69E-01	2.76E-01	2.74E-01	2.50E-01	1.60E+00	1.57E+00	7.04E+02	4.38E-01	3.77E-01
Cm-245 + P	4.60E-01	4.74E-01	4.69E-01	4.29E-01	2.73E+00	2.67E+00	1.27E+00	7.57E-01	6.50E-01
Co-57	5.67E-04	5.83E-04	5.82E-04	5.59E-04	2.80E-03	2.78E-03	1.39E-03	1.09E-03	8.67E-04
Co-58	1.19E-03	1.22E-03	1.22E-03	1.17E-03	5.82E-03	5.78E-03	2.95E-03	2.31E-03	1.85E-03
Co-60	5.56E-02	5.73E-02	5.72E-02	5.49E-02	2.64E-01	2.62E-01	1.42E-01	1.12E-01	9.09E-02
Cr-51	1.77E-05	1.82E-05	1.82E-05	1.74E-05	8.81E-05	8.74E-05	4.35E-05	3.40E-05	2.69E-05
Cs-134	4.97E-02	5.11E-02	5.09E-02	4.90E-02	2.62E-01	2.60E-01	1.13E-01	8.88E-02	6.69E-02
Cs-137 + P	1.03E-01	1.06E-01	1.05E-01	1.01E-01	5.30E-01	5.26E-01	2.40E-01	1.89E-01	1.45E-01
Eu-152	5.06E-02	5.21E-02	5.20E-02	4.99E-02	2.36E-01	2.34E-01	1.32E-01	1.03E-01	8.50E-02
Eu-154	3.88E-02	4.00E-02	3.99E-02	3.83E-02	1.81E-01	1.80E-01	1.01E-01	7.92E-02	6.51E-02
Eu-155	1.18E-03	1.22E-03	1.22E-03	1.16E-03	5.63E-03	5.59E-03	3.08E-03	2.38E-03	1.96E-03
F-18	2.98E-06	3.07E-06	3.04E-06	2.80E-06	2.13E-05	2.09E-05	9.47E-06	5.91E-06	4.38E-06
H-3 (Oxide)	1.82E-06	1.78E-06	1.74E-06	1.55E-06	1.15E-05	1.07E-05	4.14E-06	2.23E-06	2.05E-06
Hg-203 (vapor)	8.59E-05	8.36E-05	8.19E-05	7.24E-05	4.68E-04	4.36E-04	2.23E-04	1.20E-04	1.17E-04
I-129 (vapor)	1.17E-03	1.14E-03	1.11E-03	9.83E-04	6.35E-03	5.92E-03	3.03E-03	1.62E-03	1.59E-03
I-131 (vapor)	2.41E-04	2.35E-04	2.30E-04	2.04E-04	1.32E-03	1.23E-03	6.29E-04	3.37E-04	3.30E-04
I-133 (vapor)	4.91E-05	4.78E-05	4.68E-05	4.14E-05	2.73E-04	2.54E-04	1.29E-04	6.92E-05	6.70E-05
Kr-85	1.75E-08	1.71E-08	1.67E-08	1.48E-08	9.54E-08	8.89E-08	4.56E-08	2.44E-08	2.39E-08
Kr-85m	4.40E-07	4.29E-07	4.20E-07	3.71E-07	2.63E-06	2.45E-06	1.21E-06	6.50E-07	6.00E-07
Kr-87	1.87E-06	1.82E-06	1.79E-06	1.58E-06	1.41E-05	1.31E-05	5.99E-06	3.20E-06	2.55E-06
Kr-88 + P	7.96E-06	7.87E-06	7.73E-06	6.89E-06	5.06E-05	4.78E-05	2.30E-05	1.26E-05	1.10E-05
Mn-54	3.26E-03	3.36E-03	3.35E-03	3.21E-03	1.53E-02	1.52E-02	8.44E-03	6.63E-03	5.43E-03
Na-22	3.30E-02	3.40E-02	3.39E-02	3.26E-02	1.62E-01	1.61E-01	8.16E-02	6.41E-02	5.10E-02
Nb-94	2.09E-01	2.15E-01	2.15E-01	2.06E-01	9.72E-01	9.65E-01	5.44E-01	4.28E-01	3.52E-01
Nb-95	3.82E-04	3.94E-04	3.92E-04	3.76E-04	1.82E-03	1.81E-03	9.86E-04	7.67E-04	6.27E-04
Ni-59	1.46E-04	1.50E-04	1.50E-04	1.44E-04	8.06E-04	7.99E-04	3.16E-04	2.48E-04	1.79E-04
Ni-63	2.99E-04	3.07E-04	3.06E-04	2.94E-04	1.65E-03	1.64E-03	6.44E-04	5.05E-04	3.64E-04
Np-237 + P	2.76E-01	2.84E-01	2.82E-01	2.59E-01	1.60E+00	1.56E+00	7.52E-01	4.66E-01	3.95E-01
Np-239	1.26E-05	1.30E-05	1.29E-05	1.20E-05	6.95E-05	6.83E-05	3.44E-05	2.27E-05	1.91E-05
Pa-233	1.50E-04	1.55E-04	1.54E-04	1.47E-04	7.67E-04	7.59E-04	3.81E-04	2.84E-04	2.29E-04
Pa-234	1.11E-05	1.14E-05	1.13E-05	1.05E-05	6.42E-05	6.31E-05	3.13E-05	2.07E-05	1.68E-05
Pa-234m	3.65E-19	3.76E-19	3.71E-19	3.36E-19	4.69E-10	4.60E-10	1.47E-10	9.72E-11	7.95E-19
Pb-212 + P	1.40E-03	1.44E-03	1.42E-03	1.29E-03	8.67E-03	8.47E-03	3.98E-03	2.32E-03	1.96E-03
Pb-214 + P	9.37E-05	9.64E-05	9.54E-05	8.67E-05	1.06E-03	1.04E-03	4.01E-04	2.32E-04	1.32E-04

Location	A	A	A	A	B	B	C	C	COS
Release Heights (m)	0	12	16	31	0	12	0	61	0
MaxIndSector	S	S	S	S	S	S	WNW	WNW	W
Distance (m)	9533	9533	9533	9533	2522	2522	5545	5545	9352
Pm-144	7.02E-03	7.24E-03	7.22E-03	6.93E-03	3.29E-02	3.27E-02	1.83E-02	1.43E-02	1.17E-02
Pm-146	1.65E-02	1.70E-02	1.69E-02	1.62E-02	7.69E-02	7.64E-02	4.29E-02	3.36E-02	2.76E-02
Pm-147	8.89E-05	9.14E-05	9.08E-05	8.50E-05	5.03E-04	4.94E-04	2.24E-04	1.51E-04	1.21E-04
Pm-148	8.02E-05	8.26E-05	8.22E-05	7.80E-05	4.11E-04	4.06E-04	2.07E-04	1.52E-04	1.24E-04
Pm-148m + P	1.31E-03	1.35E-03	1.34E-03	1.29E-03	6.28E-03	6.23E-03	4.01E-04	2.32E-04	2.12E-03
Pr-144	4.73E-08	4.88E-08	4.83E-08	4.40E-08	1.17E-06	1.14E-06	3.27E-07	1.93E-07	6.88E-08
Pu-236	1.95E-01	2.00E-01	1.98E-01	1.81E-01	1.16E+00	1.13E+00	5.39E-01	3.17E-01	2.73E-01
Pu-238	4.78E-01	4.92E-01	4.87E-01	4.45E-01	2.85E+00	2.79E+00	1.32E+00	7.80E-01	6.71E-01
Pu-239 + P	5.21E-01	5.37E-01	5.31E-01	4.85E-01	3.11E+00	3.04E+00	1.44E+00	8.51E-01	7.32E-01
Pu-240	5.21E-01	5.37E-01	5.31E-01	4.85E-01	3.11E+00	3.04E+00	1.44E+00	8.51E-01	7.32E-01
Pu-241	9.53E-03	9.81E-03	9.71E-03	8.87E-03	5.68E-02	5.55E-02	2.64E-02	1.56E-02	1.34E-02
Pu-242	4.95E-01	5.09E-01	5.04E-01	4.60E-01	2.95E+00	2.88E+00	1.37E+00	8.08E-01	6.95E-01
Ra-226 + P	3.76E-01	3.87E-01	3.86E-01	3.69E-01	1.86E+00	1.84E+00	9.44E-01	7.27E-01	5.85E-01
Ra-228 + P	2.31E-01	2.37E-01	2.37E-01	2.26E-01	1.21E+00	1.20E+00	5.50E-01	4.18E-01	3.25E-01
Rh-106	3.03E-21	3.04E-21	3.05E-21	3.05E-21	3.02E-13	2.99E-13	1.31E-18	8.95E-19	6.02E-20
Ru-103 + P	3.23E-04	3.33E-04	3.32E-04	3.18E-04	1.57E-03	1.56E-03	8.26E-04	6.38E-04	5.18E-04
Ru-106 + P	3.04E-03	3.13E-03	3.12E-03	2.98E-03	1.53E-02	1.51E-02	7.58E-03	5.80E-03	4.64E-03
Sb-124	1.65E-03	1.70E-03	1.69E-03	1.62E-03	7.88E-03	7.83E-03	4.22E-03	3.28E-03	2.67E-03
Sb-125 + P	5.45E-03	5.61E-03	5.59E-03	5.37E-03	2.56E-02	2.54E-02	1.41E-02	1.10E-02	9.04E-03
Se-79	2.25E-02	2.31E-02	2.31E-02	2.22E-02	1.24E-01	1.23E-01	4.83E-02	3.80E-02	2.74E-02
Sm-151	5.82E-05	5.99E-05	5.94E-05	5.51E-05	3.36E-04	3.30E-04	1.52E-04	9.73E-05	8.03E-03
Sn-123	8.05E-04	8.28E-04	8.25E-04	7.89E-04	4.32E-03	4.28E-03	1.86E-03	1.42E-03	1.08E-03
Sn-126 + P	2.90E-01	2.99E-01	2.98E-01	2.86E-01	1.36E+00	1.35E+00	7.52E-01	5.91E-01	4.84E-01
Sr- 89	5.67E-04	5.83E-04	5.81E-04	5.56E-04	3.05E-03	3.02E-03	1.31E-03	9.95E-04	7.54E-04
Sr-90 + P	9.09E-02	9.34E-02	9.32E-02	8.96E-02	4.89E-01	4.85E-01	2.02E-01	1.59E-01	1.17E-01
Tc-99	1.57E-02	1.61E-02	1.61E-02	1.55E-02	8.23E-02	8.17E-02	3.60E-02	2.83E-02	2.14E-02
Te-127	9.81E-07	1.01E-06	9.99E-07	9.12E-07	6.09E-06	5.95E-06	2.81E-06	1.66E-06	1.39E-06
Te-129	3.39E-07	3.49E-07	3.46E-07	3.17E-07	2.82E-06	2.76E-06	1.18E-06	7.12E-07	4.89E-07
Th-228 + P	3.79E-01	3.91E-01	3.87E-01	3.53E-01	2.26E+00	2.21E+00	1.05E+00	6.22E-01	5.36E-01
Th-229 + P	9.05E-01	9.32E-01	9.23E-01	8.46E-01	5.32E+00	5.21E+00	2.49E+00	1.50E+00	1.28E+00
Th-230 + P	5.40E-01	5.56E-01	5.53E-01	5.23E-01	2.82E+00	2.78E+00	1.39E+00	1.00E+00	8.16E-01
Th-232 + P	7.57E-01	7.80E-01	7.75E-01	7.31E-01	4.01E+00	3.96E+00	1.96E+00	1.38E+00	1.13E+00
Th-234 + P	2.99E-04	3.08E-04	3.06E-04	2.91E-04	1.59E-03	1.57E-03	7.35E-04	5.39E-04	4.26E-04
Tl-208	2.24E-10	2.31E-10	2.28E-10	2.06E-10	4.09E-06	4.01E-06	1.04E-07	5.94E-08	4.68E-10
U-232 + P	6.34E-01	6.53E-01	6.48E-01	6.00E-01	3.57E+00	3.50E+00	1.71E+00	1.10E+00	9.28E-01
U-233 + P	9.42E-01	9.69E-01	9.60E-01	8.80E-01	5.54E+00	5.42E+00	2.58E+00	1.56E+00	1.33E+00
U-234 + P	5.75E-01	5.92E-01	5.89E-01	5.56E-01	3.03E+00	2.99E+00	1.48E+00	1.06E+00	8.65E-01
U-235 + P	5.52E-02	5.68E-02	5.65E-02	5.30E-02	2.94E-01	2.90E-01	1.46E-01	1.01E-01	8.35E-02
U-236	3.30E-02	3.40E-02	3.37E-02	3.11E-02	1.93E-01	1.89E-01	8.82E-02	5.48E-02	4.59E-02
U-238 + P	4.75E-02	4.89E-02	4.86E-02	4.55E-02	2.57E-01	2.53E-01	1.26E-01	8.57E-02	7.11E-02
Xe-133	9.92E-08	9.66E-08	9.46E-08	8.37E-08	5.42E-07	5.05E-07	2.58E-07	1.38E-07	1.35E-07
Xe-133m	9.28E-08	9.04E-08	8.85E-08	7.83E-08	5.09E-07	4.75E-07	2.43E-07	1.30E-07	1.27E-07
Xe-135	7.53E-07	7.33E-07	7.18E-07	6.35E-07	4.29E-06	4.00E-06	2.02E-06	1.08E-06	1.03E-06
Y-88	3.50E-03	3.61E-08	3.60E-03	3.45E-03	1.65E-02	1.63E-02	9.08E-03	7.11E-03	5.83E-03
Y-91	3.68E-04	3.79E-04	3.77E-04	3.59E-04	1.95E-03	1.93E-03	8.91E-04	6.63E-04	5.19E-04
Zn-65	1.16E-02	1.19E-02	1.19E-02	1.14E-02	6.26E-02	6.21E-02	2.56E-02	2.02E-02	1.48E-02
Zr-95 + P	1.72E-03	1.77E-03	1.77E-03	1.69E-03	8.15E-03	8.09E-03	4.45E-03	3.46E-03	2.84E-03

Location	COS	E	F	F	F	F	F	H	H
Release Heights (m)	61	0	0	33.5	40	44	61	0	16
MaxIndSector	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
Distance (m)	9352	7563	6177	6177	6177	6177	6177	9397	9397
Ag-110m + P	1.39E-02	2.33E-02	3.60E-02	3.40E-02	3.28E-02	3.21E-02	2.91E-02	1.76E-02	1.81E-02
Am-241	4.95E-01	1.01E+00	1.90E+00	1.67E+00	1.56E+00	1.49E+00	1.21E+00	7.25E-01	7.41E-01
Am-242m + P	4.48E-01	9.17E-01	1.72E+00	1.51E+00	1.41E+00	1.35E+00	1.10E+00	6.56E-01	6.71E-01
Am-243 + P	5.32E-01	1.07E+00	1.99E+00	1.75E+00	1.64E+00	1.57E+00	1.29E+00	7.71E-01	7.88E-01
Ar-41	3.33E-06	7.84E-06	1.58E-05	1.29E-05	1.20E-05	1.14E-05	9.22E-06	5.36E-06	5.23E-06
Be-7	5.65E-05	9.46E-05	1.46E-04	1.38E-04	1.33E-04	1.30E-04	1.18E-04	7.15E-05	7.33E-05
Bi-214 + P	2.53E-05	6.95E-05	2.04E-04	1.79E-04	1.67E-04	1.60E-04	1.30E-04	3.61E-05	3.69E-05
C-14 (CO2)	2.34E-04	5.04E-04	8.45E-04	6.80E-04	6.27E-04	5.95E-04	4.70E-04	3.67E-04	3.56E-04
Ce-141	1.37E-04	2.37E-04	3.83E-04	3.53E-04	3.37E-04	3.27E-04	2.88E-04	1.77E-04	1.81E-04
Ce-144 + P	2.16E-03	3.73E-03	5.99E-03	5.54E-03	5.31E-03	5.16E-03	4.56E-03	2.78E-03	2.85E-03
Cm-242	4.85E-02	1.00E-01	1.89E-01	1.66E-01	1.55E-01	1.48E-01	1.20E-01	7.15E-02	7.31E-02
Cm-244	3.06E-01	6.28E-01	1.18E+00	1.03E+00	9.66E-01	9.23E-01	7.51E-01	4.49E-01	4.59E-01
Cm-245 + P	5.30E-01	1.08E+00	2.02E+00	1.77E+00	1.66E+00	1.58E+00	1.29E+00	7.73E-01	7.91E-01
Co-57	8.11E-04	1.34E-03	2.04E-03	1.92E-03	1.86E-03	1.81E-03	1.64E-03	1.01E-03	1.04E-03
Co-58	1.73E-03	2.87E-03	4.39E-03	4.14E-03	3.99E-03	3.90E-03	3.53E-03	2.17E-03	2.22E-03
Co-60	8.55E-02	1.43E-01	2.20E-01	2.07E-01	2.00E-01	1.96E-01	1.78E-01	1.08E-01	1.11E-01
Cr-51	2.51E-05	4.15E-05	6.35E-05	5.98E-05	5.77E-05	5.63E-05	5.09E-05	3.14E-05	3.22E-05
Cs-134	6.20E-02	9.92E-02	1.47E-01	1.38E-01	1.33E-01	1.30E-01	1.18E-01	7.50E-02	7.69E-02
Cs-137 + P	1.35E-01	2.18E-01	3.26E-01	3.07E-01	2.96E-01	2.89E-01	2.62E-01	1.65E-01	1.69E-01
Eu-152	8.01E-02	1.34E-01	2.08E-01	1.97E-01	1.90E-01	1.85E-01	1.68E-01	1.02E-01	1.04E-01
Eu-154	6.13E-02	1.03E-01	1.60E-01	1.51E-01	1.45E-01	1.42E-01	1.29E-01	7.78E-02	7.98E-02
Eu-155	1.83E-03	3.09E-03	4.83E-03	4.54E-03	4.38E-03	4.27E-03	3.86E-03	2.33E-03	2.39E-03
F-18	3.70E-06	7.67E-06	1.51E-05	1.34E-05	1.26E-05	1.21E-05	1.01E-05	5.24E-06	5.36E-06
H-3 (Oxide)	1.43E-06	3.11E-06	5.35E-06	4.32E-06	3.99E-06	3.79E-06	3.01E-06	2.27E-06	2.20E-06
Hg-203 (vapor)	8.60E-05	1.92E-04	3.57E-04	2.92E-04	2.71E-04	2.58E-04	2.08E-04	1.40E-04	1.36E-04
I-129 (vapor)	1.17E-03	2.61E-03	4.84E-03	3.96E-03	3.68E-03	3.51E-03	2.82E-03	1.90E-03	1.85E-03
I-131 (vapor)	2.42E-04	5.41E-04	1.00E-03	8.22E-04	7.63E-04	7.27E-04	5.85E-04	3.93E-04	3.83E-04
I-133 (vapor)	4.92E-05	1.11E-04	2.06E-04	1.69E-04	1.57E-04	1.50E-04	1.20E-04	7.99E-05	7.79E-05
Kr-85	1.75E-08	3.92E-08	7.28E-08	5.96E-08	5.53E-08	5.27E-08	4.24E-08	2.85E-08	2.78E-08
Kr-85m	4.42E-07	1.01E-06	1.93E-06	1.58E-06	1.47E-06	1.40E-06	1.13E-06	7.15E-07	6.98E-07
Kr-87	1.89E-06	4.55E-06	9.48E-06	7.78E-06	7.22E-06	6.88E-06	5.55E-06	3.03E-06	2.96E-06
Kr-88 + P	8.32E-06	1.87E-05	3.66E-05	3.06E-05	2.84E-05	2.71E-05	2.19E-05	1.31E-05	1.29E-05
Mn-54	5.12E-03	8.57E-03	1.32E-02	1.25E-02	1.21E-02	1.18E-02	1.07E-02	6.48E-03	6.64E-03
Na-22	4.78E-02	7.89E-02	1.20E-01	1.14E-01	1.10E-01	1.07E-01	9.71E-02	5.97E-02	6.12E-02
Nb-94	3.32E-01	5.56E-01	8.60E-01	8.13E-01	7.85E-01	7.67E-01	6.97E-01	4.21E-01	4.31E-01
Nb-95	5.88E-04	9.88E-04	1.54E-03	1.45E-03	1.40E-03	1.36E-03	1.23E-03	7.46E-04	7.65E-04
Ni-59	1.64E-04	2.58E-04	3.74E-04	3.50E-04	3.37E-04	3.29E-04	2.96E-04	1.95E-04	2.00E-04
Ni-63	3.34E-04	5.24E-04	7.60E-04	7.12E-04	6.85E-04	6.68E-04	6.01E-04	3.95E-04	4.05E-04
Np-237 + P	3.30E-01	6.50E-01	1.19E+00	1.05E+00	9.85E-01	9.45E-01	7.83E-01	4.70E-01	4.81E-01
Np-239	1.66E-05	3.12E-05	5.46E-05	4.92E-05	4.65E-05	4.48E-05	3.82E-05	2.28E-05	2.33E-05
Pa-233	2.10E-04	3.60E-04	5.73E-04	5.32E-04	5.10E-04	4.97E-04	4.41E-04	2.69E-04	2.76E-04
Pa-234	1.46E-05	2.79E-05	4.98E-05	4.49E-05	4.25E-05	4.10E-05	3.49E-05	2.01E-05	2.06E-05
Pa-234m	6.52E-19	1.05E-16	1.70E-13	1.60E-13	1.55E-13	1.52E-13	1.36E-13	1.07E-18	1.09E-18
Pb-212 + P	1.58E-03	3.31E-03	6.38E-03	5.57E-03	5.19E-03	4.96E-03	4.02E-03	2.34E-03	2.40E-03
Pb-214 + P	1.08E-04	2.64E-04	5.21E-03	4.90E-03	4.72E-03	4.61E-03	4.16E-03	1.57E-04	1.61E-04

Location	COS	E	F	F	F	F	F	H	H
Release Heights (m)	61	0	0	33.5	40	44	61	0	16
MaxIndSector	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
Distance (m)	9352	7563	6177	6177	6177	6177	6177	9397	9397
Pm-144	1.11E-02	1.86E-02	2.87E-02	2.71E-02	2.62E-02	2.56E-02	2.32E-02	1.40E-02	1.44E-02
Pm-146	2.60E-02	4.36E-02	6.76E-02	6.39E-02	6.17E-02	6.03E-02	5.47E-02	3.30E-02	3.38E-02
Pm-147	1.05E-04	1.92E-04	3.27E-04	2.94E-04	2.78E-04	2.68E-04	2.28E-04	1.40E-04	1.44E-04
Pm-148	1.13E-04	1.96E-04	3.17E-04	2.93E-04	2.81E-04	2.73E-04	2.41E-04	1.46E-04	1.50E-04
Pm-148m + P	1.99E-03	3.35E-03	5.21E-03	4.90E-03	4.72E-03	4.61E-03	4.16E-03	2.52E-03	2.59E-03
Pr-144	5.81E-08	1.65E-07	5.09E-07	4.49E-07	4.21E-07	4.03E-07	3.32E-07	8.18E-08	8.36E-08
Pu-236	2.22E-01	4.55E-01	8.56E-01	7.49E-01	7.00E-01	6.69E-01	5.44E-01	3.25E-01	3.32E-01
Pu-238	5.45E-01	1.12E+00	2.10E+00	1.84E+00	1.72E+00	1.64E+00	1.34E+00	7.98E-01	8.16E-01
Pu-239 + P	5.94E-01	1.22E+00	2.29E+00	2.00E+00	1.87E+00	1.79E+00	1.46E+00	8.71E-01	8.91E-01
Pu-240	5.94E-01	1.22E+00	2.29E+00	2.00E+00	1.87E+00	1.79E+00	1.46E+00	8.71E-01	8.91E-01
Pu-241	1.09E-02	2.22E-02	4.18E-02	3.66E-02	3.42E-02	3.27E-02	2.66E-02	1.59E-02	1.63E-02
Pu-242	5.64E-01	1.16E+00	2.17E+00	1.90E+00	1.78E+00	1.70E+00	1.38E+00	8.27E-01	8.45E-01
Ra-226 + P	5.44E-01	9.12E-01	1.42E+00	1.33E+00	1.28E+00	1.25E+00	1.12E+00	6.88E-01	7.05E-01
Ra-228 + P	2.97E-01	4.94E-01	7.64E-01	7.11E-01	6.83E-01	6.65E-01	5.93E-01	3.71E-01	3.80E-01
Rh-106	2.68E-20	2.97E-19	4.53E-18	4.39E-18	4.29E-18	4.22E-18	3.88E-18	6.23E-20	6.49E-20
Ru-103 + P	4.83E-04	8.13E-04	1.27E-03	1.19E-03	1.15E-03	1.12E-03	1.01E-03	6.13E-04	6.29E-04
Ru-106 + P	4.30E-03	7.21E-03	1.12E-02	1.05E-02	1.01E-02	9.86E-03	8.85E-03	5.43E-03	5.56E-03
Sb-124	2.51E-03	4.20E-03	6.53E-03	6.15E-03	5.93E-03	5.79E-03	5.23E-03	3.17E-03	3.25E-03
Sb-125 + P	8.51E-03	1.43E-02	2.21E-02	2.08E-02	2.01E-02	1.97E-02	1.78E-02	1.08E-02	1.11E-02
Se-79	2.51E-02	3.92E-02	5.66E-02	5.31E-02	5.11E-02	4.98E-02	4.49E-02	2.96E-02	3.04E-02
Sm-151	6.77E-05	1.29E-04	2.30E-04	2.04E-04	1.92E-04	1.85E-04	1.54E-04	9.38E-05	9.60E-05
Sn-123	9.87E-04	1.62E-03	2.46E-03	2.30E-03	2.20E-03	2.15E-03	1.91E-03	1.21E-03	1.24E-03
Sn-126 + P	4.56E-01	7.63E-01	1.18E+00	1.11E+00	1.08E+00	1.05E+00	9.55E-01	5.77E-01	5.92E-01
Sr- 89	6.88E-04	1.13E-03	1.72E-03	1.60E-03	1.54E-03	1.49E-03	1.33E-03	8.47E-04	8.68E-04
Sr-90 + P	1.08E-01	1.72E-01	2.52E-01	2.36E-01	2.28E-01	2.22E-01	2.01E-01	1.30E-01	1.33E-01
Tc-99	1.99E-02	3.19E-02	4.74E-02	4.46E-02	4.30E-02	4.20E-02	3.80E-02	2.41E-02	2.47E-02
Te-127	1.13E-06	2.35E-06	4.49E-06	3.93E-06	3.68E-06	3.51E-06	2.87E-06	1.66E-06	1.70E-06
Te-129	4.08E-07	8.92E-07	1.87E-06	1.65E-06	1.55E-06	1.48E-06	1.22E-06	5.85E-07	5.98E-07
Th-228 + P	4.36E-01	8.94E-01	1.68E+00	1.47E+00	1.38E+00	1.31E+00	1.07E+00	6.39E-01	6.54E-01
Th-229 + P	1.06E+00	2.12E+00	3.94E+00	3.46E+00	3.24E+00	3.10E+00	2.55E+00	1.53E+00	1.56E+00
Th-230 + P	7.35E-01	1.29E+00	2.11E+00	1.94E+00	1.86E+00	1.80E+00	1.58E+00	9.61E-01	9.84E-01
Th-232 + P	1.01E+00	1.80E+00	2.99E+00	2.73E+00	2.60E+00	2.52E+00	2.20E+00	1.33E+00	1.37E+00
Th-234 + P	3.85E-04	6.60E-04	1.06E-03	9.74E-04	9.31E-04	9.03E-04	7.95E-04	4.92E-04	5.04E-04
Tl-208	4.02E-10	5.37E-09	1.49E-07	1.35E-07	1.27E-07	1.23E-07	1.04E-07	5.21E-10	5.30E-10
U-232 + P	7.90E-01	1.51E+00	2.69E+00	2.69E+00	2.27E+00	2.18E+00	1.83E+00	1.10E+00	1.13E+00
U-233 + P	1.10E+00	2.21E+00	4.09E+00	3.60E+00	3.37E+00	3.22E+00	2.65E+00	1.59E+00	1.62E+00
U-234 + P	7.76E-01	1.37E+00	2.26E+00	2.07E+00	1.98E+00	1.92E+00	1.68E+00	1.02E+00	1.04E+00
U-235 + P	7.39E-02	1.34E-01	2.27E-01	2.06E-01	1.96E-01	1.90E-01	1.64E-01	9.90E-02	1.01E-01
U-236	3.82E-02	7.48E-02	1.36E-01	1.20E-01	1.13E-01	1.08E-01	8.94E-02	5.40E-02	5.53E-02
U-238 + P	6.25E-02	1.14E-01	1.95E-01	1.77E-01	1.68E-01	1.62E-01	1.39E-01	8.42E-02	8.63E-02
Xe-133	9.93E-08	2.22E-07	4.13E-07	3.38E-07	3.14E-07	2.99E-07	2.41E-07	1.61E-07	1.57E-07
Xe-133m	9.34E-08	2.08E-07	3.87E-07	3.17E-07	2.94E-07	2.81E-07	2.26E-07	1.52E-07	1.48E-07
Xe-135	7.55E-07	1.71E-06	3.21E-06	2.63E-06	2.44E-06	2.33E-06	1.88E-06	1.22E-06	1.19E-06
Y-88	5.48E-03	9.19E-03	1.42E-02	1.34E-02	1.30E-02	1.27E-02	1.15E-02	6.95E-03	7.12E-03
Y-91	4.72E-04	7.98E-04	1.26E-03	1.16E-03	1.11E-03	1.08E-03	9.59E-04	5.97E-04	6.11E-04
Zn-65	1.37E-02	2.17E-02	3.17E-02	2.98E-02	2.87E-02	2.80E-02	2.53E-02	1.64E-02	1.68E-02
Zr-95 + P	2.66E-03	4.48E-03	6.97E-03	6.56E-03	6.33E-03	6.18E-03	5.59E-03	3.38E-03	3.47E-03

Location	H	H	H	H	K	KIS	K	K	L	L
Release Heights (m)	31	40	44	61	0	15	16	40	0	61
MaxIndSector	WSW	WSW	WSW	WSW	NW	NW	NW	NW	WNW	WNW
Distance (m)	9397	9397	9397	9397	8457	8457	8457	8457	11830	11830
Ag-110m + P	1.78E-02	1.75E-02	1.74E-02	1.66E-02	1.87E-02	1.92E-02	1.91E-02	1.76E-02	8.08E-03	7.22E-03
Am-241	7.10E-01	6.79E-01	6.64E-01	5.93E-01	9.36E-01	9.55E-01	9.52E-01	8.02E-01	3.65E-01	2.65E-01
Am-242m + P	6.43E-01	6.15E-01	6.01E-01	5.37E-01	8.47E-01	8.64E-01	8.62E-01	7.27E-01	3.30E-01	2.40E-01
Am-243 + P	7.56E-01	7.25E-01	7.10E-01	6.38E-01	9.82E-01	1.00E+00	9.99E-01	8.47E-01	3.85E-01	2.83E-01
Ar-41	4.91E-06	4.66E-06	4.54E-06	4.01E-06	7.39E-06	7.11E-06	7.08E-06	5.74E-06	2.62E-06	1.67E-06
Be-7	7.23E-05	7.11E-05	7.04E-05	6.75E-05	7.58E-05	7.78E-05	7.77E-05	7.17E-05	3.28E-05	2.93E-05
Bi-214 + P	3.55E-05	3.42E-05	3.35E-05	3.03E-05	5.92E-05	6.03E-05	6.02E-05	5.14E-05	1.25E-05	9.01E-06
C-14 (CO2)	3.29E-04	3.08E-04	2.98E-04	2.56E-04	4.72E-04	4.54E-04	4.52E-04	3.67E-04	2.31E-04	1.50E-04
Ce-141	1.77E-04	1.73E-04	1.71E-04	1.60E-04	1.99E-04	2.04E-04	2.04E-04	1.83E-04	8.79E-05	7.49E-05
Ce-144 + P	2.79E-03	2.73E-03	2.70E-03	2.54E-03	3.11E-03	3.19E-03	3.18E-03	2.87E-03	1.36E-03	1.16E-03
Cm-242	6.99E-02	6.69E-02	6.53E-02	5.82E-02	9.29E-02	9.48E-02	9.45E-02	7.94E-02	3.59E-02	2.58E-02
Cm-244	4.39E-01	4.20E-01	4.11E-01	3.67E-01	5.81E-01	5.92E-01	5.91E-01	4.98E-01	2.26E-01	1.63E-01
Cm-245 + P	7.58E-01	7.26E-01	7.10E-01	6.36E-01	9.94E-01	1.01E+00	1.01E+00	8.54E-01	3.88E-01	2.83E-01
Co-57	1.02E-03	1.00E-03	9.94E-04	9.50E-04	1.08E-03	1.11E-03	1.11E-03	1.02E-03	4.92E-04	4.40E-04
Co-58	2.19E-03	2.15E-03	2.13E-03	2.04E-03	2.31E-03	2.37E-03	2.37E-03	2.19E-03	1.04E-03	9.29E-04
Co-60	1.09E-01	1.07E-01	1.06E-01	1.02E-01	1.14E-01	1.17E-01	1.17E-01	1.08E-01	4.98E-02	4.46E-02
Cr-51	3.17E-05	3.11E-05	3.08E-05	2.94E-05	3.37E-05	3.45E-05	3.45E-05	3.18E-05	1.53E-05	1.37E-05
Cs-134	7.55E-02	7.40E-02	7.33E-02	6.98E-02	8.16E-02	8.37E-02	8.36E-02	7.72E-02	4.07E-02	3.66E-02
Cs-137 + P	1.66E-01	1.63E-01	1.61E-01	1.54E-01	1.78E-01	1.82E-01	1.82E-01	1.68E-01	8.59E-02	7.71E-02
Eu-152	1.03E-01	1.01E-01	1.00E-01	9.60E-02	1.07E-01	1.10E-01	1.10E-01	1.01E-01	4.59E-02	4.10E-02
Eu-154	7.86E-02	7.73E-02	7.67E-02	7.35E-02	8.22E-02	8.44E-02	8.43E-02	7.77E-02	3.52E-02	3.14E-02
Eu-155	2.35E-03	2.31E-03	2.29E-03	2.19E-03	2.49E-03	2.55E-03	2.55E-03	2.34E-03	1.07E-03	9.44E-04
F-18	5.17E-06	4.98E-06	4.89E-06	4.46E-06	6.77E-06	6.91E-06	6.89E-06	5.93E-06	2.38E-06	1.80E-06
H-3 (Oxide)	2.04E-06	1.91E-06	1.86E-06	1.60E-06	2.93E-06	2.82E-06	2.80E-06	2.28E-06	1.37E-06	8.86E-07
Hg-203 (vapor)	1.28E-04	1.21E-04	1.17E-04	1.03E-04	1.84E-04	1.77E-04	1.76E-04	1.43E-04	7.29E-05	4.63E-05
I-129 (vapor)	1.73E-03	1.64E-03	1.59E-03	1.40E-03	2.50E-03	2.41E-03	2.39E-03	1.94E-03	9.89E-04	6.29E-04
I-131 (vapor)	3.58E-04	3.39E-04	3.30E-04	2.91E-04	5.18E-04	4.98E-04	4.96E-04	4.01E-04	2.05E-04	1.30E-04
I-133 (vapor)	7.29E-05	6.90E-05	6.72E-05	5.92E-05	1.06E-04	1.02E-04	1.01E-04	8.18E-05	4.14E-05	2.63E-05
Kr-85	2.60E-08	2.46E-08	2.40E-08	2.11E-08	3.76E-08	3.62E-08	3.60E-08	2.91E-08	1.49E-08	9.45E-09
Kr-85m	6.54E-07	6.19E-07	6.03E-07	5.32E-07	9.61E-07	9.24E-07	9.19E-07	7.45E-07	3.63E-07	2.31E-07
Kr-87	2.78E-06	2.64E-06	2.57E-06	2.28E-06	4.26E-06	4.10E-06	4.08E-06	3.32E-06	1.44E-06	9.16E-07
Kr-88 + P	1.22E-05	1.16E-05	1.13E-05	1.00E-05	1.76E-05	1.72E-05	1.71E-05	1.40E-05	6.46E-06	4.26E-06
Mn-54	6.55E-03	6.44E-03	6.39E-03	6.12E-03	6.84E-03	7.03E-03	7.02E-03	6.48E-03	2.94E-03	2.63E-03
Na-22	6.03E-02	5.92E-02	5.87E-02	5.61E-02	6.36E-02	6.53E-02	6.52E-02	6.02E-02	2.88E-02	2.58E-02
Nb-94	4.25E-01	4.18E-01	4.15E-01	3.98E-01	4.43E-01	4.55E-01	4.55E-01	4.20E-01	1.90E-01	1.70E-01
Nb-95	7.53E-04	7.40E-04	7.34E-04	7.02E-04	7.94E-04	8.15E-04	8.14E-04	7.49E-04	3.43E-04	3.05E-04
Ni-59	1.96E-04	1.91E-04	1.89E-04	1.79E-04	2.16E-04	2.21E-04	2.21E-04	2.04E-04	1.15E-04	1.04E-04
Ni-63	3.97E-04	3.88E-04	3.84E-04	3.64E-04	4.39E-04	4.50E-04	4.49E-04	4.15E-04	2.35E-04	2.11E-04
Np-237 + P	4.62E-01	4.45E-01	4.36E-01	3.94E-01	5.88E-01	6.01E-01	5.99E-01	5.12E-01	2.34E-01	1.76E-01
Np-239	2.26E-05	2.19E-05	2.15E-05	1.99E-05	2.72E-05	2.78E-05	2.78E-05	2.42E-05	1.09E-05	8.64E-06
Pa-233	2.71E-04	2.65E-04	2.62E-04	2.48E-04	2.98E-04	3.05E-04	3.05E-04	2.76E-04	1.30E-04	1.13E-04
Pa-234	2.00E-05	1.94E-05	1.90E-05	1.76E-05	2.42E-05	2.48E-05	2.47E-05	2.16E-05	9.44E-06	7.47E-06
Pa-234m	1.06E-18	1.02E-18	9.99E-19	9.11E-19	3.15E-17	3.19E-17	3.19E-17	3.04E-17	3.04E-19	2.19E-19
Pb-212 + P	2.29E-03	2.19E-03	2.14E-03	1.90E-03	3.08E-03	3.14E-03	3.13E-03	2.62E-03	1.16E-03	8.31E-04
Pb-214 + P	1.54E-04	1.48E-04	1.45E-04	1.30E-04	2.34E-04	2.39E-04	2.38E-04	2.02E-04	6.34E-05	4.56E-05

Location	H	H	H	H	K	KIS	K	K	L	L
Release Heights (m)	31	40	44	61	0	15	16	40	0	61
MaxIndSector	WSW	WSW	WSW	WSW	NW	NW	NW	NW	WNW	WNW
Distance (m)	9397	9397	9397	9397	8457	8457	8457	8457	11830	11830
Pm-144	1.42E-02	1.39E-02	1.38E-02	1.32E-02	1.48E-02	1.52E-02	1.52E-02	1.40E-02	6.36E-03	5.68E-03
Pm-146	3.34E-02	3.28E-02	3.25E-02	3.12E-02	3.49E-02	3.58E-02	3.58E-02	3.30E-02	1.49E-02	1.33E-02
Pm-147	1.39E-04	1.35E-04	1.32E-04	1.22E-04	1.69E-04	1.73E-04	1.72E-04	1.51E-04	7.36E-05	5.93E-05
Pm-148	1.47E-04	1.43E-04	1.42E-04	1.34E-04	1.63E-04	1.67E-04	1.67E-04	1.51E-04	7.00E-05	5.98E-05
Pm-148m + P	2.55E-03	2.50E-03	2.48E-03	2.37E-03	2.70E-03	2.77E-03	2.77E-03	2.54E-03	1.17E-03	1.03E-03
Pr-144	8.08E-08	7.80E-08	7.66E-08	6.98E-08	1.37E-07	1.39E-07	1.39E-07	1.20E-07	2.61E-08	1.92E-08
Pu-236	3.18E-01	3.04E-01	2.97E-01	2.66E-01	4.21E-01	4.29E-01	4.28E-01	3.60E-01	1.64E-01	1.18E-01
Pu-238	7.82E-01	7.48E-01	7.31E-01	6.53E-01	1.03E+00	1.05E+00	1.05E+00	8.85E-01	4.02E-01	2.91E-01
Pu-239 + P	8.53E-01	8.16E-01	7.97E-01	7.12E-01	1.13E+00	1.15E+00	1.15E+00	9.65E-01	4.39E-01	3.18E-01
Pu-240	8.53E-01	8.16E-01	7.97E-01	7.12E-01	1.13E+00	1.15E+00	1.15E+00	9.65E-01	4.39E-01	3.18E-01
Pu-241	1.56E-02	1.49E-02	1.46E-02	1.30E-02	2.06E-02	2.10E-02	2.09E-02	1.76E-02	8.02E-03	5.81E-03
Pu-242	8.09E-01	7.74E-01	7.57E-01	6.76E-01	1.07E+00	1.09E+00	1.09E+00	9.16E-01	4.16E-01	3.02E-01
Ra-226 + P	6.93E-01	6.80E-01	6.73E-01	6.42E-01	7.42E-01	7.61E-01	7.60E-01	6.97E-01	3.29E-01	2.91E-01
Ra-228 + P	3.73E-01	3.65E-01	3.61E-01	3.42E-01	4.11E-01	4.21E-01	4.20E-01	3.83E-01	1.93E-01	1.69E-01
Rh-106	5.53E-20	4.68E-20	4.28E-20	2.67E-20	1.67E-19	1.69E-19	1.69E-19	1.59E-19	1.42E-19	9.26E-20
Ru-103 + P	6.19E-04	6.07E-04	6.01E-04	5.74E-04	6.58E-04	6.75E-04	6.74E-04	6.19E-04	2.87E-04	2.54E-04
Ru-106 + P	5.47E-03	5.36E-03	5.30E-03	5.05E-03	5.90E-03	6.05E-03	6.04E-03	5.53E-03	2.64E-03	2.32E-03
Sb-124	3.21E-03	3.15E-03	3.12E-03	2.98E-03	3.38E-03	3.47E-03	3.47E-03	3.19E-03	1.47E-03	1.31E-03
Sb-125 + P	1.09E-02	1.07E-02	1.06E-02	1.02E-02	1.14E-02	1.17E-02	1.17E-02	1.08E-02	4.91E-03	4.39E-03
Se-79	2.98E-02	2.91E-02	2.88E-02	2.73E-02	3.28E-02	3.36E-02	3.36E-02	3.11E-02	1.77E-02	1.59E-02
Sm-151	9.25E-05	8.91E-05	8.74E-05	7.95E-05	1.16E-04	1.19E-04	1.18E-04	1.02E-04	4.85E-05	3.75E-05
Sn-123	1.22E-03	1.19E-03	1.18E-03	1.12E-03	1.35E-03	1.38E-03	1.38E-03	1.26E-03	6.59E-04	5.81E-04
Sn-126 + P	5.84E-01	5.74E-01	5.69E-01	5.46E-01	6.09E-01	6.26E-01	6.25E-01	5.77E-01	2.62E-01	2.35E-01
Sr- 89	8.50E-04	8.31E-04	8.21E-04	7.76E-04	9.44E-04	9.67E-04	9.66E-04	8.82E-04	4.63E-04	4.07E-04
Sr-90 + P	1.30E-01	1.28E-01	1.26E-01	1.20E-01	1.42E-01	1.46E-01	1.46E-01	1.35E-01	7.32E-02	6.58E-02
Tc-99	2.43E-02	2.38E-02	2.36E-02	2.25E-02	2.62E-02	2.68E-02	2.68E-02	2.48E-02	1.29E-02	1.16E-02
Te-127	1.63E-06	1.56E-06	1.52E-06	1.36E-06	2.16E-06	2.21E-06	2.20E-06	1.85E-06	8.18E-07	5.92E-07
Te-129	5.75E-07	5.53E-07	5.42E-07	4.91E-07	7.92E-07	8.08E-07	8.06E-07	6.88E-07	2.59E-07	1.91E-07
Th-228 + P	6.26E-01	5.99E-01	5.85E-01	5.23E-01	8.26E-01	8.42E-01	8.40E-01	7.08E-01	3.20E-01	2.32E-01
Th-229 + P	1.50E+00	1.44E+00	1.41E+00	1.26E+00	1.94E+00	1.98E+00	1.98E+00	1.68E+00	7.64E-01	5.64E-01
Th-230 + P	9.62E-01	9.38E-01	9.26E-01	8.69E-01	1.09E+00	1.11E+00	1.11E+00	9.96E-01	4.67E-01	3.94E-01
Th-232 + P	1.33E+00	1.30E+00	1.28E+00	1.20E+00	1.53E+00	1.57E+00	1.57E+00	1.39E+00	6.52E-01	5.43E-01
Th-234 + P	4.93E-04	4.81E-04	4.75E-04	4.46E-04	5.56E-04	5.70E-04	5.69E-04	5.13E-04	2.52E-04	2.15E-04
Tl-208	5.20E-10	5.08E-10	5.01E-10	4.68E-10	2.95E-09	3.00E-09	3.00E-09	2.76E-09	1.80E-11	1.41E-11
U-232 + P	1.09E+00	1.05E+00	1.03E+00	9.44E-01	1.34E+00	1.37E+00	1.37E+00	1.18E+00	7.95E-01	4.20E-01
U-233 + P	1.56E+00	1.49E+00	1.46E+00	1.31E+00	2.02E+00	2.06E+00	2.06E+00	1.74E+00	7.95E-01	5.87E-01
U-234 + P	1.02E+00	9.93E-01	9.79E-01	9.18E-01	1.16E+00	1.19E+00	1.19E+00	1.06E+00	4.97E-01	4.16E-01
U-235 + P	9.87E-02	9.59E-02	9.45E-02	8.80E-02	1.15E-01	1.18E-01	1.17E-01	1.04E-01	4.78E-02	3.91E-02
U-236	5.32E-02	5.11E-02	5.00E-02	4.52E-02	6.80E-02	6.94E-02	6.92E-02	5.92E-02	2.76E-02	2.09E-02
U-238 + P	8.38E-02	8.14E-02	8.01E-02	7.44E-02	9.87E-02	1.01E-01	1.01E-01	8.88E-02	4.10E-02	3.32E-02
Xe-133	1.47E-07	1.39E-07	1.36E-07	1.19E-07	2.13E-07	2.05E-07	2.04E-07	1.65E-07	8.41E-08	5.34E-08
Xe-133m	1.38E-07	1.31E-07	1.27E-07	1.12E-07	1.99E-07	1.92E-07	1.91E-07	1.54E-07	7.86E-08	4.99E-08
Xe-135	1.12E-06	1.06E-06	1.03E-06	9.08E-07	1.63E-06	1.57E-06	1.56E-06	1.26E-06	6.30E-07	4.00E-07
Y-88	7.02E-03	6.91E-03	6.85E-03	6.56E-03	7.35E-03	7.55E-03	7.54E-03	6.95E-03	3.16E-03	2.82E-03
Y-91	5.98E-04	5.84E-04	5.77E-04	5.44E-04	6.69E-04	6.85E-04	6.84E-04	6.20E-04	3.09E-04	2.67E-04
Zn-65	1.65E-02	1.61E-02	1.60E-02	1.52E-02	1.80E-02	1.84E-02	1.84E-02	1.70E-02	9.31E-03	8.37E-03
Zr-95 + P	3.42E-03	3.36E-03	3.33E-03	3.18E-03	3.60E-03	3.69E-03	3.69E-03	3.39E-03	1.55E-03	1.37E-03

Location	M	N	S	S	S	S	Z	Z	Z	Z
Release Heights (m)	0	0	0	12	16	44	0	12	16	44
MaxIndSector	S	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
Distance (m)	8757	7138	9433	9433	9433	9433	10114	10114	10114	10114
Ag-110m + P	1.01E-02	2.11E-02	1.75E-02	1.80E-02	1.80E-02	1.73E-02	1.60E-02	1.64E-02	1.65E-02	1.59E-02
Am-241	4.93E-01	9.68E-01	7.20E-01	7.39E-01	7.37E-01	6.60E-01	6.47E-01	6.65E-01	6.63E-01	5.98E-01
Am-242m + P	4.47E-01	8.77E-01	6.52E-01	6.70E-01	6.67E-01	5.98E-01	5.86E-01	6.02E-01	6.00E-01	5.42E-01
Am-243 + P	5.18E-01	1.02E+00	7.66E-01	7.86E-01	7.84E-01	7.06E-01	6.89E-01	7.08E-01	7.06E-01	6.40E-01
Ar-41	3.83E-06	7.74E-06	5.33E-06	5.25E-06	5.20E-06	4.51E-06	4.71E-06	4.65E-06	4.60E-06	4.01E-06
Be-7	4.09E-05	8.56E-05	7.12E-05	7.30E-05	7.30E-05	7.01E-05	6.51E-05	6.67E-05	6.68E-05	6.44E-05
Bi-214 + P	2.78E-05	8.39E-05	3.56E-05	3.65E-05	3.64E-05	3.31E-05	2.84E-05	2.92E-05	2.91E-05	2.66E-05
C-14 (CO_2)	3.57E-04	5.18E-04	3.65E-04	3.59E-04	3.54E-04	2.97E-04	3.31E-04	3.25E-04	3.21E-04	2.71E-04
Ce-141	1.16E-04	2.21E-04	1.76E-04	1.80E-04	1.80E-04	1.70E-04	1.60E-04	1.64E-04	1.64E-04	1.55E-04
Ce-144 + P	1.77E-03	3.46E-03	2.77E-03	2.84E-03	2.84E-03	2.68E-03	2.52E-03	2.59E-03	2.59E-03	2.46E-03
Cm-242	4.86E-02	9.58E-02	7.11E-02	7.30E-02	7.27E-02	6.49E-02	6.38E-02	6.56E-02	6.54E-02	5.88E-02
Cm-244	3.06E-01	6.00E-01	4.46E-01	4.58E-01	4.56E-01	4.08E-01	4.01E-01	4.12E-01	4.11E-01	3.70E-01
Cm-245 + P	5.24E-01	1.03E+00	7.69E-01	7.89E-01	7.86E-01	7.06E-01	6.91E-01	7.10E-01	7.08E-01	6.40E-01
Co-57	6.34E-04	1.23E-03	1.01E-03	1.03E-03	1.03E-03	9.89E-04	9.21E-04	9.44E-04	9.44E-04	9.09E-04
Co-58	1.33E-03	2.63E-03	2.16E-03	2.21E-03	2.21E-03	2.12E-03	1.97E-03	2.02E-03	2.02E-03	1.95E-03
Co-60	6.22E-02	1.29E-01	1.07E-01	1.10E-01	1.10E-01	1.06E-01	9.82E-02	1.01E-01	1.01E-01	9.72E-02
Cr-51	1.98E-05	3.83E-05	3.12E-05	3.20E-05	3.20E-05	3.06E-05	2.86E-05	2.93E-05	2.93E-05	2.82E-05
Cs-134	5.56E-02	9.43E-02	7.46E-02	7.65E-02	7.65E-02	7.30E-02	6.83E-02	7.00E-02	7.00E-02	6.71E-02
Cs-137 + P	1.15E-01	2.04E-01	1.64E-01	1.68E-01	1.68E-01	1.61E-01	1.50E-01	1.54E-01	1.54E-01	1.48E-01
Eu-152	5.66E-02	1.21E-01	1.01E-01	1.04E-01	1.04E-01	9.97E-02	9.25E-02	9.48E-02	9.48E-02	9.16E-02
Eu-154	4.34E-02	9.27E-02	7.74E-02	7.93E-02	7.94E-02	7.63E-02	7.08E-02	7.26E-02	7.26E-02	7.01E-02
Eu-155	1.33E-03	2.80E-03	2.32E-03	2.38E-03	2.38E-03	2.28E-03	2.12E-03	2.17E-03	2.18E-03	2.09E-03
F-18	3.47E-06	7.53E-06	5.20E-06	5.33E-06	5.32E-06	4.86E-06	4.59E-06	4.71E-06	4.70E-06	4.32E-06
H-3 (Oxide)	2.06E-06	3.14E-06	2.25E-06	2.22E-06	2.19E-06	1.85E-06	2.04E-06	2.01E-06	1.98E-06	1.68E-06
Hg-203 (vapor)	9.69E-05	1.82E-04	1.39E-04	1.37E-04	1.35E-04	1.17E-04	1.26E-04	1.24E-04	1.23E-04	1.06E-04
I-129 (vapor)	1.32E-03	2.46E-03	1.89E-03	1.86E-03	1.84E-03	1.59E-03	1.70E-03	1.68E-03	1.66E-03	1.44E-03
I-131 (vapor)	2.73E-04	5.11E-04	3.90E-04	3.85E-04	3.81E-04	3.29E-04	3.53E-04	3.48E-04	3.44E-04	2.99E-04
I-133 (vapor)	5.55E-05	1.05E-04	7.94E-05	7.83E-05	7.74E-05	6.68E-05	7.16E-05	7.07E-05	6.99E-05	6.07E-05
Kr-85	1.98E-08	3.70E-08	2.83E-08	2.79E-08	2.76E-08	2.38E-08	2.56E-08	2.53E-08	2.50E-08	2.17E-08
Kr-85m	5.02E-07	9.70E-07	7.11E-07	7.01E-07	6.93E-07	6.00E-07	6.37E-07	6.28E-07	6.22E-07	5.41E-07
Kr-87	2.19E-06	4.58E-06	3.01E-06	2.97E-06	2.94E-06	2.55E-06	2.64E-06	2.60E-06	2.58E-06	2.25E-06
Kr-88 + P	9.14E-06	1.82E-05	1.30E-05	1.29E-05	1.28E-05	1.12E-05	1.16E-05	1.15E-05	1.14E-05	1.01E-05
Mn-54	3.64E-03	7.73E-03	6.45E-03	6.61E-03	6.61E-03	6.36E-03	5.90E-03	6.05E-03	6.05E-03	5.84E-03
Na-22	3.70E-02	7.24E-02	5.94E-02	6.09E-02	6.09E-02	5.84E-02	5.43E-02	5.57E-02	5.57E-02	5.37E-02
Nb-94	2.34E-01	5.00E-01	4.18E-01	4.29E-01	4.29E-01	4.13E-01	3.83E-01	3.92E-01	3.93E-01	3.79E-01
Nb-95	4.28E-04	8.95E-04	7.42E-04	7.61E-04	7.61E-04	7.30E-04	6.79E-04	6.96E-04	6.96E-04	6.71E-04
Ni-59	1.64E-04	2.52E-04	1.94E-04	1.99E-04	1.99E-04	1.88E-04	1.77E-04	1.82E-04	1.82E-04	1.73E-04
Ni-63	3.34E-04	5.13E-04	3.93E-04	4.03E-04	4.03E-04	3.82E-04	3.60E-04	3.69E-04	3.69E-04	3.51E-04
Np-237 + P	3.13E-01	6.17E-01	4.67E-01	4.79E-01	4.78E-01	4.33E-01	4.21E-01	4.32E-01	4.31E-01	3.94E-01
Np-239	1.43E-05	2.91E-05	2.27E-05	2.32E-05	2.32E-05	2.14E-05	2.05E-05	2.10E-05	2.10E-05	1.95E-05
Pa-233	1.69E-04	3.32E-04	2.68E-04	8.79E-11	2.75E-04	2.61E-04	2.44E-04	2.51E-04	2.51E-04	2.39E-04
Pa-234	1.26E-05	2.63E-05	2.00E-05	2.05E-05	2.05E-05	1.89E-05	1.80E-05	1.85E-05	1.85E-05	1.72E-05
Pa-234m	1.27E-18	1.91E-15	1.02E-18	1.04E-18	1.04E-18	9.49E-19	2.24E-19	2.28E-19	2.28E-19	2.16E-19
Pb-212 + P	1.60E-03	3.19E-03	2.33E-03	2.39E-03	2.38E-03	2.13E-03	2.08E-03	2.14E-03	2.13E-03	1.92E-03
Pb-214 + P	1.15E-04	2.87E-04	1.56E-04	1.60E-04	1.59E-04	1.44E-04	1.30E-04	1.34E-04	1.34E-04	1.21E-04

Location	M	N	S	S	S	S	Z	Z	Z	Z
Release Heights (m)	0	0	0	12	16	44	0	12	16	44
MaxIndSector	S	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
Distance (m)	8757	7138	9433	9433	9433	9433	10114	10114	10114	10114
Pm-144	7.86E-03	1.67E-02	1.40E-02	1.43E-02	1.43E-02	1.38E-02	1.28E-02	1.31E-02	1.31E-02	1.26E-02
Pm-146	1.84E-02	3.93E-02	3.28E-02	3.37E-02	3.37E-02	3.24E-02	3.00E-02	3.08E-02	3.08E-02	2.97E-02
Pm-147	1.00E-04	1.83E-04	1.40E-04	1.43E-04	1.43E-04	1.32E-04	1.26E-04	1.30E-04	1.30E-04	1.20E-04
Pm-148	9.02E-05	1.81E-04	1.46E-04	1.49E-04	1.49E-04	1.41E-04	1.33E-04	1.36E-04	1.36E-04	1.29E-04
Pm-148m + P	1.46E-03	3.04E-03	2.51E-03	2.57E-03	2.57E-03	2.47E-03	2.30E-03	2.35E-03	2.35E-03	2.27E-03
Pr-144	6.30E-08	2.04E-07	8.08E-08	8.27E-08	8.25E-08	7.56E-08	6.34E-08	6.49E-08	6.48E-08	5.98E-08
Pu-236	2.21E-01	4.35E-01	3.23E-01	3.32E-01	3.31E-01	2.96E-01	2.90E-01	2.98E-01	2.97E-01	2.68E-01
Pu-238	5.44E-01	1.07E+00	7.94E-01	8.15E-01	8.12E-01	7.27E-01	7.13E-01	7.33E-01	7.30E-01	6.58E-01
Pu-239 + P	5.93E-01	1.16E+00	8.66E-01	8.89E-01	8.85E-01	7.93E-01	7.78E-01	7.99E-01	7.97E-01	7.18E-01
Pu-240	5.94E-01	1.16E+00	8.66E-01	8.89E-01	8.85E-01	7.93E-01	7.78E-01	7.99E-01	7.97E-01	7.18E-01
Pu-241	1.08E-02	2.13E-02	1.58E-02	1.62E-02	1.62E-02	1.45E-02	1.42E-02	1.46E-02	1.46E-02	1.31E-02
Pu-242	5.63E-01	1.11E+00	8.22E-01	8.44E-01	8.41E-01	7.53E-01	7.38E-01	7.59E-01	7.56E-01	6.82E-01
Ra-226 + P	4.21E-01	8.37E-01	6.84E-01	7.01E-01	7.01E-01	6.70E-01	6.25E-01	6.41E-01	6.41E-01	6.15E-01
Ra-228 + P	2.59E-01	4.65E-01	3.69E-01	3.79E-01	3.79E-01	3.59E-01	3.37E-01	3.46E-01	3.46E-01	3.29E-01
Rh-106	8.18E-21	2.82E-21	6.32E-20	6.69E-20	6.58E-20	4.34E-20	6.65E-20	7.07E-20	6.97E-20	4.59E-20
Ru-103 + P	3.62E-04	7.41E-04	6.10E-04	6.25E-04	6.26E-04	5.99E-04	5.58E-04	5.72E-04	5.72E-04	5.50E-04
Ru-106 + P	3.41E-03	6.65E-03	5.40E-03	5.54E-03	5.54E-03	5.28E-03	4.93E-03	5.06E-03	5.06E-03	4.85E-03
Sb-124	1.84E-03	3.82E-03	3.16E-03	3.24E-03	3.24E-03	3.11E-03	2.89E-03	2.96E-03	2.96E-03	2.85E-03
Sb-125 + P	6.09E-03	1.29E-02	1.07E-02	1.10E-02	1.10E-02	1.06E-02	9.81E-03	1.01E-02	1.01E-02	9.72E-03
Se-79	2.52E-02	3.85E-02	2.95E-02	3.02E-02	3.02E-02	2.87E-02	2.70E-02	2.77E-02	2.77E-02	2.64E-02
Sm-151	6.59E-05	1.24E-04	9.33E-05	9.57E-05	9.55E-05	8.69E-05	8.42E-05	8.65E-05	8.63E-05	7.91E-05
Sn-123	9.02E-04	1.54E-03	1.21E-03	1.24E-03	1.24E-03	1.17E-03	1.10E-03	1.13E-03	1.13E-03	1.08E-03
Sn-126 + P	3.25E-01	6.88E-01	5.75E-01	5.89E-01	5.89E-01	5.67E-01	5.26E-01	5.39E-01	5.39E-01	5.21E-01
Sr- 89	6.35E-04	1.08E-03	8.43E-04	8.64E-04	8.64E-04	8.17E-04	7.69E-04	7.89E-04	7.89E-04	7.50E-04
Sr-90 + P	1.02E-01	1.65E-01	1.29E-01	1.32E-01	1.32E-01	1.26E-01	1.18E-01	1.21E-01	1.21E-01	1.16E-01
Tc-99	1.76E-02	3.02E-02	2.40E-02	2.46E-02	2.46E-02	2.35E-02	2.19E-02	2.25E-02	2.25E-02	2.16E-02
Te-127	1.12E-06	2.26E-06	1.65E-06	1.69E-06	1.69E-06	1.51E-06	1.48E-06	1.52E-06	1.51E-06	1.37E-06
Te-129	4.01E-07	9.04E-07	5.80E-07	5.95E-07	5.93E-07	5.38E-07	5.04E-07	5.18E-07	5.17E-07	4.72E-07
Th-228 + P	4.32E-01	8.53E-01	6.36E-01	6.52E-01	6.50E-01	5.82E-01	5.71E-01	5.87E-01	5.85E-01	5.28E-01
Th-229 + P	1.03E+00	2.02E+00	1.52E+00	1.56E+00	1.55E+00	1.40E+00	1.37E+00	1.40E+00	1.40E+00	1.27E+00
Th-230 + P	6.07E-01	1.20E+00	9.56E-01	9.80E-01	9.79E-01	9.21E-01	8.70E-01	8.92E-01	8.92E-01	8.43E-01
Th-232 + P	8.53E-01	1.68E+00	1.33E+00	1.36E+00	1.36E+00	1.27E+00	1.21E+00	1.24E+00	1.24E+00	1.16E+00
Th-234 + P	3.36E-04	6.21E-04	4.90E-04	5.02E-04	5.02E-04	4.72E-04	4.46E-04	4.57E-04	4.57E-04	4.33E-04
Tl-208	6.09E-10	1.92E-08	4.98E-10	5.08E-10	5.07E-10	4.79E-10	2.14E-10	2.18E-10	2.18E-10	2.07E-10
U-232 + P	7.18E-01	1.43E+00	1.10E+00	1.12E+00	1.12E+00	1.03E+00	9.90E-01	1.02E+00	1.01E+00	9.35E-01
U-233 + P	1.07E+00	2.10E+00	1.58E+00	1.62E+00	1.61E+00	1.45E+00	1.42E+00	1.46E+00	1.45E+00	1.32E+00
U-234 + P	6.48E-01	1.28E+00	1.01E+00	1.04E+00	1.04E+00	9.75E-01	9.22E-01	9.46E-01	9.45E-01	8.92E-01
U-235 + P	6.22E-02	1.25E-01	9.85E-02	1.01E-01	1.01E-01	9.40E-02	8.94E-02	9.17E-02	9.16E-02	8.59E-02
U-236	3.75E-02	7.15E-02	5.37E-02	5.51E-02	5.50E-02	4.98E-02	4.84E-02	4.97E-02	4.96E-02	4.52E-02
U-238 + P	5.36E-02	1.07E-01	8.38E-02	8.59E-02	8.58E-02	7.97E-02	7.60E-02	7.80E-02	7.79E-02	7.28E-02
Xe-133	1.12E-07	2.10E-07	1.60E-07	1.58E-07	1.56E-07	1.35E-07	1.45E-07	1.43E-07	1.41E-07	1.23E-07
Xe-133m	1.05E-07	1.97E-07	1.50E-07	1.48E-07	1.46E-07	1.26E-07	1.36E-07	1.34E-07	1.32E-07	1.15E-07
Xe-135	8.54E-07	1.62E-06	1.22E-06	1.20E-06	1.19E-06	1.02E-06	1.10E-06	1.08E-06	1.07E-06	9.29E-07
Y-88	3.92E-03	8.30E-03	6.92E-03	7.09E-03	7.09E-03	6.81E-03	6.32E-03	6.48E-03	6.49E-03	6.26E-03
Y-91	4.13E-04	7.52E-04	5.94E-04	6.09E-04	6.08E-04	5.74E-04	5.41E-04	5.55E-04	5.55E-04	5.27E-04
Zn-65	1.30E-02	2.09E-02	1.63E-02	1.67E-02	1.67E-02	1.59E-02	1.49E-02	1.53E-02	1.53E-02	1.46E-02
Zr-95 + P	1.92E-03	4.05E-03	3.37E-03	3.45E-03	3.45E-03	3.31E-03	3.08E-03	3.15E-03	3.16E-03	3.04E-03

Table 3: NESHAP Dose-Release Factors for SREL Conference Center in mrem/Ci (Release Rate of 1 Ci/yr)

Location	A	A	A	A	B	B	C	C	COS
Release Heights (m)	0	12	16	31	0	12	0	61	0
MaxIndSector	ENE	ENE	ENE	ENE	NE	NE	NNE	NNE	N
Distance (m)	12317	12317	12317	12317	16047	16047	16397	16397	14745
Ag-110m + P	1.58E-02	1.62E-02	1.62E-02	1.57E-02	1.13E-02	1.16E-02	9.29E-03	8.03E-03	1.23E-02
Am-241	7.07E-01	7.24E-01	7.18E-01	6.68E-01	5.16E-01	5.28E-01	4.45E-01	3.02E-01	5.67E-01
Am-242m + P	6.40E-01	6.56E-01	6.50E-01	6.05E-01	4.67E-01	4.78E-01	4.03E-01	2.74E-01	5.13E-01
Am-243 + P	7.47E-01	7.66E-01	7.60E-01	7.09E-01	5.45E-01	5.58E-01	4.68E-01	3.24E-01	5.98E-01
Ar-41	5.19E-06	5.07E-06	4.99E-06	4.52E-06	3.56E-06	3.49E-06	3.06E-06	1.83E-06	3.94E-06
Be-7	6.42E-05	6.59E-05	6.57E-05	6.38E-05	4.59E-05	4.71E-05	3.77E-05	3.25E-05	5.01E-05
Bi-214 + P	2.85E-05	2.92E-05	2.90E-05	2.69E-05	1.37E-05	1.40E-05	1.04E-05	7.31E-06	1.60E-05
C-14 (CO2)	3.29E-04	3.22E-04	3.17E-04	2.86E-04	2.42E-04	2.37E-04	2.13E-04	1.32E-04	2.53E-04
Ce-141	1.59E-04	1.63E-04	1.63E-04	1.56E-04	2.42E-04	2.37E-04	9.64E-05	7.87E-05	1.25E-04
Ce-144 + P	2.52E-03	2.58E-03	2.57E-03	2.47E-03	1.81E-03	1.85E-03	1.51E-03	1.24E-03	1.98E-03
Cm-242	7.00E-02	7.17E-02	7.12E-02	6.60E-02	5.12E-02	5.24E-02	4.41E-02	2.97E-02	5.62E-02
Cm-244	4.38E-01	4.49E-01	4.45E-01	4.14E-01	3.20E-01	3.28E-01	2.76E-01	1.87E-01	3.52E-01
Cm-245 + P	7.53E-01	7.71E-01	7.65E-01	7.12E-01	5.49E-01	5.63E-01	4.73E-01	3.24E-01	6.03E-01
Co-57	8.92E-04	9.15E-04	9.13E-04	8.87E-04	6.39E-04	6.55E-04	5.30E-04	4.60E-04	6.96E-04
Co-58	1.92E-03	1.97E-03	1.96E-03	1.91E-03	1.37E-03	1.41E-03	1.14E-03	9.85E-04	1.50E-03
Co-60	9.65E-02	9.90E-02	9.88E-02	9.60E-02	6.90E-02	7.08E-02	5.67E-02	4.91E-02	7.53E-02
Cr-51	2.77E-05	2.84E-05	2.83E-05	2.75E-05	1.98E-05	2.03E-05	1.65E-05	1.43E-05	2.16E-05
Cs-134	6.37E-02	6.53E-02	6.52E-02	6.33E-02	4.57E-02	4.69E-02	3.89E-02	3.41E-02	4.97E-02
Cs-137 + P	1.42E-01	1.45E-01	1.45E-01	1.41E-01	1.02E-01	1.04E-01	8.57E-02	7.49E-02	1.11E-01
Eu-152	9.16E-02	9.39E-02	9.37E-02	9.10E-02	6.54E-02	6.71E-02	5.36E-02	4.63E-02	7.14E-02
Eu-154	7.01E-02	7.19E-02	7.18E-02	6.97E-02	5.01E-02	5.14E-03	4.11E-02	3.54E-02	5.47E-02
Eu-155	2.11E-03	2.16E-03	2.15E-03	2.09E-03	1.51E-03	1.54E-03	1.24E-03	1.06E-03	1.64E-03
F-18	4.83E-06	4.95E-06	4.92E-06	4.61E-06	3.24E-06	3.32E-06	2.70E-06	1.94E-06	3.60E-06
H-3 (Oxide)	2.09E-06	2.04E-06	2.01E-06	1.81E-06	1.54E-06	1.51E-06	1.35E-06	8.31E-07	1.63E-06
Hg-203 (vapor)	1.40E-04	1.37E-04	1.35E-04	1.22E-04	1.04E-04	1.02E-04	9.16E-05	5.42E-05	1.14E-04
I-129 (vapor)	1.90E-03	1.86E-03	1.83E-03	1.66E-03	1.41E-03	1.38E-03	1.24E-03	7.36E-04	1.55E-03
I-131 (vapor)	3.94E-04	3.85E-04	3.79E-04	3.43E-04	2.92E-04	2.86E-04	2.57E-04	1.52E-04	3.22E-04
I-133 (vapor)	7.98E-05	7.81E-05	7.68E-05	6.95E-05	5.89E-05	5.76E-05	5.18E-05	3.06E-05	6.48E-05
Kr-85	2.86E-08	2.80E-08	2.75E-08	2.49E-08	2.12E-08	2.08E-08	1.87E-08	1.11E-08	2.34E-08
Kr-85m	7.07E-07	6.92E-07	6.80E-07	6.15E-07	5.08E-07	4.98E-07	4.43E-07	2.63E-07	5.61E-07
Kr-87	2.88E-06	2.82E-06	2.78E-06	2.51E-06	1.91E-06	1.88E-06	1.63E-06	9.75E-07	2.12E-06
Kr-88 + P	1.27E-05	1.26E-05	1.24E-05	1.13E-05	8.95E-06	8.87E-06	7.72E-06	4.77E-06	9.89E-06
Mn-54	5.83E-03	5.98E-03	5.97E-03	5.80E-03	4.17E-03	4.27E-03	3.41E-03	2.95E-03	4.55E-03
Na-22	5.27E-02	5.40E-02	5.39E-02	5.24E-02	3.77E-02	3.87E-02	3.13E-02	2.72E-02	4.11E-02
Nb-94	3.79E-01	3.88E-01	3.88E-01	3.77E-01	4.80E-04	4.92E-04	2.22E-01	1.92E-01	2.96E-01
Nb-95	6.71E-04	6.88E-04	6.87E-04	6.66E-04	2.71E-01	2.78E-01	3.95E-04	3.39E-04	5.24E-04
Ni-59	1.60E-04	1.64E-04	1.64E-04	1.59E-04	1.15E-04	1.18E-04	1.00E-04	8.84E-05	1.25E-04
Ni-63	3.25E-04	3.33E-04	3.32E-04	3.22E-04	2.34E-04	2.40E-04	2.04E-04	1.79E-04	2.54E-04
Np-237 + P	4.51E-01	4.62E-01	4.59E-01	4.30E-01	3.28E-01	3.36E-01	2.81E-01	1.99E-01	3.60E-01
Np-239	2.15E-05	2.20E-05	2.19E-05	2.07E-05	1.55E-05	1.59E-05	1.31E-05	9.82E-06	1.70E-05
Pa-233	2.43E-04	2.49E-04	2.48E-04	2.39E-04	1.74E-04	1.79E-04	1.45E-04	1.21E-04	1.90E-04
Pa-234	1.88E-05	1.93E-05	1.92E-05	1.81E-05	1.33E-05	1.36E-05	1.12E-05	8.39E-06	1.46E-05
Pa-234m	3.02E-19	3.12E-19	3.06E-19	2.62E-19	2.08E-20	2.11E-20	5.25E-11	3.94E-11	3.94E-19
Pb-212 + P	2.29E-03	2.34E-03	2.32E-03	2.16E-03	1.65E-03	1.69E-03	1.42E-03	9.52E-04	1.82E-03
Pb-214 + P	1.36E-04	1.40E-04	1.39E-04	1.29E-04	7.73E-05	7.91E-05	6.16E-05	4.24E-05	8.76E-05

Location	A	A	A	A	B	B	C	C	COS
Release Heights (m)	0	12	16	31	0	12	0	61	0
MaxIndSector	ENE	ENE	ENE	ENE	NE	NE	NNE	NNE	N
Distance (m)	12317	12317	12317	12317	16047	16047	16397	16397	14745
Pm-144	1.26E-02	1.30E-02	1.29E-02	1.26E-02	9.04E-03	9.26E-03	7.40E-03	6.38E-03	9.86E-03
Pm-146	2.97E-02	3.05E-02	3.04E-02	2.96E-02	2.13E-02	2.18E-02	1.74E-03	1.50E-02	2.32E-02
Pm-147	1.29E-04	1.32E-04	1.31E-04	1.24E-04	9.35E-05	9.58E-05	8.02E-05	6.09E-05	1.02E-04
Pm-148	1.33E-04	1.36E-04	1.36E-04	1.31E-04	9.55E-05	9.79E-05	7.96E-05	6.52E-05	1.04E-04
Pm-148m + P	2.27E-03	2.33E-03	2.32E-03	2.25E-03	1.62E-03	1.67E-03	6.16E-05	4.24E-05	1.77E-03
Pr-144	6.16E-08	6.31E-08	6.27E-08	5.85E-08	2.76E-08	2.83E-08	2.06E-08	1.47E-08	3.28E-08
Pu-236	3.17E-01	3.25E-01	3.23E-01	3.00E-01	2.32E-01	2.37E-01	2.00E-01	1.36E-01	2.55E-01
Pu-238	7.79E-01	7.98E-01	7.92E-01	7.36E-01	5.69E-01	5.83E-01	4.90E-01	3.33E-01	6.25E-01
Pu-239 + P	8.50E-01	8.70E-01	8.64E-01	8.02E-01	6.21E-01	6.35E-01	5.35E-01	3.63E-01	6.81E-01
Pu-240	8.50E-01	8.71E-01	8.64E-01	8.03E-01	6.21E-01	6.35E-01	5.35E-01	3.63E-01	6.82E-01
Pu-241	1.55E-02	1.59E-02	1.58E-02	1.47E-02	1.13E-02	1.16E-02	9.78E-03	6.64E-03	1.25E-02
Pu-242	8.06E-01	8.26E-01	8.20E-01	7.62E-01	5.89E-01	6.03E-01	5.08E-01	3.45E-01	6.47E-01
Ra-226 + P	6.14E-01	6.29E-01	6.28E-01	6.08E-01	4.40E-01	4.51E-01	3.65E-01	3.11E-01	4.80E-01
Ra-228 + P	3.25E-01	3.33E-01	3.32E-01	3.21E-01	2.33E-01	2.39E-01	1.97E-01	1.67E-01	2.55E-01
Rh-106	7.28E-20	7.51E-20	7.39E-20	6.38E-20	2.73E-19	2.80E-19	1.38E-19	1.16E-19	2.03E-19
Ru-103 + P	5.51E-04	5.64E-04	5.63E-04	5.46E-04	3.94E-04	4.04E-04	3.25E-04	2.78E-04	4.30E-04
Ru-106 + P	4.83E-03	4.96E-03	4.94E-03	4.78E-03	3.47E-03	3.56E-03	2.89E-03	2.45E-03	3.78E-03
Sb-124	2.85E-03	2.92E-03	2.92E-03	2.83E-03	2.04E-03	2.09E-03	1.68E-03	1.44E-03	2.23E-03
Sb-125 + P	9.70E-03	9.94E-03	9.93E-03	9.64E-03	6.94E-03	7.11E-03	5.69E-03	4.91E-03	7.57E-03
Se-79	2.42E-02	2.49E-02	2.48E-02	2.41E-02	1.75E-02	1.78E-02	1.52E-02	1.35E-02	1.90E-02
Sm-151	8.82E-05	9.04E-05	8.98E-05	8.44E-05	6.42E-05	6.58E-05	5.52E-05	4.01E-05	7.03E-05
Sn-123	1.04E-03	1.07E-03	1.07E-03	1.03E-03	7.52E-04	7.72E-04	6.42E-04	5.48E-04	8.19E-04
Sn-126 + P	5.19E-01	5.32E-01	5.31E-01	5.16E-01	3.71E-01	3.80E-01	3.04E-01	2.63E-01	4.05E-01
Sr- 89	7.27E-04	7.46E-04	7.44E-04	7.18E-04	5.24E-04	5.37E-04	4.48E-04	3.81E-04	5.71E-04
Sr-90 + P	1.08E-01	1.11E-01	1.11E-01	1.08E-01	7.80E-02	8.00E-02	6.70E-02	5.89E-02	8.48E-02
Tc-99	2.06E-02	2.11E-02	2.10E-02	2.04E-02	1.48E-02	1.51E-02	1.25E-02	1.10E-02	1.61E-02
Te-127	1.61E-06	1.65E-06	1.64E-06	1.52E-06	1.16E-06	1.19E-06	9.93E-07	6.75E-07	1.28E-06
Te-129	5.32E-07	5.46E-07	5.42E-07	5.06E-07	3.43E-07	3.51E-07	2.83E-07	1.99E-07	3.82E-07
Th-228 + P	6.25E-01	6.40E-01	6.35E-01	5.90E-01	4.56E-01	4.67E-01	3.93E-01	2.67E-01	5.01E-01
Th-229 + P	1.48E+00	1.51E+00	1.50E+00	1.40E+00	1.08E+00	1.10E+00	9.26E-01	6.41E-01	1.18E+00
Th-230 + P	8.76E-01	8.98E-01	8.95E-01	8.58E-01	6.31E-01	6.47E-01	5.29E-01	4.27E-01	6.90E-01
Th-232 + P	1.22E+00	1.26E+00	1.25E+00	1.19E+00	8.83E-01	9.05E-01	7.43E-01	5.89E-01	9.66E-01
Th-234 + P	4.39E-04	4.50E-04	4.49E-04	4.31E-04	3.16E-04	3.24E-04	2.68E-04	2.19E-04	3.45E-04
Tl-208	9.72E-11	9.94E-11	9.88E-11	9.36E-11	4.82E-12	4.92E-12	2.29E-12	1.95E-12	1.25E-11
U-232 + P	1.05E+00	1.07E+00	1.07E+00	1.00E+00	7.60E-01	7.78E-01	6.46E-01	4.73E-01	8.33E-01
U-233 + P	1.54E+00	1.57E+00	1.56E+00	1.46E+00	1.12E+00	1.15E+00	9.62E-01	6.67E-01	1.23E+00
U-234 + P	9.32E-01	9.55E-01	9.52E-01	9.11E-01	6.72E-01	6.89E-01	5.64E-01	4.51E-01	7.34E-01
U-235 + P	9.19E-02	9.42E-02	9.38E-02	8.93E-02	6.64E-02	6.80E-02	5.58E-02	4.34E-02	7.26E-02
U-236	5.15E-02	5.28E-02	5.24E-02	4.91E-02	3.75E-02	3.85E-02	3.23E-02	2.29E-02	4.12E-02
U-238 + P	7.84E-02	8.04E-02	8.00E-02	7.60E-02	5.67E-02	5.81E-02	4.78E-02	3.68E-02	6.20E-02
Xe-133	1.62E-07	1.58E-07	1.56E-07	1.41E-07	1.20E-07	1.17E-07	1.06E-07	6.25E-08	1.32E-07
Xe-133m	1.51E-07	1.48E-07	1.45E-07	1.32E-07	1.12E-07	1.10E-07	9.92E-08	5.87E-08	1.23E-07
Xe-135	1.22E-06	1.19E-06	1.17E-06	1.06E-06	8.91E-07	8.72E-07	7.81E-07	4.63E-07	9.81E-07
Y-88	6.26E-03	6.41E-03	6.40E-03	6.22E-03	4.47E-03	4.58E-03	3.67E-03	3.16E-03	4.88E-03
Y-91	5.27E-04	5.41E-04	5.39E-04	5.19E-04	3.80E-04	3.89E-04	3.21E-04	2.67E-04	4.14E-04
Zn-65	1.37E-02	1.40E-02	1.40E-02	1.36E-02	9.83E-03	1.01E-02	8.45E-03	7.45E-03	1.07E-02
Zr-95 + P	3.05E-03	3.12E-03	3.12E-03	3.02E-03	2.18E-03	2.23E-03	1.79E-03	1.54E-03	2.38E-03

Location	COS	E	F	F	F	F	F	H	H
Release Heights (m)	61	0	0	33.5	40	44	61	0	16
MaxIndSector	N	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE
Distance (m)	14745	12167	12757	12757	12757	12757	12757	11458	11458
Ag-110m + P	1.12E-02	1.48E-02	1.29E-02	1.26E-02	1.23E-02	1.20E-02	1.10E-02	1.59E-02	1.63E-02
Am-241	4.27E-01	7.00E-01	6.44E-01	5.87E-01	5.52E-01	5.29E-01	4.30E-01	7.56E-01	7.70E-01
Am-242m + P	3.87E-01	6.34E-01	5.83E-01	5.32E-01	5.00E-01	4.79E-01	3.89E-01	6.85E-01	6.97E-01
Am-243 + P	4.57E-01	7.37E-01	6.76E-01	6.20E-01	5.84E-01	5.60E-01	4.58E-01	7.96E-01	8.11E-01
Ar-41	2.67E-06	5.17E-06	4.79E-06	3.99E-06	3.71E-06	3.54E-06	2.82E-06	5.67E-06	5.46E-06
Be-7	4.54E-05	6.00E-05	5.26E-05	5.13E-05	4.98E-05	4.88E-05	4.45E-05	6.45E-05	6.61E-05
Bi-214 + P	1.27E-05	2.82E-05	2.64E-05	2.42E-05	2.28E-05	2.19E-05	1.79E-05	3.39E-05	3.45E-05
C-14 (CO2)	1.70E-04	3.15E-04	3.10E-04	2.59E-04	2.42E-04	2.31E-04	1.86E-04	3.16E-04	3.22E-04
Ce-141	1.08E-04	1.52E-04	1.36E-04	1.30E-04	1.26E-04	1.22E-04	1.09E-04	1.64E-04	1.67E-04
Ce-144 + P	1.72E-03	2.39E-03	2.13E-03	2.05E-03	1.97E-03	1.93E-03	1.72E-03	2.57E-03	2.63E-03
Cm-242	4.21E-02	6.94E-02	6.40E-02	5.82E-02	5.47E-02	5.23E-02	4.23E-02	7.51E-02	7.64E-02
Cm-244	2.64E-01	4.34E-01	4.00E-01	3.64E-01	3.42E-01	3.28E-01	2.66E-01	4.69E-01	4.78E-01
Cm-245 + P	4.57E-01	7.44E-01	6.84E-01	6.25E-01	5.88E-01	5.64E-01	4.59E-01	8.04E-01	8.19E-01
Co-57	6.32E-04	8.38E-04	7.41E-04	7.23E-04	7.02E-04	6.89E-04	6.29E-04	8.99E-04	9.22E-04
Co-58	1.36E-03	1.80E-03	1.59E-03	1.55E-03	1.51E-03	1.48E-03	1.35E-03	1.93E-03	1.98E-03
Co-60	6.84E-02	9.02E-02	7.91E-02	7.72E-02	7.50E-02	7.35E-02	6.72E-02	9.68E-02	9.93E-02
Cr-51	1.96E-05	2.60E-05	2.30E-05	2.25E-05	2.18E-05	2.14E-05	1.95E-05	2.79E-05	2.86E-05
Cs-134	4.54E-02	6.04E-02	5.44E-02	5.32E-02	5.18E-02	5.08E-02	4.66E-02	6.48E-02	6.65E-02
Cs-137 + P	1.01E-01	1.34E-01	1.20E-01	1.17E-01	1.14E-01	1.12E-01	1.02E-01	1.44E-01	1.47E-01
Eu-152	6.47E-02	8.54E-02	7.46E-02	7.28E-02	7.07E-02	6.93E-02	6.33E-02	9.17E-02	9.41E-02
Eu-154	4.96E-02	6.55E-02	5.72E-02	5.58E-02	5.42E-02	5.31E-02	4.84E-02	7.03E-02	7.21E-02
Eu-155	1.48E-03	1.97E-03	1.73E-03	1.68E-03	1.63E-03	1.60E-03	1.45E-03	2.12E-03	2.17E-03
F-18	2.85E-06	4.72E-06	4.31E-06	3.99E-06	3.78E-06	3.64E-06	3.03E-06	5.20E-06	5.30E-06
H-3 (Oxide)	1.09E-06	2.02E-06	1.95E-06	1.63E-06	1.52E-06	1.45E-06	1.17E-06	2.17E-06	2.06E-06
Hg-203 (vapor)	7.64E-05	1.40E-04	1.29E-04	1.07E-04	9.99E-05	9.52E-05	7.57E-05	3.81E-04	3.90E-04
I-129 (vapor)	1.04E-03	1.90E-03	1.75E-03	1.46E-03	1.36E-03	1.29E-03	1.03E-03	3.71E-01	6.54E-01
I-131 (vapor)	2.15E-04	3.93E-04	3.63E-04	3.02E-04	2.81E-04	2.67E-04	2.13E-04	2.06E-03	3.64E-03
I-133 (vapor)	4.33E-05	7.98E-05	7.35E-05	6.12E-05	5.70E-05	5.43E-05	4.32E-05	2.77E-05	5.00E-05
Kr-85	1.56E-08	2.86E-08	2.63E-08	2.19E-08	2.04E-08	1.94E-08	1.54E-08	3.07E-08	2.96E-08
Kr-85m	3.77E-07	7.06E-07	6.52E-07	5.43E-07	5.05E-07	4.81E-07	3.83E-07	7.66E-07	7.36E-07
Kr-87	1.45E-06	2.87E-06	2.67E-06	2.22E-06	2.07E-06	1.97E-06	1.58E-06	3.18E-06	3.06E-06
Kr-88 + P	6.89E-06	1.27E-05	1.17E-05	9.99E-06	9.33E-06	8.90E-06	7.13E-06	1.38E-05	1.35E-05
Mn-54	4.12E-03	5.44E-03	4.76E-03	4.64E-03	4.51E-03	4.42E-03	4.04E-03	5.84E-03	5.99E-03
Na-22	3.74E-02	4.94E-02	4.36E-02	4.26E-02	4.14E-02	4.06E-02	3.71E-02	5.31E-02	5.44E-02
Nb-94	2.68E-01	3.53E-01	3.09E-01	3.01E-01	2.93E-01	2.87E-01	2.62E-01	3.79E-01	3.89E-01
Nb-95	4.73E-04	6.28E-04	5.51E-04	5.36E-04	5.20E-04	5.10E-04	4.64E-04	6.75E-04	6.92E-04
Ni-59	1.14E-04	1.53E-04	1.41E-04	1.38E-04	1.34E-04	1.32E-04	1.21E-04	1.65E-04	1.69E-04
Ni-63	2.32E-04	3.11E-04	2.86E-04	2.80E-04	2.72E-04	2.67E-04	2.45E-04	3.34E-04	3.43E-04
Np-237 + P	2.80E-01	4.43E-01	4.05E-01	3.73E-01	3.53E-01	3.39E-01	2.81E-01	4.78E-01	4.88E-01
Np-239	1.38E-05	2.08E-05	1.88E-05	1.76E-05	1.67E-05	1.62E-05	1.38E-05	2.24E-05	2.29E-05
Pa-233	1.67E-04	2.30E-04	2.05E-04	1.97E-04	1.90E-04	1.86E-04	1.66E-04	2.47E-04	2.53E-04
Pa-234	1.20E-05	1.82E-05	1.64E-05	1.54E-05	1.46E-05	1.41E-05	1.21E-05	1.97E-05	2.01E-05
Pa-234m	3.21E-19	3.72E-19	3.35E-19	2.80E-19	2.49E-19	2.29E-19	1.46E-19	5.36E-19	5.46E-19
Pb-212 + P	1.36E-03	2.27E-03	2.09E-03	1.90E-03	1.79E-03	1.71E-03	1.38E-03	2.46E-03	2.51E-03
Pb-214 + P	6.80E-05	1.35E-04	1.87E-03	1.82E-03	1.76E-03	1.73E-03	1.57E-03	1.55E-04	1.58E-04

Location	COS	E	F	F	F	F	F	H	H
Release Heights (m)	61	0	0	33.5	40	44	61	0	16
MaxIndSector	N	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE
Distance (m)	14745	12167	12757	12757	12757	12757	12757	11458	11458
Pm-144	8.93E-03	1.18E-02	1.03E-02	1.01E-02	9.77E-03	9.58E-03	8.74E-03	1.27E-02	1.30E-02
Pm-146	2.10E-02	2.78E-02	2.43E-02	2.37E-02	2.30E-02	2.25E-02	2.06E-02	2.98E-02	3.06E-02
Pm-147	8.35E-05	1.25E-04	1.15E-04	1.08E-04	1.03E-04	9.92E-05	8.50E-05	1.35E-04	1.38E-04
Pm-148	9.07E-05	1.26E-04	1.12E-04	1.08E-04	1.04E-04	1.01E-04	9.01E-05	1.36E-04	1.39E-04
Pm-148m + P	1.60E-03	2.13E-03	1.87E-03	1.82E-03	1.76E-03	1.73E-03	1.57E-03	2.28E-03	2.34E-03
Pr-144	2.65E-08	6.08E-08	5.69E-08	5.24E-08	4.95E-08	4.76E-08	3.93E-08	7.45E-08	7.59E-08
Pu-236	1.92E-01	3.15E-01	2.90E-01	2.64E-01	2.48E-01	2.38E-01	1.93E-01	3.40E-01	3.46E-01
Pu-238	4.70E-01	7.72E-01	7.10E-01	6.48E-01	6.09E-01	5.83E-01	4.73E-01	8.34E-01	8.49E-01
Pu-239 + P	5.13E-01	8.42E-01	7.75E-01	7.06E-01	6.64E-01	6.36E-01	5.16E-01	9.09E-01	9.26E-01
Pu-240	5.13E-01	8.42E-01	7.75E-01	7.07E-01	6.64E-01	6.36E-01	5.16E-01	9.10E-01	9.26E-01
Pu-241	9.38E-03	1.54E-02	1.42E-02	1.29E-02	1.21E-02	1.16E-02	9.43E-03	1.66E-02	1.69E-02
Pu-242	4.87E-01	7.99E-01	7.35E-01	6.71E-01	6.30E-01	6.04E-01	4.90E-01	8.63E-01	8.79E-01
Ra-226 + P	4.30E-01	5.77E-01	5.11E-01	4.96E-01	4.81E-01	4.71E-01	4.27E-01	6.20E-01	6.36E-01
Ra-228 + P	2.26E-01	3.09E-01	2.77E-01	2.69E-01	2.60E-01	2.54E-01	2.30E-01	3.32E-01	3.40E-01
Rh-106	1.74E-19	1.25E-19	8.27E-20	6.94E-20	6.20E-20	5.72E-20	3.76E-20	5.64E-20	5.75E-20
Ru-103 + P	3.86E-04	5.17E-04	4.55E-04	4.42E-04	4.29E-04	4.20E-04	3.81E-04	5.55E-04	5.69E-04
Ru-106 + P	3.38E-03	4.56E-03	4.05E-03	3.92E-03	3.80E-03	3.72E-03	3.36E-03	4.90E-03	5.02E-03
Sb-124	2.01E-03	2.67E-03	2.34E-03	2.28E-03	2.21E-03	2.17E-03	1.97E-03	2.87E-03	2.94E-03
Sb-125 + P	6.86E-03	9.06E-03	7.93E-03	7.73E-03	7.51E-03	7.36E-03	6.71E-03	9.73E-03	9.97E-03
Se-79	1.74E-02	2.32E-02	2.14E-02	2.09E-02	2.04E-02	2.00E-02	1.84E-02	2.50E-02	2.56E-02
Sm-151	5.56E-05	8.65E-05	7.93E-05	7.36E-05	6.97E-05	6.72E-05	5.63E-05	9.34E-05	9.53E-05
Sn-123	7.31E-04	9.97E-04	9.03E-04	8.76E-04	8.48E-04	8.30E-04	7.51E-04	1.07E-03	1.10E-03
Sn-126 + P	3.68E-01	4.84E-01	4.24E-01	4.13E-01	4.02E-01	3.94E-01	3.60E-01	5.20E-01	5.33E-01
Sr- 89	5.09E-04	6.95E-04	6.30E-04	6.11E-04	5.92E-04	5.79E-04	5.23E-04	7.47E-04	7.66E-04
Sr-90 + P	7.75E-02	1.03E-01	9.39E-02	9.19E-02	8.94E-02	8.77E-02	8.05E-02	1.11E-01	1.14E-01
Tc-99	1.46E-02	1.95E-02	1.75E-02	1.71E-02	1.67E-02	1.64E-02	1.50E-02	2.09E-02	2.14E-02
Te-127	9.63E-07	1.59E-06	1.47E-06	1.34E-06	1.26E-06	1.21E-06	9.79E-07	1.73E-06	1.76E-06
Te-129	2.98E-07	5.23E-07	4.82E-07	4.43E-07	4.18E-07	4.01E-07	3.30E-07	5.83E-07	5.94E-07
Th-228 + P	3.77E-01	6.18E-01	5.69E-01	5.19E-01	4.87E-01	4.67E-01	3.79E-01	6.68E-01	6.81E-01
Th-229 + P	9.04E-01	1.46E+00	1.34E+00	1.23E+00	1.16E+00	1.11E+00	9.08E-01	1.58E+00	1.61E+00
Th-230 + P	5.92E-01	8.36E-01	7.48E-01	7.14E-01	6.86E-01	6.68E-01	5.90E-01	9.00E-01	9.21E-01
Th-232 + P	8.19E-01	1.17E+00	1.00E+00	1.00E+00	9.60E-01	9.33E-01	8.16E-01	1.26E+00	1.29E+00
Th-234 + P	3.00E-04	4.20E-04	1.00E+00	3.62E-04	3.49E-04	3.40E-04	3.03E-04	4.52E-04	4.62E-04
Tl-208	1.14E-11	1.14E-10	1.04E-10	9.91E-11	9.53E-11	9.28E-11	8.12E-11	2.45E-10	2.49E-10
U-232 + P	6.64E-01	1.02E+00	9.26E-01	8.61E-01	8.17E-01	7.88E-01	6.63E-01	1.10E+00	1.12E+00
U-233 + P	9.40E-01	1.51E+00	1.39E+00	1.27E+00	1.20E+00	1.15E+00	9.44E-01	1.64E+00	1.67E+00
U-234 + P	6.27E-01	8.91E-01	7.98E-01	7.60E-01	7.30E-01	7.10E-01	6.24E-01	9.59E-01	9.81E-01
U-235 + P	6.07E-02	8.83E-02	7.93E-02	7.49E-02	7.17E-02	6.96E-02	6.04E-02	9.51E-02	9.72E-02
U-236	3.20E-02	5.07E-02	4.66E-02	4.29E-02	4.05E-02	3.90E-02	3.23E-02	5.48E-02	5.58E-02
U-238 + P	5.15E-02	7.55E-02	6.80E-02	6.41E-02	6.12E-02	5.94E-02	5.12E-02	8.14E-02	8.31E-02
Xe-133	8.81E-08	1.62E-07	1.49E-07	1.24E-07	1.15E-07	1.10E-07	8.74E-08	1.74E-07	1.67E-07
Xe-133m	8.23E-08	1.51E-07	1.39E-07	1.16E-07	1.08E-07	1.03E-07	8.17E-08	1.63E-07	1.56E-07
Xe-135	6.57E-07	1.22E-06	1.12E-06	9.35E-07	8.70E-07	8.29E-07	6.60E-07	1.31E-06	1.26E-06
Y-88	4.42E-03	5.84E-03	5.11E-03	4.98E-03	4.84E-03	4.74E-03	4.33E-03	6.27E-03	6.43E-03
Y-91	3.63E-04	2.82E-05	4.53E-04	4.36E-04	4.21E-04	4.11E-04	3.68E-04	1.08E-03	1.11E-03
Zn-65	9.77E-03	1.30E-02	1.19E-02	1.16E-02	1.13E-02	1.11E-02	1.02E-02	1.40E-02	1.44E-02
Zr-95 + P	2.15E-03	2.85E-03	2.50E-03	2.43E-03	2.36E-03	2.31E-03	2.10E-03	3.06E-03	3.14E-03

Location	H	H	H	H	K	KIS	K	K	L	L
Release Heights (m)	31	40	44	61	0	15	16	40	0	61
MaxIndSector	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	N
Distance (m)	11458	11458	11458	11458	20214	20214	20214	20214	19961	19961
Ag-110m + P	1.58E-02	1.53E-02	1.50E-02	1.39E-02	8.04E-03	8.30E-03	8.30E-03	7.86E-03	8.36E-03	7.72E-03
Am-241	7.15E-01	6.65E-01	6.41E-01	5.34E-01	3.63E-01	3.74E-01	3.74E-01	3.25E-01	3.75E-01	2.90E-01
Am-242m + P	6.47E-01	6.02E-01	5.80E-01	4.84E-01	3.29E-01	3.39E-01	3.38E-01	2.95E-01	3.39E-01	2.62E-01
Am-243 + P	7.56E-01	7.05E-01	6.80E-01	5.71E-01	3.84E-01	3.96E-01	3.95E-01	3.46E-01	3.96E-01	3.10E-01
Ar-41	4.94E-06	4.53E-06	4.35E-06	3.56E-06	2.25E-06	2.17E-06	2.16E-06	1.79E-06	2.29E-06	1.57E-06
Be-7	6.41E-05	6.20E-05	6.10E-05	5.64E-05	3.26E-05	3.37E-05	3.37E-05	3.19E-05	3.39E-05	3.13E-05
Bi-214 + P	3.22E-05	3.01E-05	2.91E-05	2.46E-05	3.73E-06	3.83E-06	3.82E-06	3.42E-06	4.10E-06	3.36E-06
C-14 (CO2)	3.00E-04	2.80E-04	2.70E-04	2.27E-04	1.79E-04	1.73E-04	1.73E-04	1.44E-04	1.75E-04	1.18E-04
Ce-141	1.60E-04	1.54E-04	1.50E-04	1.36E-04	8.15E-05	8.41E-05	8.40E-05	7.80E-05	8.42E-05	7.43E-05
Ce-144 + P	2.53E-03	2.42E-03	2.37E-03	2.15E-03	1.29E-03	1.33E-03	1.33E-03	1.23E-03	1.33E-03	1.18E-03
Cm-242	7.09E-02	6.58E-02	6.34E-02	5.26E-02	3.60E-02	3.71E-02	3.70E-02	3.21E-02	3.71E-02	2.85E-02
Cm-244	4.43E-01	4.12E-01	3.97E-01	3.31E-01	2.25E-01	2.32E-01	2.32E-01	2.02E-01	2.32E-01	1.79E-01
Cm-245 + P	7.61E-01	7.09E-01	6.83E-01	5.71E-01	3.87E-01	3.99E-01	3.98E-01	3.47E-01	3.99E-01	3.10E-01
Co-57	8.95E-04	8.67E-04	8.53E-04	7.91E-04	4.55E-04	4.70E-04	4.70E-04	4.46E-04	4.71E-04	4.35E-04
Co-58	1.92E-03	1.86E-03	1.83E-03	1.70E-03	9.78E-04	1.01E-03	1.01E-03	9.57E-04	1.01E-03	9.35E-04
Co-60	9.63E-02	9.33E-02	9.18E-02	8.50E-02	4.91E-02	5.07E-02	5.06E-02	4.80E-02	5.10E-02	4.71E-02
Cr-51	2.78E-05	2.69E-05	2.64E-05	2.45E-05	1.41E-05	1.46E-05	1.46E-05	1.38E-05	1.46E-05	1.35E-05
Cs-134	6.46E-02	6.27E-02	6.18E-02	5.75E-02	3.28E-02	3.39E-02	3.38E-02	3.22E-02	3.36E-02	3.11E-02
Cs-137 + P	1.43E-01	1.39E-01	1.37E-01	1.37E-01	7.28E-02	7.51E-02	7.51E-02	7.14E-02	7.49E-02	6.93E-02
Eu-152	9.11E-02	8.82E-02	8.68E-02	6.09E-01	4.65E-02	4.80E-02	4.80E-02	4.54E-02	4.84E-02	4.47E-02
Eu-154	6.98E-02	6.76E-02	6.65E-02	6.15E-02	3.56E-02	3.68E-02	3.67E-02	3.48E-02	3.70E-02	3.42E-02
Eu-155	2.10E-03	2.03E-03	1.99E-03	1.84E-03	1.07E-03	1.10E-03	1.10E-03	1.04E-03	1.11E-03	1.02E-03
F-18	4.97E-06	4.66E-06	4.51E-06	3.86E-06	1.91E-06	1.97E-06	1.97E-06	1.75E-06	2.00E-06	1.62E-06
H-3 (Oxide)	1.90E-06	1.75E-06	1.68E-06	1.39E-06	1.14E-06	1.11E-06	1.10E-06	9.17E-07	1.13E-06	7.61E-07
Hg-203 (vapor)	3.77E-04	3.64E-04	3.58E-04	3.29E-04	7.88E-05	7.61E-05	7.58E-05	6.25E-05	7.97E-05	5.37E-05
I-129 (vapor)	8.40E-01	9.30E-01	9.61E-01	1.01E+00	1.07E-03	1.03E-03	1.03E-03	8.49E-04	1.08E-03	7.30E-04
I-131 (vapor)	4.70E-03	5.20E-03	5.37E-03	5.62E-03	2.21E-04	2.14E-04	2.13E-04	1.75E-04	2.24E-04	1.51E-04
I-133 (vapor)	6.50E-05	7.20E-05	7.43E-05	7.72E-05	4.39E-05	4.24E-05	4.22E-05	3.48E-05	4.44E-05	3.00E-05
Kr-85	2.67E-08	2.45E-08	2.34E-08	1.92E-08	1.61E-08	1.55E-08	1.55E-08	1.28E-08	1.63E-08	1.10E-08
Kr-85m	6.65E-07	6.10E-07	5.85E-07	4.79E-07	3.57E-07	3.45E-07	3.44E-07	2.84E-07	3.63E-07	2.46E-07
Kr-87	2.77E-06	2.55E-06	2.44E-06	2.00E-06	1.11E-06	1.08E-06	1.07E-06	8.93E-07	1.14E-06	7.89E-07
Kr-88 + P	1.23E-05	1.13E-05	1.09E-05	8.95E-06	5.92E-06	5.82E-06	5.80E-06	4.87E-06	6.06E-06	4.28E-06
Mn-54	5.81E-03	5.62E-03	5.53E-03	5.12E-03	2.96E-03	3.06E-03	3.06E-03	2.90E-03	3.08E-03	2.84E-03
Na-22	5.28E-02	5.12E-02	5.04E-02	4.67E-02	2.69E-02	2.78E-02	2.77E-02	2.63E-02	2.78E-02	2.57E-02
Nb-94	3.77E-01	3.65E-01	3.59E-01	3.33E-01	1.92E-01	1.99E-01	1.98E-01	1.88E-01	2.00E-01	1.85E-01
Nb-95	6.69E-04	6.47E-04	6.36E-04	5.87E-04	3.41E-04	3.52E-04	3.52E-04	3.33E-04	3.54E-04	3.26E-04
Ni-59	1.64E-04	1.60E-04	1.57E-04	1.47E-04	8.33E-05	8.58E-05	8.58E-05	8.17E-05	8.45E-05	7.81E-05
Ni-63	3.34E-04	3.24E-04	3.19E-04	2.98E-04	1.69E-04	1.74E-04	1.74E-04	1.66E-04	1.72E-04	1.58E-04
Np-237 + P	4.56E-01	4.27E-01	4.12E-01	3.50E-01	2.32E-01	2.39E-01	2.38E-01	2.10E-01	2.39E-01	1.90E-01
Np-239	2.16E-05	2.04E-05	1.99E-05	1.73E-05	1.09E-05	1.12E-05	1.12E-05	1.01E-05	1.13E-05	9.40E-06
Pa-233	2.44E-04	2.34E-04	2.29E-04	2.09E-04	1.24E-04	1.28E-04	1.28E-04	1.19E-04	1.28E-04	1.15E-04
Pa-234	1.90E-05	1.80E-05	1.75E-05	1.52E-05	8.96E-06	9.23E-06	9.22E-06	8.33E-06	9.30E-06	7.77E-06
Pa-234m	5.01E-19	4.62E-19	4.42E-19	3.60E-19	2.48E-20	2.53E-20	2.53E-20	2.49E-20	4.73E-20	4.70E-20
Pb-212 + P	2.32E-03	2.16E-03	2.07E-03	1.72E-03	1.13E-03	1.16E-03	1.16E-03	1.01E-03	1.17E-03	8.93E-04
Pb-214 + P	1.47E-04	1.37E-04	1.32E-04	1.11E-04	2.93E-05	3.01E-05	3.00E-05	2.65E-05	3.14E-05	2.52E-05

Location	H	H	H	H	K	KIS	K	K	L	L
Release Heights (m)	31	40	44	61	0	15	16	40	0	61
MaxIndSector	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	N	N
Distance (m)	11458	11458	11458	11458	20214	20214	20214	20214	19961	19961
Pm-144	1.26E-02	1.22E-02	1.20E-02	1.11E-02	6.41E-03	6.62E-03	6.62E-03	6.27E-03	6.67E-03	6.16E-03
Pm-146	2.96E-02	2.87E-02	2.82E-02	2.61E-02	1.51E-02	1.56E-02	1.56E-02	1.48E-02	1.57E-02	1.45E-02
Pm-147	1.31E-04	1.24E-04	1.20E-04	1.05E-04	6.63E-05	6.84E-05	6.83E-05	6.17E-05	6.82E-05	5.69E-05
Pm-148	1.33E-04	1.28E-04	1.25E-04	1.13E-04	6.76E-05	6.98E-05	6.97E-05	6.48E-05	7.00E-05	6.21E-05
Pm-148m + P	2.27E-03	2.19E-03	2.15E-03	1.98E-03	1.15E-03	1.19E-03	1.19E-03	1.12E-03	1.20E-03	1.10E-03
Pr-144	7.11E-08	6.67E-08	6.46E-08	5.50E-08	6.39E-09	6.57E-09	6.56E-09	5.91E-09	7.14E-09	5.97E-09
Pu-236	3.21E-01	2.99E-01	2.88E-01	2.39E-01	1.63E-01	1.68E-01	1.68E-01	1.46E-01	1.68E-01	1.30E-01
Pu-238	7.88E-01	7.33E-01	7.06E-01	5.88E-01	4.01E-01	4.13E-01	4.12E-01	3.59E-01	4.13E-01	3.19E-01
Pu-239 + P	8.60E-01	8.00E-01	7.70E-01	6.41E-01	4.37E-01	4.50E-01	4.49E-01	3.91E-01	4.50E-01	3.48E-01
Pu-240	8.60E-01	8.00E-01	7.70E-01	6.41E-01	4.37E-01	4.50E-01	4.49E-01	3.91E-01	4.50E-01	3.48E-01
Pu-241	1.57E-02	1.46E-02	1.41E-02	1.17E-02	7.99E-03	8.23E-03	8.21E-03	7.15E-03	8.23E-03	6.35E-03
Pu-242	8.16E-01	7.59E-01	7.31E-01	6.09E-01	4.15E-01	4.27E-01	4.26E-01	3.71E-01	4.27E-01	3.30E-01
Ra-226 + P	6.15E-01	5.94E-01	5.83E-01	5.37E-01	3.13E-01	3.23E-01	3.23E-01	3.05E-01	3.24E-01	2.96E-01
Ra-228 + P	3.28E-01	3.17E-01	3.11E-01	2.85E-01	1.67E-01	1.72E-01	1.72E-01	1.62E-01	1.72E-01	1.55E-01
Rh-106	4.91E-20	4.17E-20	3.82E-20	2.39E-20	7.11E-21	7.25E-21	7.25E-21	7.00E-21	8.33E-21	7.94E-21
Ru-103 + P	5.50E-04	5.31E-04	5.22E-04	4.81E-04	2.80E-04	2.89E-04	2.89E-04	2.73E-04	2.91E-04	2.66E-04
Ru-106 + P	4.85E-03	4.68E-03	4.60E-03	4.23E-03	2.47E-03	2.55E-03	2.55E-03	2.40E-03	2.55E-03	2.32E-03
Sb-124	2.85E-03	2.75E-03	2.70E-03	2.50E-03	1.45E-03	1.50E-03	1.50E-03	1.41E-03	1.51E-03	1.38E-03
Sb-125 + P	9.66E-03	9.35E-03	9.20E-03	8.51E-03	4.93E-03	5.09E-03	5.08E-03	4.82E-03	5.12E-03	4.73E-03
Se-79	2.49E-02	2.42E-02	2.39E-02	2.23E-02	1.26E-02	1.30E-02	1.30E-02	1.24E-02	1.28E-02	1.19E-02
Sm-151	8.94E-05	8.40E-05	8.14E-05	6.98E-05	4.54E-05	4.68E-05	4.67E-05	4.16E-05	4.67E-05	3.78E-05
Sn-123	1.06E-03	1.03E-03	1.01E-03	9.27E-04	5.39E-04	5.56E-04	5.56E-04	5.23E-04	5.52E-04	5.01E-04
Sn-126 + P	5.17E-01	5.01E-01	4.93E-01	4.56E-01	2.64E-01	2.72E-01	2.72E-01	2.58E-01	2.74E-01	2.54E-01
Sr- 89	7.40E-04	7.14E-04	7.02E-04	6.45E-04	3.75E-04	3.87E-04	3.87E-04	3.64E-04	3.84E-04	3.48E-04
Sr-90 + P	1.11E-01	1.08E-01	1.06E-01	9.87E-02	5.62E-02	5.79E-02	5.79E-02	5.51E-02	5.73E-02	5.30E-02
Tc-99	2.08E-02	2.02E-02	1.99E-02	1.85E-02	1.06E-02	1.09E-02	1.09E-02	1.04E-02	1.09E-02	1.00E-02
Te-127	1.64E-06	1.52E-06	1.47E-06	1.22E-06	7.87E-07	8.11E-07	8.09E-07	7.06E-07	8.14E-07	6.30E-07
Te-129	5.55E-07	5.19E-07	5.01E-07	4.24E-07	1.82E-07	1.87E-07	1.87E-07	1.65E-07	1.91E-07	1.53E-07
Th-228 + P	6.32E-01	5.88E-01	5.66E-01	4.71E-01	3.21E-01	3.31E-01	3.30E-01	2.88E-01	3.31E-01	2.56E-01
Th-229 + P	1.49E+00	1.39E+00	1.35E+00	1.13E+00	7.60E-01	7.83E-01	7.81E-01	6.85E-01	7.83E-01	6.14E-01
Th-230 + P	8.80E-01	8.42E-01	8.23E-01	7.40E-01	4.48E-01	4.62E-01	4.62E-01	4.27E-01	4.63E-01	4.06E-01
Th-232 + P	1.23E+00	1.17E+00	1.15E+00	1.02E+00	6.26E-01	6.46E-01	6.46E-01	5.93E-01	6.48E-01	5.61E-01
Th-234 + P	4.43E-04	4.25E-04	4.16E-04	3.77E-04	2.25E-04	2.32E-04	2.32E-04	2.16E-04	2.32E-04	2.05E-04
Tl-208	2.40E-10	2.32E-10	2.28E-10	2.07E-10	1.25E-14	1.27E-14	1.27E-14	1.23E-14	2.41E-14	2.33E-14
U-232 + P	1.05E+00	9.93E-01	9.62E-01	8.29E-01	5.36E-01	5.53E-01	5.52E-01	4.93E-01	5.54E-01	4.52E-01
U-233 + P	1.55E+00	1.45E+00	1.40E+00	1.17E+00	7.89E-01	8.13E-01	8.11E-01	7.11E-01	8.14E-01	6.38E-01
U-234 + P	9.37E-01	8.95E-01	8.74E-01	7.83E-01	4.77E-01	4.92E-01	4.91E-01	4.53E-01	4.93E-01	4.29E-01
U-235 + P	9.24E-02	8.78E-02	8.56E-02	7.57E-02	4.70E-02	4.85E-02	4.84E-02	4.42E-02	4.86E-02	4.16E-02
U-236	5.22E-02	4.89E-02	4.72E-02	4.01E-02	2.65E-02	2.73E-02	2.73E-02	2.41E-02	2.73E-02	2.17E-02
U-238 + P	7.89E-02	7.49E-02	7.29E-02	6.42E-02	4.01E-02	4.14E-02	4.13E-02	3.76E-02	4.15E-02	3.52E-02
Xe-133	1.51E-07	1.38E-07	1.33E-07	1.08E-07	9.07E-08	8.76E-08	8.72E-08	7.19E-08	9.17E-08	6.18E-08
Xe-133m	1.41E-07	1.30E-07	1.24E-07	1.01E-07	8.43E-08	8.15E-08	8.11E-08	6.69E-08	8.53E-08	5.75E-08
Xe-135	1.14E-06	1.05E-06	1.00E-06	8.21E-07	6.51E-07	6.29E-07	6.26E-07	5.16E-07	6.59E-07	4.46E-07
Y-88	6.23E-03	6.03E-03	5.93E-03	5.49E-03	3.18E-03	3.28E-03	3.28E-03	3.10E-03	3.30E-03	3.05E-03
Y-91	1.07E-03	1.02E-03	1.00E-03	9.14E-04	2.71E-04	2.79E-04	2.79E-04	2.60E-04	2.79E-04	2.49E-04
Zn-65	1.40E-02	1.36E-02	1.34E-02	1.25E-02	7.08E-03	7.30E-03	7.30E-03	6.95E-03	7.22E-03	6.68E-03
Zr-95 + P	3.04E-03	2.94E-03	2.89E-03	2.66E-03	1.55E-03	1.60E-03	1.60E-03	1.51E-03	1.61E-03	1.48E-03

Location	M	N	S	S	S	S	Z	Z	Z	Z
Release Heights (m)	0	0	0	12	16	44	0	12	16	44
MaxIndSector	ENE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE
Distance (m)	12744	15693	10940	10940	10940	10940	9716	9716	9716	9716
Ag-110m + P	1.52E-02	2.11E-02	1.75E-02	1.80E-02	1.80E-02	1.73E-02	1.60E-02	1.64E-02	1.65E-02	1.59E-02
Am-241	6.76E-01	9.68E-01	7.20E-01	7.39E-01	7.37E-01	6.60E-01	6.47E-01	6.65E-01	6.63E-01	5.98E-01
Am-242m + P	6.12E-01	8.77E-01	6.52E-01	6.70E-01	6.67E-01	5.98E-01	5.86E-01	6.02E-01	6.00E-01	5.42E-01
Am-243 + P	7.15E-01	1.02E+00	7.66E-01	7.86E-01	7.84E-01	7.06E-01	6.89E-01	7.08E-01	7.06E-01	6.40E-01
Ar-41	4.91E-06	7.74E-06	5.33E-06	5.25E-06	5.20E-06	4.51E-06	4.71E-06	4.65E-06	4.60E-06	4.01E-06
Be-7	6.17E-05	8.56E-05	7.12E-05	7.30E-05	7.30E-05	7.01E-05	6.51E-05	6.67E-05	6.68E-05	6.44E-05
Bi-214 + P	2.55E-05	8.39E-05	3.56E-05	3.65E-05	3.64E-05	3.31E-05	2.84E-05	2.92E-05	2.91E-05	2.66E-05
C-14 (CO2)	3.16E-04	2.25E-04	9.89E-04	9.89E-04	9.89E-04	9.89E-04	4.18E-04	4.09E-04	4.02E-04	3.21E-04
Ce-141	1.53E-04	2.21E-04	1.76E-04	1.80E-04	1.80E-04	1.70E-04	1.60E-04	1.64E-04	1.64E-04	1.55E-04
Ce-144 + P	2.41E-03	3.46E-03	2.77E-03	2.84E-03	2.84E-03	2.68E-03	2.52E-03	2.59E-03	2.59E-03	2.46E-03
Cm-242	6.69E-02	9.58E-02	7.11E-02	7.30E-02	7.27E-02	6.49E-02	6.38E-02	6.56E-02	6.54E-02	5.88E-02
Cm-244	4.19E-01	6.00E-01	4.46E-01	4.58E-01	4.56E-01	4.08E-01	4.01E-01	4.12E-01	4.11E-01	3.70E-01
Cm-245 + P	7.20E-01	1.03E+00	7.69E-01	7.89E-01	7.86E-01	7.06E-01	6.91E-01	7.10E-01	7.08E-01	6.40E-01
Co-57	8.57E-04	1.23E-03	1.01E-03	1.03E-03	1.03E-03	9.89E-04	9.21E-04	9.44E-04	9.44E-04	9.09E-04
Co-58	1.84E-03	2.63E-03	2.16E-03	2.21E-03	2.21E-03	2.12E-03	1.97E-03	2.02E-03	2.02E-03	1.95E-03
Co-60	9.27E-02	1.29E-01	1.07E-01	1.10E-01	1.10E-01	1.06E-01	9.82E-02	1.01E-01	1.01E-01	9.72E-02
Cr-51	2.66E-05	3.83E-05	3.12E-05	3.20E-05	3.20E-05	3.06E-05	2.86E-05	2.93E-05	2.93E-05	2.82E-05
Cs-134	6.11E-02	9.43E-02	7.46E-02	7.65E-02	7.65E-02	7.30E-02	6.83E-02	7.00E-02	7.00E-02	6.71E-02
Cs-137 + P	1.36E-01	2.04E-01	1.64E-01	1.68E-01	1.68E-01	1.61E-01	1.50E-01	1.54E-01	1.54E-01	1.48E-01
Eu-152	8.79E-02	1.21E-01	1.01E-01	1.04E-01	1.04E-01	9.97E-02	9.25E-02	9.48E-02	9.48E-02	9.16E-02
Eu-154	6.74E-02	9.27E-02	7.74E-02	7.93E-02	7.94E-02	7.63E-02	7.08E-02	7.26E-02	7.26E-02	7.01E-02
Eu-155	2.02E-03	2.80E-03	2.32E-03	2.38E-03	2.38E-03	2.28E-03	2.12E-03	2.17E-03	2.18E-03	2.09E-03
F-18	4.57E-06	7.53E-06	5.20E-06	5.33E-06	5.32E-06	4.86E-06	4.59E-06	4.71E-06	4.70E-06	4.32E-06
H-3 (Oxide)	2.00E-06	3.14E-06	2.25E-06	2.22E-06	2.19E-06	1.85E-06	2.04E-06	2.01E-06	1.98E-06	1.68E-06
Hg-203 (vapor)	1.34E-04	9.66E-05	1.59E-04	1.56E-04	1.53E-04	1.21E-04	1.85E-04	1.81E-04	1.78E-04	1.40E-04
I-129 (vapor)	1.82E-03	1.31E-03	2.16E-03	2.12E-03	2.08E-03	1.65E-03	2.51E-03	2.46E-03	2.41E-03	1.90E-03
I-131 (vapor)	3.77E-04	2.71E-04	4.48E-04	4.38E-04	4.31E-04	3.41E-04	5.21E-04	5.09E-04	5.00E-04	3.93E-04
I-133 (vapor)	7.65E-05	5.46E-05	9.11E-05	8.91E-05	8.76E-05	6.94E-05	1.06E-04	1.04E-04	1.02E-04	8.02E-05
Kr-85	2.74E-08	3.70E-08	2.83E-08	2.79E-08	2.76E-08	2.38E-08	2.56E-08	2.53E-08	2.50E-08	2.17E-08
Kr-85m	6.74E-07	9.70E-07	7.11E-07	7.01E-07	6.93E-07	6.00E-07	6.37E-07	6.28E-07	6.22E-07	5.41E-07
Kr-87	2.72E-06	4.58E-06	3.01E-06	2.97E-06	2.94E-06	2.55E-06	2.64E-06	2.60E-06	2.58E-06	2.25E-06
Kr-88 + P	1.21E-05	1.82E-05	1.30E-05	1.29E-05	1.28E-05	1.12E-05	1.16E-05	1.15E-05	1.14E-05	1.01E-05
Mn-54	5.60E-03	7.73E-03	6.45E-03	6.61E-03	6.61E-03	6.36E-03	5.90E-03	6.05E-03	6.05E-03	5.84E-03
Na-22	5.06E-02	7.24E-02	5.94E-02	6.09E-02	6.09E-02	5.84E-02	5.43E-02	5.57E-02	5.57E-02	5.37E-02
Nb-94	3.64E-01	5.00E-01	4.18E-01	4.29E-01	4.29E-01	4.13E-01	3.83E-01	3.92E-01	3.93E-01	3.79E-01
Nb-95	6.45E-04	8.95E-04	7.42E-04	7.61E-04	7.61E-04	7.30E-04	6.79E-04	6.96E-04	6.96E-04	6.71E-04
Ni-59	1.54E-04	2.52E-04	1.94E-04	1.99E-04	1.99E-04	1.88E-04	1.77E-04	1.82E-04	1.82E-04	1.73E-04
Ni-63	3.12E-04	5.13E-04	3.93E-04	4.03E-04	4.03E-04	3.82E-04	3.60E-04	3.69E-04	3.69E-04	3.51E-04
Np-237 + P	4.32E-01	6.17E-01	4.67E-01	4.79E-01	4.78E-01	4.33E-01	4.21E-01	4.32E-01	4.31E-01	3.94E-01
Np-239	2.06E-05	2.91E-05	2.27E-05	2.32E-05	2.32E-05	2.14E-05	2.05E-05	2.10E-05	2.10E-05	1.95E-05
Pa-233	2.33E-04	3.32E-04	2.68E-04	8.79E-11	2.75E-04	2.61E-04	2.44E-04	2.51E-04	2.51E-04	2.39E-04
Pa-234	1.80E-05	2.63E-05	2.00E-05	2.05E-05	2.05E-05	1.89E-05	1.80E-05	1.85E-05	1.85E-05	1.72E-05
Pa-234m	4.57E-19	1.91E-15	1.02E-18	1.04E-18	1.04E-18	9.49E-19	2.24E-19	2.28E-19	2.28E-19	2.16E-19
Pb-212 + P	2.18E-03	3.19E-03	2.33E-03	2.39E-03	2.38E-03	2.13E-03	2.08E-03	2.14E-03	2.13E-03	1.92E-03
Pb-214 + P	1.26E-04	2.87E-04	1.56E-04	1.60E-04	1.59E-04	1.44E-04	1.30E-04	1.34E-04	1.34E-04	1.21E-04

Location	M	N	S	S	S	S	Z	Z	Z	Z
Release Heights (m)	0	0	0	12	16	44	0	12	16	44
MaxIndSector	ENE	NNE	NNE	NNE	NNE	WSW	NNE	NNE	NNE	NNE
Distance (m)	12744	15693	10940	10940	10940	10114	9716	9716	9716	9716
Pm-144	1.21E-02	1.67E-02	1.40E-02	1.43E-02	1.43E-02	1.38E-02	1.28E-02	1.31E-02	1.31E-02	1.26E-02
Pm-146	2.86E-02	3.93E-02	3.28E-02	3.37E-02	3.37E-02	3.24E-02	3.00E-02	3.08E-02	3.08E-02	2.97E-02
Pm-147	1.23E-04	1.83E-04	1.40E-04	1.43E-04	1.43E-04	1.32E-04	1.26E-04	1.30E-04	1.30E-04	1.20E-04
Pm-148	1.28E-04	1.81E-04	1.46E-04	1.49E-04	1.49E-04	1.41E-04	1.33E-04	1.36E-04	1.36E-04	1.29E-04
Pm-148m + P	2.18E-03	3.04E-03	2.51E-03	2.57E-03	2.57E-03	2.47E-03	2.30E-03	2.35E-03	2.35E-03	2.27E-03
Pr-144	5.47E-08	2.04E-07	8.08E-08	8.27E-08	8.25E-08	7.56E-08	6.34E-08	6.49E-08	6.48E-08	5.98E-08
Pu-236	3.04E-01	4.35E-01	3.23E-01	3.32E-01	3.31E-01	2.96E-01	2.90E-01	2.98E-01	2.97E-01	2.68E-01
Pu-238	7.45E-01	1.07E+00	7.94E-01	8.15E-01	8.12E-01	7.27E-01	7.13E-01	7.33E-01	7.30E-01	6.58E-01
Pu-239 + P	8.12E-01	1.16E+00	8.66E-01	8.89E-01	8.85E-01	7.93E-01	7.78E-01	7.99E-01	7.97E-01	7.18E-01
Pu-240	8.12E-01	1.16E+00	8.66E-01	8.89E-01	8.85E-01	7.93E-01	7.78E-01	7.99E-01	7.97E-01	7.18E-01
Pu-241	1.48E-02	2.13E-02	1.58E-02	1.62E-02	1.62E-02	1.45E-02	1.42E-02	1.46E-02	1.46E-02	1.31E-02
Pu-242	7.71E-01	1.11E+00	8.22E-01	8.44E-01	8.41E-01	7.53E-01	7.38E-01	7.59E-01	7.56E-01	6.82E-01
Ra-226 + P	5.89E-01	8.37E-01	6.84E-01	7.01E-01	7.01E-01	6.70E-01	6.25E-01	6.41E-01	6.41E-01	6.15E-01
Ra-228 + P	3.12E-01	4.65E-01	3.69E-01	3.79E-01	3.79E-01	3.59E-01	3.37E-01	3.46E-01	3.46E-01	3.29E-01
Rh-106	1.34E-19	2.82E-21	6.32E-20	6.69E-20	6.58E-20	4.34E-20	6.65E-20	7.07E-20	6.97E-20	4.59E-20
Ru-103 + P	5.29E-04	7.41E-04	6.10E-04	6.25E-04	6.26E-04	5.99E-04	5.58E-04	5.72E-04	5.72E-04	5.50E-04
Ru-106 + P	4.64E-03	6.65E-03	5.40E-03	5.54E-03	5.54E-03	5.28E-03	4.93E-03	5.06E-03	5.06E-03	4.85E-03
Sb-124	2.74E-03	3.82E-03	3.16E-03	3.24E-03	3.24E-03	3.11E-03	2.89E-03	2.96E-03	2.96E-03	2.85E-03
Sb-125 + P	9.32E-03	1.29E-02	1.07E-02	1.10E-02	1.10E-02	1.06E-02	9.81E-03	1.01E-02	1.01E-02	9.72E-03
Se-79	2.33E-02	3.85E-02	2.95E-02	3.02E-02	3.02E-02	2.87E-02	2.70E-02	2.77E-02	2.77E-02	2.64E-02
Sm-151	8.44E-05	1.24E-04	9.33E-05	9.57E-05	9.55E-05	8.69E-05	8.42E-05	8.65E-05	8.63E-05	7.91E-05
Sn-123	1.00E-03	1.54E-03	1.21E-03	1.24E-03	1.24E-03	1.17E-03	1.10E-03	1.13E-03	1.13E-03	1.08E-03
Sn-126 + P	4.99E-01	6.88E-01	5.75E-01	5.89E-01	5.89E-01	5.67E-01	5.26E-01	5.39E-01	5.39E-01	5.21E-01
Sr- 89	6.98E-04	1.08E-03	8.43E-04	8.64E-04	8.64E-04	8.17E-04	7.69E-04	7.89E-04	7.89E-04	7.50E-04
Sr-90 + P	1.04E-01	1.65E-01	1.29E-01	1.32E-01	1.32E-01	1.26E-01	1.18E-01	1.21E-01	1.21E-01	1.16E-01
Tc-99	1.97E-02	3.02E-02	2.40E-02	2.46E-02	2.46E-02	2.35E-02	2.19E-02	2.25E-02	2.25E-02	2.16E-02
Te-127	1.54E-06	2.26E-06	1.65E-06	1.69E-06	1.69E-06	1.51E-06	1.48E-06	1.52E-06	1.51E-06	1.37E-06
Te-129	5.00E-07	9.04E-07	5.80E-07	5.95E-07	5.93E-07	5.38E-07	5.04E-07	5.18E-07	5.17E-07	4.72E-07
Th-228 + P	5.97E-01	8.53E-01	6.36E-01	6.52E-01	6.50E-01	5.82E-01	5.71E-01	5.87E-01	5.85E-01	5.28E-01
Th-229 + P	1.41E+00	2.02E+00	1.52E+00	1.56E+00	1.55E+00	1.40E+00	1.37E+00	1.40E+00	1.40E+00	1.27E+00
Th-230 + P	8.41E-01	1.20E+00	9.56E-01	9.80E-01	9.79E-01	9.21E-01	8.70E-01	8.92E-01	8.92E-01	8.43E-01
Th-232 + P	1.17E+00	1.68E+00	1.33E+00	1.36E+00	1.36E+00	1.27E+00	1.21E+00	1.24E+00	1.24E+00	1.16E+00
Th-234 + P	4.21E-04	6.21E-04	4.90E-04	5.02E-04	5.02E-04	4.72E-04	4.46E-04	4.57E-04	4.57E-04	4.33E-04
Tl-208	6.13E-11	1.92E-08	4.98E-10	5.08E-10	5.07E-10	4.79E-10	2.14E-10	2.18E-10	2.18E-10	2.07E-10
U-232 + P	1.00E+00	1.43E+00	1.10E+00	1.12E+00	1.12E+00	1.03E+00	9.90E-01	1.02E+00	1.01E+00	9.35E-01
U-233 + P	1.47E+00	2.10E+00	1.58E+00	1.62E+00	1.61E+00	1.45E+00	1.42E+00	1.46E+00	1.45E+00	1.32E+00
U-234 + P	8.94E-01	1.28E+00	1.01E+00	1.04E+00	1.04E+00	9.75E-01	9.22E-01	9.46E-01	9.45E-01	8.92E-01
U-235 + P	8.81E-02	1.25E-01	9.85E-02	1.01E-01	1.01E-01	9.40E-02	8.94E-02	9.17E-02	9.16E-02	8.59E-02
U-236	4.93E-02	7.15E-02	5.37E-02	5.51E-02	5.50E-02	4.98E-02	4.84E-02	4.97E-02	4.96E-02	4.52E-02
U-238 + P	7.51E-02	1.07E-01	8.38E-02	8.59E-02	8.58E-02	7.97E-02	7.60E-02	7.80E-02	7.79E-02	7.28E-02
Xe-133	1.55E-07	2.10E-07	1.60E-07	1.58E-07	1.56E-07	1.35E-07	1.45E-07	1.43E-07	1.41E-07	1.23E-07
Xe-133m	1.45E-07	1.97E-07	1.50E-07	1.48E-07	1.46E-07	1.26E-07	1.36E-07	1.34E-07	1.32E-07	1.15E-07
Xe-135	1.17E-06	1.62E-06	1.22E-06	1.20E-06	1.19E-06	1.02E-06	1.10E-06	1.08E-06	1.07E-06	9.29E-07
Y-88	6.01E-03	8.30E-03	6.92E-03	7.09E-03	7.09E-03	6.81E-03	6.32E-03	6.48E-03	6.49E-03	6.26E-03
Y-91	5.06E-04	7.52E-04	5.94E-04	6.09E-04	6.08E-04	5.74E-04	5.41E-04	5.55E-04	5.55E-04	5.27E-04
Zn-65	1.31E-02	2.09E-02	1.63E-02	1.67E-02	1.67E-02	1.59E-02	1.49E-02	1.53E-02	1.53E-02	1.46E-02
Zr-95 + P	2.93E-03	4.05E-03	3.37E-03	3.45E-03	3.45E-03	3.31E-03	3.08E-03	3.15E-03	3.16E-03	3.04E-03

6.0 APPENDIX B. MEI Dose from COS to Offsite MEI and to the Potential TRL MEI

Radionuclide	Releases (Curies)		Offsite MEI Dose	Potential TRL MEI Dose	Percentage Increase
	0 m	61 m	(mrem)	(mrem)	(%)
H-3 (oxide)	2.24E+03	1.76E+04	2.12E-02	2.98E-02	40.57
H-3 (elemental)	0.00E+00	1.88E+03	1.56E-03	2.28E-03	46.15
Cs-137	1.25E-03	7.80E-03	8.60E-04	1.23E-03	43.02
Unidentified beta	2.17E-03	9.59E-04	2.39E-04	3.58E-04	49.67
U-234	6.11E-07	1.02E-04	5.99E-05	7.97E-05	33.16
Kr-85	0.00E+00	3.96E+03	5.73E-05	6.95E-05	21.29
Pu-239	4.34E-05	6.09E-05	5.60E-05	6.80E-05	21.43
Unidentified alpha	3.94E-05	1.21E-05	3.04E-05	3.60E-05	18.42
Pu-238	3.14E-05	8.01E-06	2.15E-05	2.54E-05	18.14
Am-241	1.12E-05	2.61E-05	1.61E-05	1.97E-05	22.36
Sr-90	3.34E-05	1.53E-04	1.36E-05	2.05E-05	50.51
U-238	2.08E-07	1.48E-04	7.07E-06	9.27E-06	31.04
Pu-240	7.73E-06		4.84E-06	5.66E-06	16.94
C-14	1.57E-07	1.64E-02	2.59E-06	3.85E-06	48.64
Pu-241	2.07E-04		2.39E-06	2.79E-06	16.86
I-129	2.01E-04	1.89E-03	2.11E-06	2.53E-06	19.9
Pu-242	2.16E-06		1.28E-06	1.50E-06	17.19
Np-237	1.62E-06	8.79E-08	5.60E-07	6.70E-07	19.71
U-235	8.41E-09	6.33E-06	3.56E-07	4.68E-07	31.31
Cm-244	2.83E-07	8.54E-07	3.00E-07	3.68E-07	22.67
F-18	4.00E-02		1.30E-07	1.75E-07	34.62
Ra-226	2.48E-07		1.10E-07	4.73E-08	-57.11
Nb-94	2.42E-07		6.63E-08	8.51E-08	28.36
Sn-126	1.70E-07		6.42E-08	8.24E-08	28.39
Ra-228	2.29E-07		5.40E-08	7.43E-08	37.62
Co-60	4.96E-07	0.00E+00	3.46E-08	4.51E-08	30.34
Cs-134	4.31E-07		1.99E-08	2.88E-08	44.72
Eu-154	3.56E-07		1.83E-08	2.32E-08	26.78
Tc-99	1.06E-06		1.58E-08	2.27E-08	43.67
Ru-106	3.04E-06		1.06E-08	1.41E-08	32.52
Sb-125	1.18E-06		8.27E-09	1.07E-08	29.35
U-232	6.04E-09		4.63E-09	5.61E-09	21.1
Th-230	1.43E-10	7.68E-09	4.30E-09	7.62E-09	77.07
Am-243	4.50E-09		2.47E-09	2.91E-09	17.62
Th-229	1.60E-09		1.74E-09	2.05E-09	17.68
Th-232	4.79E-12	2.17E-09	1.65E-09	1.58E-09	-4.39
Pb-212	8.43E-07		1.40E-09	1.65E-09	17.56

U-236	3.01E-08		1.14E-09	1.38E-09	21.05
Se-75	0.00E+00	1.94E-07	7.80E-10	1.19E-09	52.56
Th-231	2.12E-04		6.85E-10	8.06E-10	17.69
U-233	4.21E-10		4.76E-10	5.62E-10	18.13
Th-228	1.26E-10	8.29E-10	3.47E-10	4.30E-10	23.8
Sm-151	2.89E-06		3.40E-10	2.32E-10	-31.76
Pm-147	2.89E-06		3.37E-10	3.51E-10	4.15
Zr-95	1.22E-07		2.69E-10	3.46E-10	28.8
Pa-233	1.42E-06		2.57E-10	3.26E-10	26.84
Eu-155	1.18E-07		1.86E-10	2.31E-10	24.19
Nb-95	3.63E-07		1.76E-10	2.28E-10	29.54
Pu-236	5.55E-10		1.34E-10	1.52E-10	13.75
Eu-152	1.47E-09		9.80E-11	3.03E-10	209.18
Se-79	4.90E-09		8.61E-11	1.52E-10	76.53
Ce-144	2.00E-08		3.66E-11	4.75E-11	29.75
Ba-133	7.01E-10		1.32E-11	1.70E-11	28.79
Zn-65	9.56E-10		9.47E-12	1.42E-11	49.94
Cd-109	1.34E-08		9.31E-12	1.26E-11	35.34
Fe-55	1.17E-08		2.88E-12	4.43E-12	53.82
Y-88	4.58E-10		2.08E-12	2.67E-12	28.37
Mn-54	3.78E-10		1.60E-12	2.05E-12	28.13
Ni-63	5.46E-09		1.29E-12	1.99E-12	54.26
Sn-113	6.27E-10		4.57E-13	5.96E-13	30.42
Sr-85	6.00E-10		3.77E-13	4.97E-13	31.83
Y-91	7.98E-10		3.23E-13	4.14E-13	28.17
Co-57	4.96E-10		3.20E-13	4.30E-13	34.38
Sr-89	5.99E-10		3.16E-13	4.52E-13	43.04
Ru-103	5.11E-10		2.03E-13	2.65E-13	30.36
I-131	6.75E-10		2.01E-13	2.22E-13	10.45
Ce-139	5.20E-10		1.94E-13	2.50E-13	28.87
Ag-110m	1.48E-11		1.69E-13	2.19E-13	29.48
Hg-203	5.22E-10		5.53E-14	6.12E-14	10.67
Ni-59	5.76E-11		6.68E-15	1.03E-14	54.19
Ce-141	4.94E-11		5.72E-15	7.48E-15	30.77
Sn-123	6.66E-12		5.43E-15	7.19E-15	32.41
Pm-148m	1.90E-12		3.11E-15	4.01E-15	29.06
Pr-144	2.00E-08		5.20E-16	1.13E-15	117
Te-127	1.04E-11		1.21E-17	1.45E-17	19.83
Tl-208	1.41E-06		9.88E-18	6.71E-16	6691.49
Rh-106	1.19E-08		2.81E-18	3.23E-18	14.94
Te-129	1.05E-12		3.39E-19	5.01E-19	47.79
TOTAL	**2.24E+03**	**2.35E+04**	**2.41E-02**	**3.40E-02**	**40.93**

NESHAP Area-Specific Dose-Release Factors for Potential Onsite Member-of-the-Public Locations at SRS using CAP88-PC Version 4.0

Distribution List
G. T. Jannik, 999-W
K. L. Dixon, 773-42A
J. J. Mayer, 999-W
EDG Records, 999-W