



## U.S. Department of Energy

Hanford Field Office  
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June 2, 2026

26-ECD-0070

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### U.S. DEPARTMENT OF ENERGY, HANFORD FIELD OFFICE SUBMITTAL OF RADIOACTIVE AIR EMISSIONS NOTICE OF CONSTRUCTION PERMIT APPLICATION FOR EFFLUENT MANAGEMENT FACILITY EFFLUENT TRANSFER

- References: (1) WDOH letter from C. Mathey to R. M. Geimer, HFO, "Re: Completeness Determination – Notice of Incomplete Application," AIR 26-414, dated April 14, 2026.
- (2) HFO letter from R. M. Geimer to C. Mathey, WDOH, K. Pepple, EPA, and S. Schleif, Ecology, same subject, 26-ECD-0036, dated March 19, 2026.

The U.S. Department of Energy (DOE), Hanford Field Office is requesting approval from the Washington State Department of Health (WDOH) of "Radioactive Air Emissions Notice of Construction Application for WTP Effluent Management Facility (EMF) Effluent Transfer," 24590-WTP-RPT-ENV-26-001 (Attachment 1). This Notice of Construction (NOC) application supports effluent transfer from the EMF truck bay into the U.S. Department of Transportation approved IP-2 tanks. This NOC application was originally submitted under letter 26-ECD-0036 on March 19, 2026, Reference (2). WDOH deemed that application as incomplete in letter AIR 26-414. This submittal addresses the items identified in AIR 26-414, Reference (1), as being required for a complete application.

The application is also requesting two alternative approvals. The first is an approval under Washington Administrative Code (WAC) 246-247-030(21)(e) and 40 CFR 61.96 (Subpart H) to utilize an alternative release fraction from the default values identified in WAC 246-247-030(21)(a). The alternative release fraction of 2.00E-04 was developed by DOE for use at nonreactor nuclear facilities and is described in Airborne Release Fractions/Rates and Respirable Fractions for Non-Reactor Nuclear Facilities (DOE-HDBK-3010-94). Section 3.2.3 of the DOE Handbook provides an analysis of experiments focused on free-fall spill of uranine aqueous non-Newtonian solutions with densities of approximately 1.0 g/cm<sup>3</sup> that are spilled from a height of three meters onto a hard unyielding surface. Under these conditions, actual release fractions for uranine solutions range from 4.00E-06 to 2.00E-04. The second alternative approval request is in accordance WAC 246-247-020(2)(c) and 40 CFR 61.93(d), requesting sampling the liquid effluent transferred to the IP-2 tanks instead of the air sampling and monitoring criteria in ANSI N13.1 1999.

If you have any questions, please contact me, or you may contact Corey A. Low, Assistant Manager for Safety and Environment, at (509) 376-4820.

Sincerely,

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GEIMER**   
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Raymond M. Geimer  
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ECD:BRT

Attachment:

Radioactive Air Emissions  
NOC Application for WTP  
EMF Effluent Transfer

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Attachment  
26-ECD-0070

Radioactive Air Emissions Notice of Construction Application for  
WTP Effluent Management Facility (EMF) Effluent Transfer  
24590-WTP-RPT-ENV-26-001, Rev 1

(311 pages including cover sheet)



# Radioactive Air Emissions Notice of Construction Application for WTP Effluent Management Facility (EMF) Effluent Transfer

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Approved by:

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*5-29-2026*  
Date

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## History Sheet

Rev	Reason for revision	Revised by
0	Initial Issue.	Brian Walker
1	Revised to incorporate Washington State Department of Health comments resulting from their Incomplete Determination (CCN 349277)	Brian Walker

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## Acronyms

$\alpha$	alpha radiation
AL	Action Level
APPS	Aspen Process Performance Simulation
APQ	annual possession quantity
BARCT	best available radionuclide control technology
BOF	Balance of Facilities
$\beta/\gamma$	beta/gamma radiation
CAP88-PC	Clean Air Act Assessment Package – Personal Computer
CFR	Code of Federal Regulations
Ci	curie
DFLAW	Direct Feed Low-Activity Waste
DEP	DFLAW EMF Process System
DEP13	APPS stream number for EMF concentrate/bottoms
DEP-3	DEP-3 represents the Evaporator Concentrate Vessels (DEP-VSL-00003A/B/C)
DOE	United States Department of Energy
DOT	United States Department of Transportation
DQO	Data Quality Objectives
EMF	Effluent Management Facility
EPA	United States Environmental Protection Agency
ICRP	International Commission on Radiological Protection
IP-2	Industrial Package (IP-2) tanks
Lab	Analytical Laboratory
LAW	Low-Activity Waste (Facility)
LCS	Laboratory Control Samples
LOR	Laboratory of Record
MEI	maximally exposed individual
MDA	minimum detectable activity
MREM	millirem
NEPA	National Environmental Policy Act
NOC	notice of construction
NQA-1	Nuclear Quality Assurance-1

**24590-WTP-RPT-ENV-26-001, Rev 1**  
**Radioactive Air Emissions Notice of Construction**  
**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

PCM	periodic confirmatory measurement
PNNL	Pacific Northwest National Laboratory
PQL	Practical Quantitation Limit
PTE	potential-to-emit
QA	Quality Assurance
QAM	Quality Assurance Manual
QC	Quality Control
RCW	Revised Code of Washington
RDL	Required Detection Limit
SAP	Sampling and Analysis Plan
SEPA	State Environmental Policy Act
SPC	Statistical Process Control
TC & WM EIS	Tank Closure and Waste Management Environmental Impact Statement
TEDE	total effective dose equivalent
TSDF	Treatment Storage Disposal Facility
UNH	uranium nitrate hexahydrate
WAC	Washington Administrative Code
WDOH	Washington State Department of Health
WTP	Hanford Tank Waste Treatment and Immobilization Plant

## Executive Summary

This radioactive air emission operating license application is being submitted to the Washington State Department of Health (WDOH) in accordance with Washington Administrative Code (WAC) 246-247, *Radiation Protection—Air Emissions*, to propose Effluent Management Facility (EMF) evaporator concentrate/bottoms being transferred to U.S. Department of Transportation (DOT) approved Industrial Package (IP-2) tanks. During all concentrate transfers, the IP-2 tanks arrive at EMF mounted on flatbed trailer to support subsequent transport to a treatment facility. This application focuses solely on concentrate transfers from the EMF to the IP-2 tanks. There are no changes proposed to the other Waste Treatment and Immobilization Plant (WTP) emission units identified in the previous Notice of Construction (NOC) application [*Radioactive Air Emissions Notice of Construction Operating License Application for the WTP LAW, LAB, and EMF* (24590-WTP-RPT-ENV-18-002 Rev 1)].

Consistent with previous WTP NOC applications, a total of 46 radionuclide constituents of potential concern may be present and assessed for potential-to-emit (PTE). Radionuclides may be present as particulates, aerosols, and (or) gases and the specific physical forms, International Commission of Radiological Protection (ICRP) 30 solubility class, and release forms are discussed in Sections 11 and 12 of this application.

The waste transfers to the IP-2 tank will use a removable HEPA filter assembly attached to the IP-2 tank vent port during filling operations; however, the assembly will not be credited for abatement in radioactive air emissions or dose estimates. Therefore, unabated emissions and dose values are equal to abated emissions and dose. This application requests approval to transfer up to 414,000 gallons of EMF evaporator concentrate per year from EMF to IP-2 tanks.

The Annual Possession Quantity (APQ) is based on a total EMF concentrate transfer volume of 414,000 gallons per year. The radionuclide inventory available for transfers was derived from the Aspen Process Performance Simulation (APPS) model stream number (DEP13) which represents the EMF evaporator concentrate in *Emissions Estimate for DFLAW and Integrated WTP Configurations* (24590-WTP-M4C-V20T-00001).

Section 13 of the application requests WDOH approval under WAC 247-247-030(21)(e) to utilize an alternate release fraction of 2.00E-04 from the default value of 1.00E-03 identified in WAC 246-247-030(21)(a). The alternative release fraction of 2.00E-04 was developed by DOE for use at nonreactor nuclear facilities and is described in *Airborne Release Fractions/Rates and Respirable Fractions for Non-Reactor Nuclear Facilities* (DOE-HDBK-3010-94) (referred to as the DOE Handbook). Section 3.2.3 of the DOE Handbook provides an analysis of experiments focused on free-fall spill of aqueous solutions with densities of approximately 1.0 to 1.3 g/cm<sup>3</sup> that are spilled from a height of three meters (118 inches) onto a hard unyielding surface. The uranine / uranium nitrate hexahydrate (UNH) aqueous solutions are used by DOE as a reference standard and compare to the EMF bottoms density of 1.06 g/cm<sup>3</sup> (*Process Inputs Basis of Design (PIBOD) for LAW and EMF* (24590-WTP-DB-PET-17-001)). In addition to a compatible density profile, the uranine/UNH aqueous solution properties in the DOE Handbook while being chemically different from the EMF bottoms do both share a uranium component, but the EMF bottoms primarily contain other transuranics besides uranium like plutonium and americium. The DOE Handbook spill height of three meters (118 inches) onto a hard unyielding surface is conservative for the IP-2 tanker truck where the IP-2 tanks fill port design height is 1.92 meters (75.5 inches) above the bottom of the tank. Additionally, the IP-2 tank provides additional containment as not all the airborne material would be released from IP-2 tank vent port. Based on the similarities of the aqueous solutions,

their densities, transuranic compositions, release height to a hard unyielding surface, and IP-2 tank containment, WDOH approval to utilize the more conservative release fraction of 2.00E-04 is requested. At this time, the IP-2 tank is the only tank design proposed for this application.

Dose modeling using the US Environmental Protection Agency- approved Clean Air Act Assessment Package – Personal Computer [CAP88-PC], version 4, was performed. Meteorological and population parameters were developed by the Pacific Northwest National Laboratory (PNNL) in coordination with WDOH. Table 1 below shows the unabated dose. Section 15 presents the air emissions and total effective dose equivalent (TEDE) to the maximally exposed individual (MEI) for each radionuclide.

**Table 1      TEDE to the MEI for the EMF Transfer**

<b>Facility</b>	<b>Emission Unit</b>	<b>Unabated Dose (mrem/yr)</b>
EMF	EM-2	4.87E-02

Note: No credit is taken for HEPA filtration. Unabated and abated values are equal.

# 1 Location

The EMF facility is located on the WTP site on the eastern part of the 200 East Area on the U.S. Department of Energy (DOE) Hanford Site. The WTP site is northwest of Richland, Washington; on the 7.5-minute quadrangle topographic map of Gable Butte, it is in Section 3, T12N, R26E, Willamette Meridian. The latitude and longitude coordinates corresponding to the general WTP site are approximately N 46°33'4", W 119°30'9". Visuals of the WTP and individual facilities mapped locations are shown in Figure 1 and Figure 2.

The address for the WTP site is as follows:

US Department of Energy, Hanford Field Office  
Hanford Site  
200 East Area, Waste Treatment Plant  
Richland, WA 99354

Figure 1 Location of the WTP on the Hanford Site

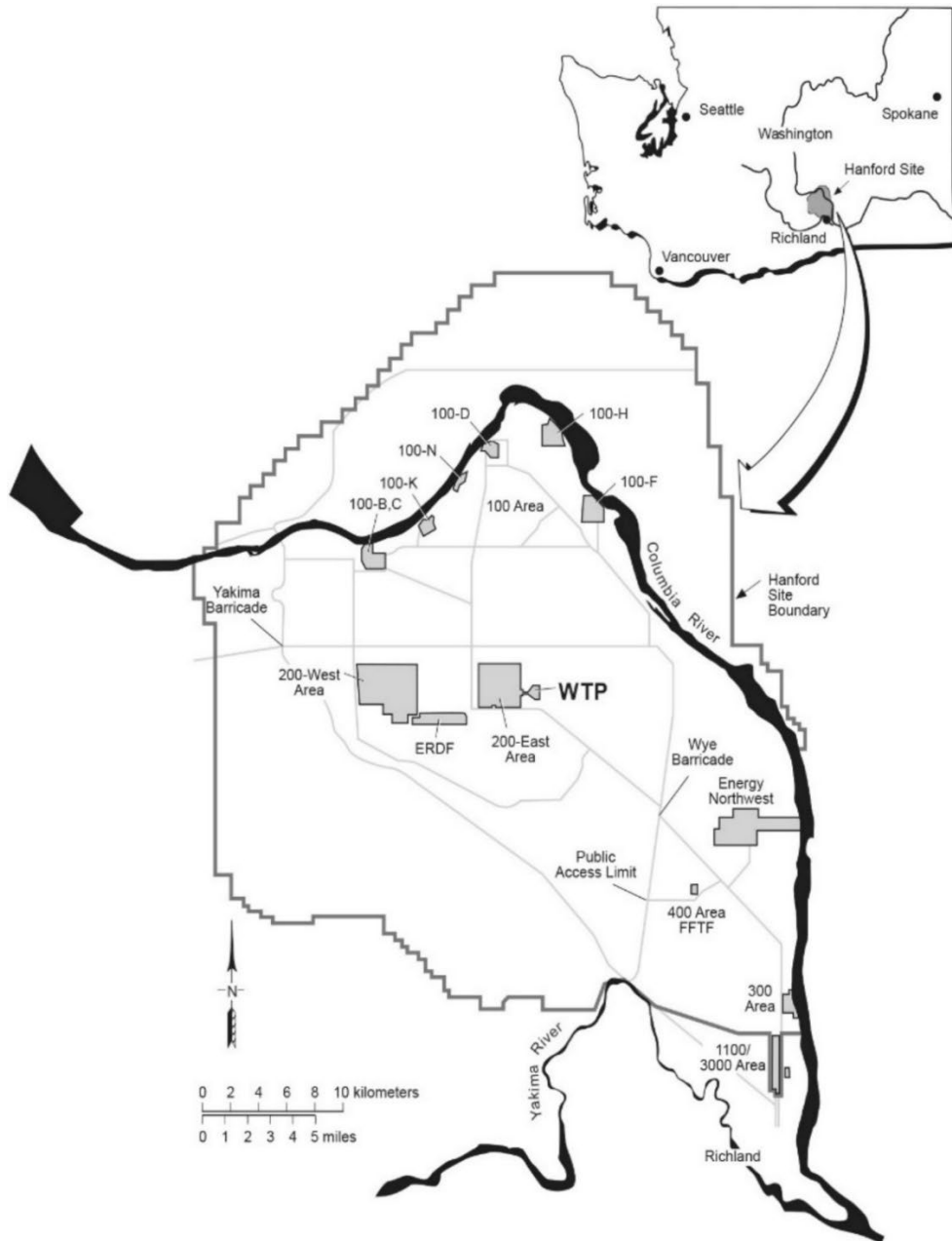
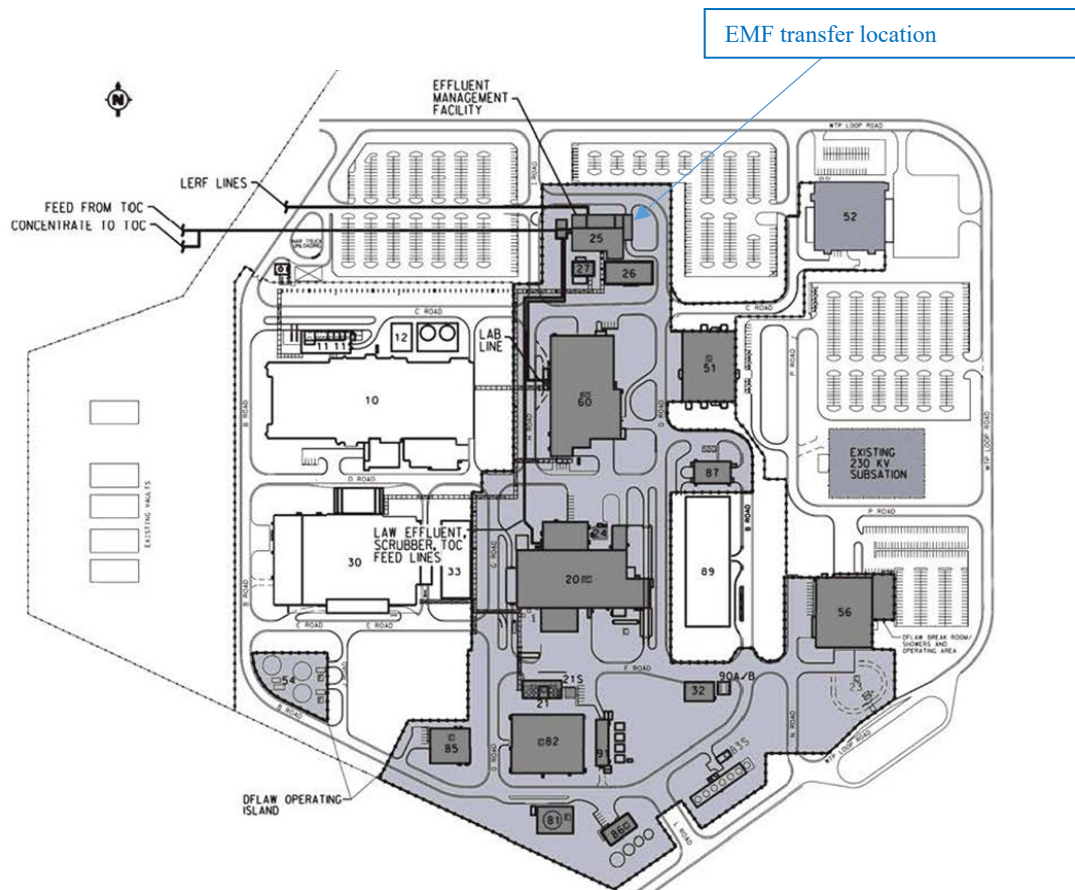


Figure 2 Location of WTP EMF



Notes:

1. Buildings 25, 26, and 27 are the Effluent Management Facility. The East side of Building 25 includes the effluent loadout location.
2. The Direct Feed Low-Activity Waste (DFLAW) operating island is shaded.

## 2 Responsible Manager

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### 3 Proposed Action

This NOC application is being submitted as a new minor emission unit (EM-2). The proposed action is the transfer of EMF evaporator concentrate to DOT approved IP-2 tanks. The requested maximum transfer volume is 414,000 gallons per year. EM-2 is a point source emission unit without a traditional stack, and potential emissions behave somewhat like a fugitive or non-point source.

### 4 State Environmental Policy Act

This Project fulfills the requirements of WAC 197-11, State Environmental Policy Act (SEPA) Rules, and Revised Code of Washington (RCW) 43.21C.030(2)(c), Guidelines for State Agencies, Local Governments—Statements—Reports—Advice—Information, per RCW 43.21C.150, State Environmental Policy: RCW 43.21C.030(2)(c) Inapplicable When Statement Previously Prepared Pursuant to National Environmental Policy Act of 1969 (NEPA), which states the following:

The requirements of RCW 43.21C.030(2)(c) pertaining to the preparation of a detailed statement by branches of government shall not apply when an adequate detailed statement has been previously prepared pursuant to NEPA, in which event said prepared statement may be utilized in lieu of a separately prepared statement under RCW 43.21C.030(2)(c).

DOE/EIS-0391, *Final Tank Closure and Waste Management Environmental Impact Statement for the Hanford Site*, Richland, Washington (TC & WM EIS), meets the agencies' [i.e., DOE, Washington State Department of Ecology, US Environmental Protection Agency (EPA)] review needs for the current application. The lead review agency is the DOE Hanford Field Office.

### 5 Process Description

This application is focused on potential radioactive air emissions during the transfer of EMF evaporator concentrate to IP-2 tanks (EM-2). The new emission source is the IP-2 tanks vent port and connected HEPA filter assembly. Figure 3 provides a DFLAW process schematic and Figures 4 and 5 provide images of the IP-2 tank and associated vent port.

The EMF truck bay is designed to transfer evaporator concentrate to an IP-2 tank via transfer piping which consists of 5.1-centimeter (two-inch) diameter flexible pipe fitted with quick connect/disconnect Epsilon couplers. Inside the EMF Building 25, transfer piping from the evaporator vessel to the truck transfer bay has a removable spool piece. When effluent transfer to an IP-2 tank is needed, the removable spool piece is inserted to close the air gap. The spool piece penetrates the east wall of EMF to the truck bay and joins the spool that is equipped with a quick disconnect coupling for connection to IP-2 tanks via a jumper. The coupler design provides a leak tight connection and the DFLAW EMF Process System (DEP) Evaporator Concentrate Vessel Transfer/Recirculation Pumps (DEP-PMP-00003A/B) support the transfers. The line to the transfer bay contains a globe valve which is used to regulate flow and prevent Evaporator Concentrate Transfer Pump (DEP-PMP-00003A/B) runout. Prior to IP-2 tank filling a removable HEPA filter assembly (Figure 6) will be attached to the vent port via Epsilon Coupler Dry Disconnect Ball-Valve. The HEPA assembly is not credited for abatement. After filling is complete, the vent valve will be secured closed, and the HEPA assembly will be removed to support transport to the treatment facility. The IP-2 tanks are designed consistent with *Shippers – General Requirements for*

*Shipments and Packages* (49 CFR 173) and *Continuing Qualification and Maintenance of Packagings* (49 CFR 180).

The EMF transfer bay is a coated concrete loading and unloading area that is sloped to the Truck Bay Sump (DEP-SUMP-00008) which is designed to collect and contain potential spills or leaks from load out area operations. In the event of a spill or leak, effluents contained in the transfer bay sump are transferred to the Low-Point Drain Vessel (DEP-VSL-00001) by Truck Bay Sump Pump (DEP-PMP-00038) and recycled back into the DFLAW process. The EMF transfer bay and sump is inspected daily, when in use, to check for cracks, physical damage and leaks/releases. During transfers the liquid level in the EMF transfer bay sump is monitored with transmitters that communicate with the process control system and provide control room alarm indication in the event of a spill. After transferring evaporator concentrate to an IP-2 tank, the transfer line will be flushed with water or evaporator condensate. When not in use the transfer line is isolated and stored inside the EMF building, within the dangerous waste permitted tank system secondary containment at Transfer Line Isolation Valve (DEP-V-00026). The Transfer Line Isolation Valve (DEP-V-00026) is the last isolation valve on the line that is inside of EMF (and inside the secondary containment) and when closed there is no liquid in the line outside in the transfer bay.

During all concentrate transfers, the IP-2 tanks arrive at EMF mounted on flatbed trailer to support subsequent transport to a treatment facility. The following dimensional measurements are based on an IP-2 tank being mounted on a flatbed trailer:

- Flatbed Trailer Deck Height – 1.22 meters (48 inches)
- IP-2 Tank Fill Port Height – 3.14 meters (123.5 inches)
- IP-2 Tank Vent Port Height – 3.16 meters (124.5 inches)
- HEPA Filter Assembly connected to the IP-2 Tank Vent Port Release Height – 3.87 meters (152.5 inches)

Figure 3 DFLAW Process Operation

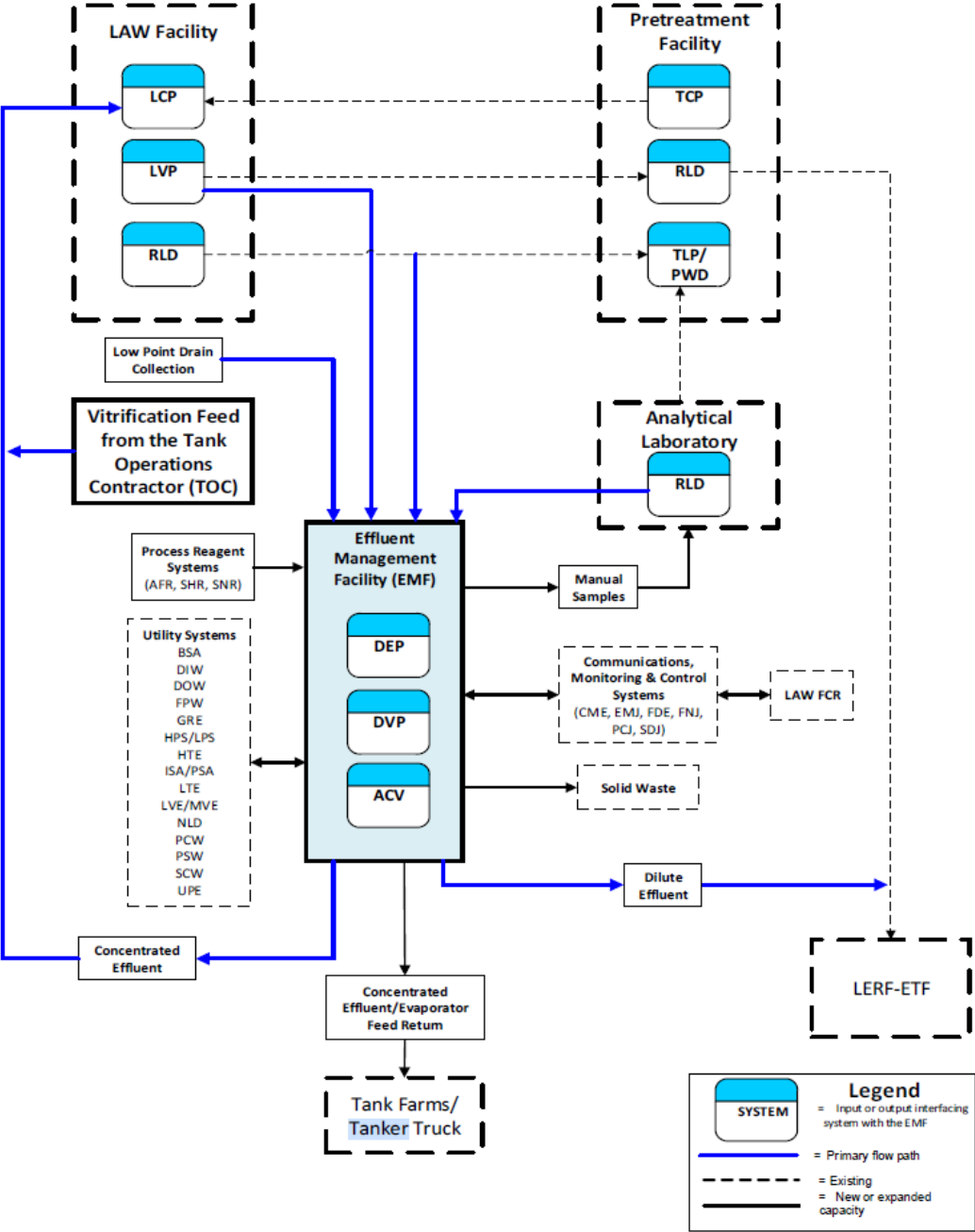


Figure 4 Industrial Package-2 (IP-2) Tank – Aerial View

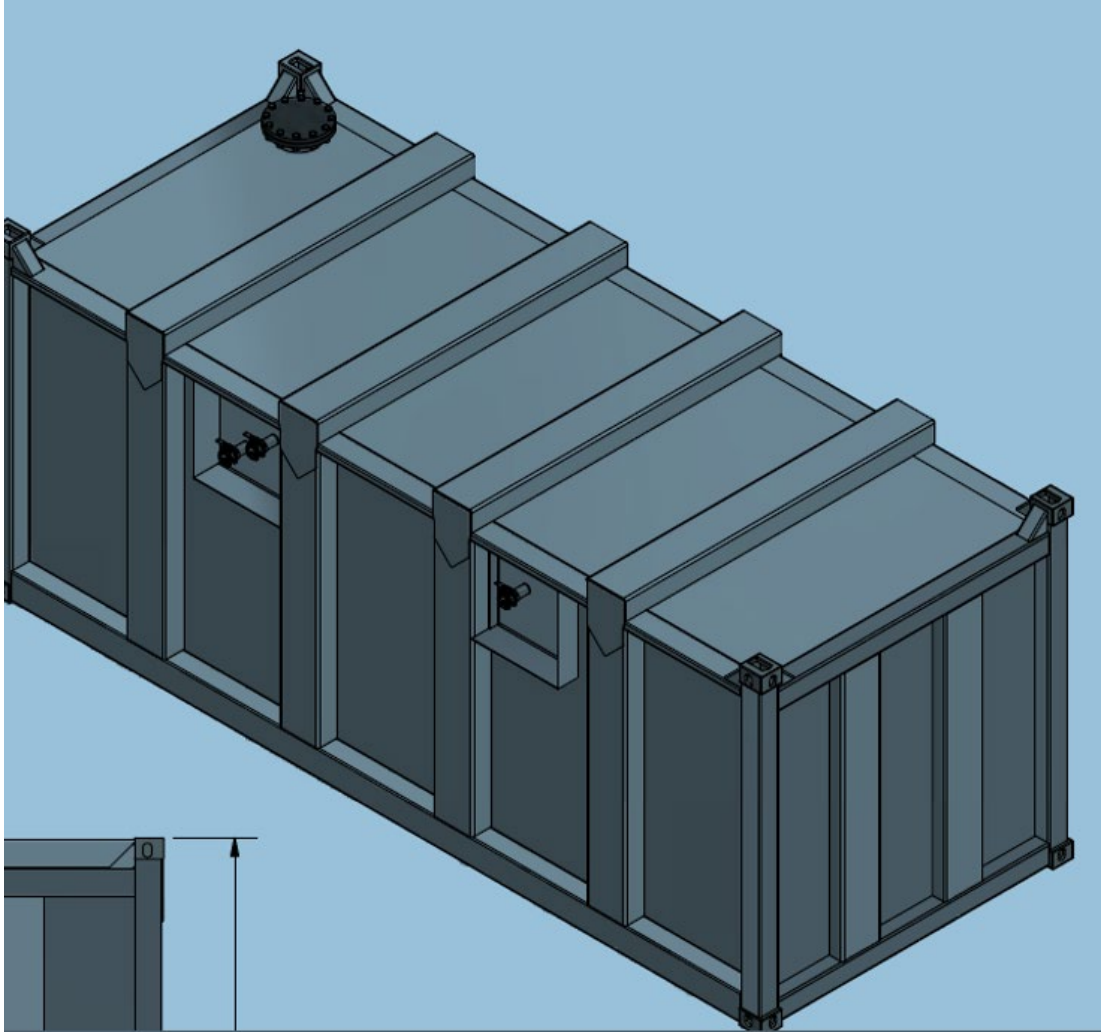
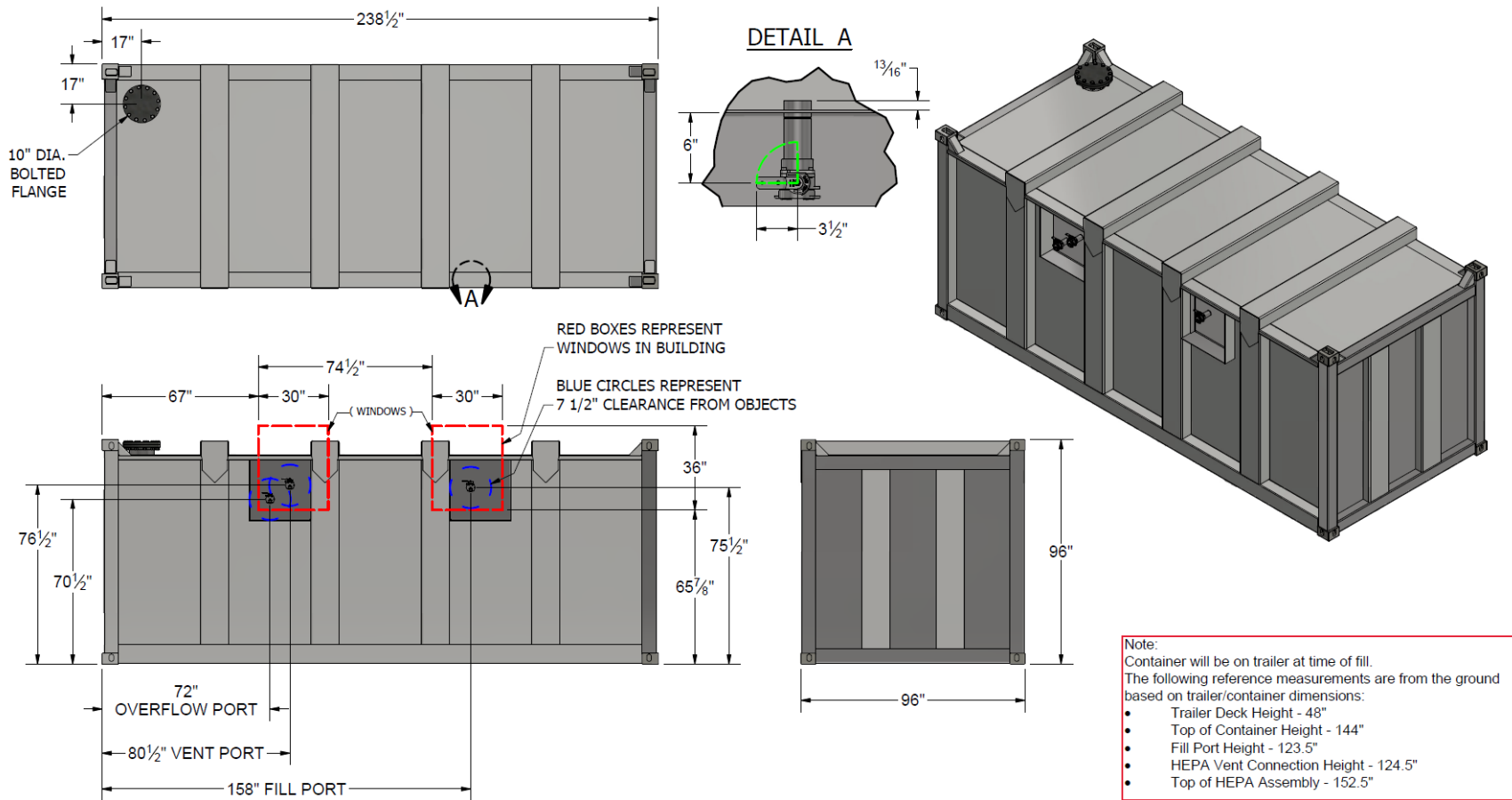
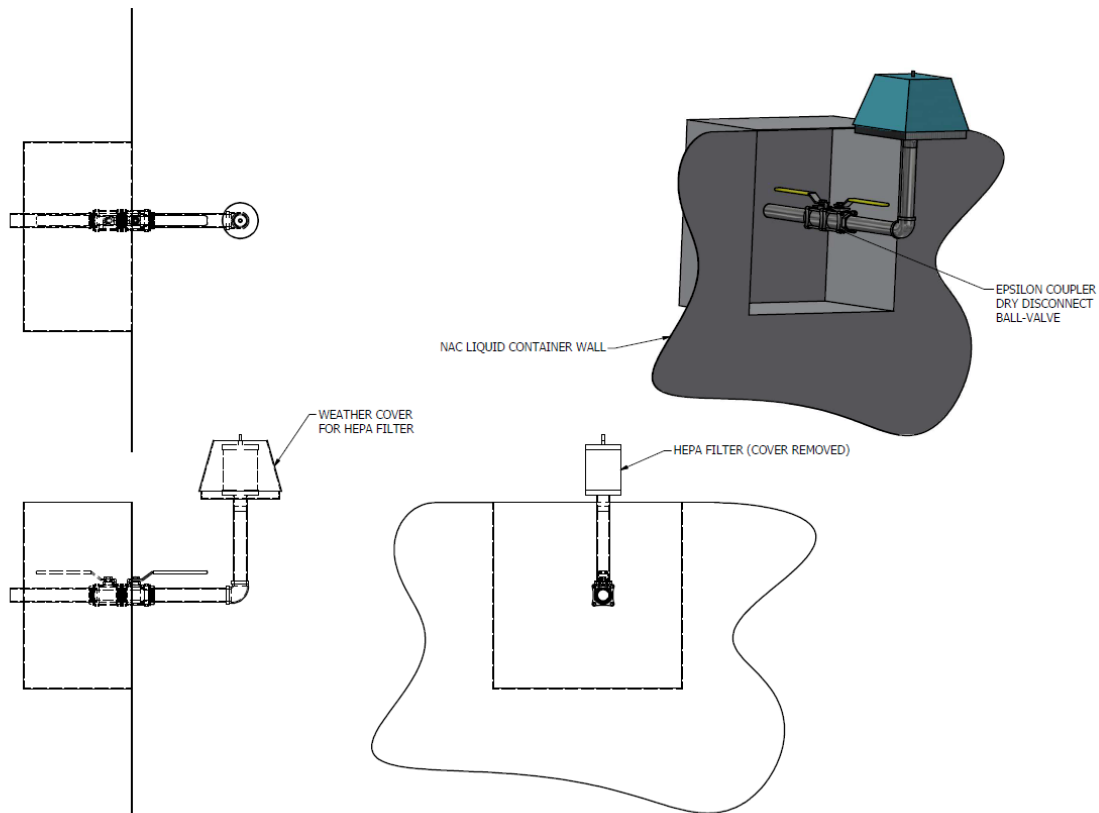


Figure 5 Industrial Package-2 (IP-2) Tank – Elevation View



Note: Heights in Figure 5 are solely associated with the IP-2 tank. Height of the IP-2 tank on the flatbed truck and HEPA filter assembly are not included.

Figure 6 Industrial Package-2 (IP-2) Tank – HEPA Filter Assembly



Note: HEPA filter release height during filling operations is 3.87 meters (152.5 inches) above ground level which includes the sum of the flatbed trailer height of 48” plus the IP-2 Tank vent port height of 76.5” plus the connected HEPA assembly height of 27.5” while the IP-2 tank is being filled. All IP-2 tanks will be filled while secured on the flatbed truck.

## 6 Best Available Radionuclide Control Technology

The WTP compliance strategy is to design, procure, install, and operate in compliance with the applicable standards identified in WAC 246-247. WAC 246-247-120 states “The BARCT demonstration and the emission unit design and construction must meet, as applicable, the technology standards shown below if the unit’s potential-to-emit exceeds 0.1 mrem/yr TEDE to the MEI. If the potential-to-emit is below this value, the standards must be met only to the extent justified...” The waste transfer operation described in this application has a potential-to-emit below 0.1 mrem/year TEDE to the MEI. Due to the operational nature of the EMF concentrate transfer to portable IP-2 tanks that will be transported for off-site treatment, BARCT is not proposed for the emission unit.

EM-2 is a point source emission unit without a traditional stack, and potential emissions behave somewhat like a fugitive or non-point source. During concentrate transfers to the IP-2 tank, a removable HEPA filter assembly will be attached to the tank vent port, however no abatement is credited in this application. As provided in Section 15, unabated emissions and dose and abated emissions and dose are equal. Transfer operations will be performed consistent with the WTP Project Radiological Control procedures to minimize potential radioactive air emissions. Overarching radiological control program documents are listed below:

- *Performing Radiological Work* (24590-WTP-GPP-RARP-RP-1001)
- *Radioactive Material Control* (24590-WTP-GPP-RARP-RP-1010)
- *Radioactive Material Shipment and Receipt Surveys* (24590-WTP-GPP-RARP-RP-3013)

## 7 Drawings

Refer to Figures 3 through 6 for the DFLAW process, IP-2 tank, and HEPA filter assembly.

## 8 Radionuclides of Concern

The radionuclides of concern are identified in Section 15.

## 9 Monitoring

In accordance with WAC 246-247-020(2)(c) and 40 CFR 61.93(d), an exemption from the sampling and monitoring criteria in ANSI/HPS N13.1 1999 is being requested. When it is impractical to measure the effluent air flow rate at a source, the facility owner or operator may use alternative effluent flow rate measurement procedures or site selection, and sample extraction procedures provided that:

- (1) It can be shown that the requirements of 40 CFR 61.93 paragraph (b)(1) or (2) or (c) of this section are impractical for the effluent stream.
- (2) The alternative procedure will not significantly underestimate the emissions.
- (3) The alternative procedure is fully documented.

(4) The owner or operator has received prior approval from EPA.

Justification for air sampling being impractical is below:

- (1) The requirements of 40 CFR 61.93 paragraph (b)(1) or (2) or (c) are impractical because there is no stack/duct to sample the air emissions. The proposed action is the transfer of EMF evaporator concentrate to DOT approved IP-2 tanks. EM-2 is a point source emission unit without a traditional stack, and potential emissions behave somewhat like a fugitive or non-point source.
- (2) The liquid effluent transferred to the IP-2 tanks will be sampled. Because the actual liquid effluent will be sampled, air emissions will not be significantly underestimated.
- (3) The alternative procedure for sampling the liquid effluent transferred to the IP-2 tank is documented in *Evaporator Bottoms Sampling and Analysis Plan for Hot Commissioning* (24590-WTP-PL-OP-25-0001). 40 CFR 61 Appendix B Method 114 will be used for periodic confirmatory measurement (PCM). PCM will be measured for gross alpha and gross beta. Gross alpha is assumed to be Am-241 and gross beta is assumed to be Sr-90.
- (4) The permittee is requesting approval from WDOH which has been delegated authority by EPA.

The basis for the alternative approval is: 1) the potential-to-emit is less than 0.1 mrem/year using a proposed alternative release fraction of 2.00E-04, and 2) PCM are proposed consistent with 40 CFR 61 Appendix Method 114 and WAC 246-247-075(3) to verify low emissions. Liquid effluent sampling will be performed under the following circumstances:

- First three batches and a singular quarterly sample thereafter to confirm radionuclide concentrations are less than APPS model values.
- Change in process or new AP-106 waste feed batch.
- At request for re-sampling by the receiving facility.

Liquid evaporator concentrate samples will be collected via Sample Fume Hood (DEP-HOOD-00001) inside EMF. Liquid samples will be sent off site for characterization and confirmation that waste acceptance criteria are met before transportation. Once one of the DEP-3 series vessels is filled (this is considered a batch) the vessel will recirculate and sample collection is performed. The vessel will be isolated until the liquid effluent sample results are received and authorization to offload the single batch into 2-3 IP-2 tanks is confirmed [*Evaporator Bottoms Sampling and Analysis Plan for Hot Commissioning* (24590-WTP-PL-OP-25-0001)].

Following the first three batches, characterization will rely on established process knowledge and expected consistent density. Additional sampling and analysis will occur on a quarterly basis or sooner if any process changes are identified. Routine samples of wastewater in EMF that are performed prior to discharge to Liquid Effluent Retention Facility / Effluent Treatment Facility is an example of evaluating process changes.

Inventory tracking will also be performed on the number of gallons transferred to IP-2 tanks to confirm the volume remains below 414,000 gallons per year. Inventory tracking logs and waste characterization data will be available to WDOH upon request.

## 10 Annual Possession Quantity

The estimated APQ is identified in Table 2 below. The APQ is defined in WAC 246-247-030(5) as the sum of the quantity of a radionuclide on hand at the beginning of the calendar year and the quantity of that radionuclide received or produced during the calendar year. The APQ is based on 414,000 gallons per year of EMF concentrate transferred to IP-2 tanks during the calendar year. The radionuclide inventory available for transfers is derived from the APPS model stream number (DEP13) in *Emissions Estimate for DFLAW and Integrated WTP Configurations (24590-WTP-M4C-V20T-00001)*, which represents the EMF evaporator concentrate.

The equation for calculating APQ is below.

$$\text{APQ} = [\text{EMF DEP13 Evaporator Concentrate (Curies/liter)}] \times (414,000 \text{ gallons}) \times (3.785 \text{ liters/gallon})$$

As an example, the Tc-99 APQ is calculated below.

$$\text{Tc-99 APQ: } (1.61\text{E-}03 \text{ Curies/liter}) \times (414,00 \text{ gallons/year}) \times (3.785 \text{ liters/gallon}) = 2.52\text{E+}03 \text{ curies/year}$$

<b>Radionuclide</b>	<b>EMF DEP13 Evaporator Concentrate (curies/liter)</b>	<b>Transfer Volume (gallons/year)</b>	<b>Liters/Gallon</b>	<b>APQ (curies/year)</b>
Ac-227	1.32E-09	414,000	3.785	2.07E-03
Am-241	3.41E-06	414,000	3.785	5.35E+00
Am-243	1.97E-09	414,000	3.785	3.09E-03
Ba-137m	4.35E-05	414,000	3.785	6.81E+01
C-14	2.36E-07	414,000	3.785	3.70E-01
Cd-113m	7.83E-07	414,000	3.785	1.23E+00
Cm-242	1.20E-07	414,000	3.785	1.88E-01
Cm-243	8.54E-09	414,000	3.785	1.34E-02
Cm-244	1.47E-07	414,000	3.785	2.31E-01
Co-60	3.25E-14	414,000	3.785	5.10E-08
Cs-134	6.27E-12	414,000	3.785	9.83E-06
Cs-137	4.35E-05	414,000	3.785	6.81E+01
Eu-152	6.95E-14	414,000	3.785	1.09E-07
Eu-154	4.03E-13	414,000	3.785	6.32E-07
Eu-155	1.49E-13	414,000	3.785	2.33E-07
H-3	1.03E-06	414,000	3.785	1.61E+00
I-129	6.90E-09	414,000	3.785	1.08E-02
Nb-93m	1.48E-12	414,000	3.785	2.31E-06
Ni-59	6.62E-09	414,000	3.785	1.04E-02
Ni-63	4.99E-07	414,000	3.785	7.82E-01
Np-237	1.27E-08	414,000	3.785	1.98E-02
Pa-231	1.84E-16	414,000	3.785	2.88E-10

<b>Radionuclide</b>	<b>EMF DEP13 Evaporator Concentrate (curies/liter)</b>	<b>Transfer Volume (gallons/ year)</b>	<b>Liters/ Gallon</b>	<b>APQ (curies/year)</b>
Pu-238	1.83E-08	414,000	3.785	2.87E-02
Pu-239	4.07E-07	414,000	3.785	6.37E-01
Pu-240	9.47E-08	414,000	3.785	1.48E-01
Pu-241	2.55E-07	414,000	3.785	4.00E-01
Pu-242	1.47E-11	414,000	3.785	2.30E-05
Ra-226	1.34E-10	414,000	3.785	2.10E-04
Ra-228	8.21E-09	414,000	3.785	1.29E-02
Ru-106	2.50E-13	414,000	3.785	3.92E-07
Sb-125	1.11E-06	414,000	3.785	1.74E+00
Se-79	9.38E-06	414,000	3.785	1.47E+01
Sm-151	4.08E-10	414,000	3.785	6.40E-04
Sn-126	4.83E-07	414,000	3.785	7.57E-01
Sr-90	6.61E-05	414,000	3.785	1.04E+02
Tc-99	1.61E-03	414,000	3.785	2.52E+03
Th-229	9.22E-17	414,000	3.785	1.45E-10
Th-232	2.03E-16	414,000	3.785	3.18E-10
U-232	8.20E-11	414,000	3.785	1.28E-04
U-233	4.43E-09	414,000	3.785	6.94E-03
U-234	1.30E-09	414,000	3.785	2.04E-03
U-235	5.27E-11	414,000	3.785	8.26E-05
U-236	4.31E-11	414,000	3.785	6.75E-05
U-238	1.17E-09	414,000	3.785	1.83E-03
Y-90	6.61E-05	414,000	3.785	1.04E+02
Zr-93	8.63E-13	414,000	3.785	1.35E-06
<b>Total</b>				<b>2.90E+03</b>

## 11 Physical Form

WAC 246-247-110(11), *Radiation Protection—Air Emissions: Appendix A—Application Information Requirements*, requires the physical form of any radionuclide as solids, particulates, or gas. Table 3 provides the radionuclides, chemical abstract service number, physical form and solubility class associated with the radionuclides in Table 2, Annual Possession Quantity.

**Table 3 Physical Form for Each Radionuclide by Emission Unit**

<b>Radionuclide</b>	<b>Chemical Abstract Service Number</b>	<b>Physical and Release Form</b>	<b>Solubility Class</b>
Ac-227	14952-40-0	Particulate	M
Am-241	14596-10-2	Particulate	M
Am-243	14993-75-0	Particulate	M
Ba-137m	13981-97-0	Particulate	N/A

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<b>Radionuclide</b>	<b>Chemical Abstract Service Number</b>	<b>Physical and Release Form</b>	<b>Solubility Class</b>
C-14	14762-75-5	Gas/Vapor	G/V
Cd-113m	378253-44-2	Particulate	M
Cm-242	15510-73-3	Particulate	M
Cm-243	15757-87-6	Particulate	M
Cm-244	13981-15-2	Particulate	M
Co-60	10198-40-0	Particulate	M
Cs-134	13967-70-9	Particulate	F
Cs-137	10045-97-3	Particulate	F
Eu-152	14683-23-9	Particulate	M
Eu-154	15585-10-1	Particulate	M
Eu-155	14391-16-3	Particulate	M
H-3	10028-17-8	Gas/Vapor	G/V
I-129	15046-84-1	Particulate	M
Nb-93m	7440-03-1	Particulate	M
Ni-59	14336-70-0	Particulate	M
Ni-63	13981-37-8	Particulate	M
Np-237	13994-20-2	Particulate	M
Pa-231	14331-85-2	Particulate	M
Pu-238	13981-16-3	Particulate	M
Pu-239	15117-48-3	Particulate	M
Pu-240	14119-33-6	Particulate	M
Pu-241	14119-32-5	Particulate	M
Pu-242	13982-10-0	Particulate	M
Ra-226	13982-63-3	Particulate	M
Ra-228	15262-20-1	Particulate	M
Ru-106	13967-48-1	Particulate	M
Sb-125	14234-35-6	Particulate	M
Se-79	15758-45-9	Particulate	F
Sm-151	15715-94-3	Particulate	M
Sn-126	15832-50-5	Particulate	M
Sr-90	10098-97-2	Particulate	M
Tc-99	14133-76-7	Particulate	M
Th-229	15594-54-4	Particulate	S
Th-232	7440-29-1	Particulate	S
U-232	14158-29-3	Particulate	M
U-233	13968-55-3	Particulate	M
U-234	13966-29-5	Particulate	M
U-235	15117-96-1	Particulate	M
U-236	13982-70-2	Particulate	M
U-238	7440-61-1	Particulate	M
Y-90	10098-91-6	Particulate	M
Zr-93	15751-77-6	Particulate	M

Notes: Ba-137m is identified as not applicable (N/A) due to unavailable solubility class in CAP88-PC Version 4.

G/V = Gas /vapor

F = Fast clearance rate

M = Moderate clearance rate

S = Slow clearance rate

## 12 Release Form

WAC 246-247-110(12) requires indicating the release form of any radionuclide as solids, particulates, liquid, or gas (vapor). The release form of each radionuclide is included in Section 11.

## 13 Release Rates

This section requests WDOH approval under WAC 246-247-020, WAC 247-247-030(21)(e), and 40 Code of Federal Regulations (CFR) 61.96 (Subpart H) to utilize an alternate release fraction from the default values identified in WAC 246-247-030(21)(a) based on the TEDE to the MEI from all pathways being less than 0.1 mrem/year.

### Regulatory Background

40 CFR 61.96 states DOE may, with prior approval from EPA, use another procedure for estimating the source term. A facility is eligible for this exemption only if, based on its last annual report, the facility is in compliance with this subpart. WAC 246-247-020(c) and (d) state that a federal facility may request exemption from some of the requirements of WAC 246-247-060 and 246-247-075 if the potential-to-emit, for the emission unit(s) under consideration, results in a TEDE to the MEI from all pathways less than 0.1 mrem/year. The facility shall submit all the data necessary to make the exemption determinations of (b) and (c) of this subsection. The department shall determine if any exemptions apply.

Provided below is an exemption request from the default release fraction of 1.00E-03 for liquids or particulate solids in WAC 247-247-030(21)(e) and request for approval of an alternative release fraction.

### **EMF Waste Stream DEP13**

Per the *Process Inputs Basis of Design (PIBOD) for LAW and EMF* (24590-WTP-DB-PET-17-001), the EMF DEP13 waste stream is the recycle stream in the Evaporator Concentrate Vessels (DEP-VSL-00003A/B/C). The Evaporator Concentrate Vessels collect concentrated effluent from the Evaporator Separator Vessel (DEP-EVAP-00001). The Evaporator Concentrate Vessels receive evaporator concentrate from the Evaporator Concentrate Discharge Pumps (DEP-PMP-00007A/B) and backflush/off normal solids slurry.

The DEP13 waste stream properties are provided in 24590-WTP-DB-PET-17-001 and Table B-11 identifies a liquid density of 61.2 lbs/ft<sup>3</sup> (0.98 g/cm<sup>3</sup>) to 67.1 lbs/ft<sup>3</sup> (1.07 g/cm<sup>3</sup>). Bulk density for liquid and slurry process streams is calculated within the APPS model using a correlation based on total solids (dissolved + undissolved) weight percent in the stream. The correlation is identified in the *APPS Software Requirements Specification* (24590-WTP-SWD-PET-08-001) Equation C1.3.1.1. The ranges for density for each stream in 24590-WTP-DB-PET-17-001 are compiled from the 9 APPS model runs selected in *Calculation of Process Stream Properties for the Effluent Management Facility* (24590-BOF-M4C-V11T-00006) Table 5-7 to calculate EMF stream properties.

### **DOE Handbook Waste Stream Properties Used to Compare to DEP13**

The purpose of the *Airborne Release Fractions/Rates and Respirable Fractions for Non-Reactor Nuclear Facilities* (DOE-HDBK-3010-94) is to provide a compendium and analysis of experimental data from which airborne release fractions and respirable fractions may be derived. Such values are needed to

determine quantities of radioactive material driven airborne for the purpose of estimating the scope of the potential release spectrum and potential downwind consequences from a given facility or activity. The information provided in the DOE Handbook aids in making such estimates.

The permittee selected free-fall spill solutions in DOE Handbook Section 3.2.3.1 to compare to the EMF evaporator concentrate DEP13 waste stream. Aqueous solution spilled onto a hard, unyielding surface can be subdivided into drops by the instability/shear stress at the surface of the liquid during the fall and by impact upon striking the surface (splashing). The passage of the falling material through the air space creates airflow patterns and turbulence that aids in suspension. The DOE Handbook conducted experiments to report the airborne release from the free-fall spill of aqueous solutions with densities of  $\sim 1.0 \text{ g/cm}^3$  (uranine) and  $\sim 1.3 \text{ g/cm}^3$  (UNH). The fall distance was limited, less than three meters (118 inches), and the initial dispersion of the material was uncontrolled; material was released by inverting a glass beaker holding the liquid. The release fractions under these conditions ranged from 4.00E-06 to 2.00E-04.

### **Alternative Release Fraction Request**

The alternative release fraction range of 4.00E-06 to 2.00E-04 was developed by DOE for use at nonreactor nuclear facilities and is described in *Airborne Release Fractions/Rates and Respirable Fractions for Non-Reactor Nuclear Facilities* (DOE-HDBK-3010-94). Section 3.2.3 of the DOE Handbook provides an analysis of experiments focused on free-fall spills of aqueous solutions with densities of approximately 1.0 to 1.3  $\text{g/cm}^3$  that are spilled from a height of three meters (118 inches) onto a hard unyielding surface. The uranine/UNH aqueous solutions are used by DOE as a reference standard and compare to the EMF bottoms density of 1.06  $\text{g/cm}^3$  (Process Inputs Basis of Design (PIBOD) for LAW and EMF (24590-WTP-DB-PET-17-001)). In addition to a compatible density profile, the uranine/UNH aqueous solution properties in the DOE Handbook while being chemically different from the EMF bottoms do both share a uranium component, but the EMF bottoms primarily contain other transuranics besides uranium like plutonium and americium. The DOE Handbook spill height of three meters (118 inches) onto a hard unyielding surface is conservative for the IP-2 tanker truck where the IP-2 tanks fill port design height is 1.92 meters (75.5 inches) above the bottom of the tank. Additionally, the IP-2 tank provides additional containment as not all of the airborne material would be released from IP-2 tank vent port. Based on the similarities of the aqueous solutions, their densities, transuranic compositions, release height to a hard unyielding surface, and IP-2 tank containment, WDOH approval to utilize the more conservative release fraction of 2.00E-04 is requested.

## **14 Location of Maximally Exposed Individual**

The location of the MEI is at an offsite receptor 12.10 km East Southeast from WTP, near the Columbia River.

## **15 Total Effective Dose Equivalent to the Maximally Exposed Individual**

### **Radionuclide Modeling Approach**

The TEDE to the MEI resulting from EMF evaporator concentrate transfers to IP-2 tanks was generated using CAP88 PC, version 4. CAP88 PC is an EPA-approved computer model for estimating doses from radionuclide releases to the atmosphere. The EPA developed the CAP88 PC model for the purpose of demonstrating compliance with radionuclide emissions into the air under 40 CFR 61, *National Emission Standards for Hazardous Air Pollutants*. The model is a mathematical program that integrates procedures for calculating environmental transport and dose estimation of radionuclide emissions.

The model provides a methodology for assessing collective populations and MEIs. The MEI location assessed “worst-case” dose levels by selecting a “run type” of “individual.” CAP88-PC reports are provided in Appendix A.

**Air Dispersion Parameters**

The CAP88-PC model uses a modified Gaussian plume equation to estimate the dispersion of radionuclides in the air. The results of the air dispersion analysis are sector-averaged air concentrations used in the dose estimation.

**Plume Rise**

The plume rise is added to the actual physical release height to determine the effective release height. The plume centerline is shifted from physical height to effective release height as it moves downwind. The plume rise can be calculated in the model by assuming either a momentum-driven or buoyant-driven plume. Momentum-driven plume rise was selected based on WDOH guidance for use in support of notices of construction for the WTP—as required by WAC 246-247-060, *Radiation Protection—Air Emissions: Applications, Registration, and Licensing*.

**Meteorological Data**

The CAP88-PC modeling used a composite, 10-year, sector-averaging, stability array, Hanford Site meteorological data set for calendar years 2010 through 2019. The array includes annual-average frequencies for wind speed, wind direction, and each Pasquill atmospheric stability category. The meteorological data was obtained from the Hanford Site 200 East Area. The prevailing wind direction is from the west; the radionuclide emissions will primarily be transported east from EMF. Modeling input parameters were set at 18.6 cm/yr (7.3 in/yr) for annual precipitation, 12.5 °Celsius (54.5 °Fahrenheit) for ambient air temperature, a mixing height at 1,000 meters (3,281 feet), and an absolute humidity at 8 g/m<sup>3</sup>. Meteorological and population parameters were developed by the PNNL in coordination with WDOH.

**Release Point Source Data**

Release point characteristics were used for modeling emissions. The release point height, diameter, and exit velocity are provided in Table 4 below.

**Table 4 Emission Model Parameters**

Facility	Emission Unit	Physical Release Height (meters) <sup>1</sup>	Release Diameter (meters)	Gas Exit Velocity (meters/second) <sup>2</sup>
EMF	EM-2	3.87	0.05	2.00

Notes:

1. Physical release height includes flatbed truck deck height and distance of the bottom of the container to the vent port HEPA filter. All IP-2 tanks will be filled while secured on the flatbed truck.
2. Gas Exit Velocity is based on an engineering estimate of air displacement during IP-2 tank filling operations.

Release parameters using the metric system are in the modeling output files in Appendix A. Using the release parameters and dose assessment parameters, the TEDE to the MEI were calculated.

**Dose Assessment Parameters**

The CAP88-PC modeling was performed using Hanford Site-specific meteorological and population files. One update recommended by WDOH for consistency with EPA guidance changed the buildup time from 50 to 100 years. The model also allows for the assessment of dose based on different food scenarios for intake of vegetables, beef, and milk. The model was run assuming a “local” food source for offsite receptors (all food is grown at the location of the receptor), which maximizes the potential exposure due to the presence of vegetable gardens and meat or milk-producing animals in unrestricted areas surrounding the WTP.

**Location of Maximally Exposed Individual**

Modeling concluded that the prevailing wind direction transports the radionuclides east southeast, so the highest doses occur in that sector. The MEI location is an offsite location near the Hanford Site property boundary 12.10 kilometers (7.5 miles) to the east southeast of EMF.

**Radionuclide Emission and Dose**

The unabated emission rates and the TEDE to the MEI contributed by each radionuclide and the percent contribution of each radionuclide to the unabated TEDE, are provided in Table 5 below. Unabated and abated emissions are equivalent in this application since no abatement is assumed. Unabated emissions and dose are calculated using the equations below.

$$\text{Unabated emissions (curies/year)} = \text{APQ (curie/year)} \times \text{Release fraction (no units)}$$

**Table 5 Radionuclide Emissions and Dose for EMF Transfer**

<b>Radionuclide</b>	<b>APQ (Ci/yr) <sup>1</sup></b>	<b>Release Fraction <sup>2</sup></b>	<b>Unabated Emission (Ci/yr)</b>	<b>Unabated Dose (mrem/yr) <sub>3,4</sub></b>	<b>Percent of Total Unabated Dose (%)</b>
Ac-227	2.07E-03	2.00E-04	4.15E-07	2.77E-06	0.01%
Am-241	5.35E+00	2.00E-04	1.07E-03	4.16E-03	8.54%
Am-243	3.09E-03	2.00E-04	6.18E-07	2.39E-06	0.00%
Ba-137m	6.81E+01	2.00E-04	1.36E-02	1.01E-14	0.00%
C-14	3.70E-01	1.00E+00	3.70E-01	8.40E-04	1.72%
Cd-113m	1.23E+00	2.00E-04	2.45E-04	2.38E-05	0.05%
Cm-242	1.88E-01	2.00E-04	3.77E-05	1.47E-05	0.03%

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<b>Radionuclide</b>	<b>APQ (Ci/yr) <sup>1</sup></b>	<b>Release Fraction <sup>2</sup></b>	<b>Unabated Emission (Ci/yr)</b>	<b>Unabated Dose (mrem/yr) <sub>3,4</sub></b>	<b>Percent of Total Unabated Dose (%)</b>
Cm-243	1.34E-02	2.00E-04	2.68E-06	7.86E-06	0.02%
Cm-244	2.31E-01	2.00E-04	4.62E-05	1.12E-04	0.23%
Co-60	5.10E-08	2.00E-04	1.02E-11	2.90E-12	0.00%
Cs-134	9.83E-06	2.00E-04	1.97E-09	4.00E-10	0.00%
Cs-137	6.81E+01	2.00E-04	1.36E-02	3.09E-03	6.34%
Eu-152	1.09E-07	2.00E-04	2.18E-11	5.81E-12	0.00%
Eu-154	6.32E-07	2.00E-04	1.26E-10	2.59E-11	0.00%
Eu-155	2.33E-07	2.00E-04	4.65E-11	2.98E-13	0.00%
H-3	1.61E+00	1.00E+00	1.61E+00	3.39E-05	0.07%
I-129	1.08E-02	2.00E-04	2.16E-06	1.99E-06	0.00%
Nb-93m	2.31E-06	2.00E-04	4.62E-10	1.37E-13	0.00%
Ni-59	1.04E-02	2.00E-04	2.07E-06	1.12E-09	0.00%
Ni-63	7.82E-01	2.00E-04	1.56E-04	1.73E-07	0.00%
Np-237	1.98E-02	2.00E-04	3.97E-06	8.54E-06	0.02%
Pa-231	2.88E-10	2.00E-04	5.75E-14	5.12E-13	0.00%
Pu-238	2.87E-02	2.00E-04	5.74E-06	2.27E-05	0.05%
Pu-239	6.37E-01	2.00E-04	1.27E-04	5.95E-04	1.22%
Pu-240	1.48E-01	2.00E-04	2.97E-05	1.39E-04	0.29%
Pu-241	4.00E-01	2.00E-04	8.01E-05	6.86E-06	0.01%
Pu-242	2.30E-05	2.00E-04	4.60E-09	2.04E-08	0.00%
Ra-226	2.10E-04	2.00E-04	4.20E-08	3.00E-08	0.00%
Ra-228	1.29E-02	2.00E-04	2.57E-06	2.20E-06	0.00%
Ru-106	3.92E-07	2.00E-04	7.84E-11	5.63E-13	0.00%
Sb-125	1.74E+00	2.00E-04	3.49E-04	9.52E-06	0.02%
Se-79	1.47E+01	2.00E-04	2.94E-03	2.40E-04	0.49%
Sm-151	6.40E-04	2.00E-04	1.28E-07	5.61E-11	0.00%
Sn-126	7.57E-01	2.00E-04	1.51E-04	1.31E-05	0.03%
Sr-90	1.04E+02	2.00E-04	2.07E-02	6.47E-03	13.29%
Tc-99	2.52E+03	2.00E-04	5.05E-01	3.29E-02	67.56%
Th-229	1.45E-10	2.00E-04	2.89E-14	1.93E-13	0.00%
Th-232	3.18E-10	2.00E-04	6.36E-14	1.54E-13	0.00%

<b>Radionuclide</b>	<b>APQ (Ci/yr) <sup>1</sup></b>	<b>Release Fraction <sup>2</sup></b>	<b>Unabated Emission (Ci/yr)</b>	<b>Unabated Dose (mrem/yr) <sub>3,4</sub></b>	<b>Percent of Total Unabated Dose (%)</b>
U-232	1.28E-04	2.00E-04	2.57E-08	2.19E-08	0.00%
U-233	6.94E-03	2.00E-04	1.39E-06	4.09E-07	0.00%
U-234	2.04E-03	2.00E-04	4.08E-07	1.17E-07	0.00%
U-235	8.26E-05	2.00E-04	1.65E-08	6.06E-09	0.00%
U-236	6.75E-05	2.00E-04	1.35E-08	3.59E-09	0.00%
U-238	1.83E-03	2.00E-04	3.66E-07	8.79E-08	0.00%
Y-90	1.04E+02	2.00E-04	2.07E-02	2.85E-06	0.01%
Zr-93	1.35E-06	2.00E-04	2.71E-10	4.08E-13	0.00%
<b>Total</b>	<b>2.90E+03</b>		<b>2.56E+00</b>	<b>4.87E-02</b>	

**Notes:**

1. APQ is based on the methodology provided in Section 10.
2. Release fraction for particulate is from DOE-HDBK-3010-94 Section 3.2.3.
3. The CAP88-PC, version 4, model outputs are provided in Appendix A.
4. No credit is taken for HEPA filtration. Unabated and abated values are equal.

The total unabated dose for EM-2 is 4.87E-02 mrem/year based on a proposed alternate release fraction of 2.0E-04. This defines EM-2 as a potential impact category (PIC) 3 since total unabated dose is less than 0.1 mrem/yr [*Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stack and Ducts of Nuclear Facilities* (ANSI/HPS N13.1 1999)]. The PIC 3 classification is dependent on the WDOH approval of the Section 13 alternative release fraction request of 2.00E-04. Using the standard release fraction of 1.0E-03 in WAC 246-247-030(21)(a)(ii) for liquid would result in a total unabated dose above 0.1 mrem/yr and subsequent PIC 2 classification. PIC categories are defined below.

1. PIC 1 - Emission units with TEDE greater than 5 mrem/yr
2. PIC 2 - Emission units with TEDE less than 5 mrem/yr but greater than 0.1 mrem/yr
3. PIC 3 - Emission units with TEDE less than 0.1 mrem/yr.

## 16 Cost Factors of Control Technology Components

WAC 246-247-110(16) requires the application to provide cost factors for construction, operation, and maintenance of the proposed control technology components and system, if a BARCT or ALARACT demonstration is not submitted with the NOC. There is no BARCT proposed for the concentrate transfer from EMF to IP-2 tanks.

## 17 Duration or Lifetime

IP-2 tank design life is five years. Use of IP-2 tanks beyond five years will be evaluated to determine that they are still fit for service.

## 18 Standards

The Washington Administrative Code (WAC-246-247-110) Appendix A, application information requirement 18 specifies: Indicate which control technology standards (ASME/ANSI AG-1, ASME/ANSI N509, ASME/ANSI N510, ANSI/ASME NQA-1, 40 CFR 60, Appendix A Methods 1, 1A, 2, 2A, 2C, 2D, 4,5 and 17, and ANSI/HPS N13.1) have been considered and will be complied with in the design and operation of the emission unit. For each standard not so indicated, give reasons to support adequacy of the design and operation of the emission unit as proposed.

The above control technology standards have been considered, however, waste transfer operations and resulting emissions from an IP-2 tank vent port are not a traditional point source emission unit and therefore alternative technical standards are proposed to support the IP-2 tank waste transfer operations.

### **ANSI/ASME NQA-1, Quality Assurance Program Requirements for Nuclear Facilities**

The EMF bottoms transfers to the IP-2 tank for off-site shipment quality requirements are governed by the *DFLAW Commissioning and Operations Quality Assurance Manual* (24590-WTP-QAM-RAQA-QA-0001). The QAM implements the basic and supplementary requirements of ASME NQA-1, which are flowed into lower tier procedures to meet all applicable quality requirements. The *Evaporator Bottoms Sampling and Analysis Plan for Hot Commissioning* (24590-WTP-PL-OP-25-0001), provides Data Quality Objectives (DQO) along with detailed sampling, analytical, Quality Control (QC), and Quality Assurance (QA) requirements for the collection of defensible evaporator bottoms data. The combination of these documents provide equivalent QA requirements that are consistent with the applicable sections of clause 7 in ANSI/HPS N13.1 and 40 CFR 61, Subpart H, Method 114 to ensure measurement and analysis accuracy.

### **ANSI/HPS N13.1-1999, Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stack and Ducts of Nuclear Facilities**

ANSI/HPS N13.1 sets forth guidelines and performance criteria for sampling the emissions of airborne radioactive substances in the air discharge ducts and stacks of nuclear facilities. This standard provides performance-based criteria for the use of air sampling probes, transport lines, sample collectors, sample monitoring instruments, gas flow measuring methods, and quality assurance. Waste transfer operations and resulting emissions from an IP-2 tank vent port is not a traditional emission unit. The ANSI N13.1 standard was considered; however, alternative sampling requirements are proposed for WDOH approval in Section 9 of the NOC. As an alternative, periodic confirmatory measurement via extractive sampling of the evaporator bottoms is proposed.

For the proposed liquid effluent sampling in *Evaporator Bottoms Sampling and Analysis Plan for Hot Commissioning* (24590-WTP-PL-OP-25-0001) the data will demonstrate whether the waste profile bounds the waste concentrations and thus achieves Treatment Storage Disposal Facility (TSDF) acceptance for processing, and whether the evaporator bottoms can be transported to the TSDF under DOT Regulations. In addition, the SAP stipulates methods and approaches for the collection of the defensible analyte data needed to validate and refine waste characterization models for evaporator bottoms forecasting, as stipulated in *Low-Level Radioactive Waste and Mixed Low-Level Radioactive Waste Characterization Management Plan* (24590-WTP-PL-OP-20-0003) and *Waste Forecasting Methodology Description* (24590-WTP-RPT-OP-20-001).

The SAP follows EPA's DQO process in EPA QA/G-4, Guidance on Systematic Planning Using the Data Quality Objectives Process, which provides a systematic approach to achieving sample data quality. Moreover, this SAP conforms to and is consistent with *Data Quality Objectives Report for WTP Secondary Wastes* (24590-WTP-RPT-OP-21-002), which specifies high-level, programmatic goals and requirements for data quality through the DQO process.

Sampling and analysis by the WTP Lab will be conducted in accordance with *DFLAW Commissioning and Operations Quality Assurance Manual* (24590-WTP-QAM-RAQA-QA-0001) and *Analytical Laboratory Supplemental Quality Assurance Plan* (24590-LAB-SQAP-RAQA-LQ-0001). Due to the likelihood that EMF analyses specified in the SAP will be performed by an offsite Laboratory of Record (LOR), laboratory service providers will be qualified in accordance with *DFLAW Commissioning and Operations Quality Assurance Manual* (24590-WTP-QAM-RAQA-QA-0001). The LOR shall ensure the flow down of applicable requirements. Further, the LOR shall ensure data received meets all applicable requirements. All sampling and analysis activities will be performed using approved methods, procedures, and work packages, which are written in accordance with approved operational and laboratory QA plans, consistent with requirements of this SAP. All activities specified in this SAP will be performed by qualified personnel that meet site- and job-specific training requirements, using properly maintained and calibrated equipment. Qualification records shall be reviewed at least annually and updated as needed.

At a minimum, frequency for QC analyses (duplicates, matrix spikes, blanks, laboratory control samples [LCS]) will meet EPA method requirements. Where reference methods are not available, (e.g., radionuclide analyses), the frequency will meet the requirements established in WTP Lab QA plans and procedures. The LOR will also use calibration and calibration check standards appropriate for the analytical instrumentation, as defined in *Hanford Analytical Services Quality Assurance Requirements Document* (DOE/RL-96-68). The administrative limits (i.e., QC acceptance criteria) for LCSs, spikes, and duplicates are specified in the SAP.

The EPA encourages the use of performance-based measurement systems when performing SW-846 chemical methods used to analyze solid waste. Therefore, performance measures established and documented by LOR Statistical Process Control (SPC) limits, when available, may be used instead of the specified administrative limits. QC results exceeding administrative limits but within the laboratory statistical criteria will be identified in the LOR data report.

The QC criteria establish goals for demonstrating reliable method performance. The LOR will use its internal QA system for addressing QC failures. The LOR may re-analyze samples based on the internal evaluation. If the QC failures are systematic and cannot be resolved by internal protocols, the Project manager/assigned task lead will be consulted to determine the proper action. The LOR should suggest a course of action at that time. All data not meeting the QC requirements will be properly noted (flagged with narrative) and the associated QC failures discussed in the narrative Section of the data report.

The SAP QC acceptance criteria for LCSs, spikes, and duplicates for effluent waste contaminants of concern. The SAP lists the laboratory QC requirements for radionuclides. WTP will provide these requirement lists for radionuclides to the LOR.

Action Levels (AL) are the universal treatment wastewater treatment standard from 40 CFR 268.40, Treatment for Hazardous Waste. Each required detection level (RDL) will be one tenth of the AL unless otherwise stated. When analytes lack an available AL, they will not be subject to an AL and the RDL will be the minimum Practical Quantitation Limit (PQL) or Minimum Detectable Activity (MDA) the LOR can provide.

RDLs are established to ensure concentrations of key constituents can be measured at levels substantially below the action limits. Sample data measured at or near the method detection limits have high uncertainty from background noise; comparing such data to an action limit is more likely to result in decision error. Meeting the RDLs is a way of avoiding the decision error.

Higher radiation levels could cause the LOR detection limits to increase because a sample may require dilution to be handled and analyzed safely. Samples may also require dilution because of matrix effects. The detection limit will be reported with the analytical results and will be based on the actual sample volume or mass. However, the LOR will be instructed to minimize sample dilution (if dilution is necessary) to the extent possible. Dilution for convenience is not acceptable. PQLs should be as low as possible.

Because detection limits depend on parameters such as sample volume/mass (dictated by sample activity and sample availability), methods, and matrix effects, when no action limit is established, the LOR will provide the lowest PQL, which depends on the circumstances noted above. In general, the LOR shall endeavor to achieve the specified required limit.

**49 Code of Federal Regulation (CFR) 173, Subpart I, Class 7 Radioactive Materials and 49 CFR 180, Continuing Qualification and Maintenance of Packagings.**

The IP-2 tanks are designed to comply with the applicable requirements in 49 CFR 173, Subpart I for Class 7 Radioactive Material transportation as well as the 49 CFR Part 180 for the normal transport, radioactive loss prevention to ensure safe transport of EMF bottoms for subsequent treatment and disposal.

**ASME AG-1, Code on Nuclear Air and Gas Treatment**

ASME AG-1 is the primary code applied to the design and operation of ventilation systems for nuclear facility emission units. A removable HEPA filter assembly will be attached to the IP-2 tank when transferring waste into the tank, however the filter is not credited for abatement. The filter assembly is designed consistent with ASME AG-1, 2009, Section AA, Common Articles; Section FC, Appendix FC-I, Filter Media; and Section FK, Special HEPA Filters.

## **19 References**

### **Project Documents**

24590-BOF-M4C-V11T-00006, *Calculation of Process Stream Properties for the Effluent Management Facility*

24590-WTP-DB-PET-17-001, *Process Inputs Basis of Design (PIBOD) for LAW and EMF*

24590-WTP-GPP-RARP-RP-1001, *Performing Radiological Work*

24590-WTP-GPP-RARP-RP-1010, *Radioactive Material Control*

24590-WTP-GPP-RARP-RP-3013, *Radioactive Material Shipment and Receipt Surveys*

24590-WTP-M4C-V20T-00001, *Emissions Estimate for DFLAW and Integrated WTP Configurations*

24590-WTP-PL-OP-20-0003, *Low-Level Radioactive Waste and Mixed Low-Level Radioactive Waste Characterization Management Plan*

24590-WTP-PL-OP-25-0001, *Evaporator Bottoms Sampling and Analysis Plan for Hot Commissioning*

24590-WTP-QAM-RAQA-QA-0001, *DFLAW Commissioning and Operations Quality Assurance Manual*

24590-WTP-RPT-ENV-18-002, *Radioactive Air Emissions Notice of Construction Operating License Application for the WTP LAW, LAB, and EMF*

24590-WTP-RPT-OP-20-001, *Waste Forecasting Methodology Description*

24590-WTP-RPT-OP-21-002, *Data Quality Objectives Report for WTP Secondary Wastes*

24590-LAB-SQAP-RAQA-LQ-0001, *Analytical Laboratory Supplemental Quality Assurance Plan*

24590-WTP-SWD-PET-08-001, *APPS Software Requirements Specification*

### **Codes and Standards**

40 CFR 60, *Standard of Performance for New Stationary Sources, Appendix A Test Methods*

40 CFR 61, *National Emission Standards for Hazardous Air Pollutants*

40 CFR 61 Appendix B Method 114, *Test Methods*

40 CFR 61 Subpart H, *National Emission Standards for Emissions of Radionuclides other than Radon from Department of Energy Facilities*

40 CFR 268, *Land Disposal Restrictions*

49 CFR 173, *Shippers – General Requirements for Shipments and Packages*

49 CFR 180, *Continuing Qualification and Maintenance of Packagings*

ANSI/HPS N13.1-1999, *Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stack and Ducts of Nuclear Facilities*, Health Physics Society, McLean, VA.

RCW 43.21C.030. *Guidelines for State Agencies: Local Governments—Statements—Reports—Advice—Information*. Revised Code of Washington, Olympia, WA

RCW 43.21C.150. *State Environmental Policy: RCW 43.21C.030(2)(c) Inapplicable When Statement Previously Prepared Pursuant to National Environmental Policy Act*. Revised Code of Washington, Olympia, WA.

WAC 197-11. *SEPA Rules*. Washington Administrative Code, Olympia, WA.

WAC 246-247. *Radiation Protection—Air Emissions*. Washington Administrative Code. Olympia, WA.

WAC 246-247-020. *Radiation Protection—Air Emissions: Exemptions*. Washington Administrative Code, Olympia, WA.

WAC 246-247-030. *Radiation Protection—Air Emissions: Definitions*. Washington Administrative Code, Olympia, WA.

WAC 246-247-060. *Radiation Protection—Air Emissions: Applications, Registration, and Licensing*. Washington Administrative Code, Olympia, WA.

WAC 246-247-075, *Monitoring, Testing, and Quality Assurance*, Olympia, WA.

WAC 246-247-110. *Radiation Protection—Air Emissions: Appendix A—Application Information Requirements*. Washington Administrative Code, Olympia, WA.

WAC 246-247-120. *Radiation Protection—Air Emissions: Appendix B—BARCT Compliance Demonstration*. Washington Administrative Code, Olympia, WA.

#### **Other Documents**

DOE/EIS-0391. *Final Tank Closure and Waste Management Environmental Impact Statement for the Hanford Site, Richland, Washington (TC & WM EIS)*. US Department of Energy, Hanford Field Office, Richland, WA.

DOE-HDBK-3010-94, *Airborne Release Fractions/Rates and Respirable Fractions for Non-Reactor Nuclear Facilities*, Washington D.C.

DOE/RL-96-68, *Hanford Analytical Services Quality Assurance Requirements Document*

## **Appendix A**

### **CAP88-PC Reports**

# Appendix A

## CAP88-PC Reports

C A P 8 8 - P C

Version 4.0

Clean Air Act Assessment Package - 1988

### S Y N O P S I S R E P O R T

Non-Radon Individual Assessment  
Thu Apr 23 07:54:45 2026

Facility: EMF Effluent Transfer to IP-2 Tanks  
Address:  
City:  
State: WA Zip:

Source Category:  
Source Type: Stack  
Emission Year: 2026  
DOSE Age Group: Adult

Comments:

Committed Effective Dose Equivalent  
(mrem)

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4.87E-02

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At This Location: 12100 Meters East Southeast  
Dataset Name: EMF Tanker Truck  
Dataset Date: Apr 23, 2026 07:54 AM  
Wind File: C:\Users\bawalker\Documents\CAP88\Wind Files\a19200E10.

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MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 12100 Meters East Southeast  
Lifetime Fatal Cancer Risk: 4.59E-09

ORGAN DOSE EQUIVALENT SUMMARY  
(RN-222 Working Level Calculations Excluded)

Organ	Dose Equivalent (mrem)
Adrenal	6.62E-03
UB_Wall	1.31E-02
Bone_Sur	3.03E-01
Brain	6.13E-03
Breasts	6.03E-03
St_Wall	1.15E-01
SI_Wall	1.42E-02
ULI_Wall	7.59E-02
LLI_Wall	2.11E-01
Kidneys	1.04E-02
Liver	2.41E-02
Muscle	6.31E-03
Ovaries	1.02E-02
Pancreas	7.05E-03
R_Marrow	5.46E-02
Skin	8.70E-03
Spleen	6.90E-03
Testes	9.90E-03
Thymus	6.43E-03
Thyroid	5.60E-02
GB_Wall	6.60E-03
Ht_Wall	6.58E-03
Uterus	6.71E-03
ET_Reg	7.21E-03
Lung_66	1.12E-02
Effectiv	4.87E-02

RADIONUCLIDE EMISSIONS DURING THE YEAR 2026

Nuclide	Type	Size	Source #1 Ci/y	TOTAL Ci/y
Am-241	M	1.000	1.1E-03	1.1E-03
C-14	G	0.000	3.7E-01	3.7E-01
Co-60	M	1.000	1.0E-11	1.0E-11
Cm-243	M	1.000	2.7E-06	2.7E-06

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Cm-244	M	1.000	4.6E-05	4.6E-05
Cs-137	F	1.000	1.4E-02	1.4E-02
Eu-152	M	1.000	2.2E-11	2.2E-11
Eu-154	M	1.000	1.3E-10	1.3E-10
Eu-155	M	1.000	4.6E-11	4.6E-11
H-3	V	0.000	1.6E+00	1.6E+00
I-129	F	1.000	2.2E-06	2.2E-06
Ni-63	M	1.000	1.6E-04	1.6E-04
Np-237	M	1.000	4.0E-06	4.0E-06
Pu-238	M	1.000	5.7E-06	5.7E-06
Pu-239	M	1.000	1.3E-04	1.3E-04
Pu-240	M	1.000	3.0E-05	3.0E-05
Pu-241	M	1.000	8.0E-05	8.0E-05
Sb-125	M	1.000	3.5E-04	3.5E-04
Sm-151	M	1.000	1.3E-07	1.3E-07
Sn-126	M	1.000	1.5E-04	1.5E-04
Sr-90	M	1.000	2.1E-02	2.1E-02
Tc-99	M	1.000	5.0E-01	5.0E-01
Th-232	S	1.000	6.4E-14	6.4E-14
U-233	M	1.000	1.4E-06	1.4E-06
U-234	M	1.000	4.1E-07	4.1E-07
U-235	M	1.000	1.6E-08	1.6E-08
U-236	M	1.000	1.4E-08	1.4E-08
U-238	M	1.000	3.7E-07	3.7E-07
Y-90	M	1.000	2.1E-02	2.1E-02
Ru-106	M	1.000	7.8E-11	7.8E-11
Cs-134	F	1.000	2.0E-09	2.0E-09
Ba-137m	B	0.000	1.4E-02	1.4E-02
Pu-242	M	1.000	4.6E-09	4.6E-09
Ra-226	M	1.000	4.2E-08	4.2E-08
U-232	M	1.000	2.6E-08	2.6E-08
Pa-231	M	1.000	5.7E-14	5.7E-14
Ni-59	M	1.000	2.1E-06	2.1E-06
Ac-227	M	1.000	4.1E-07	4.1E-07
Am-243	M	1.000	6.2E-07	6.2E-07
Ra-228	M	1.000	2.6E-06	2.6E-06
Cm-242	M	1.000	3.8E-05	3.8E-05
Th-229	S	1.000	2.9E-14	2.9E-14
Zr-93	M	1.000	2.7E-10	2.7E-10
Nb-93m	M	1.000	4.6E-10	4.6E-10
Cd-113m	M	1.000	2.5E-04	2.5E-04
Se-79	F	1.000	2.9E-03	2.9E-03

SITE INFORMATION

Temperature: 12.500 degrees C  
Precipitation: 18.600 cm/y  
Humidity: 8.000 g/cu m  
Mixing Height: 1000.0 m

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SOURCE INFORMATION

Source Number:     1  
\_\_\_\_\_

Stack Height (m):   3.87  
                   Diameter (m):   0.05

Plume Rise  
 Momentum (m/s):    2.00  
 (Exit Velocity)

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	1.0000	1.0000	1.0000
Fraction From Assessment Area:	0.0000	0.0000	0.0000
Fraction Imported:	0.0000	0.0000	0.0000

Food Arrays were not generated for this run.  
 Default Values used.

DISTANCES (M) USED FOR MAXIMUM INDIVIDUAL ASSESSMENT

12100	16100	24100	30100	36100	42100	48100
54100	60100	66100				



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RADIONUCLIDE-DEPENDENT PARAMETERS FOR RELEASED ISOTOPES

Nuclide	Clearance Type	Particle Size (microns)	Scavenging Coefficient (per second)	Dry Deposition Velocity (m/s)
Am-241	M	1.000	1.86E-06	1.80E-03
C-14	G	0.000	0.00E+00	0.00E+00
Co-60	M	1.000	1.86E-06	1.80E-03
Cm-243	M	1.000	1.86E-06	1.80E-03
Cm-244	M	1.000	1.86E-06	1.80E-03
Cs-137	F	1.000	1.86E-06	1.80E-03
Eu-152	M	1.000	1.86E-06	1.80E-03
Eu-154	M	1.000	1.86E-06	1.80E-03
Eu-155	M	1.000	1.86E-06	1.80E-03
H-3	V	0.000	0.00E+00	0.00E+00
I-129	F	1.000	1.86E-06	3.50E-02
Ni-63	M	1.000	1.86E-06	1.80E-03
Np-237	M	1.000	1.86E-06	1.80E-03
Pu-238	M	1.000	1.86E-06	1.80E-03
Pu-239	M	1.000	1.86E-06	1.80E-03
Pu-240	M	1.000	1.86E-06	1.80E-03
Pu-241	M	1.000	1.86E-06	1.80E-03
Sb-125	M	1.000	1.86E-06	1.80E-03
Sm-151	M	1.000	1.86E-06	1.80E-03
Sn-126	M	1.000	1.86E-06	1.80E-03
Sr-90	M	1.000	1.86E-06	1.80E-03
Tc-99	M	1.000	1.86E-06	1.80E-03
Th-232	S	1.000	1.86E-06	1.80E-03
U-233	M	1.000	1.86E-06	1.80E-03
U-234	M	1.000	1.86E-06	1.80E-03
U-235	M	1.000	1.86E-06	1.80E-03
U-236	M	1.000	1.86E-06	1.80E-03
U-238	M	1.000	1.86E-06	1.80E-03
Y-90	M	1.000	1.86E-06	1.80E-03
Ru-106	M	1.000	1.86E-06	1.80E-03
Cs-134	F	1.000	1.86E-06	1.80E-03
Ba-137m	B	0.000	1.86E-06	1.80E-03
Pu-242	M	1.000	1.86E-06	1.80E-03
Ra-226	M	1.000	1.86E-06	1.80E-03
U-232	M	1.000	1.86E-06	1.80E-03
Pa-231	M	1.000	1.86E-06	1.80E-03
Ni-59	M	1.000	1.86E-06	1.80E-03
Ac-227	M	1.000	1.86E-06	1.80E-03
Am-243	M	1.000	1.86E-06	1.80E-03
Ra-228	M	1.000	1.86E-06	1.80E-03
Cm-242	M	1.000	1.86E-06	1.80E-03
Th-229	S	1.000	1.86E-06	1.80E-03
Zr-93	M	1.000	1.86E-06	1.80E-03
Nb-93m	M	1.000	1.86E-06	1.80E-03
Cd-113m	M	1.000	1.86E-06	1.80E-03
Se-79	F	1.000	1.86E-06	1.80E-03

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RADIONUCLIDE-DEPENDENT PARAMETERS FOR RELEASED ISOTOPES

Nuclide	DECAY CONSTANT (PER DAY)			TRANSFER COEFFICIENT	
	Radio- active	Surface	Water	Milk (1)	Meat (2)
Am-241	4.39E-06	5.48E-05	0.00E+00	2.00E-06	5.00E-05
C-14	3.33E-07	5.48E-05	0.00E+00	0.00E+00	0.00E+00
Co-60	3.60E-04	5.48E-05	0.00E+00	2.00E-03	3.00E-02
Cm-243	6.52E-05	5.48E-05	0.00E+00	2.00E-06	2.00E-05
Cm-244	1.05E-04	5.48E-05	0.00E+00	2.00E-06	2.00E-05
Cs-137	6.29E-05	5.48E-05	0.00E+00	1.00E-02	5.00E-02
Eu-152	1.40E-04	5.48E-05	0.00E+00	6.00E-05	2.00E-03
Eu-154	2.21E-04	5.48E-05	0.00E+00	6.00E-05	2.00E-03
Eu-155	3.99E-04	5.48E-05	0.00E+00	6.00E-05	2.00E-03
H-3	1.54E-04	5.48E-05	0.00E+00	0.00E+00	0.00E+00
I-129	1.21E-10	5.48E-05	0.00E+00	1.00E-02	4.00E-02
Ni-63	1.90E-05	5.48E-05	0.00E+00	2.00E-02	5.00E-03
Np-237	8.85E-10	5.48E-05	0.00E+00	1.00E-05	1.00E-03
Pu-238	2.16E-05	5.48E-05	0.00E+00	1.00E-06	1.00E-04
Pu-239	7.87E-08	5.48E-05	0.00E+00	1.00E-06	1.00E-04
Pu-240	2.89E-07	5.48E-05	0.00E+00	1.00E-06	1.00E-04
Pu-241	1.32E-04	5.48E-05	0.00E+00	1.00E-06	1.00E-04
Sb-125	6.88E-04	5.48E-05	0.00E+00	1.00E-04	1.00E-03
Sm-151	2.11E-05	5.48E-05	0.00E+00	6.00E-05	2.00E-03
Sn-126	8.25E-09	5.48E-05	0.00E+00	1.00E-03	1.00E-02
Sr-90	6.59E-05	5.48E-05	0.00E+00	2.00E-03	1.00E-02
Tc-99	8.99E-09	5.48E-05	0.00E+00	1.00E-03	1.00E-04
Th-232	1.35E-13	5.48E-05	0.00E+00	5.00E-06	1.00E-04
U-233	1.19E-08	5.48E-05	0.00E+00	4.00E-04	8.00E-04
U-234	7.73E-09	5.48E-05	0.00E+00	4.00E-04	8.00E-04
U-235	2.70E-12	5.48E-05	0.00E+00	4.00E-04	8.00E-04
U-236	8.10E-11	5.48E-05	0.00E+00	4.00E-04	8.00E-04
U-238	4.25E-13	5.48E-05	0.00E+00	4.00E-04	8.00E-04
Y-90	2.59E-01	5.48E-05	0.00E+00	6.00E-05	2.00E-03
Ru-106	1.86E-03	5.48E-05	0.00E+00	2.00E-05	2.00E-03
Cs-134	9.19E-04	5.48E-05	0.00E+00	1.00E-02	5.00E-02
Ba-137m	3.91E+02	5.48E-05	0.00E+00	5.00E-04	2.00E-04
Pu-242	5.06E-09	5.48E-05	0.00E+00	1.00E-06	1.00E-04
Ra-226	1.19E-06	5.48E-05	0.00E+00	1.00E-03	2.00E-03
U-232	2.75E-05	5.48E-05	0.00E+00	4.00E-04	8.00E-04
Pa-231	5.79E-08	5.48E-05	0.00E+00	5.00E-06	5.00E-06
Ni-59	1.88E-08	5.48E-05	0.00E+00	2.00E-02	5.00E-03
Ac-227	8.72E-05	5.48E-05	0.00E+00	2.00E-06	2.00E-05
Am-243	2.57E-07	5.48E-05	0.00E+00	2.00E-06	5.00E-05
Ra-228	3.30E-04	5.48E-05	0.00E+00	1.00E-03	2.00E-03
Cm-242	4.26E-03	5.48E-05	0.00E+00	2.00E-06	2.00E-05
Th-229	2.59E-07	5.48E-05	0.00E+00	5.00E-06	1.00E-04
Zr-93	1.24E-09	5.48E-05	0.00E+00	6.00E-07	1.00E-06
Nb-93m	1.18E-04	5.48E-05	0.00E+00	2.00E-06	3.00E-07
Cd-113m	1.35E-04	5.48E-05	0.00E+00	2.00E-03	1.00E-03
Se-79	6.43E-09	5.48E-05	0.00E+00	1.00E-02	1.00E-01

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FOOTNOTES:

- (1) Fraction of animal's daily intake of nuclide  
which appears in each L of milk (days/L)
  
  - (2) Fraction of animal's daily intake of nuclide  
which appears in each kg of meat (days/kg)
-

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RADIONUCLIDE-DEPENDENT PARAMETERS FOR RELEASED ISOTOPES

Nuclide	CONCENTRATION UPTAKE FACTOR		GI UPTAKE FRACTION	
	Forage (1)	Edible (2)	Inhalation	Ingestion
Am-241	1.00E-01	1.00E-03	5.00E-04	5.00E-04
C-14	0.00E+00	0.00E+00	1.00E+00	1.00E+00
Co-60	2.00E+00	8.00E-02	1.00E-01	1.00E-01
Cm-243	1.00E-01	1.00E-03	5.00E-04	5.00E-04
Cm-244	1.00E-01	1.00E-03	5.00E-04	5.00E-04
Cs-137	1.00E+00	2.00E-01	1.00E+00	1.00E+00
Eu-152	1.00E-01	2.00E-03	5.00E-04	5.00E-04
Eu-154	1.00E-01	2.00E-03	5.00E-04	5.00E-04
Eu-155	1.00E-01	2.00E-03	5.00E-04	5.00E-04
H-3	0.00E+00	0.00E+00	1.00E+00	1.00E+00
I-129	1.00E-01	2.00E-02	1.00E+00	1.00E+00
Ni-63	1.00E+00	5.00E-02	5.00E-02	5.00E-02
Np-237	1.00E-01	2.00E-02	5.00E-04	5.00E-04
Pu-238	1.00E-01	1.00E-03	5.00E-04	5.00E-04
Pu-239	1.00E-01	1.00E-03	5.00E-04	5.00E-04
Pu-240	1.00E-01	1.00E-03	5.00E-04	5.00E-04
Pu-241	1.00E-01	1.00E-03	5.00E-04	5.00E-04
Sb-125	1.00E-01	1.00E-02	1.00E-01	1.00E-01
Sm-151	1.00E-01	2.00E-03	5.00E-04	5.00E-04
Sn-126	1.00E+00	3.00E-01	2.00E-02	2.00E-02
Sr-90	4.00E+00	3.00E-01	3.00E-01	3.00E-01
Tc-99	4.00E+01	5.00E+00	5.00E-01	5.00E-01
Th-232	1.00E-01	1.00E-03	5.00E-04	5.00E-04
U-233	1.00E-01	2.00E-03	2.00E-02	2.00E-02
U-234	1.00E-01	2.00E-03	2.00E-02	2.00E-02
U-235	1.00E-01	2.00E-03	2.00E-02	2.00E-02
U-236	1.00E-01	2.00E-03	2.00E-02	2.00E-02
U-238	1.00E-01	2.00E-03	2.00E-02	2.00E-02
Y-90	1.00E-01	2.00E-03	1.00E-04	1.00E-04
Ru-106	2.00E-01	3.00E-02	5.00E-02	5.00E-02
Cs-134	1.00E+00	2.00E-01	1.00E+00	1.00E+00
Ba-137m	1.00E-01	1.00E-02	2.00E-01	2.00E-01
Pu-242	1.00E-01	1.00E-03	5.00E-04	5.00E-04
Ra-226	2.00E-01	4.00E-02	2.00E-01	2.00E-01
U-232	1.00E-01	2.00E-03	2.00E-02	2.00E-02
Pa-231	1.00E-01	1.00E-02	5.00E-04	5.00E-04
Ni-59	1.00E+00	5.00E-02	5.00E-02	5.00E-02
Ac-227	1.00E-01	1.00E-03	5.00E-04	5.00E-04
Am-243	1.00E-01	1.00E-03	5.00E-04	5.00E-04
Ra-228	2.00E-01	4.00E-02	2.00E-01	2.00E-01
Cm-242	1.00E-01	1.00E-03	5.00E-04	5.00E-04
Th-229	1.00E-01	1.00E-03	5.00E-04	5.00E-04
Zr-93	1.00E-01	1.00E-03	2.00E-03	1.00E-02
Nb-93m	1.00E-01	1.00E-02	1.00E-02	1.00E-02
Cd-113m	1.00E+00	5.00E-01	5.00E-02	5.00E-02
Se-79	5.00E-01	1.00E-01	8.00E-01	8.00E-01

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- FOOTNOTES: (1) Concentration factor for uptake of nuclide  
from soil for pasture and forage  
(in pCi/kg dry weight per pCi/kg dry soil)
- (2) Concentration factor for uptake of nuclide  
from soil by edible parts of crops  
(in pCi/kg wet weight per pCi/kg dry soil)

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H-3 DOSE CONVERSION FACTOR FOR  
WATER INGESTION (rem-cc/pCi-y): 5.70E-02

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VALUES FOR RADIONUCLIDE-INDEPENDENT PARAMETERS

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HUMAN INHALATION RATE		
Cubic meters/yr		5.26E+03
SOIL PARAMETERS		
Effective surface density (kg/sq m, dry weight)		
(Assumes 15 cm plow layer)		2.15E+02
BUILDUP TIMES		
For activity in soil (years)		1.00E+02
For radionuclides deposited on ground/water (days)		3.65E+04
DELAY TIMES		
Ingestion of pasture grass by animals (hr)		0.00E+00
Ingestion of stored feed by animals (hr)		2.16E+03
Ingestion of leafy vegetables by man (hr)		3.36E+02
Ingestion of produce by man (hr)		3.36E+02
Transport time from animal feed-milk-man (day)		2.00E+00
Time from slaughter to consumption (day)		2.00E+01
WEATHERING		
Removal rate constant for physical loss (per hr)		2.90E-03
CROP EXPOSURE DURATION		
Pasture grass (hr)		7.20E+02
Crops/leafy vegetables (hr)		1.44E+03
AGRICULTURAL PRODUCTIVITY		
Grass-cow-milk-man pathway (kg/sq m)		2.80E-01
Produce/leafy veg for human consumption (kg/sq m)		7.16E-01
FALLOUT INTERCEPTION FRACTIONS		
Vegetables		2.00E-01
Pasture		5.70E-01
GRAZING PARAMETERS		
Fraction of year animals graze on pasture		4.00E-01
Fraction of daily feed that is pasture grass		
when animal grazes on pasture		4.30E-01

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VALUES FOR RADIONUCLIDE-INDEPENDENT PARAMETERS

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ANIMAL FEED CONSUMPTION FACTORS		
Contaminated feed/forage (kg/day, dry weight)	1.56E+01	
DAIRY PRODUCTIVITY		
Milk production of cow (L/day)	1.10E+01	
MEAT ANIMAL SLAUGHTER PARAMETERS		
Muscle mass of animal at slaughter (kg)	2.00E+02	
Fraction of herd slaughtered (per day)	3.81E-03	
DECONTAMINATION		
Fraction of radioactivity retained after washing for leafy vegetables and produce	5.00E-01	
FRACTIONS GROWN IN GARDEN OF INTEREST		
Produce ingested	1.00E+00	
Leafy vegetables ingested	1.00E+00	
INGESTION RATIOS:		
IMMEDIATE SURROUNDING AREA/TOTAL WITHIN AREA		
Vegetables	1.00E+00	
Meat	1.00E+00	
Milk	1.00E+00	
MINIMUM INGESTION FRACTIONS FROM OUTSIDE AREA		
(Minimum fractions of food types from outside area listed below are actual fixed values.)		
Vegetables	0.00E+00	
Meat	0.00E+00	
Milk	0.00E+00	
HUMAN FOOD UTILIZATION FACTORS		
Produce ingestion (kg/y)	7.62E+01	
Milk ingestion (L/y)	5.30E+01	
Meat ingestion (kg/y)	8.40E+01	
Leafy vegetable ingestion (kg/y)	7.79E+00	
SWIMMING PARAMETERS		
Fraction of time spent swimming	0.00E+00	
Dilution factor for water (cm)	1.00E+00	

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WEATHER  
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HARMONIC AVERAGE WIND SPEEDS (WIND TOWARDS)

Pasquill Stability Class								
Dir	A	B	C	D	E	F	G	Wind Freq
N	2.170	1.930	1.870	1.760	1.820	1.580	1.520	0.037
NNW	2.210	2.110	2.180	1.840	1.880	1.770	1.750	0.054
NW	2.190	2.240	2.010	1.780	1.660	1.470	1.420	0.060
WNW	2.050	1.880	1.690	1.430	1.410	1.230	1.140	0.044
W	1.830	1.750	1.520	1.300	1.220	1.090	1.030	0.034
WSW	1.730	1.540	1.380	1.140	1.080	0.980	0.960	0.025
SW	2.170	1.680	1.370	1.180	1.190	0.960	0.890	0.027
SSW	2.450	1.940	1.520	1.410	1.500	1.130	0.890	0.036
S	2.370	2.030	1.660	1.480	1.630	1.190	0.980	0.042
SSE	2.360	2.160	1.930	1.590	1.530	1.310	1.110	0.050
SE	4.380	2.850	2.810	2.500	2.660	1.980	1.810	0.128
ESE	3.940	3.000	2.740	2.960	3.490	2.690	2.620	0.198
E	3.590	3.020	2.670	2.550	2.800	2.260	2.310	0.110
ENE	4.710	3.490	3.390	3.170	2.600	1.880	1.970	0.076
NE	3.320	3.040	2.610	2.730	2.450	1.560	1.440	0.047
NNE	2.410	2.030	1.880	1.940	1.870	1.410	1.290	0.031

ARITHMETIC AVERAGE WIND SPEEDS (WIND TOWARDS)

Pasquill Stability Class							
Dir	A	B	C	D	E	F	G
N	3.260	2.880	2.870	3.100	3.240	2.330	2.190
NNW	3.070	2.960	3.000	2.800	2.930	2.550	2.500
NW	2.930	2.970	2.750	2.590	2.530	2.110	1.990
WNW	2.670	2.550	2.370	2.100	2.060	1.690	1.540
W	2.600	2.460	2.200	1.860	1.660	1.430	1.240
WSW	2.560	2.120	1.980	1.590	1.390	1.130	1.090
SW	3.350	2.540	2.070	1.830	2.050	1.090	0.890
SSW	3.510	2.830	2.340	2.600	3.000	1.800	0.890
S	3.290	2.870	2.430	2.490	2.990	1.910	1.140
SSE	3.510	2.880	2.690	2.420	2.390	1.970	1.540
SE	6.190	4.540	4.510	4.430	4.380	2.850	2.650
ESE	5.530	4.510	4.470	4.970	4.980	3.520	3.520
E	5.590	4.770	4.520	4.770	4.180	3.140	3.050
ENE	6.550	5.600	5.500	5.790	4.570	2.800	2.880
NE	5.350	4.900	4.590	5.520	4.740	2.360	2.070
NNE	3.820	3.060	3.000	3.810	3.560	2.030	1.780

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FREQUENCIES OF STABILITY CLASSES (WIND TOWARDS)

Pasquill Stability Class							
Dir	A	B	C	D	E	F	G
N	0.0542	0.0434	0.0488	0.1870	0.3008	0.2791	0.0867
NNW	0.0536	0.0481	0.0536	0.2181	0.2569	0.2588	0.1109
NW	0.0929	0.0763	0.0945	0.2703	0.2139	0.1791	0.0730
WNW	0.1236	0.1121	0.1373	0.2883	0.1808	0.1076	0.0503
W	0.1331	0.1095	0.1391	0.3195	0.1716	0.0976	0.0296
WSW	0.1285	0.1165	0.1325	0.3253	0.1727	0.0884	0.0361
SW	0.1808	0.1328	0.1328	0.3210	0.1439	0.0664	0.0221
SSW	0.1944	0.1268	0.1296	0.3380	0.1408	0.0592	0.0113
S	0.1604	0.1321	0.1321	0.3467	0.1509	0.0613	0.0165
SSE	0.1172	0.0970	0.1131	0.3576	0.1980	0.0889	0.0283
SE	0.0966	0.0491	0.0608	0.3063	0.3048	0.1419	0.0405
ESE	0.0318	0.0217	0.0257	0.1625	0.4369	0.2366	0.0848
E	0.0464	0.0346	0.0364	0.1347	0.3849	0.2693	0.0937
ENE	0.1126	0.0641	0.0576	0.1924	0.3063	0.1963	0.0707
NE	0.0917	0.0618	0.0682	0.2132	0.3156	0.1876	0.0618
NNE	0.0586	0.0423	0.0586	0.1824	0.3290	0.2443	0.0847
TOTAL	0.0866	0.0624	0.0702	0.2364	0.2973	0.1822	0.0640

ADDITIONAL WEATHER INFORMATION

Average Air Temperature: 12.5 degrees C  
285.66 K  
Precipitation: 18.6 cm/y  
Humidity: 8.0 g/cu m  
Lid Height: 1000.0 meters  
Surface Roughness Length: 0.010 meters  
Height Of Wind Measurements: 10.0 meters  
Average Wind Speed: 3.544 m/s

Vertical Temperature Gradients:  
STABILITY E 0.073 k/m  
STABILITY F 0.109 k/m  
STABILITY G 0.146 k/m

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D O S E   A N D   R I S K   S U M M A R I E S

Non-Radon Individual Assessment  
Thu Apr 23 07:54:45 2026

Facility: EMF Effluent Transfer to IP-2 Tanks  
Address:  
City:  
State: WA                      Zip:

Source Category:  
Source Type: Stack  
Emission Year: 2026  
DOSE Age Group: Adult

Comments:

Dataset Name: EMF Tanker Truck  
Dataset Date: Apr 23, 2026 07:54 AM  
Wind File: C:\Users\bawalker\Documents\CAP88\Wind Files\a19200E10.wnd

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ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem)
Adrenal	6.62E-03
UB_Wall	1.31E-02
Bone_Sur	3.03E-01
Brain	6.13E-03
Breasts	6.03E-03
St_Wall	1.15E-01
SI_Wall	1.42E-02
ULI_Wall	7.59E-02
LLI_Wall	2.11E-01
Kidneys	1.04E-02
Liver	2.41E-02
Muscle	6.31E-03
Ovaries	1.02E-02
Pancreas	7.05E-03
R_Marrow	5.46E-02
Skin	8.70E-03
Spleen	6.90E-03
Testes	9.90E-03
Thymus	6.43E-03
Thyroid	5.60E-02
GB_Wall	6.60E-03
Ht_Wall	6.58E-03
Uterus	6.71E-03
ET_Reg	7.21E-03
Lung_66	1.12E-02
Effectiv	4.87E-02

PATHWAY COMMITTED EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem)
INGESTION	4.35E-02
INHALATION	5.15E-03
AIR IMMERSION	2.41E-08
GROUND SURFACE	8.62E-05
INTERNAL	4.86E-02
EXTERNAL	8.62E-05
TOTAL	4.87E-02

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NUCLIDE COMMITTED EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem)
Am-241	4.16E-03
C-14	8.40E-04
Co-60	2.90E-12
Cm-243	7.86E-06
Cm-244	1.12E-04
Cs-137	3.09E-03
Eu-152	5.81E-12
Eu-154	2.59E-11
Eu-155	2.98E-13
H-3	3.39E-05
I-129	1.99E-06
Ni-63	1.73E-07
Np-237	8.54E-06
Pu-238	2.47E-05
Pu-239	5.95E-04
Pu-240	1.39E-04
Pu-241	6.86E-06
Sb-125	9.52E-06
Sm-151	5.61E-11
Sn-126	1.31E-05
Sr-90	6.47E-03
Tc-99	3.29E-02
Th-232	1.54E-13
U-233	4.09E-07
U-234	1.17E-07
U-235	6.06E-09
U-236	3.59E-09
U-238	8.79E-08
Y-90	2.85E-06
Ru-106	5.63E-13
Cs-134	4.00E-10
Ba-137m	1.01E-14
Pu-242	2.04E-08
Ra-226	3.00E-08
U-232	2.19E-08
Pa-231	5.12E-13
Ni-59	1.12E-09
Ac-227	2.77E-06
Am-243	2.39E-06
Ra-228	2.20E-06
Cm-242	1.47E-05
Th-229	1.93E-13
Zr-93	4.08E-13
Nb-93m	1.37E-13
Cd-113m	2.38E-05
Se-79	2.40E-04
TOTAL	4.87E-02

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CANCER RISK SUMMARY

	Selected Individual Total Lifetime Fatal Cancer Risk
Cancer	

PATHWAY RISK SUMMARY

	Selected Individual Total Lifetime Fatal Cancer Risk
Pathway	
INGESTION	4.10E-09
INHALATION	4.52E-10
AIR IMMERSION	5.35E-15
GROUND SURFACE	3.15E-11
INTERNAL	4.55E-09
EXTERNAL	3.15E-11
 TOTAL	 4.59E-09

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NUCLIDE RISK SUMMARY

Nuclide	Selected Individual Total Lifetime Fatal Cancer Risk
Am-241	3.15E-10
C-14	3.39E-09
Co-60	1.48E-18
Cm-243	8.09E-13
Cm-244	1.20E-11
Cs-137	5.15E-11
Eu-152	3.18E-18
Eu-154	1.41E-17
Eu-155	1.70E-19
H-3	3.06E-11
I-129	5.03E-14
Ni-63	4.84E-12
Np-237	6.66E-13
Pu-238	2.11E-12
Pu-239	4.41E-11
Pu-240	1.08E-11
Pu-241	2.98E-13
Sb-125	5.02E-12
Sm-151	9.72E-18
Sn-126	3.04E-12
Sr-90	1.40E-10
Tc-99	5.62E-10
Th-232	3.25E-20
U-233	1.39E-13
U-234	4.00E-14
U-235	2.28E-15
U-236	1.23E-15
U-238	2.68E-14
Y-90	9.45E-13
Ru-106	7.30E-20
Cs-134	9.18E-17
Ba-137m	5.51E-21
Pu-242	1.60E-15
Ra-226	2.26E-14
U-232	4.29E-15
Pa-231	2.16E-20
Ni-59	2.83E-15
Ac-227	3.40E-13
Am-243	1.77E-13
Ra-228	2.12E-13
Cm-242	4.78E-12
Th-229	5.30E-20
Zr-93	4.14E-19
Nb-93m	1.73E-19
Cd-113m	3.88E-12
Se-79	3.05E-12
TOTAL	4.59E-09

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**Radioactive Air Emissions Notice of Construction**  
**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

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INDIVIDUAL COMMITTED EFFECTIVE DOSE EQUIVALENT (mrem)  
 (All Radionuclides and Pathways)

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Distance (m)

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Direction	12100	16100	24100	30100	36100	42100	48100
N	1.3E-02	9.3E-03	5.0E-03	3.4E-03	2.7E-03	2.2E-03	1.8E-03
NNW	1.9E-02	1.3E-02	7.1E-03	4.8E-03	3.8E-03	3.1E-03	2.5E-03
NW	1.8E-02	1.2E-02	6.6E-03	4.5E-03	3.5E-03	2.9E-03	2.3E-03
WNW	1.2E-02	8.0E-03	4.2E-03	2.9E-03	2.3E-03	1.8E-03	1.5E-03
W	9.0E-03	6.1E-03	3.2E-03	2.2E-03	1.7E-03	1.4E-03	1.1E-03
WSW	7.1E-03	4.8E-03	2.5E-03	1.7E-03	1.3E-03	1.1E-03	8.7E-04
SW	6.4E-03	4.4E-03	2.3E-03	1.6E-03	1.3E-03	1.0E-03	8.2E-04
SSW	7.2E-03	4.9E-03	2.7E-03	1.9E-03	1.5E-03	1.2E-03	9.9E-04
S	8.5E-03	5.8E-03	3.1E-03	2.2E-03	1.8E-03	1.4E-03	1.2E-03
SSE	1.2E-02	8.1E-03	4.4E-03	3.1E-03	2.4E-03	1.9E-03	1.6E-03
SSE	2.8E-02	1.9E-02	1.1E-02	7.7E-03	6.1E-03	5.0E-03	4.2E-03
ESE	4.9E-02	3.5E-02	2.0E-02	1.4E-02	1.1E-02	9.4E-03	7.9E-03
E	3.2E-02	2.2E-02	1.3E-02	8.9E-03	7.1E-03	5.9E-03	4.9E-03
ENE	1.9E-02	1.3E-02	7.4E-03	5.2E-03	4.1E-03	3.4E-03	2.8E-03
NE	1.3E-02	8.8E-03	4.8E-03	3.3E-03	2.6E-03	2.1E-03	1.8E-03
NNE	1.1E-02	7.6E-03	4.0E-03	2.7E-03	2.1E-03	1.7E-03	1.4E-03

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Distance (m)

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Direction	54100	60100	66100
N	1.5E-03	9.1E-04	8.0E-04
NNW	2.1E-03	1.3E-03	1.1E-03
NW	1.9E-03	1.2E-03	1.1E-03
WNW	1.2E-03	8.4E-04	7.3E-04
W	9.3E-04	6.6E-04	5.7E-04
WSW	7.0E-04	4.9E-04	4.3E-04
SW	6.7E-04	4.9E-04	4.3E-04
SSW	8.2E-04	6.2E-04	5.4E-04
S	9.6E-04	7.3E-04	6.3E-04
SSE	1.3E-03	9.4E-04	8.2E-04
SSE	3.5E-03	2.4E-03	2.2E-03
ESE	6.6E-03	4.6E-03	4.0E-03
E	4.1E-03	2.7E-03	2.4E-03
ENE	2.3E-03	1.5E-03	1.4E-03
NE	1.4E-03	9.5E-04	8.4E-04
NNE	1.2E-03	7.3E-04	6.4E-04

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**(EMF) Effluent Transfer**

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SUMMARY  
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INDIVIDUAL LIFETIME RISK (deaths)  
(All Radionuclides and Pathways)

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Distance (m)

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Direction	12100	16100	24100	30100	36100	42100	48100
N	1.4E-09	1.0E-09	6.3E-10	4.8E-10	3.9E-10	3.2E-10	2.8E-10
NNW	2.0E-09	1.4E-09	8.7E-10	6.6E-10	5.3E-10	4.5E-10	3.8E-10
NW	1.9E-09	1.4E-09	8.4E-10	6.4E-10	5.1E-10	4.3E-10	3.7E-10
WNW	1.3E-09	9.1E-10	5.5E-10	4.1E-10	3.3E-10	2.8E-10	2.4E-10
W	9.5E-10	6.7E-10	4.0E-10	3.0E-10	2.4E-10	2.0E-10	1.7E-10
WSW	7.9E-10	5.5E-10	3.3E-10	2.5E-10	2.0E-10	1.7E-10	1.4E-10
SW	6.8E-10	4.8E-10	2.8E-10	2.1E-10	1.7E-10	1.4E-10	1.2E-10
SSW	7.0E-10	4.9E-10	2.9E-10	2.2E-10	1.7E-10	1.4E-10	1.2E-10
S	8.3E-10	5.8E-10	3.4E-10	2.6E-10	2.1E-10	1.7E-10	1.5E-10
SSE	1.2E-09	8.5E-10	5.1E-10	3.8E-10	3.1E-10	2.6E-10	2.2E-10
SSE	2.6E-09	1.9E-09	1.1E-09	8.7E-10	7.0E-10	5.8E-10	5.0E-10
ESE	4.6E-09	3.3E-09	2.0E-09	1.6E-09	1.3E-09	1.1E-09	9.1E-10
E	3.1E-09	2.2E-09	1.4E-09	1.1E-09	8.5E-10	7.2E-10	6.1E-10
ENE	1.9E-09	1.4E-09	8.4E-10	6.4E-10	5.2E-10	4.3E-10	3.7E-10
NE	1.3E-09	9.6E-10	5.9E-10	4.5E-10	3.6E-10	3.0E-10	2.6E-10
NNE	1.2E-09	8.9E-10	5.5E-10	4.1E-10	3.4E-10	2.8E-10	2.4E-10

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Distance (m)

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Direction	54100	60100	66100
N	2.4E-10	2.0E-10	1.8E-10
NNW	3.3E-10	2.8E-10	2.5E-10
NW	3.2E-10	2.7E-10	2.4E-10
WNW	2.0E-10	1.8E-10	1.6E-10
W	1.5E-10	1.3E-10	1.1E-10
WSW	1.2E-10	1.0E-10	9.4E-11
SW	1.0E-10	8.9E-11	7.9E-11
SSW	1.0E-10	9.0E-11	8.0E-11
S	1.3E-10	1.1E-10	9.6E-11
SSE	1.9E-10	1.6E-10	1.4E-10
SSE	4.3E-10	3.7E-10	3.3E-10
ESE	7.9E-10	6.7E-10	6.0E-10
E	5.3E-10	4.5E-10	4.0E-10
ENE	3.2E-10	2.7E-10	2.4E-10
NE	2.3E-10	1.9E-10	1.7E-10
NNE	2.1E-10	1.8E-10	1.6E-10

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**(EMF) Effluent Transfer**

D O S E   A N D   R I S K   C O N V E R S I O N   F A C T O R S

Non-Radon Individual Assessment  
Thu Apr 23 07:54:45 2026

Facility: EMF Effluent Transfer to IP-2 Tanks  
Address:  
City:  
State: WA                      Zip:

Source Category:  
Source Type: Stack  
Emission Year: 2026  
DOSE Age Group: Adult

Comments:

Dataset Name: EMF Tanker Truck  
Dataset Date: Apr 23, 2026 07:54 AM  
Wind File: C:\Users\bawalker\Documents\CAP88\Wind Files\a19200E10.wnd

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FACTOR  
Page 1

DOSE AND RISK FACTOR UNITS

The units for each type of dose rate conversion factor are shown below, by pathway:

Pathway	Units
_____	_____
Ingestion	millirem/picoCurie
Inhalation	millirem/picoCurie
Immersion	millirem-cubic cm/microCurie-year
Surface	millirem-square cm/microCurie-year

Risks for internal exposures (inhalation and ingestion) are the lifetime risk of premature death in a birth cohort of 100,000 people for a 1 picoCurie intake.

This is simplified to lifetime risk per 100,000 picoCuries.

The units for each type of risk conversion factor are shown below, by pathway:

Pathway	Units
_____	_____
Ingestion	lifetime risk/100,000 picoCuries
Inhalation	lifetime risk/100,000 picoCuries
Immersion	lifetime risk-cubic cm/100,000 picoCurie
Surface	lifetime risk-square cm/100,000 picoCurie

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 \*    NUCLIDE   Am-241   :Particulate

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DOSE RATE CONVERSION FACTORS FOR:   Adult

Organ	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Adrenal	5.661E-05	1.048E-02	5.312E+07	1.713E+04
UB_Wall	5.661E-05	1.047E-02	6.046E+07	2.050E+04
Bone_Sur	3.345E-02	6.194E+00	3.332E+08	1.050E+05
Brain	5.661E-05	1.047E-02	7.293E+07	1.806E+04
Breasts	5.661E-05	1.047E-02	1.212E+08	3.518E+04
St_Wall	6.179E-05	1.047E-02	6.489E+07	2.085E+04
SI_Wall	6.919E-05	1.047E-02	4.788E+07	1.713E+04
ULI_Wall	1.314E-04	1.049E-02	5.301E+07	1.841E+04
LLI_Wall	2.753E-04	1.051E-02	4.858E+07	1.794E+04
Kidneys	1.709E-04	3.171E-02	7.013E+07	2.190E+04
Liver	2.046E-03	3.796E-01	6.582E+07	2.097E+04
Muscle	5.661E-05	1.047E-02	8.400E+07	2.947E+04
Ovaries	6.475E-04	1.202E-01	4.392E+07	1.713E+04
Pancreas	5.661E-05	1.047E-02	4.509E+07	1.619E+04
R_Marrow	1.136E-03	2.108E-01	6.058E+07	1.911E+04
Skin	5.661E-05	1.047E-02	1.386E+08	7.037E+04
Spleen	5.661E-05	1.047E-02	6.547E+07	2.109E+04
Testes	6.438E-04	1.191E-01	9.844E+07	3.332E+04
Thymus	5.661E-05	1.047E-02	7.607E+07	2.260E+04
Thyroid	5.661E-05	1.047E-02	9.052E+07	2.470E+04
GB_Wall	5.698E-05	1.048E-02	5.231E+07	1.689E+04
Ht_Wall	5.661E-05	1.047E-02	6.011E+07	1.946E+04
Uterus	5.661E-05	1.047E-02	4.543E+07	1.678E+04
ET_Reg	5.661E-05	2.948E-02	4.509E+07	1.619E+04
Lung_66	5.661E-05	1.073E-01	7.875E+07	2.330E+04
Effectiv	7.548E-04	1.484E-01	7.829E+07	2.540E+04

RISK CONVERSION FACTORS FOR:   Adult

Cancer	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Esophagu	4.255E-08	3.252E-06	5.044E-02	1.596E-05
Stomach	9.694E-08	3.575E-06	2.621E-01	8.423E-05
Colon	5.735E-07	6.016E-06	5.277E-01	1.876E-04
Liver	2.324E-06	2.964E-04	9.972E-02	3.180E-05
LUNG	2.812E-07	4.436E-04	7.701E-01	2.283E-04
Bone	1.920E-06	2.230E-04	3.169E-02	9.972E-06
Skin	2.819E-09	1.571E-07	1.386E-02	7.025E-06
Breast	5.217E-08	2.150E-06	5.848E-01	1.701E-04
Ovary	5.661E-07	5.887E-05	6.244E-02	2.435E-05
Bladder	1.051E-07	8.603E-06	1.456E-01	4.963E-05
Kidneys	7.585E-08	8.273E-06	3.646E-02	1.139E-05
Thyroid	7.733E-09	4.103E-07	2.878E-02	7.864E-06
Leukemia	2.975E-07	3.124E-05	3.402E-01	1.073E-04
Residual	3.304E-07	1.051E-05	9.040E-01	3.111E-04
Total	6.660E-06	1.096E-03	3.856E+00	1.247E-03

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**(EMF) Effluent Transfer**

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 \*    NUCLIDE   C-14       :Carbone Dioxide (CO2)  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Adrenal	2.116E-06	2.310E-08	1.121E+04	6.559E+00
UB_Wall	2.116E-06	2.310E-08	1.363E+04	8.947E+00
Bone_Sur	2.116E-06	2.310E-08	8.248E+04	5.406E+01
Brain	2.116E-06	2.310E-08	1.538E+04	6.198E+00
Breasts	2.116E-06	2.310E-08	4.112E+04	2.947E+01
St_Wall	2.327E-06	2.310E-08	1.445E+04	8.831E+00
SI_Wall	2.120E-06	2.310E-08	9.460E+03	5.732E+00
ULI_Wall	2.146E-06	2.310E-08	1.090E+04	6.606E+00
LLI_Wall	2.209E-06	2.310E-08	9.553E+03	5.953E+00
Kidneys	2.116E-06	2.310E-08	1.724E+04	1.111E+01
Liver	2.116E-06	2.310E-08	1.456E+04	8.714E+00
Muscle	2.116E-06	2.310E-08	2.412E+04	2.062E+01
Ovaries	2.116E-06	2.310E-08	8.155E+03	5.510E+00
Pancreas	2.116E-06	2.310E-08	8.446E+03	4.858E+00
R_Marrow	2.116E-06	2.310E-08	1.421E+04	8.470E+00
Skin	2.116E-06	2.310E-08	2.831E+07	8.714E+01
Spleen	2.116E-06	2.310E-08	1.421E+04	8.470E+00
Testes	2.116E-06	2.310E-08	3.029E+04	2.598E+01
Thymus	2.116E-06	2.310E-08	1.841E+04	1.062E+01
Thyroid	2.116E-06	2.310E-08	2.563E+04	1.456E+01
GB_Wall	2.116E-06	2.310E-08	1.045E+04	5.930E+00
Ht_Wall	2.116E-06	2.310E-08	1.282E+04	7.549E+00
Uterus	2.116E-06	2.310E-08	8.738E+03	5.371E+00
ET_Reg	2.116E-06	2.310E-08	8.446E+03	4.858E+00
Lung_66	2.116E-06	2.310E-08	1.794E+04	1.011E+01
Effectiv	2.146E-06	2.310E-08	3.029E+05	1.491E+01

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Esophagu	1.302E-08	3.700E+03	9.460E-06	4.543E-09
Stomach	5.809E-08	2.768E-11	5.837E-05	3.565E-08
Colon	1.672E-07	9.694E-11	1.066E-04	6.524E-08
Liver	1.965E-08	2.412E-10	2.202E-05	1.316E-08
LUNG	1.265E-07	3.737E-11	1.759E-04	9.891E-08
Bone	2.731E-09	2.316E-10	7.829E-06	5.138E-09
Skin	9.731E-10	2.324E-12	2.819E-03	8.691E-09
Breast	4.551E-08	2.394E-12	1.992E-04	1.421E-07
Ovary	1.872E-08	1.121E-10	1.160E-05	7.840E-09
Bladder	4.625E-08	3.319E-11	3.297E-05	2.167E-08
Kidneys	7.289E-09	6.031E-11	8.970E-06	5.778E-09
Thyroid	4.477E-09	1.288E-11	8.155E-06	4.637E-09
Leukemia	1.232E-07	7.474E-12	7.980E-05	4.753E-08
Residual	2.324E-07	1.384E-10	2.167E-04	1.584E-07

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Total            8.658E-07        3.563E-10        3.763E-03        6.198E-07

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FACTOR  
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 \*    NUCLIDE   Co-60    :Particulate  
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DOSE RATE CONVERSION FACTORS FOR:    Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	9.139E-06	2.519E-05	1.212E+10	2.377E+06
UB_Wall	9.620E-06	8.573E-06	1.212E+10	2.586E+06
Bone_Sur	7.622E-06	1.417E-05	2.062E+10	3.612E+06
Brain	5.032E-06	6.908E-06	1.561E+10	2.516E+06
Breasts	4.995E-06	2.279E-05	1.619E+10	2.726E+06
St_Wall	9.509E-06	1.647E-05	1.293E+10	2.540E+06
SI_Wall	1.558E-05	1.165E-05	1.200E+10	2.528E+06
ULI_Wall	2.420E-05	1.343E-05	1.223E+10	2.540E+06
LLI_Wall	4.292E-05	1.585E-05	1.223E+10	2.621E+06
Kidneys	8.843E-06	1.446E-05	1.305E+10	2.575E+06
Liver	1.658E-05	3.098E-05	1.316E+10	2.551E+06
Muscle	7.104E-06	1.376E-05	1.410E+10	2.854E+06
Ovaries	1.595E-05	1.078E-05	1.247E+10	2.377E+06
Pancreas	9.657E-06	2.088E-05	1.177E+10	2.388E+06
R_Marrow	7.992E-06	1.592E-05	1.433E+10	2.714E+06
Skin	4.736E-06	8.658E-06	1.689E+10	3.227E+06
Spleen	7.733E-06	1.944E-05	1.316E+10	2.551E+06
Testes	6.734E-06	6.767E-06	1.433E+10	2.854E+06
Thymus	6.401E-06	2.695E-05	1.363E+10	2.447E+06
Thyroid	6.327E-06	1.379E-05	1.480E+10	2.621E+06
GB_Wall	1.221E-05	1.688E-05	1.223E+10	2.388E+06
Ht_Wall	7.104E-06	3.614E-05	1.293E+10	2.505E+06
Uterus	1.132E-05	9.835E-06	1.165E+10	2.481E+06
ET_Reg	6.327E-06	5.195E-05	1.177E+10	2.388E+06
Lung_66	6.623E-06	1.734E-04	1.445E+10	2.645E+06
Effectiv	1.265E-05	3.465E-05	1.386E+10	2.680E+06

RISK CONVERSION FACTORS FOR:    Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	3.552E-12	2.179E-08	1.433E+01	2.656E-03
Stomach	8.362E-09	2.196E-08	5.219E+01	1.025E-02
Colon	1.376E-08	3.091E-08	1.258E+02	2.656E-02
Liver	1.188E-11	3.394E-08	1.992E+01	3.868E-03
LUNG	5.735E-11	7.604E-07	1.410E+02	2.586E-02
Bone	7.178E-13	9.343E-10	1.957E+00	3.425E-04
Skin	4.625E-13	4.270E-10	1.689E+00	3.215E-04
Breast	2.427E-11	3.617E-08	7.829E+01	1.316E-02
Ovary	2.923E-11	1.008E-08	1.771E+01	3.378E-03
Bladder	5.069E-11	1.551E-08	2.924E+01	6.256E-03
Kidneys	4.736E-12	5.402E-09	6.792E+00	1.340E-03
Thyroid	1.454E-12	1.568E-09	4.707E+00	8.341E-04
Leukemia	3.496E-11	6.701E-08	8.038E+01	1.526E-02

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**(EMF) Effluent Transfer**

Residual	1.802E-10	9.909E-08	1.887E+02	3.775E-02
Total	2.250E-08	1.105E-06	7.631E+02	1.480E-01

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FACTOR  
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 \* NUCLIDE Cm-243 :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	3.448E-05	6.334E-03	5.068E+08	1.163E+05
UB_Wall	3.452E-05	6.305E-03	5.277E+08	1.258E+05
Bone_Sur	2.287E-02	4.211E+00	1.759E+09	3.180E+05
Brain	3.434E-05	6.316E-03	6.547E+08	1.212E+05
Breasts	3.430E-05	6.305E-03	7.794E+08	1.514E+05
St_Wall	3.996E-05	6.312E-03	5.580E+08	1.258E+05
SI_Wall	4.884E-05	6.316E-03	4.811E+08	1.177E+05
ULI_Wall	1.191E-04	6.334E-03	5.079E+08	1.223E+05
LLI_Wall	2.819E-04	6.364E-03	4.858E+08	1.223E+05
Kidneys	1.395E-04	2.572E-02	5.685E+08	1.258E+05
Liver	1.680E-03	3.101E-01	5.697E+08	1.258E+05
Muscle	3.441E-05	6.316E-03	6.314E+08	1.480E+05
Ovaries	4.514E-04	8.295E-02	4.625E+08	1.200E+05
Pancreas	3.448E-05	6.323E-03	4.765E+08	1.134E+05
R_Marrow	8.917E-04	1.641E-01	5.837E+08	1.305E+05
Skin	3.434E-05	6.305E-03	1.139E+09	2.132E+05
Spleen	3.437E-05	6.309E-03	5.697E+08	1.270E+05
Testes	4.477E-04	8.221E-02	6.734E+08	1.538E+05
Thymus	3.434E-05	6.309E-03	6.070E+08	1.223E+05
Thyroid	3.434E-05	6.309E-03	6.734E+08	1.363E+05
GB_Wall	3.463E-05	6.334E-03	4.928E+08	1.177E+05
Ht_Wall	3.437E-05	6.320E-03	5.499E+08	1.223E+05
Uterus	3.459E-05	6.312E-03	4.707E+08	1.188E+05
ET_Reg	3.434E-05	2.589E-02	4.765E+08	1.134E+05
Lung_66	3.437E-05	1.143E-01	6.431E+08	1.340E+05
Effectiv	5.513E-04	1.108E-01	6.209E+08	1.375E+05

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	4.514E-08	2.432E-06	5.592E-01	1.247E-04
Stomach	1.325E-07	2.704E-06	2.248E+00	5.079E-04
Colon	2.712E-06	4.740E-06	5.149E+00	1.258E-03
Liver	2.694E-06	2.698E-04	8.633E-01	1.911E-04
LUNG	3.023E-07	4.869E-04	6.291E+00	1.305E-03
Bone	2.068E-06	1.760E-04	1.666E-01	3.017E-05
Skin	3.030E-09	1.222E-07	1.137E-01	2.132E-05
Breast	5.661E-08	1.684E-06	3.763E+00	7.316E-04
Ovary	6.031E-07	4.747E-05	6.582E-01	1.713E-04
Bladder	1.117E-07	6.249E-06	1.281E+00	3.041E-04
Kidneys	8.843E-08	7.492E-06	2.959E-01	6.547E-05
Thyroid	8.399E-09	3.094E-07	2.144E-01	4.345E-05

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Leukemia	3.252E-07	2.734E-05	3.274E+00	7.328E-04
Residual	3.600E-07	8.373E-06	8.015E+00	1.876E-03
Total	9.509E-06	1.042E-03	3.285E+01	7.374E-03

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Air				Ground Surface
	Ingestion	Inhalation	Immersion		
Adrenal	2.546E-05	4.666E-03	1.305E+05		6.687E+01
UB_Wall	2.546E-05	4.666E-03	1.689E+05		1.270E+02
Bone_Sur	1.824E-02	3.346E+00	1.122E+06		1.410E+03
Brain	2.546E-05	4.666E-03	1.596E+05		3.681E+01
Breasts	2.546E-05	4.666E-03	1.503E+06		2.039E+03
St_Wall	3.045E-05	4.666E-03	1.724E+05		1.128E+02
SI_Wall	3.811E-05	4.669E-03	1.158E+05		3.961E+01
ULI_Wall	1.010E-04	4.681E-03	1.258E+05		4.753E+01
LLI_Wall	2.468E-04	4.710E-03	1.165E+05		4.380E+01
Kidneys	1.225E-04	2.252E-02	2.283E+05		2.155E+02
Liver	1.487E-03	2.729E-01	1.666E+05		9.961E+01
Muscle	2.546E-05	4.666E-03	6.687E+05		1.212E+03
Ovaries	3.608E-04	6.623E-02	1.088E+05		1.085E+02
Pancreas	2.546E-05	4.666E-03	1.079E+05		2.773E+01
R_Marrow	7.622E-04	1.403E-01	2.668E+05		2.318E+02
Skin	2.546E-05	4.666E-03	4.206E+06		8.970E+03
Spleen	2.546E-05	4.666E-03	1.526E+05		7.095E+01
Testes	3.578E-04	6.564E-02	8.306E+05		1.619E+03
Thymus	2.546E-05	4.666E-03	2.458E+05		1.864E+02
Thyroid	2.546E-05	4.666E-03	5.569E+05		4.334E+02
GB_Wall	2.546E-05	4.666E-03	1.188E+05		4.462E+01
Ht_Wall	2.546E-05	4.666E-03	1.596E+05		8.866E+01
Uterus	2.546E-05	4.666E-03	1.106E+05		3.460E+01
ET_Reg	2.546E-05	2.411E-02	1.079E+05		2.773E+01
Lung_66	2.546E-05	1.120E-01	1.946E+05		1.162E+02
Effectiv	4.551E-04	9.298E-02	4.660E+05		6.815E+02

RISK CONVERSION FACTORS FOR: Adult

Cancer	Air				Ground Surface
	Ingestion	Inhalation	Immersion		
Esophagu	4.477E-08	2.008E-06	1.305E-04		2.749E-08
Stomach	1.310E-07	2.248E-06	6.967E-04		4.555E-07
Colon	2.612E-06	4.018E-06	1.258E-03		4.742E-07
Liver	2.708E-06	2.482E-04	2.528E-04		1.514E-07
LUNG	3.004E-07	4.810E-04	1.899E-03		1.136E-06
Bone	2.061E-06	1.503E-04	1.065E-04		1.340E-07
Skin	3.015E-09	1.030E-07	4.194E-04		8.947E-07
Breast	5.661E-08	1.424E-06	7.258E-03		9.844E-06
Ovary	5.994E-07	4.074E-05	1.549E-04		1.538E-07
Bladder	1.103E-07	5.076E-06	4.089E-04		3.076E-07
Kidneys	8.880E-08	6.860E-06	1.188E-04		1.121E-07

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Thyroid	8.362E-09	2.573E-07	1.771E-04	1.375E-07
Leukemia	3.212E-07	2.371E-05	1.503E-03	1.305E-06
Residual	3.596E-07	7.159E-06	4.497E-03	6.477E-06
Total	9.398E-06	9.731E-04	1.887E-02	2.167E-05

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Adrenal	5.180E-05	1.515E-05	5.895E+05	2.062E+02
UB_Wall	5.365E-05	1.561E-05	6.419E+05	2.423E+02
Bone_Sur	5.106E-05	1.486E-05	2.738E+06	9.681E+02
Brain	4.366E-05	1.274E-05	7.782E+05	2.109E+02
Breasts	4.144E-05	1.210E-05	1.159E+06	4.124E+02
St_Wall	4.958E-05	1.419E-05	6.804E+05	2.412E+02
SI_Wall	5.180E-05	1.512E-05	5.452E+05	2.015E+02
ULI_Wall	5.328E-05	1.553E-05	5.895E+05	2.155E+02
LLI_Wall	6.179E-05	1.792E-05	5.522E+05	2.097E+02
Kidneys	4.995E-05	1.455E-05	7.211E+05	2.598E+02
Liver	5.032E-05	1.465E-05	6.932E+05	2.412E+02
Muscle	4.625E-05	1.355E-05	8.458E+05	3.472E+02
Ovaries	5.291E-05	1.544E-05	5.126E+05	1.992E+02
Pancreas	5.328E-05	1.554E-05	5.289E+05	1.887E+02
R_Marrow	4.847E-05	1.417E-05	6.874E+05	2.365E+02
Skin	3.959E-05	1.157E-05	1.017E+09	3.355E+05
Spleen	4.995E-05	1.455E-05	6.897E+05	2.412E+02
Testes	4.662E-05	1.356E-05	9.553E+05	3.949E+02
Thymus	4.847E-05	1.416E-05	7.736E+05	2.540E+02
Thyroid	4.847E-05	1.413E-05	9.064E+05	2.994E+02
GB_Wall	5.143E-05	1.496E-05	5.720E+05	2.039E+02
Ht_Wall	5.106E-05	1.495E-05	6.524E+05	2.248E+02
Uterus	5.328E-05	1.558E-05	5.266E+05	1.992E+02
ET_Reg	4.847E-05	2.335E-05	5.289E+05	1.887E+02
Lung_66	4.699E-05	1.376E-05	8.038E+05	2.656E+02
Effectiv	5.032E-05	1.485E-05	1.095E+07	3.646E+03

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Esophagu	1.547E-11	1.165E-08	6.093E-04	1.969E-07
Stomach	2.727E-08	2.057E-08	2.749E-03	9.739E-07
Colon	4.847E-08	3.660E-08	5.918E-03	2.202E-06
Liver	9.102E-11	1.650E-08	1.051E-03	3.658E-07
LUNG	2.760E-10	6.131E-08	7.864E-03	2.598E-06
Bone	7.178E-12	1.006E-09	2.598E-04	9.192E-08
Skin	2.150E-12	5.979E-10	1.015E-01	3.344E-05
Breast	9.842E-11	1.960E-08	5.604E-03	1.992E-06
Ovary	2.764E-10	1.496E-08	7.293E-04	2.831E-07
Bladder	2.238E-10	2.906E-08	1.549E-03	5.860E-07

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Kidneys	4.144E-11	5.591E-09	3.751E-04	1.351E-07
Thyroid	3.426E-12	1.661E-09	2.889E-04	9.530E-08
Leukemia	5.069E-10	6.090E-08	3.856E-03	1.328E-06
Residual	1.439E-09	7.888E-08	9.751E-03	3.681E-06
Total	7.881E-08	3.589E-07	1.421E-01	4.800E-05

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DOSE RATE CONVERSION FACTORS FOR:   Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	1.184E-06	1.759E-04	5.417E+09	1.117E+06
UB_Wall	1.550E-06	2.381E-05	5.417E+09	1.200E+06
Bone_Sur	4.255E-06	7.067E-04	1.054E+10	1.934E+06
Brain	1.802E-07	3.322E-05	6.978E+09	1.177E+06
Breasts	2.638E-07	4.629E-05	7.468E+09	1.316E+06
St_Wall	2.150E-06	6.246E-05	5.825E+09	1.188E+06
SI_Wall	5.809E-06	6.675E-05	5.301E+09	1.165E+06
ULI_Wall	1.558E-05	8.484E-05	5.464E+09	1.177E+06
LLI_Wall	3.737E-05	5.350E-05	5.394E+09	1.212E+06
Kidneys	1.225E-06	1.169E-04	5.872E+09	1.212E+06
Liver	5.846E-06	1.004E-03	5.907E+09	1.200E+06
Muscle	7.881E-07	5.062E-05	6.384E+09	1.351E+06
Ovaries	4.921E-06	5.132E-05	5.429E+09	1.131E+06
Pancreas	1.217E-06	1.301E-04	5.219E+09	1.102E+06
R_Marrow	2.205E-06	2.571E-04	6.373E+09	1.270E+06
Skin	3.600E-07	3.174E-05	8.272E+09	2.272E+06
Spleen	6.512E-07	4.840E-05	5.930E+09	1.200E+06
Testes	5.106E-07	1.332E-05	6.559E+09	1.375E+06
Thymus	2.575E-07	4.921E-05	6.140E+09	1.160E+06
Thyroid	1.584E-07	3.028E-05	6.722E+09	1.270E+06
GB_Wall	2.631E-06	2.481E-04	5.406E+09	1.115E+06
Ht_Wall	5.957E-07	1.008E-04	5.790E+09	1.177E+06
Uterus	2.205E-06	3.748E-05	5.161E+09	1.153E+06
ET_Reg	1.584E-07	5.276E-05	5.219E+09	1.102E+06
Lung_66	5.217E-07	2.169E-04	6.524E+09	1.247E+06
Effectiv	5.069E-06	1.508E-04	6.268E+09	1.270E+06

RISK CONVERSION FACTORS FOR:   Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	2.941E-10	3.407E-08	6.349E+00	1.223E-03
Stomach	1.584E-08	5.380E-08	2.353E+01	4.800E-03
Colon	7.622E-07	1.136E-07	5.615E+01	1.235E-02
Liver	1.199E-08	9.139E-07	8.947E+00	1.817E-03
LUNG	5.291E-09	9.091E-07	6.384E+01	1.223E-02
Bone	8.584E-10	3.929E-08	1.001E+00	1.841E-04
Skin	4.514E-11	1.214E-09	8.248E-01	2.272E-04
Breast	1.484E-09	5.528E-08	3.612E+01	6.361E-03
Ovary	8.251E-09	3.996E-08	7.724E+00	1.608E-03

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Bladder	5.069E-09	3.752E-08	1.305E+01	2.901E-03
Kidneys	7.548E-10	3.636E-08	3.052E+00	6.303E-04
Thyroid	4.958E-11	2.778E-09	2.144E+00	4.043E-04
Leukemia	1.739E-08	9.202E-07	3.577E+01	7.130E-03
Residual	1.880E-08	3.659E-07	8.446E+01	1.771E-02
Total	8.473E-07	3.523E-06	3.425E+02	6.955E-02

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DOSE RATE CONVERSION FACTORS FOR:  Adult

Organ	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Adrenal	1.095E-06	1.546E-04	5.837E+09	1.200E+06
UB_Wall	1.621E-06	2.128E-05	5.802E+09	1.282E+06
Bone_Sur	8.621E-06	1.489E-03	1.108E+10	1.992E+06
Brain	1.602E-07	2.931E-05	7.514E+09	1.258E+06
Breasts	2.483E-07	4.248E-05	7.980E+09	1.386E+06
St_Wall	2.838E-06	5.598E-05	6.256E+09	1.282E+06
SI_Wall	7.548E-06	5.935E-05	5.720E+09	1.258E+06
ULI_Wall	2.568E-05	7.729E-05	5.883E+09	1.270E+06
LLI_Wall	6.660E-05	5.443E-05	5.825E+09	1.305E+06
Kidneys	1.206E-06	1.051E-04	6.303E+09	1.293E+06
Liver	7.141E-06	1.225E-03	6.349E+09	1.282E+06
Muscle	7.918E-07	4.495E-05	6.850E+09	1.445E+06
Ovaries	5.143E-06	4.544E-05	5.872E+09	1.212E+06
Pancreas	1.173E-06	1.141E-04	5.627E+09	1.188E+06
R_Marrow	2.690E-06	3.327E-04	6.873E+09	1.363E+06
Skin	3.604E-07	2.855E-05	9.565E+09	3.087E+06
Spleen	6.586E-07	4.385E-05	6.373E+09	1.282E+06
Testes	5.365E-07	1.194E-05	7.025E+09	1.456E+06
Thymus	2.390E-07	4.525E-05	6.582E+09	1.235E+06
Thyroid	1.439E-07	2.745E-05	7.211E+09	1.351E+06
GB_Wall	2.527E-06	2.146E-04	5.813E+09	1.200E+06
Ht_Wall	5.513E-07	9.065E-05	6.233E+09	1.258E+06
Uterus	2.312E-06	3.320E-05	5.557E+09	1.235E+06
ET_Reg	1.439E-07	6.098E-05	5.627E+09	1.188E+06
Lung_66	4.736E-07	3.353E-04	7.013E+09	1.328E+06
Effectiv	7.548E-06	1.896E-04	6.734E+09	1.363E+06

RISK CONVERSION FACTORS FOR:  Adult

Cancer	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Esophagu	8.621E-11	3.251E-08	6.862E+00	1.328E-03
Stomach	1.765E-08	5.147E-08	2.528E+01	5.173E-03
Colon	9.768E-07	1.162E-07	6.046E+01	1.328E-02
Liver	1.095E-09	1.158E-06	9.623E+00	1.946E-03
LUNG	1.728E-09	1.442E-06	6.862E+01	1.293E-02
Bone	5.180E-11	8.614E-08	1.052E+00	1.887E-04
Skin	3.019E-11	1.151E-09	9.541E-01	3.076E-04
Breast	6.290E-10	5.380E-08	3.856E+01	6.699E-03

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Ovary	7.363E-09	3.684E-08	8.353E+00	1.724E-03
Bladder	4.477E-09	3.473E-08	1.398E+01	3.099E-03
Kidneys	4.477E-10	3.418E-08	3.274E+00	6.722E-04
Thyroid	1.258E-11	2.638E-09	2.295E+00	4.299E-04
Leukemia	5.624E-09	1.232E-06	3.856E+01	7.654E-03
Residual	1.047E-08	3.475E-07	9.087E+01	1.899E-02
Total	1.025E-06	4.629E-06	3.693E+02	7.444E-02

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 \* NUCLIDE Eu-155 :Particulate

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	4.884E-08	6.841E-06	1.899E+08	4.998E+04
UB_Wall	1.110E-07	6.908E-07	2.074E+08	5.790E+04
Bone_Sur	2.457E-06	4.270E-04	9.495E+08	2.237E+05
Brain	5.809E-09	1.046E-06	2.516E+08	5.231E+04
Breasts	6.919E-09	1.565E-06	3.460E+08	7.060E+04
St_Wall	3.689E-07	2.300E-06	2.202E+08	5.732E+04
SI_Wall	9.990E-07	2.453E-06	1.771E+08	5.056E+04
ULI_Wall	4.588E-06	3.878E-06	1.911E+08	5.359E+04
LLI_Wall	1.288E-05	4.248E-06	1.794E+08	5.266E+04
Kidneys	6.290E-08	5.125E-06	2.307E+08	5.872E+04
Liver	7.807E-07	1.354E-04	2.248E+08	5.767E+04
Muscle	4.366E-08	1.796E-06	2.621E+08	6.710E+04
Ovaries	3.663E-07	1.747E-06	1.654E+08	4.905E+04
Pancreas	6.253E-08	5.376E-06	1.713E+08	4.835E+04
R_Marrow	2.612E-07	3.770E-05	2.167E+08	5.534E+04
Skin	1.306E-08	8.462E-07	4.019E+08	8.260E+04
Spleen	3.341E-08	1.652E-06	2.237E+08	5.837E+04
Testes	2.527E-08	2.952E-07	2.924E+08	7.141E+04
Thymus	7.141E-09	1.820E-06	2.493E+08	5.813E+04
Thyroid	4.366E-09	9.513E-07	2.831E+08	6.431E+04
GB_Wall	1.580E-07	1.077E-05	1.852E+08	5.266E+04
Ht_Wall	2.227E-08	4.233E-06	2.120E+08	5.499E+04
Uterus	1.598E-07	1.181E-06	1.713E+08	5.068E+04
ET_Reg	4.366E-09	9.261E-06	1.713E+08	4.835E+04
Lung_66	2.050E-08	5.598E-05	2.610E+08	6.268E+04
Effectiv	1.206E-06	2.374E-05	2.528E+08	6.279E+04

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	6.216E-12	1.384E-09	1.969E-01	5.103E-05
Stomach	1.058E-08	2.372E-09	8.889E-01	2.318E-04
Colon	2.886E-07	8.010E-09	1.922E+00	5.487E-04
Liver	1.147E-10	1.351E-07	3.413E-01	8.737E-05
LUNG	1.602E-10	2.442E-07	2.551E+00	6.128E-04
Bone	6.512E-12	2.589E-08	9.017E-02	2.120E-05
Skin	2.313E-12	3.690E-11	4.008E-02	8.237E-06

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Breast	5.106E-11	2.186E-09	1.666E+00	3.413E-04
Ovary	7.215E-10	1.502E-09	2.353E-01	6.978E-05
Bladder	3.848E-10	1.178E-09	5.009E-01	1.398E-04
Kidneys	4.884E-11	1.782E-09	1.200E-01	3.052E-05
Thyroid	7.918E-13	9.787E-11	9.017E-02	2.050E-05
Leukemia	5.032E-10	1.462E-07	1.212E+00	3.111E-04
Residual	1.214E-09	1.748E-08	3.087E+00	8.213E-04
Total	3.023E-07	5.876E-07	1.293E+01	3.297E-03

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\* NUCLIDE H-3 :Tritiated Water Vapor (HTO)

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	6.734E-08	6.786E-08	0.000E+00	0.000E+00
UB_Wall	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Bone_Sur	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Brain	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Breasts	6.734E-08	6.786E-08	0.000E+00	0.000E+00
St_Wall	9.139E-08	6.786E-08	0.000E+00	0.000E+00
SI_Wall	6.771E-08	6.786E-08	0.000E+00	0.000E+00
ULI_Wall	7.067E-08	6.786E-08	0.000E+00	0.000E+00
LLI_Wall	7.807E-08	6.786E-08	0.000E+00	0.000E+00
Kidneys	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Liver	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Muscle	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Ovaries	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Pancreas	6.734E-08	6.786E-08	0.000E+00	0.000E+00
R_Marrow	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Skin	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Spleen	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Testes	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Thymus	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Thyroid	6.734E-08	6.786E-08	0.000E+00	0.000E+00
GB_Wall	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Ht_Wall	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Uterus	6.734E-08	6.786E-08	0.000E+00	0.000E+00
ET_Reg	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Lung_66	6.734E-08	6.786E-08	0.000E+00	0.000E+00
Effectiv	7.104E-08	6.786E-08	0.000E+00	0.000E+00

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	4.773E-12	3.700E+03	0.000E+00	0.000E+00
Stomach	3.123E-10	7.955E-11	0.000E+00	0.000E+00
Colon	5.254E-09	2.745E-10	0.000E+00	0.000E+00
Liver	4.181E-11	6.660E-10	0.000E+00	0.000E+00
LUNG	8.584E-11	1.077E-10	0.000E+00	0.000E+00
Bone	2.609E-12	6.512E-10	0.000E+00	0.000E+00

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Skin	1.325E-12	6.660E-12	0.000E+00	0.000E+00
Breast	2.871E-11	6.771E-12	0.000E+00	0.000E+00
Ovary	3.404E-10	3.134E-10	0.000E+00	0.000E+00
Bladder	2.094E-10	9.509E-11	0.000E+00	0.000E+00
Kidneys	1.972E-11	1.739E-10	0.000E+00	0.000E+00
Thyroid	1.132E-12	3.696E-11	0.000E+00	0.000E+00
Leukemia	2.849E-10	2.094E-11	0.000E+00	0.000E+00
Residual	4.921E-10	3.959E-10	0.000E+00	0.000E+00
Total	7.067E-09	1.003E-09	0.000E+00	0.000E+00

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 \* NUCLIDE I-129 :Particulate

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air	Ground
			Immersion	Surface
Adrenal	4.551E-07	1.330E-07	1.316E+07	1.031E+04
UB_Wall	1.591E-06	4.640E-07	1.864E+07	1.503E+04
Bone_Sur	1.476E-06	4.325E-07	1.293E+08	9.343E+04
Brain	5.291E-07	1.542E-07	1.852E+07	8.539E+03
Breasts	4.218E-07	1.231E-07	7.864E+07	4.544E+04
St_Wall	7.363E-07	1.489E-07	1.946E+07	1.456E+04
SI_Wall	4.662E-07	1.341E-07	9.215E+06	7.526E+03
ULI_Wall	8.325E-07	2.329E-07	1.200E+07	9.600E+03
LLI_Wall	1.595E-06	4.366E-07	9.110E+06	7.724E+03
Kidneys	4.477E-07	1.304E-07	2.726E+07	2.039E+04
Liver	4.514E-07	1.320E-07	1.934E+07	1.445E+04
Muscle	1.114E-06	3.261E-07	4.136E+07	3.134E+04
Ovaries	4.736E-07	1.378E-07	6.035E+06	5.650E+03
Pancreas	4.625E-07	1.334E-07	6.664E+06	5.487E+03
R_Marrow	5.180E-07	1.517E-07	1.934E+07	1.258E+04
Skin	5.254E-07	1.530E-07	1.340E+08	6.874E+04
Spleen	4.551E-07	1.323E-07	1.806E+07	1.398E+04
Testes	4.292E-07	1.254E-07	5.697E+07	4.194E+04
Thymus	6.364E-07	1.859E-07	2.831E+07	1.876E+04
Thyroid	7.807E-03	2.277E-03	4.555E+07	2.691E+04
GB_Wall	4.403E-07	1.285E-07	1.086E+07	8.283E+03
Ht_Wall	4.403E-07	1.282E-07	1.561E+07	1.145E+04
Uterus	4.662E-07	1.357E-07	7.677E+06	6.734E+03
ET_Reg	5.291E-07	2.108E-06	6.664E+06	5.487E+03
Lung_66	5.698E-07	1.910E-07	2.516E+07	1.748E+04
Effectiv	3.922E-04	1.141E-04	3.332E+07	2.318E+04

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air	Ground
			Immersion	Surface
Esophagu	1.017E-09	1.531E-10	7.479E-03	4.310E-06
Stomach	6.475E-09	2.169E-10	7.852E-02	5.883E-05
Colon	1.018E-08	7.082E-10	1.110E-01	9.075E-05
Liver	3.774E-10	1.488E-10	2.936E-02	2.190E-05
LUNG	5.439E-09	8.488E-10	2.458E-01	1.713E-04

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Bone	5.402E-11	2.930E-11	1.223E-02	8.877E-06
Skin	3.397E-11	7.903E-12	1.340E-02	6.862E-06
Breast	1.695E-09	1.994E-10	3.798E-01	2.190E-04
Ovary	3.293E-10	1.333E-10	8.586E-03	8.038E-06
Bladder	8.066E-09	8.658E-10	4.509E-02	3.635E-05
Kidneys	1.203E-10	5.010E-11	1.421E-02	1.060E-05
Thyroid	6.401E-07	1.789E-07	1.445E-02	8.574E-06
Leukemia	2.527E-09	6.523E-10	1.086E-01	7.060E-05
Residual	6.549E-09	1.055E-09	3.041E-01	2.342E-04
Total	6.845E-07	1.840E-07	1.375E+00	9.495E-04

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\*    NUCLIDE Ni-63    :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	3.204E-07	6.567E-07	0.000E+00	0.000E+00
UB_Wall	3.345E-07	6.860E-07	0.000E+00	0.000E+00
Bone_Sur	3.204E-07	6.567E-07	0.000E+00	0.000E+00
Brain	3.204E-07	6.567E-07	0.000E+00	0.000E+00
Breasts	3.204E-07	6.567E-07	0.000E+00	0.000E+00
St_Wall	3.922E-07	6.712E-07	0.000E+00	0.000E+00
SI_Wall	4.958E-07	6.912E-07	0.000E+00	0.000E+00
ULI_Wall	1.376E-06	8.688E-07	0.000E+00	0.000E+00
LLI_Wall	3.415E-06	1.279E-06	0.000E+00	0.000E+00
Kidneys	3.212E-07	6.582E-07	0.000E+00	0.000E+00
Liver	3.204E-07	6.567E-07	0.000E+00	0.000E+00
Muscle	3.204E-07	6.567E-07	0.000E+00	0.000E+00
Ovaries	3.204E-07	6.567E-07	0.000E+00	0.000E+00
Pancreas	3.204E-07	6.567E-07	0.000E+00	0.000E+00
R_Marrow	3.204E-07	6.567E-07	0.000E+00	0.000E+00
Skin	3.204E-07	6.567E-07	0.000E+00	0.000E+00
Spleen	3.204E-07	6.567E-07	0.000E+00	0.000E+00
Testes	3.204E-07	6.567E-07	0.000E+00	0.000E+00
Thymus	3.204E-07	6.567E-07	0.000E+00	0.000E+00
Thyroid	3.204E-07	6.567E-07	0.000E+00	0.000E+00
GB_Wall	3.204E-07	6.567E-07	0.000E+00	0.000E+00
Ht_Wall	3.204E-07	6.567E-07	0.000E+00	0.000E+00
Uterus	3.204E-07	6.567E-07	0.000E+00	0.000E+00
ET_Reg	3.204E-07	1.690E-06	0.000E+00	0.000E+00
Lung_66	3.204E-07	7.633E-06	0.000E+00	0.000E+00
Effectiv	5.624E-07	1.544E-06	0.000E+00	0.000E+00

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	7.918E-11	4.791E-10	0.000E+00	0.000E+00
Stomach	2.586E-08	6.571E-10	0.000E+00	0.000E+00
Colon	1.595E-06	2.064E-09	0.000E+00	0.000E+00
Liver	1.543E-10	6.601E-10	0.000E+00	0.000E+00

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LUNG	8.436E-10	3.361E-08	0.000E+00	0.000E+00
Bone	8.436E-12	4.011E-11	0.000E+00	0.000E+00
Skin	8.991E-12	2.816E-11	0.000E+00	0.000E+00
Breast	3.959E-10	8.510E-10	0.000E+00	0.000E+00
Ovary	4.329E-10	5.635E-10	0.000E+00	0.000E+00
Bladder	1.972E-09	1.173E-09	0.000E+00	0.000E+00
Kidneys	8.658E-11	2.243E-10	0.000E+00	0.000E+00
Thyroid	2.623E-11	6.568E-11	0.000E+00	0.000E+00
Leukemia	6.512E-10	2.555E-09	0.000E+00	0.000E+00
Residual	1.702E-09	2.387E-09	0.000E+00	0.000E+00
Total	1.628E-06	4.536E-08	0.000E+00	0.000E+00

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\* NUCLIDE Np-237 :Particulate

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	2.660E-05	4.917E-03	7.456E+07	1.969E+04
UB_Wall	2.649E-05	4.888E-03	8.143E+07	2.295E+04
Bone_Sur	2.017E-02	3.737E+00	3.600E+08	9.040E+04
Brain	2.653E-05	4.902E-03	9.821E+07	2.004E+04
Breasts	2.642E-05	4.884E-03	1.421E+08	4.054E+04
St_Wall	3.086E-05	4.888E-03	8.609E+07	2.260E+04
SI_Wall	3.774E-05	4.899E-03	6.990E+07	1.946E+04
ULI_Wall	9.324E-05	4.910E-03	7.526E+07	2.074E+04
LLI_Wall	2.231E-04	4.943E-03	7.060E+07	2.015E+04
Kidneys	7.178E-05	1.331E-02	9.040E+07	2.412E+04
Liver	3.200E-04	5.950E-02	8.784E+07	2.272E+04
Muscle	2.649E-05	4.895E-03	1.050E+08	3.378E+04
Ovaries	2.683E-04	4.973E-02	6.559E+07	1.946E+04
Pancreas	2.653E-05	4.902E-03	6.792E+07	1.852E+04
R_Marrow	7.696E-04	1.430E-01	8.656E+07	2.272E+04
Skin	2.645E-05	4.884E-03	1.736E+08	9.297E+04
Spleen	2.645E-05	4.891E-03	8.749E+07	2.272E+04
Testes	2.727E-04	5.054E-02	1.177E+08	3.798E+04
Thymus	2.645E-05	4.891E-03	9.728E+07	2.365E+04
Thyroid	2.649E-05	4.895E-03	1.121E+08	2.784E+04
GB_Wall	2.657E-05	4.899E-03	7.270E+07	2.015E+04
Ht_Wall	2.649E-05	4.895E-03	8.318E+07	2.144E+04
Uterus	2.657E-05	4.895E-03	6.780E+07	1.946E+04
ET_Reg	2.649E-05	2.225E-02	6.792E+07	1.852E+04
Lung_66	2.649E-05	8.192E-02	1.016E+08	2.470E+04
Effectiv	3.959E-04	7.992E-02	1.002E+08	2.843E+04

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	5.513E-12	1.666E-06	7.817E-02	1.957E-05
Stomach	7.511E-09	1.898E-06	3.472E-01	9.122E-05
Colon	4.070E-07	3.249E-06	7.561E-01	2.120E-04

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**(EMF) Effluent Transfer**

Liver	1.143E-10	5.132E-05	1.328E-01	3.448E-05
LUNG	1.550E-10	3.485E-04	9.937E-01	2.412E-04
Bone	1.136E-11	1.477E-04	3.413E-02	8.586E-06
Skin	2.609E-12	8.281E-08	1.736E-02	9.273E-06
Breast	4.773E-11	1.153E-06	6.862E-01	1.957E-04
Ovary	9.176E-10	2.697E-05	9.332E-02	2.773E-05
Bladder	5.439E-10	4.351E-06	1.969E-01	5.545E-05
Kidneys	5.254E-11	3.922E-06	4.707E-02	1.258E-05
Thyroid	7.437E-13	2.120E-07	3.565E-02	8.866E-06
Leukemia	6.364E-10	2.481E-05	4.858E-01	1.270E-04
Residual	1.284E-09	5.824E-06	1.223E+00	3.577E-04
Total	4.181E-07	6.216E-04	5.138E+00	1.398E-03

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 \*       NUCLIDE   Pu-238   :Particulate

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DOSE RATE CONVERSION FACTORS FOR:   Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	4.773E-05	8.813E-03	6.897E+04	5.429E+01
UB_Wall	4.773E-05	8.813E-03	1.022E+05	9.623E+01
Bone_Sur	2.738E-02	5.062E+00	1.038E+06	1.351E+03
Brain	4.773E-05	8.813E-03	8.691E+04	2.551E+01
Breasts	4.773E-05	8.813E-03	1.410E+06	2.144E+03
St_Wall	5.254E-05	8.813E-03	1.033E+05	8.493E+01
SI_Wall	5.957E-05	8.813E-03	5.662E+04	2.668E+01
ULI_Wall	1.195E-04	8.828E-03	6.512E+04	3.250E+01
LLI_Wall	2.579E-04	8.854E-03	5.685E+04	3.157E+01
Kidneys	1.184E-04	2.190E-02	1.480E+05	1.689E+02
Liver	5.772E-03	1.067E+00	9.868E+04	7.398E+01
Muscle	4.773E-05	8.813E-03	5.930E+05	1.282E+03
Ovaries	3.596E-04	6.649E-02	4.905E+04	1.028E+02
Pancreas	4.773E-05	8.813E-03	5.033E+04	1.911E+01
R_Marrow	1.354E-03	2.505E-01	1.876E+05	2.144E+02
Skin	4.773E-05	8.813E-03	4.613E+06	1.101E+04
Spleen	4.773E-05	8.813E-03	8.691E+04	5.033E+01
Testes	3.659E-04	6.767E-02	7.258E+05	1.654E+03
Thymus	4.773E-05	8.813E-03	1.619E+05	1.456E+02
Thyroid	4.773E-05	8.813E-03	4.439E+05	3.751E+02
GB_Wall	4.773E-05	8.813E-03	6.046E+04	3.425E+01
Ht_Wall	4.773E-05	8.813E-03	9.355E+04	6.862E+01
Uterus	4.773E-05	8.813E-03	5.324E+04	2.458E+01
ET_Reg	4.773E-05	2.778E-02	5.033E+04	1.911E+01
Lung_66	4.773E-05	1.057E-01	1.200E+05	8.749E+01
Effectiv	8.436E-04	1.647E-01	3.914E+05	6.978E+02

RISK CONVERSION FACTORS FOR:   Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	4.810E-08	3.508E-06	5.848E-05	1.782E-08
Stomach	1.617E-07	4.114E-06	4.171E-04	3.425E-07

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Colon	2.597E-06	7.226E-06	6.349E-04	3.309E-07
Liver	6.993E-06	6.283E-04	1.491E-04	1.121E-07
LUNG	3.696E-07	4.459E-04	1.177E-03	8.551E-07
Bone	1.802E-06	1.862E-04	9.856E-05	1.281E-07
Skin	3.693E-09	1.821E-07	4.602E-04	1.099E-06
Breast	7.770E-08	2.579E-06	6.815E-03	1.036E-05
Ovary	3.685E-07	3.240E-05	6.978E-05	1.456E-07
Bladder	1.151E-07	8.884E-06	2.470E-04	2.330E-07
Kidneys	6.401E-08	5.531E-06	7.701E-05	8.784E-08
Thyroid	1.103E-08	4.536E-07	1.410E-04	1.200E-07
Leukemia	3.508E-07	3.567E-05	1.053E-03	1.200E-06
Residual	4.921E-07	1.338E-05	3.530E-03	6.722E-06
Total	1.343E-05	1.374E-03	1.491E-02	2.179E-05

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\* NUCLIDE Pu-239 :Particulate

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air		Ground Surface
			Immersion		
Adrenal	5.365E-05	9.927E-03	2.516E+05		7.642E+01
UB_Wall	5.365E-05	9.927E-03	2.761E+05		1.003E+02
Bone_Sur	3.045E-02	5.639E+00	1.235E+06		7.386E+02
Brain	5.365E-05	9.927E-03	3.250E+05		6.722E+01
Breasts	5.365E-05	9.927E-03	9.495E+05		9.681E+02
St_Wall	5.809E-05	9.927E-03	2.901E+05		9.506E+01
SI_Wall	6.475E-05	9.931E-03	2.330E+05		6.571E+01
ULI_Wall	1.206E-04	9.942E-03	2.493E+05		7.048E+01
LLI_Wall	2.501E-04	9.968E-03	2.353E+05		6.990E+01
Kidneys	1.251E-04	2.318E-02	3.157E+05		1.305E+02
Liver	6.401E-03	1.184E+00	2.924E+05		9.064E+01
Muscle	5.365E-05	9.927E-03	5.312E+05		6.070E+02
Ovaries	3.996E-04	7.396E-02	2.179E+05		9.879E+01
Pancreas	5.365E-05	9.927E-03	2.260E+05		6.000E+01
R_Marrow	1.447E-03	2.686E-01	3.344E+05		1.503E+02
Skin	5.365E-05	9.927E-03	2.365E+06		4.707E+03
Spleen	5.365E-05	9.927E-03	2.878E+05		8.132E+01
Testes	4.070E-04	7.530E-02	6.093E+05		7.619E+02
Thymus	5.365E-05	9.927E-03	3.378E+05		1.212E+02
Thyroid	5.365E-05	9.927E-03	4.881E+05		2.225E+02
GB_Wall	5.365E-05	9.927E-03	2.423E+05		6.932E+01
Ht_Wall	5.365E-05	9.927E-03	2.808E+05		8.621E+01
Uterus	5.365E-05	9.927E-03	2.248E+05		6.489E+01
ET_Reg	5.365E-05	2.813E-02	2.260E+05		6.000E+01
Lung_66	5.365E-05	9.661E-02	3.367E+05		1.009E+02
Effectiv	9.287E-04	1.794E-01	4.392E+05		3.565E+02

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air		Ground Surface
			Immersion		
Esophagu	7.844E-10	3.639E-06	2.656E-04		6.396E-08

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**(EMF) Effluent Transfer**

Stomach	1.757E-09	4.255E-06	1.177E-03	3.833E-07
Colon	1.469E-08	7.396E-06	2.516E-03	7.246E-07
Liver	1.151E-07	6.530E-04	4.427E-04	1.375E-07
LUNG	5.069E-09	4.018E-04	3.297E-03	9.868E-07
Bone	3.008E-08	1.948E-04	1.177E-04	7.013E-08
Skin	4.958E-11	1.863E-07	2.365E-04	4.695E-07
Breast	8.880E-10	2.632E-06	4.590E-03	4.672E-06
Ovary	6.105E-09	3.368E-05	3.099E-04	1.410E-07
Bladder	1.979E-09	9.342E-06	6.675E-04	2.423E-07
Kidneys	6.475E-10	5.524E-06	1.643E-04	6.792E-08
Thyroid	1.350E-10	4.710E-07	1.549E-04	7.083E-08
Leukemia	4.773E-09	3.637E-05	1.876E-03	8.435E-07
Residual	5.513E-09	1.355E-05	5.009E-03	3.693E-06
Total	1.876E-07	1.367E-03	2.085E-02	1.258E-05

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 \*    NUCLIDE   Pu-240   :Particulate  
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DOSE RATE CONVERSION FACTORS FOR:   Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	5.365E-05	9.923E-03	7.549E+04	5.452E+01
UB_Wall	5.365E-05	9.923E-03	1.081E+05	9.483E+01
Bone_Sur	3.045E-02	5.639E+00	1.037E+06	1.293E+03
Brain	5.365E-05	9.923E-03	9.611E+04	2.773E+01
Breasts	5.365E-05	9.923E-03	1.351E+06	2.027E+03
St_Wall	5.809E-05	9.923E-03	1.101E+05	8.423E+01
SI_Wall	6.475E-05	9.923E-03	6.279E+04	2.854E+01
ULI_Wall	1.210E-04	9.938E-03	7.165E+04	3.437E+01
LLI_Wall	2.512E-04	9.964E-03	6.314E+04	3.344E+01
Kidneys	1.251E-04	2.319E-02	1.526E+05	1.631E+02
Liver	6.401E-03	1.183E+00	1.058E+05	7.398E+01
Muscle	5.365E-05	9.923E-03	5.743E+05	1.212E+03
Ovaries	3.996E-04	7.396E-02	5.522E+04	9.996E+01
Pancreas	5.365E-05	9.923E-03	5.627E+04	2.109E+01
R_Marrow	1.450E-03	2.688E-01	1.887E+05	2.062E+02
Skin	5.365E-05	9.923E-03	4.369E+06	1.037E+04
Spleen	5.365E-05	9.923E-03	9.460E+04	5.173E+01
Testes	4.070E-04	7.526E-02	7.025E+05	1.561E+03
Thymus	5.365E-05	9.923E-03	1.678E+05	1.421E+02
Thyroid	5.365E-05	9.923E-03	4.357E+05	3.588E+02
GB_Wall	5.365E-05	9.923E-03	6.722E+04	3.577E+01
Ht_Wall	5.365E-05	9.923E-03	9.984E+04	6.862E+01
Uterus	5.365E-05	9.923E-03	5.907E+04	2.645E+01
ET_Reg	5.365E-05	2.813E-02	5.627E+04	2.109E+01
Lung_66	5.365E-05	9.683E-02	1.281E+05	8.714E+01
Effectiv	9.287E-04	1.794E-01	3.833E+05	6.617E+02

RISK CONVERSION FACTORS FOR:   Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
_____	_____	_____	_____	_____

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**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

Esophagu	4.588E-08	3.639E-06	6.501E-05	1.992E-08
Stomach	1.536E-07	4.255E-06	4.450E-04	3.402E-07
Colon	2.464E-06	7.396E-06	7.013E-04	3.507E-07
Liver	6.623E-06	6.530E-04	1.608E-04	1.121E-07
LUNG	3.508E-07	4.029E-04	1.258E-03	8.516E-07
Bone	1.713E-06	1.951E-04	9.844E-05	1.223E-07
Skin	3.504E-09	1.863E-07	4.357E-04	1.035E-06
Breast	7.363E-08	2.632E-06	6.524E-03	9.798E-06
Ovary	3.504E-07	3.368E-05	7.852E-05	1.421E-07
Bladder	1.092E-07	9.342E-06	2.610E-04	2.295E-07
Kidneys	6.105E-08	5.524E-06	7.945E-05	8.481E-08
Thyroid	1.047E-08	4.710E-07	1.386E-04	1.143E-07
Leukemia	3.330E-07	3.638E-05	1.059E-03	1.158E-06
Residual	4.662E-07	1.355E-05	3.507E-03	6.384E-06
Total	1.277E-05	1.368E-03	1.480E-02	2.074E-05

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 \*       NUCLIDE   Pu-241   :Particulate

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DOSE RATE CONVERSION FACTORS FOR:   Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	1.103E-06	2.049E-04	5.604E+03	1.340E+00
UB_Wall	1.099E-06	2.046E-04	6.011E+03	1.515E+00
Bone_Sur	6.068E-04	1.133E-01	2.481E+04	4.928E+00
Brain	1.099E-06	2.047E-04	7.328E+03	1.398E+00
Breasts	1.099E-06	2.046E-04	9.378E+03	1.911E+00
St_Wall	1.121E-06	2.047E-04	6.349E+03	1.491E+00
SI_Wall	1.154E-06	2.047E-04	5.312E+03	1.363E+00
ULI_Wall	1.439E-06	2.048E-04	5.662E+03	1.433E+00
LLI_Wall	2.102E-06	2.049E-04	5.359E+03	1.421E+00
Kidneys	1.843E-06	3.480E-04	6.547E+03	1.503E+00
Liver	1.258E-04	2.352E-02	6.501E+03	1.491E+00
Muscle	1.099E-06	2.047E-04	7.340E+03	1.806E+00
Ovaries	7.955E-06	1.489E-03	5.044E+03	1.351E+00
Pancreas	1.099E-06	2.048E-04	5.208E+03	1.328E+00
R_Marrow	2.379E-05	4.473E-03	6.431E+03	1.515E+00
Skin	1.099E-06	2.046E-04	1.148E+04	3.227E+00
Spleen	1.099E-06	2.046E-04	6.477E+03	1.515E+00
Testes	8.103E-06	1.516E-03	7.980E+03	1.899E+00
Thymus	1.099E-06	2.046E-04	7.060E+03	1.456E+00
Thyroid	1.099E-06	2.046E-04	7.864E+03	1.643E+00
GB_Wall	1.103E-06	2.052E-04	5.464E+03	1.433E+00
Ht_Wall	1.099E-06	2.047E-04	6.209E+03	1.456E+00
Uterus	1.099E-06	2.046E-04	5.173E+03	1.386E+00
ET_Reg	1.099E-06	2.186E-04	5.208E+03	1.328E+00
Lung_66	1.099E-06	2.354E-04	7.444E+03	1.596E+00
Effectiv	1.757E-05	3.280E-03	7.165E+03	1.666E+00

RISK CONVERSION FACTORS FOR:   Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
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**24590-WTP-RPT-ENV-26-001, Rev 1**  
**Radioactive Air Emissions Notice of Construction**  
**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

Cancer	Ingestion	Inhalation	Immersion	Surface
Esophagu	3.922E-12	3.650E-09	2.167E+00	4.543E-04
Stomach	5.587E-09	3.389E-09	8.237E+00	1.782E-03
Colon	1.047E-09	9.838E-09	1.922E+01	4.543E-03
Liver	2.165E-11	5.539E-09	3.122E+00	6.745E-04
LUNG	8.436E-11	4.470E-07	2.248E+01	4.613E-03
Bone	5.661E-13	2.015E-09	3.961E-01	7.305E-05
Skin	4.292E-13	6.264E-11	3.111E-01	7.060E-05
Breast	2.875E-11	6.116E-09	1.293E+01	2.505E-03
Ovary	3.693E-11	1.486E-09	2.470E+00	6.524E-04
Bladder	2.050E-11	2.077E-09	4.625E+00	1.093E-03
Kidneys	1.054E-11	7.478E-10	1.073E+00	2.342E-04
Thyroid	3.737E-13	2.297E-10	7.573E-01	1.584E-04
Leukemia	5.476E-11	2.593E-08	1.247E+01	2.668E-03
Residual	5.217E-10	1.650E-08	2.959E+01	6.640E-03
Total	7.437E-09	5.247E-07	1.200E+02	2.621E-02

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\* NUCLIDE Sm-151 :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	9.139E-12	1.716E-09	3.227E+02	4.835E-01
UB_Wall	8.473E-11	1.518E-08	7.934E+02	1.351E+00
Bone_Sur	2.131E-06	3.952E-04	8.866E+03	1.200E+01
Brain	4.033E-12	7.463E-10	3.111E+02	2.109E-01
Breasts	3.186E-12	6.201E-10	1.100E+04	1.247E+01
St_Wall	8.436E-08	1.722E-08	7.794E+02	1.200E+00
SI_Wall	2.113E-07	4.214E-08	1.480E+02	2.586E-01
ULI_Wall	1.280E-06	3.057E-07	2.435E+02	3.914E-01
LLI_Wall	3.774E-06	8.950E-07	1.258E+02	2.493E-01
Kidneys	5.217E-12	9.139E-10	1.514E+03	2.365E+00
Liver	5.698E-07	1.054E-04	6.827E+02	1.055E+00
Muscle	6.808E-12	8.758E-10	4.625E+03	7.398E+00
Ovaries	5.920E-11	5.879E-10	3.064E+01	6.186E-01
Pancreas	6.068E-12	9.701E-10	3.017E+01	5.592E-02
R_Marrow	1.706E-07	3.162E-05	1.421E+03	1.736E+00
Skin	3.608E-12	6.323E-10	2.412E+04	3.157E+01
Spleen	3.223E-12	5.702E-10	5.056E+02	7.456E-01
Testes	2.904E-12	4.958E-10	6.489E+03	1.082E+01
Thymus	3.130E-12	5.950E-10	1.619E+03	2.039E+00
Thyroid	2.879E-12	5.354E-10	4.474E+03	4.171E+00
GB_Wall	2.572E-11	3.722E-09	1.120E+02	2.540E-01
Ht_Wall	4.440E-12	9.072E-10	5.429E+02	8.167E-01
Uterus	6.105E-12	5.091E-10	8.493E+01	1.328E-01
ET_Reg	2.879E-12	1.543E-06	3.017E+01	5.592E-02
Lung_66	7.104E-12	9.320E-06	8.842E+02	1.258E+00
Effectiv	3.626E-07	1.420E-05	3.087E+03	4.439E+00

RISK CONVERSION FACTORS FOR: Adult

**24590-WTP-RPT-ENV-26-001, Rev 1**  
**Radioactive Air Emissions Notice of Construction**  
**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	2.264E-13	4.658E-13	8.108E-08	2.377E-11
Stomach	4.995E-09	2.595E-11	3.146E-06	4.846E-09
Colon	6.808E-10	1.174E-09	1.992E-06	3.413E-09
Liver	1.872E-12	8.528E-08	1.035E-06	1.596E-09
LUNG	6.919E-12	4.114E-08	8.644E-06	1.235E-08
Bone	9.694E-14	1.983E-08	8.423E-07	1.139E-09
Skin	2.727E-14	3.000E-14	2.412E-06	3.145E-09
Breast	1.861E-12	9.368E-13	5.312E-05	6.023E-08
Ovary	3.526E-12	5.435E-13	4.357E-08	8.796E-10
Bladder	1.724E-12	2.253E-11	1.922E-06	3.262E-09
Kidneys	9.398E-13	3.038E-13	7.875E-07	1.235E-09
Thyroid	1.650E-14	6.135E-14	1.421E-06	1.328E-09
Leukemia	4.181E-12	1.020E-07	7.980E-06	9.739E-09
Residual	4.662E-11	4.422E-12	2.470E-05	3.938E-08
Total	5.735E-09	2.495E-07	1.081E-04	1.421E-07

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\*       NUCLIDE   Sn-126   :Particulate

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DOSE RATE CONVERSION FACTORS FOR:   Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	3.452E-06	2.992E-05	1.549E+08	4.159E+04
UB_Wall	4.218E-06	1.104E-05	1.713E+08	4.916E+04
Bone_Sur	2.005E-05	1.010E-04	8.085E+08	2.015E+05
Brain	2.627E-06	1.374E-05	2.062E+08	4.287E+04
Breasts	1.717E-06	2.358E-05	2.971E+08	7.072E+04
St_Wall	5.994E-06	1.767E-05	1.817E+08	4.858E+04
SI_Wall	1.591E-05	1.582E-05	1.445E+08	4.182E+04
ULI_Wall	5.994E-05	2.648E-05	1.561E+08	4.450E+04
LLI_Wall	1.628E-04	5.265E-05	1.468E+08	4.334E+04
Kidneys	3.271E-06	1.663E-05	1.911E+08	5.114E+04
Liver	2.645E-06	2.263E-05	1.852E+08	4.881E+04
Muscle	2.993E-06	1.726E-05	2.202E+08	6.256E+04
Ovaries	9.324E-06	1.467E-05	1.340E+08	4.171E+04
Pancreas	3.167E-06	2.284E-05	1.398E+08	3.973E+04
R_Marrow	1.040E-05	5.269E-05	1.782E+08	4.718E+04
Skin	2.046E-06	1.183E-05	5.219E+08	9.390E+04
Spleen	2.664E-06	2.068E-05	1.841E+08	4.893E+04
Testes	2.460E-06	8.984E-06	2.481E+08	6.967E+04
Thymus	2.057E-06	2.802E-05	2.062E+08	5.114E+04
Thyroid	2.301E-06	1.710E-05	2.365E+08	5.767E+04
GB_Wall	3.996E-06	1.565E-05	1.514E+08	4.276E+04
Ht_Wall	2.272E-06	3.722E-05	1.736E+08	4.613E+04
Uterus	5.217E-06	1.224E-05	1.398E+08	4.159E+04
ET_Reg	2.301E-06	6.764E-05	1.398E+08	3.973E+04
Lung_66	2.331E-06	6.301E-04	2.155E+08	5.312E+04
Effectiv	1.765E-05	9.860E-05	2.120E+08	5.615E+04

RISK CONVERSION FACTORS FOR:   Adult

**24590-WTP-RPT-ENV-26-001, Rev 1**  
**Radioactive Air Emissions Notice of Construction**  
**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	1.314E-11	2.261E-08	1.596E-01	4.159E-05
Stomach	1.776E-08	2.351E-08	7.339E-01	1.957E-04
Colon	2.046E-08	8.244E-08	1.573E+00	4.543E-04
Liver	1.088E-10	2.496E-08	2.808E-01	7.398E-05
LUNG	2.953E-10	2.772E-06	2.109E+00	5.196E-04
Bone	3.093E-12	6.605E-09	7.677E-02	1.911E-05
Skin	2.087E-12	5.831E-10	5.208E-02	9.367E-06
Breast	9.842E-11	3.707E-08	1.433E+00	3.413E-04
Ovary	3.367E-10	1.375E-08	1.911E-01	5.930E-05
Bladder	1.650E-10	2.006E-08	4.136E-01	1.188E-04
Kidneys	5.254E-11	6.212E-09	9.937E-02	2.656E-05
Thyroid	1.354E-12	1.937E-09	7.526E-02	1.841E-05
Leukemia	3.360E-10	2.200E-07	1.001E+00	2.645E-04
Residual	1.880E-09	1.152E-07	2.551E+00	7.141E-04
Total	4.144E-08	3.347E-06	1.075E+01	2.854E-03

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 \*    NUCLIDE   Sr-90   :Particulate

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	2.453E-06	9.864E-07	5.441E+05	1.969E+02
UB_Wall	2.476E-06	2.460E-06	5.976E+05	2.330E+02
Bone_Sur	1.510E-03	5.635E-04	2.656E+06	9.693E+02
Brain	2.453E-06	9.864E-07	7.211E+05	2.004E+02
Breasts	2.453E-06	9.864E-07	1.108E+06	4.078E+02
St_Wall	3.334E-06	1.326E-06	6.338E+05	2.318E+02
SI_Wall	4.181E-06	1.802E-06	5.021E+05	1.911E+02
ULI_Wall	2.161E-05	8.580E-06	5.441E+05	2.062E+02
LLI_Wall	8.103E-05	2.759E-05	5.079E+05	1.992E+02
Kidneys	2.453E-06	9.864E-07	6.757E+05	2.516E+02
Liver	2.453E-06	9.864E-07	6.454E+05	2.318E+02
Muscle	2.453E-06	9.864E-07	7.969E+05	3.390E+02
Ovaries	2.453E-06	9.864E-07	4.695E+05	1.876E+02
Pancreas	2.453E-06	9.864E-07	4.846E+05	1.782E+02
R_Marrow	6.623E-04	2.476E-04	6.349E+05	2.248E+02
Skin	2.453E-06	9.864E-07	1.072E+09	1.631E+05
Spleen	2.453E-06	9.864E-07	6.408E+05	2.318E+02
Testes	2.453E-06	9.864E-07	9.075E+05	3.879E+02
Thymus	2.453E-06	9.864E-07	7.258E+05	2.458E+02
Thyroid	2.453E-06	9.864E-07	8.551E+05	2.901E+02
GB_Wall	2.453E-06	9.864E-07	5.277E+05	1.946E+02
Ht_Wall	2.453E-06	9.864E-07	6.046E+05	2.155E+02
Uterus	2.453E-06	9.864E-07	4.846E+05	1.887E+02
ET_Reg	2.453E-06	2.621E-05	4.846E+05	1.782E+02
Lung_66	2.453E-06	7.282E-04	7.514E+05	2.551E+02
Effectiv	1.025E-04	1.255E-04	1.145E+07	1.911E+03

**24590-WTP-RPT-ENV-26-001, Rev 1**  
**Radioactive Air Emissions Notice of Construction**  
**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	7.178E-11	7.552E-10	5.580E-04	1.852E-07
Stomach	1.125E-08	1.716E-09	2.563E-03	9.355E-07
Colon	1.661E-07	3.694E-08	5.452E-03	2.097E-06
Liver	2.150E-10	1.036E-09	9.786E-04	3.518E-07
LUNG	8.843E-10	3.208E-06	7.351E-03	2.493E-06
Bone	4.588E-11	2.861E-08	2.516E-04	9.203E-08
Skin	8.214E-12	4.595E-11	1.069E-01	1.631E-05
Breast	3.700E-10	1.422E-09	5.347E-03	1.969E-06
Ovary	5.439E-10	8.887E-10	6.675E-04	2.668E-07
Bladder	1.251E-09	4.422E-09	1.445E-03	5.639E-07
Kidneys	8.917E-11	3.527E-10	3.518E-04	1.305E-07
Thyroid	2.146E-11	1.064E-10	2.726E-04	9.238E-08
Leukemia	1.991E-09	9.420E-07	3.565E-03	1.258E-06
Residual	2.694E-09	4.447E-09	9.052E-03	3.542E-06
Total	1.854E-07	4.233E-06	1.445E-01	3.029E-05

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\* NUCLIDE Tc-99 :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	1.432E-07	3.227E-08	1.047E+05	4.474E+01
UB_Wall	5.920E-07	1.337E-07	1.188E+05	5.592E+01
Bone_Sur	1.432E-07	3.227E-08	6.128E+05	2.796E+02
Brain	1.432E-07	3.227E-08	1.410E+05	4.474E+01
Breasts	1.432E-07	3.227E-08	2.598E+05	1.235E+02
St_Wall	7.992E-06	1.792E-06	1.270E+05	5.557E+01
SI_Wall	6.845E-07	2.234E-07	9.413E+04	4.229E+01
ULI_Wall	5.069E-06	1.560E-06	1.040E+05	4.648E+01
LLI_Wall	1.454E-05	4.514E-06	9.518E+04	4.392E+01
Kidneys	1.432E-07	3.227E-08	1.398E+05	6.349E+01
Liver	1.905E-07	4.292E-08	1.281E+05	5.545E+01
Muscle	1.432E-07	3.227E-08	1.736E+05	9.541E+01
Ovaries	1.432E-07	3.227E-08	8.586E+04	4.066E+01
Pancreas	1.432E-07	3.227E-08	8.866E+04	3.833E+01
R_Marrow	1.432E-07	3.227E-08	1.247E+05	5.289E+01
Skin	1.432E-07	3.227E-08	3.192E+08	2.854E+02
Spleen	1.432E-07	3.227E-08	1.270E+05	5.499E+01
Testes	1.432E-07	3.227E-08	2.050E+05	1.144E+02
Thymus	1.432E-07	3.227E-08	1.503E+05	6.186E+01
Thyroid	3.737E-06	8.429E-07	1.864E+05	7.666E+01
GB_Wall	1.432E-07	3.227E-08	1.007E+05	4.334E+01
Ht_Wall	1.432E-07	3.227E-08	1.177E+05	5.009E+01
Uterus	1.432E-07	3.227E-08	8.959E+04	4.101E+01
ET_Reg	1.432E-07	1.164E-05	8.866E+04	3.833E+01
Lung_66	1.432E-07	9.550E-05	1.526E+05	6.233E+01
Effectiv	2.375E-06	1.208E-05	3.355E+06	7.631E+01

**24590-WTP-RPT-ENV-26-001, Rev 1**  
**Radioactive Air Emissions Notice of Construction**  
**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	7.881E-13	2.645E-11	1.007E-04	3.833E-08
Stomach	3.223E-09	2.619E-09	5.126E-04	2.248E-07
Colon	2.283E-10	6.331E-09	1.035E-03	4.683E-07
Liver	3.737E-12	4.840E-11	1.946E-04	8.400E-08
LUNG	1.595E-11	4.166E-07	1.491E-03	6.093E-07
Bone	1.117E-13	2.176E-12	5.813E-05	2.656E-08
Skin	7.955E-14	1.667E-12	3.180E-02	2.843E-08
Breast	5.476E-12	5.232E-11	1.258E-03	5.965E-07
Ovary	4.884E-12	3.114E-11	1.223E-04	5.778E-08
Bladder	3.041E-12	2.483E-10	2.878E-04	1.351E-07
Kidneys	1.835E-12	1.238E-11	7.270E-05	3.309E-08
Thyroid	3.541E-12	9.946E-11	5.930E-05	2.446E-08
Leukemia	8.695E-12	1.383E-10	7.002E-04	2.971E-07
Residual	9.472E-11	1.733E-10	1.817E-03	8.854E-07
Total	3.596E-09	4.262E-07	3.961E-02	3.507E-06

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 \*       NUCLIDE   Th-232   :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	1.321E-04	3.124E-03	5.837E+05	1.771E+02
UB_Wall	1.317E-04	3.068E-03	6.536E+05	2.085E+02
Bone_Sur	4.366E-02	1.075E+00	3.448E+06	1.316E+03
Brain	1.321E-04	3.073E-03	7.840E+05	1.759E+02
Breasts	1.317E-04	3.116E-03	1.666E+06	1.247E+03
St_Wall	1.351E-04	3.091E-03	6.955E+05	2.074E+02
SI_Wall	1.406E-04	3.076E-03	5.371E+05	1.701E+02
ULI_Wall	1.868E-04	3.226E-03	5.848E+05	1.806E+02
LLI_Wall	2.934E-04	3.527E-03	5.441E+05	1.782E+02
Kidneys	6.808E-04	1.793E-02	7.433E+05	2.318E+02
Liver	6.845E-04	1.898E-02	7.060E+05	2.062E+02
Muscle	1.317E-04	3.088E-03	1.039E+06	8.411E+02
Ovaries	3.996E-04	9.720E-03	4.986E+05	2.109E+02
Pancreas	1.317E-04	3.104E-03	5.149E+05	1.619E+02
R_Marrow	1.728E-03	4.669E-02	7.025E+05	2.563E+02
Skin	1.317E-04	3.074E-03	3.798E+06	7.573E+03
Spleen	1.317E-04	3.104E-03	7.025E+05	2.015E+02
Testes	4.033E-04	9.846E-03	1.177E+06	9.495E+02
Thymus	1.317E-04	3.127E-03	8.050E+05	2.342E+02
Thyroid	1.317E-04	3.087E-03	1.009E+06	3.250E+02
GB_Wall	1.317E-04	3.083E-03	5.743E+05	1.689E+02
Ht_Wall	1.317E-04	3.156E-03	6.594E+05	1.957E+02
Uterus	1.317E-04	3.068E-03	5.149E+05	1.678E+02
ET_Reg	1.317E-04	1.497E-01	5.149E+05	1.619E+02
Lung_66	1.317E-04	5.828E-01	8.306E+05	2.260E+02
Effectiv	8.547E-04	9.080E-02	9.204E+05	5.277E+02

**24590-WTP-RPT-ENV-26-001, Rev 1**  
**Radioactive Air Emissions Notice of Construction**  
**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Esophagu	1.091E-11	8.506E-07	5.825E-04	1.631E-07
Stomach	7.289E-08	9.039E-07	2.808E-03	8.376E-07
Colon	3.027E-08	1.664E-06	5.860E-03	1.852E-06
Liver	2.416E-11	9.209E-06	1.069E-03	3.122E-07
LUNG	1.151E-10	1.951E-03	8.120E-03	2.213E-06
Bone	1.413E-11	3.207E-05	3.274E-04	1.247E-07
Skin	1.121E-12	3.837E-08	3.786E-04	7.561E-07
Breast	4.366E-11	5.572E-07	8.050E-03	6.023E-06
Ovary	1.817E-11	3.643E-06	7.095E-04	2.994E-07
Bladder	2.657E-11	2.231E-06	1.584E-03	5.044E-07
Kidneys	1.458E-11	3.106E-06	3.868E-04	1.212E-07
Thyroid	3.678E-12	1.035E-07	3.215E-04	1.035E-07
Leukemia	4.329E-11	5.606E-06	3.938E-03	1.433E-06
Residual	2.109E-10	2.525E-06	1.060E-02	5.860E-06
Total	1.040E-07	2.014E-03	4.474E-02	2.062E-05

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 \* NUCLIDE U-233 :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Adrenal	1.051E-04	5.080E-04	8.819E+05	2.307E+02
UB_Wall	1.055E-04	5.095E-04	9.390E+05	2.668E+02
Bone_Sur	3.101E-03	1.548E-02	3.612E+06	1.235E+03
Brain	1.051E-04	5.080E-04	1.146E+06	2.283E+02
Breasts	1.051E-04	5.080E-04	1.980E+06	1.212E+03
St_Wall	1.092E-04	5.087E-04	9.926E+05	2.621E+02
SI_Wall	1.151E-04	5.099E-04	8.248E+05	2.202E+02
ULI_Wall	1.665E-04	5.199E-04	8.796E+05	2.330E+02
LLI_Wall	2.856E-04	5.435E-04	8.353E+05	2.307E+02
Kidneys	1.077E-03	5.221E-03	1.038E+06	2.959E+02
Liver	4.107E-04	2.007E-03	1.010E+06	2.598E+02
Muscle	1.051E-04	5.080E-04	1.340E+06	8.376E+02
Ovaries	1.055E-04	5.136E-04	7.840E+05	2.551E+02
Pancreas	1.051E-04	5.080E-04	8.097E+05	2.085E+02
R_Marrow	3.108E-04	1.526E-03	1.058E+06	3.192E+02
Skin	1.051E-04	5.080E-04	3.996E+06	5.988E+03
Spleen	1.051E-04	5.076E-04	1.004E+06	2.540E+02
Testes	1.055E-04	5.136E-04	1.480E+06	9.751E+02
Thymus	1.051E-04	5.080E-04	1.110E+06	2.831E+02
Thyroid	1.051E-04	5.080E-04	1.340E+06	3.973E+02
GB_Wall	1.051E-04	5.080E-04	8.539E+05	2.248E+02
Ht_Wall	1.051E-04	5.080E-04	9.658E+05	2.481E+02
Uterus	1.051E-04	5.080E-04	8.027E+05	2.214E+02
ET_Reg	1.051E-04	1.803E-02	8.097E+05	2.085E+02
Lung_66	1.051E-04	7.859E-02	1.153E+06	2.819E+02

**24590-WTP-RPT-ENV-26-001, Rev 1**  
**Radioactive Air Emissions Notice of Construction**  
**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

Effectiv      1.898E-04      1.023E-02      1.235E+06      5.545E+02

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Esophagu	7.400E-08	1.949E-07	9.460E-04	2.237E-07
Stomach	2.124E-07	2.302E-07	4.008E-03	1.058E-06
Colon	2.608E-06	4.407E-07	8.889E-03	2.400E-06
Liver	5.143E-07	1.545E-06	1.526E-03	3.938E-07
LUNG	5.217E-07	3.447E-04	1.128E-02	2.761E-06
Bone	3.238E-07	7.518E-07	3.425E-04	1.177E-07
Skin	5.328E-09	9.990E-09	3.984E-04	5.976E-07
Breast	1.032E-07	1.405E-07	9.565E-03	5.848E-06
Ovary	8.621E-08	2.285E-07	1.115E-03	3.635E-07
Bladder	1.817E-07	5.006E-07	2.272E-03	6.454E-07
Kidneys	5.883E-07	1.793E-06	5.406E-04	1.538E-07
Thyroid	1.502E-08	2.510E-08	4.264E-04	1.270E-07
Leukemia	1.029E-07	2.517E-07	5.942E-03	1.794E-06
Residual	6.734E-07	7.278E-07	1.503E-02	6.338E-06
Total	5.994E-06	3.516E-04	6.233E-02	2.283E-05

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\*    NUCLIDE U-234    :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Adrenal	1.021E-04	4.921E-04	3.612E+05	1.247E+02
UB_Wall	1.025E-04	4.939E-04	4.124E+05	1.608E+02
Bone_Sur	2.904E-03	1.406E-02	2.330E+06	1.410E+03
Brain	1.021E-04	4.921E-04	4.800E+05	1.085E+02
Breasts	1.021E-04	4.921E-04	1.678E+06	1.887E+03
St_Wall	1.062E-04	4.928E-04	4.357E+05	1.538E+02
SI_Wall	1.121E-04	4.943E-04	3.309E+05	1.047E+02
ULI_Wall	1.635E-04	5.043E-04	3.600E+05	1.131E+02
LLI_Wall	2.816E-04	5.276E-04	3.344E+05	1.127E+02
Kidneys	1.062E-03	5.139E-03	4.811E+05	2.085E+02
Liver	3.996E-04	1.926E-03	4.404E+05	1.468E+02
Muscle	1.021E-04	4.921E-04	8.877E+05	1.188E+03
Ovaries	1.021E-04	4.921E-04	3.099E+05	1.666E+02
Pancreas	1.021E-04	4.921E-04	3.169E+05	9.669E+01
R_Marrow	3.001E-04	1.452E-03	4.916E+05	2.563E+02
Skin	1.021E-04	4.921E-04	4.928E+06	1.055E+04
Spleen	1.021E-04	4.921E-04	4.310E+05	1.328E+02
Testes	1.021E-04	4.921E-04	1.023E+06	1.433E+03
Thymus	1.021E-04	4.921E-04	5.231E+05	1.934E+02
Thyroid	1.021E-04	4.921E-04	7.806E+05	3.705E+02
GB_Wall	1.021E-04	4.921E-04	3.495E+05	1.136E+02
Ht_Wall	1.021E-04	4.921E-04	4.147E+05	1.410E+02
Uterus	1.021E-04	4.921E-04	3.180E+05	1.043E+02
ET_Reg	1.021E-04	1.780E-02	3.169E+05	9.669E+01

**24590-WTP-RPT-ENV-26-001, Rev 1**  
**Radioactive Air Emissions Notice of Construction**  
**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

Lung_66	1.021E-04	7.711E-02	5.161E+05	1.643E+02
Effectiv	1.831E-04	1.002E-02	7.153E+05	6.757E+02

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	7.548E-08	1.902E-07	3.623E-04	9.996E-08
Stomach	2.146E-07	2.251E-07	1.759E-03	6.209E-07
Colon	2.372E-06	4.299E-07	3.600E-03	1.165E-06
Liver	5.254E-07	1.500E-06	6.675E-04	2.225E-07
LUNG	5.328E-07	3.384E-04	5.044E-03	1.608E-06
Bone	3.271E-07	7.067E-07	2.213E-04	1.340E-07
Skin	5.439E-09	9.775E-09	4.916E-04	1.053E-06
Breast	1.047E-07	1.373E-07	8.108E-03	9.122E-06
Ovary	8.584E-08	2.215E-07	4.404E-04	2.365E-07
Bladder	1.846E-07	4.865E-07	9.972E-04	3.891E-07
Kidneys	6.031E-07	1.767E-06	2.505E-04	1.085E-07
Thyroid	1.528E-08	2.452E-08	2.481E-04	1.177E-07
Leukemia	8.436E-08	2.441E-07	2.761E-03	1.433E-06
Residual	6.808E-07	7.130E-07	7.771E-03	6.990E-06
Total	5.809E-06	3.450E-04	3.274E-02	2.330E-05

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\*    NUCLIDE   U-235   :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	9.509E-05	4.592E-04	6.582E+08	1.514E+05
UB_Wall	9.546E-05	4.584E-04	6.850E+08	1.608E+05
Bone_Sur	2.742E-03	1.325E-02	2.260E+09	3.868E+05
Brain	9.472E-05	4.573E-04	8.504E+08	1.561E+05
Breasts	9.472E-05	4.577E-04	1.002E+09	1.864E+05
St_Wall	9.879E-05	4.581E-04	7.235E+08	1.619E+05
SI_Wall	1.055E-04	4.592E-04	6.268E+08	1.514E+05
ULI_Wall	1.584E-04	4.699E-04	6.606E+08	1.573E+05
LLI_Wall	2.882E-04	4.958E-04	6.326E+08	1.573E+05
Kidneys	9.842E-04	4.762E-03	7.363E+08	1.608E+05
Liver	3.685E-04	1.785E-03	7.398E+08	1.619E+05
Muscle	9.472E-05	4.577E-04	8.155E+08	1.852E+05
Ovaries	9.546E-05	4.573E-04	6.093E+08	1.526E+05
Pancreas	9.509E-05	4.581E-04	6.233E+08	1.468E+05
R_Marrow	2.808E-04	1.358E-03	7.607E+08	1.678E+05
Skin	9.472E-05	4.566E-04	1.066E+09	2.400E+05
Spleen	9.472E-05	4.577E-04	7.398E+08	1.631E+05
Testes	9.472E-05	4.562E-04	8.714E+08	1.887E+05
Thymus	9.472E-05	4.584E-04	7.899E+08	1.549E+05
Thyroid	9.472E-05	4.573E-04	8.714E+08	1.713E+05
GB_Wall	9.509E-05	4.573E-04	6.408E+08	1.491E+05
Ht_Wall	9.472E-05	4.595E-04	7.153E+08	1.561E+05
Uterus	9.509E-05	4.570E-04	6.140E+08	1.526E+05

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ET_Reg	9.472E-05	1.635E-02	6.233E+08	1.468E+05
Lung_66	9.472E-05	6.826E-02	8.341E+08	1.713E+05
Effectiv	1.728E-04	8.902E-03	8.004E+08	1.736E+05

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air	Ground
			Immersion	Surface
Esophagu	9.324E-12	1.779E-07	7.305E-01	1.596E-04
Stomach	5.957E-09	2.102E-07	2.924E+00	6.536E-04
Colon	3.848E-07	4.081E-07	6.699E+00	1.619E-03
Liver	1.314E-10	1.392E-06	1.121E+00	2.458E-04
LUNG	1.943E-10	2.998E-04	8.155E+00	1.678E-03
Bone	6.512E-11	6.627E-07	2.144E-01	3.670E-05
Skin	3.004E-12	9.072E-09	1.064E-01	2.400E-05
Breast	6.142E-11	1.303E-07	4.835E+00	9.005E-04
Ovary	1.036E-09	2.058E-07	8.668E-01	2.167E-04
Bladder	7.474E-10	4.532E-07	1.654E+00	3.891E-04
Kidneys	3.300E-10	1.635E-06	3.833E-01	8.365E-05
Thyroid	2.242E-12	2.281E-08	2.773E-01	5.452E-05
Leukemia	9.879E-10	2.850E-07	4.276E+00	9.413E-04
Residual	1.380E-09	6.679E-07	1.040E+01	2.400E-03
Total	3.959E-07	3.061E-04	4.264E+01	9.402E-03

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\* NUCLIDE U-236 :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air	Ground
			Immersion	Surface
Adrenal	9.657E-05	4.658E-04	1.701E+05	7.211E+01
UB_Wall	9.694E-05	4.673E-04	2.027E+05	9.844E+01
Bone_Sur	2.753E-03	1.331E-02	1.363E+06	1.102E+03
Brain	9.657E-05	4.658E-04	2.260E+05	5.499E+01
Breasts	9.657E-05	4.658E-04	1.235E+06	1.654E+03
St_Wall	1.006E-04	4.666E-04	2.132E+05	9.227E+01
SI_Wall	1.062E-04	4.677E-04	1.526E+05	5.312E+01
ULI_Wall	1.547E-04	4.773E-04	1.678E+05	5.860E+01
LLI_Wall	2.664E-04	4.991E-04	1.549E+05	5.860E+01
Kidneys	1.003E-03	4.865E-03	2.470E+05	1.421E+02
Liver	3.774E-04	1.823E-03	2.132E+05	8.598E+01
Muscle	9.657E-05	4.658E-04	5.907E+05	1.018E+03
Ovaries	9.657E-05	4.658E-04	1.410E+05	1.103E+02
Pancreas	9.657E-05	4.658E-04	1.445E+05	4.753E+01
R_Marrow	2.842E-04	1.375E-03	2.668E+05	1.876E+02
Skin	9.657E-05	4.658E-04	4.019E+06	9.518E+03
Spleen	9.657E-05	4.658E-04	2.062E+05	7.281E+01
Testes	9.657E-05	4.658E-04	6.885E+05	1.247E+03
Thymus	9.657E-05	4.658E-04	2.703E+05	1.293E+02
Thyroid	9.657E-05	4.658E-04	4.776E+05	2.854E+02
GB_Wall	9.657E-05	4.658E-04	1.631E+05	6.035E+01
Ht_Wall	9.657E-05	4.658E-04	2.004E+05	8.237E+01

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Uterus	9.657E-05	4.658E-04	1.468E+05	5.254E+01
ET_Reg	9.657E-05	1.684E-02	1.445E+05	4.753E+01
Lung_66	9.657E-05	7.100E-02	2.540E+05	9.809E+01
Effectiv	1.735E-04	9.243E-03	4.404E+05	5.615E+02

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	7.104E-08	1.799E-07	1.631E-04	4.811E-08
Stomach	2.017E-07	2.129E-07	8.609E-04	3.728E-07
Colon	2.290E-06	4.059E-07	1.678E-03	6.046E-07
Liver	4.921E-07	1.419E-06	3.227E-04	1.305E-07
LUNG	4.995E-07	3.115E-04	2.481E-03	9.588E-07
Bone	3.112E-07	6.667E-07	1.293E-04	1.046E-07
Skin	5.106E-09	9.254E-09	4.008E-04	9.495E-07
Breast	9.953E-08	1.299E-07	5.965E-03	7.992E-06
Ovary	8.140E-08	2.093E-07	2.004E-04	1.573E-07
Bladder	1.739E-07	4.606E-07	4.905E-04	2.377E-07
Kidneys	5.624E-07	1.672E-06	1.282E-04	7.398E-08
Thyroid	1.439E-08	2.320E-08	1.526E-04	9.087E-08
Leukemia	1.502E-07	2.309E-07	1.503E-03	1.053E-06
Residual	6.438E-07	6.727E-07	4.497E-03	5.650E-06
Total	5.587E-06	3.178E-04	1.899E-02	1.841E-05

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	9.102E-05	4.392E-04	1.549E+05	6.035E+01
UB_Wall	9.139E-05	4.403E-04	1.806E+05	8.190E+01
Bone_Sur	2.638E-03	1.278E-02	1.067E+06	8.819E+02
Brain	9.102E-05	4.388E-04	2.039E+05	4.683E+01
Breasts	9.102E-05	4.392E-04	1.012E+06	1.328E+03
St_Wall	9.472E-05	4.399E-04	1.899E+05	7.666E+01
SI_Wall	9.990E-05	4.410E-04	1.421E+05	4.543E+01
ULI_Wall	1.462E-04	4.514E-04	1.538E+05	4.975E+01
LLI_Wall	2.571E-04	4.762E-04	1.433E+05	4.986E+01
Kidneys	9.435E-04	4.570E-03	2.167E+05	1.165E+02
Liver	3.545E-04	1.717E-03	1.899E+05	7.153E+01
Muscle	9.102E-05	4.388E-04	4.940E+05	8.225E+02
Ovaries	9.102E-05	4.396E-04	1.340E+05	9.145E+01
Pancreas	9.102E-05	4.392E-04	1.351E+05	4.066E+01
R_Marrow	2.768E-04	1.348E-03	2.365E+05	1.538E+02
Skin	9.102E-05	4.388E-04	3.250E+06	7.724E+03
Spleen	9.102E-05	4.392E-04	1.841E+05	6.093E+01
Testes	9.102E-05	4.396E-04	5.708E+05	1.004E+03
Thymus	9.102E-05	4.392E-04	2.353E+05	1.062E+02
Thyroid	9.102E-05	4.388E-04	4.019E+05	2.318E+02
GB_Wall	9.102E-05	4.388E-04	1.503E+05	5.056E+01

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Ht_Wall	9.102E-05	4.392E-04	1.806E+05	6.862E+01
Uterus	9.102E-05	4.388E-04	1.363E+05	4.485E+01
ET_Reg	9.102E-05	1.537E-02	1.351E+05	4.066E+01
Lung_66	9.102E-05	6.331E-02	2.225E+05	8.132E+01
Effectiv	1.650E-04	8.284E-03	3.728E+05	4.555E+02

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	1.173E-11	1.698E-07	1.549E-04	4.159E-08
Stomach	1.850E-08	2.013E-07	7.666E-04	3.099E-07
Colon	5.513E-07	3.918E-07	1.538E-03	5.138E-07
Liver	1.528E-10	1.340E-06	2.878E-04	1.085E-07
LUNG	2.290E-10	2.781E-04	2.179E-03	7.945E-07
Bone	1.850E-11	6.368E-07	1.014E-04	8.376E-08
Skin	3.149E-12	8.736E-09	3.239E-04	7.712E-07
Breast	8.103E-11	1.242E-07	4.893E-03	6.419E-06
Ovary	7.659E-10	1.985E-07	1.911E-04	1.305E-07
Bladder	7.289E-10	4.347E-07	4.369E-04	1.981E-07
Kidneys	1.765E-10	1.571E-06	1.128E-04	6.058E-08
Thyroid	2.098E-12	2.189E-08	1.282E-04	7.386E-08
Leukemia	6.956E-10	4.714E-07	1.328E-03	8.633E-07
Residual	1.369E-09	6.383E-07	3.891E-03	4.578E-06
Total	5.735E-07	2.843E-04	1.631E-02	1.491E-05

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\* NUCLIDE Y-90 :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	4.773E-11	1.183E-08	1.631E+07	4.707E+03
UB_Wall	2.242E-10	5.557E-08	1.678E+07	5.196E+03
Bone_Sur	1.380E-09	3.421E-07	5.161E+07	1.363E+04
Brain	4.773E-11	1.183E-08	2.109E+07	4.905E+03
Breasts	4.773E-11	1.183E-08	2.563E+07	6.652E+03
St_Wall	3.959E-06	6.201E-07	1.794E+07	5.173E+03
SI_Wall	9.472E-06	1.468E-06	1.538E+07	4.753E+03
ULI_Wall	4.995E-05	7.866E-06	1.619E+07	4.940E+03
LLI_Wall	1.165E-04	1.830E-05	1.561E+07	4.928E+03
Kidneys	4.773E-11	1.183E-08	1.829E+07	5.301E+03
Liver	1.354E-09	3.356E-07	1.817E+07	5.173E+03
Muscle	4.773E-11	1.183E-08	2.050E+07	6.314E+03
Ovaries	5.291E-11	1.184E-08	1.480E+07	4.846E+03
Pancreas	4.773E-11	1.183E-08	1.514E+07	4.509E+03
R_Marrow	1.380E-09	3.420E-07	1.887E+07	5.324E+03
Skin	4.773E-11	1.183E-08	7.258E+09	1.223E+07
Spleen	4.773E-11	1.183E-08	1.817E+07	5.196E+03
Testes	4.773E-11	1.183E-08	2.202E+07	6.687E+03
Thymus	4.773E-11	1.183E-08	1.946E+07	5.208E+03
Thyroid	4.773E-11	1.183E-08	2.179E+07	5.837E+03

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GB_Wall	4.810E-11	1.183E-08	1.584E+07	4.695E+03
Ht_Wall	4.773E-11	1.183E-08	1.759E+07	4.986E+03
Uterus	4.773E-11	1.183E-08	1.503E+07	4.742E+03
ET_Reg	4.773E-11	3.095E-06	1.514E+07	4.509E+03
Lung_66	4.773E-11	2.299E-05	2.062E+07	5.534E+03
Effectiv	9.953E-06	4.388E-06	9.215E+07	1.282E+05

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Esophagu	9.435E-13	9.790E-12	1.794E-02	4.916E-06
Stomach	1.510E-08	9.424E-10	7.246E-02	2.085E-05
Colon	1.284E-06	2.787E-08	1.643E-01	5.091E-05
Liver	4.921E-11	3.800E-10	2.749E-02	7.840E-06
LUNG	1.225E-11	1.009E-07	2.015E-01	5.406E-05
Bone	2.868E-12	2.325E-11	4.905E-03	1.293E-06
Skin	1.610E-13	6.194E-13	7.246E-01	1.223E-03
Breast	5.365E-12	1.949E-11	1.235E-01	3.215E-05
Ovary	2.235E-11	1.152E-11	2.109E-02	6.897E-06
Bladder	1.487E-11	1.038E-10	4.054E-02	1.258E-05
Kidneys	1.569E-12	4.573E-12	9.518E-03	2.761E-06
Thyroid	2.875E-13	1.411E-12	6.932E-03	1.864E-06
Leukemia	2.309E-10	1.475E-09	1.059E-01	2.994E-05
Residual	4.144E-11	6.556E-11	2.575E-01	7.701E-05
Total	1.299E-06	1.318E-07	1.782E+00	1.526E-03

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\* NUCLIDE Ru-106 :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Adrenal	5.439E-06	1.053E-05	0.000E+00	0.000E+00
UB_Wall	6.438E-06	1.080E-05	0.000E+00	0.000E+00
Bone_Sur	5.439E-06	9.798E-06	0.000E+00	0.000E+00
Brain	5.291E-06	9.232E-06	0.000E+00	0.000E+00
Breasts	5.254E-06	1.037E-05	0.000E+00	0.000E+00
St_Wall	1.158E-05	1.106E-05	0.000E+00	0.000E+00
SI_Wall	2.050E-05	1.233E-05	0.000E+00	0.000E+00
ULI_Wall	9.472E-05	2.769E-05	0.000E+00	0.000E+00
LLI_Wall	2.657E-04	6.264E-05	0.000E+00	0.000E+00
Kidneys	5.476E-06	9.690E-06	0.000E+00	0.000E+00
Liver	5.439E-06	1.030E-05	0.000E+00	0.000E+00
Muscle	5.402E-06	9.731E-06	0.000E+00	0.000E+00
Ovaries	6.216E-06	9.565E-06	0.000E+00	0.000E+00
Pancreas	5.513E-06	1.025E-05	0.000E+00	0.000E+00
R_Marrow	5.513E-06	9.931E-06	0.000E+00	0.000E+00
Skin	5.291E-06	9.331E-06	0.000E+00	0.000E+00
Spleen	5.439E-06	1.013E-05	0.000E+00	0.000E+00
Testes	5.402E-06	9.239E-06	0.000E+00	0.000E+00
Thymus	5.365E-06	1.073E-05	0.000E+00	0.000E+00

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Thyroid	5.365E-06	9.746E-06	0.000E+00	0.000E+00
GB_Wall	5.624E-06	9.764E-06	0.000E+00	0.000E+00
Ht_Wall	5.402E-06	1.147E-05	0.000E+00	0.000E+00
Uterus	5.772E-06	9.476E-06	0.000E+00	0.000E+00
ET_Reg	5.365E-06	2.402E-05	0.000E+00	0.000E+00
Lung_66	5.328E-06	7.359E-04	0.000E+00	0.000E+00
Effectiv	2.594E-05	1.012E-04	0.000E+00	0.000E+00

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air	Ground
			Immersion	Surface
Esophagu	1.180E-11	8.673E-09	0.000E+00	0.000E+00
Stomach	2.383E-09	1.506E-08	0.000E+00	0.000E+00
Colon	1.495E-08	9.520E-08	0.000E+00	0.000E+00
Liver	1.225E-10	1.140E-08	0.000E+00	0.000E+00
LUNG	2.386E-10	3.253E-06	0.000E+00	0.000E+00
Bone	3.922E-12	6.527E-10	0.000E+00	0.000E+00
Skin	2.449E-12	4.684E-10	0.000E+00	0.000E+00
Breast	8.066E-11	1.629E-08	0.000E+00	0.000E+00
Ovary	5.143E-10	9.076E-09	0.000E+00	0.000E+00
Bladder	2.660E-10	1.985E-08	0.000E+00	0.000E+00
Kidneys	5.365E-11	3.651E-09	0.000E+00	0.000E+00
Thyroid	1.850E-12	1.118E-09	0.000E+00	0.000E+00
Leukemia	4.329E-10	4.207E-08	0.000E+00	0.000E+00
Residual	1.443E-09	5.102E-08	0.000E+00	0.000E+00
Total	2.050E-08	3.528E-06	0.000E+00	0.000E+00

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 \* NUCLIDE Cs-134 :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air	Ground
			Immersion	Surface
Adrenal	7.733E-05	2.253E-05	7.176E+09	1.526E+06
UB_Wall	7.474E-05	2.183E-05	7.095E+09	1.619E+06
Bone_Sur	7.400E-05	2.158E-05	1.398E+10	2.470E+06
Brain	5.698E-05	1.671E-05	9.215E+09	1.608E+06
Breasts	5.217E-05	1.526E-05	9.821E+09	1.782E+06
St_Wall	6.993E-05	2.011E-05	7.654E+09	1.608E+06
SI_Wall	7.696E-05	2.247E-05	6.908E+09	1.584E+06
ULI_Wall	7.474E-05	2.177E-05	7.153E+09	1.596E+06
LLI_Wall	8.362E-05	2.423E-05	7.060E+09	1.643E+06
Kidneys	7.252E-05	2.111E-05	7.701E+09	1.631E+06
Liver	7.326E-05	2.133E-05	7.747E+09	1.619E+06
Muscle	6.401E-05	1.874E-05	8.388E+09	1.841E+06
Ovaries	7.992E-05	2.324E-05	6.862E+09	1.619E+06
Pancreas	8.066E-05	2.345E-05	6.815E+09	1.491E+06
R_Marrow	6.919E-05	2.018E-05	8.376E+09	1.724E+06
Skin	4.810E-05	1.400E-05	1.101E+10	2.528E+06
Spleen	7.252E-05	2.110E-05	7.794E+09	1.619E+06
Testes	6.438E-05	1.876E-05	8.621E+09	1.864E+06

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**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

Thymus	6.882E-05	2.019E-05	7.969E+09	1.596E+06
Thyroid	6.882E-05	2.008E-05	8.819E+09	1.771E+06
GB_Wall	7.585E-05	2.210E-05	7.060E+09	1.526E+06
Ht_Wall	7.548E-05	2.205E-05	7.596E+09	1.596E+06
Uterus	8.103E-05	2.358E-05	6.699E+09	1.573E+06
ET_Reg	6.882E-05	3.889E-05	6.815E+09	1.491E+06
Lung_66	6.512E-05	1.907E-05	8.586E+09	1.701E+06
Effectiv	7.104E-05	2.124E-05	8.237E+09	1.724E+06

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	7.696E-09	1.664E-08	8.295E+00	1.678E-03
Stomach	2.864E-08	2.931E-08	3.087E+01	6.489E-03
Colon	8.917E-08	5.054E-08	7.340E+01	1.666E-02
Liver	1.099E-08	2.408E-08	1.177E+01	2.458E-03
LUNG	5.920E-08	8.495E-08	8.400E+01	1.666E-02
Bone	6.623E-10	1.460E-09	1.328E+00	2.342E-04
Skin	6.586E-10	7.252E-10	1.099E+00	2.528E-04
Breast	2.705E-08	2.480E-08	4.742E+01	8.609E-03
Ovary	8.658E-09	2.253E-08	9.763E+00	2.307E-03
Bladder	2.046E-08	4.070E-08	1.713E+01	3.914E-03
Kidneys	3.774E-09	8.118E-09	4.008E+00	8.481E-04
Thyroid	1.891E-09	2.369E-09	2.808E+00	5.639E-04
Leukemia	3.959E-08	8.673E-08	4.707E+01	9.681E-03
Residual	9.768E-08	1.157E-07	1.110E+02	2.412E-02
Total	3.959E-07	5.087E-07	4.497E+02	9.448E-02

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\* NUCLIDE Ba-137m :B

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	0.000E+00	0.000E+00	2.726E+09	5.837E+05
UB_Wall	0.000E+00	0.000E+00	2.703E+09	6.233E+05
Bone_Sur	0.000E+00	0.000E+00	5.394E+09	9.623E+05
Brain	0.000E+00	0.000E+00	3.507E+09	6.163E+05
Breasts	0.000E+00	0.000E+00	3.740E+09	6.874E+05
St_Wall	0.000E+00	0.000E+00	2.912E+09	6.174E+05
SI_Wall	0.000E+00	0.000E+00	2.610E+09	6.046E+05
ULI_Wall	0.000E+00	0.000E+00	2.714E+09	6.140E+05
LLI_Wall	0.000E+00	0.000E+00	2.668E+09	6.279E+05
Kidneys	0.000E+00	0.000E+00	2.924E+09	6.244E+05
Liver	0.000E+00	0.000E+00	2.947E+09	6.198E+05
Muscle	0.000E+00	0.000E+00	3.192E+09	7.083E+05
Ovaries	0.000E+00	0.000E+00	2.563E+09	6.291E+05
Pancreas	0.000E+00	0.000E+00	2.575E+09	5.685E+05
R_Marrow	0.000E+00	0.000E+00	3.180E+09	6.641E+05
Skin	0.000E+00	0.000E+00	4.345E+09	1.922E+06
Spleen	0.000E+00	0.000E+00	2.959E+09	6.221E+05

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**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

Testes	0.000E+00	0.000E+00	3.285E+09	7.188E+05
Thymus	0.000E+00	0.000E+00	3.017E+09	6.163E+05
Thyroid	0.000E+00	0.000E+00	3.355E+09	6.827E+05
GB_Wall	0.000E+00	0.000E+00	2.680E+09	5.848E+05
Ht_Wall	0.000E+00	0.000E+00	2.878E+09	6.116E+05
Uterus	0.000E+00	0.000E+00	2.540E+09	6.011E+05
ET_Reg	0.000E+00	0.000E+00	2.575E+09	5.685E+05
Lung_66	0.000E+00	0.000E+00	3.262E+09	6.524E+05
Effectiv	0.000E+00	0.000E+00	3.134E+09	6.722E+05

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	0.000E+00	0.000E+00	3.134E+00	6.431E-04
Stomach	0.000E+00	0.000E+00	1.177E+01	2.493E-03
Colon	0.000E+00	0.000E+00	2.784E+01	6.396E-03
Liver	0.000E+00	0.000E+00	4.462E+00	9.390E-04
LUNG	0.000E+00	0.000E+00	3.192E+01	6.384E-03
Bone	0.000E+00	0.000E+00	5.126E-01	9.134E-05
Skin	0.000E+00	0.000E+00	4.334E-01	1.922E-04
Breast	0.000E+00	0.000E+00	1.806E+01	3.320E-03
Ovary	0.000E+00	0.000E+00	3.646E+00	8.947E-04
Bladder	0.000E+00	0.000E+00	6.536E+00	1.503E-03
Kidneys	0.000E+00	0.000E+00	1.526E+00	3.250E-04
Thyroid	0.000E+00	0.000E+00	1.068E+00	2.179E-04
Leukemia	0.000E+00	0.000E+00	1.782E+01	3.728E-03
Residual	0.000E+00	0.000E+00	4.217E+01	9.227E-03
Total	0.000E+00	0.000E+00	1.713E+02	3.635E-02

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 \* NUCLIDE Pu-242 :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	5.106E-05	9.431E-03	4.334E+05	1.138E+02
UB_Wall	5.106E-05	9.431E-03	4.660E+05	1.573E+02
Bone_Sur	2.897E-02	5.365E+00	1.491E+06	1.212E+03
Brain	5.106E-05	9.431E-03	5.464E+05	9.495E+01
Breasts	5.106E-05	9.431E-03	1.643E+06	1.817E+03
St_Wall	5.513E-05	9.431E-03	4.881E+05	1.445E+02
SI_Wall	6.142E-05	9.435E-03	4.182E+05	9.611E+01
ULI_Wall	1.147E-04	9.446E-03	4.345E+05	1.016E+02
LLI_Wall	2.383E-04	9.472E-03	4.241E+05	1.023E+02
Kidneys	1.188E-04	2.202E-02	5.254E+05	2.120E+02
Liver	6.068E-03	1.126E+00	4.893E+05	1.351E+02
Muscle	5.106E-05	9.431E-03	9.145E+05	1.123E+03
Ovaries	3.811E-04	7.030E-02	4.171E+05	1.561E+02
Pancreas	5.106E-05	9.431E-03	4.101E+05	8.644E+01
R_Marrow	1.376E-03	2.553E-01	5.930E+05	2.540E+02
Skin	5.106E-05	9.431E-03	4.567E+06	9.483E+03

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**(EMF) Effluent Transfer**

Spleen	5.106E-05	9.431E-03	4.800E+05	1.164E+02
Testes	3.848E-04	7.159E-02	1.031E+06	1.421E+03
Thymus	5.106E-05	9.431E-03	5.580E+05	1.934E+02
Thyroid	5.106E-05	9.431E-03	8.178E+05	3.810E+02
GB_Wall	5.106E-05	9.435E-03	4.322E+05	9.868E+01
Ht_Wall	5.106E-05	9.431E-03	4.788E+05	1.293E+02
Uterus	5.106E-05	9.431E-03	4.089E+05	9.367E+01
ET_Reg	5.106E-05	2.718E-02	4.101E+05	8.644E+01
Lung_66	5.106E-05	8.939E-02	5.441E+05	1.491E+02
Effectiv	8.806E-04	1.703E-01	7.491E+05	6.477E+02

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	4.551E-08	3.457E-06	4.905E-04	9.273E-08
Stomach	1.569E-07	4.040E-06	1.969E-03	5.837E-07
Colon	3.737E-06	7.004E-06	4.439E-03	1.052E-06
Liver	6.549E-06	6.209E-04	7.421E-04	2.050E-07
LUNG	3.526E-07	3.715E-04	5.324E-03	1.456E-06
Bone	1.676E-06	1.855E-04	1.421E-04	1.151E-07
Skin	3.493E-09	1.770E-07	4.555E-04	9.460E-07
Breast	7.437E-08	2.500E-06	7.934E-03	8.784E-06
Ovary	3.496E-07	3.200E-05	5.930E-04	2.225E-07
Bladder	1.103E-07	8.876E-06	1.127E-03	3.798E-07
Kidneys	6.068E-08	5.243E-06	2.738E-04	1.103E-07
Thyroid	1.040E-08	4.462E-07	2.610E-04	1.212E-07
Leukemia	3.996E-07	3.462E-05	3.332E-03	1.421E-06
Residual	4.736E-07	1.287E-05	8.726E-03	6.571E-06
Total	1.402E-05	1.289E-03	3.577E-02	2.202E-05

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\* NUCLIDE Ra-226 :Particulate

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	1.517E-04	8.532E-05	2.971E+07	6.827E+03
UB_Wall	1.480E-04	8.321E-05	3.087E+07	7.235E+03
Bone_Sur	4.625E-02	2.593E-02	1.012E+08	1.724E+04
Brain	1.506E-04	8.473E-05	3.833E+07	7.060E+03
Breasts	1.473E-04	8.303E-05	4.509E+07	8.295E+03
St_Wall	1.521E-04	8.392E-05	3.262E+07	7.316E+03
SI_Wall	1.591E-04	8.614E-05	2.831E+07	6.850E+03
ULI_Wall	2.468E-04	1.113E-04	2.982E+07	7.083E+03
LLI_Wall	5.624E-04	2.014E-04	2.854E+07	7.083E+03
Kidneys	2.202E-04	1.232E-04	3.320E+07	7.270E+03
Liver	6.623E-04	3.726E-04	3.344E+07	7.305E+03
Muscle	1.491E-04	8.388E-05	3.681E+07	8.295E+03
Ovaries	1.506E-04	8.440E-05	2.761E+07	6.897E+03
Pancreas	1.491E-04	8.392E-05	2.819E+07	6.629E+03
R_Marrow	3.241E-03	1.825E-03	3.437E+07	7.584E+03

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**(EMF) Effluent Transfer**

Skin	1.480E-04	8.329E-05	6.093E+07	1.035E+04
Spleen	1.991E-04	1.117E-04	3.332E+07	7.374E+03
Testes	1.473E-04	8.288E-05	3.926E+07	8.458E+03
Thymus	1.480E-04	8.340E-05	3.565E+07	7.002E+03
Thyroid	1.487E-04	8.380E-05	3.926E+07	7.724E+03
GB_Wall	1.480E-04	8.329E-05	2.901E+07	6.687E+03
Ht_Wall	1.484E-04	8.366E-05	3.227E+07	7.037E+03
Uterus	1.487E-04	8.358E-05	2.773E+07	6.908E+03
ET_Reg	1.487E-04	1.829E-02	2.819E+07	6.629E+03
Lung_66	1.487E-04	7.785E-02	3.763E+07	7.712E+03
Effectiv	1.036E-03	9.905E-03	3.623E+07	7.782E+03

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	1.040E-06	5.639E-08	3.309E-02	7.211E-06
Stomach	4.625E-06	7.389E-08	1.316E-01	2.959E-05
Colon	1.528E-05	2.822E-07	3.017E-01	7.316E-05
Liver	1.328E-05	4.033E-07	5.068E-02	1.107E-05
LUNG	9.361E-06	3.423E-04	3.681E-01	7.538E-05
Bone	2.412E-05	1.252E-06	9.611E-03	1.643E-06
Skin	1.010E-07	3.233E-09	6.081E-03	1.032E-06
Breast	2.442E-06	4.851E-08	2.179E-01	4.008E-05
Ovary	2.424E-06	6.697E-08	3.926E-02	9.809E-06
Bladder	2.279E-06	1.335E-07	7.468E-02	1.747E-05
Kidneys	2.390E-06	3.404E-08	1.724E-02	3.786E-06
Thyroid	3.197E-07	7.670E-09	1.247E-02	2.458E-06
Leukemia	6.660E-06	4.229E-07	1.934E-01	4.252E-05
Residual	1.695E-05	1.523E-06	4.695E-01	1.079E-04
Total	1.014E-04	3.465E-04	1.922E+00	4.229E-04

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 \*    NUCLIDE   U-232   :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	6.068E-04	3.393E-03	7.619E+05	2.283E+02
UB_Wall	6.068E-04	3.394E-03	8.423E+05	2.773E+02
Bone_Sur	2.664E-02	3.010E-01	4.136E+06	1.887E+03
Brain	6.068E-04	3.388E-03	1.007E+06	2.144E+02
Breasts	6.068E-04	3.384E-03	2.458E+06	2.190E+03
St_Wall	6.105E-04	3.386E-03	8.924E+05	2.703E+02
SI_Wall	6.179E-04	3.392E-03	7.060E+05	2.085E+02
ULI_Wall	6.919E-04	3.663E-03	7.619E+05	2.214E+02
LLI_Wall	8.510E-04	4.196E-03	7.153E+05	2.202E+02
Kidneys	2.527E-03	1.669E-02	9.565E+05	3.320E+02
Liver	2.660E-03	2.001E-02	9.064E+05	2.633E+02
Muscle	6.068E-04	3.387E-03	1.456E+06	1.410E+03
Ovaries	6.697E-04	4.751E-03	6.664E+05	2.773E+02
Pancreas	6.068E-04	3.388E-03	6.839E+05	1.957E+02

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**(EMF) Effluent Transfer**

R_Marrow	2.608E-03	2.611E-02	9.576E+05	3.821E+02
Skin	6.068E-04	3.384E-03	6.256E+06	1.165E+04
Spleen	6.105E-04	3.401E-03	8.959E+05	2.493E+02
Testes	6.697E-04	4.769E-03	1.654E+06	1.701E+03
Thymus	6.068E-04	3.386E-03	1.035E+06	3.157E+02
Thyroid	6.068E-04	3.386E-03	1.375E+06	5.173E+02
GB_Wall	6.068E-04	3.388E-03	7.409E+05	2.167E+02
Ht_Wall	6.068E-04	3.388E-03	8.574E+05	2.528E+02
Uterus	6.068E-04	3.387E-03	6.827E+05	2.074E+02
ET_Reg	6.068E-04	3.485E-02	6.839E+05	1.957E+02
Lung_66	6.068E-04	1.266E-01	1.053E+06	2.901E+02
Effectiv	1.243E-03	2.505E-02	1.258E+06	8.505E+02

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Esophagu	7.955E-08	1.499E-06	7.852E-04	2.050E-07
Stomach	2.268E-07	1.752E-06	3.600E-03	1.092E-06
Colon	2.505E-06	4.015E-06	7.654E-03	2.283E-06
Liver	5.550E-07	1.712E-05	1.375E-03	3.996E-07
LUNG	5.624E-07	5.502E-04	1.030E-02	2.831E-06
Bone	3.456E-07	1.688E-05	3.926E-04	1.794E-07
Skin	5.735E-09	7.866E-08	6.244E-04	1.163E-06
Breast	1.106E-07	1.121E-06	1.188E-02	1.058E-05
Ovary	9.065E-08	2.873E-06	9.483E-04	3.949E-07
Bladder	1.950E-07	3.767E-06	2.039E-03	6.699E-07
Kidneys	6.364E-07	5.295E-06	4.975E-04	1.724E-07
Thyroid	1.617E-08	1.948E-07	4.380E-04	1.643E-07
Leukemia	8.917E-08	5.010E-06	5.371E-03	2.144E-06
Residual	7.215E-07	5.809E-06	1.445E-02	9.099E-06
Total	6.142E-06	6.157E-04	6.035E-02	3.134E-05

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 \* NUCLIDE Pa-231 :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Adrenal	2.076E-04	3.848E-02	1.410E+08	3.215E+04
UB_Wall	2.076E-04	3.852E-02	1.445E+08	3.507E+04
Bone_Sur	9.287E-02	1.726E+01	4.008E+08	7.957E+04
Brain	2.072E-04	3.844E-02	1.806E+08	3.344E+04
Breasts	2.072E-04	3.844E-02	2.144E+08	5.044E+04
St_Wall	2.116E-04	3.844E-02	1.526E+08	3.472E+04
SI_Wall	2.187E-04	3.848E-02	1.328E+08	3.227E+04
ULI_Wall	3.093E-04	4.466E-02	1.398E+08	3.344E+04
LLI_Wall	5.032E-04	5.598E-02	1.351E+08	3.344E+04
Kidneys	1.258E-03	2.347E-01	1.549E+08	3.565E+04
Liver	2.423E-03	4.525E-01	1.549E+08	3.472E+04
Muscle	2.072E-04	3.844E-02	1.736E+08	4.602E+04
Ovaries	7.955E-04	1.480E-01	1.270E+08	3.437E+04

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**(EMF) Effluent Transfer**

Pancreas	2.072E-04	3.844E-02	1.328E+08	3.076E+04
R_Marrow	3.426E-03	6.386E-01	1.631E+08	3.705E+04
Skin	2.072E-04	3.844E-02	2.808E+08	1.026E+05
Spleen	2.079E-04	3.859E-02	1.561E+08	3.483E+04
Testes	8.066E-04	1.503E-01	1.841E+08	4.893E+04
Thymus	2.072E-04	3.844E-02	1.643E+08	3.518E+04
Thyroid	2.072E-04	3.844E-02	1.829E+08	3.984E+04
GB_Wall	2.072E-04	3.844E-02	1.363E+08	3.157E+04
Ht_Wall	2.072E-04	3.844E-02	1.503E+08	3.355E+04
Uterus	2.072E-04	3.844E-02	1.305E+08	3.239E+04
ET_Reg	2.072E-04	5.754E-02	1.328E+08	3.076E+04
Lung_66	2.072E-04	1.228E-01	1.736E+08	3.705E+04
Effectiv	1.772E-03	3.373E-01	1.689E+08	4.043E+04

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Esophagu	1.069E-11	1.009E-05	1.573E-01	3.390E-05
Stomach	6.290E-09	1.127E-05	6.163E-01	1.398E-04
Colon	4.366E-07	2.321E-05	1.421E+00	3.448E-04
Liver	1.720E-10	1.966E-04	2.353E-01	5.266E-05
LUNG	2.494E-10	4.292E-04	1.701E+00	3.623E-04
Bone	4.181E-11	5.128E-04	3.810E-02	7.561E-06
Skin	4.440E-12	4.740E-07	2.796E-02	1.024E-05
Breast	8.214E-11	6.523E-06	1.036E+00	2.435E-04
Ovary	1.454E-09	5.631E-05	1.806E-01	4.893E-05
Bladder	8.880E-10	2.747E-05	3.495E-01	8.481E-05
Kidneys	8.621E-11	4.240E-05	8.062E-02	1.852E-05
Thyroid	1.761E-12	1.265E-06	5.825E-02	1.270E-05
Leukemia	1.273E-09	7.518E-05	9.157E-01	2.074E-04
Residual	1.913E-09	3.189E-05	2.225E+00	5.406E-04
Total	4.514E-07	1.425E-03	9.029E+00	2.109E-03

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\* NUCLIDE Ni-59 :Particulate

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Adrenal	1.347E-07	2.766E-07	7.048E+04	1.515E+01
UB_Wall	1.406E-07	2.887E-07	7.025E+04	1.643E+01
Bone_Sur	1.347E-07	2.766E-07	1.491E+05	2.610E+01
Brain	1.347E-07	2.766E-07	8.970E+04	1.608E+01
Breasts	1.347E-07	2.766E-07	9.693E+04	1.806E+01
St_Wall	1.643E-07	2.824E-07	7.491E+04	1.608E+01
SI_Wall	2.050E-07	2.905E-07	6.652E+04	1.561E+01
ULI_Wall	5.624E-07	3.628E-07	6.943E+04	1.596E+01
LLI_Wall	1.391E-06	5.295E-07	6.780E+04	1.619E+01
Kidneys	1.351E-07	2.773E-07	7.526E+04	1.619E+01
Liver	1.347E-07	2.766E-07	7.572E+04	1.619E+01
Muscle	1.347E-07	2.766E-07	8.225E+04	1.852E+01

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**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

Ovaries	1.347E-07	2.766E-07	6.303E+04	1.713E+01
Pancreas	1.347E-07	2.766E-07	6.606E+04	1.480E+01
R_Marrow	1.347E-07	2.766E-07	8.120E+04	1.724E+01
Skin	1.347E-07	2.766E-07	1.004E+05	2.132E+01
Spleen	1.347E-07	2.766E-07	7.619E+04	1.619E+01
Testes	1.347E-07	2.766E-07	8.481E+04	1.876E+01
Thymus	1.347E-07	2.766E-07	7.806E+04	1.643E+01
Thyroid	1.347E-07	2.766E-07	8.633E+04	1.794E+01
GB_Wall	1.347E-07	2.766E-07	6.850E+04	1.538E+01
Ht_Wall	1.347E-07	2.766E-07	7.398E+04	1.596E+01
Uterus	1.347E-07	2.766E-07	6.477E+04	1.561E+01
ET_Reg	1.347E-07	2.766E-07	6.606E+04	1.480E+01
Lung_66	1.347E-07	1.784E-06	8.423E+04	1.713E+01
Effectiv	2.331E-07	4.777E-07	8.062E+04	1.724E+01

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Esophagu	7.807E-12	2.011E-10	7.957E-05	1.678E-08
Stomach	1.332E-08	2.738E-10	3.029E-04	6.489E-08
Colon	4.625E-08	8.521E-10	7.095E-04	1.654E-07
Liver	5.476E-11	2.763E-10	1.148E-04	2.458E-08
LUNG	1.387E-10	7.818E-09	8.237E-04	1.678E-07
Bone	1.536E-12	1.678E-11	1.421E-05	2.481E-09
Skin	1.265E-12	1.178E-11	1.002E-05	2.132E-09
Breast	5.143E-11	3.552E-10	4.683E-04	8.726E-08
Ovary	1.802E-10	2.362E-10	8.970E-05	2.435E-08
Bladder	1.765E-10	4.936E-10	1.701E-04	3.973E-08
Kidneys	2.535E-11	9.413E-11	3.914E-05	8.423E-09
Thyroid	1.336E-12	2.753E-11	2.749E-05	5.708E-09
Leukemia	1.746E-10	1.072E-09	4.555E-04	9.681E-08
Residual	7.178E-10	9.934E-10	1.086E-03	2.400E-07
Total	6.105E-08	1.272E-08	4.392E-03	9.471E-07

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\* NUCLIDE Ac-227 :Particulate

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Adrenal	1.750E-04	3.223E-02	2.645E+05	8.004E+01
UB_Wall	1.754E-04	3.223E-02	2.924E+05	9.914E+01
Bone_Sur	3.460E-02	6.386E+00	1.351E+06	6.175E+02
Brain	1.750E-04	3.219E-02	3.460E+05	7.386E+01
Breasts	1.750E-04	3.218E-02	8.178E+05	6.874E+02
St_Wall	1.750E-04	3.219E-02	3.076E+05	9.588E+01
SI_Wall	1.754E-04	3.220E-02	2.446E+05	7.141E+01
ULI_Wall	2.065E-04	3.711E-02	2.633E+05	7.736E+01
LLI_Wall	2.779E-04	4.610E-02	2.470E+05	7.491E+01
Kidneys	2.631E-04	4.947E-02	3.332E+05	1.200E+02
Liver	7.474E-03	1.378E+00	3.122E+05	9.367E+01

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**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

Muscle	1.750E-04	3.219E-02	4.928E+05	4.497E+02
Ovaries	6.919E-04	1.274E-01	2.283E+05	9.052E+01
Pancreas	1.750E-04	3.222E-02	2.365E+05	6.571E+01
R_Marrow	1.820E-03	3.368E-01	3.332E+05	1.282E+02
Skin	1.750E-04	3.218E-02	1.852E+06	3.716E+03
Spleen	1.757E-04	3.235E-02	3.087E+05	8.901E+01
Testes	6.882E-04	1.264E-01	5.604E+05	5.347E+02
Thymus	1.750E-04	3.218E-02	3.577E+05	1.127E+02
Thyroid	1.750E-04	3.218E-02	4.730E+05	1.806E+02
GB_Wall	1.754E-04	3.225E-02	2.540E+05	7.491E+01
Ht_Wall	1.750E-04	3.220E-02	2.959E+05	8.772E+01
Uterus	1.750E-04	3.219E-02	2.365E+05	7.072E+01
ET_Reg	1.750E-04	1.110E-01	2.365E+05	6.571E+01
Lung_66	1.750E-04	3.422E-01	3.623E+05	1.042E+02
Effectiv	1.191E-03	2.569E-01	4.252E+05	2.761E+02

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	9.472E-12	1.342E-05	2.738E-04	6.850E-08
Stomach	5.920E-08	1.487E-05	1.247E-03	3.868E-07
Colon	1.469E-08	3.574E-05	2.645E-03	7.875E-07
Liver	6.031E-11	1.217E-03	4.730E-04	1.421E-07
LUNG	1.095E-10	1.437E-03	3.542E-03	1.018E-06
Bone	2.694E-11	2.779E-04	1.282E-04	5.860E-08
Skin	1.043E-12	6.823E-07	1.852E-04	3.705E-07
Breast	2.719E-11	9.435E-06	3.949E-03	3.320E-06
Ovary	1.214E-11	7.282E-05	3.250E-04	1.293E-07
Bladder	2.065E-11	3.420E-05	7.072E-04	2.400E-07
Kidneys	3.611E-11	1.333E-05	1.736E-04	6.244E-08
Thyroid	3.685E-12	1.714E-06	1.503E-04	5.755E-08
Leukemia	1.517E-11	5.565E-05	1.876E-03	7.188E-07
Residual	1.743E-10	4.684E-05	4.928E-03	2.959E-06
Total	7.474E-08	3.231E-03	2.062E-02	1.032E-05

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 \* NUCLIDE Am-243 :Particulate

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	5.735E-05	1.061E-02	1.643E+08	4.509E+04
UB_Wall	5.735E-05	1.055E-02	1.817E+08	5.208E+04
Bone_Sur	3.326E-02	6.164E+00	9.005E+08	2.248E+05
Brain	5.735E-05	1.057E-02	2.202E+08	4.730E+04
Breasts	5.698E-05	1.054E-02	3.146E+08	6.664E+04
St_Wall	6.179E-05	1.055E-02	1.946E+08	5.231E+04
SI_Wall	6.919E-05	1.057E-02	1.526E+08	4.613E+04
ULI_Wall	1.306E-04	1.058E-02	1.654E+08	4.881E+04
LLI_Wall	2.812E-04	1.061E-02	1.538E+08	4.788E+04
Kidneys	1.684E-04	3.127E-02	2.039E+08	5.289E+04

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**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

Liver	2.013E-03	3.737E-01	1.969E+08	5.289E+04
Muscle	5.735E-05	1.056E-02	2.330E+08	6.233E+04
Ovaries	6.438E-04	1.196E-01	1.410E+08	4.695E+04
Pancreas	5.735E-05	1.059E-02	1.468E+08	4.439E+04
R_Marrow	1.121E-03	2.081E-01	1.864E+08	4.963E+04
Skin	5.698E-05	1.054E-02	3.309E+08	9.145E+04
Spleen	5.698E-05	1.055E-02	1.969E+08	5.324E+04
Testes	6.401E-04	1.185E-01	2.645E+08	6.606E+04
Thymus	5.698E-05	1.055E-02	2.202E+08	5.534E+04
Thyroid	5.698E-05	1.056E-02	2.516E+08	5.755E+04
GB_Wall	5.772E-05	1.061E-02	1.619E+08	4.509E+04
Ht_Wall	5.735E-05	1.057E-02	1.841E+08	4.998E+04
Uterus	5.735E-05	1.056E-02	1.468E+08	4.578E+04
ET_Reg	5.698E-05	2.908E-02	1.468E+08	4.439E+04
Lung_66	5.735E-05	1.010E-01	2.318E+08	5.732E+04
Effectiv	7.511E-04	1.466E-01	2.237E+08	5.778E+04

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	6.327E-14	3.230E-06	1.666E-01	4.532E-05
Stomach	4.958E-09	3.569E-06	7.852E-01	2.109E-04
Colon	8.695E-10	5.979E-06	1.654E+00	4.998E-04
Liver	5.920E-12	2.889E-04	2.982E-01	8.015E-05
LUNG	4.995E-13	4.162E-04	2.272E+00	5.604E-04
Bone	3.541E-12	2.194E-04	8.551E-02	2.132E-05
Skin	4.995E-15	1.553E-07	3.297E-02	9.122E-06
Breast	1.032E-13	2.139E-06	1.515E+00	3.215E-04
Ovary	1.110E-12	5.779E-05	2.004E-01	6.675E-05
Bladder	1.554E-13	8.562E-06	4.392E-01	1.258E-04
Kidneys	1.980E-13	8.059E-06	1.060E-01	2.749E-05
Thyroid	1.413E-14	4.070E-07	8.015E-02	1.829E-05
Leukemia	6.919E-13	3.234E-05	1.046E+00	2.784E-04
Residual	1.154E-12	1.047E-05	2.703E+00	7.526E-04
Total	5.846E-09	1.057E-03	1.138E+01	3.017E-03

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 \* NUCLIDE Ra-228 :Particulate

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	5.698E-04	7.648E-04	4.066E+03	3.448E+01
UB_Wall	5.661E-04	7.570E-04	2.120E+04	4.532E+01
Bone_Sur	8.325E-02	2.096E-01	6.978E+05	1.386E+03
Brain	5.661E-04	7.541E-04	2.132E+03	1.480E+00
Breasts	5.624E-04	7.592E-04	1.503E+06	2.796E+03
St_Wall	5.661E-04	7.566E-04	1.736E+04	3.611E+01
SI_Wall	5.735E-04	7.574E-04	1.421E+03	2.738E+00
ULI_Wall	6.475E-04	9.716E-04	2.260E+03	3.751E+00
LLI_Wall	8.177E-04	1.397E-03	1.584E+03	8.691E+00

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**(EMF) Effluent Transfer**

Kidneys	1.598E-03	5.413E-03	4.019E+04	9.669E+01
Liver	3.848E-03	8.943E-03	1.328E+04	2.808E+01
Muscle	5.661E-04	7.563E-04	5.732E+05	1.678E+03
Ovaries	7.955E-04	1.888E-03	5.336E+02	1.081E+02
Pancreas	5.661E-04	7.596E-04	5.068E+02	1.305E+00
R_Marrow	8.510E-03	1.753E-02	1.212E+05	2.237E+02
Skin	5.661E-04	7.529E-04	6.058E+06	1.619E+04
Spleen	5.698E-04	7.626E-04	5.732E+03	9.774E+00
Testes	7.918E-04	1.901E-03	6.594E+05	2.050E+03
Thymus	5.661E-04	7.615E-04	4.707E+04	8.213E+01
Thyroid	5.661E-04	7.552E-04	3.157E+05	3.134E+02
GB_Wall	5.661E-04	7.566E-04	2.610E+03	1.293E+01
Ht_Wall	5.661E-04	7.663E-04	2.015E+04	3.413E+01
Uterus	5.661E-04	7.541E-04	2.132E+03	4.846E+00
ET_Reg	5.661E-04	1.307E-02	5.068E+02	1.305E+00
Lung_66	5.661E-04	3.195E-02	1.748E+04	3.507E+01
Effectiv	2.579E-03	9.291E-03	3.367E+05	8.551E+02

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	4.921E-08	5.565E-07	1.223E-06	4.310E-10
Stomach	3.112E-07	7.208E-07	7.013E-05	1.456E-07
Colon	1.273E-05	2.139E-06	2.027E-05	6.081E-08
Liver	1.987E-07	9.250E-06	2.015E-05	4.252E-08
LUNG	4.958E-07	1.403E-04	1.713E-04	3.425E-07
Bone	2.494E-08	1.293E-05	6.629E-05	1.316E-07
Skin	4.958E-09	3.225E-08	6.046E-04	1.619E-06
Breast	1.199E-07	5.013E-07	7.258E-03	1.351E-05
Ovary	6.142E-08	1.635E-06	7.596E-07	1.538E-07
Bladder	1.354E-07	1.294E-06	5.126E-05	1.096E-07
Kidneys	6.068E-07	1.892E-06	2.085E-05	5.033E-08
Thyroid	1.665E-08	7.541E-08	1.005E-04	9.984E-08
Leukemia	2.116E-08	3.759E-06	6.804E-04	1.258E-06
Residual	7.696E-07	2.738E-06	2.866E-03	8.504E-06
Total	1.554E-05	1.779E-04	1.188E-02	2.598E-05

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 \* NUCLIDE Cm-242 :Particulate

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	8.547E-07	1.245E-04	7.130E+04	6.419E+01
UB_Wall	8.547E-07	1.247E-04	1.164E+05	1.328E+02
Bone_Sur	6.882E-04	9.775E-02	1.200E+06	1.631E+03
Brain	8.547E-07	1.245E-04	8.551E+04	2.831E+01
Breasts	8.547E-07	1.245E-04	1.654E+06	2.365E+03
St_Wall	6.105E-06	1.255E-04	1.165E+05	1.165E+02
SI_Wall	1.399E-05	1.270E-04	5.499E+04	3.122E+01
ULI_Wall	8.029E-05	1.395E-04	6.501E+04	4.054E+01

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**(EMF) Effluent Transfer**

LLI_Wall	2.324E-04	1.682E-04	5.464E+04	3.577E+01
Kidneys	1.484E-05	1.978E-03	1.806E+05	2.365E+02
Liver	1.913E-04	2.546E-02	1.087E+05	1.016E+02
Muscle	8.547E-07	1.245E-04	6.897E+05	1.398E+03
Ovaries	1.217E-05	1.743E-03	4.520E+04	1.117E+02
Pancreas	8.547E-07	1.245E-04	4.602E+04	1.806E+01
R_Marrow	4.884E-05	6.649E-03	2.167E+05	2.540E+02
Skin	8.547E-07	1.245E-04	4.753E+06	1.033E+04
Spleen	8.547E-07	1.245E-04	9.180E+04	6.827E+01
Testes	1.203E-05	1.727E-03	8.784E+05	1.876E+03
Thymus	8.547E-07	1.245E-04	1.980E+05	2.039E+02
Thyroid	8.547E-07	1.245E-04	5.545E+05	4.916E+02
GB_Wall	8.547E-07	1.245E-04	5.720E+04	3.810E+01
Ht_Wall	8.547E-07	1.245E-04	1.007E+05	8.901E+01
Uterus	8.547E-07	1.245E-04	5.021E+04	2.551E+01
ET_Reg	8.547E-07	1.265E-02	4.602E+04	1.806E+01
Lung_66	8.547E-07	9.775E-02	1.340E+05	1.200E+02
Effectiv	4.329E-05	1.520E-02	4.543E+05	7.782E+02

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	2.309E-08	7.948E-08	5.557E-05	1.608E-08
Stomach	9.546E-08	1.289E-07	4.707E-04	4.707E-07
Colon	2.697E-06	2.616E-07	6.244E-04	3.973E-07
Liver	2.168E-06	2.779E-05	1.643E-04	1.538E-07
LUNG	1.709E-07	4.266E-04	1.305E-03	1.177E-06
Bone	1.299E-06	5.713E-06	1.139E-04	1.549E-07
Skin	1.780E-09	4.754E-09	4.742E-04	1.031E-06
Breast	3.663E-08	7.308E-08	7.992E-03	1.143E-05
Ovary	3.811E-07	1.422E-06	6.431E-05	1.584E-07
Bladder	5.439E-08	1.859E-07	2.819E-04	3.215E-07
Kidneys	7.178E-08	7.333E-07	9.390E-05	1.235E-07
Thyroid	5.143E-09	1.110E-08	1.771E-04	1.561E-07
Leukemia	2.472E-07	1.353E-06	1.212E-03	1.421E-06
Residual	2.383E-07	4.588E-07	4.008E-03	7.351E-06
Total	7.474E-06	4.647E-04	1.701E-02	2.435E-05

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 \* NUCLIDE Th-229 :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	2.797E-04	6.231E-03	3.041E+08	7.363E+04
UB_Wall	2.801E-04	6.209E-03	3.250E+08	8.190E+04
Bone_Sur	8.325E-02	1.927E+00	1.305E+09	2.645E+05
Brain	2.797E-04	6.201E-03	3.973E+08	7.654E+04
Breasts	2.794E-04	6.220E-03	5.068E+08	1.030E+05
St_Wall	2.845E-04	6.216E-03	3.437E+08	8.143E+04
SI_Wall	2.919E-04	6.209E-03	2.878E+08	7.468E+04

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ULI_Wall	3.548E-04	6.338E-03	3.064E+08	7.794E+04
LLI_Wall	5.180E-04	6.830E-03	2.901E+08	7.747E+04
Kidneys	1.169E-03	2.823E-02	3.542E+08	8.202E+04
Liver	4.033E-03	9.442E-02	3.507E+08	8.178E+04
Muscle	2.797E-04	6.212E-03	3.973E+08	9.809E+04
Ovaries	7.030E-04	1.622E-02	2.738E+08	7.468E+04
Pancreas	2.797E-04	6.220E-03	2.819E+08	7.211E+04
R_Marrow	3.996E-03	9.513E-02	3.483E+08	8.225E+04
Skin	2.794E-04	6.201E-03	6.186E+08	1.841E+05
Spleen	2.797E-04	6.216E-03	3.507E+08	8.260E+04
Testes	7.141E-04	1.643E-02	4.322E+08	1.021E+05
Thymus	2.794E-04	6.231E-03	3.810E+08	8.062E+04
Thyroid	2.797E-04	6.212E-03	4.252E+08	8.889E+04
GB_Wall	2.797E-04	6.212E-03	2.971E+08	7.596E+04
Ht_Wall	2.797E-04	6.246E-03	3.355E+08	7.887E+04
Uterus	2.797E-04	6.201E-03	2.796E+08	7.538E+04
ET_Reg	2.797E-04	5.846E-01	2.819E+08	7.211E+04
Lung_66	2.797E-04	1.753E+00	4.019E+08	8.738E+04
Effectiv	1.850E-03	2.522E-01	3.868E+08	9.029E+04

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Esophagu	2.956E-13	1.806E-06	3.274E-01	7.759E-05
Stomach	4.255E-09	1.965E-06	1.386E+00	3.285E-04
Colon	1.750E-07	3.575E-06	3.087E+00	8.027E-04
Liver	9.250E-12	4.581E-05	5.312E-01	1.235E-04
LUNG	9.731E-12	6.997E-03	3.926E+00	8.539E-04
Bone	2.257E-12	5.805E-05	1.235E-01	2.516E-05
Skin	1.676E-13	8.492E-08	6.174E-02	1.841E-05
Breast	2.549E-12	1.185E-06	2.447E+00	4.975E-04
Ovary	1.365E-10	6.131E-06	3.891E-01	1.062E-04
Bladder	3.693E-11	4.806E-06	7.864E-01	1.980E-04
Kidneys	3.548E-12	4.965E-06	1.841E-01	4.264E-05
Thyroid	5.180E-14	2.246E-07	1.351E-01	2.831E-05
Leukemia	4.847E-11	1.135E-05	1.957E+00	4.613E-04
Residual	1.058E-10	5.624E-06	4.881E+00	1.212E-03
Total	1.798E-07	7.145E-03	2.027E+01	4.776E-03

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 \* NUCLIDE Zr-93 :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Adrenal	5.217E-09	4.932E-08	0.000E+00	0.000E+00
UB_Wall	4.218E-09	4.007E-08	0.000E+00	0.000E+00
Bone_Sur	1.950E-04	1.823E-03	0.000E+00	0.000E+00
Brain	7.881E-09	7.415E-08	0.000E+00	0.000E+00
Breasts	2.690E-09	2.550E-08	0.000E+00	0.000E+00
St_Wall	8.510E-08	2.951E-08	0.000E+00	0.000E+00

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SI_Wall	2.105E-07	7.030E-08	0.000E+00	0.000E+00
ULI_Wall	1.262E-06	3.050E-07	0.000E+00	0.000E+00
LLI_Wall	3.700E-06	8.743E-07	0.000E+00	0.000E+00
Kidneys	2.131E-09	2.017E-08	0.000E+00	0.000E+00
Liver	1.831E-09	1.753E-08	0.000E+00	0.000E+00
Muscle	4.921E-09	4.647E-08	0.000E+00	0.000E+00
Ovaries	1.646E-09	1.563E-08	0.000E+00	0.000E+00
Pancreas	1.247E-09	1.186E-08	0.000E+00	0.000E+00
R_Marrow	1.569E-05	1.466E-04	0.000E+00	0.000E+00
Skin	3.959E-09	3.730E-08	7.514E+03	0.000E+00
Spleen	1.609E-09	1.535E-08	0.000E+00	0.000E+00
Testes	8.621E-10	8.236E-09	0.000E+00	0.000E+00
Thymus	2.383E-09	2.258E-08	0.000E+00	0.000E+00
Thyroid	1.350E-09	1.285E-08	0.000E+00	0.000E+00
GB_Wall	8.954E-10	8.566E-09	0.000E+00	0.000E+00
Ht_Wall	1.672E-09	1.610E-08	0.000E+00	0.000E+00
Uterus	9.102E-10	8.702E-09	0.000E+00	0.000E+00
ET_Reg	1.350E-09	1.375E-06	0.000E+00	0.000E+00
Lung_66	2.816E-09	8.632E-06	0.000E+00	0.000E+00
Effectiv	4.107E-06	3.693E-05	7.514E+01	0.000E+00

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Esophagu	5.476E-11	1.126E-11	0.000E+00	0.000E+00
Stomach	2.605E-08	3.848E-11	0.000E+00	0.000E+00
Colon	9.768E-07	1.127E-09	0.000E+00	0.000E+00
Liver	6.364E-10	1.337E-11	0.000E+00	0.000E+00
LUNG	1.080E-09	3.815E-08	0.000E+00	0.000E+00
Bone	2.797E-11	6.216E-08	0.000E+00	0.000E+00
Skin	1.584E-11	8.591E-13	7.503E-07	0.000E+00
Breast	3.848E-10	2.024E-11	0.000E+00	0.000E+00
Ovary	3.774E-09	1.062E-11	0.000E+00	0.000E+00
Bladder	2.164E-09	5.846E-11	0.000E+00	0.000E+00
Kidneys	2.753E-10	4.880E-12	0.000E+00	0.000E+00
Thyroid	9.657E-12	1.144E-12	0.000E+00	0.000E+00
Leukemia	3.278E-09	3.268E-07	0.000E+00	0.000E+00
Residual	6.512E-09	7.030E-11	0.000E+00	0.000E+00
Total	1.021E-06	4.285E-07	7.503E-07	0.000E+00

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\* NUCLIDE Nb-93m :Particulate

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air	
			Immersion	Ground Surface
Adrenal	1.384E-08	1.319E-07	7.316E+03	3.833E+01
UB_Wall	1.780E-08	1.639E-07	3.262E+04	7.025E+01
Bone_Sur	1.391E-07	1.299E-06	7.992E+05	1.491E+03
Brain	1.365E-08	1.275E-07	3.833E+03	2.924E+00
Breasts	1.343E-08	1.281E-07	1.526E+06	2.586E+03

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St_Wall	1.384E-07	1.508E-07	2.831E+04	5.767E+01
SI_Wall	3.245E-07	1.868E-07	2.505E+03	5.452E+00
ULI_Wall	1.883E-06	5.199E-07	4.241E+03	7.969E+00
LLI_Wall	5.476E-06	1.279E-06	2.423E+03	1.177E+01
Kidneys	2.116E-07	1.977E-06	6.396E+04	1.445E+02
Liver	2.449E-07	2.295E-06	2.225E+04	4.602E+01
Muscle	1.391E-08	1.353E-07	5.895E+05	1.515E+03
Ovaries	2.316E-08	1.280E-07	6.640E+02	9.879E+01
Pancreas	1.365E-08	1.271E-07	5.976E+02	1.678E+00
R_Marrow	5.365E-08	4.988E-07	1.363E+05	2.342E+02
Skin	1.332E-08	1.242E-07	5.010E+06	1.144E+04
Spleen	1.362E-08	1.298E-07	1.090E+04	1.957E+01
Testes	1.347E-08	1.257E-07	7.328E+05	2.004E+03
Thymus	1.350E-08	1.269E-07	7.328E+04	1.223E+02
Thyroid	1.350E-08	1.262E-07	3.949E+05	3.868E+02
GB_Wall	1.469E-08	1.313E-07	3.460E+03	1.538E+01
Ht_Wall	1.339E-08	1.359E-07	2.808E+04	4.753E+01
Uterus	1.373E-08	1.261E-07	2.843E+03	6.093E+00
ET_Reg	1.350E-08	1.376E-06	5.976E+02	1.678E+00
Lung_66	1.369E-08	1.064E-05	2.889E+04	5.615E+01
Effectiv	4.588E-07	1.646E-06	3.542E+05	7.957E+02

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	1.018E-10	1.023E-10	1.817E-06	5.056E-10
Stomach	5.883E-09	2.066E-10	1.143E-04	2.330E-07
Colon	1.702E-07	1.884E-09	3.565E-05	9.926E-08
Liver	1.077E-09	2.536E-09	3.367E-05	6.978E-08
LUNG	1.684E-09	4.710E-08	2.819E-04	5.487E-07
Bone	4.181E-11	8.636E-11	7.584E-05	1.421E-07
Skin	2.224E-11	6.212E-12	4.998E-04	1.142E-06
Breast	5.661E-10	2.008E-10	7.374E-03	1.247E-05
Ovary	4.958E-09	1.216E-10	9.448E-07	1.410E-07
Bladder	3.067E-09	3.009E-10	7.887E-05	1.701E-07
Kidneys	3.848E-10	7.441E-10	3.332E-05	7.514E-08
Thyroid	2.390E-11	1.446E-11	1.258E-04	1.235E-07
Leukemia	4.292E-09	2.108E-09	7.654E-04	1.316E-06
Residual	8.066E-09	6.575E-10	2.959E-03	7.712E-06
Total	2.002E-07	5.605E-08	1.235E-02	2.423E-05

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\* NUCLIDE Cd-113m :Particulate

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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	1.306E-05	2.640E-05	7.596E+05	2.388E+02
UB_Wall	1.310E-05	2.646E-05	8.143E+05	2.784E+02
Bone_Sur	1.306E-05	2.640E-05	3.180E+06	1.036E+03
Brain	1.306E-05	2.640E-05	9.949E+05	2.447E+02

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Breasts	1.306E-05	2.640E-05	1.410E+06	4.683E+02
St_Wall	1.384E-05	2.655E-05	8.633E+05	2.773E+02
SI_Wall	1.495E-05	2.677E-05	7.072E+05	2.342E+02
ULI_Wall	2.453E-05	2.884E-05	7.572E+05	2.493E+02
LLI_Wall	4.662E-05	3.356E-05	7.153E+05	2.435E+02
Kidneys	2.090E-03	4.229E-03	9.064E+05	2.971E+02
Liver	3.600E-04	7.285E-04	8.784E+05	2.773E+02
Muscle	1.306E-05	2.640E-05	1.052E+06	3.961E+02
Ovaries	1.306E-05	2.640E-05	6.687E+05	2.342E+02
Pancreas	1.306E-05	2.640E-05	6.897E+05	2.202E+02
R_Marrow	1.306E-05	2.640E-05	8.854E+05	2.749E+02
Skin	1.306E-05	2.640E-05	9.821E+08	1.748E+05
Spleen	1.306E-05	2.640E-05	8.749E+05	2.761E+02
Testes	1.306E-05	2.640E-05	1.177E+06	4.485E+02
Thymus	1.306E-05	2.640E-05	9.693E+05	2.901E+02
Thyroid	1.306E-05	2.640E-05	1.125E+06	3.413E+02
GB_Wall	1.306E-05	2.640E-05	7.363E+05	2.353E+02
Ht_Wall	1.306E-05	2.640E-05	8.330E+05	2.586E+02
Uterus	1.306E-05	2.640E-05	6.850E+05	2.318E+02
ET_Reg	1.306E-05	3.981E-05	6.897E+05	2.202E+02
Lung_66	1.306E-05	1.682E-04	1.010E+06	3.029E+02
Effectiv	8.510E-05	1.852E-04	1.081E+07	2.074E+03

RISK CONVERSION FACTORS FOR: Adult

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
Esophagu	9.287E-10	1.550E-08	8.027E-04	2.307E-07
Stomach	1.905E-08	1.861E-08	3.483E-03	1.120E-06
Colon	1.236E-06	4.392E-08	7.631E-03	2.551E-06
Liver	3.371E-08	5.890E-07	1.328E-03	4.206E-07
LUNG	9.472E-09	7.100E-07	9.879E-03	2.959E-06
Bone	7.992E-11	1.321E-09	3.017E-04	9.833E-08
Skin	9.398E-11	8.529E-10	9.798E-02	1.747E-05
Breast	4.514E-09	2.449E-08	6.815E-03	2.260E-06
Ovary	1.210E-09	1.813E-08	9.518E-04	3.332E-07
Bladder	2.116E-09	3.759E-08	1.969E-03	6.734E-07
Kidneys	6.438E-08	1.154E-06	4.718E-04	1.549E-07
Thyroid	3.126E-10	2.047E-09	3.588E-04	1.087E-07
Leukemia	4.995E-09	8.514E-08	4.975E-03	1.538E-06
Residual	1.524E-08	6.453E-08	1.247E-02	4.241E-06
Total	1.391E-06	2.765E-06	1.491E-01	3.413E-05

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 \* NUCLIDE Se-79 :Particulate  
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DOSE RATE CONVERSION FACTORS FOR: Adult

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
Adrenal	3.578E-06	1.227E-06	1.293E+04	7.538E+00
UB_Wall	4.107E-06	1.408E-06	1.573E+04	1.026E+01
Bone_Sur	3.578E-06	1.227E-06	9.506E+04	6.175E+01

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Brain	3.578E-06	1.227E-06	1.782E+04	7.141E+00
Breasts	3.578E-06	1.227E-06	4.707E+04	3.320E+01
St_Wall	3.811E-06	1.245E-06	1.678E+04	1.012E+01
SI_Wall	3.696E-06	1.235E-06	1.095E+04	6.606E+00
ULI_Wall	5.254E-06	1.611E-06	1.258E+04	7.596E+00
LLI_Wall	8.510E-06	2.357E-06	1.106E+04	6.862E+00
Kidneys	1.195E-04	4.100E-05	1.980E+04	1.270E+01
Liver	5.143E-05	1.765E-05	1.689E+04	1.001E+01
Muscle	3.578E-06	1.227E-06	2.773E+04	2.330E+01
Ovaries	6.734E-06	2.314E-06	9.448E+03	6.326E+00
Pancreas	1.854E-05	6.357E-06	9.786E+03	5.615E+00
R_Marrow	3.578E-06	1.227E-06	1.643E+04	9.681E+00
Skin	3.578E-06	1.227E-06	3.320E+07	9.693E+01
Spleen	2.061E-05	7.063E-06	1.643E+04	9.728E+00
Testes	1.058E-05	3.634E-06	3.472E+04	2.936E+01
Thymus	3.578E-06	1.227E-06	2.120E+04	1.212E+01
Thyroid	3.578E-06	1.227E-06	2.947E+04	1.654E+01
GB_Wall	3.578E-06	1.227E-06	1.212E+04	6.839E+00
Ht_Wall	3.578E-06	1.227E-06	1.491E+04	8.668E+00
Uterus	3.578E-06	1.227E-06	1.012E+04	6.198E+00
ET_Reg	3.578E-06	2.314E-06	9.786E+03	5.615E+00
Lung_66	3.578E-06	1.255E-06	2.062E+04	1.159E+01
Effectiv	1.069E-05	3.635E-06	3.553E+05	1.689E+01

RISK CONVERSION FACTORS FOR: Adult

Cancer	Air				Ground Surface
	Ingestion	Inhalation	Immersion		
Esophagu	1.658E-11	1.002E-09	1.096E-05		5.254E-09
Stomach	7.474E-09	1.748E-09	6.769E-05		4.089E-08
Colon	4.958E-09	4.248E-09	1.235E-04		7.514E-08
Liver	5.402E-11	1.977E-08	2.563E-05		1.514E-08
LUNG	1.695E-10	5.580E-09	2.015E-04		1.134E-07
Bone	1.450E-12	8.247E-11	9.029E-06		5.860E-09
Skin	1.676E-12	6.264E-11	3.309E-03		9.669E-09
Breast	8.140E-11	1.962E-09	2.272E-04		1.608E-07
Ovary	2.357E-11	2.224E-09	1.340E-05		8.994E-09
Bladder	3.811E-11	2.613E-09	3.798E-05		2.481E-08
Kidneys	3.226E-11	1.565E-08	1.030E-05		6.606E-09
Thyroid	5.624E-12	1.430E-10	9.390E-06		5.266E-09
Leukemia	8.769E-11	5.243E-09	9.215E-05		5.429E-08
Residual	3.208E-10	1.527E-08	2.505E-04		1.806E-07
Total	1.328E-08	7.559E-08	4.392E-03		7.072E-07



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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
N	12100	Am-241	1.40E-06	2.51E-13	2.12E-14	2.72E-13
N	12100	C-14	7.60E-04	0.00E+00	0.00E+00	0.00E+00
N	12100	Co-60	1.33E-14	2.40E-21	2.02E-22	2.60E-21
N	12100	Cm-243	3.50E-09	6.29E-16	5.30E-17	6.82E-16
N	12100	Cm-244	6.03E-08	1.08E-14	9.14E-16	1.18E-14
N	12100	Cs-137	1.77E-05	3.19E-12	2.69E-13	3.46E-12
N	12100	Eu-152	2.84E-14	5.12E-21	4.31E-22	5.55E-21
N	12100	Eu-154	1.64E-13	2.96E-20	2.49E-21	3.21E-20
N	12100	Eu-155	6.06E-14	1.09E-20	9.20E-22	1.18E-20
N	12100	H-3	3.31E-03	0.00E+00	0.00E+00	0.00E+00
N	12100	I-129	5.61E-11	1.96E-16	4.25E-18	2.01E-16
N	12100	Ni-63	2.03E-07	3.66E-14	3.09E-15	3.97E-14
N	12100	Np-237	5.18E-09	9.32E-16	7.85E-17	1.01E-15
N	12100	Pu-238	7.49E-09	1.35E-15	1.14E-16	1.46E-15
N	12100	Pu-239	1.66E-07	2.98E-14	2.51E-15	3.23E-14
N	12100	Pu-240	3.87E-08	6.97E-15	5.88E-16	7.56E-15
N	12100	Pu-241	1.04E-07	1.88E-14	1.58E-15	2.04E-14
N	12100	Sb-125	4.55E-07	8.19E-14	6.90E-15	8.88E-14
N	12100	Sm-151	1.67E-10	3.00E-17	2.53E-18	3.26E-17
N	12100	Sn-126	1.97E-07	3.54E-14	2.99E-15	3.84E-14
N	12100	Sr-90	2.70E-05	4.86E-12	4.09E-13	5.27E-12
N	12100	Tc-99	6.59E-04	1.19E-10	9.99E-12	1.29E-10
N	12100	Th-232	8.29E-17	1.49E-23	1.26E-24	1.62E-23
N	12100	U-233	1.81E-09	3.26E-16	2.75E-17	3.54E-16
N	12100	U-234	5.32E-10	9.58E-17	8.07E-18	1.04E-16
N	12100	U-235	2.15E-11	3.87E-18	3.26E-19	4.20E-18
N	12100	U-236	1.76E-11	3.17E-18	2.67E-19	3.44E-18
N	12100	U-238	4.77E-10	8.59E-17	7.24E-18	9.32E-17
N	12100	Y-90	2.64E-05	4.75E-12	4.01E-13	5.15E-12
N	12100	Ru-106	1.02E-13	1.84E-20	1.55E-21	2.00E-20
N	12100	Cs-134	2.57E-12	4.62E-19	3.90E-20	5.01E-19
N	12100	Ba-137m	1.79E-16	3.22E-23	3.29E-24	3.55E-23
N	12100	Pu-242	6.00E-12	1.08E-18	9.10E-20	1.17E-18
N	12100	Ra-226	5.48E-11	9.86E-18	8.31E-19	1.07E-17
N	12100	U-232	3.35E-11	6.03E-18	5.08E-19	6.54E-18
N	12100	Pa-231	7.50E-17	1.35E-23	1.14E-24	1.46E-23
N	12100	Ni-59	2.70E-09	4.86E-16	4.10E-17	5.27E-16
N	12100	Ac-227	5.41E-10	9.74E-17	8.21E-18	1.06E-16
N	12100	Am-243	8.06E-10	1.45E-16	1.22E-17	1.57E-16
N	12100	Ra-228	3.35E-09	6.03E-16	5.08E-17	6.54E-16
N	12100	Cm-242	4.92E-08	8.85E-15	7.46E-16	9.59E-15
N	12100	Th-229	3.76E-17	6.76E-24	5.70E-25	7.33E-24
N	12100	Zr-93	3.53E-13	6.36E-20	5.36E-21	6.90E-20
N	12100	Nb-93m	6.03E-13	1.08E-19	9.14E-21	1.18E-19
N	12100	Cd-113m	3.20E-07	5.75E-14	4.85E-15	6.24E-14
N	12100	Se-79	3.83E-06	6.90E-13	5.82E-14	7.48E-13
N	16100	Am-241	9.67E-07	1.74E-13	1.54E-14	1.90E-13

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m <sup>3</sup> )	Dry Depo Rate (pCi/cm <sup>2</sup> -s)	Wet Depo Rate (pCi/cm <sup>2</sup> -s)	Ground Depo Rate (pCi/cm <sup>2</sup> -s)
N	16100	C-14	5.50E-04	0.00E+00	0.00E+00	0.00E+00
N	16100	Co-60	9.23E-15	1.66E-21	1.47E-22	1.81E-21
N	16100	Cm-243	2.42E-09	4.36E-16	3.87E-17	4.75E-16
N	16100	Cm-244	4.18E-08	7.52E-15	6.67E-16	8.18E-15
N	16100	Cs-137	1.23E-05	2.21E-12	1.96E-13	2.41E-12
N	16100	Eu-152	1.97E-14	3.55E-21	3.15E-22	3.86E-21
N	16100	Eu-154	1.14E-13	2.05E-20	1.82E-21	2.23E-20
N	16100	Eu-155	4.20E-14	7.57E-21	6.71E-22	8.24E-21
N	16100	H-3	2.39E-03	0.00E+00	0.00E+00	0.00E+00
N	16100	I-129	2.97E-11	1.04E-16	2.78E-18	1.07E-16
N	16100	Ni-63	1.41E-07	2.54E-14	2.25E-15	2.76E-14
N	16100	Np-237	3.59E-09	6.46E-16	5.73E-17	7.03E-16
N	16100	Pu-238	5.19E-09	9.34E-16	8.29E-17	1.02E-15
N	16100	Pu-239	1.15E-07	2.07E-14	1.83E-15	2.25E-14
N	16100	Pu-240	2.68E-08	4.83E-15	4.29E-16	5.26E-15
N	16100	Pu-241	7.24E-08	1.30E-14	1.16E-15	1.42E-14
N	16100	Sb-125	3.15E-07	5.68E-14	5.04E-15	6.18E-14
N	16100	Sm-151	1.16E-10	2.08E-17	1.85E-18	2.27E-17
N	16100	Sn-126	1.36E-07	2.46E-14	2.18E-15	2.67E-14
N	16100	Sr-90	1.87E-05	3.37E-12	2.99E-13	3.67E-12
N	16100	Tc-99	4.56E-04	8.22E-11	7.29E-12	8.95E-11
N	16100	Th-232	5.75E-17	1.03E-23	9.18E-25	1.13E-23
N	16100	U-233	1.26E-09	2.26E-16	2.01E-17	2.46E-16
N	16100	U-234	3.69E-10	6.64E-17	5.89E-18	7.23E-17
N	16100	U-235	1.49E-11	2.68E-18	2.38E-19	2.92E-18
N	16100	U-236	1.22E-11	2.20E-18	1.95E-19	2.39E-18
N	16100	U-238	3.31E-10	5.96E-17	5.28E-18	6.48E-17
N	16100	Y-90	1.82E-05	3.27E-12	2.91E-13	3.56E-12
N	16100	Ru-106	7.09E-14	1.28E-20	1.13E-21	1.39E-20
N	16100	Cs-134	1.78E-12	3.20E-19	2.84E-20	3.49E-19
N	16100	Ba-137m	1.34E-17	2.41E-24	1.58E-25	2.57E-24
N	16100	Pu-242	4.16E-12	7.48E-19	6.64E-20	8.15E-19
N	16100	Ra-226	3.80E-11	6.83E-18	6.06E-19	7.44E-18
N	16100	U-232	2.32E-11	4.18E-18	3.71E-19	4.55E-18
N	16100	Pa-231	5.20E-17	9.36E-24	8.30E-25	1.02E-23
N	16100	Ni-59	1.87E-09	3.37E-16	2.99E-17	3.67E-16
N	16100	Ac-227	3.75E-10	6.75E-17	5.99E-18	7.35E-17
N	16100	Am-243	5.59E-10	1.01E-16	8.92E-18	1.09E-16
N	16100	Ra-228	2.32E-09	4.18E-16	3.71E-17	4.55E-16
N	16100	Cm-242	3.41E-08	6.13E-15	5.44E-16	6.68E-15
N	16100	Th-229	2.60E-17	4.69E-24	4.16E-25	5.10E-24
N	16100	Zr-93	2.45E-13	4.41E-20	3.91E-21	4.80E-20
N	16100	Nb-93m	4.18E-13	7.52E-20	6.67E-21	8.18E-20
N	16100	Cd-113m	2.21E-07	3.99E-14	3.54E-15	4.34E-14
N	16100	Se-79	2.66E-06	4.78E-13	4.25E-14	5.21E-13
N	24100	Am-241	5.12E-07	9.21E-14	9.26E-15	1.01E-13
N	24100	C-14	3.48E-04	0.00E+00	0.00E+00	0.00E+00

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
N	24100	Co-60	4.88E-15	8.79E-22	8.84E-23	9.67E-22
N	24100	Cm-243	1.28E-09	2.31E-16	2.32E-17	2.54E-16
N	24100	Cm-244	2.21E-08	3.98E-15	4.00E-16	4.38E-15
N	24100	Cs-137	6.50E-06	1.17E-12	1.18E-13	1.29E-12
N	24100	Eu-152	1.04E-14	1.88E-21	1.89E-22	2.07E-21
N	24100	Eu-154	6.02E-14	1.08E-20	1.09E-21	1.19E-20
N	24100	Eu-155	2.22E-14	4.00E-21	4.02E-22	4.40E-21
N	24100	H-3	1.51E-03	0.00E+00	0.00E+00	0.00E+00
N	24100	I-129	1.01E-11	3.53E-17	1.43E-18	3.67E-17
N	24100	Ni-63	7.46E-08	1.34E-14	1.35E-15	1.48E-14
N	24100	Np-237	1.90E-09	3.42E-16	3.44E-17	3.76E-16
N	24100	Pu-238	2.74E-09	4.94E-16	4.97E-17	5.44E-16
N	24100	Pu-239	6.07E-08	1.09E-14	1.10E-15	1.20E-14
N	24100	Pu-240	1.42E-08	2.56E-15	2.57E-16	2.81E-15
N	24100	Pu-241	3.83E-08	6.89E-15	6.93E-16	7.59E-15
N	24100	Sb-125	1.67E-07	3.00E-14	3.02E-15	3.31E-14
N	24100	Sm-151	6.12E-11	1.10E-17	1.11E-18	1.21E-17
N	24100	Sn-126	7.22E-08	1.30E-14	1.31E-15	1.43E-14
N	24100	Sr-90	9.90E-06	1.78E-12	1.79E-13	1.96E-12
N	24100	Tc-99	2.41E-04	4.35E-11	4.37E-12	4.78E-11
N	24100	Th-232	3.04E-17	5.47E-24	5.50E-25	6.02E-24
N	24100	U-233	6.65E-10	1.20E-16	1.20E-17	1.32E-16
N	24100	U-234	1.95E-10	3.51E-17	3.53E-18	3.86E-17
N	24100	U-235	7.89E-12	1.42E-18	1.43E-19	1.56E-18
N	24100	U-236	6.46E-12	1.16E-18	1.17E-19	1.28E-18
N	24100	U-238	1.75E-10	3.15E-17	3.17E-18	3.47E-17
N	24100	Y-90	9.47E-06	1.71E-12	1.72E-13	1.88E-12
N	24100	Ru-106	3.75E-14	6.75E-21	6.78E-22	7.42E-21
N	24100	Cs-134	9.42E-13	1.70E-19	1.70E-20	1.87E-19
N	24100	Ba-137m	2.31E-17	4.15E-24	8.13E-25	4.97E-24
N	24100	Pu-242	2.20E-12	3.96E-19	3.98E-20	4.36E-19
N	24100	Ra-226	2.01E-11	3.62E-18	3.64E-19	3.98E-18
N	24100	U-232	1.23E-11	2.21E-18	2.22E-19	2.43E-18
N	24100	Pa-231	2.75E-17	4.95E-24	4.98E-25	5.45E-24
N	24100	Ni-59	9.90E-10	1.78E-16	1.79E-17	1.96E-16
N	24100	Ac-227	1.98E-10	3.57E-17	3.59E-18	3.93E-17
N	24100	Am-243	2.96E-10	5.32E-17	5.35E-18	5.85E-17
N	24100	Ra-228	1.23E-09	2.21E-16	2.22E-17	2.43E-16
N	24100	Cm-242	1.80E-08	3.24E-15	3.26E-16	3.57E-15
N	24100	Th-229	1.38E-17	2.48E-24	2.49E-25	2.73E-24
N	24100	Zr-93	1.30E-13	2.33E-20	2.35E-21	2.57E-20
N	24100	Nb-93m	2.21E-13	3.98E-20	4.00E-21	4.38E-20
N	24100	Cd-113m	1.17E-07	2.11E-14	2.12E-15	2.32E-14
N	24100	Se-79	1.41E-06	2.53E-13	2.54E-14	2.79E-13
N	30100	Am-241	3.43E-07	6.18E-14	6.96E-15	6.87E-14
N	30100	C-14	2.71E-04	0.00E+00	0.00E+00	0.00E+00
N	30100	Co-60	3.27E-15	5.89E-22	6.64E-23	6.56E-22

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
N	30100	Cm-243	8.60E-10	1.55E-16	1.74E-17	1.72E-16
N	30100	Cm-244	1.48E-08	2.67E-15	3.01E-16	2.97E-15
N	30100	Cs-137	4.36E-06	7.85E-13	8.85E-14	8.74E-13
N	30100	Eu-152	6.99E-15	1.26E-21	1.42E-22	1.40E-21
N	30100	Eu-154	4.04E-14	7.27E-21	8.20E-22	8.09E-21
N	30100	Eu-155	1.49E-14	2.68E-21	3.03E-22	2.99E-21
N	30100	H-3	1.18E-03	0.00E+00	0.00E+00	0.00E+00
N	30100	I-129	6.54E-12	2.29E-17	1.01E-18	2.39E-17
N	30100	Ni-63	5.00E-08	9.01E-15	1.02E-15	1.00E-14
N	30100	Np-237	1.27E-09	2.29E-16	2.58E-17	2.55E-16
N	30100	Pu-238	1.84E-09	3.31E-16	3.73E-17	3.69E-16
N	30100	Pu-239	4.07E-08	7.33E-15	8.26E-16	8.16E-15
N	30100	Pu-240	9.53E-09	1.71E-15	1.93E-16	1.91E-15
N	30100	Pu-241	2.57E-08	4.62E-15	5.21E-16	5.15E-15
N	30100	Sb-125	1.12E-07	2.01E-14	2.27E-15	2.22E-14
N	30100	Sm-151	4.11E-11	7.39E-18	8.33E-19	8.22E-18
N	30100	Sn-126	4.84E-08	8.72E-15	9.83E-16	9.70E-15
N	30100	Sr-90	6.64E-06	1.20E-12	1.35E-13	1.33E-12
N	30100	Tc-99	1.62E-04	2.92E-11	3.29E-12	3.24E-11
N	30100	Th-232	2.04E-17	3.67E-24	4.14E-25	4.09E-24
N	30100	U-233	4.46E-10	8.03E-17	9.04E-18	8.93E-17
N	30100	U-234	1.31E-10	2.36E-17	2.65E-18	2.62E-17
N	30100	U-235	5.29E-12	9.53E-19	1.07E-19	1.06E-18
N	30100	U-236	4.33E-12	7.79E-19	8.78E-20	8.67E-19
N	30100	U-238	1.17E-10	2.11E-17	2.38E-18	2.35E-17
N	30100	Y-90	6.29E-06	1.13E-12	1.28E-13	1.26E-12
N	30100	Ru-106	2.51E-14	4.52E-21	5.10E-22	5.03E-21
N	30100	Cs-134	6.32E-13	1.14E-19	1.28E-20	1.27E-19
N	30100	Ba-137m	1.09E-19	1.97E-26	2.03E-26	4.00E-26
N	30100	Pu-242	1.48E-12	2.66E-19	2.99E-20	2.96E-19
N	30100	Ra-226	1.35E-11	2.42E-18	2.73E-19	2.70E-18
N	30100	U-232	8.24E-12	1.48E-18	1.67E-19	1.65E-18
N	30100	Pa-231	1.84E-17	3.32E-24	3.74E-25	3.69E-24
N	30100	Ni-59	6.64E-10	1.20E-16	1.35E-17	1.33E-16
N	30100	Ac-227	1.33E-10	2.40E-17	2.70E-18	2.67E-17
N	30100	Am-243	1.98E-10	3.57E-17	4.02E-18	3.97E-17
N	30100	Ra-228	8.24E-10	1.48E-16	1.67E-17	1.65E-16
N	30100	Cm-242	1.21E-08	2.17E-15	2.45E-16	2.42E-15
N	30100	Th-229	9.24E-18	1.66E-24	1.87E-25	1.85E-24
N	30100	Zr-93	8.69E-14	1.56E-20	1.76E-21	1.74E-20
N	30100	Nb-93m	1.48E-13	2.67E-20	3.01E-21	2.97E-20
N	30100	Cd-113m	7.86E-08	1.41E-14	1.59E-15	1.57E-14
N	30100	Se-79	9.43E-07	1.70E-13	1.91E-14	1.89E-13
N	36100	Am-241	2.71E-07	4.87E-14	5.67E-15	5.44E-14
N	36100	C-14	2.21E-04	0.00E+00	0.00E+00	0.00E+00
N	36100	Co-60	2.58E-15	4.65E-22	5.41E-23	5.19E-22
N	36100	Cm-243	6.78E-10	1.22E-16	1.42E-17	1.36E-16

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
N	36100	Cm-244	1.17E-08	2.10E-15	2.45E-16	2.35E-15
N	36100	Cs-137	3.44E-06	6.19E-13	7.20E-14	6.91E-13
N	36100	Eu-152	5.51E-15	9.93E-22	1.15E-22	1.11E-21
N	36100	Eu-154	3.19E-14	5.74E-21	6.67E-22	6.40E-21
N	36100	Eu-155	1.18E-14	2.12E-21	2.46E-22	2.36E-21
N	36100	H-3	9.61E-04	0.00E+00	0.00E+00	0.00E+00
N	36100	I-129	4.63E-12	1.62E-17	7.45E-19	1.69E-17
N	36100	Ni-63	3.95E-08	7.10E-15	8.26E-16	7.93E-15
N	36100	Np-237	1.00E-09	1.81E-16	2.10E-17	2.02E-16
N	36100	Pu-238	1.45E-09	2.61E-16	3.04E-17	2.92E-16
N	36100	Pu-239	3.21E-08	5.78E-15	6.72E-16	6.45E-15
N	36100	Pu-240	7.51E-09	1.35E-15	1.57E-16	1.51E-15
N	36100	Pu-241	2.03E-08	3.65E-15	4.24E-16	4.07E-15
N	36100	Sb-125	8.83E-08	1.59E-14	1.85E-15	1.77E-14
N	36100	Sm-151	3.24E-11	5.83E-18	6.78E-19	6.51E-18
N	36100	Sn-126	3.82E-08	6.87E-15	8.00E-16	7.67E-15
N	36100	Sr-90	5.24E-06	9.42E-13	1.10E-13	1.05E-12
N	36100	Tc-99	1.28E-04	2.30E-11	2.67E-12	2.57E-11
N	36100	Th-232	1.61E-17	2.90E-24	3.37E-25	3.23E-24
N	36100	U-233	3.52E-10	6.33E-17	7.36E-18	7.06E-17
N	36100	U-234	1.03E-10	1.86E-17	2.16E-18	2.07E-17
N	36100	U-235	4.17E-12	7.51E-19	8.74E-20	8.39E-19
N	36100	U-236	3.41E-12	6.15E-19	7.15E-20	6.86E-19
N	36100	U-238	9.26E-11	1.67E-17	1.94E-18	1.86E-17
N	36100	Y-90	4.90E-06	8.83E-13	1.03E-13	9.86E-13
N	36100	Ru-106	1.98E-14	3.57E-21	4.15E-22	3.98E-21
N	36100	Cs-134	4.98E-13	8.97E-20	1.04E-20	1.00E-19
N	36100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
N	36100	Pu-242	1.16E-12	2.09E-19	2.44E-20	2.34E-19
N	36100	Ra-226	1.06E-11	1.91E-18	2.22E-19	2.13E-18
N	36100	U-232	6.50E-12	1.17E-18	1.36E-19	1.31E-18
N	36100	Pa-231	1.45E-17	2.62E-24	3.04E-25	2.92E-24
N	36100	Ni-59	5.24E-10	9.42E-17	1.10E-17	1.05E-16
N	36100	Ac-227	1.05E-10	1.89E-17	2.20E-18	2.11E-17
N	36100	Am-243	1.56E-10	2.81E-17	3.27E-18	3.14E-17
N	36100	Ra-228	6.50E-10	1.17E-16	1.36E-17	1.31E-16
N	36100	Cm-242	9.53E-09	1.71E-15	1.99E-16	1.91E-15
N	36100	Th-229	7.28E-18	1.31E-24	1.52E-25	1.46E-24
N	36100	Zr-93	6.85E-14	1.23E-20	1.43E-21	1.38E-20
N	36100	Nb-93m	1.17E-13	2.10E-20	2.45E-21	2.35E-20
N	36100	Cd-113m	6.20E-08	1.12E-14	1.30E-15	1.25E-14
N	36100	Se-79	7.44E-07	1.34E-13	1.56E-14	1.49E-13
N	42100	Am-241	2.19E-07	3.94E-14	4.72E-15	4.41E-14
N	42100	C-14	1.86E-04	0.00E+00	0.00E+00	0.00E+00
N	42100	Co-60	2.09E-15	3.76E-22	4.51E-23	4.21E-22
N	42100	Cm-243	5.49E-10	9.87E-17	1.18E-17	1.11E-16
N	42100	Cm-244	9.46E-09	1.70E-15	2.04E-16	1.91E-15

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
N	42100	Cs-137	2.78E-06	5.01E-13	6.00E-14	5.61E-13
N	42100	Eu-152	4.46E-15	8.03E-22	9.62E-23	8.99E-22
N	42100	Eu-154	2.58E-14	4.64E-21	5.56E-22	5.20E-21
N	42100	Eu-155	9.52E-15	1.71E-21	2.05E-22	1.92E-21
N	42100	H-3	8.08E-04	0.00E+00	0.00E+00	0.00E+00
N	42100	I-129	3.38E-12	1.18E-17	5.66E-19	1.24E-17
N	42100	Ni-63	3.19E-08	5.75E-15	6.89E-16	6.44E-15
N	42100	Np-237	8.13E-10	1.46E-16	1.75E-17	1.64E-16
N	42100	Pu-238	1.17E-09	2.11E-16	2.53E-17	2.37E-16
N	42100	Pu-239	2.60E-08	4.68E-15	5.61E-16	5.24E-15
N	42100	Pu-240	6.08E-09	1.09E-15	1.31E-16	1.23E-15
N	42100	Pu-241	1.64E-08	2.95E-15	3.54E-16	3.30E-15
N	42100	Sb-125	7.14E-08	1.29E-14	1.54E-15	1.44E-14
N	42100	Sm-151	2.62E-11	4.72E-18	5.65E-19	5.28E-18
N	42100	Sn-126	3.09E-08	5.56E-15	6.66E-16	6.23E-15
N	42100	Sr-90	4.24E-06	7.63E-13	9.14E-14	8.54E-13
N	42100	Tc-99	1.03E-04	1.86E-11	2.23E-12	2.08E-11
N	42100	Th-232	1.30E-17	2.34E-24	2.81E-25	2.62E-24
N	42100	U-233	2.85E-10	5.12E-17	6.13E-18	5.74E-17
N	42100	U-234	8.35E-11	1.50E-17	1.80E-18	1.68E-17
N	42100	U-235	3.38E-12	6.08E-19	7.28E-20	6.81E-19
N	42100	U-236	2.76E-12	4.97E-19	5.96E-20	5.57E-19
N	42100	U-238	7.49E-11	1.35E-17	1.62E-18	1.51E-17
N	42100	Y-90	3.93E-06	7.07E-13	8.50E-14	7.92E-13
N	42100	Ru-106	1.60E-14	2.89E-21	3.46E-22	3.23E-21
N	42100	Cs-134	4.03E-13	7.26E-20	8.69E-21	8.13E-20
N	42100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
N	42100	Pu-242	9.42E-13	1.69E-19	2.03E-20	1.90E-19
N	42100	Ra-226	8.60E-12	1.55E-18	1.85E-19	1.73E-18
N	42100	U-232	5.26E-12	9.47E-19	1.13E-19	1.06E-18
N	42100	Pa-231	1.18E-17	2.12E-24	2.54E-25	2.37E-24
N	42100	Ni-59	4.24E-10	7.63E-17	9.14E-18	8.54E-17
N	42100	Ac-227	8.49E-11	1.53E-17	1.83E-18	1.71E-17
N	42100	Am-243	1.27E-10	2.28E-17	2.73E-18	2.55E-17
N	42100	Ra-228	5.26E-10	9.47E-17	1.13E-17	1.06E-16
N	42100	Cm-242	7.71E-09	1.39E-15	1.66E-16	1.55E-15
N	42100	Th-229	5.90E-18	1.06E-24	1.27E-25	1.19E-24
N	42100	Zr-93	5.55E-14	9.99E-21	1.20E-21	1.12E-20
N	42100	Nb-93m	9.46E-14	1.70E-20	2.04E-21	1.91E-20
N	42100	Cd-113m	5.02E-08	9.03E-15	1.08E-15	1.01E-14
N	42100	Se-79	6.02E-07	1.08E-13	1.30E-14	1.21E-13
N	48100	Am-241	1.79E-07	3.23E-14	3.99E-15	3.63E-14
N	48100	C-14	1.60E-04	0.00E+00	0.00E+00	0.00E+00
N	48100	Co-60	1.71E-15	3.08E-22	3.81E-23	3.46E-22
N	48100	Cm-243	4.49E-10	8.09E-17	9.99E-18	9.09E-17
N	48100	Cm-244	7.75E-09	1.39E-15	1.72E-16	1.57E-15
N	48100	Cs-137	2.28E-06	4.11E-13	5.07E-14	4.61E-13

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
N	48100	Eu-152	3.66E-15	6.58E-22	8.13E-23	7.39E-22
N	48100	Eu-154	2.11E-14	3.80E-21	4.70E-22	4.27E-21
N	48100	Eu-155	7.80E-15	1.40E-21	1.73E-22	1.58E-21
N	48100	H-3	6.96E-04	0.00E+00	0.00E+00	0.00E+00
N	48100	I-129	2.53E-12	8.87E-18	4.39E-19	9.31E-18
N	48100	Ni-63	2.62E-08	4.71E-15	5.82E-16	5.29E-15
N	48100	Np-237	6.66E-10	1.20E-16	1.48E-17	1.35E-16
N	48100	Pu-238	9.63E-10	1.73E-16	2.14E-17	1.95E-16
N	48100	Pu-239	2.13E-08	3.83E-15	4.74E-16	4.31E-15
N	48100	Pu-240	4.98E-09	8.97E-16	1.11E-16	1.01E-15
N	48100	Pu-241	1.34E-08	2.42E-15	2.99E-16	2.72E-15
N	48100	Sb-125	5.85E-08	1.05E-14	1.30E-15	1.18E-14
N	48100	Sm-151	2.15E-11	3.86E-18	4.77E-19	4.34E-18
N	48100	Sn-126	2.53E-08	4.56E-15	5.63E-16	5.12E-15
N	48100	Sr-90	3.47E-06	6.25E-13	7.72E-14	7.02E-13
N	48100	Tc-99	8.47E-05	1.52E-11	1.88E-12	1.71E-11
N	48100	Th-232	1.07E-17	1.92E-24	2.37E-25	2.16E-24
N	48100	U-233	2.33E-10	4.20E-17	5.18E-18	4.71E-17
N	48100	U-234	6.84E-11	1.23E-17	1.52E-18	1.38E-17
N	48100	U-235	2.77E-12	4.98E-19	6.15E-20	5.60E-19
N	48100	U-236	2.26E-12	4.08E-19	5.03E-20	4.58E-19
N	48100	U-238	6.14E-11	1.10E-17	1.36E-18	1.24E-17
N	48100	Y-90	3.18E-06	5.73E-13	7.11E-14	6.44E-13
N	48100	Ru-106	1.31E-14	2.37E-21	2.92E-22	2.66E-21
N	48100	Cs-134	3.30E-13	5.95E-20	7.34E-21	6.68E-20
N	48100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
N	48100	Pu-242	7.72E-13	1.39E-19	1.72E-20	1.56E-19
N	48100	Ra-226	7.04E-12	1.27E-18	1.57E-19	1.42E-18
N	48100	U-232	4.31E-12	7.76E-19	9.58E-20	8.72E-19
N	48100	Pa-231	9.64E-18	1.74E-24	2.14E-25	1.95E-24
N	48100	Ni-59	3.47E-10	6.25E-17	7.72E-18	7.02E-17
N	48100	Ac-227	6.96E-11	1.25E-17	1.55E-18	1.41E-17
N	48100	Am-243	1.04E-10	1.87E-17	2.30E-18	2.10E-17
N	48100	Ra-228	4.31E-10	7.76E-17	9.58E-18	8.72E-17
N	48100	Cm-242	6.31E-09	1.14E-15	1.40E-16	1.28E-15
N	48100	Th-229	4.83E-18	8.69E-25	1.07E-25	9.77E-25
N	48100	Zr-93	4.55E-14	8.18E-21	1.01E-21	9.19E-21
N	48100	Nb-93m	7.75E-14	1.39E-20	1.72E-21	1.57E-20
N	48100	Cd-113m	4.11E-08	7.40E-15	9.14E-16	8.31E-15
N	48100	Se-79	4.93E-07	8.88E-14	1.10E-14	9.97E-14
N	54100	Am-241	1.46E-07	2.62E-14	3.37E-15	2.96E-14
N	54100	C-14	1.40E-04	0.00E+00	0.00E+00	0.00E+00
N	54100	Co-60	1.39E-15	2.50E-22	3.22E-23	2.83E-22
N	54100	Cm-243	3.65E-10	6.57E-17	8.45E-18	7.42E-17
N	54100	Cm-244	6.30E-09	1.13E-15	1.46E-16	1.28E-15
N	54100	Cs-137	1.85E-06	3.34E-13	4.29E-14	3.76E-13
N	54100	Eu-152	2.97E-15	5.35E-22	6.87E-23	6.03E-22

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
N	54100	Eu-154	1.72E-14	3.09E-21	3.97E-22	3.49E-21
N	54100	Eu-155	6.34E-15	1.14E-21	1.47E-22	1.29E-21
N	54100	H-3	6.10E-04	0.00E+00	0.00E+00	0.00E+00
N	54100	I-129	1.94E-12	6.80E-18	3.46E-19	7.14E-18
N	54100	Ni-63	2.13E-08	3.83E-15	4.92E-16	4.32E-15
N	54100	Np-237	5.41E-10	9.74E-17	1.25E-17	1.10E-16
N	54100	Pu-238	7.82E-10	1.41E-16	1.81E-17	1.59E-16
N	54100	Pu-239	1.73E-08	3.12E-15	4.00E-16	3.52E-15
N	54100	Pu-240	4.05E-09	7.29E-16	9.36E-17	8.22E-16
N	54100	Pu-241	1.09E-08	1.96E-15	2.53E-16	2.22E-15
N	54100	Sb-125	4.75E-08	8.56E-15	1.10E-15	9.66E-15
N	54100	Sm-151	1.74E-11	3.14E-18	4.04E-19	3.54E-18
N	54100	Sn-126	2.06E-08	3.70E-15	4.76E-16	4.18E-15
N	54100	Sr-90	2.82E-06	5.08E-13	6.53E-14	5.73E-13
N	54100	Tc-99	6.88E-05	1.24E-11	1.59E-12	1.40E-11
N	54100	Th-232	8.67E-18	1.56E-24	2.01E-25	1.76E-24
N	54100	U-233	1.89E-10	3.41E-17	4.38E-18	3.85E-17
N	54100	U-234	5.56E-11	1.00E-17	1.29E-18	1.13E-17
N	54100	U-235	2.25E-12	4.05E-19	5.20E-20	4.57E-19
N	54100	U-236	1.84E-12	3.31E-19	4.26E-20	3.74E-19
N	54100	U-238	4.99E-11	8.98E-18	1.15E-18	1.01E-17
N	54100	Y-90	2.56E-06	4.60E-13	5.95E-14	5.20E-13
N	54100	Ru-106	1.07E-14	1.92E-21	2.47E-22	2.17E-21
N	54100	Cs-134	2.68E-13	4.83E-20	6.21E-21	5.45E-20
N	54100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
N	54100	Pu-242	6.27E-13	1.13E-19	1.45E-20	1.27E-19
N	54100	Ra-226	5.72E-12	1.03E-18	1.32E-19	1.16E-18
N	54100	U-232	3.50E-12	6.30E-19	8.10E-20	7.11E-19
N	54100	Pa-231	7.84E-18	1.41E-24	1.81E-25	1.59E-24
N	54100	Ni-59	2.82E-10	5.08E-17	6.53E-18	5.73E-17
N	54100	Ac-227	5.66E-11	1.02E-17	1.31E-18	1.15E-17
N	54100	Am-243	8.42E-11	1.52E-17	1.95E-18	1.71E-17
N	54100	Ra-228	3.50E-10	6.30E-17	8.10E-18	7.11E-17
N	54100	Cm-242	5.13E-09	9.23E-16	1.19E-16	1.04E-15
N	54100	Th-229	3.92E-18	7.06E-25	9.08E-26	7.97E-25
N	54100	Zr-93	3.69E-14	6.65E-21	8.54E-22	7.50E-21
N	54100	Nb-93m	6.30E-14	1.13E-20	1.46E-21	1.28E-20
N	54100	Cd-113m	3.34E-08	6.01E-15	7.72E-16	6.78E-15
N	54100	Se-79	4.01E-07	7.21E-14	9.27E-15	8.14E-14
N	60100	Am-241	8.70E-08	1.57E-14	2.56E-15	1.82E-14
N	60100	C-14	1.24E-04	0.00E+00	0.00E+00	0.00E+00
N	60100	Co-60	8.30E-16	1.49E-22	2.44E-23	1.74E-22
N	60100	Cm-243	2.18E-10	3.92E-17	6.41E-18	4.56E-17
N	60100	Cm-244	3.76E-09	6.76E-16	1.10E-16	7.86E-16
N	60100	Cs-137	1.11E-06	1.99E-13	3.25E-14	2.32E-13
N	60100	Eu-152	1.77E-15	3.19E-22	5.21E-23	3.71E-22
N	60100	Eu-154	1.02E-14	1.84E-21	3.01E-22	2.14E-21

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
N	60100	Eu-155	3.78E-15	6.80E-22	1.11E-22	7.91E-22
N	60100	H-3	5.42E-04	0.00E+00	0.00E+00	0.00E+00
N	60100	I-129	1.52E-12	5.32E-18	2.76E-19	5.60E-18
N	60100	Ni-63	1.27E-08	2.28E-15	3.73E-16	2.66E-15
N	60100	Np-237	3.23E-10	5.81E-17	9.49E-18	6.76E-17
N	60100	Pu-238	4.67E-10	8.40E-17	1.37E-17	9.77E-17
N	60100	Pu-239	1.03E-08	1.86E-15	3.04E-16	2.16E-15
N	60100	Pu-240	2.41E-09	4.35E-16	7.10E-17	5.06E-16
N	60100	Pu-241	6.51E-09	1.17E-15	1.92E-16	1.36E-15
N	60100	Sb-125	2.84E-08	5.11E-15	8.34E-16	5.94E-15
N	60100	Sm-151	1.04E-11	1.87E-18	3.06E-19	2.18E-18
N	60100	Sn-126	1.23E-08	2.21E-15	3.61E-16	2.57E-15
N	60100	Sr-90	1.68E-06	3.03E-13	4.95E-14	3.52E-13
N	60100	Tc-99	4.11E-05	7.39E-12	1.21E-12	8.60E-12
N	60100	Th-232	5.17E-18	9.31E-25	1.52E-25	1.08E-24
N	60100	U-233	1.13E-10	2.03E-17	3.32E-18	2.37E-17
N	60100	U-234	3.32E-11	5.97E-18	9.76E-19	6.95E-18
N	60100	U-235	1.34E-12	2.41E-19	3.95E-20	2.81E-19
N	60100	U-236	1.10E-12	1.98E-19	3.23E-20	2.30E-19
N	60100	U-238	2.98E-11	5.36E-18	8.75E-19	6.23E-18
N	60100	Y-90	1.51E-06	2.72E-13	4.48E-14	3.17E-13
N	60100	Ru-106	6.37E-15	1.15E-21	1.87E-22	1.33E-21
N	60100	Cs-134	1.60E-13	2.88E-20	4.71E-21	3.35E-20
N	60100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
N	60100	Pu-242	3.74E-13	6.73E-20	1.10E-20	7.83E-20
N	60100	Ra-226	3.41E-12	6.15E-19	1.00E-19	7.15E-19
N	60100	U-232	2.09E-12	3.76E-19	6.15E-20	4.38E-19
N	60100	Pa-231	4.67E-18	8.41E-25	1.37E-25	9.79E-25
N	60100	Ni-59	1.68E-10	3.03E-17	4.95E-18	3.52E-17
N	60100	Ac-227	3.37E-11	6.07E-18	9.92E-19	7.06E-18
N	60100	Am-243	5.02E-11	9.04E-18	1.48E-18	1.05E-17
N	60100	Ra-228	2.09E-10	3.76E-17	6.14E-18	4.37E-17
N	60100	Cm-242	3.06E-09	5.51E-16	9.00E-17	6.41E-16
N	60100	Th-229	2.34E-18	4.21E-25	6.89E-26	4.90E-25
N	60100	Zr-93	2.20E-14	3.97E-21	6.48E-22	4.61E-21
N	60100	Nb-93m	3.76E-14	6.76E-21	1.10E-21	7.86E-21
N	60100	Cd-113m	1.99E-08	3.58E-15	5.86E-16	4.17E-15
N	60100	Se-79	2.39E-07	4.30E-14	7.03E-15	5.01E-14
N	66100	Am-241	7.58E-08	1.36E-14	2.28E-15	1.59E-14
N	66100	C-14	1.12E-04	0.00E+00	0.00E+00	0.00E+00
N	66100	Co-60	7.23E-16	1.30E-22	2.17E-23	1.52E-22
N	66100	Cm-243	1.90E-10	3.42E-17	5.70E-18	3.99E-17
N	66100	Cm-244	3.27E-09	5.89E-16	9.83E-17	6.88E-16
N	66100	Cs-137	9.64E-07	1.73E-13	2.89E-14	2.02E-13
N	66100	Eu-152	1.54E-15	2.78E-22	4.64E-23	3.24E-22
N	66100	Eu-154	8.93E-15	1.61E-21	2.68E-22	1.88E-21
N	66100	Eu-155	3.29E-15	5.93E-22	9.90E-23	6.92E-22

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
N	66100	H-3	4.87E-04	0.00E+00	0.00E+00	0.00E+00
N	66100	I-129	1.23E-12	4.31E-18	2.24E-19	4.53E-18
N	66100	Ni-63	1.11E-08	1.99E-15	3.32E-16	2.32E-15
N	66100	Np-237	2.81E-10	5.06E-17	8.45E-18	5.91E-17
N	66100	Pu-238	4.07E-10	7.32E-17	1.22E-17	8.54E-17
N	66100	Pu-239	9.00E-09	1.62E-15	2.70E-16	1.89E-15
N	66100	Pu-240	2.10E-09	3.79E-16	6.32E-17	4.42E-16
N	66100	Pu-241	5.68E-09	1.02E-15	1.70E-16	1.19E-15
N	66100	Sb-125	2.47E-08	4.45E-15	7.43E-16	5.19E-15
N	66100	Sm-151	9.07E-12	1.63E-18	2.72E-19	1.91E-18
N	66100	Sn-126	1.07E-08	1.93E-15	3.21E-16	2.25E-15
N	66100	Sr-90	1.47E-06	2.64E-13	4.41E-14	3.08E-13
N	66100	Tc-99	3.58E-05	6.44E-12	1.07E-12	7.52E-12
N	66100	Th-232	4.51E-18	8.11E-25	1.35E-25	9.47E-25
N	66100	U-233	9.85E-11	1.77E-17	2.96E-18	2.07E-17
N	66100	U-234	2.89E-11	5.20E-18	8.68E-19	6.07E-18
N	66100	U-235	1.17E-12	2.10E-19	3.51E-20	2.46E-19
N	66100	U-236	9.57E-13	1.72E-19	2.87E-20	2.01E-19
N	66100	U-238	2.59E-11	4.67E-18	7.79E-19	5.45E-18
N	66100	Y-90	1.31E-06	2.35E-13	3.94E-14	2.74E-13
N	66100	Ru-106	5.55E-15	9.99E-22	1.67E-22	1.17E-21
N	66100	Cs-134	1.40E-13	2.51E-20	4.19E-21	2.93E-20
N	66100	Ba-137m	1.96E-19	3.53E-26	2.14E-27	3.75E-26
N	66100	Pu-242	3.26E-13	5.87E-20	9.79E-21	6.85E-20
N	66100	Ra-226	2.98E-12	5.36E-19	8.94E-20	6.25E-19
N	66100	U-232	1.82E-12	3.28E-19	5.47E-20	3.83E-19
N	66100	Pa-231	4.08E-18	7.34E-25	1.22E-25	8.56E-25
N	66100	Ni-59	1.47E-10	2.64E-17	4.41E-18	3.08E-17
N	66100	Ac-227	2.94E-11	5.29E-18	8.83E-19	6.18E-18
N	66100	Am-243	4.38E-11	7.88E-18	1.32E-18	9.20E-18
N	66100	Ra-228	1.82E-10	3.28E-17	5.47E-18	3.82E-17
N	66100	Cm-242	2.67E-09	4.80E-16	8.01E-17	5.60E-16
N	66100	Th-229	2.04E-18	3.67E-25	6.13E-26	4.29E-25
N	66100	Zr-93	1.92E-14	3.46E-21	5.77E-22	4.03E-21
N	66100	Nb-93m	3.27E-14	5.89E-21	9.83E-22	6.88E-21
N	66100	Cd-113m	1.74E-08	3.13E-15	5.21E-16	3.65E-15
N	66100	Se-79	2.08E-07	3.75E-14	6.26E-15	4.38E-14
NNW	12100	Am-241	1.96E-06	3.54E-13	2.93E-14	3.83E-13
NNW	12100	C-14	1.04E-03	0.00E+00	0.00E+00	0.00E+00
NNW	12100	Co-60	1.87E-14	3.37E-21	2.79E-22	3.65E-21
NNW	12100	Cm-243	4.92E-09	8.86E-16	7.33E-17	9.59E-16
NNW	12100	Cm-244	8.48E-08	1.53E-14	1.26E-15	1.65E-14
NNW	12100	Cs-137	2.50E-05	4.49E-12	3.72E-13	4.87E-12
NNW	12100	Eu-152	4.00E-14	7.20E-21	5.97E-22	7.80E-21
NNW	12100	Eu-154	2.31E-13	4.16E-20	3.45E-21	4.51E-20
NNW	12100	Eu-155	8.54E-14	1.54E-20	1.27E-21	1.66E-20
NNW	12100	H-3	4.54E-03	0.00E+00	0.00E+00	0.00E+00

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNW	12100	I-129	8.98E-11	3.14E-16	6.64E-18	3.21E-16
NNW	12100	Ni-63	2.86E-07	5.16E-14	4.27E-15	5.58E-14
NNW	12100	Np-237	7.29E-09	1.31E-15	1.09E-16	1.42E-15
NNW	12100	Pu-238	1.05E-08	1.90E-15	1.57E-16	2.05E-15
NNW	12100	Pu-239	2.33E-07	4.20E-14	3.48E-15	4.54E-14
NNW	12100	Pu-240	5.45E-08	9.82E-15	8.13E-16	1.06E-14
NNW	12100	Pu-241	1.47E-07	2.65E-14	2.19E-15	2.87E-14
NNW	12100	Sb-125	6.41E-07	1.15E-13	9.55E-15	1.25E-13
NNW	12100	Sm-151	2.35E-10	4.23E-17	3.50E-18	4.58E-17
NNW	12100	Sn-126	2.77E-07	4.99E-14	4.13E-15	5.40E-14
NNW	12100	Sr-90	3.80E-05	6.84E-12	5.67E-13	7.41E-12
NNW	12100	Tc-99	9.27E-04	1.67E-10	1.38E-11	1.81E-10
NNW	12100	Th-232	1.17E-16	2.10E-23	1.74E-24	2.28E-23
NNW	12100	U-233	2.55E-09	4.59E-16	3.80E-17	4.97E-16
NNW	12100	U-234	7.49E-10	1.35E-16	1.12E-17	1.46E-16
NNW	12100	U-235	3.03E-11	5.45E-18	4.52E-19	5.90E-18
NNW	12100	U-236	2.48E-11	4.46E-18	3.69E-19	4.83E-18
NNW	12100	U-238	6.72E-10	1.21E-16	1.00E-17	1.31E-16
NNW	12100	Y-90	3.72E-05	6.70E-12	5.56E-13	7.26E-12
NNW	12100	Ru-106	1.44E-13	2.59E-20	2.15E-21	2.81E-20
NNW	12100	Cs-134	3.62E-12	6.51E-19	5.39E-20	7.05E-19
NNW	12100	Ba-137m	2.63E-16	4.74E-23	7.34E-24	5.47E-23
NNW	12100	Pu-242	8.45E-12	1.52E-18	1.26E-19	1.65E-18
NNW	12100	Ra-226	7.71E-11	1.39E-17	1.15E-18	1.50E-17
NNW	12100	U-232	4.72E-11	8.49E-18	7.03E-19	9.20E-18
NNW	12100	Pa-231	1.06E-16	1.90E-23	1.57E-24	2.06E-23
NNW	12100	Ni-59	3.80E-09	6.84E-16	5.67E-17	7.41E-16
NNW	12100	Ac-227	7.62E-10	1.37E-16	1.14E-17	1.49E-16
NNW	12100	Am-243	1.13E-09	2.04E-16	1.69E-17	2.21E-16
NNW	12100	Ra-228	4.72E-09	8.49E-16	7.03E-17	9.20E-16
NNW	12100	Cm-242	6.92E-08	1.25E-14	1.03E-15	1.35E-14
NNW	12100	Th-229	5.29E-17	9.52E-24	7.88E-25	1.03E-23
NNW	12100	Zr-93	4.98E-13	8.96E-20	7.42E-21	9.70E-20
NNW	12100	Nb-93m	8.48E-13	1.53E-19	1.26E-20	1.65E-19
NNW	12100	Cd-113m	4.50E-07	8.10E-14	6.71E-15	8.77E-14
NNW	12100	Se-79	5.40E-06	9.72E-13	8.05E-14	1.05E-12
NNW	16100	Am-241	1.36E-06	2.46E-13	2.14E-14	2.67E-13
NNW	16100	C-14	7.53E-04	0.00E+00	0.00E+00	0.00E+00
NNW	16100	Co-60	1.30E-14	2.34E-21	2.04E-22	2.55E-21
NNW	16100	Cm-243	3.42E-09	6.15E-16	5.37E-17	6.69E-16
NNW	16100	Cm-244	5.89E-08	1.06E-14	9.25E-16	1.15E-14
NNW	16100	Cs-137	1.73E-05	3.12E-12	2.72E-13	3.39E-12
NNW	16100	Eu-152	2.78E-14	5.00E-21	4.37E-22	5.44E-21
NNW	16100	Eu-154	1.61E-13	2.89E-20	2.52E-21	3.14E-20
NNW	16100	Eu-155	5.93E-14	1.07E-20	9.31E-22	1.16E-20
NNW	16100	H-3	3.28E-03	0.00E+00	0.00E+00	0.00E+00
NNW	16100	I-129	4.78E-11	1.67E-16	4.37E-18	1.72E-16

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m <sup>3</sup> )	Dry Depo Rate (pCi/cm <sup>2</sup> -s)	Wet Depo Rate (pCi/cm <sup>2</sup> -s)	Ground Depo Rate (pCi/cm <sup>2</sup> -s)
NNW	16100	Ni-63	1.99E-07	3.58E-14	3.12E-15	3.89E-14
NNW	16100	Np-237	5.06E-09	9.11E-16	7.95E-17	9.91E-16
NNW	16100	Pu-238	7.32E-09	1.32E-15	1.15E-16	1.43E-15
NNW	16100	Pu-239	1.62E-07	2.91E-14	2.54E-15	3.17E-14
NNW	16100	Pu-240	3.79E-08	6.82E-15	5.95E-16	7.41E-15
NNW	16100	Pu-241	1.02E-07	1.84E-14	1.60E-15	2.00E-14
NNW	16100	Sb-125	4.45E-07	8.01E-14	6.99E-15	8.71E-14
NNW	16100	Sm-151	1.63E-10	2.94E-17	2.56E-18	3.19E-17
NNW	16100	Sn-126	1.93E-07	3.47E-14	3.02E-15	3.77E-14
NNW	16100	Sr-90	2.64E-05	4.75E-12	4.15E-13	5.16E-12
NNW	16100	Tc-99	6.44E-04	1.16E-10	1.01E-11	1.26E-10
NNW	16100	Th-232	8.11E-17	1.46E-23	1.27E-24	1.59E-23
NNW	16100	U-233	1.77E-09	3.19E-16	2.78E-17	3.47E-16
NNW	16100	U-234	5.20E-10	9.36E-17	8.17E-18	1.02E-16
NNW	16100	U-235	2.10E-11	3.79E-18	3.30E-19	4.12E-18
NNW	16100	U-236	1.72E-11	3.10E-18	2.70E-19	3.37E-18
NNW	16100	U-238	4.67E-10	8.40E-17	7.33E-18	9.13E-17
NNW	16100	Y-90	2.57E-05	4.62E-12	4.04E-13	5.03E-12
NNW	16100	Ru-106	9.99E-14	1.80E-20	1.57E-21	1.96E-20
NNW	16100	Cs-134	2.51E-12	4.52E-19	3.95E-20	4.91E-19
NNW	16100	Ba-137m	7.63E-19	1.37E-25	1.38E-25	2.75E-25
NNW	16100	Pu-242	5.86E-12	1.06E-18	9.21E-20	1.15E-18
NNW	16100	Ra-226	5.35E-11	9.64E-18	8.41E-19	1.05E-17
NNW	16100	U-232	3.28E-11	5.90E-18	5.15E-19	6.41E-18
NNW	16100	Pa-231	7.33E-17	1.32E-23	1.15E-24	1.43E-23
NNW	16100	Ni-59	2.64E-09	4.75E-16	4.15E-17	5.16E-16
NNW	16100	Ac-227	5.29E-10	9.52E-17	8.31E-18	1.04E-16
NNW	16100	Am-243	7.88E-10	1.42E-16	1.24E-17	1.54E-16
NNW	16100	Ra-228	3.28E-09	5.90E-16	5.15E-17	6.41E-16
NNW	16100	Cm-242	4.80E-08	8.65E-15	7.55E-16	9.40E-15
NNW	16100	Th-229	3.67E-17	6.61E-24	5.77E-25	7.19E-24
NNW	16100	Zr-93	3.45E-13	6.22E-20	5.43E-21	6.76E-20
NNW	16100	Nb-93m	5.89E-13	1.06E-19	9.25E-21	1.15E-19
NNW	16100	Cd-113m	3.12E-07	5.62E-14	4.91E-15	6.11E-14
NNW	16100	Se-79	3.75E-06	6.75E-13	5.89E-14	7.34E-13
NNW	24100	Am-241	7.29E-07	1.31E-13	1.30E-14	1.44E-13
NNW	24100	C-14	4.76E-04	0.00E+00	0.00E+00	0.00E+00
NNW	24100	Co-60	6.96E-15	1.25E-21	1.24E-22	1.38E-21
NNW	24100	Cm-243	1.83E-09	3.29E-16	3.25E-17	3.61E-16
NNW	24100	Cm-244	3.15E-08	5.67E-15	5.60E-16	6.23E-15
NNW	24100	Cs-137	9.27E-06	1.67E-12	1.65E-13	1.83E-12
NNW	24100	Eu-152	1.49E-14	2.67E-21	2.64E-22	2.94E-21
NNW	24100	Eu-154	8.58E-14	1.55E-20	1.53E-21	1.70E-20
NNW	24100	Eu-155	3.17E-14	5.70E-21	5.64E-22	6.27E-21
NNW	24100	H-3	2.07E-03	0.00E+00	0.00E+00	0.00E+00
NNW	24100	I-129	1.64E-11	5.72E-17	2.26E-18	5.95E-17
NNW	24100	Ni-63	1.06E-07	1.91E-14	1.89E-15	2.10E-14

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNW	24100	Np-237	2.70E-09	4.87E-16	4.81E-17	5.35E-16
NNW	24100	Pu-238	3.91E-09	7.04E-16	6.96E-17	7.74E-16
NNW	24100	Pu-239	8.65E-08	1.56E-14	1.54E-15	1.71E-14
NNW	24100	Pu-240	2.02E-08	3.64E-15	3.60E-16	4.00E-15
NNW	24100	Pu-241	5.46E-08	9.82E-15	9.71E-16	1.08E-14
NNW	24100	Sb-125	2.38E-07	4.28E-14	4.23E-15	4.70E-14
NNW	24100	Sm-151	8.72E-11	1.57E-17	1.55E-18	1.72E-17
NNW	24100	Sn-126	1.03E-07	1.85E-14	1.83E-15	2.03E-14
NNW	24100	Sr-90	1.41E-05	2.54E-12	2.51E-13	2.79E-12
NNW	24100	Tc-99	3.44E-04	6.19E-11	6.12E-12	6.81E-11
NNW	24100	Th-232	4.33E-17	7.80E-24	7.71E-25	8.57E-24
NNW	24100	U-233	9.47E-10	1.70E-16	1.69E-17	1.87E-16
NNW	24100	U-234	2.78E-10	5.00E-17	4.95E-18	5.50E-17
NNW	24100	U-235	1.12E-11	2.02E-18	2.00E-19	2.22E-18
NNW	24100	U-236	9.20E-12	1.66E-18	1.64E-19	1.82E-18
NNW	24100	U-238	2.49E-10	4.49E-17	4.44E-18	4.93E-17
NNW	24100	Y-90	1.35E-05	2.44E-12	2.42E-13	2.68E-12
NNW	24100	Ru-106	5.34E-14	9.61E-21	9.50E-22	1.06E-20
NNW	24100	Cs-134	1.34E-12	2.42E-19	2.39E-20	2.65E-19
NNW	24100	Ba-137m	7.54E-17	1.36E-23	1.79E-24	1.53E-23
NNW	24100	Pu-242	3.13E-12	5.64E-19	5.58E-20	6.20E-19
NNW	24100	Ra-226	2.86E-11	5.15E-18	5.09E-19	5.66E-18
NNW	24100	U-232	1.75E-11	3.15E-18	3.12E-19	3.46E-18
NNW	24100	Pa-231	3.92E-17	7.05E-24	6.97E-25	7.75E-24
NNW	24100	Ni-59	1.41E-09	2.54E-16	2.51E-17	2.79E-16
NNW	24100	Ac-227	2.83E-10	5.09E-17	5.03E-18	5.59E-17
NNW	24100	Am-243	4.21E-10	7.58E-17	7.49E-18	8.33E-17
NNW	24100	Ra-228	1.75E-09	3.15E-16	3.12E-17	3.46E-16
NNW	24100	Cm-242	2.57E-08	4.62E-15	4.57E-16	5.08E-15
NNW	24100	Th-229	1.96E-17	3.53E-24	3.49E-25	3.88E-24
NNW	24100	Zr-93	1.85E-13	3.32E-20	3.29E-21	3.65E-20
NNW	24100	Nb-93m	3.15E-13	5.67E-20	5.60E-21	6.23E-20
NNW	24100	Cd-113m	1.67E-07	3.00E-14	2.97E-15	3.30E-14
NNW	24100	Se-79	2.00E-06	3.61E-13	3.57E-14	3.96E-13
NNW	30100	Am-241	4.85E-07	8.73E-14	9.77E-15	9.70E-14
NNW	30100	C-14	3.70E-04	0.00E+00	0.00E+00	0.00E+00
NNW	30100	Co-60	4.63E-15	8.33E-22	9.32E-23	9.26E-22
NNW	30100	Cm-243	1.21E-09	2.19E-16	2.45E-17	2.43E-16
NNW	30100	Cm-244	2.09E-08	3.77E-15	4.22E-16	4.19E-15
NNW	30100	Cs-137	6.16E-06	1.11E-12	1.24E-13	1.23E-12
NNW	30100	Eu-152	9.88E-15	1.78E-21	1.99E-22	1.98E-21
NNW	30100	Eu-154	5.71E-14	1.03E-20	1.15E-21	1.14E-20
NNW	30100	Eu-155	2.11E-14	3.79E-21	4.24E-22	4.22E-21
NNW	30100	H-3	1.61E-03	0.00E+00	0.00E+00	0.00E+00
NNW	30100	I-129	1.06E-11	3.72E-17	1.60E-18	3.88E-17
NNW	30100	Ni-63	7.07E-08	1.27E-14	1.42E-15	1.41E-14
NNW	30100	Np-237	1.80E-09	3.24E-16	3.62E-17	3.60E-16

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNW	30100	Pu-238	2.60E-09	4.68E-16	5.24E-17	5.21E-16
NNW	30100	Pu-239	5.76E-08	1.04E-14	1.16E-15	1.15E-14
NNW	30100	Pu-240	1.35E-08	2.42E-15	2.71E-16	2.69E-15
NNW	30100	Pu-241	3.63E-08	6.53E-15	7.31E-16	7.26E-15
NNW	30100	Sb-125	1.58E-07	2.85E-14	3.19E-15	3.17E-14
NNW	30100	Sm-151	5.80E-11	1.04E-17	1.17E-18	1.16E-17
NNW	30100	Sn-126	6.84E-08	1.23E-14	1.38E-15	1.37E-14
NNW	30100	Sr-90	9.38E-06	1.69E-12	1.89E-13	1.88E-12
NNW	30100	Tc-99	2.29E-04	4.12E-11	4.61E-12	4.58E-11
NNW	30100	Th-232	2.88E-17	5.19E-24	5.81E-25	5.77E-24
NNW	30100	U-233	6.30E-10	1.13E-16	1.27E-17	1.26E-16
NNW	30100	U-234	1.85E-10	3.33E-17	3.72E-18	3.70E-17
NNW	30100	U-235	7.48E-12	1.35E-18	1.51E-19	1.50E-18
NNW	30100	U-236	6.12E-12	1.10E-18	1.23E-19	1.22E-18
NNW	30100	U-238	1.66E-10	2.99E-17	3.34E-18	3.32E-17
NNW	30100	Y-90	8.92E-06	1.61E-12	1.80E-13	1.79E-12
NNW	30100	Ru-106	3.55E-14	6.39E-21	7.15E-22	7.11E-21
NNW	30100	Cs-134	8.93E-13	1.61E-19	1.80E-20	1.79E-19
NNW	30100	Ba-137m	5.60E-19	1.01E-25	1.04E-25	2.05E-25
NNW	30100	Pu-242	2.08E-12	3.75E-19	4.20E-20	4.17E-19
NNW	30100	Ra-226	1.90E-11	3.43E-18	3.83E-19	3.81E-18
NNW	30100	U-232	1.16E-11	2.10E-18	2.35E-19	2.33E-18
NNW	30100	Pa-231	2.61E-17	4.69E-24	5.25E-25	5.22E-24
NNW	30100	Ni-59	9.38E-10	1.69E-16	1.89E-17	1.88E-16
NNW	30100	Ac-227	1.88E-10	3.39E-17	3.79E-18	3.76E-17
NNW	30100	Am-243	2.80E-10	5.04E-17	5.64E-18	5.61E-17
NNW	30100	Ra-228	1.16E-09	2.10E-16	2.35E-17	2.33E-16
NNW	30100	Cm-242	1.71E-08	3.07E-15	3.44E-16	3.42E-15
NNW	30100	Th-229	1.31E-17	2.35E-24	2.63E-25	2.61E-24
NNW	30100	Zr-93	1.23E-13	2.21E-20	2.47E-21	2.46E-20
NNW	30100	Nb-93m	2.09E-13	3.77E-20	4.22E-21	4.19E-20
NNW	30100	Cd-113m	1.11E-07	2.00E-14	2.24E-15	2.22E-14
NNW	30100	Se-79	1.33E-06	2.40E-13	2.68E-14	2.67E-13
NNW	36100	Am-241	3.83E-07	6.89E-14	7.96E-15	7.69E-14
NNW	36100	C-14	3.01E-04	0.00E+00	0.00E+00	0.00E+00
NNW	36100	Co-60	3.65E-15	6.58E-22	7.60E-23	7.34E-22
NNW	36100	Cm-243	9.59E-10	1.73E-16	1.99E-17	1.93E-16
NNW	36100	Cm-244	1.65E-08	2.98E-15	3.44E-16	3.32E-15
NNW	36100	Cs-137	4.87E-06	8.76E-13	1.01E-13	9.77E-13
NNW	36100	Eu-152	7.80E-15	1.40E-21	1.62E-22	1.57E-21
NNW	36100	Eu-154	4.51E-14	8.12E-21	9.38E-22	9.05E-21
NNW	36100	Eu-155	1.66E-14	3.00E-21	3.46E-22	3.34E-21
NNW	36100	H-3	1.31E-03	0.00E+00	0.00E+00	0.00E+00
NNW	36100	I-129	7.52E-12	2.63E-17	1.19E-18	2.75E-17
NNW	36100	Ni-63	5.58E-08	1.00E-14	1.16E-15	1.12E-14
NNW	36100	Np-237	1.42E-09	2.56E-16	2.95E-17	2.85E-16
NNW	36100	Pu-238	2.05E-09	3.70E-16	4.27E-17	4.12E-16

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNW	36100	Pu-239	4.55E-08	8.18E-15	9.45E-16	9.13E-15
NNW	36100	Pu-240	1.06E-08	1.91E-15	2.21E-16	2.13E-15
NNW	36100	Pu-241	2.87E-08	5.16E-15	5.96E-16	5.76E-15
NNW	36100	Sb-125	1.25E-07	2.25E-14	2.60E-15	2.51E-14
NNW	36100	Sm-151	4.58E-11	8.25E-18	9.53E-19	9.20E-18
NNW	36100	Sn-126	5.40E-08	9.73E-15	1.12E-15	1.09E-14
NNW	36100	Sr-90	7.41E-06	1.33E-12	1.54E-13	1.49E-12
NNW	36100	Tc-99	1.81E-04	3.25E-11	3.76E-12	3.63E-11
NNW	36100	Th-232	2.28E-17	4.10E-24	4.73E-25	4.57E-24
NNW	36100	U-233	4.97E-10	8.95E-17	1.03E-17	9.99E-17
NNW	36100	U-234	1.46E-10	2.63E-17	3.04E-18	2.93E-17
NNW	36100	U-235	5.91E-12	1.06E-18	1.23E-19	1.19E-18
NNW	36100	U-236	4.83E-12	8.70E-19	1.00E-19	9.70E-19
NNW	36100	U-238	1.31E-10	2.36E-17	2.72E-18	2.63E-17
NNW	36100	Y-90	6.98E-06	1.26E-12	1.45E-13	1.40E-12
NNW	36100	Ru-106	2.80E-14	5.05E-21	5.83E-22	5.63E-21
NNW	36100	Cs-134	7.05E-13	1.27E-19	1.47E-20	1.42E-19
NNW	36100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NNW	36100	Pu-242	1.65E-12	2.96E-19	3.42E-20	3.31E-19
NNW	36100	Ra-226	1.50E-11	2.71E-18	3.13E-19	3.02E-18
NNW	36100	U-232	9.20E-12	1.66E-18	1.91E-19	1.85E-18
NNW	36100	Pa-231	2.06E-17	3.70E-24	4.28E-25	4.13E-24
NNW	36100	Ni-59	7.41E-10	1.33E-16	1.54E-17	1.49E-16
NNW	36100	Ac-227	1.49E-10	2.67E-17	3.09E-18	2.98E-17
NNW	36100	Am-243	2.21E-10	3.98E-17	4.60E-18	4.44E-17
NNW	36100	Ra-228	9.20E-10	1.66E-16	1.91E-17	1.85E-16
NNW	36100	Cm-242	1.35E-08	2.43E-15	2.80E-16	2.71E-15
NNW	36100	Th-229	1.03E-17	1.86E-24	2.14E-25	2.07E-24
NNW	36100	Zr-93	9.70E-14	1.75E-20	2.02E-21	1.95E-20
NNW	36100	Nb-93m	1.65E-13	2.98E-20	3.44E-21	3.32E-20
NNW	36100	Cd-113m	8.77E-08	1.58E-14	1.82E-15	1.76E-14
NNW	36100	Se-79	1.05E-06	1.89E-13	2.19E-14	2.11E-13
NNW	42100	Am-241	3.11E-07	5.59E-14	6.65E-15	6.26E-14
NNW	42100	C-14	2.53E-04	0.00E+00	0.00E+00	0.00E+00
NNW	42100	Co-60	2.96E-15	5.33E-22	6.35E-23	5.97E-22
NNW	42100	Cm-243	7.78E-10	1.40E-16	1.67E-17	1.57E-16
NNW	42100	Cm-244	1.34E-08	2.41E-15	2.87E-16	2.70E-15
NNW	42100	Cs-137	3.95E-06	7.11E-13	8.45E-14	7.95E-13
NNW	42100	Eu-152	6.33E-15	1.14E-21	1.36E-22	1.27E-21
NNW	42100	Eu-154	3.66E-14	6.58E-21	7.83E-22	7.37E-21
NNW	42100	Eu-155	1.35E-14	2.43E-21	2.89E-22	2.72E-21
NNW	42100	H-3	1.10E-03	0.00E+00	0.00E+00	0.00E+00
NNW	42100	I-129	5.51E-12	1.93E-17	9.07E-19	2.02E-17
NNW	42100	Ni-63	4.53E-08	8.15E-15	9.70E-16	9.12E-15
NNW	42100	Np-237	1.15E-09	2.07E-16	2.47E-17	2.32E-16
NNW	42100	Pu-238	1.67E-09	3.00E-16	3.57E-17	3.36E-16
NNW	42100	Pu-239	3.69E-08	6.64E-15	7.90E-16	7.43E-15

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m <sup>3</sup> )	Dry Depo Rate (pCi/cm <sup>2</sup> -s)	Wet Depo Rate (pCi/cm <sup>2</sup> -s)	Ground Depo Rate (pCi/cm <sup>2</sup> -s)
NNW	42100	Pu-240	8.62E-09	1.55E-15	1.85E-16	1.74E-15
NNW	42100	Pu-241	2.32E-08	4.18E-15	4.98E-16	4.68E-15
NNW	42100	Sb-125	1.01E-07	1.82E-14	2.17E-15	2.04E-14
NNW	42100	Sm-151	3.72E-11	6.69E-18	7.96E-19	7.48E-18
NNW	42100	Sn-126	4.38E-08	7.89E-15	9.39E-16	8.83E-15
NNW	42100	Sr-90	6.01E-06	1.08E-12	1.29E-13	1.21E-12
NNW	42100	Tc-99	1.47E-04	2.64E-11	3.14E-12	2.95E-11
NNW	42100	Th-232	1.85E-17	3.32E-24	3.95E-25	3.72E-24
NNW	42100	U-233	4.03E-10	7.26E-17	8.64E-18	8.13E-17
NNW	42100	U-234	1.18E-10	2.13E-17	2.54E-18	2.39E-17
NNW	42100	U-235	4.79E-12	8.62E-19	1.03E-19	9.65E-19
NNW	42100	U-236	3.92E-12	7.05E-19	8.39E-20	7.89E-19
NNW	42100	U-238	1.06E-10	1.91E-17	2.28E-18	2.14E-17
NNW	42100	Y-90	5.60E-06	1.01E-12	1.20E-13	1.13E-12
NNW	42100	Ru-106	2.27E-14	4.09E-21	4.87E-22	4.58E-21
NNW	42100	Cs-134	5.72E-13	1.03E-19	1.22E-20	1.15E-19
NNW	42100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NNW	42100	Pu-242	1.34E-12	2.40E-19	2.86E-20	2.69E-19
NNW	42100	Ra-226	1.22E-11	2.19E-18	2.61E-19	2.46E-18
NNW	42100	U-232	7.46E-12	1.34E-18	1.60E-19	1.50E-18
NNW	42100	Pa-231	1.67E-17	3.00E-24	3.57E-25	3.36E-24
NNW	42100	Ni-59	6.01E-10	1.08E-16	1.29E-17	1.21E-16
NNW	42100	Ac-227	1.20E-10	2.17E-17	2.58E-18	2.43E-17
NNW	42100	Am-243	1.79E-10	3.23E-17	3.84E-18	3.61E-17
NNW	42100	Ra-228	7.46E-10	1.34E-16	1.60E-17	1.50E-16
NNW	42100	Cm-242	1.09E-08	1.97E-15	2.34E-16	2.20E-15
NNW	42100	Th-229	8.36E-18	1.50E-24	1.79E-25	1.68E-24
NNW	42100	Zr-93	7.87E-14	1.42E-20	1.68E-21	1.58E-20
NNW	42100	Nb-93m	1.34E-13	2.41E-20	2.87E-21	2.70E-20
NNW	42100	Cd-113m	7.11E-08	1.28E-14	1.52E-15	1.43E-14
NNW	42100	Se-79	8.53E-07	1.54E-13	1.83E-14	1.72E-13
NNW	48100	Am-241	2.55E-07	4.60E-14	5.64E-15	5.16E-14
NNW	48100	C-14	2.18E-04	0.00E+00	0.00E+00	0.00E+00
NNW	48100	Co-60	2.44E-15	4.38E-22	5.38E-23	4.92E-22
NNW	48100	Cm-243	6.40E-10	1.15E-16	1.41E-17	1.29E-16
NNW	48100	Cm-244	1.10E-08	1.98E-15	2.43E-16	2.23E-15
NNW	48100	Cs-137	3.25E-06	5.84E-13	7.17E-14	6.56E-13
NNW	48100	Eu-152	5.20E-15	9.36E-22	1.15E-22	1.05E-21
NNW	48100	Eu-154	3.01E-14	5.41E-21	6.64E-22	6.08E-21
NNW	48100	Eu-155	1.11E-14	2.00E-21	2.45E-22	2.24E-21
NNW	48100	H-3	9.49E-04	0.00E+00	0.00E+00	0.00E+00
NNW	48100	I-129	4.14E-12	1.45E-17	7.07E-19	1.52E-17
NNW	48100	Ni-63	3.72E-08	6.70E-15	8.22E-16	7.52E-15
NNW	48100	Np-237	9.47E-10	1.71E-16	2.09E-17	1.91E-16
NNW	48100	Pu-238	1.37E-09	2.47E-16	3.02E-17	2.77E-16
NNW	48100	Pu-239	3.03E-08	5.45E-15	6.69E-16	6.12E-15
NNW	48100	Pu-240	7.09E-09	1.28E-15	1.56E-16	1.43E-15

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNW	48100	Pu-241	1.91E-08	3.44E-15	4.22E-16	3.86E-15
NNW	48100	Sb-125	8.33E-08	1.50E-14	1.84E-15	1.68E-14
NNW	48100	Sm-151	3.05E-11	5.50E-18	6.74E-19	6.17E-18
NNW	48100	Sn-126	3.60E-08	6.49E-15	7.96E-16	7.28E-15
NNW	48100	Sr-90	4.94E-06	8.89E-13	1.09E-13	9.98E-13
NNW	48100	Tc-99	1.21E-04	2.17E-11	2.66E-12	2.44E-11
NNW	48100	Th-232	1.52E-17	2.73E-24	3.35E-25	3.07E-24
NNW	48100	U-233	3.32E-10	5.97E-17	7.32E-18	6.70E-17
NNW	48100	U-234	9.74E-11	1.75E-17	2.15E-18	1.97E-17
NNW	48100	U-235	3.94E-12	7.09E-19	8.69E-20	7.96E-19
NNW	48100	U-236	3.22E-12	5.80E-19	7.11E-20	6.51E-19
NNW	48100	U-238	8.73E-11	1.57E-17	1.93E-18	1.76E-17
NNW	48100	Y-90	4.56E-06	8.21E-13	1.01E-13	9.22E-13
NNW	48100	Ru-106	1.87E-14	3.37E-21	4.13E-22	3.78E-21
NNW	48100	Cs-134	4.70E-13	8.46E-20	1.04E-20	9.50E-20
NNW	48100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NNW	48100	Pu-242	1.10E-12	1.98E-19	2.42E-20	2.22E-19
NNW	48100	Ra-226	1.00E-11	1.80E-18	2.21E-19	2.03E-18
NNW	48100	U-232	6.13E-12	1.10E-18	1.35E-19	1.24E-18
NNW	48100	Pa-231	1.37E-17	2.47E-24	3.03E-25	2.77E-24
NNW	48100	Ni-59	4.94E-10	8.89E-17	1.09E-17	9.98E-17
NNW	48100	Ac-227	9.90E-11	1.78E-17	2.19E-18	2.00E-17
NNW	48100	Am-243	1.47E-10	2.65E-17	3.26E-18	2.98E-17
NNW	48100	Ra-228	6.13E-10	1.10E-16	1.35E-17	1.24E-16
NNW	48100	Cm-242	8.98E-09	1.62E-15	1.98E-16	1.82E-15
NNW	48100	Th-229	6.87E-18	1.24E-24	1.52E-25	1.39E-24
NNW	48100	Zr-93	6.47E-14	1.16E-20	1.43E-21	1.31E-20
NNW	48100	Nb-93m	1.10E-13	1.98E-20	2.43E-21	2.23E-20
NNW	48100	Cd-113m	5.85E-08	1.05E-14	1.29E-15	1.18E-14
NNW	48100	Se-79	7.02E-07	1.26E-13	1.55E-14	1.42E-13
NNW	54100	Am-241	2.09E-07	3.76E-14	4.79E-15	4.23E-14
NNW	54100	C-14	1.91E-04	0.00E+00	0.00E+00	0.00E+00
NNW	54100	Co-60	1.99E-15	3.58E-22	4.57E-23	4.04E-22
NNW	54100	Cm-243	5.23E-10	9.41E-17	1.20E-17	1.06E-16
NNW	54100	Cm-244	9.01E-09	1.62E-15	2.07E-16	1.83E-15
NNW	54100	Cs-137	2.65E-06	4.77E-13	6.09E-14	5.38E-13
NNW	54100	Eu-152	4.25E-15	7.65E-22	9.76E-23	8.63E-22
NNW	54100	Eu-154	2.46E-14	4.42E-21	5.64E-22	4.99E-21
NNW	54100	Eu-155	9.07E-15	1.63E-21	2.08E-22	1.84E-21
NNW	54100	H-3	8.31E-04	0.00E+00	0.00E+00	0.00E+00
NNW	54100	I-129	3.18E-12	1.11E-17	5.59E-19	1.17E-17
NNW	54100	Ni-63	3.04E-08	5.48E-15	6.98E-16	6.17E-15
NNW	54100	Np-237	7.74E-10	1.39E-16	1.78E-17	1.57E-16
NNW	54100	Pu-238	1.12E-09	2.01E-16	2.57E-17	2.27E-16
NNW	54100	Pu-239	2.48E-08	4.46E-15	5.68E-16	5.03E-15
NNW	54100	Pu-240	5.79E-09	1.04E-15	1.33E-16	1.18E-15
NNW	54100	Pu-241	1.56E-08	2.81E-15	3.58E-16	3.17E-15

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNW	54100	Sb-125	6.80E-08	1.22E-14	1.56E-15	1.38E-14
NNW	54100	Sm-151	2.50E-11	4.49E-18	5.73E-19	5.07E-18
NNW	54100	Sn-126	2.94E-08	5.30E-15	6.76E-16	5.98E-15
NNW	54100	Sr-90	4.04E-06	7.26E-13	9.26E-14	8.19E-13
NNW	54100	Tc-99	9.85E-05	1.77E-11	2.26E-12	2.00E-11
NNW	54100	Th-232	1.24E-17	2.23E-24	2.85E-25	2.52E-24
NNW	54100	U-233	2.71E-10	4.88E-17	6.22E-18	5.50E-17
NNW	54100	U-234	7.96E-11	1.43E-17	1.83E-18	1.61E-17
NNW	54100	U-235	3.22E-12	5.79E-19	7.38E-20	6.53E-19
NNW	54100	U-236	2.63E-12	4.74E-19	6.04E-20	5.34E-19
NNW	54100	U-238	7.14E-11	1.28E-17	1.64E-18	1.45E-17
NNW	54100	Y-90	3.69E-06	6.64E-13	8.50E-14	7.49E-13
NNW	54100	Ru-106	1.53E-14	2.75E-21	3.51E-22	3.10E-21
NNW	54100	Cs-134	3.84E-13	6.91E-20	8.81E-21	7.79E-20
NNW	54100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NNW	54100	Pu-242	8.97E-13	1.61E-19	2.06E-20	1.82E-19
NNW	54100	Ra-226	8.19E-12	1.47E-18	1.88E-19	1.66E-18
NNW	54100	U-232	5.01E-12	9.02E-19	1.15E-19	1.02E-18
NNW	54100	Pa-231	1.12E-17	2.02E-24	2.57E-25	2.28E-24
NNW	54100	Ni-59	4.04E-10	7.27E-17	9.26E-18	8.19E-17
NNW	54100	Ac-227	8.09E-11	1.46E-17	1.86E-18	1.64E-17
NNW	54100	Am-243	1.21E-10	2.17E-17	2.77E-18	2.45E-17
NNW	54100	Ra-228	5.01E-10	9.02E-17	1.15E-17	1.02E-16
NNW	54100	Cm-242	7.34E-09	1.32E-15	1.68E-16	1.49E-15
NNW	54100	Th-229	5.62E-18	1.01E-24	1.29E-25	1.14E-24
NNW	54100	Zr-93	5.28E-14	9.51E-21	1.21E-21	1.07E-20
NNW	54100	Nb-93m	9.01E-14	1.62E-20	2.07E-21	1.83E-20
NNW	54100	Cd-113m	4.78E-08	8.60E-15	1.10E-15	9.69E-15
NNW	54100	Se-79	5.73E-07	1.03E-13	1.32E-14	1.16E-13
NNW	60100	Am-241	1.23E-07	2.21E-14	3.67E-15	2.58E-14
NNW	60100	C-14	1.70E-04	0.00E+00	0.00E+00	0.00E+00
NNW	60100	Co-60	1.17E-15	2.11E-22	3.50E-23	2.46E-22
NNW	60100	Cm-243	3.08E-10	5.54E-17	9.20E-18	6.46E-17
NNW	60100	Cm-244	5.31E-09	9.55E-16	1.59E-16	1.11E-15
NNW	60100	Cs-137	1.56E-06	2.81E-13	4.67E-14	3.28E-13
NNW	60100	Eu-152	2.50E-15	4.51E-22	7.48E-23	5.25E-22
NNW	60100	Eu-154	1.45E-14	2.60E-21	4.32E-22	3.04E-21
NNW	60100	Eu-155	5.34E-15	9.61E-22	1.60E-22	1.12E-21
NNW	60100	H-3	7.39E-04	0.00E+00	0.00E+00	0.00E+00
NNW	60100	I-129	2.49E-12	8.72E-18	4.49E-19	9.17E-18
NNW	60100	Ni-63	1.79E-08	3.22E-15	5.35E-16	3.76E-15
NNW	60100	Np-237	4.56E-10	8.21E-17	1.36E-17	9.57E-17
NNW	60100	Pu-238	6.59E-10	1.19E-16	1.97E-17	1.38E-16
NNW	60100	Pu-239	1.46E-08	2.63E-15	4.36E-16	3.06E-15
NNW	60100	Pu-240	3.41E-09	6.14E-16	1.02E-16	7.16E-16
NNW	60100	Pu-241	9.20E-09	1.66E-15	2.75E-16	1.93E-15
NNW	60100	Sb-125	4.01E-08	7.21E-15	1.20E-15	8.41E-15

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNW	60100	Sm-151	1.47E-11	2.65E-18	4.39E-19	3.09E-18
NNW	60100	Sn-126	1.73E-08	3.12E-15	5.18E-16	3.64E-15
NNW	60100	Sr-90	2.38E-06	4.28E-13	7.10E-14	4.99E-13
NNW	60100	Tc-99	5.80E-05	1.04E-11	1.73E-12	1.22E-11
NNW	60100	Th-232	7.30E-18	1.31E-24	2.18E-25	1.53E-24
NNW	60100	U-233	1.60E-10	2.87E-17	4.77E-18	3.35E-17
NNW	60100	U-234	4.69E-11	8.43E-18	1.40E-18	9.83E-18
NNW	60100	U-235	1.89E-12	3.41E-19	5.66E-20	3.98E-19
NNW	60100	U-236	1.55E-12	2.79E-19	4.63E-20	3.25E-19
NNW	60100	U-238	4.20E-11	7.57E-18	1.26E-18	8.82E-18
NNW	60100	Y-90	2.15E-06	3.88E-13	6.46E-14	4.52E-13
NNW	60100	Ru-106	9.00E-15	1.62E-21	2.69E-22	1.89E-21
NNW	60100	Cs-134	2.26E-13	4.07E-20	6.76E-21	4.75E-20
NNW	60100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NNW	60100	Pu-242	5.28E-13	9.51E-20	1.58E-20	1.11E-19
NNW	60100	Ra-226	4.82E-12	8.68E-19	1.44E-19	1.01E-18
NNW	60100	U-232	2.95E-12	5.31E-19	8.82E-20	6.19E-19
NNW	60100	Pa-231	6.60E-18	1.19E-24	1.97E-25	1.39E-24
NNW	60100	Ni-59	2.38E-10	4.28E-17	7.11E-18	4.99E-17
NNW	60100	Ac-227	4.77E-11	8.58E-18	1.42E-18	1.00E-17
NNW	60100	Am-243	7.10E-11	1.28E-17	2.12E-18	1.49E-17
NNW	60100	Ra-228	2.95E-10	5.31E-17	8.82E-18	6.19E-17
NNW	60100	Cm-242	4.32E-09	7.78E-16	1.29E-16	9.07E-16
NNW	60100	Th-229	3.31E-18	5.95E-25	9.89E-26	6.94E-25
NNW	60100	Zr-93	3.11E-14	5.60E-21	9.30E-22	6.53E-21
NNW	60100	Nb-93m	5.31E-14	9.55E-21	1.59E-21	1.11E-20
NNW	60100	Cd-113m	2.81E-08	5.06E-15	8.41E-16	5.91E-15
NNW	60100	Se-79	3.38E-07	6.08E-14	1.01E-14	7.09E-14
NNW	66100	Am-241	1.07E-07	1.93E-14	3.27E-15	2.26E-14
NNW	66100	C-14	1.53E-04	0.00E+00	0.00E+00	0.00E+00
NNW	66100	Co-60	1.02E-15	1.84E-22	3.12E-23	2.15E-22
NNW	66100	Cm-243	2.69E-10	4.84E-17	8.20E-18	5.66E-17
NNW	66100	Cm-244	4.63E-09	8.34E-16	1.41E-16	9.75E-16
NNW	66100	Cs-137	1.36E-06	2.45E-13	4.16E-14	2.87E-13
NNW	66100	Eu-152	2.19E-15	3.93E-22	6.67E-23	4.60E-22
NNW	66100	Eu-154	1.26E-14	2.27E-21	3.85E-22	2.66E-21
NNW	66100	Eu-155	4.66E-15	8.39E-22	1.42E-22	9.81E-22
NNW	66100	H-3	6.64E-04	0.00E+00	0.00E+00	0.00E+00
NNW	66100	I-129	2.03E-12	7.10E-18	3.68E-19	7.47E-18
NNW	66100	Ni-63	1.56E-08	2.81E-15	4.77E-16	3.29E-15
NNW	66100	Np-237	3.98E-10	7.16E-17	1.21E-17	8.38E-17
NNW	66100	Pu-238	5.75E-10	1.04E-16	1.76E-17	1.21E-16
NNW	66100	Pu-239	1.27E-08	2.29E-15	3.89E-16	2.68E-15
NNW	66100	Pu-240	2.98E-09	5.36E-16	9.09E-17	6.27E-16
NNW	66100	Pu-241	8.03E-09	1.45E-15	2.45E-16	1.69E-15
NNW	66100	Sb-125	3.50E-08	6.30E-15	1.07E-15	7.36E-15
NNW	66100	Sm-151	1.28E-11	2.31E-18	3.92E-19	2.70E-18

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNW	66100	Sn-126	1.51E-08	2.72E-15	4.62E-16	3.19E-15
NNW	66100	Sr-90	2.08E-06	3.74E-13	6.33E-14	4.37E-13
NNW	66100	Tc-99	5.06E-05	9.11E-12	1.55E-12	1.07E-11
NNW	66100	Th-232	6.38E-18	1.15E-24	1.95E-25	1.34E-24
NNW	66100	U-233	1.39E-10	2.51E-17	4.25E-18	2.93E-17
NNW	66100	U-234	4.09E-11	7.36E-18	1.25E-18	8.61E-18
NNW	66100	U-235	1.65E-12	2.98E-19	5.05E-20	3.48E-19
NNW	66100	U-236	1.35E-12	2.44E-19	4.13E-20	2.85E-19
NNW	66100	U-238	3.67E-11	6.60E-18	1.12E-18	7.72E-18
NNW	66100	Y-90	1.86E-06	3.35E-13	5.71E-14	3.92E-13
NNW	66100	Ru-106	7.85E-15	1.41E-21	2.40E-22	1.65E-21
NNW	66100	Cs-134	1.97E-13	3.55E-20	6.02E-21	4.16E-20
NNW	66100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NNW	66100	Pu-242	4.61E-13	8.30E-20	1.41E-20	9.71E-20
NNW	66100	Ra-226	4.21E-12	7.58E-19	1.28E-19	8.86E-19
NNW	66100	U-232	2.58E-12	4.64E-19	7.86E-20	5.42E-19
NNW	66100	Pa-231	5.76E-18	1.04E-24	1.76E-25	1.21E-24
NNW	66100	Ni-59	2.08E-10	3.74E-17	6.33E-18	4.37E-17
NNW	66100	Ac-227	4.16E-11	7.49E-18	1.27E-18	8.76E-18
NNW	66100	Am-243	6.20E-11	1.12E-17	1.89E-18	1.30E-17
NNW	66100	Ra-228	2.58E-10	4.64E-17	7.86E-18	5.42E-17
NNW	66100	Cm-242	3.77E-09	6.79E-16	1.15E-16	7.94E-16
NNW	66100	Th-229	2.89E-18	5.20E-25	8.81E-26	6.08E-25
NNW	66100	Zr-93	2.72E-14	4.89E-21	8.29E-22	5.72E-21
NNW	66100	Nb-93m	4.63E-14	8.34E-21	1.41E-21	9.75E-21
NNW	66100	Cd-113m	2.46E-08	4.42E-15	7.50E-16	5.17E-15
NNW	66100	Se-79	2.95E-07	5.31E-14	8.99E-15	6.20E-14
NW	12100	Am-241	1.85E-06	3.33E-13	3.53E-14	3.68E-13
NW	12100	C-14	1.03E-03	0.00E+00	0.00E+00	0.00E+00
NW	12100	Co-60	1.76E-14	3.18E-21	3.37E-22	3.51E-21
NW	12100	Cm-243	4.63E-09	8.34E-16	8.85E-17	9.22E-16
NW	12100	Cm-244	7.98E-08	1.44E-14	1.53E-15	1.59E-14
NW	12100	Cs-137	2.35E-05	4.23E-12	4.49E-13	4.68E-12
NW	12100	Eu-152	3.77E-14	6.78E-21	7.20E-22	7.50E-21
NW	12100	Eu-154	2.18E-13	3.92E-20	4.16E-21	4.34E-20
NW	12100	Eu-155	8.04E-14	1.45E-20	1.53E-21	1.60E-20
NW	12100	H-3	4.48E-03	0.00E+00	0.00E+00	0.00E+00
NW	12100	I-129	1.16E-10	4.05E-16	1.11E-17	4.16E-16
NW	12100	Ni-63	2.70E-07	4.85E-14	5.15E-15	5.37E-14
NW	12100	Np-237	6.86E-09	1.24E-15	1.31E-16	1.37E-15
NW	12100	Pu-238	9.92E-09	1.79E-15	1.89E-16	1.98E-15
NW	12100	Pu-239	2.19E-07	3.95E-14	4.19E-15	4.37E-14
NW	12100	Pu-240	5.13E-08	9.24E-15	9.80E-16	1.02E-14
NW	12100	Pu-241	1.38E-07	2.49E-14	2.64E-15	2.76E-14
NW	12100	Sb-125	6.03E-07	1.09E-13	1.15E-14	1.20E-13
NW	12100	Sm-151	2.21E-10	3.98E-17	4.23E-18	4.40E-17
NW	12100	Sn-126	2.61E-07	4.70E-14	4.98E-15	5.20E-14

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NW	12100	Sr-90	3.58E-05	6.44E-12	6.83E-13	7.12E-12
NW	12100	Tc-99	8.73E-04	1.57E-10	1.67E-11	1.74E-10
NW	12100	Th-232	1.10E-16	1.98E-23	2.10E-24	2.19E-23
NW	12100	U-233	2.40E-09	4.32E-16	4.59E-17	4.78E-16
NW	12100	U-234	7.05E-10	1.27E-16	1.35E-17	1.40E-16
NW	12100	U-235	2.85E-11	5.13E-18	5.45E-19	5.68E-18
NW	12100	U-236	2.33E-11	4.20E-18	4.46E-19	4.65E-18
NW	12100	U-238	6.33E-10	1.14E-16	1.21E-17	1.26E-16
NW	12100	Y-90	3.49E-05	6.29E-12	6.69E-13	6.96E-12
NW	12100	Ru-106	1.35E-13	2.44E-20	2.59E-21	2.70E-20
NW	12100	Cs-134	3.40E-12	6.13E-19	6.50E-20	6.78E-19
NW	12100	Ba-137m	9.38E-17	1.69E-23	4.94E-24	2.18E-23
NW	12100	Pu-242	7.95E-12	1.43E-18	1.52E-19	1.58E-18
NW	12100	Ra-226	7.26E-11	1.31E-17	1.39E-18	1.45E-17
NW	12100	U-232	4.44E-11	8.00E-18	8.48E-19	8.84E-18
NW	12100	Pa-231	9.94E-17	1.79E-23	1.90E-24	1.98E-23
NW	12100	Ni-59	3.58E-09	6.44E-16	6.83E-17	7.12E-16
NW	12100	Ac-227	7.17E-10	1.29E-16	1.37E-17	1.43E-16
NW	12100	Am-243	1.07E-09	1.92E-16	2.04E-17	2.13E-16
NW	12100	Ra-228	4.44E-09	7.99E-16	8.48E-17	8.84E-16
NW	12100	Cm-242	6.51E-08	1.17E-14	1.24E-15	1.30E-14
NW	12100	Th-229	4.98E-17	8.96E-24	9.51E-25	9.91E-24
NW	12100	Zr-93	4.68E-13	8.43E-20	8.95E-21	9.33E-20
NW	12100	Nb-93m	7.98E-13	1.44E-19	1.53E-20	1.59E-19
NW	12100	Cd-113m	4.23E-07	7.62E-14	8.09E-15	8.43E-14
NW	12100	Se-79	5.08E-06	9.15E-13	9.71E-14	1.01E-12
NW	16100	Am-241	1.27E-06	2.29E-13	2.59E-14	2.54E-13
NW	16100	C-14	7.40E-04	0.00E+00	0.00E+00	0.00E+00
NW	16100	Co-60	1.21E-14	2.18E-21	2.47E-22	2.43E-21
NW	16100	Cm-243	3.18E-09	5.73E-16	6.48E-17	6.37E-16
NW	16100	Cm-244	5.48E-08	9.87E-15	1.12E-15	1.10E-14
NW	16100	Cs-137	1.61E-05	2.91E-12	3.29E-13	3.23E-12
NW	16100	Eu-152	2.59E-14	4.66E-21	5.27E-22	5.18E-21
NW	16100	Eu-154	1.50E-13	2.69E-20	3.05E-21	3.00E-20
NW	16100	Eu-155	5.52E-14	9.93E-21	1.12E-21	1.11E-20
NW	16100	H-3	3.22E-03	0.00E+00	0.00E+00	0.00E+00
NW	16100	I-129	6.49E-11	2.27E-16	7.49E-18	2.35E-16
NW	16100	Ni-63	1.85E-07	3.33E-14	3.77E-15	3.71E-14
NW	16100	Np-237	4.71E-09	8.48E-16	9.60E-17	9.44E-16
NW	16100	Pu-238	6.81E-09	1.23E-15	1.39E-16	1.37E-15
NW	16100	Pu-239	1.51E-07	2.71E-14	3.07E-15	3.02E-14
NW	16100	Pu-240	3.52E-08	6.34E-15	7.18E-16	7.06E-15
NW	16100	Pu-241	9.51E-08	1.71E-14	1.94E-15	1.90E-14
NW	16100	Sb-125	4.14E-07	7.46E-14	8.44E-15	8.30E-14
NW	16100	Sm-151	1.52E-10	2.73E-17	3.09E-18	3.04E-17
NW	16100	Sn-126	1.79E-07	3.23E-14	3.65E-15	3.59E-14
NW	16100	Sr-90	2.46E-05	4.42E-12	5.00E-13	4.92E-12

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NW	16100	Tc-99	5.99E-04	1.08E-10	1.22E-11	1.20E-10
NW	16100	Th-232	7.55E-17	1.36E-23	1.54E-24	1.51E-23
NW	16100	U-233	1.65E-09	2.97E-16	3.36E-17	3.31E-16
NW	16100	U-234	4.84E-10	8.72E-17	9.86E-18	9.70E-17
NW	16100	U-235	1.96E-11	3.52E-18	3.99E-19	3.92E-18
NW	16100	U-236	1.60E-11	2.88E-18	3.26E-19	3.21E-18
NW	16100	U-238	4.34E-10	7.82E-17	8.85E-18	8.70E-17
NW	16100	Y-90	2.38E-05	4.29E-12	4.87E-13	4.77E-12
NW	16100	Ru-106	9.30E-14	1.67E-20	1.89E-21	1.86E-20
NW	16100	Cs-134	2.34E-12	4.21E-19	4.76E-20	4.68E-19
NW	16100	Ba-137m	1.49E-16	2.68E-23	1.34E-24	2.81E-23
NW	16100	Pu-242	5.46E-12	9.83E-19	1.11E-19	1.09E-18
NW	16100	Ra-226	4.98E-11	8.97E-18	1.02E-18	9.99E-18
NW	16100	U-232	3.05E-11	5.49E-18	6.21E-19	6.11E-18
NW	16100	Pa-231	6.82E-17	1.23E-23	1.39E-24	1.37E-23
NW	16100	Ni-59	2.46E-09	4.42E-16	5.00E-17	4.92E-16
NW	16100	Ac-227	4.93E-10	8.87E-17	1.00E-17	9.87E-17
NW	16100	Am-243	7.33E-10	1.32E-16	1.49E-17	1.47E-16
NW	16100	Ra-228	3.05E-09	5.49E-16	6.21E-17	6.11E-16
NW	16100	Cm-242	4.47E-08	8.05E-15	9.11E-16	8.96E-15
NW	16100	Th-229	3.42E-17	6.15E-24	6.96E-25	6.85E-24
NW	16100	Zr-93	3.22E-13	5.79E-20	6.55E-21	6.44E-20
NW	16100	Nb-93m	5.48E-13	9.87E-20	1.12E-20	1.10E-19
NW	16100	Cd-113m	2.91E-07	5.23E-14	5.92E-15	5.83E-14
NW	16100	Se-79	3.49E-06	6.28E-13	7.11E-14	6.99E-13
NW	24100	Am-241	6.63E-07	1.19E-13	1.58E-14	1.35E-13
NW	24100	C-14	4.65E-04	0.00E+00	0.00E+00	0.00E+00
NW	24100	Co-60	6.33E-15	1.14E-21	1.51E-22	1.29E-21
NW	24100	Cm-243	1.66E-09	2.99E-16	3.96E-17	3.39E-16
NW	24100	Cm-244	2.86E-08	5.15E-15	6.82E-16	5.84E-15
NW	24100	Cs-137	8.43E-06	1.52E-12	2.01E-13	1.72E-12
NW	24100	Eu-152	1.35E-14	2.43E-21	3.22E-22	2.75E-21
NW	24100	Eu-154	7.81E-14	1.41E-20	1.86E-21	1.59E-20
NW	24100	Eu-155	2.88E-14	5.19E-21	6.86E-22	5.87E-21
NW	24100	H-3	2.02E-03	0.00E+00	0.00E+00	0.00E+00
NW	24100	I-129	2.61E-11	9.14E-17	4.05E-18	9.55E-17
NW	24100	Ni-63	9.67E-08	1.74E-14	2.30E-15	1.97E-14
NW	24100	Np-237	2.46E-09	4.43E-16	5.86E-17	5.02E-16
NW	24100	Pu-238	3.56E-09	6.40E-16	8.47E-17	7.25E-16
NW	24100	Pu-239	7.87E-08	1.42E-14	1.87E-15	1.60E-14
NW	24100	Pu-240	1.84E-08	3.31E-15	4.38E-16	3.75E-15
NW	24100	Pu-241	4.96E-08	8.94E-15	1.18E-15	1.01E-14
NW	24100	Sb-125	2.16E-07	3.89E-14	5.15E-15	4.41E-14
NW	24100	Sm-151	7.93E-11	1.43E-17	1.89E-18	1.62E-17
NW	24100	Sn-126	9.36E-08	1.68E-14	2.23E-15	1.91E-14
NW	24100	Sr-90	1.28E-05	2.31E-12	3.06E-13	2.62E-12
NW	24100	Tc-99	3.13E-04	5.63E-11	7.46E-12	6.38E-11

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NW	24100	Th-232	3.94E-17	7.10E-24	9.39E-25	8.03E-24
NW	24100	U-233	8.62E-10	1.55E-16	2.05E-17	1.76E-16
NW	24100	U-234	2.53E-10	4.55E-17	6.02E-18	5.15E-17
NW	24100	U-235	1.02E-11	1.84E-18	2.44E-19	2.08E-18
NW	24100	U-236	8.37E-12	1.51E-18	1.99E-19	1.71E-18
NW	24100	U-238	2.27E-10	4.08E-17	5.40E-18	4.62E-17
NW	24100	Y-90	1.22E-05	2.20E-12	2.93E-13	2.50E-12
NW	24100	Ru-106	4.86E-14	8.74E-21	1.16E-21	9.90E-21
NW	24100	Cs-134	1.22E-12	2.20E-19	2.91E-20	2.49E-19
NW	24100	Ba-137m	1.47E-17	2.64E-24	1.30E-24	3.93E-24
NW	24100	Pu-242	2.85E-12	5.13E-19	6.79E-20	5.81E-19
NW	24100	Ra-226	2.60E-11	4.69E-18	6.20E-19	5.31E-18
NW	24100	U-232	1.59E-11	2.87E-18	3.79E-19	3.25E-18
NW	24100	Pa-231	3.56E-17	6.42E-24	8.49E-25	7.26E-24
NW	24100	Ni-59	1.28E-09	2.31E-16	3.06E-17	2.62E-16
NW	24100	Ac-227	2.57E-10	4.63E-17	6.13E-18	5.24E-17
NW	24100	Am-243	3.83E-10	6.89E-17	9.12E-18	7.81E-17
NW	24100	Ra-228	1.59E-09	2.87E-16	3.79E-17	3.25E-16
NW	24100	Cm-242	2.33E-08	4.20E-15	5.56E-16	4.76E-15
NW	24100	Th-229	1.79E-17	3.21E-24	4.25E-25	3.64E-24
NW	24100	Zr-93	1.68E-13	3.02E-20	4.00E-21	3.42E-20
NW	24100	Nb-93m	2.86E-13	5.15E-20	6.82E-21	5.84E-20
NW	24100	Cd-113m	1.52E-07	2.73E-14	3.62E-15	3.10E-14
NW	24100	Se-79	1.82E-06	3.28E-13	4.34E-14	3.71E-13
NW	30100	Am-241	4.40E-07	7.92E-14	1.20E-14	9.12E-14
NW	30100	C-14	3.61E-04	0.00E+00	0.00E+00	0.00E+00
NW	30100	Co-60	4.20E-15	7.55E-22	1.15E-22	8.70E-22
NW	30100	Cm-243	1.10E-09	1.98E-16	3.01E-17	2.28E-16
NW	30100	Cm-244	1.90E-08	3.42E-15	5.18E-16	3.94E-15
NW	30100	Cs-137	5.59E-06	1.01E-12	1.53E-13	1.16E-12
NW	30100	Eu-152	8.96E-15	1.61E-21	2.45E-22	1.86E-21
NW	30100	Eu-154	5.18E-14	9.32E-21	1.41E-21	1.07E-20
NW	30100	Eu-155	1.91E-14	3.44E-21	5.22E-22	3.96E-21
NW	30100	H-3	1.57E-03	0.00E+00	0.00E+00	0.00E+00
NW	30100	I-129	1.76E-11	6.17E-17	2.88E-18	6.46E-17
NW	30100	Ni-63	6.41E-08	1.15E-14	1.75E-15	1.33E-14
NW	30100	Np-237	1.63E-09	2.94E-16	4.46E-17	3.38E-16
NW	30100	Pu-238	2.36E-09	4.25E-16	6.44E-17	4.89E-16
NW	30100	Pu-239	5.22E-08	9.40E-15	1.43E-15	1.08E-14
NW	30100	Pu-240	1.22E-08	2.20E-15	3.33E-16	2.53E-15
NW	30100	Pu-241	3.29E-08	5.93E-15	8.99E-16	6.82E-15
NW	30100	Sb-125	1.43E-07	2.58E-14	3.92E-15	2.97E-14
NW	30100	Sm-151	5.26E-11	9.47E-18	1.44E-18	1.09E-17
NW	30100	Sn-126	6.21E-08	1.12E-14	1.69E-15	1.29E-14
NW	30100	Sr-90	8.51E-06	1.53E-12	2.32E-13	1.76E-12
NW	30100	Tc-99	2.08E-04	3.74E-11	5.67E-12	4.30E-11
NW	30100	Th-232	2.61E-17	4.71E-24	7.14E-25	5.42E-24

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NW	30100	U-233	5.71E-10	1.03E-16	1.56E-17	1.18E-16
NW	30100	U-234	1.68E-10	3.02E-17	4.58E-18	3.48E-17
NW	30100	U-235	6.78E-12	1.22E-18	1.85E-19	1.41E-18
NW	30100	U-236	5.55E-12	9.99E-19	1.52E-19	1.15E-18
NW	30100	U-238	1.50E-10	2.71E-17	4.11E-18	3.12E-17
NW	30100	Y-90	8.03E-06	1.45E-12	2.21E-13	1.67E-12
NW	30100	Ru-106	3.22E-14	5.80E-21	8.80E-22	6.68E-21
NW	30100	Cs-134	8.10E-13	1.46E-19	2.21E-20	1.68E-19
NW	30100	Ba-137m	1.06E-18	1.92E-25	1.98E-25	3.90E-25
NW	30100	Pu-242	1.89E-12	3.40E-19	5.16E-20	3.92E-19
NW	30100	Ra-226	1.73E-11	3.11E-18	4.71E-19	3.58E-18
NW	30100	U-232	1.06E-11	1.90E-18	2.88E-19	2.19E-18
NW	30100	Pa-231	2.36E-17	4.25E-24	6.45E-25	4.90E-24
NW	30100	Ni-59	8.51E-10	1.53E-16	2.32E-17	1.76E-16
NW	30100	Ac-227	1.71E-10	3.07E-17	4.66E-18	3.54E-17
NW	30100	Am-243	2.54E-10	4.57E-17	6.94E-18	5.27E-17
NW	30100	Ra-228	1.06E-09	1.90E-16	2.88E-17	2.19E-16
NW	30100	Cm-242	1.55E-08	2.79E-15	4.23E-16	3.21E-15
NW	30100	Th-229	1.18E-17	2.13E-24	3.23E-25	2.45E-24
NW	30100	Zr-93	1.11E-13	2.00E-20	3.04E-21	2.31E-20
NW	30100	Nb-93m	1.90E-13	3.42E-20	5.18E-21	3.94E-20
NW	30100	Cd-113m	1.01E-07	1.81E-14	2.75E-15	2.09E-14
NW	30100	Se-79	1.21E-06	2.18E-13	3.30E-14	2.51E-13
NW	36100	Am-241	3.45E-07	6.21E-14	9.79E-15	7.19E-14
NW	36100	C-14	2.93E-04	0.00E+00	0.00E+00	0.00E+00
NW	36100	Co-60	3.29E-15	5.92E-22	9.34E-23	6.86E-22
NW	36100	Cm-243	8.64E-10	1.56E-16	2.45E-17	1.80E-16
NW	36100	Cm-244	1.49E-08	2.68E-15	4.23E-16	3.10E-15
NW	36100	Cs-137	4.38E-06	7.89E-13	1.24E-13	9.14E-13
NW	36100	Eu-152	7.03E-15	1.27E-21	2.00E-22	1.46E-21
NW	36100	Eu-154	4.06E-14	7.31E-21	1.15E-21	8.46E-21
NW	36100	Eu-155	1.50E-14	2.70E-21	4.26E-22	3.12E-21
NW	36100	H-3	1.28E-03	0.00E+00	0.00E+00	0.00E+00
NW	36100	I-129	1.28E-11	4.46E-17	2.15E-18	4.68E-17
NW	36100	Ni-63	5.03E-08	9.05E-15	1.43E-15	1.05E-14
NW	36100	Np-237	1.28E-09	2.30E-16	3.63E-17	2.67E-16
NW	36100	Pu-238	1.85E-09	3.33E-16	5.25E-17	3.86E-16
NW	36100	Pu-239	4.09E-08	7.37E-15	1.16E-15	8.53E-15
NW	36100	Pu-240	9.58E-09	1.72E-15	2.72E-16	2.00E-15
NW	36100	Pu-241	2.58E-08	4.65E-15	7.33E-16	5.38E-15
NW	36100	Sb-125	1.12E-07	2.02E-14	3.19E-15	2.34E-14
NW	36100	Sm-151	4.13E-11	7.43E-18	1.17E-18	8.60E-18
NW	36100	Sn-126	4.87E-08	8.76E-15	1.38E-15	1.01E-14
NW	36100	Sr-90	6.67E-06	1.20E-12	1.89E-13	1.39E-12
NW	36100	Tc-99	1.63E-04	2.93E-11	4.62E-12	3.39E-11
NW	36100	Th-232	2.05E-17	3.69E-24	5.82E-25	4.27E-24
NW	36100	U-233	4.48E-10	8.07E-17	1.27E-17	9.34E-17

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NW	36100	U-234	1.32E-10	2.37E-17	3.73E-18	2.74E-17
NW	36100	U-235	5.32E-12	9.58E-19	1.51E-19	1.11E-18
NW	36100	U-236	4.35E-12	7.83E-19	1.24E-19	9.07E-19
NW	36100	U-238	1.18E-10	2.12E-17	3.35E-18	2.46E-17
NW	36100	Y-90	6.23E-06	1.12E-12	1.78E-13	1.30E-12
NW	36100	Ru-106	2.53E-14	4.55E-21	7.17E-22	5.26E-21
NW	36100	Cs-134	6.35E-13	1.14E-19	1.80E-20	1.32E-19
NW	36100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NW	36100	Pu-242	1.48E-12	2.67E-19	4.21E-20	3.09E-19
NW	36100	Ra-226	1.35E-11	2.44E-18	3.84E-19	2.82E-18
NW	36100	U-232	8.29E-12	1.49E-18	2.35E-19	1.73E-18
NW	36100	Pa-231	1.85E-17	3.34E-24	5.26E-25	3.86E-24
NW	36100	Ni-59	6.67E-10	1.20E-16	1.89E-17	1.39E-16
NW	36100	Ac-227	1.34E-10	2.41E-17	3.80E-18	2.79E-17
NW	36100	Am-243	1.99E-10	3.59E-17	5.66E-18	4.15E-17
NW	36100	Ra-228	8.29E-10	1.49E-16	2.35E-17	1.73E-16
NW	36100	Cm-242	1.21E-08	2.19E-15	3.45E-16	2.53E-15
NW	36100	Th-229	9.29E-18	1.67E-24	2.64E-25	1.93E-24
NW	36100	Zr-93	8.74E-14	1.57E-20	2.48E-21	1.82E-20
NW	36100	Nb-93m	1.49E-13	2.68E-20	4.23E-21	3.10E-20
NW	36100	Cd-113m	7.90E-08	1.42E-14	2.24E-15	1.65E-14
NW	36100	Se-79	9.48E-07	1.71E-13	2.69E-14	1.98E-13
NW	42100	Am-241	2.78E-07	5.00E-14	8.19E-15	5.82E-14
NW	42100	C-14	2.46E-04	0.00E+00	0.00E+00	0.00E+00
NW	42100	Co-60	2.65E-15	4.77E-22	7.81E-23	5.56E-22
NW	42100	Cm-243	6.96E-10	1.25E-16	2.05E-17	1.46E-16
NW	42100	Cm-244	1.20E-08	2.16E-15	3.53E-16	2.51E-15
NW	42100	Cs-137	3.53E-06	6.36E-13	1.04E-13	7.40E-13
NW	42100	Eu-152	5.66E-15	1.02E-21	1.67E-22	1.19E-21
NW	42100	Eu-154	3.27E-14	5.89E-21	9.64E-22	6.86E-21
NW	42100	Eu-155	1.21E-14	2.17E-21	3.56E-22	2.53E-21
NW	42100	H-3	1.07E-03	0.00E+00	0.00E+00	0.00E+00
NW	42100	I-129	9.53E-12	3.34E-17	1.65E-18	3.50E-17
NW	42100	Ni-63	4.05E-08	7.30E-15	1.19E-15	8.49E-15
NW	42100	Np-237	1.03E-09	1.86E-16	3.04E-17	2.16E-16
NW	42100	Pu-238	1.49E-09	2.68E-16	4.39E-17	3.12E-16
NW	42100	Pu-239	3.30E-08	5.94E-15	9.72E-16	6.91E-15
NW	42100	Pu-240	7.72E-09	1.39E-15	2.27E-16	1.62E-15
NW	42100	Pu-241	2.08E-08	3.75E-15	6.13E-16	4.36E-15
NW	42100	Sb-125	9.07E-08	1.63E-14	2.67E-15	1.90E-14
NW	42100	Sm-151	3.33E-11	5.99E-18	9.79E-19	6.97E-18
NW	42100	Sn-126	3.92E-08	7.06E-15	1.16E-15	8.22E-15
NW	42100	Sr-90	5.38E-06	9.68E-13	1.58E-13	1.13E-12
NW	42100	Tc-99	1.31E-04	2.36E-11	3.86E-12	2.75E-11
NW	42100	Th-232	1.65E-17	2.97E-24	4.87E-25	3.46E-24
NW	42100	U-233	3.61E-10	6.50E-17	1.06E-17	7.56E-17
NW	42100	U-234	1.06E-10	1.91E-17	3.12E-18	2.22E-17

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NW	42100	U-235	4.29E-12	7.72E-19	1.26E-19	8.98E-19
NW	42100	U-236	3.51E-12	6.31E-19	1.03E-19	7.35E-19
NW	42100	U-238	9.51E-11	1.71E-17	2.80E-18	1.99E-17
NW	42100	Y-90	4.96E-06	8.93E-13	1.48E-13	1.04E-12
NW	42100	Ru-106	2.04E-14	3.66E-21	6.00E-22	4.26E-21
NW	42100	Cs-134	5.12E-13	9.21E-20	1.51E-20	1.07E-19
NW	42100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NW	42100	Pu-242	1.20E-12	2.15E-19	3.52E-20	2.50E-19
NW	42100	Ra-226	1.09E-11	1.96E-18	3.21E-19	2.29E-18
NW	42100	U-232	6.68E-12	1.20E-18	1.97E-19	1.40E-18
NW	42100	Pa-231	1.49E-17	2.69E-24	4.40E-25	3.13E-24
NW	42100	Ni-59	5.38E-10	9.68E-17	1.58E-17	1.13E-16
NW	42100	Ac-227	1.08E-10	1.94E-17	3.18E-18	2.26E-17
NW	42100	Am-243	1.61E-10	2.89E-17	4.73E-18	3.36E-17
NW	42100	Ra-228	6.68E-10	1.20E-16	1.97E-17	1.40E-16
NW	42100	Cm-242	9.78E-09	1.76E-15	2.88E-16	2.05E-15
NW	42100	Th-229	7.48E-18	1.35E-24	2.20E-25	1.57E-24
NW	42100	Zr-93	7.04E-14	1.27E-20	2.07E-21	1.47E-20
NW	42100	Nb-93m	1.20E-13	2.16E-20	3.53E-21	2.51E-20
NW	42100	Cd-113m	6.36E-08	1.15E-14	1.87E-15	1.33E-14
NW	42100	Se-79	7.64E-07	1.37E-13	2.25E-14	1.60E-13
NW	48100	Am-241	2.27E-07	4.09E-14	6.95E-15	4.78E-14
NW	48100	C-14	2.12E-04	0.00E+00	0.00E+00	0.00E+00
NW	48100	Co-60	2.17E-15	3.90E-22	6.63E-23	4.56E-22
NW	48100	Cm-243	5.68E-10	1.02E-16	1.74E-17	1.20E-16
NW	48100	Cm-244	9.80E-09	1.76E-15	3.00E-16	2.06E-15
NW	48100	Cs-137	2.88E-06	5.19E-13	8.83E-14	6.08E-13
NW	48100	Eu-152	4.62E-15	8.32E-22	1.42E-22	9.74E-22
NW	48100	Eu-154	2.67E-14	4.81E-21	8.18E-22	5.63E-21
NW	48100	Eu-155	9.86E-15	1.78E-21	3.02E-22	2.08E-21
NW	48100	H-3	9.22E-04	0.00E+00	0.00E+00	0.00E+00
NW	48100	I-129	7.30E-12	2.56E-17	1.29E-18	2.69E-17
NW	48100	Ni-63	3.31E-08	5.96E-15	1.01E-15	6.97E-15
NW	48100	Np-237	8.42E-10	1.52E-16	2.58E-17	1.77E-16
NW	48100	Pu-238	1.22E-09	2.19E-16	3.73E-17	2.56E-16
NW	48100	Pu-239	2.69E-08	4.85E-15	8.25E-16	5.67E-15
NW	48100	Pu-240	6.30E-09	1.13E-15	1.93E-16	1.33E-15
NW	48100	Pu-241	1.70E-08	3.06E-15	5.20E-16	3.58E-15
NW	48100	Sb-125	7.40E-08	1.33E-14	2.27E-15	1.56E-14
NW	48100	Sm-151	2.72E-11	4.89E-18	8.31E-19	5.72E-18
NW	48100	Sn-126	3.20E-08	5.77E-15	9.81E-16	6.75E-15
NW	48100	Sr-90	4.39E-06	7.90E-13	1.34E-13	9.25E-13
NW	48100	Tc-99	1.07E-04	1.93E-11	3.28E-12	2.26E-11
NW	48100	Th-232	1.35E-17	2.43E-24	4.13E-25	2.84E-24
NW	48100	U-233	2.95E-10	5.31E-17	9.03E-18	6.21E-17
NW	48100	U-234	8.65E-11	1.56E-17	2.65E-18	1.82E-17
NW	48100	U-235	3.50E-12	6.30E-19	1.07E-19	7.37E-19

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NW	48100	U-236	2.86E-12	5.15E-19	8.77E-20	6.03E-19
NW	48100	U-238	7.76E-11	1.40E-17	2.38E-18	1.64E-17
NW	48100	Y-90	4.01E-06	7.21E-13	1.24E-13	8.45E-13
NW	48100	Ru-106	1.66E-14	2.99E-21	5.09E-22	3.50E-21
NW	48100	Cs-134	4.18E-13	7.52E-20	1.28E-20	8.80E-20
NW	48100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NW	48100	Pu-242	9.76E-13	1.76E-19	2.99E-20	2.06E-19
NW	48100	Ra-226	8.91E-12	1.60E-18	2.73E-19	1.88E-18
NW	48100	U-232	5.45E-12	9.81E-19	1.67E-19	1.15E-18
NW	48100	Pa-231	1.22E-17	2.20E-24	3.74E-25	2.57E-24
NW	48100	Ni-59	4.39E-10	7.90E-17	1.34E-17	9.25E-17
NW	48100	Ac-227	8.80E-11	1.58E-17	2.70E-18	1.85E-17
NW	48100	Am-243	1.31E-10	2.36E-17	4.01E-18	2.76E-17
NW	48100	Ra-228	5.45E-10	9.81E-17	1.67E-17	1.15E-16
NW	48100	Cm-242	7.99E-09	1.44E-15	2.45E-16	1.68E-15
NW	48100	Th-229	6.11E-18	1.10E-24	1.87E-25	1.29E-24
NW	48100	Zr-93	5.75E-14	1.03E-20	1.76E-21	1.21E-20
NW	48100	Nb-93m	9.80E-14	1.76E-20	3.00E-21	2.06E-20
NW	48100	Cd-113m	5.20E-08	9.35E-15	1.59E-15	1.09E-14
NW	48100	Se-79	6.24E-07	1.12E-13	1.91E-14	1.31E-13
NW	54100	Am-241	1.84E-07	3.31E-14	5.93E-15	3.90E-14
NW	54100	C-14	1.85E-04	0.00E+00	0.00E+00	0.00E+00
NW	54100	Co-60	1.76E-15	3.16E-22	5.66E-23	3.73E-22
NW	54100	Cm-243	4.61E-10	8.29E-17	1.48E-17	9.78E-17
NW	54100	Cm-244	7.94E-09	1.43E-15	2.56E-16	1.69E-15
NW	54100	Cs-137	2.34E-06	4.21E-13	7.54E-14	4.96E-13
NW	54100	Eu-152	3.75E-15	6.75E-22	1.21E-22	7.95E-22
NW	54100	Eu-154	2.17E-14	3.90E-21	6.98E-22	4.60E-21
NW	54100	Eu-155	7.99E-15	1.44E-21	2.58E-22	1.70E-21
NW	54100	H-3	8.07E-04	0.00E+00	0.00E+00	0.00E+00
NW	54100	I-129	5.71E-12	2.00E-17	1.03E-18	2.10E-17
NW	54100	Ni-63	2.68E-08	4.83E-15	8.64E-16	5.69E-15
NW	54100	Np-237	6.83E-10	1.23E-16	2.20E-17	1.45E-16
NW	54100	Pu-238	9.87E-10	1.78E-16	3.18E-17	2.09E-16
NW	54100	Pu-239	2.18E-08	3.93E-15	7.04E-16	4.63E-15
NW	54100	Pu-240	5.11E-09	9.19E-16	1.65E-16	1.08E-15
NW	54100	Pu-241	1.38E-08	2.48E-15	4.44E-16	2.92E-15
NW	54100	Sb-125	6.00E-08	1.08E-14	1.93E-15	1.27E-14
NW	54100	Sm-151	2.20E-11	3.96E-18	7.09E-19	4.67E-18
NW	54100	Sn-126	2.60E-08	4.67E-15	8.37E-16	5.51E-15
NW	54100	Sr-90	3.56E-06	6.41E-13	1.15E-13	7.55E-13
NW	54100	Tc-99	8.68E-05	1.56E-11	2.80E-12	1.84E-11
NW	54100	Th-232	1.09E-17	1.97E-24	3.52E-25	2.32E-24
NW	54100	U-233	2.39E-10	4.30E-17	7.70E-18	5.07E-17
NW	54100	U-234	7.02E-11	1.26E-17	2.26E-18	1.49E-17
NW	54100	U-235	2.84E-12	5.11E-19	9.14E-20	6.02E-19
NW	54100	U-236	2.32E-12	4.18E-19	7.48E-20	4.93E-19

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NW	54100	U-238	6.29E-11	1.13E-17	2.03E-18	1.34E-17
NW	54100	Y-90	3.21E-06	5.78E-13	1.05E-13	6.83E-13
NW	54100	Ru-106	1.35E-14	2.42E-21	4.34E-22	2.86E-21
NW	54100	Cs-134	3.39E-13	6.10E-20	1.09E-20	7.19E-20
NW	54100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NW	54100	Pu-242	7.91E-13	1.42E-19	2.55E-20	1.68E-19
NW	54100	Ra-226	7.22E-12	1.30E-18	2.33E-19	1.53E-18
NW	54100	U-232	4.42E-12	7.95E-19	1.42E-19	9.38E-19
NW	54100	Pa-231	9.89E-18	1.78E-24	3.19E-25	2.10E-24
NW	54100	Ni-59	3.56E-10	6.41E-17	1.15E-17	7.55E-17
NW	54100	Ac-227	7.14E-11	1.28E-17	2.30E-18	1.51E-17
NW	54100	Am-243	1.06E-10	1.91E-17	3.42E-18	2.26E-17
NW	54100	Ra-228	4.42E-10	7.95E-17	1.42E-17	9.38E-17
NW	54100	Cm-242	6.47E-09	1.16E-15	2.09E-16	1.37E-15
NW	54100	Th-229	4.95E-18	8.91E-25	1.60E-25	1.05E-24
NW	54100	Zr-93	4.66E-14	8.39E-21	1.50E-21	9.89E-21
NW	54100	Nb-93m	7.94E-14	1.43E-20	2.56E-21	1.69E-20
NW	54100	Cd-113m	4.21E-08	7.58E-15	1.36E-15	8.94E-15
NW	54100	Se-79	5.06E-07	9.10E-14	1.63E-14	1.07E-13
NW	60100	Am-241	1.12E-07	2.01E-14	4.73E-15	2.48E-14
NW	60100	C-14	1.65E-04	0.00E+00	0.00E+00	0.00E+00
NW	60100	Co-60	1.06E-15	1.92E-22	4.51E-23	2.37E-22
NW	60100	Cm-243	2.79E-10	5.03E-17	1.18E-17	6.21E-17
NW	60100	Cm-244	4.82E-09	8.67E-16	2.04E-16	1.07E-15
NW	60100	Cs-137	1.42E-06	2.55E-13	6.01E-14	3.15E-13
NW	60100	Eu-152	2.27E-15	4.09E-22	9.64E-23	5.05E-22
NW	60100	Eu-154	1.31E-14	2.36E-21	5.57E-22	2.92E-21
NW	60100	Eu-155	4.85E-15	8.72E-22	2.06E-22	1.08E-21
NW	60100	H-3	7.16E-04	0.00E+00	0.00E+00	0.00E+00
NW	60100	I-129	4.54E-12	1.59E-17	8.28E-19	1.67E-17
NW	60100	Ni-63	1.63E-08	2.93E-15	6.90E-16	3.62E-15
NW	60100	Np-237	4.14E-10	7.45E-17	1.76E-17	9.21E-17
NW	60100	Pu-238	5.98E-10	1.08E-16	2.54E-17	1.33E-16
NW	60100	Pu-239	1.32E-08	2.38E-15	5.61E-16	2.94E-15
NW	60100	Pu-240	3.10E-09	5.57E-16	1.31E-16	6.89E-16
NW	60100	Pu-241	8.35E-09	1.50E-15	3.54E-16	1.86E-15
NW	60100	Sb-125	3.64E-08	6.55E-15	1.54E-15	8.09E-15
NW	60100	Sm-151	1.33E-11	2.40E-18	5.66E-19	2.97E-18
NW	60100	Sn-126	1.57E-08	2.83E-15	6.68E-16	3.50E-15
NW	60100	Sr-90	2.16E-06	3.88E-13	9.15E-14	4.80E-13
NW	60100	Tc-99	5.26E-05	9.48E-12	2.23E-12	1.17E-11
NW	60100	Th-232	6.63E-18	1.19E-24	2.81E-25	1.47E-24
NW	60100	U-233	1.45E-10	2.61E-17	6.14E-18	3.22E-17
NW	60100	U-234	4.25E-11	7.66E-18	1.80E-18	9.46E-18
NW	60100	U-235	1.72E-12	3.10E-19	7.29E-20	3.83E-19
NW	60100	U-236	1.41E-12	2.53E-19	5.97E-20	3.13E-19
NW	60100	U-238	3.82E-11	6.87E-18	1.62E-18	8.49E-18

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NW	60100	Y-90	1.93E-06	3.48E-13	8.29E-14	4.31E-13
NW	60100	Ru-106	8.17E-15	1.47E-21	3.46E-22	1.82E-21
NW	60100	Cs-134	2.05E-13	3.70E-20	8.71E-21	4.57E-20
NW	60100	Ba-137m	2.52E-20	4.53E-27	1.16E-28	4.65E-27
NW	60100	Pu-242	4.80E-13	8.63E-20	2.03E-20	1.07E-19
NW	60100	Ra-226	4.38E-12	7.88E-19	1.86E-19	9.74E-19
NW	60100	U-232	2.68E-12	4.82E-19	1.14E-19	5.96E-19
NW	60100	Pa-231	5.99E-18	1.08E-24	2.54E-25	1.33E-24
NW	60100	Ni-59	2.16E-10	3.88E-17	9.15E-18	4.80E-17
NW	60100	Ac-227	4.33E-11	7.79E-18	1.83E-18	9.62E-18
NW	60100	Am-243	6.44E-11	1.16E-17	2.73E-18	1.43E-17
NW	60100	Ra-228	2.68E-10	4.82E-17	1.14E-17	5.96E-17
NW	60100	Cm-242	3.92E-09	7.06E-16	1.66E-16	8.73E-16
NW	60100	Th-229	3.00E-18	5.40E-25	1.27E-25	6.68E-25
NW	60100	Zr-93	2.83E-14	5.09E-21	1.20E-21	6.28E-21
NW	60100	Nb-93m	4.82E-14	8.67E-21	2.04E-21	1.07E-20
NW	60100	Cd-113m	2.55E-08	4.60E-15	1.08E-15	5.68E-15
NW	60100	Se-79	3.07E-07	5.52E-14	1.30E-14	6.82E-14
NW	66100	Am-241	9.70E-08	1.75E-14	4.22E-15	2.17E-14
NW	66100	C-14	1.48E-04	0.00E+00	0.00E+00	0.00E+00
NW	66100	Co-60	9.25E-16	1.67E-22	4.03E-23	2.07E-22
NW	66100	Cm-243	2.43E-10	4.37E-17	1.06E-17	5.43E-17
NW	66100	Cm-244	4.19E-09	7.54E-16	1.82E-16	9.36E-16
NW	66100	Cs-137	1.23E-06	2.22E-13	5.36E-14	2.76E-13
NW	66100	Eu-152	1.98E-15	3.56E-22	8.60E-23	4.42E-22
NW	66100	Eu-154	1.14E-14	2.06E-21	4.97E-22	2.55E-21
NW	66100	Eu-155	4.21E-15	7.59E-22	1.83E-22	9.42E-22
NW	66100	H-3	6.43E-04	0.00E+00	0.00E+00	0.00E+00
NW	66100	I-129	3.71E-12	1.30E-17	6.78E-19	1.33E-17
NW	66100	Ni-63	1.41E-08	2.55E-15	6.15E-16	3.16E-15
NW	66100	Np-237	3.60E-10	6.48E-17	1.57E-17	8.04E-17
NW	66100	Pu-238	5.20E-10	9.37E-17	2.26E-17	1.16E-16
NW	66100	Pu-239	1.15E-08	2.07E-15	5.01E-16	2.57E-15
NW	66100	Pu-240	2.69E-09	4.85E-16	1.17E-16	6.02E-16
NW	66100	Pu-241	7.26E-09	1.31E-15	3.16E-16	1.62E-15
NW	66100	Sb-125	3.16E-08	5.69E-15	1.38E-15	7.07E-15
NW	66100	Sm-151	1.16E-11	2.09E-18	5.05E-19	2.59E-18
NW	66100	Sn-126	1.37E-08	2.46E-15	5.96E-16	3.06E-15
NW	66100	Sr-90	1.88E-06	3.38E-13	8.16E-14	4.19E-13
NW	66100	Tc-99	4.58E-05	8.24E-12	1.99E-12	1.02E-11
NW	66100	Th-232	5.77E-18	1.04E-24	2.51E-25	1.29E-24
NW	66100	U-233	1.26E-10	2.27E-17	5.48E-18	2.82E-17
NW	66100	U-234	3.70E-11	6.66E-18	1.61E-18	8.27E-18
NW	66100	U-235	1.50E-12	2.69E-19	6.51E-20	3.34E-19
NW	66100	U-236	1.22E-12	2.20E-19	5.32E-20	2.74E-19
NW	66100	U-238	3.32E-11	5.97E-18	1.44E-18	7.42E-18
NW	66100	Y-90	1.66E-06	2.99E-13	7.32E-14	3.72E-13

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NW	66100	Ru-106	7.10E-15	1.28E-21	3.09E-22	1.59E-21
NW	66100	Cs-134	1.79E-13	3.21E-20	7.77E-21	3.99E-20
NW	66100	Ba-137m	1.44E-19	2.59E-26	1.56E-27	2.75E-26
NW	66100	Pu-242	4.17E-13	7.51E-20	1.81E-20	9.32E-20
NW	66100	Ra-226	3.81E-12	6.85E-19	1.66E-19	8.51E-19
NW	66100	U-232	2.33E-12	4.19E-19	1.01E-19	5.21E-19
NW	66100	Pa-231	5.21E-18	9.38E-25	2.27E-25	1.17E-24
NW	66100	Ni-59	1.88E-10	3.38E-17	8.16E-18	4.19E-17
NW	66100	Ac-227	3.76E-11	6.77E-18	1.64E-18	8.41E-18
NW	66100	Am-243	5.60E-11	1.01E-17	2.44E-18	1.25E-17
NW	66100	Ra-228	2.33E-10	4.19E-17	1.01E-17	5.21E-17
NW	66100	Cm-242	3.41E-09	6.14E-16	1.48E-16	7.62E-16
NW	66100	Th-229	2.61E-18	4.70E-25	1.14E-25	5.84E-25
NW	66100	Zr-93	2.46E-14	4.42E-21	1.07E-21	5.49E-21
NW	66100	Nb-93m	4.19E-14	7.54E-21	1.82E-21	9.36E-21
NW	66100	Cd-113m	2.22E-08	4.00E-15	9.66E-16	4.96E-15
NW	66100	Se-79	2.67E-07	4.80E-14	1.16E-14	5.96E-14
WNW	12100	Am-241	1.17E-06	2.11E-13	3.00E-14	2.41E-13
WNW	12100	C-14	6.84E-04	0.00E+00	0.00E+00	0.00E+00
WNW	12100	Co-60	1.12E-14	2.01E-21	2.86E-22	2.30E-21
WNW	12100	Cm-243	2.93E-09	5.28E-16	7.51E-17	6.03E-16
WNW	12100	Cm-244	5.06E-08	9.10E-15	1.29E-15	1.04E-14
WNW	12100	Cs-137	1.49E-05	2.68E-12	3.81E-13	3.06E-12
WNW	12100	Eu-152	2.39E-14	4.29E-21	6.10E-22	4.91E-21
WNW	12100	Eu-154	1.38E-13	2.48E-20	3.53E-21	2.84E-20
WNW	12100	Eu-155	5.09E-14	9.16E-21	1.30E-21	1.05E-20
WNW	12100	H-3	2.97E-03	0.00E+00	0.00E+00	0.00E+00
WNW	12100	I-129	8.57E-11	3.00E-16	1.06E-17	3.11E-16
WNW	12100	Ni-63	1.71E-07	3.07E-14	4.37E-15	3.51E-14
WNW	12100	Np-237	4.35E-09	7.82E-16	1.11E-16	8.93E-16
WNW	12100	Pu-238	6.28E-09	1.13E-15	1.61E-16	1.29E-15
WNW	12100	Pu-239	1.39E-07	2.50E-14	3.56E-15	2.86E-14
WNW	12100	Pu-240	3.25E-08	5.85E-15	8.32E-16	6.68E-15
WNW	12100	Pu-241	8.77E-08	1.58E-14	2.24E-15	1.80E-14
WNW	12100	Sb-125	3.82E-07	6.88E-14	9.77E-15	7.85E-14
WNW	12100	Sm-151	1.40E-10	2.52E-17	3.58E-18	2.88E-17
WNW	12100	Sn-126	1.65E-07	2.97E-14	4.23E-15	3.40E-14
WNW	12100	Sr-90	2.27E-05	4.08E-12	5.80E-13	4.66E-12
WNW	12100	Tc-99	5.53E-04	9.95E-11	1.41E-11	1.14E-10
WNW	12100	Th-232	6.96E-17	1.25E-23	1.78E-24	1.43E-23
WNW	12100	U-233	1.52E-09	2.74E-16	3.89E-17	3.13E-16
WNW	12100	U-234	4.47E-10	8.04E-17	1.14E-17	9.18E-17
WNW	12100	U-235	1.81E-11	3.25E-18	4.62E-19	3.71E-18
WNW	12100	U-236	1.48E-11	2.66E-18	3.78E-19	3.04E-18
WNW	12100	U-238	4.01E-10	7.21E-17	1.02E-17	8.24E-17
WNW	12100	Y-90	2.20E-05	3.97E-12	5.66E-13	4.53E-12
WNW	12100	Ru-106	8.58E-14	1.54E-20	2.20E-21	1.76E-20

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WNW	12100	Cs-134	2.16E-12	3.88E-19	5.52E-20	4.43E-19
WNW	12100	Ba-137m	1.86E-17	3.34E-24	2.06E-24	5.40E-24
WNW	12100	Pu-242	5.03E-12	9.06E-19	1.29E-19	1.04E-18
WNW	12100	Ra-226	4.60E-11	8.27E-18	1.18E-18	9.45E-18
WNW	12100	U-232	2.81E-11	5.06E-18	7.20E-19	5.78E-18
WNW	12100	Pa-231	6.29E-17	1.13E-23	1.61E-24	1.29E-23
WNW	12100	Ni-59	2.27E-09	4.08E-16	5.80E-17	4.66E-16
WNW	12100	Ac-227	4.54E-10	8.18E-17	1.16E-17	9.34E-17
WNW	12100	Am-243	6.76E-10	1.22E-16	1.73E-17	1.39E-16
WNW	12100	Ra-228	2.81E-09	5.06E-16	7.20E-17	5.78E-16
WNW	12100	Cm-242	4.12E-08	7.42E-15	1.06E-15	8.48E-15
WNW	12100	Th-229	3.15E-17	5.67E-24	8.07E-25	6.48E-24
WNW	12100	Zr-93	2.97E-13	5.34E-20	7.59E-21	6.10E-20
WNW	12100	Nb-93m	5.06E-13	9.10E-20	1.29E-20	1.04E-19
WNW	12100	Cd-113m	2.68E-07	4.83E-14	6.86E-15	5.51E-14
WNW	12100	Se-79	3.22E-06	5.79E-13	8.23E-14	6.62E-13
WNW	16100	Am-241	7.93E-07	1.43E-13	2.19E-14	1.65E-13
WNW	16100	C-14	4.88E-04	0.00E+00	0.00E+00	0.00E+00
WNW	16100	Co-60	7.57E-15	1.36E-21	2.09E-22	1.57E-21
WNW	16100	Cm-243	1.99E-09	3.58E-16	5.50E-17	4.13E-16
WNW	16100	Cm-244	3.43E-08	6.17E-15	9.48E-16	7.11E-15
WNW	16100	Cs-137	1.01E-05	1.81E-12	2.79E-13	2.09E-12
WNW	16100	Eu-152	1.62E-14	2.91E-21	4.47E-22	3.36E-21
WNW	16100	Eu-154	9.34E-14	1.68E-20	2.58E-21	1.94E-20
WNW	16100	Eu-155	3.45E-14	6.21E-21	9.54E-22	7.16E-21
WNW	16100	H-3	2.12E-03	0.00E+00	0.00E+00	0.00E+00
WNW	16100	I-129	5.03E-11	1.76E-16	7.19E-18	1.83E-16
WNW	16100	Ni-63	1.16E-07	2.08E-14	3.20E-15	2.40E-14
WNW	16100	Np-237	2.94E-09	5.30E-16	8.14E-17	6.11E-16
WNW	16100	Pu-238	4.26E-09	7.66E-16	1.18E-16	8.84E-16
WNW	16100	Pu-239	9.42E-08	1.69E-14	2.61E-15	1.96E-14
WNW	16100	Pu-240	2.20E-08	3.96E-15	6.09E-16	4.57E-15
WNW	16100	Pu-241	5.94E-08	1.07E-14	1.64E-15	1.23E-14
WNW	16100	Sb-125	2.59E-07	4.66E-14	7.16E-15	5.37E-14
WNW	16100	Sm-151	9.49E-11	1.71E-17	2.63E-18	1.97E-17
WNW	16100	Sn-126	1.12E-07	2.02E-14	3.10E-15	2.32E-14
WNW	16100	Sr-90	1.53E-05	2.76E-12	4.25E-13	3.19E-12
WNW	16100	Tc-99	3.74E-04	6.74E-11	1.04E-11	7.78E-11
WNW	16100	Th-232	4.72E-17	8.49E-24	1.30E-24	9.79E-24
WNW	16100	U-233	1.03E-09	1.85E-16	2.85E-17	2.14E-16
WNW	16100	U-234	3.02E-10	5.44E-17	8.37E-18	6.28E-17
WNW	16100	U-235	1.22E-11	2.20E-18	3.38E-19	2.54E-18
WNW	16100	U-236	1.00E-11	1.80E-18	2.77E-19	2.08E-18
WNW	16100	U-238	2.71E-10	4.88E-17	7.51E-18	5.64E-17
WNW	16100	Y-90	1.48E-05	2.66E-12	4.11E-13	3.07E-12
WNW	16100	Ru-106	5.81E-14	1.05E-20	1.61E-21	1.21E-20
WNW	16100	Cs-134	1.46E-12	2.63E-19	4.04E-20	3.03E-19

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WNW	16100	Ba-137m	1.39E-16	2.50E-23	3.55E-24	2.85E-23
WNW	16100	Pu-242	3.41E-12	6.14E-19	9.44E-20	7.08E-19
WNW	16100	Ra-226	3.11E-11	5.60E-18	8.62E-19	6.47E-18
WNW	16100	U-232	1.91E-11	3.43E-18	5.27E-19	3.96E-18
WNW	16100	Pa-231	4.26E-17	7.67E-24	1.18E-24	8.85E-24
WNW	16100	Ni-59	1.53E-09	2.76E-16	4.25E-17	3.19E-16
WNW	16100	Ac-227	3.08E-10	5.54E-17	8.51E-18	6.39E-17
WNW	16100	Am-243	4.58E-10	8.25E-17	1.27E-17	9.51E-17
WNW	16100	Ra-228	1.91E-09	3.43E-16	5.27E-17	3.96E-16
WNW	16100	Cm-242	2.79E-08	5.03E-15	7.73E-16	5.80E-15
WNW	16100	Th-229	2.14E-17	3.84E-24	5.91E-25	4.43E-24
WNW	16100	Zr-93	2.01E-13	3.62E-20	5.56E-21	4.17E-20
WNW	16100	Nb-93m	3.43E-13	6.17E-20	9.48E-21	7.11E-20
WNW	16100	Cd-113m	1.82E-07	3.27E-14	5.03E-15	3.77E-14
WNW	16100	Se-79	2.18E-06	3.92E-13	6.03E-14	4.53E-13
WNW	24100	Am-241	4.06E-07	7.31E-14	1.35E-14	8.66E-14
WNW	24100	C-14	3.04E-04	0.00E+00	0.00E+00	0.00E+00
WNW	24100	Co-60	3.87E-15	6.97E-22	1.29E-22	8.27E-22
WNW	24100	Cm-243	1.02E-09	1.83E-16	3.39E-17	2.17E-16
WNW	24100	Cm-244	1.75E-08	3.16E-15	5.84E-16	3.74E-15
WNW	24100	Cs-137	5.16E-06	9.29E-13	1.72E-13	1.10E-12
WNW	24100	Eu-152	8.27E-15	1.49E-21	2.76E-22	1.76E-21
WNW	24100	Eu-154	4.78E-14	8.61E-21	1.59E-21	1.02E-20
WNW	24100	Eu-155	1.76E-14	3.18E-21	5.88E-22	3.76E-21
WNW	24100	H-3	1.32E-03	0.00E+00	0.00E+00	0.00E+00
WNW	24100	I-129	2.28E-11	7.98E-17	3.95E-18	8.37E-17
WNW	24100	Ni-63	5.92E-08	1.07E-14	1.97E-15	1.26E-14
WNW	24100	Np-237	1.51E-09	2.71E-16	5.02E-17	3.21E-16
WNW	24100	Pu-238	2.18E-09	3.92E-16	7.26E-17	4.65E-16
WNW	24100	Pu-239	4.82E-08	8.68E-15	1.61E-15	1.03E-14
WNW	24100	Pu-240	1.13E-08	2.03E-15	3.75E-16	2.40E-15
WNW	24100	Pu-241	3.04E-08	5.47E-15	1.01E-15	6.48E-15
WNW	24100	Sb-125	1.32E-07	2.38E-14	4.41E-15	2.83E-14
WNW	24100	Sm-151	4.86E-11	8.74E-18	1.62E-18	1.04E-17
WNW	24100	Sn-126	5.73E-08	1.03E-14	1.91E-15	1.22E-14
WNW	24100	Sr-90	7.86E-06	1.41E-12	2.62E-13	1.68E-12
WNW	24100	Tc-99	1.92E-04	3.45E-11	6.38E-12	4.09E-11
WNW	24100	Th-232	2.41E-17	4.34E-24	8.04E-25	5.15E-24
WNW	24100	U-233	5.28E-10	9.50E-17	1.76E-17	1.13E-16
WNW	24100	U-234	1.55E-10	2.79E-17	5.16E-18	3.30E-17
WNW	24100	U-235	6.26E-12	1.13E-18	2.09E-19	1.34E-18
WNW	24100	U-236	5.12E-12	9.22E-19	1.71E-19	1.09E-18
WNW	24100	U-238	1.39E-10	2.50E-17	4.63E-18	2.96E-17
WNW	24100	Y-90	7.44E-06	1.34E-12	2.50E-13	1.59E-12
WNW	24100	Ru-106	2.97E-14	5.35E-21	9.91E-22	6.34E-21
WNW	24100	Cs-134	7.48E-13	1.35E-19	2.49E-20	1.59E-19
WNW	24100	Ba-137m	4.22E-18	7.60E-25	7.85E-25	1.55E-24

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WNW	24100	Pu-242	1.75E-12	3.14E-19	5.82E-20	3.72E-19
WNW	24100	Ra-226	1.59E-11	2.87E-18	5.31E-19	3.40E-18
WNW	24100	U-232	9.75E-12	1.76E-18	3.25E-19	2.08E-18
WNW	24100	Pa-231	2.18E-17	3.93E-24	7.27E-25	4.66E-24
WNW	24100	Ni-59	7.86E-10	1.41E-16	2.62E-17	1.68E-16
WNW	24100	Ac-227	1.58E-10	2.84E-17	5.25E-18	3.36E-17
WNW	24100	Am-243	2.35E-10	4.22E-17	7.81E-18	5.00E-17
WNW	24100	Ra-228	9.75E-10	1.76E-16	3.25E-17	2.08E-16
WNW	24100	Cm-242	1.43E-08	2.57E-15	4.76E-16	3.05E-15
WNW	24100	Th-229	1.09E-17	1.97E-24	3.64E-25	2.33E-24
WNW	24100	Zr-93	1.03E-13	1.85E-20	3.43E-21	2.19E-20
WNW	24100	Nb-93m	1.75E-13	3.16E-20	5.84E-21	3.74E-20
WNW	24100	Cd-113m	9.30E-08	1.67E-14	3.10E-15	1.98E-14
WNW	24100	Se-79	1.12E-06	2.01E-13	3.72E-14	2.38E-13
WNW	30100	Am-241	2.70E-07	4.86E-14	1.04E-14	5.89E-14
WNW	30100	C-14	2.35E-04	0.00E+00	0.00E+00	0.00E+00
WNW	30100	Co-60	2.57E-15	4.63E-22	9.89E-23	5.62E-22
WNW	30100	Cm-243	6.76E-10	1.22E-16	2.60E-17	1.48E-16
WNW	30100	Cm-244	1.17E-08	2.10E-15	4.48E-16	2.55E-15
WNW	30100	Cs-137	3.43E-06	6.17E-13	1.32E-13	7.49E-13
WNW	30100	Eu-152	5.50E-15	9.90E-22	2.11E-22	1.20E-21
WNW	30100	Eu-154	3.18E-14	5.72E-21	1.22E-21	6.94E-21
WNW	30100	Eu-155	1.17E-14	2.11E-21	4.51E-22	2.56E-21
WNW	30100	H-3	1.02E-03	0.00E+00	0.00E+00	0.00E+00
WNW	30100	I-129	1.57E-11	5.51E-17	2.79E-18	5.79E-17
WNW	30100	Ni-63	3.93E-08	7.08E-15	1.51E-15	8.59E-15
WNW	30100	Np-237	1.00E-09	1.80E-16	3.85E-17	2.19E-16
WNW	30100	Pu-238	1.45E-09	2.61E-16	5.56E-17	3.16E-16
WNW	30100	Pu-239	3.20E-08	5.77E-15	1.23E-15	7.00E-15
WNW	30100	Pu-240	7.49E-09	1.35E-15	2.88E-16	1.64E-15
WNW	30100	Pu-241	2.02E-08	3.64E-15	7.76E-16	4.41E-15
WNW	30100	Sb-125	8.80E-08	1.58E-14	3.38E-15	1.92E-14
WNW	30100	Sm-151	3.23E-11	5.81E-18	1.24E-18	7.05E-18
WNW	30100	Sn-126	3.81E-08	6.85E-15	1.46E-15	8.32E-15
WNW	30100	Sr-90	5.22E-06	9.40E-13	2.01E-13	1.14E-12
WNW	30100	Tc-99	1.27E-04	2.29E-11	4.89E-12	2.78E-11
WNW	30100	Th-232	1.60E-17	2.89E-24	6.16E-25	3.50E-24
WNW	30100	U-233	3.51E-10	6.31E-17	1.35E-17	7.66E-17
WNW	30100	U-234	1.03E-10	1.85E-17	3.95E-18	2.25E-17
WNW	30100	U-235	4.16E-12	7.49E-19	1.60E-19	9.09E-19
WNW	30100	U-236	3.40E-12	6.13E-19	1.31E-19	7.44E-19
WNW	30100	U-238	9.23E-11	1.66E-17	3.55E-18	2.02E-17
WNW	30100	Y-90	4.88E-06	8.79E-13	1.89E-13	1.07E-12
WNW	30100	Ru-106	1.98E-14	3.56E-21	7.60E-22	4.32E-21
WNW	30100	Cs-134	4.97E-13	8.94E-20	1.91E-20	1.08E-19
WNW	30100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
WNW	30100	Pu-242	1.16E-12	2.09E-19	4.46E-20	2.53E-19

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WNW	30100	Ra-226	1.06E-11	1.91E-18	4.07E-19	2.31E-18
WNW	30100	U-232	6.48E-12	1.17E-18	2.49E-19	1.42E-18
WNW	30100	Pa-231	1.45E-17	2.61E-24	5.57E-25	3.17E-24
WNW	30100	Ni-59	5.22E-10	9.40E-17	2.01E-17	1.14E-16
WNW	30100	Ac-227	1.05E-10	1.88E-17	4.02E-18	2.29E-17
WNW	30100	Am-243	1.56E-10	2.81E-17	5.99E-18	3.40E-17
WNW	30100	Ra-228	6.48E-10	1.17E-16	2.49E-17	1.42E-16
WNW	30100	Cm-242	9.50E-09	1.71E-15	3.65E-16	2.07E-15
WNW	30100	Th-229	7.26E-18	1.31E-24	2.79E-25	1.59E-24
WNW	30100	Zr-93	6.83E-14	1.23E-20	2.63E-21	1.49E-20
WNW	30100	Nb-93m	1.17E-13	2.10E-20	4.48E-21	2.55E-20
WNW	30100	Cd-113m	6.18E-08	1.11E-14	2.37E-15	1.35E-14
WNW	30100	Se-79	7.41E-07	1.33E-13	2.85E-14	1.62E-13
WNW	36100	Am-241	2.10E-07	3.78E-14	8.45E-15	4.63E-14
WNW	36100	C-14	1.91E-04	0.00E+00	0.00E+00	0.00E+00
WNW	36100	Co-60	2.00E-15	3.61E-22	8.06E-23	4.41E-22
WNW	36100	Cm-243	5.26E-10	9.47E-17	2.12E-17	1.16E-16
WNW	36100	Cm-244	9.07E-09	1.63E-15	3.65E-16	2.00E-15
WNW	36100	Cs-137	2.67E-06	4.81E-13	1.07E-13	5.88E-13
WNW	36100	Eu-152	4.28E-15	7.70E-22	1.72E-22	9.42E-22
WNW	36100	Eu-154	2.47E-14	4.45E-21	9.95E-22	5.45E-21
WNW	36100	Eu-155	9.13E-15	1.64E-21	3.67E-22	2.01E-21
WNW	36100	H-3	8.30E-04	0.00E+00	0.00E+00	0.00E+00
WNW	36100	I-129	1.15E-11	4.02E-17	2.06E-18	4.22E-17
WNW	36100	Ni-63	3.06E-08	5.51E-15	1.23E-15	6.74E-15
WNW	36100	Np-237	7.79E-10	1.40E-16	3.13E-17	1.72E-16
WNW	36100	Pu-238	1.13E-09	2.03E-16	4.53E-17	2.48E-16
WNW	36100	Pu-239	2.49E-08	4.49E-15	1.00E-15	5.49E-15
WNW	36100	Pu-240	5.83E-09	1.05E-15	2.35E-16	1.28E-15
WNW	36100	Pu-241	1.57E-08	2.83E-15	6.32E-16	3.46E-15
WNW	36100	Sb-125	6.85E-08	1.23E-14	2.76E-15	1.51E-14
WNW	36100	Sm-151	2.51E-11	4.52E-18	1.01E-18	5.53E-18
WNW	36100	Sn-126	2.96E-08	5.34E-15	1.19E-15	6.53E-15
WNW	36100	Sr-90	4.06E-06	7.31E-13	1.63E-13	8.95E-13
WNW	36100	Tc-99	9.91E-05	1.78E-11	3.99E-12	2.18E-11
WNW	36100	Th-232	1.25E-17	2.25E-24	5.02E-25	2.75E-24
WNW	36100	U-233	2.73E-10	4.91E-17	1.10E-17	6.01E-17
WNW	36100	U-234	8.01E-11	1.44E-17	3.22E-18	1.76E-17
WNW	36100	U-235	3.24E-12	5.83E-19	1.30E-19	7.13E-19
WNW	36100	U-236	2.65E-12	4.77E-19	1.07E-19	5.84E-19
WNW	36100	U-238	7.19E-11	1.29E-17	2.89E-18	1.58E-17
WNW	36100	Y-90	3.75E-06	6.75E-13	1.52E-13	8.28E-13
WNW	36100	Ru-106	1.54E-14	2.77E-21	6.19E-22	3.39E-21
WNW	36100	Cs-134	3.87E-13	6.96E-20	1.56E-20	8.51E-20
WNW	36100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
WNW	36100	Pu-242	9.03E-13	1.63E-19	3.63E-20	1.99E-19
WNW	36100	Ra-226	8.25E-12	1.48E-18	3.32E-19	1.82E-18

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WNW	36100	U-232	5.05E-12	9.08E-19	2.03E-19	1.11E-18
WNW	36100	Pa-231	1.13E-17	2.03E-24	4.54E-25	2.49E-24
WNW	36100	Ni-59	4.06E-10	7.31E-17	1.63E-17	8.95E-17
WNW	36100	Ac-227	8.15E-11	1.47E-17	3.28E-18	1.79E-17
WNW	36100	Am-243	1.21E-10	2.18E-17	4.88E-18	2.67E-17
WNW	36100	Ra-228	5.04E-10	9.08E-17	2.03E-17	1.11E-16
WNW	36100	Cm-242	7.39E-09	1.33E-15	2.97E-16	1.63E-15
WNW	36100	Th-229	5.65E-18	1.02E-24	2.27E-25	1.25E-24
WNW	36100	Zr-93	5.32E-14	9.58E-21	2.14E-21	1.17E-20
WNW	36100	Nb-93m	9.07E-14	1.63E-20	3.65E-21	2.00E-20
WNW	36100	Cd-113m	4.81E-08	8.66E-15	1.93E-15	1.06E-14
WNW	36100	Se-79	5.77E-07	1.04E-13	2.32E-14	1.27E-13
WNW	42100	Am-241	1.68E-07	3.03E-14	7.06E-15	3.73E-14
WNW	42100	C-14	1.60E-04	0.00E+00	0.00E+00	0.00E+00
WNW	42100	Co-60	1.60E-15	2.89E-22	6.74E-23	3.56E-22
WNW	42100	Cm-243	4.21E-10	7.58E-17	1.77E-17	9.35E-17
WNW	42100	Cm-244	7.26E-09	1.31E-15	3.05E-16	1.61E-15
WNW	42100	Cs-137	2.14E-06	3.85E-13	8.97E-14	4.74E-13
WNW	42100	Eu-152	3.42E-15	6.16E-22	1.44E-22	7.60E-22
WNW	42100	Eu-154	1.98E-14	3.56E-21	8.31E-22	4.39E-21
WNW	42100	Eu-155	7.30E-15	1.31E-21	3.07E-22	1.62E-21
WNW	42100	H-3	6.95E-04	0.00E+00	0.00E+00	0.00E+00
WNW	42100	I-129	8.63E-12	3.02E-17	1.57E-18	3.18E-17
WNW	42100	Ni-63	2.45E-08	4.41E-15	1.03E-15	5.44E-15
WNW	42100	Np-237	6.24E-10	1.12E-16	2.62E-17	1.38E-16
WNW	42100	Pu-238	9.02E-10	1.62E-16	3.79E-17	2.00E-16
WNW	42100	Pu-239	2.00E-08	3.59E-15	8.38E-16	4.43E-15
WNW	42100	Pu-240	4.67E-09	8.40E-16	1.96E-16	1.04E-15
WNW	42100	Pu-241	1.26E-08	2.26E-15	5.29E-16	2.79E-15
WNW	42100	Sb-125	5.48E-08	9.87E-15	2.30E-15	1.22E-14
WNW	42100	Sm-151	2.01E-11	3.62E-18	8.45E-19	4.46E-18
WNW	42100	Sn-126	2.37E-08	4.27E-15	9.96E-16	5.27E-15
WNW	42100	Sr-90	3.25E-06	5.85E-13	1.37E-13	7.22E-13
WNW	42100	Tc-99	7.93E-05	1.43E-11	3.33E-12	1.76E-11
WNW	42100	Th-232	9.99E-18	1.80E-24	4.20E-25	2.22E-24
WNW	42100	U-233	2.18E-10	3.93E-17	9.17E-18	4.85E-17
WNW	42100	U-234	6.41E-11	1.15E-17	2.69E-18	1.42E-17
WNW	42100	U-235	2.59E-12	4.67E-19	1.09E-19	5.75E-19
WNW	42100	U-236	2.12E-12	3.82E-19	8.91E-20	4.71E-19
WNW	42100	U-238	5.75E-11	1.03E-17	2.42E-18	1.28E-17
WNW	42100	Y-90	2.96E-06	5.33E-13	1.26E-13	6.59E-13
WNW	42100	Ru-106	1.23E-14	2.22E-21	5.17E-22	2.73E-21
WNW	42100	Cs-134	3.09E-13	5.57E-20	1.30E-20	6.87E-20
WNW	42100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
WNW	42100	Pu-242	7.23E-13	1.30E-19	3.04E-20	1.60E-19
WNW	42100	Ra-226	6.60E-12	1.19E-18	2.77E-19	1.46E-18
WNW	42100	U-232	4.04E-12	7.27E-19	1.70E-19	8.96E-19

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WNW	42100	Pa-231	9.03E-18	1.63E-24	3.79E-25	2.01E-24
WNW	42100	Ni-59	3.25E-10	5.85E-17	1.37E-17	7.22E-17
WNW	42100	Ac-227	6.52E-11	1.17E-17	2.74E-18	1.45E-17
WNW	42100	Am-243	9.71E-11	1.75E-17	4.08E-18	2.16E-17
WNW	42100	Ra-228	4.04E-10	7.27E-17	1.70E-17	8.96E-17
WNW	42100	Cm-242	5.91E-09	1.06E-15	2.48E-16	1.31E-15
WNW	42100	Th-229	4.52E-18	8.14E-25	1.90E-25	1.00E-24
WNW	42100	Zr-93	4.26E-14	7.66E-21	1.79E-21	9.45E-21
WNW	42100	Nb-93m	7.26E-14	1.31E-20	3.05E-21	1.61E-20
WNW	42100	Cd-113m	3.85E-08	6.93E-15	1.62E-15	8.54E-15
WNW	42100	Se-79	4.62E-07	8.31E-14	1.94E-14	1.03E-13
WNW	48100	Am-241	1.36E-07	2.45E-14	6.00E-15	3.05E-14
WNW	48100	C-14	1.37E-04	0.00E+00	0.00E+00	0.00E+00
WNW	48100	Co-60	1.30E-15	2.34E-22	5.72E-23	2.91E-22
WNW	48100	Cm-243	3.42E-10	6.15E-17	1.50E-17	7.65E-17
WNW	48100	Cm-244	5.89E-09	1.06E-15	2.59E-16	1.32E-15
WNW	48100	Cs-137	1.73E-06	3.12E-13	7.62E-14	3.88E-13
WNW	48100	Eu-152	2.78E-15	5.00E-22	1.22E-22	6.22E-22
WNW	48100	Eu-154	1.61E-14	2.89E-21	7.06E-22	3.60E-21
WNW	48100	Eu-155	5.93E-15	1.07E-21	2.61E-22	1.33E-21
WNW	48100	H-3	5.97E-04	0.00E+00	0.00E+00	0.00E+00
WNW	48100	I-129	6.65E-12	2.33E-17	1.22E-18	2.45E-17
WNW	48100	Ni-63	1.99E-08	3.58E-15	8.74E-16	4.45E-15
WNW	48100	Np-237	5.06E-10	9.11E-17	2.22E-17	1.13E-16
WNW	48100	Pu-238	7.32E-10	1.32E-16	3.22E-17	1.64E-16
WNW	48100	Pu-239	1.62E-08	2.91E-15	7.12E-16	3.63E-15
WNW	48100	Pu-240	3.79E-09	6.81E-16	1.66E-16	8.48E-16
WNW	48100	Pu-241	1.02E-08	1.84E-15	4.49E-16	2.29E-15
WNW	48100	Sb-125	4.45E-08	8.00E-15	1.96E-15	9.96E-15
WNW	48100	Sm-151	1.63E-11	2.94E-18	7.17E-19	3.65E-18
WNW	48100	Sn-126	1.92E-08	3.46E-15	8.46E-16	4.31E-15
WNW	48100	Sr-90	2.64E-06	4.75E-13	1.16E-13	5.91E-13
WNW	48100	Tc-99	6.44E-05	1.16E-11	2.83E-12	1.44E-11
WNW	48100	Th-232	8.11E-18	1.46E-24	3.56E-25	1.82E-24
WNW	48100	U-233	1.77E-10	3.19E-17	7.79E-18	3.97E-17
WNW	48100	U-234	5.20E-11	9.36E-18	2.29E-18	1.16E-17
WNW	48100	U-235	2.10E-12	3.79E-19	9.25E-20	4.71E-19
WNW	48100	U-236	1.72E-12	3.10E-19	7.57E-20	3.85E-19
WNW	48100	U-238	4.66E-11	8.40E-18	2.05E-18	1.04E-17
WNW	48100	Y-90	2.37E-06	4.27E-13	1.06E-13	5.33E-13
WNW	48100	Ru-106	9.98E-15	1.80E-21	4.39E-22	2.24E-21
WNW	48100	Cs-134	2.51E-13	4.52E-20	1.10E-20	5.62E-20
WNW	48100	Ba-137m	7.33E-20	1.32E-26	3.31E-28	1.35E-26
WNW	48100	Pu-242	5.86E-13	1.06E-19	2.58E-20	1.31E-19
WNW	48100	Ra-226	5.35E-12	9.64E-19	2.35E-19	1.20E-18
WNW	48100	U-232	3.28E-12	5.90E-19	1.44E-19	7.34E-19
WNW	48100	Pa-231	7.33E-18	1.32E-24	3.22E-25	1.64E-24

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WNW	48100	Ni-59	2.64E-10	4.75E-17	1.16E-17	5.91E-17
WNW	48100	Ac-227	5.29E-11	9.52E-18	2.33E-18	1.18E-17
WNW	48100	Am-243	7.88E-11	1.42E-17	3.46E-18	1.76E-17
WNW	48100	Ra-228	3.28E-10	5.90E-17	1.44E-17	7.34E-17
WNW	48100	Cm-242	4.80E-09	8.63E-16	2.11E-16	1.07E-15
WNW	48100	Th-229	3.67E-18	6.61E-25	1.61E-25	8.22E-25
WNW	48100	Zr-93	3.45E-14	6.22E-21	1.52E-21	7.74E-21
WNW	48100	Nb-93m	5.89E-14	1.06E-20	2.59E-21	1.32E-20
WNW	48100	Cd-113m	3.12E-08	5.62E-15	1.37E-15	6.99E-15
WNW	48100	Se-79	3.75E-07	6.74E-14	1.65E-14	8.39E-14
WNW	54100	Am-241	1.10E-07	1.98E-14	5.13E-15	2.49E-14
WNW	54100	C-14	1.20E-04	0.00E+00	0.00E+00	0.00E+00
WNW	54100	Co-60	1.05E-15	1.89E-22	4.89E-23	2.38E-22
WNW	54100	Cm-243	2.75E-10	4.96E-17	1.28E-17	6.24E-17
WNW	54100	Cm-244	4.75E-09	8.54E-16	2.21E-16	1.08E-15
WNW	54100	Cs-137	1.40E-06	2.52E-13	6.52E-14	3.17E-13
WNW	54100	Eu-152	2.24E-15	4.03E-22	1.04E-22	5.08E-22
WNW	54100	Eu-154	1.29E-14	2.33E-21	6.04E-22	2.93E-21
WNW	54100	Eu-155	4.78E-15	8.60E-22	2.23E-22	1.08E-21
WNW	54100	H-3	5.21E-04	0.00E+00	0.00E+00	0.00E+00
WNW	54100	I-129	5.21E-12	1.82E-17	9.60E-19	1.92E-17
WNW	54100	Ni-63	1.60E-08	2.89E-15	7.48E-16	3.63E-15
WNW	54100	Np-237	4.08E-10	7.34E-17	1.90E-17	9.25E-17
WNW	54100	Pu-238	5.90E-10	1.06E-16	2.75E-17	1.34E-16
WNW	54100	Pu-239	1.30E-08	2.35E-15	6.09E-16	2.96E-15
WNW	54100	Pu-240	3.05E-09	5.49E-16	1.42E-16	6.92E-16
WNW	54100	Pu-241	8.23E-09	1.48E-15	3.84E-16	1.87E-15
WNW	54100	Sb-125	3.58E-08	6.45E-15	1.67E-15	8.13E-15
WNW	54100	Sm-151	1.32E-11	2.37E-18	6.14E-19	2.98E-18
WNW	54100	Sn-126	1.55E-08	2.79E-15	7.24E-16	3.52E-15
WNW	54100	Sr-90	2.13E-06	3.83E-13	9.92E-14	4.82E-13
WNW	54100	Tc-99	5.19E-05	9.34E-12	2.42E-12	1.18E-11
WNW	54100	Th-232	6.53E-18	1.18E-24	3.05E-25	1.48E-24
WNW	54100	U-233	1.43E-10	2.57E-17	6.66E-18	3.24E-17
WNW	54100	U-234	4.19E-11	7.55E-18	1.96E-18	9.50E-18
WNW	54100	U-235	1.70E-12	3.05E-19	7.91E-20	3.84E-19
WNW	54100	U-236	1.39E-12	2.50E-19	6.47E-20	3.14E-19
WNW	54100	U-238	3.76E-11	6.77E-18	1.75E-18	8.52E-18
WNW	54100	Y-90	1.89E-06	3.40E-13	8.94E-14	4.29E-13
WNW	54100	Ru-106	8.05E-15	1.45E-21	3.76E-22	1.82E-21
WNW	54100	Cs-134	2.02E-13	3.64E-20	9.44E-21	4.59E-20
WNW	54100	Ba-137m	1.67E-19	3.01E-26	1.68E-27	3.18E-26
WNW	54100	Pu-242	4.73E-13	8.51E-20	2.21E-20	1.07E-19
WNW	54100	Ra-226	4.32E-12	7.77E-19	2.01E-19	9.78E-19
WNW	54100	U-232	2.64E-12	4.75E-19	1.23E-19	5.99E-19
WNW	54100	Pa-231	5.91E-18	1.06E-24	2.76E-25	1.34E-24
WNW	54100	Ni-59	2.13E-10	3.83E-17	9.92E-18	4.82E-17

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WNW	54100	Ac-227	4.26E-11	7.68E-18	1.99E-18	9.66E-18
WNW	54100	Am-243	6.35E-11	1.14E-17	2.96E-18	1.44E-17
WNW	54100	Ra-228	2.64E-10	4.75E-17	1.23E-17	5.98E-17
WNW	54100	Cm-242	3.87E-09	6.96E-16	1.80E-16	8.76E-16
WNW	54100	Th-229	2.96E-18	5.33E-25	1.38E-25	6.71E-25
WNW	54100	Zr-93	2.78E-14	5.01E-21	1.30E-21	6.31E-21
WNW	54100	Nb-93m	4.75E-14	8.54E-21	2.21E-21	1.08E-20
WNW	54100	Cd-113m	2.52E-08	4.53E-15	1.17E-15	5.71E-15
WNW	54100	Se-79	3.02E-07	5.44E-14	1.41E-14	6.85E-14
WNW	60100	Am-241	7.07E-08	1.27E-14	4.23E-15	1.70E-14
WNW	60100	C-14	1.06E-04	0.00E+00	0.00E+00	0.00E+00
WNW	60100	Co-60	6.75E-16	1.21E-22	4.04E-23	1.62E-22
WNW	60100	Co-243	1.77E-10	3.19E-17	1.06E-17	4.25E-17
WNW	60100	Cm-244	3.05E-09	5.50E-16	1.83E-16	7.32E-16
WNW	60100	Cs-137	8.99E-07	1.62E-13	5.38E-14	2.16E-13
WNW	60100	Eu-152	1.44E-15	2.59E-22	8.62E-23	3.46E-22
WNW	60100	Eu-154	8.33E-15	1.50E-21	4.98E-22	2.00E-21
WNW	60100	Eu-155	3.07E-15	5.53E-22	1.84E-22	7.37E-22
WNW	60100	H-3	4.62E-04	0.00E+00	0.00E+00	0.00E+00
WNW	60100	I-129	4.15E-12	1.45E-17	7.67E-19	1.53E-17
WNW	60100	Ni-63	1.03E-08	1.86E-15	6.17E-16	2.47E-15
WNW	60100	Np-237	2.62E-10	4.72E-17	1.57E-17	6.29E-17
WNW	60100	Pu-238	3.79E-10	6.83E-17	2.27E-17	9.10E-17
WNW	60100	Pu-239	8.40E-09	1.51E-15	5.02E-16	2.01E-15
WNW	60100	Pu-240	1.96E-09	3.53E-16	1.17E-16	4.71E-16
WNW	60100	Pu-241	5.29E-09	9.53E-16	3.17E-16	1.27E-15
WNW	60100	Sb-125	2.31E-08	4.15E-15	1.38E-15	5.53E-15
WNW	60100	Sm-151	8.46E-12	1.52E-18	5.06E-19	2.03E-18
WNW	60100	Sn-126	9.98E-09	1.80E-15	5.97E-16	2.39E-15
WNW	60100	Sr-90	1.37E-06	2.46E-13	8.18E-14	3.28E-13
WNW	60100	Tc-99	3.34E-05	6.01E-12	2.00E-12	8.01E-12
WNW	60100	Th-232	4.20E-18	7.57E-25	2.51E-25	1.01E-24
WNW	60100	U-233	9.19E-11	1.65E-17	5.49E-18	2.20E-17
WNW	60100	U-234	2.70E-11	4.85E-18	1.61E-18	6.47E-18
WNW	60100	U-235	1.09E-12	1.96E-19	6.52E-20	2.62E-19
WNW	60100	U-236	8.92E-13	1.61E-19	5.34E-20	2.14E-19
WNW	60100	U-238	2.42E-11	4.36E-18	1.45E-18	5.80E-18
WNW	60100	Y-90	1.21E-06	2.17E-13	7.30E-14	2.90E-13
WNW	60100	Ru-106	5.18E-15	9.32E-22	3.10E-22	1.24E-21
WNW	60100	Cs-134	1.30E-13	2.34E-20	7.78E-21	3.12E-20
WNW	60100	Ba-137m	2.82E-19	5.08E-26	1.21E-26	6.29E-26
WNW	60100	Pu-242	3.04E-13	5.47E-20	1.82E-20	7.29E-20
WNW	60100	Ra-226	2.78E-12	5.00E-19	1.66E-19	6.66E-19
WNW	60100	U-232	1.70E-12	3.06E-19	1.02E-19	4.07E-19
WNW	60100	Pa-231	3.80E-18	6.84E-25	2.27E-25	9.11E-25
WNW	60100	Ni-59	1.37E-10	2.46E-17	8.18E-18	3.28E-17
WNW	60100	Ac-227	2.74E-11	4.94E-18	1.64E-18	6.58E-18

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WNW	60100	Am-243	4.09E-11	7.35E-18	2.44E-18	9.80E-18
WNW	60100	Ra-228	1.70E-10	3.06E-17	1.02E-17	4.07E-17
WNW	60100	Cm-242	2.49E-09	4.48E-16	1.49E-16	5.96E-16
WNW	60100	Th-229	1.90E-18	3.43E-25	1.14E-25	4.57E-25
WNW	60100	Zr-93	1.79E-14	3.22E-21	1.07E-21	4.30E-21
WNW	60100	Nb-93m	3.05E-14	5.50E-21	1.83E-21	7.32E-21
WNW	60100	Cd-113m	1.62E-08	2.92E-15	9.68E-16	3.88E-15
WNW	60100	Se-79	1.94E-07	3.50E-14	1.16E-14	4.66E-14
WNW	66100	Am-241	6.13E-08	1.10E-14	3.77E-15	1.48E-14
WNW	66100	C-14	9.53E-05	0.00E+00	0.00E+00	0.00E+00
WNW	66100	Co-60	5.85E-16	1.05E-22	3.60E-23	1.41E-22
WNW	66100	Cm-243	1.53E-10	2.76E-17	9.44E-18	3.71E-17
WNW	66100	Cm-244	2.65E-09	4.76E-16	1.63E-16	6.39E-16
WNW	66100	Cs-137	7.79E-07	1.40E-13	4.79E-14	1.88E-13
WNW	66100	Eu-152	1.25E-15	2.25E-22	7.68E-23	3.02E-22
WNW	66100	Eu-154	7.22E-15	1.30E-21	4.44E-22	1.74E-21
WNW	66100	Eu-155	2.66E-15	4.79E-22	1.64E-22	6.43E-22
WNW	66100	H-3	4.15E-04	0.00E+00	0.00E+00	0.00E+00
WNW	66100	I-129	3.35E-12	1.17E-17	6.20E-19	1.23E-17
WNW	66100	Ni-63	8.94E-09	1.61E-15	5.50E-16	2.16E-15
WNW	66100	Np-237	2.27E-10	4.09E-17	1.40E-17	5.49E-17
WNW	66100	Pu-238	3.29E-10	5.92E-17	2.02E-17	7.94E-17
WNW	66100	Pu-239	7.27E-09	1.31E-15	4.48E-16	1.76E-15
WNW	66100	Pu-240	1.70E-09	3.06E-16	1.05E-16	4.11E-16
WNW	66100	Pu-241	4.59E-09	8.26E-16	2.82E-16	1.11E-15
WNW	66100	Sb-125	2.00E-08	3.60E-15	1.23E-15	4.83E-15
WNW	66100	Sm-151	7.33E-12	1.32E-18	4.51E-19	1.77E-18
WNW	66100	Sn-126	8.65E-09	1.56E-15	5.32E-16	2.09E-15
WNW	66100	Sr-90	1.19E-06	2.13E-13	7.29E-14	2.86E-13
WNW	66100	Tc-99	2.89E-05	5.21E-12	1.78E-12	6.99E-12
WNW	66100	Th-232	3.64E-18	6.56E-25	2.24E-25	8.80E-25
WNW	66100	U-233	7.96E-11	1.43E-17	4.90E-18	1.92E-17
WNW	66100	U-234	2.34E-11	4.21E-18	1.44E-18	5.64E-18
WNW	66100	U-235	9.45E-13	1.70E-19	5.81E-20	2.28E-19
WNW	66100	U-236	7.73E-13	1.39E-19	4.76E-20	1.87E-19
WNW	66100	U-238	2.10E-11	3.77E-18	1.29E-18	5.06E-18
WNW	66100	Y-90	1.03E-06	1.86E-13	6.44E-14	2.50E-13
WNW	66100	Ru-106	4.49E-15	8.07E-22	2.76E-22	1.08E-21
WNW	66100	Cs-134	1.13E-13	2.03E-20	6.94E-21	2.72E-20
WNW	66100	Ba-137m	1.33E-19	2.40E-26	6.49E-27	3.05E-26
WNW	66100	Pu-242	2.63E-13	4.74E-20	1.62E-20	6.36E-20
WNW	66100	Ra-226	2.41E-12	4.33E-19	1.48E-19	5.81E-19
WNW	66100	U-232	1.47E-12	2.65E-19	9.06E-20	3.56E-19
WNW	66100	Pa-231	3.29E-18	5.93E-25	2.03E-25	7.95E-25
WNW	66100	Ni-59	1.19E-10	2.13E-17	7.29E-18	2.86E-17
WNW	66100	Ac-227	2.38E-11	4.28E-18	1.46E-18	5.74E-18
WNW	66100	Am-243	3.54E-11	6.37E-18	2.18E-18	8.55E-18

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WNW	66100	Ra-228	1.47E-10	2.65E-17	9.06E-18	3.55E-17
WNW	66100	Cm-242	2.15E-09	3.88E-16	1.33E-16	5.20E-16
WNW	66100	Th-229	1.65E-18	2.97E-25	1.01E-25	3.98E-25
WNW	66100	Zr-93	1.55E-14	2.79E-21	9.55E-22	3.75E-21
WNW	66100	Nb-93m	2.65E-14	4.76E-21	1.63E-21	6.39E-21
WNW	66100	Cd-113m	1.40E-08	2.53E-15	8.63E-16	3.39E-15
WNW	66100	Se-79	1.68E-07	3.03E-14	1.04E-14	4.07E-14
W	12100	Am-241	8.84E-07	1.59E-13	2.55E-14	1.85E-13
W	12100	C-14	5.03E-04	0.00E+00	0.00E+00	0.00E+00
W	12100	Co-60	8.44E-15	1.52E-21	2.43E-22	1.76E-21
W	12100	Cm-243	2.22E-09	3.99E-16	6.38E-17	4.63E-16
W	12100	Cm-244	3.82E-08	6.87E-15	1.10E-15	7.97E-15
W	12100	Cs-137	1.12E-05	2.02E-12	3.24E-13	2.35E-12
W	12100	Eu-152	1.80E-14	3.24E-21	5.19E-22	3.76E-21
W	12100	Eu-154	1.04E-13	1.87E-20	3.00E-21	2.17E-20
W	12100	Eu-155	3.84E-14	6.92E-21	1.11E-21	8.03E-21
W	12100	H-3	2.19E-03	0.00E+00	0.00E+00	0.00E+00
W	12100	I-129	6.37E-11	2.23E-16	8.44E-18	2.31E-16
W	12100	Ni-63	1.29E-07	2.32E-14	3.72E-15	2.69E-14
W	12100	Np-237	3.28E-09	5.91E-16	9.46E-17	6.85E-16
W	12100	Pu-238	4.74E-09	8.54E-16	1.37E-16	9.91E-16
W	12100	Pu-239	1.05E-07	1.89E-14	3.02E-15	2.19E-14
W	12100	Pu-240	2.46E-08	4.42E-15	7.07E-16	5.13E-15
W	12100	Pu-241	6.62E-08	1.19E-14	1.91E-15	1.38E-14
W	12100	Sb-125	2.88E-07	5.19E-14	8.31E-15	6.02E-14
W	12100	Sm-151	1.06E-10	1.90E-17	3.05E-18	2.21E-17
W	12100	Sn-126	1.25E-07	2.25E-14	3.60E-15	2.61E-14
W	12100	Sr-90	1.71E-05	3.08E-12	4.93E-13	3.57E-12
W	12100	Tc-99	4.17E-04	7.51E-11	1.20E-11	8.72E-11
W	12100	Th-232	5.26E-17	9.46E-24	1.51E-24	1.10E-23
W	12100	U-233	1.15E-09	2.07E-16	3.31E-17	2.40E-16
W	12100	U-234	3.37E-10	6.07E-17	9.72E-18	7.04E-17
W	12100	U-235	1.36E-11	2.46E-18	3.93E-19	2.85E-18
W	12100	U-236	1.12E-11	2.01E-18	3.22E-19	2.33E-18
W	12100	U-238	3.03E-10	5.45E-17	8.72E-18	6.32E-17
W	12100	Y-90	1.66E-05	2.99E-12	4.80E-13	3.47E-12
W	12100	Ru-106	6.48E-14	1.17E-20	1.87E-21	1.35E-20
W	12100	Cs-134	1.63E-12	2.93E-19	4.69E-20	3.40E-19
W	12100	Ba-137m	8.49E-17	1.53E-23	1.83E-24	1.71E-23
W	12100	Pu-242	3.80E-12	6.84E-19	1.10E-19	7.94E-19
W	12100	Ra-226	3.47E-11	6.25E-18	1.00E-18	7.25E-18
W	12100	U-232	2.12E-11	3.82E-18	6.12E-19	4.44E-18
W	12100	Pa-231	4.75E-17	8.56E-24	1.37E-24	9.93E-24
W	12100	Ni-59	1.71E-09	3.08E-16	4.93E-17	3.57E-16
W	12100	Ac-227	3.43E-10	6.17E-17	9.88E-18	7.16E-17
W	12100	Am-243	5.11E-10	9.20E-17	1.47E-17	1.07E-16
W	12100	Ra-228	2.12E-09	3.82E-16	6.12E-17	4.44E-16

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
W	12100	Cm-242	3.11E-08	5.61E-15	8.98E-16	6.50E-15
W	12100	Th-229	2.38E-17	4.29E-24	6.86E-25	4.97E-24
W	12100	Zr-93	2.24E-13	4.03E-20	6.45E-21	4.68E-20
W	12100	Nb-93m	3.82E-13	6.87E-20	1.10E-20	7.97E-20
W	12100	Cd-113m	2.03E-07	3.65E-14	5.84E-15	4.23E-14
W	12100	Se-79	2.43E-06	4.37E-13	7.00E-14	5.07E-13
W	16100	Am-241	5.94E-07	1.07E-13	1.86E-14	1.26E-13
W	16100	C-14	3.57E-04	0.00E+00	0.00E+00	0.00E+00
W	16100	Co-60	5.67E-15	1.02E-21	1.78E-22	1.20E-21
W	16100	Cm-243	1.49E-09	2.68E-16	4.67E-17	3.15E-16
W	16100	Cm-244	2.57E-08	4.62E-15	8.05E-16	5.42E-15
W	16100	Cs-137	7.55E-06	1.36E-12	2.37E-13	1.60E-12
W	16100	Eu-152	1.21E-14	2.18E-21	3.80E-22	2.56E-21
W	16100	Eu-154	7.00E-14	1.26E-20	2.19E-21	1.48E-20
W	16100	Eu-155	2.58E-14	4.65E-21	8.10E-22	5.46E-21
W	16100	H-3	1.55E-03	0.00E+00	0.00E+00	0.00E+00
W	16100	I-129	3.78E-11	1.32E-16	5.69E-18	1.38E-16
W	16100	Ni-63	8.66E-08	1.56E-14	2.72E-15	1.83E-14
W	16100	Np-237	2.20E-09	3.97E-16	6.91E-17	4.66E-16
W	16100	Pu-238	3.19E-09	5.74E-16	1.00E-16	6.74E-16
W	16100	Pu-239	7.05E-08	1.27E-14	2.21E-15	1.49E-14
W	16100	Pu-240	1.65E-08	2.97E-15	5.17E-16	3.49E-15
W	16100	Pu-241	4.45E-08	8.01E-15	1.39E-15	9.40E-15
W	16100	Sb-125	1.94E-07	3.49E-14	6.08E-15	4.10E-14
W	16100	Sm-151	7.11E-11	1.28E-17	2.23E-18	1.50E-17
W	16100	Sn-126	8.38E-08	1.51E-14	2.63E-15	1.77E-14
W	16100	Sr-90	1.15E-05	2.07E-12	3.61E-13	2.43E-12
W	16100	Tc-99	2.80E-04	5.05E-11	8.80E-12	5.93E-11
W	16100	Th-232	3.53E-17	6.36E-24	1.11E-24	7.46E-24
W	16100	U-233	7.72E-10	1.39E-16	2.42E-17	1.63E-16
W	16100	U-234	2.27E-10	4.08E-17	7.11E-18	4.79E-17
W	16100	U-235	9.16E-12	1.65E-18	2.87E-19	1.94E-18
W	16100	U-236	7.50E-12	1.35E-18	2.35E-19	1.58E-18
W	16100	U-238	2.03E-10	3.66E-17	6.37E-18	4.30E-17
W	16100	Y-90	1.10E-05	1.99E-12	3.48E-13	2.34E-12
W	16100	Ru-106	4.35E-14	7.83E-21	1.37E-21	9.20E-21
W	16100	Cs-134	1.09E-12	1.97E-19	3.43E-20	2.31E-19
W	16100	Ba-137m	4.65E-17	8.37E-24	1.48E-24	9.85E-24
W	16100	Pu-242	2.55E-12	4.60E-19	8.01E-20	5.40E-19
W	16100	Ra-226	2.33E-11	4.20E-18	7.31E-19	4.93E-18
W	16100	U-232	1.43E-11	2.57E-18	4.48E-19	3.02E-18
W	16100	Pa-231	3.19E-17	5.75E-24	1.00E-24	6.75E-24
W	16100	Ni-59	1.15E-09	2.07E-16	3.61E-17	2.43E-16
W	16100	Ac-227	2.30E-10	4.15E-17	7.23E-18	4.87E-17
W	16100	Am-243	3.43E-10	6.18E-17	1.08E-17	7.25E-17
W	16100	Ra-228	1.43E-09	2.57E-16	4.48E-17	3.02E-16
W	16100	Cm-242	2.09E-08	3.77E-15	6.56E-16	4.42E-15

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
W	16100	Th-229	1.60E-17	2.88E-24	5.02E-25	3.38E-24
W	16100	Zr-93	1.50E-13	2.71E-20	4.72E-21	3.18E-20
W	16100	Nb-93m	2.57E-13	4.62E-20	8.05E-21	5.42E-20
W	16100	Cd-113m	1.36E-07	2.45E-14	4.27E-15	2.88E-14
W	16100	Se-79	1.63E-06	2.94E-13	5.12E-14	3.45E-13
W	24100	Am-241	3.03E-07	5.45E-14	1.15E-14	6.59E-14
W	24100	C-14	2.21E-04	0.00E+00	0.00E+00	0.00E+00
W	24100	Co-60	2.89E-15	5.20E-22	1.09E-22	6.29E-22
W	24100	Cm-243	7.58E-10	1.36E-16	2.87E-17	1.65E-16
W	24100	Cm-244	1.31E-08	2.35E-15	4.95E-16	2.85E-15
W	24100	Cs-137	3.84E-06	6.92E-13	1.46E-13	8.38E-13
W	24100	Eu-152	6.16E-15	1.11E-21	2.34E-22	1.34E-21
W	24100	Eu-154	3.56E-14	6.41E-21	1.35E-21	7.76E-21
W	24100	Eu-155	1.31E-14	2.37E-21	4.98E-22	2.86E-21
W	24100	H-3	9.61E-04	0.00E+00	0.00E+00	0.00E+00
W	24100	I-129	1.75E-11	6.13E-17	3.10E-18	6.44E-17
W	24100	Ni-63	4.41E-08	7.94E-15	1.67E-15	9.61E-15
W	24100	Np-237	1.12E-09	2.02E-16	4.25E-17	2.45E-16
W	24100	Pu-238	1.62E-09	2.92E-16	6.15E-17	3.54E-16
W	24100	Pu-239	3.59E-08	6.46E-15	1.36E-15	7.82E-15
W	24100	Pu-240	8.40E-09	1.51E-15	3.18E-16	1.83E-15
W	24100	Pu-241	2.26E-08	4.08E-15	8.58E-16	4.93E-15
W	24100	Sb-125	9.87E-08	1.78E-14	3.74E-15	2.15E-14
W	24100	Sm-151	3.62E-11	6.51E-18	1.37E-18	7.89E-18
W	24100	Sn-126	4.27E-08	7.68E-15	1.62E-15	9.30E-15
W	24100	Sr-90	5.85E-06	1.05E-12	2.22E-13	1.28E-12
W	24100	Tc-99	1.43E-04	2.57E-11	5.41E-12	3.11E-11
W	24100	Th-232	1.80E-17	3.24E-24	6.81E-25	3.92E-24
W	24100	U-233	3.93E-10	7.07E-17	1.49E-17	8.56E-17
W	24100	U-234	1.15E-10	2.08E-17	4.37E-18	2.51E-17
W	24100	U-235	4.66E-12	8.40E-19	1.77E-19	1.02E-18
W	24100	U-236	3.82E-12	6.87E-19	1.45E-19	8.32E-19
W	24100	U-238	1.03E-10	1.86E-17	3.92E-18	2.25E-17
W	24100	Y-90	5.51E-06	9.92E-13	2.11E-13	1.20E-12
W	24100	Ru-106	2.22E-14	3.99E-21	8.40E-22	4.83E-21
W	24100	Cs-134	5.57E-13	1.00E-19	2.11E-20	1.21E-19
W	24100	Ba-137m	1.56E-18	2.80E-25	2.89E-25	5.70E-25
W	24100	Pu-242	1.30E-12	2.34E-19	4.93E-20	2.83E-19
W	24100	Ra-226	1.19E-11	2.14E-18	4.50E-19	2.59E-18
W	24100	U-232	7.27E-12	1.31E-18	2.75E-19	1.58E-18
W	24100	Pa-231	1.63E-17	2.93E-24	6.16E-25	3.54E-24
W	24100	Ni-59	5.85E-10	1.05E-16	2.22E-17	1.28E-16
W	24100	Ac-227	1.17E-10	2.11E-17	4.45E-18	2.56E-17
W	24100	Am-243	1.75E-10	3.14E-17	6.62E-18	3.81E-17
W	24100	Ra-228	7.27E-10	1.31E-16	2.75E-17	1.58E-16
W	24100	Cm-242	1.06E-08	1.92E-15	4.04E-16	2.32E-15
W	24100	Th-229	8.14E-18	1.47E-24	3.09E-25	1.77E-24

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
W	24100	Zr-93	7.66E-14	1.38E-20	2.90E-21	1.67E-20
W	24100	Nb-93m	1.31E-13	2.35E-20	4.95E-21	2.85E-20
W	24100	Cd-113m	6.93E-08	1.25E-14	2.63E-15	1.51E-14
W	24100	Se-79	8.31E-07	1.50E-13	3.15E-14	1.81E-13
W	30100	Am-241	2.06E-07	3.70E-14	8.81E-15	4.58E-14
W	30100	C-14	1.70E-04	0.00E+00	0.00E+00	0.00E+00
W	30100	Co-60	1.96E-15	3.53E-22	8.41E-23	4.37E-22
W	30100	Cm-243	5.15E-10	9.27E-17	2.21E-17	1.15E-16
W	30100	Cm-244	8.88E-09	1.60E-15	3.80E-16	1.98E-15
W	30100	Cs-137	2.61E-06	4.70E-13	1.12E-13	5.82E-13
W	30100	Eu-152	4.19E-15	7.54E-22	1.80E-22	9.33E-22
W	30100	Eu-154	2.42E-14	4.36E-21	1.04E-21	5.39E-21
W	30100	Eu-155	8.93E-15	1.61E-21	3.83E-22	1.99E-21
W	30100	H-3	7.40E-04	0.00E+00	0.00E+00	0.00E+00
W	30100	I-129	1.21E-11	4.22E-17	2.17E-18	4.43E-17
W	30100	Ni-63	3.00E-08	5.39E-15	1.28E-15	6.68E-15
W	30100	Np-237	7.63E-10	1.37E-16	3.27E-17	1.70E-16
W	30100	Pu-238	1.10E-09	1.98E-16	4.73E-17	2.46E-16
W	30100	Pu-239	2.44E-08	4.39E-15	1.05E-15	5.44E-15
W	30100	Pu-240	5.71E-09	1.03E-15	2.45E-16	1.27E-15
W	30100	Pu-241	1.54E-08	2.77E-15	6.60E-16	3.43E-15
W	30100	Sb-125	6.70E-08	1.21E-14	2.87E-15	1.49E-14
W	30100	Sm-151	2.46E-11	4.43E-18	1.05E-18	5.48E-18
W	30100	Sn-126	2.90E-08	5.22E-15	1.24E-15	6.47E-15
W	30100	Sr-90	3.98E-06	7.16E-13	1.70E-13	8.86E-13
W	30100	Tc-99	9.70E-05	1.75E-11	4.16E-12	2.16E-11
W	30100	Th-232	1.22E-17	2.20E-24	5.24E-25	2.72E-24
W	30100	U-233	2.67E-10	4.81E-17	1.14E-17	5.95E-17
W	30100	U-234	7.84E-11	1.41E-17	3.36E-18	1.75E-17
W	30100	U-235	3.17E-12	5.71E-19	1.36E-19	7.06E-19
W	30100	U-236	2.59E-12	4.67E-19	1.11E-19	5.78E-19
W	30100	U-238	7.03E-11	1.27E-17	3.01E-18	1.57E-17
W	30100	Y-90	3.69E-06	6.65E-13	1.60E-13	8.25E-13
W	30100	Ru-106	1.51E-14	2.71E-21	6.45E-22	3.35E-21
W	30100	Cs-134	3.78E-13	6.81E-20	1.62E-20	8.43E-20
W	30100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
W	30100	Pu-242	8.84E-13	1.59E-19	3.79E-20	1.97E-19
W	30100	Ra-226	8.07E-12	1.45E-18	3.46E-19	1.80E-18
W	30100	U-232	4.94E-12	8.89E-19	2.12E-19	1.10E-18
W	30100	Pa-231	1.10E-17	1.99E-24	4.74E-25	2.46E-24
W	30100	Ni-59	3.98E-10	7.16E-17	1.70E-17	8.86E-17
W	30100	Ac-227	7.97E-11	1.44E-17	3.42E-18	1.78E-17
W	30100	Am-243	1.19E-10	2.14E-17	5.09E-18	2.65E-17
W	30100	Ra-228	4.94E-10	8.89E-17	2.12E-17	1.10E-16
W	30100	Cm-242	7.23E-09	1.30E-15	3.10E-16	1.61E-15
W	30100	Th-229	5.53E-18	9.96E-25	2.37E-25	1.23E-24
W	30100	Zr-93	5.21E-14	9.37E-21	2.23E-21	1.16E-20

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
W	30100	Nb-93m	8.88E-14	1.60E-20	3.80E-21	1.98E-20
W	30100	Cd-113m	4.71E-08	8.47E-15	2.02E-15	1.05E-14
W	30100	Se-79	5.65E-07	1.02E-13	2.42E-14	1.26E-13
W	36100	Am-241	1.59E-07	2.86E-14	7.17E-15	3.58E-14
W	36100	C-14	1.38E-04	0.00E+00	0.00E+00	0.00E+00
W	36100	Co-60	1.52E-15	2.73E-22	6.84E-23	3.42E-22
W	36100	Cm-243	3.98E-10	7.17E-17	1.79E-17	8.97E-17
W	36100	Cm-244	6.87E-09	1.24E-15	3.09E-16	1.55E-15
W	36100	Cs-137	2.02E-06	3.64E-13	9.11E-14	4.55E-13
W	36100	Eu-152	3.24E-15	5.83E-22	1.46E-22	7.29E-22
W	36100	Eu-154	1.87E-14	3.37E-21	8.44E-22	4.22E-21
W	36100	Eu-155	6.91E-15	1.24E-21	3.11E-22	1.56E-21
W	36100	H-3	5.99E-04	0.00E+00	0.00E+00	0.00E+00
W	36100	I-129	8.73E-12	3.05E-17	1.59E-18	3.21E-17
W	36100	Ni-63	2.32E-08	4.18E-15	1.04E-15	5.22E-15
W	36100	Np-237	5.90E-10	1.06E-16	2.66E-17	1.33E-16
W	36100	Pu-238	8.53E-10	1.54E-16	3.84E-17	1.92E-16
W	36100	Pu-239	1.89E-08	3.40E-15	8.50E-16	4.25E-15
W	36100	Pu-240	4.42E-09	7.95E-16	1.99E-16	9.94E-16
W	36100	Pu-241	1.19E-08	2.14E-15	5.36E-16	2.68E-15
W	36100	Sb-125	5.19E-08	9.34E-15	2.34E-15	1.17E-14
W	36100	Sm-151	1.90E-11	3.43E-18	8.57E-19	4.28E-18
W	36100	Sn-126	2.25E-08	4.04E-15	1.01E-15	5.05E-15
W	36100	Sr-90	3.08E-06	5.54E-13	1.39E-13	6.93E-13
W	36100	Tc-99	7.51E-05	1.35E-11	3.38E-12	1.69E-11
W	36100	Th-232	9.46E-18	1.70E-24	4.26E-25	2.13E-24
W	36100	U-233	2.07E-10	3.72E-17	9.31E-18	4.65E-17
W	36100	U-234	6.07E-11	1.09E-17	2.73E-18	1.37E-17
W	36100	U-235	2.45E-12	4.42E-19	1.10E-19	5.52E-19
W	36100	U-236	2.01E-12	3.61E-19	9.04E-20	4.52E-19
W	36100	U-238	5.44E-11	9.80E-18	2.45E-18	1.22E-17
W	36100	Y-90	2.82E-06	5.07E-13	1.28E-13	6.35E-13
W	36100	Ru-106	1.16E-14	2.10E-21	5.25E-22	2.62E-21
W	36100	Cs-134	2.93E-13	5.27E-20	1.32E-20	6.59E-20
W	36100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
W	36100	Pu-242	6.84E-13	1.23E-19	3.08E-20	1.54E-19
W	36100	Ra-226	6.24E-12	1.12E-18	2.81E-19	1.41E-18
W	36100	U-232	3.82E-12	6.88E-19	1.72E-19	8.60E-19
W	36100	Pa-231	8.55E-18	1.54E-24	3.85E-25	1.92E-24
W	36100	Ni-59	3.08E-10	5.54E-17	1.39E-17	6.93E-17
W	36100	Ac-227	6.17E-11	1.11E-17	2.78E-18	1.39E-17
W	36100	Am-243	9.19E-11	1.65E-17	4.14E-18	2.07E-17
W	36100	Ra-228	3.82E-10	6.88E-17	1.72E-17	8.60E-17
W	36100	Cm-242	5.60E-09	1.01E-15	2.52E-16	1.26E-15
W	36100	Th-229	4.28E-18	7.71E-25	1.93E-25	9.64E-25
W	36100	Zr-93	4.03E-14	7.25E-21	1.81E-21	9.07E-21
W	36100	Nb-93m	6.87E-14	1.24E-20	3.09E-21	1.55E-20

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
W	36100	Cd-113m	3.64E-08	6.56E-15	1.64E-15	8.20E-15
W	36100	Se-79	4.37E-07	7.87E-14	1.97E-14	9.84E-14
W	42100	Am-241	1.27E-07	2.28E-14	5.98E-15	2.88E-14
W	42100	C-14	1.15E-04	0.00E+00	0.00E+00	0.00E+00
W	42100	Co-60	1.21E-15	2.17E-22	5.70E-23	2.74E-22
W	42100	Cm-243	3.17E-10	5.71E-17	1.50E-17	7.21E-17
W	42100	Cm-244	5.47E-09	9.84E-16	2.58E-16	1.24E-15
W	42100	Cs-137	1.61E-06	2.90E-13	7.60E-14	3.66E-13
W	42100	Eu-152	2.58E-15	4.64E-22	1.22E-22	5.86E-22
W	42100	Eu-154	1.49E-14	2.68E-21	7.04E-22	3.39E-21
W	42100	Eu-155	5.50E-15	9.90E-22	2.60E-22	1.25E-21
W	42100	H-3	5.00E-04	0.00E+00	0.00E+00	0.00E+00
W	42100	I-129	6.51E-12	2.28E-17	1.19E-18	2.40E-17
W	42100	Ni-63	1.85E-08	3.32E-15	8.71E-16	4.19E-15
W	42100	Np-237	4.70E-10	8.46E-17	2.22E-17	1.07E-16
W	42100	Pu-238	6.79E-10	1.22E-16	3.21E-17	1.54E-16
W	42100	Pu-239	1.50E-08	2.71E-15	7.09E-16	3.41E-15
W	42100	Pu-240	3.51E-09	6.33E-16	1.66E-16	7.99E-16
W	42100	Pu-241	9.48E-09	1.71E-15	4.47E-16	2.15E-15
W	42100	Sb-125	4.13E-08	7.43E-15	1.95E-15	9.38E-15
W	42100	Sm-151	1.51E-11	2.73E-18	7.15E-19	3.44E-18
W	42100	Sn-126	1.79E-08	3.22E-15	8.43E-16	4.06E-15
W	42100	Sr-90	2.45E-06	4.41E-13	1.16E-13	5.57E-13
W	42100	Tc-99	5.98E-05	1.08E-11	2.82E-12	1.36E-11
W	42100	Th-232	7.53E-18	1.35E-24	3.55E-25	1.71E-24
W	42100	U-233	1.64E-10	2.96E-17	7.76E-18	3.74E-17
W	42100	U-234	4.83E-11	8.69E-18	2.28E-18	1.10E-17
W	42100	U-235	1.95E-12	3.51E-19	9.22E-20	4.44E-19
W	42100	U-236	1.60E-12	2.88E-19	7.54E-20	3.63E-19
W	42100	U-238	4.33E-11	7.80E-18	2.04E-18	9.84E-18
W	42100	Y-90	2.21E-06	3.98E-13	1.06E-13	5.03E-13
W	42100	Ru-106	9.27E-15	1.67E-21	4.38E-22	2.11E-21
W	42100	Cs-134	2.33E-13	4.19E-20	1.10E-20	5.29E-20
W	42100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
W	42100	Pu-242	5.44E-13	9.80E-20	2.57E-20	1.24E-19
W	42100	Ra-226	4.97E-12	8.95E-19	2.35E-19	1.13E-18
W	42100	U-232	3.04E-12	5.47E-19	1.44E-19	6.91E-19
W	42100	Pa-231	6.80E-18	1.22E-24	3.21E-25	1.55E-24
W	42100	Ni-59	2.45E-10	4.41E-17	1.16E-17	5.57E-17
W	42100	Ac-227	4.91E-11	8.84E-18	2.32E-18	1.12E-17
W	42100	Am-243	7.31E-11	1.32E-17	3.45E-18	1.66E-17
W	42100	Ra-228	3.04E-10	5.47E-17	1.44E-17	6.91E-17
W	42100	Cm-242	4.45E-09	8.02E-16	2.10E-16	1.01E-15
W	42100	Th-229	3.41E-18	6.13E-25	1.61E-25	7.74E-25
W	42100	Zr-93	3.21E-14	5.77E-21	1.51E-21	7.29E-21
W	42100	Nb-93m	5.47E-14	9.84E-21	2.58E-21	1.24E-20
W	42100	Cd-113m	2.90E-08	5.22E-15	1.37E-15	6.59E-15

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
W	42100	Se-79	3.48E-07	6.26E-14	1.64E-14	7.90E-14
W	48100	Am-241	1.02E-07	1.84E-14	5.07E-15	2.35E-14
W	48100	C-14	9.85E-05	0.00E+00	0.00E+00	0.00E+00
W	48100	Co-60	9.75E-16	1.75E-22	4.83E-23	2.24E-22
W	48100	Cm-243	2.56E-10	4.61E-17	1.27E-17	5.88E-17
W	48100	Cm-244	4.41E-09	7.94E-16	2.19E-16	1.01E-15
W	48100	Cs-137	1.30E-06	2.34E-13	6.44E-14	2.98E-13
W	48100	Eu-152	2.08E-15	3.75E-22	1.03E-22	4.78E-22
W	48100	Eu-154	1.20E-14	2.17E-21	5.96E-22	2.76E-21
W	48100	Eu-155	4.44E-15	7.99E-22	2.20E-22	1.02E-21
W	48100	H-3	4.29E-04	0.00E+00	0.00E+00	0.00E+00
W	48100	I-129	4.97E-12	1.74E-17	9.16E-19	1.83E-17
W	48100	Ni-63	1.49E-08	2.68E-15	7.38E-16	3.42E-15
W	48100	Np-237	3.79E-10	6.82E-17	1.88E-17	8.70E-17
W	48100	Pu-238	5.48E-10	9.87E-17	2.72E-17	1.26E-16
W	48100	Pu-239	1.21E-08	2.18E-15	6.01E-16	2.78E-15
W	48100	Pu-240	2.84E-09	5.11E-16	1.41E-16	6.51E-16
W	48100	Pu-241	7.65E-09	1.38E-15	3.79E-16	1.76E-15
W	48100	Sb-125	3.33E-08	6.00E-15	1.65E-15	7.65E-15
W	48100	Sm-151	1.22E-11	2.20E-18	6.06E-19	2.81E-18
W	48100	Sn-126	1.44E-08	2.60E-15	7.15E-16	3.31E-15
W	48100	Sr-90	1.98E-06	3.56E-13	9.80E-14	4.54E-13
W	48100	Tc-99	4.82E-05	8.68E-12	2.39E-12	1.11E-11
W	48100	Th-232	6.07E-18	1.09E-24	3.01E-25	1.39E-24
W	48100	U-233	1.33E-10	2.39E-17	6.58E-18	3.05E-17
W	48100	U-234	3.90E-11	7.01E-18	1.93E-18	8.94E-18
W	48100	U-235	1.58E-12	2.84E-19	7.81E-20	3.62E-19
W	48100	U-236	1.29E-12	2.32E-19	6.39E-20	2.96E-19
W	48100	U-238	3.50E-11	6.29E-18	1.73E-18	8.02E-18
W	48100	Y-90	1.76E-06	3.16E-13	8.84E-14	4.05E-13
W	48100	Ru-106	7.48E-15	1.35E-21	3.71E-22	1.72E-21
W	48100	Cs-134	1.88E-13	3.38E-20	9.32E-21	4.32E-20
W	48100	Ba-137m	1.36E-19	2.44E-26	1.39E-27	2.58E-26
W	48100	Pu-242	4.39E-13	7.91E-20	2.18E-20	1.01E-19
W	48100	Ra-226	4.01E-12	7.22E-19	1.99E-19	9.21E-19
W	48100	U-232	2.45E-12	4.42E-19	1.22E-19	5.63E-19
W	48100	Pa-231	5.49E-18	9.88E-25	2.72E-25	1.26E-24
W	48100	Ni-59	1.98E-10	3.56E-17	9.80E-18	4.54E-17
W	48100	Ac-227	3.96E-11	7.13E-18	1.96E-18	9.10E-18
W	48100	Am-243	5.90E-11	1.06E-17	2.93E-18	1.35E-17
W	48100	Ra-228	2.45E-10	4.42E-17	1.22E-17	5.63E-17
W	48100	Cm-242	3.59E-09	6.47E-16	1.78E-16	8.25E-16
W	48100	Th-229	2.75E-18	4.95E-25	1.36E-25	6.31E-25
W	48100	Zr-93	2.59E-14	4.66E-21	1.28E-21	5.94E-21
W	48100	Nb-93m	4.41E-14	7.94E-21	2.19E-21	1.01E-20
W	48100	Cd-113m	2.34E-08	4.21E-15	1.16E-15	5.37E-15
W	48100	Se-79	2.81E-07	5.05E-14	1.39E-14	6.45E-14

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
W	54100	Am-241	8.19E-08	1.47E-14	4.32E-15	1.91E-14
W	54100	C-14	8.60E-05	0.00E+00	0.00E+00	0.00E+00
W	54100	Co-60	7.82E-16	1.41E-22	4.13E-23	1.82E-22
W	54100	Cm-243	2.05E-10	3.69E-17	1.08E-17	4.78E-17
W	54100	Cm-244	3.54E-09	6.37E-16	1.87E-16	8.23E-16
W	54100	Cs-137	1.04E-06	1.87E-13	5.50E-14	2.42E-13
W	54100	Eu-152	1.67E-15	3.00E-22	8.81E-23	3.89E-22
W	54100	Eu-154	9.65E-15	1.74E-21	5.09E-22	2.25E-21
W	54100	Eu-155	3.56E-15	6.41E-22	1.88E-22	8.29E-22
W	54100	H-3	3.74E-04	0.00E+00	0.00E+00	0.00E+00
W	54100	I-129	3.87E-12	1.35E-17	7.15E-19	1.42E-17
W	54100	Ni-63	1.19E-08	2.15E-15	6.30E-16	2.78E-15
W	54100	Np-237	3.04E-10	5.47E-17	1.60E-17	7.08E-17
W	54100	Pu-238	4.39E-10	7.91E-17	2.32E-17	1.02E-16
W	54100	Pu-239	9.72E-09	1.75E-15	5.13E-16	2.26E-15
W	54100	Pu-240	2.27E-09	4.09E-16	1.20E-16	5.29E-16
W	54100	Pu-241	6.13E-09	1.10E-15	3.24E-16	1.43E-15
W	54100	Sb-125	2.67E-08	4.81E-15	1.41E-15	6.22E-15
W	54100	Sm-151	9.80E-12	1.76E-18	5.17E-19	2.28E-18
W	54100	Sn-126	1.16E-08	2.08E-15	6.10E-16	2.69E-15
W	54100	Sr-90	1.58E-06	2.85E-13	8.36E-14	3.69E-13
W	54100	Tc-99	3.87E-05	6.96E-12	2.04E-12	9.00E-12
W	54100	Th-232	4.87E-18	8.77E-25	2.57E-25	1.13E-24
W	54100	U-233	1.06E-10	1.92E-17	5.62E-18	2.48E-17
W	54100	U-234	3.12E-11	5.62E-18	1.65E-18	7.27E-18
W	54100	U-235	1.26E-12	2.27E-19	6.67E-20	2.94E-19
W	54100	U-236	1.03E-12	1.86E-19	5.46E-20	2.41E-19
W	54100	U-238	2.80E-11	5.04E-18	1.48E-18	6.52E-18
W	54100	Y-90	1.39E-06	2.50E-13	7.46E-14	3.25E-13
W	54100	Ru-106	6.00E-15	1.08E-21	3.17E-22	1.40E-21
W	54100	Cs-134	1.51E-13	2.71E-20	7.96E-21	3.51E-20
W	54100	Ba-137m	2.85E-19	5.13E-26	1.25E-26	6.38E-26
W	54100	Pu-242	3.52E-13	6.34E-20	1.86E-20	8.20E-20
W	54100	Ra-226	3.22E-12	5.79E-19	1.70E-19	7.49E-19
W	54100	U-232	1.97E-12	3.54E-19	1.04E-19	4.58E-19
W	54100	Pa-231	4.40E-18	7.92E-25	2.32E-25	1.02E-24
W	54100	Ni-59	1.58E-10	2.85E-17	8.36E-18	3.69E-17
W	54100	Ac-227	3.18E-11	5.72E-18	1.68E-18	7.40E-18
W	54100	Am-243	4.73E-11	8.52E-18	2.50E-18	1.10E-17
W	54100	Ra-228	1.97E-10	3.54E-17	1.04E-17	4.58E-17
W	54100	Cm-242	2.88E-09	5.18E-16	1.52E-16	6.71E-16
W	54100	Th-229	2.21E-18	3.97E-25	1.16E-25	5.13E-25
W	54100	Zr-93	2.07E-14	3.73E-21	1.10E-21	4.83E-21
W	54100	Nb-93m	3.54E-14	6.37E-21	1.87E-21	8.23E-21
W	54100	Cd-113m	1.88E-08	3.38E-15	9.90E-16	4.37E-15
W	54100	Se-79	2.25E-07	4.05E-14	1.19E-14	5.24E-14
W	60100	Am-241	5.45E-08	9.81E-15	3.58E-15	1.34E-14

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
W	60100	C-14	7.62E-05	0.00E+00	0.00E+00	0.00E+00
W	60100	Co-60	5.20E-16	9.35E-23	3.42E-23	1.28E-22
W	60100	Cm-243	1.36E-10	2.46E-17	8.97E-18	3.35E-17
W	60100	Cm-244	2.35E-09	4.23E-16	1.55E-16	5.78E-16
W	60100	Cs-137	6.92E-07	1.25E-13	4.55E-14	1.70E-13
W	60100	Eu-152	1.11E-15	2.00E-22	7.30E-23	2.73E-22
W	60100	Eu-154	6.41E-15	1.15E-21	4.22E-22	1.58E-21
W	60100	Eu-155	2.37E-15	4.26E-22	1.56E-22	5.82E-22
W	60100	H-3	3.31E-04	0.00E+00	0.00E+00	0.00E+00
W	60100	I-129	3.05E-12	1.07E-17	5.65E-19	1.12E-17
W	60100	Ni-63	7.94E-09	1.43E-15	5.22E-16	1.95E-15
W	60100	Np-237	2.02E-10	3.64E-17	1.33E-17	4.97E-17
W	60100	Pu-238	2.92E-10	5.26E-17	1.92E-17	7.18E-17
W	60100	Pu-239	6.47E-09	1.16E-15	4.25E-16	1.59E-15
W	60100	Pu-240	1.51E-09	2.72E-16	9.94E-17	3.72E-16
W	60100	Pu-241	4.08E-09	7.34E-16	2.68E-16	1.00E-15
W	60100	Sb-125	1.78E-08	3.20E-15	1.17E-15	4.36E-15
W	60100	Sm-151	6.52E-12	1.17E-18	4.28E-19	1.60E-18
W	60100	Sn-126	7.69E-09	1.38E-15	5.05E-16	1.89E-15
W	60100	Sr-90	1.05E-06	1.90E-13	6.93E-14	2.59E-13
W	60100	Tc-99	2.57E-05	4.63E-12	1.69E-12	6.32E-12
W	60100	Th-232	3.24E-18	5.83E-25	2.13E-25	7.96E-25
W	60100	U-233	7.08E-11	1.27E-17	4.65E-18	1.74E-17
W	60100	U-234	2.08E-11	3.74E-18	1.37E-18	5.10E-18
W	60100	U-235	8.40E-13	1.51E-19	5.52E-20	2.06E-19
W	60100	U-236	6.87E-13	1.24E-19	4.52E-20	1.69E-19
W	60100	U-238	1.86E-11	3.35E-18	1.23E-18	4.58E-18
W	60100	Y-90	9.15E-07	1.65E-13	6.11E-14	2.26E-13
W	60100	Ru-106	3.99E-15	7.18E-22	2.62E-22	9.80E-22
W	60100	Cs-134	1.00E-13	1.80E-20	6.59E-21	2.46E-20
W	60100	Ba-137m	1.01E-19	1.82E-26	5.72E-27	2.39E-26
W	60100	Pu-242	2.34E-13	4.22E-20	1.54E-20	5.76E-20
W	60100	Ra-226	2.14E-12	3.85E-19	1.41E-19	5.25E-19
W	60100	U-232	1.31E-12	2.36E-19	8.60E-20	3.22E-19
W	60100	Pa-231	2.93E-18	5.27E-25	1.92E-25	7.19E-25
W	60100	Ni-59	1.05E-10	1.90E-17	6.93E-18	2.59E-17
W	60100	Ac-227	2.11E-11	3.80E-18	1.39E-18	5.19E-18
W	60100	Am-243	3.15E-11	5.66E-18	2.07E-18	7.73E-18
W	60100	Ra-228	1.31E-10	2.35E-17	8.60E-18	3.21E-17
W	60100	Cm-242	1.91E-09	3.45E-16	1.26E-16	4.71E-16
W	60100	Th-229	1.47E-18	2.64E-25	9.64E-26	3.60E-25
W	60100	Zr-93	1.38E-14	2.48E-21	9.07E-22	3.39E-21
W	60100	Nb-93m	2.35E-14	4.23E-21	1.55E-21	5.78E-21
W	60100	Cd-113m	1.25E-08	2.25E-15	8.20E-16	3.06E-15
W	60100	Se-79	1.50E-07	2.69E-14	9.84E-15	3.68E-14
W	66100	Am-241	4.70E-08	8.47E-15	3.19E-15	1.17E-14
W	66100	C-14	6.82E-05	0.00E+00	0.00E+00	0.00E+00

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
W	66100	Co-60	4.49E-16	8.08E-23	3.04E-23	1.11E-22
W	66100	Cm-243	1.18E-10	2.12E-17	7.98E-18	2.92E-17
W	66100	Cm-244	2.03E-09	3.65E-16	1.38E-16	5.03E-16
W	66100	Cs-137	5.98E-07	1.08E-13	4.05E-14	1.48E-13
W	66100	Eu-152	9.58E-16	1.72E-22	6.49E-23	2.37E-22
W	66100	Eu-154	5.54E-15	9.97E-22	3.75E-22	1.37E-21
W	66100	Eu-155	2.04E-15	3.68E-22	1.39E-22	5.06E-22
W	66100	H-3	2.97E-04	0.00E+00	0.00E+00	0.00E+00
W	66100	I-129	2.44E-12	8.52E-18	4.52E-19	8.97E-18
W	66100	Ni-63	6.86E-09	1.23E-15	4.65E-16	1.70E-15
W	66100	Np-237	1.74E-10	3.14E-17	1.18E-17	4.32E-17
W	66100	Pu-238	2.52E-10	4.54E-17	1.71E-17	6.25E-17
W	66100	Pu-239	5.58E-09	1.00E-15	3.78E-16	1.38E-15
W	66100	Pu-240	1.31E-09	2.35E-16	8.85E-17	3.23E-16
W	66100	Pu-241	3.52E-09	6.34E-16	2.39E-16	8.72E-16
W	66100	Sb-125	1.53E-08	2.76E-15	1.04E-15	3.80E-15
W	66100	Sm-151	5.63E-12	1.01E-18	3.81E-19	1.39E-18
W	66100	Sn-126	6.64E-09	1.19E-15	4.50E-16	1.64E-15
W	66100	Sr-90	9.10E-07	1.64E-13	6.17E-14	2.25E-13
W	66100	Tc-99	2.22E-05	4.00E-12	1.50E-12	5.50E-12
W	66100	Th-232	2.80E-18	5.03E-25	1.89E-25	6.93E-25
W	66100	U-233	6.11E-11	1.10E-17	4.14E-18	1.51E-17
W	66100	U-234	1.79E-11	3.23E-18	1.22E-18	4.44E-18
W	66100	U-235	7.25E-13	1.31E-19	4.92E-20	1.80E-19
W	66100	U-236	5.93E-13	1.07E-19	4.02E-20	1.47E-19
W	66100	U-238	1.61E-11	2.90E-18	1.09E-18	3.99E-18
W	66100	Y-90	7.79E-07	1.40E-13	5.37E-14	1.94E-13
W	66100	Ru-106	3.44E-15	6.20E-22	2.33E-22	8.53E-22
W	66100	Cs-134	8.65E-14	1.56E-20	5.87E-21	2.14E-20
W	66100	Ba-137m	3.59E-20	6.46E-27	4.48E-27	1.09E-26
W	66100	Pu-242	2.02E-13	3.64E-20	1.37E-20	5.01E-20
W	66100	Ra-226	1.85E-12	3.32E-19	1.25E-19	4.57E-19
W	66100	U-232	1.13E-12	2.03E-19	7.66E-20	2.80E-19
W	66100	Pa-231	2.53E-18	4.55E-25	1.71E-25	6.26E-25
W	66100	Ni-59	9.10E-11	1.64E-17	6.17E-18	2.25E-17
W	66100	Ac-227	1.82E-11	3.28E-18	1.24E-18	4.52E-18
W	66100	Am-243	2.72E-11	4.89E-18	1.84E-18	6.73E-18
W	66100	Ra-228	1.13E-10	2.03E-17	7.66E-18	2.80E-17
W	66100	Cm-242	1.65E-09	2.98E-16	1.12E-16	4.10E-16
W	66100	Th-229	1.27E-18	2.28E-25	8.58E-26	3.14E-25
W	66100	Zr-93	1.19E-14	2.14E-21	8.07E-22	2.95E-21
W	66100	Nb-93m	2.03E-14	3.65E-21	1.38E-21	5.03E-21
W	66100	Cd-113m	1.08E-08	1.94E-15	7.30E-16	2.67E-15
W	66100	Se-79	1.29E-07	2.33E-14	8.76E-15	3.20E-14
WSW	12100	Am-241	6.99E-07	1.26E-13	2.04E-14	1.46E-13
WSW	12100	C-14	4.22E-04	0.00E+00	0.00E+00	0.00E+00
WSW	12100	Co-60	6.67E-15	1.20E-21	1.95E-22	1.40E-21

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WSW	12100	Cm-243	1.75E-09	3.15E-16	5.11E-17	3.66E-16
WSW	12100	Cm-244	3.02E-08	5.43E-15	8.81E-16	6.31E-15
WSW	12100	Cs-137	8.89E-06	1.60E-12	2.59E-13	1.86E-12
WSW	12100	Eu-152	1.42E-14	2.56E-21	4.15E-22	2.98E-21
WSW	12100	Eu-154	8.23E-14	1.48E-20	2.40E-21	1.72E-20
WSW	12100	Eu-155	3.04E-14	5.47E-21	8.86E-22	6.35E-21
WSW	12100	H-3	1.84E-03	0.00E+00	0.00E+00	0.00E+00
WSW	12100	I-129	4.23E-11	1.48E-16	6.05E-18	1.54E-16
WSW	12100	Ni-63	1.02E-07	1.83E-14	2.97E-15	2.13E-14
WSW	12100	Np-237	2.59E-09	4.67E-16	7.57E-17	5.43E-16
WSW	12100	Pu-238	3.75E-09	6.75E-16	1.09E-16	7.84E-16
WSW	12100	Pu-239	8.30E-08	1.49E-14	2.42E-15	1.74E-14
WSW	12100	Pu-240	1.94E-08	3.49E-15	5.66E-16	4.06E-15
WSW	12100	Pu-241	5.23E-08	9.42E-15	1.53E-15	1.09E-14
WSW	12100	Sb-125	2.28E-07	4.10E-14	6.65E-15	4.77E-14
WSW	12100	Sm-151	8.36E-11	1.51E-17	2.44E-18	1.75E-17
WSW	12100	Sn-126	9.87E-08	1.78E-14	2.88E-15	2.06E-14
WSW	12100	Sr-90	1.35E-05	2.43E-12	3.95E-13	2.83E-12
WSW	12100	Tc-99	3.30E-04	5.94E-11	9.63E-12	6.90E-11
WSW	12100	Th-232	4.16E-17	7.48E-24	1.21E-24	8.69E-24
WSW	12100	U-233	9.08E-10	1.63E-16	2.65E-17	1.90E-16
WSW	12100	U-234	2.67E-10	4.80E-17	7.78E-18	5.58E-17
WSW	12100	U-235	1.08E-11	1.94E-18	3.14E-19	2.25E-18
WSW	12100	U-236	8.82E-12	1.59E-18	2.57E-19	1.84E-18
WSW	12100	U-238	2.39E-10	4.30E-17	6.98E-18	5.00E-17
WSW	12100	Y-90	1.31E-05	2.35E-12	3.83E-13	2.74E-12
WSW	12100	Ru-106	5.12E-14	9.22E-21	1.49E-21	1.07E-20
WSW	12100	Cs-134	1.29E-12	2.32E-19	3.75E-20	2.69E-19
WSW	12100	Ba-137m	8.95E-17	1.61E-23	1.65E-24	1.78E-23
WSW	12100	Pu-242	3.01E-12	5.41E-19	8.77E-20	6.29E-19
WSW	12100	Ra-226	2.74E-11	4.94E-18	8.01E-19	5.74E-18
WSW	12100	U-232	1.68E-11	3.02E-18	4.90E-19	3.51E-18
WSW	12100	Pa-231	3.76E-17	6.76E-24	1.10E-24	7.86E-24
WSW	12100	Ni-59	1.35E-09	2.43E-16	3.95E-17	2.83E-16
WSW	12100	Ac-227	2.71E-10	4.88E-17	7.91E-18	5.67E-17
WSW	12100	Am-243	4.04E-10	7.27E-17	1.18E-17	8.45E-17
WSW	12100	Ra-228	1.68E-09	3.02E-16	4.90E-17	3.51E-16
WSW	12100	Cm-242	2.46E-08	4.43E-15	7.18E-16	5.15E-15
WSW	12100	Th-229	1.88E-17	3.39E-24	5.49E-25	3.94E-24
WSW	12100	Zr-93	1.77E-13	3.19E-20	5.17E-21	3.70E-20
WSW	12100	Nb-93m	3.02E-13	5.43E-20	8.81E-21	6.31E-20
WSW	12100	Cd-113m	1.60E-07	2.88E-14	4.67E-15	3.35E-14
WSW	12100	Se-79	1.92E-06	3.46E-13	5.60E-14	4.02E-13
WSW	16100	Am-241	4.67E-07	8.40E-14	1.49E-14	9.89E-14
WSW	16100	C-14	2.99E-04	0.00E+00	0.00E+00	0.00E+00
WSW	16100	Co-60	4.46E-15	8.02E-22	1.42E-22	9.44E-22
WSW	16100	Cm-243	1.17E-09	2.11E-16	3.72E-17	2.48E-16

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WSW	16100	Cm-244	2.02E-08	3.63E-15	6.42E-16	4.27E-15
WSW	16100	Cs-137	5.93E-06	1.07E-12	1.89E-13	1.26E-12
WSW	16100	Eu-152	9.51E-15	1.71E-21	3.03E-22	2.02E-21
WSW	16100	Eu-154	5.50E-14	9.90E-21	1.75E-21	1.16E-20
WSW	16100	Eu-155	2.03E-14	3.65E-21	6.46E-22	4.30E-21
WSW	16100	H-3	1.30E-03	0.00E+00	0.00E+00	0.00E+00
WSW	16100	I-129	2.55E-11	8.92E-17	4.06E-18	9.33E-17
WSW	16100	Ni-63	6.81E-08	1.23E-14	2.17E-15	1.44E-14
WSW	16100	Np-237	1.73E-09	3.12E-16	5.52E-17	3.67E-16
WSW	16100	Pu-238	2.50E-09	4.51E-16	7.98E-17	5.31E-16
WSW	16100	Pu-239	5.54E-08	9.98E-15	1.77E-15	1.17E-14
WSW	16100	Pu-240	1.30E-08	2.33E-15	4.13E-16	2.75E-15
WSW	16100	Pu-241	3.50E-08	6.29E-15	1.11E-15	7.40E-15
WSW	16100	Sb-125	1.52E-07	2.74E-14	4.85E-15	3.23E-14
WSW	16100	Sm-151	5.59E-11	1.01E-17	1.78E-18	1.18E-17
WSW	16100	Sn-126	6.59E-08	1.19E-14	2.10E-15	1.40E-14
WSW	16100	Sr-90	9.03E-06	1.63E-12	2.88E-13	1.91E-12
WSW	16100	Tc-99	2.20E-04	3.97E-11	7.02E-12	4.67E-11
WSW	16100	Th-232	2.78E-17	5.00E-24	8.84E-25	5.88E-24
WSW	16100	U-233	6.07E-10	1.09E-16	1.93E-17	1.28E-16
WSW	16100	U-234	1.78E-10	3.20E-17	5.67E-18	3.77E-17
WSW	16100	U-235	7.20E-12	1.30E-18	2.29E-19	1.53E-18
WSW	16100	U-236	5.89E-12	1.06E-18	1.88E-19	1.25E-18
WSW	16100	U-238	1.60E-10	2.87E-17	5.09E-18	3.38E-17
WSW	16100	Y-90	8.64E-06	1.55E-12	2.77E-13	1.83E-12
WSW	16100	Ru-106	3.42E-14	6.16E-21	1.09E-21	7.25E-21
WSW	16100	Cs-134	8.60E-13	1.55E-19	2.74E-20	1.82E-19
WSW	16100	Ba-137m	8.38E-18	1.51E-24	8.64E-25	2.37E-24
WSW	16100	Pu-242	2.01E-12	3.61E-19	6.39E-20	4.25E-19
WSW	16100	Ra-226	1.83E-11	3.30E-18	5.84E-19	3.88E-18
WSW	16100	U-232	1.12E-11	2.02E-18	3.57E-19	2.38E-18
WSW	16100	Pa-231	2.51E-17	4.52E-24	7.99E-25	5.32E-24
WSW	16100	Ni-59	9.03E-10	1.63E-16	2.88E-17	1.91E-16
WSW	16100	Ac-227	1.81E-10	3.26E-17	5.77E-18	3.84E-17
WSW	16100	Am-243	2.70E-10	4.85E-17	8.59E-18	5.71E-17
WSW	16100	Ra-228	1.12E-09	2.02E-16	3.57E-17	2.38E-16
WSW	16100	Cm-242	1.64E-08	2.96E-15	5.24E-16	3.48E-15
WSW	16100	Th-229	1.26E-17	2.26E-24	4.00E-25	2.66E-24
WSW	16100	Zr-93	1.18E-13	2.13E-20	3.77E-21	2.51E-20
WSW	16100	Nb-93m	2.02E-13	3.63E-20	6.42E-21	4.27E-20
WSW	16100	Cd-113m	1.07E-07	1.92E-14	3.41E-15	2.26E-14
WSW	16100	Se-79	1.28E-06	2.31E-13	4.09E-14	2.72E-13
WSW	24100	Am-241	2.34E-07	4.20E-14	9.08E-15	5.11E-14
WSW	24100	C-14	1.85E-04	0.00E+00	0.00E+00	0.00E+00
WSW	24100	Co-60	2.23E-15	4.01E-22	8.67E-23	4.88E-22
WSW	24100	Cm-243	5.85E-10	1.05E-16	2.28E-17	1.28E-16
WSW	24100	Cm-244	1.01E-08	1.82E-15	3.92E-16	2.21E-15

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WSW	24100	Cs-137	2.97E-06	5.34E-13	1.15E-13	6.50E-13
WSW	24100	Eu-152	4.76E-15	8.57E-22	1.85E-22	1.04E-21
WSW	24100	Eu-154	2.75E-14	4.95E-21	1.07E-21	6.02E-21
WSW	24100	Eu-155	1.02E-14	1.83E-21	3.95E-22	2.22E-21
WSW	24100	H-3	8.05E-04	0.00E+00	0.00E+00	0.00E+00
WSW	24100	I-129	1.22E-11	4.26E-17	2.20E-18	4.48E-17
WSW	24100	Ni-63	3.41E-08	6.13E-15	1.32E-15	7.45E-15
WSW	24100	Np-237	8.67E-10	1.56E-16	3.37E-17	1.90E-16
WSW	24100	Pu-238	1.25E-09	2.26E-16	4.87E-17	2.74E-16
WSW	24100	Pu-239	2.77E-08	4.99E-15	1.08E-15	6.07E-15
WSW	24100	Pu-240	6.48E-09	1.17E-15	2.52E-16	1.42E-15
WSW	24100	Pu-241	1.75E-08	3.15E-15	6.80E-16	3.83E-15
WSW	24100	Sb-125	7.62E-08	1.37E-14	2.96E-15	1.67E-14
WSW	24100	Sm-151	2.79E-11	5.03E-18	1.09E-18	6.12E-18
WSW	24100	Sn-126	3.30E-08	5.93E-15	1.28E-15	7.22E-15
WSW	24100	Sr-90	4.52E-06	8.13E-13	1.76E-13	9.89E-13
WSW	24100	Tc-99	1.10E-04	1.98E-11	4.29E-12	2.41E-11
WSW	24100	Th-232	1.39E-17	2.50E-24	5.40E-25	3.04E-24
WSW	24100	U-233	3.03E-10	5.46E-17	1.18E-17	6.64E-17
WSW	24100	U-234	8.91E-11	1.60E-17	3.46E-18	1.95E-17
WSW	24100	U-235	3.60E-12	6.48E-19	1.40E-19	7.88E-19
WSW	24100	U-236	2.95E-12	5.31E-19	1.15E-19	6.45E-19
WSW	24100	U-238	7.99E-11	1.44E-17	3.11E-18	1.75E-17
WSW	24100	Y-90	4.23E-06	7.61E-13	1.66E-13	9.27E-13
WSW	24100	Ru-106	1.71E-14	3.08E-21	6.65E-22	3.74E-21
WSW	24100	Cs-134	4.30E-13	7.74E-20	1.67E-20	9.41E-20
WSW	24100	Ba-137m	2.48E-19	4.46E-26	4.60E-26	9.06E-26
WSW	24100	Pu-242	1.00E-12	1.81E-19	3.90E-20	2.20E-19
WSW	24100	Ra-226	9.17E-12	1.65E-18	3.57E-19	2.01E-18
WSW	24100	U-232	5.61E-12	1.01E-18	2.18E-19	1.23E-18
WSW	24100	Pa-231	1.26E-17	2.26E-24	4.88E-25	2.75E-24
WSW	24100	Ni-59	4.52E-10	8.13E-17	1.76E-17	9.89E-17
WSW	24100	Ac-227	9.06E-11	1.63E-17	3.52E-18	1.98E-17
WSW	24100	Am-243	1.35E-10	2.43E-17	5.25E-18	2.95E-17
WSW	24100	Ra-228	5.61E-10	1.01E-16	2.18E-17	1.23E-16
WSW	24100	Cm-242	8.22E-09	1.48E-15	3.20E-16	1.80E-15
WSW	24100	Th-229	6.29E-18	1.13E-24	2.44E-25	1.38E-24
WSW	24100	Zr-93	5.92E-14	1.06E-20	2.30E-21	1.29E-20
WSW	24100	Nb-93m	1.01E-13	1.82E-20	3.92E-21	2.21E-20
WSW	24100	Cd-113m	5.35E-08	9.63E-15	2.08E-15	1.17E-14
WSW	24100	Se-79	6.42E-07	1.16E-13	2.50E-14	1.40E-13
WSW	30100	Am-241	1.57E-07	2.82E-14	6.96E-15	3.52E-14
WSW	30100	C-14	1.43E-04	0.00E+00	0.00E+00	0.00E+00
WSW	30100	Co-60	1.49E-15	2.69E-22	6.64E-23	3.35E-22
WSW	30100	Cm-243	3.92E-10	7.06E-17	1.74E-17	8.81E-17
WSW	30100	Cm-244	6.76E-09	1.22E-15	3.00E-16	1.52E-15
WSW	30100	Cs-137	1.99E-06	3.58E-13	8.84E-14	4.47E-13

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WSW	30100	Eu-152	3.19E-15	5.74E-22	1.42E-22	7.16E-22
WSW	30100	Eu-154	1.84E-14	3.32E-21	8.19E-22	4.14E-21
WSW	30100	Eu-155	6.81E-15	1.23E-21	3.02E-22	1.53E-21
WSW	30100	H-3	6.20E-04	0.00E+00	0.00E+00	0.00E+00
WSW	30100	I-129	8.35E-12	2.92E-17	1.53E-18	3.08E-17
WSW	30100	Ni-63	2.28E-08	4.11E-15	1.01E-15	5.13E-15
WSW	30100	Np-237	5.81E-10	1.05E-16	2.58E-17	1.30E-16
WSW	30100	Pu-238	8.40E-10	1.51E-16	3.73E-17	1.89E-16
WSW	30100	Pu-239	1.86E-08	3.35E-15	8.26E-16	4.17E-15
WSW	30100	Pu-240	4.35E-09	7.83E-16	1.93E-16	9.76E-16
WSW	30100	Pu-241	1.17E-08	2.11E-15	5.21E-16	2.63E-15
WSW	30100	Sb-125	5.11E-08	9.20E-15	2.27E-15	1.15E-14
WSW	30100	Sm-151	1.87E-11	3.37E-18	8.32E-19	4.21E-18
WSW	30100	Sn-126	2.21E-08	3.98E-15	9.82E-16	4.96E-15
WSW	30100	Sr-90	3.03E-06	5.45E-13	1.35E-13	6.80E-13
WSW	30100	Tc-99	7.39E-05	1.33E-11	3.28E-12	1.66E-11
WSW	30100	Th-232	9.31E-18	1.68E-24	4.14E-25	2.09E-24
WSW	30100	U-233	2.04E-10	3.66E-17	9.04E-18	4.57E-17
WSW	30100	U-234	5.97E-11	1.08E-17	2.65E-18	1.34E-17
WSW	30100	U-235	2.42E-12	4.35E-19	1.07E-19	5.42E-19
WSW	30100	U-236	1.98E-12	3.56E-19	8.78E-20	4.44E-19
WSW	30100	U-238	5.36E-11	9.65E-18	2.38E-18	1.20E-17
WSW	30100	Y-90	2.79E-06	5.02E-13	1.25E-13	6.28E-13
WSW	30100	Ru-106	1.15E-14	2.06E-21	5.10E-22	2.57E-21
WSW	30100	Cs-134	2.88E-13	5.19E-20	1.28E-20	6.47E-20
WSW	30100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
WSW	30100	Pu-242	6.73E-13	1.21E-19	2.99E-20	1.51E-19
WSW	30100	Ra-226	6.15E-12	1.11E-18	2.73E-19	1.38E-18
WSW	30100	U-232	3.76E-12	6.77E-19	1.67E-19	8.44E-19
WSW	30100	Pa-231	8.42E-18	1.52E-24	3.74E-25	1.89E-24
WSW	30100	Ni-59	3.03E-10	5.46E-17	1.35E-17	6.80E-17
WSW	30100	Ac-227	6.08E-11	1.09E-17	2.70E-18	1.36E-17
WSW	30100	Am-243	9.05E-11	1.63E-17	4.02E-18	2.03E-17
WSW	30100	Ra-228	3.76E-10	6.77E-17	1.67E-17	8.44E-17
WSW	30100	Cm-242	5.51E-09	9.92E-16	2.45E-16	1.24E-15
WSW	30100	Th-229	4.22E-18	7.59E-25	1.87E-25	9.46E-25
WSW	30100	Zr-93	3.97E-14	7.14E-21	1.76E-21	8.90E-21
WSW	30100	Nb-93m	6.76E-14	1.22E-20	3.00E-21	1.52E-20
WSW	30100	Cd-113m	3.59E-08	6.46E-15	1.59E-15	8.05E-15
WSW	30100	Se-79	4.30E-07	7.75E-14	1.91E-14	9.66E-14
WSW	36100	Am-241	1.21E-07	2.17E-14	5.64E-15	2.74E-14
WSW	36100	C-14	1.15E-04	0.00E+00	0.00E+00	0.00E+00
WSW	36100	Co-60	1.15E-15	2.07E-22	5.39E-23	2.61E-22
WSW	36100	Cm-243	3.02E-10	5.44E-17	1.41E-17	6.85E-17
WSW	36100	Cm-244	5.21E-09	9.38E-16	2.44E-16	1.18E-15
WSW	36100	Cs-137	1.53E-06	2.76E-13	7.17E-14	3.48E-13
WSW	36100	Eu-152	2.46E-15	4.43E-22	1.15E-22	5.58E-22

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WSW	36100	Eu-154	1.42E-14	2.56E-21	6.65E-22	3.22E-21
WSW	36100	Eu-155	5.24E-15	9.44E-22	2.45E-22	1.19E-21
WSW	36100	H-3	5.02E-04	0.00E+00	0.00E+00	0.00E+00
WSW	36100	I-129	6.01E-12	2.10E-17	1.10E-18	2.21E-17
WSW	36100	Ni-63	1.76E-08	3.17E-15	8.23E-16	3.99E-15
WSW	36100	Np-237	4.48E-10	8.06E-17	2.09E-17	1.02E-16
WSW	36100	Pu-238	6.47E-10	1.17E-16	3.03E-17	1.47E-16
WSW	36100	Pu-239	1.43E-08	2.58E-15	6.70E-16	3.25E-15
WSW	36100	Pu-240	3.35E-09	6.03E-16	1.57E-16	7.60E-16
WSW	36100	Pu-241	9.03E-09	1.63E-15	4.23E-16	2.05E-15
WSW	36100	Sb-125	3.94E-08	7.08E-15	1.84E-15	8.92E-15
WSW	36100	Sm-151	1.44E-11	2.60E-18	6.75E-19	3.27E-18
WSW	36100	Sn-126	1.70E-08	3.07E-15	7.97E-16	3.86E-15
WSW	36100	Sr-90	2.33E-06	4.20E-13	1.09E-13	5.29E-13
WSW	36100	Tc-99	5.70E-05	1.03E-11	2.66E-12	1.29E-11
WSW	36100	Th-232	7.17E-18	1.29E-24	3.35E-25	1.63E-24
WSW	36100	U-233	1.57E-10	2.82E-17	7.33E-18	3.56E-17
WSW	36100	U-234	4.60E-11	8.28E-18	2.15E-18	1.04E-17
WSW	36100	U-235	1.86E-12	3.35E-19	8.70E-20	4.22E-19
WSW	36100	U-236	1.52E-12	2.74E-19	7.12E-20	3.45E-19
WSW	36100	U-238	4.13E-11	7.43E-18	1.93E-18	9.36E-18
WSW	36100	Y-90	2.12E-06	3.81E-13	1.00E-13	4.81E-13
WSW	36100	Ru-106	8.84E-15	1.59E-21	4.13E-22	2.00E-21
WSW	36100	Cs-134	2.22E-13	4.00E-20	1.04E-20	5.04E-20
WSW	36100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
WSW	36100	Pu-242	5.19E-13	9.34E-20	2.43E-20	1.18E-19
WSW	36100	Ra-226	4.74E-12	8.53E-19	2.22E-19	1.07E-18
WSW	36100	U-232	2.90E-12	5.22E-19	1.36E-19	6.57E-19
WSW	36100	Pa-231	6.49E-18	1.17E-24	3.03E-25	1.47E-24
WSW	36100	Ni-59	2.33E-10	4.20E-17	1.09E-17	5.29E-17
WSW	36100	Ac-227	4.68E-11	8.43E-18	2.19E-18	1.06E-17
WSW	36100	Am-243	6.97E-11	1.25E-17	3.26E-18	1.58E-17
WSW	36100	Ra-228	2.90E-10	5.22E-17	1.36E-17	6.57E-17
WSW	36100	Cm-242	4.25E-09	7.64E-16	1.99E-16	9.63E-16
WSW	36100	Th-229	3.25E-18	5.85E-25	1.52E-25	7.37E-25
WSW	36100	Zr-93	3.06E-14	5.50E-21	1.43E-21	6.93E-21
WSW	36100	Nb-93m	5.21E-14	9.38E-21	2.44E-21	1.18E-20
WSW	36100	Cd-113m	2.76E-08	4.97E-15	1.29E-15	6.27E-15
WSW	36100	Se-79	3.32E-07	5.97E-14	1.55E-14	7.52E-14
WSW	42100	Am-241	9.56E-08	1.72E-14	4.69E-15	2.19E-14
WSW	42100	C-14	9.64E-05	0.00E+00	0.00E+00	0.00E+00
WSW	42100	Co-60	9.12E-16	1.64E-22	4.48E-23	2.09E-22
WSW	42100	Cm-243	2.39E-10	4.31E-17	1.18E-17	5.49E-17
WSW	42100	Cm-244	4.13E-09	7.43E-16	2.03E-16	9.46E-16
WSW	42100	Cs-137	1.21E-06	2.19E-13	5.97E-14	2.78E-13
WSW	42100	Eu-152	1.95E-15	3.51E-22	9.56E-23	4.46E-22
WSW	42100	Eu-154	1.13E-14	2.03E-21	5.53E-22	2.58E-21

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WSW	42100	Eu-155	4.15E-15	7.48E-22	2.04E-22	9.52E-22
WSW	42100	H-3	4.19E-04	0.00E+00	0.00E+00	0.00E+00
WSW	42100	I-129	4.45E-12	1.56E-17	8.22E-19	1.64E-17
WSW	42100	Ni-63	1.39E-08	2.51E-15	6.84E-16	3.19E-15
WSW	42100	Np-237	3.55E-10	6.38E-17	1.74E-17	8.13E-17
WSW	42100	Pu-238	5.13E-10	9.23E-17	2.52E-17	1.17E-16
WSW	42100	Pu-239	1.13E-08	2.04E-15	5.57E-16	2.60E-15
WSW	42100	Pu-240	2.65E-09	4.78E-16	1.30E-16	6.08E-16
WSW	42100	Pu-241	7.16E-09	1.29E-15	3.51E-16	1.64E-15
WSW	42100	Sb-125	3.12E-08	5.61E-15	1.53E-15	7.14E-15
WSW	42100	Sm-151	1.14E-11	2.06E-18	5.62E-19	2.62E-18
WSW	42100	Sn-126	1.35E-08	2.43E-15	6.63E-16	3.09E-15
WSW	42100	Sr-90	1.85E-06	3.33E-13	9.08E-14	4.24E-13
WSW	42100	Tc-99	4.51E-05	8.12E-12	2.22E-12	1.03E-11
WSW	42100	Th-232	5.68E-18	1.02E-24	2.79E-25	1.30E-24
WSW	42100	U-233	1.24E-10	2.24E-17	6.10E-18	2.85E-17
WSW	42100	U-234	3.65E-11	6.56E-18	1.79E-18	8.35E-18
WSW	42100	U-235	1.47E-12	2.65E-19	7.24E-20	3.38E-19
WSW	42100	U-236	1.21E-12	2.17E-19	5.92E-20	2.76E-19
WSW	42100	U-238	3.27E-11	5.89E-18	1.61E-18	7.49E-18
WSW	42100	Y-90	1.65E-06	2.97E-13	8.21E-14	3.79E-13
WSW	42100	Ru-106	7.00E-15	1.26E-21	3.44E-22	1.60E-21
WSW	42100	Cs-134	1.76E-13	3.17E-20	8.64E-21	4.03E-20
WSW	42100	Ba-137m	1.34E-19	2.41E-26	1.30E-27	2.54E-26
WSW	42100	Pu-242	4.11E-13	7.40E-20	2.02E-20	9.42E-20
WSW	42100	Ra-226	3.75E-12	6.75E-19	1.84E-19	8.60E-19
WSW	42100	U-232	2.30E-12	4.13E-19	1.13E-19	5.26E-19
WSW	42100	Pa-231	5.14E-18	9.25E-25	2.52E-25	1.18E-24
WSW	42100	Ni-59	1.85E-10	3.33E-17	9.08E-18	4.24E-17
WSW	42100	Ac-227	3.71E-11	6.67E-18	1.82E-18	8.49E-18
WSW	42100	Am-243	5.52E-11	9.94E-18	2.71E-18	1.26E-17
WSW	42100	Ra-228	2.30E-10	4.13E-17	1.13E-17	5.26E-17
WSW	42100	Cm-242	3.36E-09	6.05E-16	1.65E-16	7.70E-16
WSW	42100	Th-229	2.57E-18	4.63E-25	1.26E-25	5.89E-25
WSW	42100	Zr-93	2.42E-14	4.36E-21	1.19E-21	5.55E-21
WSW	42100	Nb-93m	4.13E-14	7.43E-21	2.03E-21	9.46E-21
WSW	42100	Cd-113m	2.19E-08	3.94E-15	1.07E-15	5.01E-15
WSW	42100	Se-79	2.63E-07	4.73E-14	1.29E-14	6.02E-14
WSW	48100	Am-241	7.67E-08	1.38E-14	3.97E-15	1.78E-14
WSW	48100	C-14	8.26E-05	0.00E+00	0.00E+00	0.00E+00
WSW	48100	Co-60	7.32E-16	1.32E-22	3.78E-23	1.70E-22
WSW	48100	Cm-243	1.92E-10	3.46E-17	9.94E-18	4.45E-17
WSW	48100	Cm-244	3.31E-09	5.96E-16	1.71E-16	7.67E-16
WSW	48100	Cs-137	9.75E-07	1.75E-13	5.04E-14	2.26E-13
WSW	48100	Eu-152	1.56E-15	2.81E-22	8.08E-23	3.62E-22
WSW	48100	Eu-154	9.03E-15	1.63E-21	4.67E-22	2.09E-21
WSW	48100	Eu-155	3.33E-15	6.00E-22	1.72E-22	7.72E-22

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WSW	48100	H-3	3.59E-04	0.00E+00	0.00E+00	0.00E+00
WSW	48100	I-129	3.37E-12	1.18E-17	6.25E-19	1.24E-17
WSW	48100	Ni-63	1.12E-08	2.01E-15	5.78E-16	2.59E-15
WSW	48100	Np-237	2.85E-10	5.12E-17	1.47E-17	6.59E-17
WSW	48100	Pu-238	4.11E-10	7.41E-17	2.13E-17	9.54E-17
WSW	48100	Pu-239	9.10E-09	1.64E-15	4.71E-16	2.11E-15
WSW	48100	Pu-240	2.13E-09	3.83E-16	1.10E-16	4.93E-16
WSW	48100	Pu-241	5.74E-09	1.03E-15	2.97E-16	1.33E-15
WSW	48100	Sb-125	2.50E-08	4.50E-15	1.29E-15	5.80E-15
WSW	48100	Sm-151	9.18E-12	1.65E-18	4.75E-19	2.13E-18
WSW	48100	Sn-126	1.08E-08	1.95E-15	5.60E-16	2.51E-15
WSW	48100	Sr-90	1.48E-06	2.67E-13	7.67E-14	3.44E-13
WSW	48100	Tc-99	3.62E-05	6.52E-12	1.87E-12	8.39E-12
WSW	48100	Th-232	4.56E-18	8.21E-25	2.36E-25	1.06E-24
WSW	48100	U-233	9.96E-11	1.79E-17	5.15E-18	2.31E-17
WSW	48100	U-234	2.92E-11	5.26E-18	1.51E-18	6.78E-18
WSW	48100	U-235	1.18E-12	2.13E-19	6.12E-20	2.74E-19
WSW	48100	U-236	9.68E-13	1.74E-19	5.01E-20	2.24E-19
WSW	48100	U-238	2.62E-11	4.72E-18	1.36E-18	6.08E-18
WSW	48100	Y-90	1.30E-06	2.34E-13	6.84E-14	3.03E-13
WSW	48100	Ru-106	5.62E-15	1.01E-21	2.90E-22	1.30E-21
WSW	48100	Cs-134	1.41E-13	2.54E-20	7.30E-21	3.27E-20
WSW	48100	Ba-137m	2.75E-19	4.96E-26	1.13E-26	6.09E-26
WSW	48100	Pu-242	3.30E-13	5.94E-20	1.71E-20	7.64E-20
WSW	48100	Ra-226	3.01E-12	5.42E-19	1.56E-19	6.98E-19
WSW	48100	U-232	1.84E-12	3.32E-19	9.53E-20	4.27E-19
WSW	48100	Pa-231	4.12E-18	7.42E-25	2.13E-25	9.55E-25
WSW	48100	Ni-59	1.48E-10	2.67E-17	7.67E-18	3.44E-17
WSW	48100	Ac-227	2.97E-11	5.35E-18	1.54E-18	6.89E-18
WSW	48100	Am-243	4.43E-11	7.97E-18	2.29E-18	1.03E-17
WSW	48100	Ra-228	1.84E-10	3.32E-17	9.53E-18	4.27E-17
WSW	48100	Cm-242	2.70E-09	4.85E-16	1.40E-16	6.25E-16
WSW	48100	Th-229	2.06E-18	3.72E-25	1.07E-25	4.78E-25
WSW	48100	Zr-93	1.94E-14	3.50E-21	1.00E-21	4.50E-21
WSW	48100	Nb-93m	3.31E-14	5.96E-21	1.71E-21	7.67E-21
WSW	48100	Cd-113m	1.76E-08	3.16E-15	9.08E-16	4.07E-15
WSW	48100	Se-79	2.11E-07	3.79E-14	1.09E-14	4.88E-14
WSW	54100	Am-241	6.11E-08	1.10E-14	3.37E-15	1.44E-14
WSW	54100	C-14	7.20E-05	0.00E+00	0.00E+00	0.00E+00
WSW	54100	Co-60	5.83E-16	1.05E-22	3.22E-23	1.37E-22
WSW	54100	Cm-243	1.53E-10	2.75E-17	8.45E-18	3.60E-17
WSW	54100	Cm-244	2.64E-09	4.75E-16	1.46E-16	6.20E-16
WSW	54100	Cs-137	7.76E-07	1.40E-13	4.29E-14	1.83E-13
WSW	54100	Eu-152	1.24E-15	2.24E-22	6.88E-23	2.93E-22
WSW	54100	Eu-154	7.19E-15	1.29E-21	3.97E-22	1.69E-21
WSW	54100	Eu-155	2.65E-15	4.78E-22	1.47E-22	6.24E-22
WSW	54100	H-3	3.13E-04	0.00E+00	0.00E+00	0.00E+00

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WSW	54100	I-129	2.60E-12	9.10E-18	4.83E-19	9.59E-18
WSW	54100	Ni-63	8.90E-09	1.60E-15	4.92E-16	2.09E-15
WSW	54100	Np-237	2.27E-10	4.08E-17	1.25E-17	5.33E-17
WSW	54100	Pu-238	3.28E-10	5.90E-17	1.81E-17	7.71E-17
WSW	54100	Pu-239	7.25E-09	1.30E-15	4.01E-16	1.71E-15
WSW	54100	Pu-240	1.70E-09	3.05E-16	9.37E-17	3.99E-16
WSW	54100	Pu-241	4.57E-09	8.23E-16	2.53E-16	1.08E-15
WSW	54100	Sb-125	1.99E-08	3.58E-15	1.10E-15	4.68E-15
WSW	54100	Sm-151	7.31E-12	1.31E-18	4.04E-19	1.72E-18
WSW	54100	Sn-126	8.62E-09	1.55E-15	4.76E-16	2.03E-15
WSW	54100	Sr-90	1.18E-06	2.13E-13	6.53E-14	2.78E-13
WSW	54100	Tc-99	2.88E-05	5.19E-12	1.59E-12	6.78E-12
WSW	54100	Th-232	3.63E-18	6.53E-25	2.01E-25	8.54E-25
WSW	54100	U-233	7.93E-11	1.43E-17	4.38E-18	1.87E-17
WSW	54100	U-234	2.33E-11	4.19E-18	1.29E-18	5.48E-18
WSW	54100	U-235	9.42E-13	1.70E-19	5.20E-20	2.22E-19
WSW	54100	U-236	7.71E-13	1.39E-19	4.26E-20	1.81E-19
WSW	54100	U-238	2.09E-11	3.76E-18	1.15E-18	4.91E-18
WSW	54100	Y-90	1.02E-06	1.84E-13	5.74E-14	2.41E-13
WSW	54100	Ru-106	4.47E-15	8.05E-22	2.47E-22	1.05E-21
WSW	54100	Cs-134	1.12E-13	2.02E-20	6.21E-21	2.64E-20
WSW	54100	Ba-137m	8.43E-20	1.52E-26	4.48E-27	1.97E-26
WSW	54100	Pu-242	2.63E-13	4.73E-20	1.45E-20	6.18E-20
WSW	54100	Ra-226	2.40E-12	4.31E-19	1.32E-19	5.64E-19
WSW	54100	U-232	1.47E-12	2.64E-19	8.11E-20	3.45E-19
WSW	54100	Pa-231	3.28E-18	5.91E-25	1.81E-25	7.72E-25
WSW	54100	Ni-59	1.18E-10	2.13E-17	6.53E-18	2.78E-17
WSW	54100	Ac-227	2.37E-11	4.26E-18	1.31E-18	5.57E-18
WSW	54100	Am-243	3.53E-11	6.35E-18	1.95E-18	8.30E-18
WSW	54100	Ra-228	1.47E-10	2.64E-17	8.10E-18	3.45E-17
WSW	54100	Cm-242	2.15E-09	3.86E-16	1.19E-16	5.05E-16
WSW	54100	Th-229	1.64E-18	2.96E-25	9.08E-26	3.87E-25
WSW	54100	Zr-93	1.55E-14	2.78E-21	8.55E-22	3.64E-21
WSW	54100	Nb-93m	2.64E-14	4.75E-21	1.46E-21	6.20E-21
WSW	54100	Cd-113m	1.40E-08	2.52E-15	7.73E-16	3.29E-15
WSW	54100	Se-79	1.68E-07	3.02E-14	9.27E-15	3.95E-14
WSW	60100	Am-241	4.03E-08	7.25E-15	2.79E-15	1.00E-14
WSW	60100	C-14	6.38E-05	0.00E+00	0.00E+00	0.00E+00
WSW	60100	Co-60	3.84E-16	6.92E-23	2.66E-23	9.58E-23
WSW	60100	Cm-243	1.01E-10	1.82E-17	6.98E-18	2.51E-17
WSW	60100	Cm-244	1.74E-09	3.13E-16	1.20E-16	4.34E-16
WSW	60100	Cs-137	5.12E-07	9.22E-14	3.54E-14	1.28E-13
WSW	60100	Eu-152	8.21E-16	1.48E-22	5.68E-23	2.05E-22
WSW	60100	Eu-154	4.74E-15	8.54E-22	3.28E-22	1.18E-21
WSW	60100	Eu-155	1.75E-15	3.15E-22	1.21E-22	4.36E-22
WSW	60100	H-3	2.78E-04	0.00E+00	0.00E+00	0.00E+00
WSW	60100	I-129	2.03E-12	7.11E-18	3.78E-19	7.49E-18

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WSW	60100	Ni-63	5.87E-09	1.06E-15	4.07E-16	1.46E-15
WSW	60100	Np-237	1.50E-10	2.69E-17	1.03E-17	3.73E-17
WSW	60100	Pu-238	2.16E-10	3.89E-17	1.50E-17	5.39E-17
WSW	60100	Pu-239	4.78E-09	8.61E-16	3.31E-16	1.19E-15
WSW	60100	Pu-240	1.12E-09	2.01E-16	7.74E-17	2.79E-16
WSW	60100	Pu-241	3.02E-09	5.43E-16	2.09E-16	7.52E-16
WSW	60100	Sb-125	1.31E-08	2.36E-15	9.09E-16	3.27E-15
WSW	60100	Sm-151	4.82E-12	8.68E-19	3.34E-19	1.20E-18
WSW	60100	Sn-126	5.69E-09	1.02E-15	3.94E-16	1.42E-15
WSW	60100	Sr-90	7.80E-07	1.40E-13	5.39E-14	1.94E-13
WSW	60100	Tc-99	1.90E-05	3.42E-12	1.32E-12	4.74E-12
WSW	60100	Th-232	2.40E-18	4.31E-25	1.66E-25	5.97E-25
WSW	60100	U-233	5.23E-11	9.42E-18	3.62E-18	1.30E-17
WSW	60100	U-234	1.54E-11	2.77E-18	1.06E-18	3.83E-18
WSW	60100	U-235	6.21E-13	1.12E-19	4.30E-20	1.55E-19
WSW	60100	U-236	5.08E-13	9.15E-20	3.52E-20	1.27E-19
WSW	60100	U-238	1.38E-11	2.48E-18	9.54E-19	3.43E-18
WSW	60100	Y-90	6.66E-07	1.20E-13	4.69E-14	1.67E-13
WSW	60100	Ru-106	2.95E-15	5.31E-22	2.04E-22	7.35E-22
WSW	60100	Cs-134	7.41E-14	1.33E-20	5.13E-21	1.85E-20
WSW	60100	Ba-137m	1.93E-20	3.47E-27	2.83E-27	6.30E-27
WSW	60100	Pu-242	1.73E-13	3.12E-20	1.20E-20	4.32E-20
WSW	60100	Ra-226	1.58E-12	2.85E-19	1.09E-19	3.94E-19
WSW	60100	U-232	9.68E-13	1.74E-19	6.70E-20	2.41E-19
WSW	60100	Pa-231	2.17E-18	3.90E-25	1.50E-25	5.40E-25
WSW	60100	Ni-59	7.80E-11	1.40E-17	5.39E-18	1.94E-17
WSW	60100	Ac-227	1.56E-11	2.81E-18	1.08E-18	3.89E-18
WSW	60100	Am-243	2.33E-11	4.19E-18	1.61E-18	5.80E-18
WSW	60100	Ra-228	9.68E-11	1.74E-17	6.70E-18	2.41E-17
WSW	60100	Cm-242	1.42E-09	2.55E-16	9.80E-17	3.53E-16
WSW	60100	Th-229	1.08E-18	1.95E-25	7.51E-26	2.70E-25
WSW	60100	Zr-93	1.02E-14	1.84E-21	7.06E-22	2.54E-21
WSW	60100	Nb-93m	1.74E-14	3.13E-21	1.20E-21	4.34E-21
WSW	60100	Cd-113m	9.23E-09	1.66E-15	6.38E-16	2.30E-15
WSW	60100	Se-79	1.11E-07	1.99E-14	7.66E-15	2.76E-14
WSW	66100	Am-241	3.47E-08	6.24E-15	2.48E-15	8.72E-15
WSW	66100	C-14	5.71E-05	0.00E+00	0.00E+00	0.00E+00
WSW	66100	Co-60	3.31E-16	5.95E-23	2.36E-23	8.32E-23
WSW	66100	Cm-243	8.68E-11	1.56E-17	6.20E-18	2.18E-17
WSW	66100	Cm-244	1.50E-09	2.69E-16	1.07E-16	3.76E-16
WSW	66100	Cs-137	4.41E-07	7.93E-14	3.15E-14	1.11E-13
WSW	66100	Eu-152	7.06E-16	1.27E-22	5.05E-23	1.78E-22
WSW	66100	Eu-154	4.08E-15	7.35E-22	2.92E-22	1.03E-21
WSW	66100	Eu-155	1.51E-15	2.71E-22	1.08E-22	3.79E-22
WSW	66100	H-3	2.49E-04	0.00E+00	0.00E+00	0.00E+00
WSW	66100	I-129	1.61E-12	5.63E-18	2.99E-19	5.92E-18
WSW	66100	Ni-63	5.06E-09	9.10E-16	3.61E-16	1.27E-15

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
WSW	66100	Np-237	1.29E-10	2.32E-17	9.19E-18	3.24E-17
WSW	66100	Pu-238	1.86E-10	3.35E-17	1.33E-17	4.68E-17
WSW	66100	Pu-239	4.12E-09	7.41E-16	2.94E-16	1.03E-15
WSW	66100	Pu-240	9.63E-10	1.73E-16	6.88E-17	2.42E-16
WSW	66100	Pu-241	2.60E-09	4.67E-16	1.85E-16	6.53E-16
WSW	66100	Sb-125	1.13E-08	2.03E-15	8.08E-16	2.84E-15
WSW	66100	Sm-151	4.15E-12	7.47E-19	2.96E-19	1.04E-18
WSW	66100	Sn-126	4.89E-09	8.81E-16	3.50E-16	1.23E-15
WSW	66100	Sr-90	6.71E-07	1.21E-13	4.79E-14	1.69E-13
WSW	66100	Tc-99	1.64E-05	2.95E-12	1.17E-12	4.12E-12
WSW	66100	Th-232	2.06E-18	3.71E-25	1.47E-25	5.18E-25
WSW	66100	U-233	4.50E-11	8.11E-18	3.22E-18	1.13E-17
WSW	66100	U-234	1.32E-11	2.38E-18	9.45E-19	3.32E-18
WSW	66100	U-235	5.35E-13	9.63E-20	3.82E-20	1.34E-19
WSW	66100	U-236	4.38E-13	7.88E-20	3.13E-20	1.10E-19
WSW	66100	U-238	1.19E-11	2.14E-18	8.47E-19	2.98E-18
WSW	66100	Y-90	5.64E-07	1.02E-13	4.11E-14	1.43E-13
WSW	66100	Ru-106	2.54E-15	4.57E-22	1.81E-22	6.38E-22
WSW	66100	Cs-134	6.38E-14	1.15E-20	4.56E-21	1.60E-20
WSW	66100	Ba-137m	2.01E-20	3.62E-27	3.32E-27	6.94E-27
WSW	66100	Pu-242	1.49E-13	2.68E-20	1.06E-20	3.75E-20
WSW	66100	Ra-226	1.36E-12	2.45E-19	9.72E-20	3.42E-19
WSW	66100	U-232	8.33E-13	1.50E-19	5.95E-20	2.09E-19
WSW	66100	Pa-231	1.86E-18	3.35E-25	1.33E-25	4.69E-25
WSW	66100	Ni-59	6.71E-11	1.21E-17	4.79E-18	1.69E-17
WSW	66100	Ac-227	1.34E-11	2.42E-18	9.61E-19	3.38E-18
WSW	66100	Am-243	2.00E-11	3.61E-18	1.43E-18	5.04E-18
WSW	66100	Ra-228	8.33E-11	1.50E-17	5.95E-18	2.09E-17
WSW	66100	Cm-242	1.22E-09	2.19E-16	8.71E-17	3.06E-16
WSW	66100	Th-229	9.33E-19	1.68E-25	6.67E-26	2.35E-25
WSW	66100	Zr-93	8.78E-15	1.58E-21	6.27E-22	2.21E-21
WSW	66100	Nb-93m	1.50E-14	2.69E-21	1.07E-21	3.76E-21
WSW	66100	Cd-113m	7.94E-09	1.43E-15	5.67E-16	2.00E-15
WSW	66100	Se-79	9.53E-08	1.72E-14	6.81E-15	2.40E-14
SW	12100	Am-241	6.23E-07	1.12E-13	2.08E-14	1.33E-13
SW	12100	C-14	3.60E-04	0.00E+00	0.00E+00	0.00E+00
SW	12100	Co-60	5.95E-15	1.07E-21	1.98E-22	1.27E-21
SW	12100	Cm-243	1.56E-09	2.81E-16	5.21E-17	3.33E-16
SW	12100	Cm-244	2.69E-08	4.85E-15	8.98E-16	5.74E-15
SW	12100	Cs-137	7.92E-06	1.43E-12	2.64E-13	1.69E-12
SW	12100	Eu-152	1.27E-14	2.29E-21	4.24E-22	2.71E-21
SW	12100	Eu-154	7.34E-14	1.32E-20	2.45E-21	1.57E-20
SW	12100	Eu-155	2.71E-14	4.88E-21	9.03E-22	5.78E-21
SW	12100	H-3	1.57E-03	0.00E+00	0.00E+00	0.00E+00
SW	12100	I-129	5.24E-11	1.83E-16	7.61E-18	1.91E-16
SW	12100	Ni-63	9.09E-08	1.64E-14	3.03E-15	1.94E-14
SW	12100	Np-237	2.31E-09	4.16E-16	7.71E-17	4.93E-16

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SW	12100	Pu-238	3.34E-09	6.02E-16	1.12E-16	7.14E-16
SW	12100	Pu-239	7.40E-08	1.33E-14	2.47E-15	1.58E-14
SW	12100	Pu-240	1.73E-08	3.11E-15	5.77E-16	3.69E-15
SW	12100	Pu-241	4.67E-08	8.40E-15	1.56E-15	9.96E-15
SW	12100	Sb-125	2.03E-07	3.66E-14	6.78E-15	4.34E-14
SW	12100	Sm-151	7.46E-11	1.34E-17	2.49E-18	1.59E-17
SW	12100	Sn-126	8.80E-08	1.58E-14	2.93E-15	1.88E-14
SW	12100	Sr-90	1.21E-05	2.17E-12	4.02E-13	2.57E-12
SW	12100	Tc-99	2.94E-04	5.30E-11	9.81E-12	6.28E-11
SW	12100	Th-232	3.71E-17	6.67E-24	1.24E-24	7.91E-24
SW	12100	U-233	8.10E-10	1.46E-16	2.70E-17	1.73E-16
SW	12100	U-234	2.38E-10	4.28E-17	7.93E-18	5.07E-17
SW	12100	U-235	9.61E-12	1.73E-18	3.21E-19	2.05E-18
SW	12100	U-236	7.87E-12	1.42E-18	2.62E-19	1.68E-18
SW	12100	U-238	2.13E-10	3.84E-17	7.11E-18	4.55E-17
SW	12100	Y-90	1.17E-05	2.10E-12	3.91E-13	2.49E-12
SW	12100	Ru-106	4.57E-14	8.22E-21	1.52E-21	9.74E-21
SW	12100	Cs-134	1.15E-12	2.07E-19	3.83E-20	2.45E-19
SW	12100	Ba-137m	3.59E-17	6.46E-24	1.19E-24	7.66E-24
SW	12100	Pu-242	2.68E-12	4.82E-19	8.94E-20	5.72E-19
SW	12100	Ra-226	2.45E-11	4.40E-18	8.16E-19	5.22E-18
SW	12100	U-232	1.50E-11	2.70E-18	4.99E-19	3.19E-18
SW	12100	Pa-231	3.35E-17	6.03E-24	1.12E-24	7.15E-24
SW	12100	Ni-59	1.21E-09	2.17E-16	4.02E-17	2.57E-16
SW	12100	Ac-227	2.42E-10	4.35E-17	8.06E-18	5.16E-17
SW	12100	Am-243	3.60E-10	6.48E-17	1.20E-17	7.68E-17
SW	12100	Ra-228	1.50E-09	2.70E-16	4.99E-17	3.19E-16
SW	12100	Cm-242	2.20E-08	3.95E-15	7.32E-16	4.68E-15
SW	12100	Th-229	1.68E-17	3.02E-24	5.59E-25	3.58E-24
SW	12100	Zr-93	1.58E-13	2.84E-20	5.26E-21	3.37E-20
SW	12100	Nb-93m	2.69E-13	4.85E-20	8.98E-21	5.74E-20
SW	12100	Cd-113m	1.43E-07	2.57E-14	4.76E-15	3.05E-14
SW	12100	Se-79	1.71E-06	3.08E-13	5.71E-14	3.65E-13
SW	16100	Am-241	4.15E-07	7.48E-14	1.52E-14	9.00E-14
SW	16100	C-14	2.54E-04	0.00E+00	0.00E+00	0.00E+00
SW	16100	Co-60	3.96E-15	7.13E-22	1.45E-22	8.59E-22
SW	16100	Cm-243	1.04E-09	1.87E-16	3.81E-17	2.25E-16
SW	16100	Cm-244	1.79E-08	3.23E-15	6.57E-16	3.89E-15
SW	16100	Cs-137	5.28E-06	9.50E-13	1.93E-13	1.14E-12
SW	16100	Eu-152	8.46E-15	1.52E-21	3.10E-22	1.83E-21
SW	16100	Eu-154	4.89E-14	8.80E-21	1.79E-21	1.06E-20
SW	16100	Eu-155	1.80E-14	3.25E-21	6.61E-22	3.91E-21
SW	16100	H-3	1.10E-03	0.00E+00	0.00E+00	0.00E+00
SW	16100	I-129	3.22E-11	1.13E-16	5.18E-18	1.18E-16
SW	16100	Ni-63	6.06E-08	1.09E-14	2.22E-15	1.31E-14
SW	16100	Np-237	1.54E-09	2.77E-16	5.64E-17	3.34E-16
SW	16100	Pu-238	2.23E-09	4.01E-16	8.16E-17	4.83E-16

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SW	16100	Pu-239	4.93E-08	8.87E-15	1.81E-15	1.07E-14
SW	16100	Pu-240	1.15E-08	2.08E-15	4.22E-16	2.50E-15
SW	16100	Pu-241	3.11E-08	5.60E-15	1.14E-15	6.74E-15
SW	16100	Sb-125	1.35E-07	2.44E-14	4.96E-15	2.93E-14
SW	16100	Sm-151	4.97E-11	8.94E-18	1.82E-18	1.08E-17
SW	16100	Sn-126	5.86E-08	1.06E-14	2.15E-15	1.27E-14
SW	16100	Sr-90	8.04E-06	1.45E-12	2.94E-13	1.74E-12
SW	16100	Tc-99	1.96E-04	3.53E-11	7.18E-12	4.25E-11
SW	16100	Th-232	2.47E-17	4.44E-24	9.04E-25	5.35E-24
SW	16100	U-233	5.40E-10	9.71E-17	1.98E-17	1.17E-16
SW	16100	U-234	1.58E-10	2.85E-17	5.80E-18	3.43E-17
SW	16100	U-235	6.41E-12	1.15E-18	2.35E-19	1.39E-18
SW	16100	U-236	5.24E-12	9.43E-19	1.92E-19	1.14E-18
SW	16100	U-238	1.42E-10	2.56E-17	5.20E-18	3.08E-17
SW	16100	Y-90	7.70E-06	1.39E-12	2.84E-13	1.67E-12
SW	16100	Ru-106	3.04E-14	5.48E-21	1.11E-21	6.59E-21
SW	16100	Cs-134	7.65E-13	1.38E-19	2.80E-20	1.66E-19
SW	16100	Ba-137m	2.82E-17	5.08E-24	1.45E-24	6.54E-24
SW	16100	Pu-242	1.79E-12	3.21E-19	6.54E-20	3.87E-19
SW	16100	Ra-226	1.63E-11	2.93E-18	5.97E-19	3.53E-18
SW	16100	U-232	9.98E-12	1.80E-18	3.65E-19	2.16E-18
SW	16100	Pa-231	2.23E-17	4.02E-24	8.18E-25	4.84E-24
SW	16100	Ni-59	8.04E-10	1.45E-16	2.94E-17	1.74E-16
SW	16100	Ac-227	1.61E-10	2.90E-17	5.90E-18	3.49E-17
SW	16100	Am-243	2.40E-10	4.32E-17	8.79E-18	5.20E-17
SW	16100	Ra-228	9.98E-10	1.80E-16	3.65E-17	2.16E-16
SW	16100	Cm-242	1.46E-08	2.63E-15	5.36E-16	3.17E-15
SW	16100	Th-229	1.12E-17	2.01E-24	4.09E-25	2.42E-24
SW	16100	Zr-93	1.05E-13	1.89E-20	3.85E-21	2.28E-20
SW	16100	Nb-93m	1.79E-13	3.23E-20	6.57E-21	3.89E-20
SW	16100	Cd-113m	9.51E-08	1.71E-14	3.48E-15	2.06E-14
SW	16100	Se-79	1.14E-06	2.05E-13	4.18E-14	2.47E-13
SW	24100	Am-241	2.10E-07	3.79E-14	9.42E-15	4.73E-14
SW	24100	C-14	1.56E-04	0.00E+00	0.00E+00	0.00E+00
SW	24100	Co-60	2.01E-15	3.61E-22	8.99E-23	4.51E-22
SW	24100	Cm-243	5.27E-10	9.49E-17	2.36E-17	1.18E-16
SW	24100	Cm-244	9.09E-09	1.64E-15	4.07E-16	2.04E-15
SW	24100	Cs-137	2.67E-06	4.81E-13	1.20E-13	6.01E-13
SW	24100	Eu-152	4.29E-15	7.72E-22	1.92E-22	9.63E-22
SW	24100	Eu-154	2.48E-14	4.46E-21	1.11E-21	5.57E-21
SW	24100	Eu-155	9.14E-15	1.65E-21	4.09E-22	2.06E-21
SW	24100	H-3	6.78E-04	0.00E+00	0.00E+00	0.00E+00
SW	24100	I-129	1.59E-11	5.57E-17	2.88E-18	5.86E-17
SW	24100	Ni-63	3.07E-08	5.52E-15	1.37E-15	6.89E-15
SW	24100	Np-237	7.81E-10	1.41E-16	3.49E-17	1.75E-16
SW	24100	Pu-238	1.13E-09	2.03E-16	5.05E-17	2.54E-16
SW	24100	Pu-239	2.50E-08	4.50E-15	1.12E-15	5.61E-15

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SW	24100	Pu-240	5.84E-09	1.05E-15	2.61E-16	1.31E-15
SW	24100	Pu-241	1.58E-08	2.84E-15	7.05E-16	3.54E-15
SW	24100	Sb-125	6.86E-08	1.24E-14	3.07E-15	1.54E-14
SW	24100	Sm-151	2.52E-11	4.53E-18	1.13E-18	5.66E-18
SW	24100	Sn-126	2.97E-08	5.34E-15	1.33E-15	6.67E-15
SW	24100	Sr-90	4.07E-06	7.33E-13	1.82E-13	9.15E-13
SW	24100	Tc-99	9.93E-05	1.79E-11	4.44E-12	2.23E-11
SW	24100	Th-232	1.25E-17	2.25E-24	5.60E-25	2.81E-24
SW	24100	U-233	2.73E-10	4.92E-17	1.22E-17	6.14E-17
SW	24100	U-234	8.02E-11	1.44E-17	3.59E-18	1.80E-17
SW	24100	U-235	3.24E-12	5.84E-19	1.45E-19	7.29E-19
SW	24100	U-236	2.65E-12	4.78E-19	1.19E-19	5.97E-19
SW	24100	U-238	7.20E-11	1.30E-17	3.22E-18	1.62E-17
SW	24100	Y-90	3.82E-06	6.88E-13	1.73E-13	8.60E-13
SW	24100	Ru-106	1.54E-14	2.77E-21	6.90E-22	3.46E-21
SW	24100	Cs-134	3.87E-13	6.97E-20	1.73E-20	8.71E-20
SW	24100	Ba-137m	1.62E-18	2.91E-25	3.01E-25	5.91E-25
SW	24100	Pu-242	9.05E-13	1.63E-19	4.05E-20	2.03E-19
SW	24100	Ra-226	8.26E-12	1.49E-18	3.70E-19	1.86E-18
SW	24100	U-232	5.05E-12	9.10E-19	2.26E-19	1.14E-18
SW	24100	Pa-231	1.13E-17	2.04E-24	5.06E-25	2.54E-24
SW	24100	Ni-59	4.07E-10	7.33E-17	1.82E-17	9.15E-17
SW	24100	Ac-227	8.16E-11	1.47E-17	3.65E-18	1.83E-17
SW	24100	Am-243	1.22E-10	2.19E-17	5.44E-18	2.73E-17
SW	24100	Ra-228	5.05E-10	9.10E-17	2.26E-17	1.14E-16
SW	24100	Cm-242	7.41E-09	1.33E-15	3.32E-16	1.66E-15
SW	24100	Th-229	5.66E-18	1.02E-24	2.53E-25	1.27E-24
SW	24100	Zr-93	5.33E-14	9.59E-21	2.39E-21	1.20E-20
SW	24100	Nb-93m	9.08E-14	1.64E-20	4.07E-21	2.04E-20
SW	24100	Cd-113m	4.82E-08	8.67E-15	2.16E-15	1.08E-14
SW	24100	Se-79	5.78E-07	1.04E-13	2.59E-14	1.30E-13
SW	30100	Am-241	1.44E-07	2.59E-14	7.27E-15	3.32E-14
SW	30100	C-14	1.20E-04	0.00E+00	0.00E+00	0.00E+00
SW	30100	Co-60	1.37E-15	2.47E-22	6.93E-23	3.16E-22
SW	30100	Cm-243	3.60E-10	6.49E-17	1.82E-17	8.31E-17
SW	30100	Cm-244	6.21E-09	1.12E-15	3.14E-16	1.43E-15
SW	30100	Cs-137	1.83E-06	3.29E-13	9.24E-14	4.21E-13
SW	30100	Eu-152	2.93E-15	5.28E-22	1.48E-22	6.76E-22
SW	30100	Eu-154	1.69E-14	3.05E-21	8.56E-22	3.90E-21
SW	30100	Eu-155	6.25E-15	1.13E-21	3.16E-22	1.44E-21
SW	30100	H-3	5.20E-04	0.00E+00	0.00E+00	0.00E+00
SW	30100	I-129	1.11E-11	3.90E-17	2.03E-18	4.10E-17
SW	30100	Ni-63	2.10E-08	3.78E-15	1.06E-15	4.83E-15
SW	30100	Np-237	5.34E-10	9.61E-17	2.70E-17	1.23E-16
SW	30100	Pu-238	7.72E-10	1.39E-16	3.90E-17	1.78E-16
SW	30100	Pu-239	1.71E-08	3.07E-15	8.62E-16	3.94E-15
SW	30100	Pu-240	3.99E-09	7.19E-16	2.02E-16	9.20E-16

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SW	30100	Pu-241	1.08E-08	1.94E-15	5.44E-16	2.48E-15
SW	30100	Sb-125	4.69E-08	8.44E-15	2.37E-15	1.08E-14
SW	30100	Sm-151	1.72E-11	3.10E-18	8.69E-19	3.97E-18
SW	30100	Sn-126	2.03E-08	3.65E-15	1.03E-15	4.68E-15
SW	30100	Sr-90	2.78E-06	5.01E-13	1.41E-13	6.42E-13
SW	30100	Tc-99	6.79E-05	1.22E-11	3.43E-12	1.57E-11
SW	30100	Th-232	8.55E-18	1.54E-24	4.32E-25	1.97E-24
SW	30100	U-233	1.87E-10	3.36E-17	9.44E-18	4.31E-17
SW	30100	U-234	5.49E-11	9.87E-18	2.77E-18	1.26E-17
SW	30100	U-235	2.22E-12	3.99E-19	1.12E-19	5.11E-19
SW	30100	U-236	1.82E-12	3.27E-19	9.17E-20	4.18E-19
SW	30100	U-238	4.92E-11	8.86E-18	2.49E-18	1.13E-17
SW	30100	Y-90	2.57E-06	4.63E-13	1.31E-13	5.95E-13
SW	30100	Ru-106	1.05E-14	1.90E-21	5.32E-22	2.43E-21
SW	30100	Cs-134	2.65E-13	4.77E-20	1.34E-20	6.10E-20
SW	30100	Ba-137m	2.66E-19	4.79E-26	4.95E-26	9.74E-26
SW	30100	Pu-242	6.18E-13	1.11E-19	3.12E-20	1.43E-19
SW	30100	Ra-226	5.65E-12	1.02E-18	2.85E-19	1.30E-18
SW	30100	U-232	3.46E-12	6.22E-19	1.75E-19	7.96E-19
SW	30100	Pa-231	7.73E-18	1.39E-24	3.90E-25	1.78E-24
SW	30100	Ni-59	2.78E-10	5.01E-17	1.41E-17	6.42E-17
SW	30100	Ac-227	5.58E-11	1.00E-17	2.82E-18	1.29E-17
SW	30100	Am-243	8.31E-11	1.50E-17	4.20E-18	1.92E-17
SW	30100	Ra-228	3.45E-10	6.22E-17	1.75E-17	7.96E-17
SW	30100	Cm-242	5.06E-09	9.11E-16	2.56E-16	1.17E-15
SW	30100	Th-229	3.87E-18	6.97E-25	1.96E-25	8.93E-25
SW	30100	Zr-93	3.64E-14	6.56E-21	1.84E-21	8.40E-21
SW	30100	Nb-93m	6.21E-14	1.12E-20	3.14E-21	1.43E-20
SW	30100	Cd-113m	3.29E-08	5.93E-15	1.66E-15	7.59E-15
SW	30100	Se-79	3.95E-07	7.11E-14	2.00E-14	9.11E-14
SW	36100	Am-241	1.11E-07	2.00E-14	5.91E-15	2.59E-14
SW	36100	C-14	9.65E-05	0.00E+00	0.00E+00	0.00E+00
SW	36100	Co-60	1.06E-15	1.91E-22	5.64E-23	2.47E-22
SW	36100	Cm-243	2.78E-10	5.00E-17	1.48E-17	6.48E-17
SW	36100	Cm-244	4.79E-09	8.62E-16	2.55E-16	1.12E-15
SW	36100	Cs-137	1.41E-06	2.54E-13	7.51E-14	3.29E-13
SW	36100	Eu-152	2.26E-15	4.07E-22	1.20E-22	5.27E-22
SW	36100	Eu-154	1.31E-14	2.35E-21	6.96E-22	3.05E-21
SW	36100	Eu-155	4.82E-15	8.68E-22	2.57E-22	1.12E-21
SW	36100	H-3	4.20E-04	0.00E+00	0.00E+00	0.00E+00
SW	36100	I-129	8.16E-12	2.86E-17	1.50E-18	3.01E-17
SW	36100	Ni-63	1.62E-08	2.91E-15	8.62E-16	3.77E-15
SW	36100	Np-237	4.12E-10	7.41E-17	2.19E-17	9.60E-17
SW	36100	Pu-238	5.95E-10	1.07E-16	3.17E-17	1.39E-16
SW	36100	Pu-239	1.32E-08	2.37E-15	7.02E-16	3.07E-15
SW	36100	Pu-240	3.08E-09	5.54E-16	1.64E-16	7.18E-16
SW	36100	Pu-241	8.30E-09	1.49E-15	4.43E-16	1.94E-15

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SW	36100	Sb-125	3.62E-08	6.51E-15	1.93E-15	8.44E-15
SW	36100	Sm-151	1.33E-11	2.39E-18	7.07E-19	3.10E-18
SW	36100	Sn-126	1.57E-08	2.82E-15	8.34E-16	3.65E-15
SW	36100	Sr-90	2.15E-06	3.86E-13	1.14E-13	5.01E-13
SW	36100	Tc-99	5.24E-05	9.42E-12	2.79E-12	1.22E-11
SW	36100	Th-232	6.59E-18	1.19E-24	3.51E-25	1.54E-24
SW	36100	U-233	1.44E-10	2.59E-17	7.68E-18	3.36E-17
SW	36100	U-234	4.23E-11	7.61E-18	2.25E-18	9.87E-18
SW	36100	U-235	1.71E-12	3.08E-19	9.12E-20	3.99E-19
SW	36100	U-236	1.40E-12	2.52E-19	7.46E-20	3.27E-19
SW	36100	U-238	3.79E-11	6.83E-18	2.02E-18	8.85E-18
SW	36100	Y-90	1.96E-06	3.52E-13	1.06E-13	4.58E-13
SW	36100	Ru-106	8.12E-15	1.46E-21	4.33E-22	1.90E-21
SW	36100	Cs-134	2.04E-13	3.68E-20	1.09E-20	4.76E-20
SW	36100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SW	36100	Pu-242	4.77E-13	8.58E-20	2.54E-20	1.11E-19
SW	36100	Ra-226	4.35E-12	7.84E-19	2.32E-19	1.02E-18
SW	36100	U-232	2.66E-12	4.80E-19	1.42E-19	6.22E-19
SW	36100	Pa-231	5.96E-18	1.07E-24	3.18E-25	1.39E-24
SW	36100	Ni-59	2.15E-10	3.86E-17	1.14E-17	5.01E-17
SW	36100	Ac-227	4.30E-11	7.74E-18	2.29E-18	1.00E-17
SW	36100	Am-243	6.41E-11	1.15E-17	3.41E-18	1.49E-17
SW	36100	Ra-228	2.66E-10	4.80E-17	1.42E-17	6.22E-17
SW	36100	Cm-242	3.90E-09	7.02E-16	2.08E-16	9.10E-16
SW	36100	Th-229	2.99E-18	5.37E-25	1.59E-25	6.97E-25
SW	36100	Zr-93	2.81E-14	5.06E-21	1.50E-21	6.55E-21
SW	36100	Nb-93m	4.79E-14	8.62E-21	2.55E-21	1.12E-20
SW	36100	Cd-113m	2.54E-08	4.57E-15	1.35E-15	5.93E-15
SW	36100	Se-79	3.05E-07	5.49E-14	1.62E-14	7.11E-14
SW	42100	Am-241	8.81E-08	1.59E-14	4.93E-15	2.08E-14
SW	42100	C-14	8.05E-05	0.00E+00	0.00E+00	0.00E+00
SW	42100	Co-60	8.40E-16	1.51E-22	4.71E-23	1.98E-22
SW	42100	Cm-243	2.21E-10	3.97E-17	1.24E-17	5.21E-17
SW	42100	Cm-244	3.80E-09	6.84E-16	2.13E-16	8.98E-16
SW	42100	Cs-137	1.12E-06	2.01E-13	6.27E-14	2.64E-13
SW	42100	Eu-152	1.79E-15	3.23E-22	1.01E-22	4.23E-22
SW	42100	Eu-154	1.04E-14	1.87E-21	5.81E-22	2.45E-21
SW	42100	Eu-155	3.83E-15	6.89E-22	2.14E-22	9.03E-22
SW	42100	H-3	3.50E-04	0.00E+00	0.00E+00	0.00E+00
SW	42100	I-129	6.17E-12	2.16E-17	1.14E-18	2.27E-17
SW	42100	Ni-63	1.28E-08	2.31E-15	7.19E-16	3.03E-15
SW	42100	Np-237	3.27E-10	5.88E-17	1.83E-17	7.71E-17
SW	42100	Pu-238	4.72E-10	8.50E-17	2.65E-17	1.12E-16
SW	42100	Pu-239	1.05E-08	1.88E-15	5.86E-16	2.47E-15
SW	42100	Pu-240	2.44E-09	4.40E-16	1.37E-16	5.77E-16
SW	42100	Pu-241	6.59E-09	1.19E-15	3.69E-16	1.56E-15
SW	42100	Sb-125	2.87E-08	5.17E-15	1.61E-15	6.78E-15

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SW	42100	Sm-151	1.05E-11	1.90E-18	5.90E-19	2.49E-18
SW	42100	Sn-126	1.24E-08	2.24E-15	6.96E-16	2.93E-15
SW	42100	Sr-90	1.70E-06	3.07E-13	9.54E-14	4.02E-13
SW	42100	Tc-99	4.16E-05	7.48E-12	2.33E-12	9.81E-12
SW	42100	Th-232	5.24E-18	9.42E-25	2.93E-25	1.24E-24
SW	42100	U-233	1.14E-10	2.06E-17	6.41E-18	2.70E-17
SW	42100	U-234	3.36E-11	6.05E-18	1.88E-18	7.93E-18
SW	42100	U-235	1.36E-12	2.44E-19	7.61E-20	3.21E-19
SW	42100	U-236	1.11E-12	2.00E-19	6.22E-20	2.62E-19
SW	42100	U-238	3.01E-11	5.42E-18	1.69E-18	7.11E-18
SW	42100	Y-90	1.53E-06	2.75E-13	8.70E-14	3.62E-13
SW	42100	Ru-106	6.45E-15	1.16E-21	3.61E-22	1.52E-21
SW	42100	Cs-134	1.62E-13	2.92E-20	9.08E-21	3.83E-20
SW	42100	Ba-137m	8.96E-20	1.61E-26	9.22E-28	1.70E-26
SW	42100	Pu-242	3.79E-13	6.82E-20	2.12E-20	8.94E-20
SW	42100	Ra-226	3.46E-12	6.22E-19	1.94E-19	8.16E-19
SW	42100	U-232	2.12E-12	3.81E-19	1.18E-19	4.99E-19
SW	42100	Pa-231	4.73E-18	8.52E-25	2.65E-25	1.12E-24
SW	42100	Ni-59	1.70E-10	3.07E-17	9.54E-18	4.02E-17
SW	42100	Ac-227	3.42E-11	6.15E-18	1.91E-18	8.06E-18
SW	42100	Am-243	5.09E-11	9.16E-18	2.85E-18	1.20E-17
SW	42100	Ra-228	2.12E-10	3.81E-17	1.18E-17	4.99E-17
SW	42100	Cm-242	3.10E-09	5.58E-16	1.74E-16	7.31E-16
SW	42100	Th-229	2.37E-18	4.27E-25	1.33E-25	5.60E-25
SW	42100	Zr-93	2.23E-14	4.02E-21	1.25E-21	5.26E-21
SW	42100	Nb-93m	3.80E-14	6.84E-21	2.13E-21	8.98E-21
SW	42100	Cd-113m	2.02E-08	3.63E-15	1.13E-15	4.76E-15
SW	42100	Se-79	2.42E-07	4.36E-14	1.36E-14	5.71E-14
SW	48100	Am-241	7.10E-08	1.28E-14	4.19E-15	1.70E-14
SW	48100	C-14	6.88E-05	0.00E+00	0.00E+00	0.00E+00
SW	48100	Co-60	6.77E-16	1.22E-22	3.99E-23	1.62E-22
SW	48100	Cm-243	1.78E-10	3.20E-17	1.05E-17	4.25E-17
SW	48100	Cm-244	3.06E-09	5.52E-16	1.81E-16	7.32E-16
SW	48100	Cs-137	9.02E-07	1.62E-13	5.32E-14	2.16E-13
SW	48100	Eu-152	1.45E-15	2.60E-22	8.53E-23	3.46E-22
SW	48100	Eu-154	8.36E-15	1.50E-21	4.93E-22	2.00E-21
SW	48100	Eu-155	3.08E-15	5.55E-22	1.82E-22	7.37E-22
SW	48100	H-3	3.00E-04	0.00E+00	0.00E+00	0.00E+00
SW	48100	I-129	4.77E-12	1.67E-17	8.83E-19	1.76E-17
SW	48100	Ni-63	1.03E-08	1.86E-15	6.10E-16	2.47E-15
SW	48100	Np-237	2.63E-10	4.74E-17	1.55E-17	6.29E-17
SW	48100	Pu-238	3.81E-10	6.85E-17	2.25E-17	9.10E-17
SW	48100	Pu-239	8.43E-09	1.52E-15	4.97E-16	2.01E-15
SW	48100	Pu-240	1.97E-09	3.55E-16	1.16E-16	4.71E-16
SW	48100	Pu-241	5.31E-09	9.56E-16	3.13E-16	1.27E-15
SW	48100	Sb-125	2.31E-08	4.17E-15	1.37E-15	5.53E-15
SW	48100	Sm-151	8.49E-12	1.53E-18	5.01E-19	2.03E-18

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SW	48100	Sn-126	1.00E-08	1.80E-15	5.91E-16	2.39E-15
SW	48100	Sr-90	1.37E-06	2.47E-13	8.10E-14	3.28E-13
SW	48100	Tc-99	3.35E-05	6.03E-12	1.98E-12	8.01E-12
SW	48100	Th-232	4.22E-18	7.59E-25	2.49E-25	1.01E-24
SW	48100	U-233	9.22E-11	1.66E-17	5.44E-18	2.20E-17
SW	48100	U-234	2.71E-11	4.87E-18	1.60E-18	6.47E-18
SW	48100	U-235	1.09E-12	1.97E-19	6.46E-20	2.62E-19
SW	48100	U-236	8.96E-13	1.61E-19	5.28E-20	2.14E-19
SW	48100	U-238	2.43E-11	4.37E-18	1.43E-18	5.80E-18
SW	48100	Y-90	1.21E-06	2.19E-13	7.28E-14	2.91E-13
SW	48100	Ru-106	5.20E-15	9.35E-22	3.07E-22	1.24E-21
SW	48100	Cs-134	1.31E-13	2.35E-20	7.71E-21	3.12E-20
SW	48100	Ba-137m	2.18E-20	3.92E-27	2.40E-28	4.16E-27
SW	48100	Pu-242	3.05E-13	5.49E-20	1.80E-20	7.29E-20
SW	48100	Ra-226	2.79E-12	5.02E-19	1.64E-19	6.66E-19
SW	48100	U-232	1.70E-12	3.07E-19	1.01E-19	4.07E-19
SW	48100	Pa-231	3.81E-18	6.87E-25	2.25E-25	9.12E-25
SW	48100	Ni-59	1.37E-10	2.47E-17	8.10E-18	3.28E-17
SW	48100	Ac-227	2.75E-11	4.96E-18	1.62E-18	6.58E-18
SW	48100	Am-243	4.10E-11	7.38E-18	2.42E-18	9.80E-18
SW	48100	Ra-228	1.70E-10	3.07E-17	1.01E-17	4.07E-17
SW	48100	Cm-242	2.50E-09	4.49E-16	1.47E-16	5.97E-16
SW	48100	Th-229	1.91E-18	3.44E-25	1.13E-25	4.57E-25
SW	48100	Zr-93	1.80E-14	3.24E-21	1.06E-21	4.30E-21
SW	48100	Nb-93m	3.06E-14	5.52E-21	1.81E-21	7.32E-21
SW	48100	Cd-113m	1.63E-08	2.93E-15	9.59E-16	3.88E-15
SW	48100	Se-79	1.95E-07	3.51E-14	1.15E-14	4.66E-14
SW	54100	Am-241	5.70E-08	1.03E-14	3.58E-15	1.38E-14
SW	54100	C-14	6.00E-05	0.00E+00	0.00E+00	0.00E+00
SW	54100	Co-60	5.44E-16	9.79E-23	3.42E-23	1.32E-22
SW	54100	Cm-243	1.43E-10	2.57E-17	8.98E-18	3.47E-17
SW	54100	Cm-244	2.46E-09	4.43E-16	1.55E-16	5.98E-16
SW	54100	Cs-137	7.24E-07	1.30E-13	4.55E-14	1.76E-13
SW	54100	Eu-152	1.16E-15	2.09E-22	7.30E-23	2.82E-22
SW	54100	Eu-154	6.71E-15	1.21E-21	4.22E-22	1.63E-21
SW	54100	Eu-155	2.48E-15	4.46E-22	1.56E-22	6.01E-22
SW	54100	H-3	2.61E-04	0.00E+00	0.00E+00	0.00E+00
SW	54100	I-129	3.75E-12	1.31E-17	6.96E-19	1.38E-17
SW	54100	Ni-63	8.31E-09	1.50E-15	5.22E-16	2.02E-15
SW	54100	Np-237	2.11E-10	3.81E-17	1.33E-17	5.14E-17
SW	54100	Pu-238	3.06E-10	5.50E-17	1.92E-17	7.43E-17
SW	54100	Pu-239	6.76E-09	1.22E-15	4.25E-16	1.64E-15
SW	54100	Pu-240	1.58E-09	2.85E-16	9.95E-17	3.84E-16
SW	54100	Pu-241	4.27E-09	7.68E-16	2.68E-16	1.04E-15
SW	54100	Sb-125	1.86E-08	3.35E-15	1.17E-15	4.51E-15
SW	54100	Sm-151	6.82E-12	1.23E-18	4.29E-19	1.66E-18
SW	54100	Sn-126	8.04E-09	1.45E-15	5.06E-16	1.95E-15

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SW	54100	Sr-90	1.10E-06	1.98E-13	6.93E-14	2.68E-13
SW	54100	Tc-99	2.69E-05	4.84E-12	1.69E-12	6.53E-12
SW	54100	Th-232	3.39E-18	6.10E-25	2.13E-25	8.23E-25
SW	54100	U-233	7.40E-11	1.33E-17	4.66E-18	1.80E-17
SW	54100	U-234	2.17E-11	3.91E-18	1.37E-18	5.28E-18
SW	54100	U-235	8.79E-13	1.58E-19	5.53E-20	2.13E-19
SW	54100	U-236	7.19E-13	1.29E-19	4.52E-20	1.75E-19
SW	54100	U-238	1.95E-11	3.51E-18	1.23E-18	4.74E-18
SW	54100	Y-90	9.61E-07	1.73E-13	6.16E-14	2.35E-13
SW	54100	Ru-106	4.17E-15	7.51E-22	2.62E-22	1.01E-21
SW	54100	Cs-134	1.05E-13	1.89E-20	6.60E-21	2.55E-20
SW	54100	Ba-137m	1.41E-19	2.53E-26	6.63E-27	3.20E-26
SW	54100	Pu-242	2.45E-13	4.41E-20	1.54E-20	5.95E-20
SW	54100	Ra-226	2.24E-12	4.03E-19	1.41E-19	5.43E-19
SW	54100	U-232	1.37E-12	2.46E-19	8.61E-20	3.32E-19
SW	54100	Pa-231	3.06E-18	5.51E-25	1.93E-25	7.44E-25
SW	54100	Ni-59	1.10E-10	1.98E-17	6.93E-18	2.68E-17
SW	54100	Ac-227	2.21E-11	3.98E-18	1.39E-18	5.37E-18
SW	54100	Am-243	3.29E-11	5.93E-18	2.07E-18	8.00E-18
SW	54100	Ra-228	1.37E-10	2.46E-17	8.61E-18	3.32E-17
SW	54100	Cm-242	2.00E-09	3.61E-16	1.26E-16	4.87E-16
SW	54100	Th-229	1.53E-18	2.76E-25	9.65E-26	3.73E-25
SW	54100	Zr-93	1.44E-14	2.60E-21	9.08E-22	3.51E-21
SW	54100	Nb-93m	2.46E-14	4.43E-21	1.55E-21	5.98E-21
SW	54100	Cd-113m	1.30E-08	2.35E-15	8.21E-16	3.17E-15
SW	54100	Se-79	1.57E-07	2.82E-14	9.85E-15	3.80E-14
SW	60100	Am-241	3.96E-08	7.13E-15	3.01E-15	1.01E-14
SW	60100	C-14	5.31E-05	0.00E+00	0.00E+00	0.00E+00
SW	60100	Co-60	3.78E-16	6.80E-23	2.87E-23	9.67E-23
SW	60100	Cm-243	9.92E-11	1.79E-17	7.54E-18	2.54E-17
SW	60100	Cm-244	1.71E-09	3.08E-16	1.30E-16	4.38E-16
SW	60100	Cs-137	5.03E-07	9.06E-14	3.83E-14	1.29E-13
SW	60100	Eu-152	8.07E-16	1.45E-22	6.13E-23	2.07E-22
SW	60100	Eu-154	4.66E-15	8.39E-22	3.54E-22	1.19E-21
SW	60100	Eu-155	1.72E-15	3.10E-22	1.31E-22	4.40E-22
SW	60100	H-3	2.31E-04	0.00E+00	0.00E+00	0.00E+00
SW	60100	I-129	2.99E-12	1.05E-17	5.56E-19	1.10E-17
SW	60100	Ni-63	5.77E-09	1.04E-15	4.39E-16	1.48E-15
SW	60100	Np-237	1.47E-10	2.64E-17	1.12E-17	3.76E-17
SW	60100	Pu-238	2.12E-10	3.82E-17	1.61E-17	5.44E-17
SW	60100	Pu-239	4.70E-09	8.46E-16	3.57E-16	1.20E-15
SW	60100	Pu-240	1.10E-09	1.98E-16	8.35E-17	2.81E-16
SW	60100	Pu-241	2.96E-09	5.34E-16	2.25E-16	7.59E-16
SW	60100	Sb-125	1.29E-08	2.32E-15	9.81E-16	3.31E-15
SW	60100	Sm-151	4.74E-12	8.53E-19	3.60E-19	1.21E-18
SW	60100	Sn-126	5.59E-09	1.01E-15	4.25E-16	1.43E-15
SW	60100	Sr-90	7.66E-07	1.38E-13	5.82E-14	1.96E-13

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SW	60100	Tc-99	1.87E-05	3.36E-12	1.42E-12	4.78E-12
SW	60100	Th-232	2.35E-18	4.24E-25	1.79E-25	6.03E-25
SW	60100	U-233	5.14E-11	9.26E-18	3.91E-18	1.32E-17
SW	60100	U-234	1.51E-11	2.72E-18	1.15E-18	3.87E-18
SW	60100	U-235	6.11E-13	1.10E-19	4.64E-20	1.56E-19
SW	60100	U-236	5.00E-13	8.99E-20	3.80E-20	1.28E-19
SW	60100	U-238	1.35E-11	2.44E-18	1.03E-18	3.47E-18
SW	60100	Y-90	6.62E-07	1.19E-13	5.11E-14	1.70E-13
SW	60100	Ru-106	2.90E-15	5.22E-22	2.20E-22	7.42E-22
SW	60100	Cs-134	7.29E-14	1.31E-20	5.54E-21	1.87E-20
SW	60100	Ba-137m	5.00E-20	8.99E-27	4.38E-27	1.34E-26
SW	60100	Pu-242	1.70E-13	3.06E-20	1.29E-20	4.36E-20
SW	60100	Ra-226	1.55E-12	2.80E-19	1.18E-19	3.98E-19
SW	60100	U-232	9.51E-13	1.71E-19	7.23E-20	2.43E-19
SW	60100	Pa-231	2.13E-18	3.83E-25	1.62E-25	5.45E-25
SW	60100	Ni-59	7.66E-11	1.38E-17	5.82E-18	1.96E-17
SW	60100	Ac-227	1.54E-11	2.76E-18	1.17E-18	3.93E-18
SW	60100	Am-243	2.29E-11	4.12E-18	1.74E-18	5.86E-18
SW	60100	Ra-228	9.51E-11	1.71E-17	7.23E-18	2.43E-17
SW	60100	Cm-242	1.39E-09	2.51E-16	1.06E-16	3.56E-16
SW	60100	Th-229	1.07E-18	1.92E-25	8.10E-26	2.73E-25
SW	60100	Zr-93	1.00E-14	1.81E-21	7.62E-22	2.57E-21
SW	60100	Nb-93m	1.71E-14	3.08E-21	1.30E-21	4.38E-21
SW	60100	Cd-113m	9.07E-09	1.63E-15	6.89E-16	2.32E-15
SW	60100	Se-79	1.09E-07	1.96E-14	8.27E-15	2.79E-14
SW	66100	Am-241	3.42E-08	6.15E-15	2.68E-15	8.83E-15
SW	66100	C-14	4.75E-05	0.00E+00	0.00E+00	0.00E+00
SW	66100	Co-60	3.26E-16	5.87E-23	2.56E-23	8.43E-23
SW	66100	Cm-243	8.56E-11	1.54E-17	6.71E-18	2.21E-17
SW	66100	Cm-244	1.48E-09	2.66E-16	1.16E-16	3.81E-16
SW	66100	Cs-137	4.34E-07	7.82E-14	3.41E-14	1.12E-13
SW	66100	Eu-152	6.96E-16	1.25E-22	5.46E-23	1.80E-22
SW	66100	Eu-154	4.02E-15	7.24E-22	3.16E-22	1.04E-21
SW	66100	Eu-155	1.49E-15	2.67E-22	1.16E-22	3.84E-22
SW	66100	H-3	2.07E-04	0.00E+00	0.00E+00	0.00E+00
SW	66100	I-129	2.42E-12	8.46E-18	4.49E-19	8.91E-18
SW	66100	Ni-63	4.98E-09	8.97E-16	3.91E-16	1.29E-15
SW	66100	Np-237	1.27E-10	2.28E-17	9.94E-18	3.28E-17
SW	66100	Pu-238	1.83E-10	3.30E-17	1.44E-17	4.74E-17
SW	66100	Pu-239	4.06E-09	7.30E-16	3.18E-16	1.05E-15
SW	66100	Pu-240	9.49E-10	1.71E-16	7.44E-17	2.45E-16
SW	66100	Pu-241	2.56E-09	4.61E-16	2.01E-16	6.61E-16
SW	66100	Sb-125	1.11E-08	2.01E-15	8.74E-16	2.88E-15
SW	66100	Sm-151	4.09E-12	7.36E-19	3.21E-19	1.06E-18
SW	66100	Sn-126	4.82E-09	8.68E-16	3.78E-16	1.25E-15
SW	66100	Sr-90	6.61E-07	1.19E-13	5.18E-14	1.71E-13
SW	66100	Tc-99	1.61E-05	2.90E-12	1.26E-12	4.17E-12

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SW	66100	Th-232	2.03E-18	3.66E-25	1.59E-25	5.25E-25
SW	66100	U-233	4.44E-11	7.99E-18	3.48E-18	1.15E-17
SW	66100	U-234	1.30E-11	2.35E-18	1.02E-18	3.37E-18
SW	66100	U-235	5.27E-13	9.49E-20	4.13E-20	1.36E-19
SW	66100	U-236	4.31E-13	7.76E-20	3.38E-20	1.11E-19
SW	66100	U-238	1.17E-11	2.10E-18	9.17E-19	3.02E-18
SW	66100	Y-90	5.63E-07	1.01E-13	4.50E-14	1.46E-13
SW	66100	Ru-106	2.50E-15	4.50E-22	1.96E-22	6.46E-22
SW	66100	Cs-134	6.29E-14	1.13E-20	4.93E-21	1.63E-20
SW	66100	Ba-137m	9.61E-21	1.73E-27	1.39E-27	3.12E-27
SW	66100	Pu-242	1.47E-13	2.65E-20	1.15E-20	3.80E-20
SW	66100	Ra-226	1.34E-12	2.42E-19	1.05E-19	3.47E-19
SW	66100	U-232	8.21E-13	1.48E-19	6.44E-20	2.12E-19
SW	66100	Pa-231	1.84E-18	3.31E-25	1.44E-25	4.75E-25
SW	66100	Ni-59	6.61E-11	1.19E-17	5.19E-18	1.71E-17
SW	66100	Ac-227	1.33E-11	2.39E-18	1.04E-18	3.43E-18
SW	66100	Am-243	1.97E-11	3.55E-18	1.55E-18	5.10E-18
SW	66100	Ra-228	8.21E-11	1.48E-17	6.44E-18	2.12E-17
SW	66100	Cm-242	1.20E-09	2.16E-16	9.42E-17	3.10E-16
SW	66100	Th-229	9.20E-19	1.66E-25	7.21E-26	2.38E-25
SW	66100	Zr-93	8.66E-15	1.56E-21	6.79E-22	2.24E-21
SW	66100	Nb-93m	1.48E-14	2.66E-21	1.16E-21	3.81E-21
SW	66100	Cd-113m	7.83E-09	1.41E-15	6.14E-16	2.02E-15
SW	66100	Se-79	9.39E-08	1.69E-14	7.36E-15	2.43E-14
SSW	12100	Am-241	6.96E-07	1.25E-13	2.45E-14	1.50E-13
SSW	12100	C-14	3.59E-04	0.00E+00	0.00E+00	0.00E+00
SSW	12100	Co-60	6.64E-15	1.20E-21	2.34E-22	1.43E-21
SSW	12100	Cm-243	1.74E-09	3.14E-16	6.14E-17	3.75E-16
SSW	12100	Cm-244	3.01E-08	5.41E-15	1.06E-15	6.47E-15
SSW	12100	Cs-137	8.85E-06	1.59E-12	3.12E-13	1.90E-12
SSW	12100	Eu-152	1.42E-14	2.55E-21	4.99E-22	3.05E-21
SSW	12100	Eu-154	8.20E-14	1.48E-20	2.89E-21	1.76E-20
SSW	12100	Eu-155	3.03E-14	5.45E-21	1.07E-21	6.51E-21
SSW	12100	H-3	1.56E-03	0.00E+00	0.00E+00	0.00E+00
SSW	12100	I-129	8.05E-11	2.82E-16	1.04E-17	2.92E-16
SSW	12100	Ni-63	1.02E-07	1.83E-14	3.57E-15	2.18E-14
SSW	12100	Np-237	2.58E-09	4.65E-16	9.09E-17	5.56E-16
SSW	12100	Pu-238	3.74E-09	6.72E-16	1.31E-16	8.04E-16
SSW	12100	Pu-239	8.26E-08	1.49E-14	2.91E-15	1.78E-14
SSW	12100	Pu-240	1.93E-08	3.48E-15	6.80E-16	4.16E-15
SSW	12100	Pu-241	5.21E-08	9.38E-15	1.83E-15	1.12E-14
SSW	12100	Sb-125	2.27E-07	4.09E-14	7.99E-15	4.89E-14
SSW	12100	Sm-151	8.33E-11	1.50E-17	2.93E-18	1.79E-17
SSW	12100	Sn-126	9.83E-08	1.77E-14	3.46E-15	2.11E-14
SSW	12100	Sr-90	1.35E-05	2.42E-12	4.74E-13	2.90E-12
SSW	12100	Tc-99	3.29E-04	5.92E-11	1.16E-11	7.07E-11
SSW	12100	Th-232	4.14E-17	7.45E-24	1.46E-24	8.91E-24

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSW	12100	U-233	9.05E-10	1.63E-16	3.18E-17	1.95E-16
SSW	12100	U-234	2.65E-10	4.78E-17	9.35E-18	5.71E-17
SSW	12100	U-235	1.07E-11	1.93E-18	3.78E-19	2.31E-18
SSW	12100	U-236	8.78E-12	1.58E-18	3.09E-19	1.89E-18
SSW	12100	U-238	2.38E-10	4.29E-17	8.38E-18	5.13E-17
SSW	12100	Y-90	1.31E-05	2.36E-12	4.63E-13	2.82E-12
SSW	12100	Ru-106	5.10E-14	9.18E-21	1.80E-21	1.10E-20
SSW	12100	Cs-134	1.28E-12	2.31E-19	4.51E-20	2.76E-19
SSW	12100	Ba-137m	1.10E-16	1.98E-23	1.40E-23	3.38E-23
SSW	12100	Pu-242	2.99E-12	5.39E-19	1.05E-19	6.44E-19
SSW	12100	Ra-226	2.73E-11	4.92E-18	9.62E-19	5.88E-18
SSW	12100	U-232	1.67E-11	3.01E-18	5.89E-19	3.60E-18
SSW	12100	Pa-231	3.74E-17	6.74E-24	1.32E-24	8.05E-24
SSW	12100	Ni-59	1.35E-09	2.42E-16	4.74E-17	2.90E-16
SSW	12100	Ac-227	2.70E-10	4.86E-17	9.51E-18	5.81E-17
SSW	12100	Am-243	4.02E-10	7.24E-17	1.42E-17	8.65E-17
SSW	12100	Ra-228	1.67E-09	3.01E-16	5.89E-17	3.60E-16
SSW	12100	Cm-242	2.45E-08	4.41E-15	8.63E-16	5.28E-15
SSW	12100	Th-229	1.87E-17	3.37E-24	6.60E-25	4.03E-24
SSW	12100	Zr-93	1.76E-13	3.17E-20	6.21E-21	3.80E-20
SSW	12100	Nb-93m	3.01E-13	5.41E-20	1.06E-20	6.47E-20
SSW	12100	Cd-113m	1.59E-07	2.87E-14	5.61E-15	3.43E-14
SSW	12100	Se-79	1.91E-06	3.44E-13	6.73E-14	4.12E-13
SSW	16100	Am-241	4.66E-07	8.39E-14	1.80E-14	1.02E-13
SSW	16100	C-14	2.52E-04	0.00E+00	0.00E+00	0.00E+00
SSW	16100	Co-60	4.45E-15	8.00E-22	1.72E-22	9.72E-22
SSW	16100	Cm-243	1.17E-09	2.10E-16	4.51E-17	2.55E-16
SSW	16100	Cm-244	2.01E-08	3.62E-15	7.78E-16	4.40E-15
SSW	16100	Cs-137	5.92E-06	1.07E-12	2.29E-13	1.30E-12
SSW	16100	Eu-152	9.49E-15	1.71E-21	3.67E-22	2.08E-21
SSW	16100	Eu-154	5.49E-14	9.88E-21	2.12E-21	1.20E-20
SSW	16100	Eu-155	2.03E-14	3.65E-21	7.83E-22	4.43E-21
SSW	16100	H-3	1.10E-03	0.00E+00	0.00E+00	0.00E+00
SSW	16100	I-129	4.82E-11	1.69E-16	7.08E-18	1.76E-16
SSW	16100	Ni-63	6.79E-08	1.22E-14	2.63E-15	1.49E-14
SSW	16100	Np-237	1.73E-09	3.11E-16	6.69E-17	3.78E-16
SSW	16100	Pu-238	2.50E-09	4.50E-16	9.67E-17	5.47E-16
SSW	16100	Pu-239	5.53E-08	9.96E-15	2.14E-15	1.21E-14
SSW	16100	Pu-240	1.29E-08	2.33E-15	5.00E-16	2.83E-15
SSW	16100	Pu-241	3.49E-08	6.28E-15	1.35E-15	7.63E-15
SSW	16100	Sb-125	1.52E-07	2.74E-14	5.88E-15	3.32E-14
SSW	16100	Sm-151	5.57E-11	1.00E-17	2.16E-18	1.22E-17
SSW	16100	Sn-126	6.58E-08	1.18E-14	2.54E-15	1.44E-14
SSW	16100	Sr-90	9.02E-06	1.62E-12	3.49E-13	1.97E-12
SSW	16100	Tc-99	2.20E-04	3.96E-11	8.51E-12	4.81E-11
SSW	16100	Th-232	2.77E-17	4.99E-24	1.07E-24	6.06E-24
SSW	16100	U-233	6.05E-10	1.09E-16	2.34E-17	1.32E-16

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSW	16100	U-234	1.78E-10	3.20E-17	6.87E-18	3.89E-17
SSW	16100	U-235	7.19E-12	1.29E-18	2.78E-19	1.57E-18
SSW	16100	U-236	5.88E-12	1.06E-18	2.27E-19	1.29E-18
SSW	16100	U-238	1.59E-10	2.87E-17	6.16E-18	3.49E-17
SSW	16100	Y-90	8.70E-06	1.57E-12	3.38E-13	1.90E-12
SSW	16100	Ru-106	3.41E-14	6.14E-21	1.32E-21	7.46E-21
SSW	16100	Cs-134	8.58E-13	1.54E-19	3.32E-20	1.88E-19
SSW	16100	Ba-137m	6.40E-17	1.15E-23	3.22E-24	1.47E-23
SSW	16100	Pu-242	2.00E-12	3.61E-19	7.75E-20	4.38E-19
SSW	16100	Ra-226	1.83E-11	3.29E-18	7.07E-19	4.00E-18
SSW	16100	U-232	1.12E-11	2.01E-18	4.33E-19	2.45E-18
SSW	16100	Pa-231	2.50E-17	4.51E-24	9.69E-25	5.48E-24
SSW	16100	Ni-59	9.02E-10	1.62E-16	3.49E-17	1.97E-16
SSW	16100	Ac-227	1.81E-10	3.25E-17	6.99E-18	3.95E-17
SSW	16100	Am-243	2.69E-10	4.84E-17	1.04E-17	5.89E-17
SSW	16100	Ra-228	1.12E-09	2.01E-16	4.33E-17	2.45E-16
SSW	16100	Cm-242	1.64E-08	2.95E-15	6.35E-16	3.59E-15
SSW	16100	Th-229	1.25E-17	2.26E-24	4.85E-25	2.74E-24
SSW	16100	Zr-93	1.18E-13	2.12E-20	4.56E-21	2.58E-20
SSW	16100	Nb-93m	2.01E-13	3.62E-20	7.78E-21	4.40E-20
SSW	16100	Cd-113m	1.07E-07	1.92E-14	4.13E-15	2.33E-14
SSW	16100	Se-79	1.28E-06	2.30E-13	4.95E-14	2.80E-13
SSW	24100	Am-241	2.43E-07	4.38E-14	1.13E-14	5.51E-14
SSW	24100	C-14	1.53E-04	0.00E+00	0.00E+00	0.00E+00
SSW	24100	Co-60	2.32E-15	4.18E-22	1.08E-22	5.26E-22
SSW	24100	Cm-243	6.10E-10	1.10E-16	2.83E-17	1.38E-16
SSW	24100	Cm-244	1.05E-08	1.89E-15	4.89E-16	2.38E-15
SSW	24100	Cs-137	3.09E-06	5.57E-13	1.44E-13	7.01E-13
SSW	24100	Eu-152	4.96E-15	8.93E-22	2.31E-22	1.12E-21
SSW	24100	Eu-154	2.87E-14	5.16E-21	1.33E-21	6.49E-21
SSW	24100	Eu-155	1.06E-14	1.90E-21	4.92E-22	2.40E-21
SSW	24100	H-3	6.67E-04	0.00E+00	0.00E+00	0.00E+00
SSW	24100	I-129	2.27E-11	7.93E-17	3.95E-18	8.33E-17
SSW	24100	Ni-63	3.55E-08	6.39E-15	1.65E-15	8.04E-15
SSW	24100	Np-237	9.03E-10	1.63E-16	4.20E-17	2.05E-16
SSW	24100	Pu-238	1.31E-09	2.35E-16	6.07E-17	2.96E-16
SSW	24100	Pu-239	2.89E-08	5.20E-15	1.34E-15	6.55E-15
SSW	24100	Pu-240	6.76E-09	1.22E-15	3.14E-16	1.53E-15
SSW	24100	Pu-241	1.82E-08	3.28E-15	8.47E-16	4.13E-15
SSW	24100	Sb-125	7.94E-08	1.43E-14	3.69E-15	1.80E-14
SSW	24100	Sm-151	2.91E-11	5.24E-18	1.35E-18	6.60E-18
SSW	24100	Sn-126	3.44E-08	6.19E-15	1.60E-15	7.78E-15
SSW	24100	Sr-90	4.71E-06	8.48E-13	2.19E-13	1.07E-12
SSW	24100	Tc-99	1.15E-04	2.07E-11	5.34E-12	2.60E-11
SSW	24100	Th-232	1.45E-17	2.61E-24	6.73E-25	3.28E-24
SSW	24100	U-233	3.16E-10	5.69E-17	1.47E-17	7.16E-17
SSW	24100	U-234	9.28E-11	1.67E-17	4.31E-18	2.10E-17

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSW	24100	U-235	3.75E-12	6.76E-19	1.74E-19	8.50E-19
SSW	24100	U-236	3.07E-12	5.53E-19	1.43E-19	6.96E-19
SSW	24100	U-238	8.33E-11	1.50E-17	3.87E-18	1.89E-17
SSW	24100	Y-90	4.47E-06	8.04E-13	2.09E-13	1.01E-12
SSW	24100	Ru-106	1.78E-14	3.21E-21	8.29E-22	4.04E-21
SSW	24100	Cs-134	4.48E-13	8.07E-20	2.08E-20	1.02E-19
SSW	24100	Ba-137m	1.13E-18	2.04E-25	2.11E-25	4.15E-25
SSW	24100	Pu-242	1.05E-12	1.88E-19	4.86E-20	2.37E-19
SSW	24100	Ra-226	9.56E-12	1.72E-18	4.44E-19	2.16E-18
SSW	24100	U-232	5.85E-12	1.05E-18	2.72E-19	1.32E-18
SSW	24100	Pa-231	1.31E-17	2.36E-24	6.08E-25	2.96E-24
SSW	24100	Ni-59	4.71E-10	8.48E-17	2.19E-17	1.07E-16
SSW	24100	Ac-227	9.44E-11	1.70E-17	4.39E-18	2.14E-17
SSW	24100	Am-243	1.41E-10	2.53E-17	6.54E-18	3.19E-17
SSW	24100	Ra-228	5.85E-10	1.05E-16	2.72E-17	1.32E-16
SSW	24100	Cm-242	8.57E-09	1.54E-15	3.98E-16	1.94E-15
SSW	24100	Th-229	6.55E-18	1.18E-24	3.05E-25	1.48E-24
SSW	24100	Zr-93	6.17E-14	1.11E-20	2.87E-21	1.40E-20
SSW	24100	Nb-93m	1.05E-13	1.89E-20	4.89E-21	2.38E-20
SSW	24100	Cd-113m	5.58E-08	1.00E-14	2.59E-15	1.26E-14
SSW	24100	Se-79	6.69E-07	1.20E-13	3.11E-14	1.52E-13
SSW	30100	Am-241	1.71E-07	3.07E-14	8.79E-15	3.95E-14
SSW	30100	C-14	1.17E-04	0.00E+00	0.00E+00	0.00E+00
SSW	30100	Co-60	1.63E-15	2.93E-22	8.39E-23	3.77E-22
SSW	30100	Cm-243	4.28E-10	7.70E-17	2.20E-17	9.90E-17
SSW	30100	Cm-244	7.38E-09	1.33E-15	3.80E-16	1.71E-15
SSW	30100	Cs-137	2.17E-06	3.91E-13	1.12E-13	5.03E-13
SSW	30100	Eu-152	3.48E-15	6.26E-22	1.79E-22	8.06E-22
SSW	30100	Eu-154	2.01E-14	3.62E-21	1.04E-21	4.66E-21
SSW	30100	Eu-155	7.42E-15	1.34E-21	3.82E-22	1.72E-21
SSW	30100	H-3	5.10E-04	0.00E+00	0.00E+00	0.00E+00
SSW	30100	I-129	1.58E-11	5.54E-17	2.82E-18	5.83E-17
SSW	30100	Ni-63	2.49E-08	4.48E-15	1.28E-15	5.76E-15
SSW	30100	Np-237	6.34E-10	1.14E-16	3.26E-17	1.47E-16
SSW	30100	Pu-238	9.16E-10	1.65E-16	4.72E-17	2.12E-16
SSW	30100	Pu-239	2.03E-08	3.65E-15	1.04E-15	4.69E-15
SSW	30100	Pu-240	4.74E-09	8.54E-16	2.44E-16	1.10E-15
SSW	30100	Pu-241	1.28E-08	2.30E-15	6.58E-16	2.96E-15
SSW	30100	Sb-125	5.57E-08	1.00E-14	2.87E-15	1.29E-14
SSW	30100	Sm-151	2.04E-11	3.68E-18	1.05E-18	4.73E-18
SSW	30100	Sn-126	2.41E-08	4.34E-15	1.24E-15	5.58E-15
SSW	30100	Sr-90	3.30E-06	5.95E-13	1.70E-13	7.65E-13
SSW	30100	Tc-99	8.06E-05	1.45E-11	4.15E-12	1.87E-11
SSW	30100	Th-232	1.02E-17	1.83E-24	5.23E-25	2.35E-24
SSW	30100	U-233	2.22E-10	3.99E-17	1.14E-17	5.14E-17
SSW	30100	U-234	6.51E-11	1.17E-17	3.35E-18	1.51E-17
SSW	30100	U-235	2.63E-12	4.74E-19	1.36E-19	6.10E-19

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSW	30100	U-236	2.16E-12	3.88E-19	1.11E-19	4.99E-19
SSW	30100	U-238	5.84E-11	1.05E-17	3.01E-18	1.35E-17
SSW	30100	Y-90	3.10E-06	5.58E-13	1.61E-13	7.18E-13
SSW	30100	Ru-106	1.25E-14	2.25E-21	6.44E-22	2.90E-21
SSW	30100	Cs-134	3.14E-13	5.66E-20	1.62E-20	7.28E-20
SSW	30100	Ba-137m	1.08E-18	1.94E-25	2.01E-25	3.95E-25
SSW	30100	Pu-242	7.34E-13	1.32E-19	3.78E-20	1.70E-19
SSW	30100	Ra-226	6.71E-12	1.21E-18	3.45E-19	1.55E-18
SSW	30100	U-232	4.10E-12	7.39E-19	2.11E-19	9.50E-19
SSW	30100	Pa-231	9.18E-18	1.65E-24	4.72E-25	2.12E-24
SSW	30100	Ni-59	3.30E-10	5.95E-17	1.70E-17	7.65E-17
SSW	30100	Ac-227	6.63E-11	1.19E-17	3.41E-18	1.53E-17
SSW	30100	Am-243	9.87E-11	1.78E-17	5.08E-18	2.28E-17
SSW	30100	Ra-228	4.10E-10	7.39E-17	2.11E-17	9.50E-17
SSW	30100	Cm-242	6.01E-09	1.08E-15	3.09E-16	1.39E-15
SSW	30100	Th-229	4.60E-18	8.28E-25	2.37E-25	1.06E-24
SSW	30100	Zr-93	4.33E-14	7.79E-21	2.23E-21	1.00E-20
SSW	30100	Nb-93m	7.38E-14	1.33E-20	3.80E-21	1.71E-20
SSW	30100	Cd-113m	3.91E-08	7.04E-15	2.01E-15	9.05E-15
SSW	30100	Se-79	4.69E-07	8.45E-14	2.42E-14	1.09E-13
SSW	36100	Am-241	1.32E-07	2.38E-14	7.18E-15	3.10E-14
SSW	36100	C-14	9.44E-05	0.00E+00	0.00E+00	0.00E+00
SSW	36100	Co-60	1.26E-15	2.27E-22	6.85E-23	2.96E-22
SSW	36100	Cm-243	3.32E-10	5.97E-17	1.80E-17	7.77E-17
SSW	36100	Cm-244	5.72E-09	1.03E-15	3.10E-16	1.34E-15
SSW	36100	Cs-137	1.68E-06	3.03E-13	9.13E-14	3.94E-13
SSW	36100	Eu-152	2.70E-15	4.86E-22	1.46E-22	6.32E-22
SSW	36100	Eu-154	1.56E-14	2.81E-21	8.45E-22	3.65E-21
SSW	36100	Eu-155	5.75E-15	1.04E-21	3.12E-22	1.35E-21
SSW	36100	H-3	4.11E-04	0.00E+00	0.00E+00	0.00E+00
SSW	36100	I-129	1.17E-11	4.09E-17	2.11E-18	4.30E-17
SSW	36100	Ni-63	1.93E-08	3.47E-15	1.05E-15	4.52E-15
SSW	36100	Np-237	4.91E-10	8.84E-17	2.66E-17	1.15E-16
SSW	36100	Pu-238	7.10E-10	1.28E-16	3.85E-17	1.66E-16
SSW	36100	Pu-239	1.57E-08	2.83E-15	8.52E-16	3.68E-15
SSW	36100	Pu-240	3.68E-09	6.62E-16	1.99E-16	8.61E-16
SSW	36100	Pu-241	9.91E-09	1.78E-15	5.37E-16	2.32E-15
SSW	36100	Sb-125	4.32E-08	7.77E-15	2.34E-15	1.01E-14
SSW	36100	Sm-151	1.58E-11	2.85E-18	8.59E-19	3.71E-18
SSW	36100	Sn-126	1.87E-08	3.36E-15	1.01E-15	4.38E-15
SSW	36100	Sr-90	2.56E-06	4.61E-13	1.39E-13	6.00E-13
SSW	36100	Tc-99	6.25E-05	1.12E-11	3.39E-12	1.46E-11
SSW	36100	Th-232	7.87E-18	1.42E-24	4.27E-25	1.84E-24
SSW	36100	U-233	1.72E-10	3.10E-17	9.33E-18	4.03E-17
SSW	36100	U-234	5.05E-11	9.09E-18	2.74E-18	1.18E-17
SSW	36100	U-235	2.04E-12	3.68E-19	1.11E-19	4.78E-19
SSW	36100	U-236	1.67E-12	3.01E-19	9.06E-20	3.91E-19

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSW	36100	U-238	4.53E-11	8.15E-18	2.46E-18	1.06E-17
SSW	36100	Y-90	2.37E-06	4.27E-13	1.30E-13	5.57E-13
SSW	36100	Ru-106	9.70E-15	1.75E-21	5.26E-22	2.27E-21
SSW	36100	Cs-134	2.44E-13	4.39E-20	1.32E-20	5.71E-20
SSW	36100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SSW	36100	Pu-242	5.69E-13	1.02E-19	3.09E-20	1.33E-19
SSW	36100	Ra-226	5.20E-12	9.35E-19	2.82E-19	1.22E-18
SSW	36100	U-232	3.18E-12	5.72E-19	1.72E-19	7.45E-19
SSW	36100	Pa-231	7.12E-18	1.28E-24	3.86E-25	1.67E-24
SSW	36100	Ni-59	2.56E-10	4.61E-17	1.39E-17	6.00E-17
SSW	36100	Ac-227	5.14E-11	9.24E-18	2.78E-18	1.20E-17
SSW	36100	Am-243	7.65E-11	1.38E-17	4.15E-18	1.79E-17
SSW	36100	Ra-228	3.18E-10	5.72E-17	1.72E-17	7.45E-17
SSW	36100	Cm-242	4.66E-09	8.39E-16	2.53E-16	1.09E-15
SSW	36100	Th-229	3.56E-18	6.41E-25	1.93E-25	8.35E-25
SSW	36100	Zr-93	3.35E-14	6.04E-21	1.82E-21	7.85E-21
SSW	36100	Nb-93m	5.72E-14	1.03E-20	3.10E-21	1.34E-20
SSW	36100	Cd-113m	3.03E-08	5.46E-15	1.64E-15	7.10E-15
SSW	36100	Se-79	3.64E-07	6.55E-14	1.97E-14	8.52E-14
SSW	42100	Am-241	1.06E-07	1.90E-14	6.02E-15	2.51E-14
SSW	42100	C-14	7.86E-05	0.00E+00	0.00E+00	0.00E+00
SSW	42100	Co-60	1.01E-15	1.82E-22	5.74E-23	2.39E-22
SSW	42100	Cm-243	2.65E-10	4.77E-17	1.51E-17	6.28E-17
SSW	42100	Cm-244	4.57E-09	8.22E-16	2.60E-16	1.08E-15
SSW	42100	Cs-137	1.34E-06	2.42E-13	7.65E-14	3.19E-13
SSW	42100	Eu-152	2.16E-15	3.88E-22	1.23E-22	5.11E-22
SSW	42100	Eu-154	1.25E-14	2.24E-21	7.09E-22	2.95E-21
SSW	42100	Eu-155	4.60E-15	8.27E-22	2.61E-22	1.09E-21
SSW	42100	H-3	3.42E-04	0.00E+00	0.00E+00	0.00E+00
SSW	42100	I-129	8.89E-12	3.11E-17	1.62E-18	3.27E-17
SSW	42100	Ni-63	1.54E-08	2.78E-15	8.77E-16	3.65E-15
SSW	42100	Np-237	3.93E-10	7.07E-17	2.23E-17	9.30E-17
SSW	42100	Pu-238	5.68E-10	1.02E-16	3.23E-17	1.34E-16
SSW	42100	Pu-239	1.26E-08	2.26E-15	7.14E-16	2.97E-15
SSW	42100	Pu-240	2.94E-09	5.29E-16	1.67E-16	6.96E-16
SSW	42100	Pu-241	7.92E-09	1.43E-15	4.50E-16	1.88E-15
SSW	42100	Sb-125	3.45E-08	6.21E-15	1.96E-15	8.17E-15
SSW	42100	Sm-151	1.27E-11	2.28E-18	7.20E-19	3.00E-18
SSW	42100	Sn-126	1.49E-08	2.69E-15	8.49E-16	3.54E-15
SSW	42100	Sr-90	2.05E-06	3.68E-13	1.16E-13	4.85E-13
SSW	42100	Tc-99	4.99E-05	8.99E-12	2.84E-12	1.18E-11
SSW	42100	Th-232	6.29E-18	1.13E-24	3.58E-25	1.49E-24
SSW	42100	U-233	1.37E-10	2.47E-17	7.82E-18	3.26E-17
SSW	42100	U-234	4.03E-11	7.26E-18	2.29E-18	9.56E-18
SSW	42100	U-235	1.63E-12	2.94E-19	9.28E-20	3.86E-19
SSW	42100	U-236	1.33E-12	2.40E-19	7.59E-20	3.16E-19
SSW	42100	U-238	3.62E-11	6.51E-18	2.06E-18	8.57E-18

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSW	42100	Y-90	1.87E-06	3.37E-13	1.08E-13	4.44E-13
SSW	42100	Ru-106	7.75E-15	1.39E-21	4.41E-22	1.84E-21
SSW	42100	Cs-134	1.95E-13	3.51E-20	1.11E-20	4.61E-20
SSW	42100	Ba-137m	6.13E-21	1.10E-27	2.73E-29	1.13E-27
SSW	42100	Pu-242	4.55E-13	8.19E-20	2.59E-20	1.08E-19
SSW	42100	Ra-226	4.15E-12	7.47E-19	2.36E-19	9.84E-19
SSW	42100	U-232	2.54E-12	4.57E-19	1.45E-19	6.02E-19
SSW	42100	Pa-231	5.69E-18	1.02E-24	3.23E-25	1.35E-24
SSW	42100	Ni-59	2.05E-10	3.68E-17	1.16E-17	4.85E-17
SSW	42100	Ac-227	4.10E-11	7.39E-18	2.33E-18	9.72E-18
SSW	42100	Am-243	6.11E-11	1.10E-17	3.48E-18	1.45E-17
SSW	42100	Ra-228	2.54E-10	4.57E-17	1.45E-17	6.02E-17
SSW	42100	Cm-242	3.72E-09	6.70E-16	2.12E-16	8.82E-16
SSW	42100	Th-229	2.85E-18	5.13E-25	1.62E-25	6.75E-25
SSW	42100	Zr-93	2.68E-14	4.82E-21	1.52E-21	6.35E-21
SSW	42100	Nb-93m	4.57E-14	8.22E-21	2.60E-21	1.08E-20
SSW	42100	Cd-113m	2.42E-08	4.36E-15	1.38E-15	5.74E-15
SSW	42100	Se-79	2.91E-07	5.23E-14	1.65E-14	6.89E-14
SSW	48100	Am-241	8.60E-08	1.55E-14	5.13E-15	2.06E-14
SSW	48100	C-14	6.71E-05	0.00E+00	0.00E+00	0.00E+00
SSW	48100	Co-60	8.21E-16	1.48E-22	4.90E-23	1.97E-22
SSW	48100	Cm-243	2.15E-10	3.88E-17	1.29E-17	5.16E-17
SSW	48100	Cm-244	3.71E-09	6.68E-16	2.22E-16	8.90E-16
SSW	48100	Cs-137	1.09E-06	1.97E-13	6.52E-14	2.62E-13
SSW	48100	Eu-152	1.75E-15	3.15E-22	1.05E-22	4.20E-22
SSW	48100	Eu-154	1.01E-14	1.82E-21	6.04E-22	2.43E-21
SSW	48100	Eu-155	3.74E-15	6.73E-22	2.23E-22	8.96E-22
SSW	48100	H-3	2.92E-04	0.00E+00	0.00E+00	0.00E+00
SSW	48100	I-129	6.93E-12	2.42E-17	1.27E-18	2.55E-17
SSW	48100	Ni-63	1.25E-08	2.26E-15	7.48E-16	3.01E-15
SSW	48100	Np-237	3.19E-10	5.74E-17	1.90E-17	7.65E-17
SSW	48100	Pu-238	4.61E-10	8.30E-17	2.75E-17	1.11E-16
SSW	48100	Pu-239	1.02E-08	1.84E-15	6.09E-16	2.45E-15
SSW	48100	Pu-240	2.39E-09	4.30E-16	1.42E-16	5.72E-16
SSW	48100	Pu-241	6.44E-09	1.16E-15	3.84E-16	1.54E-15
SSW	48100	Sb-125	2.80E-08	5.05E-15	1.67E-15	6.72E-15
SSW	48100	Sm-151	1.03E-11	1.85E-18	6.14E-19	2.47E-18
SSW	48100	Sn-126	1.21E-08	2.18E-15	7.24E-16	2.91E-15
SSW	48100	Sr-90	1.66E-06	2.99E-13	9.93E-14	3.99E-13
SSW	48100	Tc-99	4.06E-05	7.31E-12	2.42E-12	9.73E-12
SSW	48100	Th-232	5.11E-18	9.20E-25	3.05E-25	1.23E-24
SSW	48100	U-233	1.12E-10	2.01E-17	6.67E-18	2.68E-17
SSW	48100	U-234	3.28E-11	5.90E-18	1.96E-18	7.86E-18
SSW	48100	U-235	1.33E-12	2.39E-19	7.91E-20	3.18E-19
SSW	48100	U-236	1.09E-12	1.95E-19	6.48E-20	2.60E-19
SSW	48100	U-238	2.94E-11	5.30E-18	1.76E-18	7.05E-18
SSW	48100	Y-90	1.50E-06	2.70E-13	9.07E-14	3.61E-13

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSW	48100	Ru-106	6.30E-15	1.13E-21	3.76E-22	1.51E-21
SSW	48100	Cs-134	1.58E-13	2.85E-20	9.45E-21	3.79E-20
SSW	48100	Ba-137m	9.02E-20	1.62E-26	1.00E-27	1.72E-26
SSW	48100	Pu-242	3.70E-13	6.66E-20	2.21E-20	8.86E-20
SSW	48100	Ra-226	3.38E-12	6.08E-19	2.01E-19	8.09E-19
SSW	48100	U-232	2.07E-12	3.72E-19	1.23E-19	4.95E-19
SSW	48100	Pa-231	4.62E-18	8.32E-25	2.76E-25	1.11E-24
SSW	48100	Ni-59	1.66E-10	2.99E-17	9.93E-18	3.99E-17
SSW	48100	Ac-227	3.34E-11	6.00E-18	1.99E-18	7.99E-18
SSW	48100	Am-243	4.97E-11	8.94E-18	2.96E-18	1.19E-17
SSW	48100	Ra-228	2.07E-10	3.72E-17	1.23E-17	4.95E-17
SSW	48100	Cm-242	3.03E-09	5.45E-16	1.81E-16	7.25E-16
SSW	48100	Th-229	2.31E-18	4.17E-25	1.38E-25	5.55E-25
SSW	48100	Zr-93	2.18E-14	3.92E-21	1.30E-21	5.22E-21
SSW	48100	Nb-93m	3.71E-14	6.68E-21	2.22E-21	8.90E-21
SSW	48100	Cd-113m	1.97E-08	3.54E-15	1.18E-15	4.72E-15
SSW	48100	Se-79	2.36E-07	4.25E-14	1.41E-14	5.66E-14
SSW	54100	Am-241	7.00E-08	1.26E-14	4.42E-15	1.70E-14
SSW	54100	C-14	5.83E-05	0.00E+00	0.00E+00	0.00E+00
SSW	54100	Co-60	6.68E-16	1.20E-22	4.22E-23	1.62E-22
SSW	54100	Cm-243	1.75E-10	3.15E-17	1.11E-17	4.26E-17
SSW	54100	Cm-244	3.02E-09	5.44E-16	1.91E-16	7.35E-16
SSW	54100	Cs-137	8.89E-07	1.60E-13	5.62E-14	2.16E-13
SSW	54100	Eu-152	1.43E-15	2.57E-22	9.00E-23	3.47E-22
SSW	54100	Eu-154	8.24E-15	1.48E-21	5.20E-22	2.00E-21
SSW	54100	Eu-155	3.04E-15	5.47E-22	1.92E-22	7.39E-22
SSW	54100	H-3	2.54E-04	0.00E+00	0.00E+00	0.00E+00
SSW	54100	I-129	5.50E-12	1.92E-17	1.01E-18	2.03E-17
SSW	54100	Ni-63	1.02E-08	1.84E-15	6.44E-16	2.48E-15
SSW	54100	Np-237	2.60E-10	4.67E-17	1.64E-17	6.31E-17
SSW	54100	Pu-238	3.75E-10	6.76E-17	2.37E-17	9.13E-17
SSW	54100	Pu-239	8.30E-09	1.49E-15	5.25E-16	2.02E-15
SSW	54100	Pu-240	1.94E-09	3.50E-16	1.23E-16	4.72E-16
SSW	54100	Pu-241	5.24E-09	9.43E-16	3.31E-16	1.27E-15
SSW	54100	Sb-125	2.28E-08	4.11E-15	1.44E-15	5.55E-15
SSW	54100	Sm-151	8.37E-12	1.51E-18	5.29E-19	2.04E-18
SSW	54100	Sn-126	9.87E-09	1.78E-15	6.24E-16	2.40E-15
SSW	54100	Sr-90	1.35E-06	2.44E-13	8.55E-14	3.29E-13
SSW	54100	Tc-99	3.30E-05	5.94E-12	2.09E-12	8.03E-12
SSW	54100	Th-232	4.16E-18	7.49E-25	2.63E-25	1.01E-24
SSW	54100	U-233	9.09E-11	1.64E-17	5.74E-18	2.21E-17
SSW	54100	U-234	2.67E-11	4.80E-18	1.69E-18	6.49E-18
SSW	54100	U-235	1.08E-12	1.94E-19	6.82E-20	2.62E-19
SSW	54100	U-236	8.83E-13	1.59E-19	5.58E-20	2.15E-19
SSW	54100	U-238	2.39E-11	4.31E-18	1.51E-18	5.82E-18
SSW	54100	Y-90	1.21E-06	2.17E-13	7.73E-14	2.95E-13
SSW	54100	Ru-106	5.12E-15	9.22E-22	3.24E-22	1.25E-21

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSW	54100	Cs-134	1.29E-13	2.32E-20	8.13E-21	3.13E-20
SSW	54100	Ba-137m	3.55E-20	6.39E-27	3.99E-28	6.79E-27
SSW	54100	Pu-242	3.01E-13	5.41E-20	1.90E-20	7.31E-20
SSW	54100	Ra-226	2.75E-12	4.94E-19	1.73E-19	6.68E-19
SSW	54100	U-232	1.68E-12	3.02E-19	1.06E-19	4.09E-19
SSW	54100	Pa-231	3.76E-18	6.77E-25	2.38E-25	9.14E-25
SSW	54100	Ni-59	1.35E-10	2.44E-17	8.55E-18	3.29E-17
SSW	54100	Ac-227	2.71E-11	4.88E-18	1.71E-18	6.60E-18
SSW	54100	Am-243	4.04E-11	7.27E-18	2.55E-18	9.83E-18
SSW	54100	Ra-228	1.68E-10	3.02E-17	1.06E-17	4.09E-17
SSW	54100	Cm-242	2.46E-09	4.43E-16	1.55E-16	5.98E-16
SSW	54100	Th-229	1.88E-18	3.39E-25	1.19E-25	4.58E-25
SSW	54100	Zr-93	1.77E-14	3.19E-21	1.12E-21	4.31E-21
SSW	54100	Nb-93m	3.02E-14	5.44E-21	1.91E-21	7.35E-21
SSW	54100	Cd-113m	1.60E-08	2.88E-15	1.01E-15	3.90E-15
SSW	54100	Se-79	1.92E-07	3.46E-14	1.21E-14	4.67E-14
SSW	60100	Am-241	5.07E-08	9.13E-15	3.75E-15	1.29E-14
SSW	60100	C-14	5.15E-05	0.00E+00	0.00E+00	0.00E+00
SSW	60100	Co-60	4.84E-16	8.71E-23	3.58E-23	1.23E-22
SSW	60100	Cm-243	1.27E-10	2.29E-17	9.40E-18	3.23E-17
SSW	60100	Cm-244	2.19E-09	3.94E-16	1.62E-16	5.56E-16
SSW	60100	Cs-137	6.45E-07	1.16E-13	4.77E-14	1.64E-13
SSW	60100	Eu-152	1.03E-15	1.86E-22	7.64E-23	2.62E-22
SSW	60100	Eu-154	5.97E-15	1.08E-21	4.42E-22	1.52E-21
SSW	60100	Eu-155	2.20E-15	3.97E-22	1.63E-22	5.60E-22
SSW	60100	H-3	2.24E-04	0.00E+00	0.00E+00	0.00E+00
SSW	60100	I-129	4.43E-12	1.55E-17	8.21E-19	1.63E-17
SSW	60100	Ni-63	7.39E-09	1.33E-15	5.47E-16	1.88E-15
SSW	60100	Np-237	1.88E-10	3.39E-17	1.39E-17	4.78E-17
SSW	60100	Pu-238	2.72E-10	4.90E-17	2.01E-17	6.91E-17
SSW	60100	Pu-239	6.02E-09	1.08E-15	4.45E-16	1.53E-15
SSW	60100	Pu-240	1.41E-09	2.53E-16	1.04E-16	3.58E-16
SSW	60100	Pu-241	3.80E-09	6.83E-16	2.81E-16	9.64E-16
SSW	60100	Sb-125	1.65E-08	2.98E-15	1.22E-15	4.20E-15
SSW	60100	Sm-151	6.07E-12	1.09E-18	4.49E-19	1.54E-18
SSW	60100	Sn-126	7.16E-09	1.29E-15	5.29E-16	1.82E-15
SSW	60100	Sr-90	9.81E-07	1.77E-13	7.26E-14	2.49E-13
SSW	60100	Tc-99	2.39E-05	4.31E-12	1.77E-12	6.08E-12
SSW	60100	Th-232	3.01E-18	5.43E-25	2.23E-25	7.66E-25
SSW	60100	U-233	6.59E-11	1.19E-17	4.87E-18	1.67E-17
SSW	60100	U-234	1.93E-11	3.48E-18	1.43E-18	4.91E-18
SSW	60100	U-235	7.82E-13	1.41E-19	5.79E-20	1.99E-19
SSW	60100	U-236	6.40E-13	1.15E-19	4.73E-20	1.63E-19
SSW	60100	U-238	1.73E-11	3.12E-18	1.28E-18	4.41E-18
SSW	60100	Y-90	8.68E-07	1.56E-13	6.49E-14	2.21E-13
SSW	60100	Ru-106	3.71E-15	6.68E-22	2.75E-22	9.43E-22
SSW	60100	Cs-134	9.33E-14	1.68E-20	6.90E-21	2.37E-20

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSW	60100	Ba-137m	9.69E-20	1.74E-26	7.81E-27	2.53E-26
SSW	60100	Pu-242	2.18E-13	3.93E-20	1.61E-20	5.54E-20
SSW	60100	Ra-226	1.99E-12	3.58E-19	1.47E-19	5.06E-19
SSW	60100	U-232	1.22E-12	2.19E-19	9.01E-20	3.09E-19
SSW	60100	Pa-231	2.73E-18	4.91E-25	2.02E-25	6.92E-25
SSW	60100	Ni-59	9.81E-11	1.77E-17	7.26E-18	2.49E-17
SSW	60100	Ac-227	1.97E-11	3.54E-18	1.45E-18	5.00E-18
SSW	60100	Am-243	2.93E-11	5.27E-18	2.17E-18	7.44E-18
SSW	60100	Ra-228	1.22E-10	2.19E-17	9.01E-18	3.09E-17
SSW	60100	Cm-242	1.78E-09	3.21E-16	1.32E-16	4.53E-16
SSW	60100	Th-229	1.37E-18	2.46E-25	1.01E-25	3.47E-25
SSW	60100	Zr-93	1.28E-14	2.31E-21	9.50E-22	3.26E-21
SSW	60100	Nb-93m	2.19E-14	3.94E-21	1.62E-21	5.56E-21
SSW	60100	Cd-113m	1.16E-08	2.09E-15	8.59E-16	2.95E-15
SSW	60100	Se-79	1.39E-07	2.51E-14	1.03E-14	3.54E-14
SSW	66100	Am-241	4.40E-08	7.92E-15	3.35E-15	1.13E-14
SSW	66100	C-14	4.61E-05	0.00E+00	0.00E+00	0.00E+00
SSW	66100	Co-60	4.20E-16	7.55E-23	3.20E-23	1.07E-22
SSW	66100	Cm-243	1.10E-10	1.98E-17	8.39E-18	2.82E-17
SSW	66100	Cm-244	1.90E-09	3.42E-16	1.45E-16	4.86E-16
SSW	66100	Cs-137	5.59E-07	1.01E-13	4.26E-14	1.43E-13
SSW	66100	Eu-152	8.96E-16	1.61E-22	6.83E-23	2.30E-22
SSW	66100	Eu-154	5.18E-15	9.32E-22	3.95E-22	1.33E-21
SSW	66100	Eu-155	1.91E-15	3.44E-22	1.46E-22	4.90E-22
SSW	66100	H-3	2.00E-04	0.00E+00	0.00E+00	0.00E+00
SSW	66100	I-129	3.62E-12	1.27E-17	6.72E-19	1.33E-17
SSW	66100	Ni-63	6.41E-09	1.15E-15	4.88E-16	1.64E-15
SSW	66100	Np-237	1.63E-10	2.94E-17	1.24E-17	4.18E-17
SSW	66100	Pu-238	2.36E-10	4.25E-17	1.80E-17	6.04E-17
SSW	66100	Pu-239	5.22E-09	9.40E-16	3.98E-16	1.34E-15
SSW	66100	Pu-240	1.22E-09	2.20E-16	9.30E-17	3.13E-16
SSW	66100	Pu-241	3.29E-09	5.93E-16	2.51E-16	8.43E-16
SSW	66100	Sb-125	1.43E-08	2.58E-15	1.09E-15	3.67E-15
SSW	66100	Sm-151	5.26E-12	9.47E-19	4.01E-19	1.35E-18
SSW	66100	Sn-126	6.21E-09	1.12E-15	4.73E-16	1.59E-15
SSW	66100	Sr-90	8.51E-07	1.53E-13	6.48E-14	2.18E-13
SSW	66100	Tc-99	2.08E-05	3.74E-12	1.58E-12	5.32E-12
SSW	66100	Th-232	2.61E-18	4.71E-25	1.99E-25	6.70E-25
SSW	66100	U-233	5.71E-11	1.03E-17	4.35E-18	1.46E-17
SSW	66100	U-234	1.68E-11	3.02E-18	1.28E-18	4.30E-18
SSW	66100	U-235	6.78E-13	1.22E-19	5.17E-20	1.74E-19
SSW	66100	U-236	5.55E-13	9.99E-20	4.23E-20	1.42E-19
SSW	66100	U-238	1.50E-11	2.71E-18	1.15E-18	3.85E-18
SSW	66100	Y-90	7.44E-07	1.34E-13	5.74E-14	1.91E-13
SSW	66100	Ru-106	3.22E-15	5.80E-22	2.45E-22	8.25E-22
SSW	66100	Cs-134	8.09E-14	1.46E-20	6.17E-21	2.07E-20
SSW	66100	Ba-137m	1.35E-19	2.44E-26	8.70E-27	3.31E-26

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSW	66100	Pu-242	1.89E-13	3.40E-20	1.44E-20	4.84E-20
SSW	66100	Ra-226	1.73E-12	3.11E-19	1.32E-19	4.42E-19
SSW	66100	U-232	1.06E-12	1.90E-19	8.05E-20	2.71E-19
SSW	66100	Pa-231	2.36E-18	4.25E-25	1.80E-25	6.06E-25
SSW	66100	Ni-59	8.51E-11	1.53E-17	6.48E-18	2.18E-17
SSW	66100	Ac-227	1.71E-11	3.07E-18	1.30E-18	4.37E-18
SSW	66100	Am-243	2.54E-11	4.57E-18	1.94E-18	6.51E-18
SSW	66100	Ra-228	1.06E-10	1.90E-17	8.05E-18	2.71E-17
SSW	66100	Cm-242	1.55E-09	2.78E-16	1.18E-16	3.96E-16
SSW	66100	Th-229	1.18E-18	2.13E-25	9.02E-26	3.03E-25
SSW	66100	Zr-93	1.11E-14	2.01E-21	8.49E-22	2.85E-21
SSW	66100	Nb-93m	1.90E-14	3.42E-21	1.45E-21	4.86E-21
SSW	66100	Cd-113m	1.01E-08	1.81E-15	7.67E-16	2.58E-15
SSW	66100	Se-79	1.21E-07	2.18E-14	9.21E-15	3.10E-14
S	12100	Am-241	8.28E-07	1.49E-13	2.77E-14	1.77E-13
S	12100	C-14	4.31E-04	0.00E+00	0.00E+00	0.00E+00
S	12100	Co-60	7.90E-15	1.42E-21	2.64E-22	1.69E-21
S	12100	Cm-243	2.07E-09	3.73E-16	6.93E-17	4.43E-16
S	12100	Cm-244	3.57E-08	6.43E-15	1.20E-15	7.63E-15
S	12100	Cs-137	1.05E-05	1.89E-12	3.52E-13	2.25E-12
S	12100	Eu-152	1.69E-14	3.04E-21	5.64E-22	3.60E-21
S	12100	Eu-154	9.75E-14	1.75E-20	3.26E-21	2.08E-20
S	12100	Eu-155	3.60E-14	6.47E-21	1.20E-21	7.68E-21
S	12100	H-3	1.88E-03	0.00E+00	0.00E+00	0.00E+00
S	12100	I-129	9.63E-11	3.37E-16	1.16E-17	3.49E-16
S	12100	Ni-63	1.21E-07	2.17E-14	4.04E-15	2.58E-14
S	12100	Np-237	3.07E-09	5.53E-16	1.03E-16	6.56E-16
S	12100	Pu-238	4.44E-09	7.99E-16	1.48E-16	9.48E-16
S	12100	Pu-239	9.82E-08	1.77E-14	3.29E-15	2.10E-14
S	12100	Pu-240	2.30E-08	4.14E-15	7.68E-16	4.90E-15
S	12100	Pu-241	6.20E-08	1.12E-14	2.07E-15	1.32E-14
S	12100	Sb-125	2.70E-07	4.86E-14	9.03E-15	5.76E-14
S	12100	Sm-151	9.90E-11	1.78E-17	3.31E-18	2.11E-17
S	12100	Sn-126	1.17E-07	2.10E-14	3.91E-15	2.49E-14
S	12100	Sr-90	1.60E-05	2.88E-12	5.35E-13	3.42E-12
S	12100	Tc-99	3.91E-04	7.03E-11	1.31E-11	8.34E-11
S	12100	Th-232	4.92E-17	8.86E-24	1.65E-24	1.05E-23
S	12100	U-233	1.08E-09	1.94E-16	3.60E-17	2.30E-16
S	12100	U-234	3.16E-10	5.68E-17	1.06E-17	6.74E-17
S	12100	U-235	1.28E-11	2.30E-18	4.27E-19	2.72E-18
S	12100	U-236	1.04E-11	1.88E-18	3.49E-19	2.23E-18
S	12100	U-238	2.83E-10	5.10E-17	9.47E-18	6.04E-17
S	12100	Y-90	1.56E-05	2.81E-12	5.24E-13	3.33E-12
S	12100	Ru-106	6.06E-14	1.09E-20	2.03E-21	1.29E-20
S	12100	Cs-134	1.52E-12	2.74E-19	5.10E-20	3.25E-19
S	12100	Ba-137m	9.83E-17	1.77E-23	9.80E-24	2.75E-23
S	12100	Pu-242	3.56E-12	6.41E-19	1.19E-19	7.60E-19

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
S	12100	Ra-226	3.25E-11	5.85E-18	1.09E-18	6.93E-18
S	12100	U-232	1.99E-11	3.58E-18	6.65E-19	4.24E-18
S	12100	Pa-231	4.45E-17	8.01E-24	1.49E-24	9.49E-24
S	12100	Ni-59	1.60E-09	2.88E-16	5.35E-17	3.42E-16
S	12100	Ac-227	3.21E-10	5.78E-17	1.07E-17	6.85E-17
S	12100	Am-243	4.78E-10	8.61E-17	1.60E-17	1.02E-16
S	12100	Ra-228	1.99E-09	3.58E-16	6.65E-17	4.24E-16
S	12100	Cm-242	2.92E-08	5.25E-15	9.75E-16	6.22E-15
S	12100	Th-229	2.23E-17	4.01E-24	7.45E-25	4.76E-24
S	12100	Zr-93	2.10E-13	3.77E-20	7.01E-21	4.47E-20
S	12100	Nb-93m	3.57E-13	6.43E-20	1.20E-20	7.63E-20
S	12100	Cd-113m	1.90E-07	3.41E-14	6.34E-15	4.05E-14
S	12100	Se-79	2.27E-06	4.09E-13	7.60E-14	4.85E-13
S	16100	Am-241	5.55E-07	1.00E-13	2.04E-14	1.20E-13
S	16100	C-14	3.03E-04	0.00E+00	0.00E+00	0.00E+00
S	16100	Co-60	5.30E-15	9.54E-22	1.94E-22	1.15E-21
S	16100	Cm-243	1.39E-09	2.50E-16	5.10E-17	3.01E-16
S	16100	Cm-244	2.40E-08	4.32E-15	8.79E-16	5.20E-15
S	16100	Cs-137	7.06E-06	1.27E-12	2.59E-13	1.53E-12
S	16100	Eu-152	1.13E-14	2.04E-21	4.15E-22	2.45E-21
S	16100	Eu-154	6.54E-14	1.18E-20	2.40E-21	1.42E-20
S	16100	Eu-155	2.41E-14	4.34E-21	8.85E-22	5.23E-21
S	16100	H-3	1.32E-03	0.00E+00	0.00E+00	0.00E+00
S	16100	I-129	5.66E-11	1.98E-16	7.88E-18	2.06E-16
S	16100	Ni-63	8.10E-08	1.46E-14	2.97E-15	1.75E-14
S	16100	Np-237	2.06E-09	3.71E-16	7.55E-17	4.46E-16
S	16100	Pu-238	2.98E-09	5.36E-16	1.09E-16	6.45E-16
S	16100	Pu-239	6.59E-08	1.19E-14	2.42E-15	1.43E-14
S	16100	Pu-240	1.54E-08	2.77E-15	5.65E-16	3.34E-15
S	16100	Pu-241	4.16E-08	7.48E-15	1.52E-15	9.01E-15
S	16100	Sb-125	1.81E-07	3.26E-14	6.64E-15	3.92E-14
S	16100	Sm-151	6.64E-11	1.20E-17	2.44E-18	1.44E-17
S	16100	Sn-126	7.84E-08	1.41E-14	2.87E-15	1.70E-14
S	16100	Sr-90	1.07E-05	1.93E-12	3.94E-13	2.33E-12
S	16100	Tc-99	2.62E-04	4.72E-11	9.61E-12	5.68E-11
S	16100	Th-232	3.30E-17	5.94E-24	1.21E-24	7.15E-24
S	16100	U-233	7.21E-10	1.30E-16	2.64E-17	1.56E-16
S	16100	U-234	2.12E-10	3.81E-17	7.76E-18	4.59E-17
S	16100	U-235	8.56E-12	1.54E-18	3.14E-19	1.86E-18
S	16100	U-236	7.01E-12	1.26E-18	2.57E-19	1.52E-18
S	16100	U-238	1.90E-10	3.42E-17	6.96E-18	4.12E-17
S	16100	Y-90	1.04E-05	1.87E-12	3.82E-13	2.25E-12
S	16100	Ru-106	4.07E-14	7.32E-21	1.49E-21	8.81E-21
S	16100	Cs-134	1.02E-12	1.84E-19	3.75E-20	2.22E-19
S	16100	Ba-137m	3.72E-17	6.69E-24	1.41E-24	8.10E-24
S	16100	Pu-242	2.39E-12	4.30E-19	8.75E-20	5.17E-19
S	16100	Ra-226	2.18E-11	3.92E-18	7.99E-19	4.72E-18

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m <sup>3</sup> )	Dry Depo Rate (pCi/cm <sup>2</sup> -s)	Wet Depo Rate (pCi/cm <sup>2</sup> -s)	Ground Depo Rate (pCi/cm <sup>2</sup> -s)
S	16100	U-232	1.33E-11	2.40E-18	4.89E-19	2.89E-18
S	16100	Pa-231	2.98E-17	5.37E-24	1.09E-24	6.47E-24
S	16100	Ni-59	1.07E-09	1.93E-16	3.94E-17	2.33E-16
S	16100	Ac-227	2.15E-10	3.88E-17	7.90E-18	4.67E-17
S	16100	Am-243	3.21E-10	5.77E-17	1.18E-17	6.95E-17
S	16100	Ra-228	1.33E-09	2.40E-16	4.89E-17	2.89E-16
S	16100	Cm-242	1.96E-08	3.52E-15	7.17E-16	4.24E-15
S	16100	Th-229	1.49E-17	2.69E-24	5.48E-25	3.24E-24
S	16100	Zr-93	1.41E-13	2.53E-20	5.16E-21	3.05E-20
S	16100	Nb-93m	2.40E-13	4.32E-20	8.79E-21	5.20E-20
S	16100	Cd-113m	1.27E-07	2.29E-14	4.66E-15	2.76E-14
S	16100	Se-79	1.53E-06	2.75E-13	5.59E-14	3.31E-13
S	24100	Am-241	2.91E-07	5.23E-14	1.28E-14	6.51E-14
S	24100	C-14	1.85E-04	0.00E+00	0.00E+00	0.00E+00
S	24100	Co-60	2.77E-15	4.99E-22	1.22E-22	6.21E-22
S	24100	Cm-243	7.28E-10	1.31E-16	3.20E-17	1.63E-16
S	24100	Cm-244	1.25E-08	2.26E-15	5.52E-16	2.81E-15
S	24100	Cs-137	3.69E-06	6.65E-13	1.63E-13	8.27E-13
S	24100	Eu-152	5.92E-15	1.07E-21	2.61E-22	1.33E-21
S	24100	Eu-154	3.42E-14	6.16E-21	1.51E-21	7.66E-21
S	24100	Eu-155	1.26E-14	2.27E-21	5.56E-22	2.83E-21
S	24100	H-3	8.05E-04	0.00E+00	0.00E+00	0.00E+00
S	24100	I-129	2.56E-11	8.96E-17	4.36E-18	9.39E-17
S	24100	Ni-63	4.24E-08	7.62E-15	1.86E-15	9.49E-15
S	24100	Np-237	1.08E-09	1.94E-16	4.75E-17	2.41E-16
S	24100	Pu-238	1.56E-09	2.81E-16	6.86E-17	3.49E-16
S	24100	Pu-239	3.45E-08	6.21E-15	1.52E-15	7.73E-15
S	24100	Pu-240	8.06E-09	1.45E-15	3.55E-16	1.81E-15
S	24100	Pu-241	2.17E-08	3.91E-15	9.57E-16	4.87E-15
S	24100	Sb-125	9.48E-08	1.71E-14	4.17E-15	2.12E-14
S	24100	Sm-151	3.48E-11	6.26E-18	1.53E-18	7.79E-18
S	24100	Sn-126	4.10E-08	7.38E-15	1.80E-15	9.18E-15
S	24100	Sr-90	5.62E-06	1.01E-12	2.47E-13	1.26E-12
S	24100	Tc-99	1.37E-04	2.47E-11	6.04E-12	3.07E-11
S	24100	Th-232	1.73E-17	3.11E-24	7.60E-25	3.87E-24
S	24100	U-233	3.77E-10	6.79E-17	1.66E-17	8.45E-17
S	24100	U-234	1.11E-10	1.99E-17	4.88E-18	2.48E-17
S	24100	U-235	4.48E-12	8.06E-19	1.97E-19	1.00E-18
S	24100	U-236	3.67E-12	6.60E-19	1.61E-19	8.21E-19
S	24100	U-238	9.94E-11	1.79E-17	4.37E-18	2.23E-17
S	24100	Y-90	5.34E-06	9.62E-13	2.37E-13	1.20E-12
S	24100	Ru-106	2.13E-14	3.83E-21	9.37E-22	4.77E-21
S	24100	Cs-134	5.35E-13	9.63E-20	2.35E-20	1.20E-19
S	24100	Ba-137m	2.79E-18	5.03E-25	5.20E-25	1.02E-24
S	24100	Pu-242	1.25E-12	2.25E-19	5.50E-20	2.80E-19
S	24100	Ra-226	1.14E-11	2.05E-18	5.02E-19	2.55E-18
S	24100	U-232	6.98E-12	1.26E-18	3.07E-19	1.56E-18

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
S	24100	Pa-231	1.56E-17	2.81E-24	6.87E-25	3.50E-24
S	24100	Ni-59	5.62E-10	1.01E-16	2.47E-17	1.26E-16
S	24100	Ac-227	1.13E-10	2.03E-17	4.96E-18	2.52E-17
S	24100	Am-243	1.68E-10	3.02E-17	7.39E-18	3.76E-17
S	24100	Ra-228	6.98E-10	1.26E-16	3.07E-17	1.56E-16
S	24100	Cm-242	1.02E-08	1.84E-15	4.50E-16	2.29E-15
S	24100	Th-229	7.82E-18	1.41E-24	3.44E-25	1.75E-24
S	24100	Zr-93	7.36E-14	1.32E-20	3.24E-21	1.65E-20
S	24100	Nb-93m	1.25E-13	2.26E-20	5.52E-21	2.81E-20
S	24100	Cd-113m	6.65E-08	1.20E-14	2.93E-15	1.49E-14
S	24100	Se-79	7.98E-07	1.44E-13	3.51E-14	1.79E-13
S	30100	Am-241	2.02E-07	3.64E-14	9.93E-15	4.63E-14
S	30100	C-14	1.42E-04	0.00E+00	0.00E+00	0.00E+00
S	30100	Co-60	1.93E-15	3.47E-22	9.47E-23	4.42E-22
S	30100	Cm-243	5.06E-10	9.11E-17	2.49E-17	1.16E-16
S	30100	Cm-244	8.73E-09	1.57E-15	4.29E-16	2.00E-15
S	30100	Cs-137	2.57E-06	4.62E-13	1.26E-13	5.89E-13
S	30100	Eu-152	4.12E-15	7.41E-22	2.02E-22	9.44E-22
S	30100	Eu-154	2.38E-14	4.28E-21	1.17E-21	5.45E-21
S	30100	Eu-155	8.78E-15	1.58E-21	4.32E-22	2.01E-21
S	30100	H-3	6.16E-04	0.00E+00	0.00E+00	0.00E+00
S	30100	I-129	1.77E-11	6.21E-17	3.12E-18	6.52E-17
S	30100	Ni-63	2.95E-08	5.30E-15	1.45E-15	6.75E-15
S	30100	Np-237	7.50E-10	1.35E-16	3.68E-17	1.72E-16
S	30100	Pu-238	1.08E-09	1.95E-16	5.33E-17	2.48E-16
S	30100	Pu-239	2.40E-08	4.32E-15	1.18E-15	5.50E-15
S	30100	Pu-240	5.61E-09	1.01E-15	2.76E-16	1.29E-15
S	30100	Pu-241	1.51E-08	2.72E-15	7.43E-16	3.47E-15
S	30100	Sb-125	6.59E-08	1.19E-14	3.24E-15	1.51E-14
S	30100	Sm-151	2.42E-11	4.35E-18	1.19E-18	5.54E-18
S	30100	Sn-126	2.85E-08	5.13E-15	1.40E-15	6.54E-15
S	30100	Sr-90	3.91E-06	7.04E-13	1.92E-13	8.96E-13
S	30100	Tc-99	9.54E-05	1.72E-11	4.69E-12	2.19E-11
S	30100	Th-232	1.20E-17	2.16E-24	5.90E-25	2.75E-24
S	30100	U-233	2.63E-10	4.73E-17	1.29E-17	6.02E-17
S	30100	U-234	7.71E-11	1.39E-17	3.79E-18	1.77E-17
S	30100	U-235	3.12E-12	5.61E-19	1.53E-19	7.14E-19
S	30100	U-236	2.55E-12	4.59E-19	1.25E-19	5.84E-19
S	30100	U-238	6.91E-11	1.24E-17	3.40E-18	1.58E-17
S	30100	Y-90	3.68E-06	6.62E-13	1.82E-13	8.44E-13
S	30100	Ru-106	1.48E-14	2.66E-21	7.27E-22	3.39E-21
S	30100	Cs-134	3.72E-13	6.70E-20	1.83E-20	8.52E-20
S	30100	Ba-137m	1.14E-18	2.06E-25	2.13E-25	4.19E-25
S	30100	Pu-242	8.69E-13	1.56E-19	4.27E-20	1.99E-19
S	30100	Ra-226	7.93E-12	1.43E-18	3.90E-19	1.82E-18
S	30100	U-232	4.85E-12	8.74E-19	2.39E-19	1.11E-18
S	30100	Pa-231	1.09E-17	1.96E-24	5.34E-25	2.49E-24

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
S	30100	Ni-59	3.91E-10	7.04E-17	1.92E-17	8.96E-17
S	30100	Ac-227	7.84E-11	1.41E-17	3.85E-18	1.80E-17
S	30100	Am-243	1.17E-10	2.10E-17	5.74E-18	2.67E-17
S	30100	Ra-228	4.85E-10	8.74E-17	2.38E-17	1.11E-16
S	30100	Cm-242	7.11E-09	1.28E-15	3.50E-16	1.63E-15
S	30100	Th-229	5.44E-18	9.79E-25	2.67E-25	1.25E-24
S	30100	Zr-93	5.12E-14	9.21E-21	2.52E-21	1.17E-20
S	30100	Nb-93m	8.73E-14	1.57E-20	4.29E-21	2.00E-20
S	30100	Cd-113m	4.63E-08	8.33E-15	2.27E-15	1.06E-14
S	30100	Se-79	5.55E-07	1.00E-13	2.73E-14	1.27E-13
S	36100	Am-241	1.57E-07	2.82E-14	8.11E-15	3.63E-14
S	36100	C-14	1.14E-04	0.00E+00	0.00E+00	0.00E+00
S	36100	Co-60	1.50E-15	2.69E-22	7.74E-23	3.47E-22
S	36100	Cm-243	3.93E-10	7.07E-17	2.03E-17	9.10E-17
S	36100	Cm-244	6.77E-09	1.22E-15	3.50E-16	1.57E-15
S	36100	Cs-137	1.99E-06	3.59E-13	1.03E-13	4.62E-13
S	36100	Eu-152	3.20E-15	5.75E-22	1.65E-22	7.40E-22
S	36100	Eu-154	1.85E-14	3.32E-21	9.55E-22	4.28E-21
S	36100	Eu-155	6.82E-15	1.23E-21	3.53E-22	1.58E-21
S	36100	H-3	4.96E-04	0.00E+00	0.00E+00	0.00E+00
S	36100	I-129	1.30E-11	4.56E-17	2.32E-18	4.79E-17
S	36100	Ni-63	2.29E-08	4.12E-15	1.18E-15	5.30E-15
S	36100	Np-237	5.82E-10	1.05E-16	3.01E-17	1.35E-16
S	36100	Pu-238	8.41E-10	1.51E-16	4.35E-17	1.95E-16
S	36100	Pu-239	1.86E-08	3.35E-15	9.63E-16	4.31E-15
S	36100	Pu-240	4.35E-09	7.84E-16	2.25E-16	1.01E-15
S	36100	Pu-241	1.17E-08	2.11E-15	6.07E-16	2.72E-15
S	36100	Sb-125	5.11E-08	9.21E-15	2.65E-15	1.19E-14
S	36100	Sm-151	1.88E-11	3.38E-18	9.71E-19	4.35E-18
S	36100	Sn-126	2.21E-08	3.98E-15	1.14E-15	5.13E-15
S	36100	Sr-90	3.03E-06	5.46E-13	1.57E-13	7.03E-13
S	36100	Tc-99	7.40E-05	1.33E-11	3.83E-12	1.72E-11
S	36100	Th-232	9.32E-18	1.68E-24	4.82E-25	2.16E-24
S	36100	U-233	2.04E-10	3.67E-17	1.05E-17	4.72E-17
S	36100	U-234	5.98E-11	1.08E-17	3.09E-18	1.39E-17
S	36100	U-235	2.42E-12	4.35E-19	1.25E-19	5.60E-19
S	36100	U-236	1.98E-12	3.56E-19	1.02E-19	4.59E-19
S	36100	U-238	5.37E-11	9.66E-18	2.78E-18	1.24E-17
S	36100	Y-90	2.82E-06	5.07E-13	1.47E-13	6.54E-13
S	36100	Ru-106	1.15E-14	2.07E-21	5.94E-22	2.66E-21
S	36100	Cs-134	2.89E-13	5.20E-20	1.49E-20	6.69E-20
S	36100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S	36100	Pu-242	6.74E-13	1.21E-19	3.49E-20	1.56E-19
S	36100	Ra-226	6.16E-12	1.11E-18	3.18E-19	1.43E-18
S	36100	U-232	3.77E-12	6.78E-19	1.95E-19	8.73E-19
S	36100	Pa-231	8.43E-18	1.52E-24	4.36E-25	1.95E-24
S	36100	Ni-59	3.03E-10	5.46E-17	1.57E-17	7.03E-17

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
S	36100	Ac-227	6.08E-11	1.09E-17	3.15E-18	1.41E-17
S	36100	Am-243	9.06E-11	1.63E-17	4.69E-18	2.10E-17
S	36100	Ra-228	3.77E-10	6.78E-17	1.95E-17	8.73E-17
S	36100	Cm-242	5.52E-09	9.94E-16	2.86E-16	1.28E-15
S	36100	Th-229	4.22E-18	7.60E-25	2.18E-25	9.78E-25
S	36100	Zr-93	3.97E-14	7.15E-21	2.05E-21	9.21E-21
S	36100	Nb-93m	6.77E-14	1.22E-20	3.50E-21	1.57E-20
S	36100	Cd-113m	3.59E-08	6.46E-15	1.86E-15	8.32E-15
S	36100	Se-79	4.31E-07	7.76E-14	2.23E-14	9.99E-14
S	42100	Am-241	1.25E-07	2.26E-14	6.80E-15	2.94E-14
S	42100	C-14	9.50E-05	0.00E+00	0.00E+00	0.00E+00
S	42100	Co-60	1.20E-15	2.16E-22	6.49E-23	2.80E-22
S	42100	Co-60	1.20E-15	2.16E-22	6.49E-23	2.80E-22
S	42100	Cm-243	3.14E-10	5.66E-17	1.70E-17	7.36E-17
S	42100	Cm-244	5.42E-09	9.75E-16	2.94E-16	1.27E-15
S	42100	Cs-137	1.60E-06	2.87E-13	8.65E-14	3.74E-13
S	42100	Eu-152	2.56E-15	4.60E-22	1.39E-22	5.99E-22
S	42100	Eu-154	1.48E-14	2.66E-21	8.01E-22	3.46E-21
S	42100	Eu-155	5.45E-15	9.82E-22	2.96E-22	1.28E-21
S	42100	H-3	4.13E-04	0.00E+00	0.00E+00	0.00E+00
S	42100	I-129	9.87E-12	3.45E-17	1.78E-18	3.63E-17
S	42100	Ni-63	1.83E-08	3.29E-15	9.92E-16	4.29E-15
S	42100	Np-237	4.66E-10	8.38E-17	2.52E-17	1.09E-16
S	42100	Pu-238	6.73E-10	1.21E-16	3.65E-17	1.58E-16
S	42100	Pu-239	1.49E-08	2.68E-15	8.07E-16	3.49E-15
S	42100	Pu-240	3.48E-09	6.27E-16	1.89E-16	8.16E-16
S	42100	Pu-241	9.39E-09	1.69E-15	5.09E-16	2.20E-15
S	42100	Sb-125	4.09E-08	7.37E-15	2.22E-15	9.58E-15
S	42100	Sm-151	1.50E-11	2.70E-18	8.14E-19	3.52E-18
S	42100	Sn-126	1.77E-08	3.19E-15	9.60E-16	4.15E-15
S	42100	Sr-90	2.43E-06	4.37E-13	1.32E-13	5.69E-13
S	42100	Tc-99	5.92E-05	1.07E-11	3.21E-12	1.39E-11
S	42100	Th-232	7.46E-18	1.34E-24	4.04E-25	1.75E-24
S	42100	U-233	1.63E-10	2.93E-17	8.84E-18	3.82E-17
S	42100	U-234	4.79E-11	8.61E-18	2.59E-18	1.12E-17
S	42100	U-235	1.94E-12	3.48E-19	1.05E-19	4.53E-19
S	42100	U-236	1.58E-12	2.85E-19	8.58E-20	3.71E-19
S	42100	U-238	4.29E-11	7.73E-18	2.33E-18	1.01E-17
S	42100	Y-90	2.23E-06	4.01E-13	1.22E-13	5.23E-13
S	42100	Ru-106	9.19E-15	1.65E-21	4.98E-22	2.15E-21
S	42100	Cs-134	2.31E-13	4.16E-20	1.25E-20	5.41E-20
S	42100	Ba-137m	2.15E-20	3.86E-27	9.56E-29	3.96E-27
S	42100	Pu-242	5.40E-13	9.71E-20	2.92E-20	1.26E-19
S	42100	Ra-226	4.93E-12	8.87E-19	2.67E-19	1.15E-18
S	42100	U-232	3.01E-12	5.43E-19	1.63E-19	7.06E-19
S	42100	Pa-231	6.74E-18	1.21E-24	3.66E-25	1.58E-24
S	42100	Ni-59	2.43E-10	4.37E-17	1.32E-17	5.69E-17
S	42100	Ac-227	4.87E-11	8.76E-18	2.64E-18	1.14E-17

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
S	42100	Am-243	7.25E-11	1.30E-17	3.93E-18	1.70E-17
S	42100	Ra-228	3.01E-10	5.43E-17	1.63E-17	7.06E-17
S	42100	Cm-242	4.42E-09	7.95E-16	2.39E-16	1.03E-15
S	42100	Th-229	3.38E-18	6.08E-25	1.83E-25	7.91E-25
S	42100	Zr-93	3.18E-14	5.72E-21	1.72E-21	7.44E-21
S	42100	Nb-93m	5.42E-14	9.75E-21	2.94E-21	1.27E-20
S	42100	Cd-113m	2.87E-08	5.17E-15	1.56E-15	6.73E-15
S	42100	Se-79	3.45E-07	6.21E-14	1.87E-14	8.08E-14
S	48100	Am-241	1.02E-07	1.84E-14	5.80E-15	2.42E-14
S	48100	C-14	8.12E-05	0.00E+00	0.00E+00	0.00E+00
S	48100	Co-60	9.75E-16	1.75E-22	5.54E-23	2.31E-22
S	48100	Cm-243	2.56E-10	4.61E-17	1.45E-17	6.06E-17
S	48100	Cm-244	4.41E-09	7.94E-16	2.51E-16	1.04E-15
S	48100	Cs-137	1.30E-06	2.34E-13	7.38E-14	3.07E-13
S	48100	Eu-152	2.08E-15	3.75E-22	1.18E-22	4.93E-22
S	48100	Eu-154	1.20E-14	2.17E-21	6.83E-22	2.85E-21
S	48100	Eu-155	4.44E-15	7.99E-22	2.52E-22	1.05E-21
S	48100	H-3	3.53E-04	0.00E+00	0.00E+00	0.00E+00
S	48100	I-129	7.66E-12	2.68E-17	1.40E-18	2.82E-17
S	48100	Ni-63	1.49E-08	2.68E-15	8.46E-16	3.53E-15
S	48100	Np-237	3.79E-10	6.82E-17	2.15E-17	8.98E-17
S	48100	Pu-238	5.48E-10	9.86E-17	3.11E-17	1.30E-16
S	48100	Pu-239	1.21E-08	2.18E-15	6.89E-16	2.87E-15
S	48100	Pu-240	2.84E-09	5.10E-16	1.61E-16	6.72E-16
S	48100	Pu-241	7.65E-09	1.38E-15	4.34E-16	1.81E-15
S	48100	Sb-125	3.33E-08	6.00E-15	1.89E-15	7.89E-15
S	48100	Sm-151	1.22E-11	2.20E-18	6.94E-19	2.89E-18
S	48100	Sn-126	1.44E-08	2.60E-15	8.19E-16	3.41E-15
S	48100	Sr-90	1.98E-06	3.56E-13	1.12E-13	4.68E-13
S	48100	Tc-99	4.82E-05	8.68E-12	2.74E-12	1.14E-11
S	48100	Th-232	6.07E-18	1.09E-24	3.45E-25	1.44E-24
S	48100	U-233	1.33E-10	2.39E-17	7.54E-18	3.14E-17
S	48100	U-234	3.90E-11	7.01E-18	2.21E-18	9.23E-18
S	48100	U-235	1.58E-12	2.84E-19	8.95E-20	3.73E-19
S	48100	U-236	1.29E-12	2.32E-19	7.32E-20	3.05E-19
S	48100	U-238	3.49E-11	6.29E-18	1.99E-18	8.28E-18
S	48100	Y-90	1.79E-06	3.23E-13	1.03E-13	4.26E-13
S	48100	Ru-106	7.48E-15	1.35E-21	4.25E-22	1.77E-21
S	48100	Cs-134	1.88E-13	3.38E-20	1.07E-20	4.45E-20
S	48100	Ba-137m	6.93E-21	1.25E-27	3.13E-29	1.28E-27
S	48100	Pu-242	4.39E-13	7.91E-20	2.50E-20	1.04E-19
S	48100	Ra-226	4.01E-12	7.22E-19	2.28E-19	9.50E-19
S	48100	U-232	2.45E-12	4.42E-19	1.39E-19	5.81E-19
S	48100	Pa-231	5.49E-18	9.88E-25	3.12E-25	1.30E-24
S	48100	Ni-59	1.98E-10	3.56E-17	1.12E-17	4.68E-17
S	48100	Ac-227	3.96E-11	7.13E-18	2.25E-18	9.38E-18
S	48100	Am-243	5.90E-11	1.06E-17	3.35E-18	1.40E-17

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
S	48100	Ra-228	2.45E-10	4.42E-17	1.39E-17	5.81E-17
S	48100	Cm-242	3.59E-09	6.47E-16	2.04E-16	8.51E-16
S	48100	Th-229	2.75E-18	4.95E-25	1.56E-25	6.51E-25
S	48100	Zr-93	2.59E-14	4.66E-21	1.47E-21	6.13E-21
S	48100	Nb-93m	4.41E-14	7.94E-21	2.51E-21	1.04E-20
S	48100	Cd-113m	2.34E-08	4.21E-15	1.33E-15	5.54E-15
S	48100	Se-79	2.81E-07	5.05E-14	1.59E-14	6.65E-14
S	54100	Am-241	8.32E-08	1.50E-14	5.00E-15	2.00E-14
S	54100	C-14	7.06E-05	0.00E+00	0.00E+00	0.00E+00
S	54100	Co-60	7.94E-16	1.43E-22	4.77E-23	1.91E-22
S	54100	Cm-243	2.08E-10	3.75E-17	1.25E-17	5.01E-17
S	54100	Cm-244	3.59E-09	6.47E-16	2.16E-16	8.63E-16
S	54100	Cs-137	1.06E-06	1.90E-13	6.36E-14	2.54E-13
S	54100	Eu-152	1.70E-15	3.05E-22	1.02E-22	4.07E-22
S	54100	Eu-154	9.80E-15	1.76E-21	5.89E-22	2.35E-21
S	54100	Eu-155	3.62E-15	6.51E-22	2.17E-22	8.68E-22
S	54100	H-3	3.07E-04	0.00E+00	0.00E+00	0.00E+00
S	54100	I-129	6.06E-12	2.12E-17	1.11E-18	2.23E-17
S	54100	Ni-63	1.21E-08	2.18E-15	7.29E-16	2.91E-15
S	54100	Np-237	3.09E-10	5.56E-17	1.86E-17	7.41E-17
S	54100	Pu-238	4.47E-10	8.04E-17	2.68E-17	1.07E-16
S	54100	Pu-239	9.88E-09	1.78E-15	5.94E-16	2.37E-15
S	54100	Pu-240	2.31E-09	4.16E-16	1.39E-16	5.55E-16
S	54100	Pu-241	6.23E-09	1.12E-15	3.74E-16	1.50E-15
S	54100	Sb-125	2.71E-08	4.89E-15	1.63E-15	6.52E-15
S	54100	Sm-151	9.96E-12	1.79E-18	5.98E-19	2.39E-18
S	54100	Sn-126	1.17E-08	2.11E-15	7.06E-16	2.82E-15
S	54100	Sr-90	1.61E-06	2.90E-13	9.67E-14	3.87E-13
S	54100	Tc-99	3.93E-05	7.07E-12	2.36E-12	9.43E-12
S	54100	Th-232	4.95E-18	8.91E-25	2.97E-25	1.19E-24
S	54100	U-233	1.08E-10	1.95E-17	6.50E-18	2.60E-17
S	54100	U-234	3.17E-11	5.71E-18	1.91E-18	7.62E-18
S	54100	U-235	1.28E-12	2.31E-19	7.71E-20	3.08E-19
S	54100	U-236	1.05E-12	1.89E-19	6.31E-20	2.52E-19
S	54100	U-238	2.85E-11	5.13E-18	1.71E-18	6.84E-18
S	54100	Y-90	1.44E-06	2.60E-13	8.78E-14	3.48E-13
S	54100	Ru-106	6.09E-15	1.10E-21	3.66E-22	1.46E-21
S	54100	Cs-134	1.53E-13	2.76E-20	9.20E-21	3.68E-20
S	54100	Ba-137m	6.29E-20	1.13E-26	7.06E-28	1.20E-26
S	54100	Pu-242	3.58E-13	6.44E-20	2.15E-20	8.59E-20
S	54100	Ra-226	3.27E-12	5.88E-19	1.96E-19	7.84E-19
S	54100	U-232	2.00E-12	3.60E-19	1.20E-19	4.80E-19
S	54100	Pa-231	4.47E-18	8.05E-25	2.69E-25	1.07E-24
S	54100	Ni-59	1.61E-10	2.90E-17	9.67E-18	3.87E-17
S	54100	Ac-227	3.23E-11	5.81E-18	1.94E-18	7.75E-18
S	54100	Am-243	4.81E-11	8.65E-18	2.89E-18	1.15E-17
S	54100	Ra-228	2.00E-10	3.60E-17	1.20E-17	4.80E-17

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
S	54100	Cm-242	2.93E-09	5.27E-16	1.76E-16	7.03E-16
S	54100	Th-229	2.24E-18	4.03E-25	1.35E-25	5.38E-25
S	54100	Zr-93	2.11E-14	3.79E-21	1.27E-21	5.06E-21
S	54100	Nb-93m	3.59E-14	6.47E-21	2.16E-21	8.63E-21
S	54100	Cd-113m	1.91E-08	3.43E-15	1.14E-15	4.58E-15
S	54100	Se-79	2.29E-07	4.12E-14	1.37E-14	5.49E-14
S	60100	Am-241	5.99E-08	1.08E-14	4.24E-15	1.50E-14
S	60100	C-14	6.24E-05	0.00E+00	0.00E+00	0.00E+00
S	60100	Co-60	5.71E-16	1.03E-22	4.05E-23	1.43E-22
S	60100	Cm-243	1.50E-10	2.70E-17	1.06E-17	3.76E-17
S	60100	Cm-244	2.59E-09	4.65E-16	1.83E-16	6.48E-16
S	60100	Cs-137	7.61E-07	1.37E-13	5.39E-14	1.91E-13
S	60100	Eu-152	1.22E-15	2.20E-22	8.64E-23	3.06E-22
S	60100	Eu-154	7.05E-15	1.27E-21	4.99E-22	1.77E-21
S	60100	Eu-155	2.60E-15	4.68E-22	1.84E-22	6.53E-22
S	60100	H-3	2.72E-04	0.00E+00	0.00E+00	0.00E+00
S	60100	I-129	4.87E-12	1.70E-17	9.00E-19	1.79E-17
S	60100	Ni-63	8.73E-09	1.57E-15	6.18E-16	2.19E-15
S	60100	Np-237	2.22E-10	4.00E-17	1.57E-17	5.57E-17
S	60100	Pu-238	3.21E-10	5.78E-17	2.27E-17	8.06E-17
S	60100	Pu-239	7.11E-09	1.28E-15	5.03E-16	1.78E-15
S	60100	Pu-240	1.66E-09	2.99E-16	1.18E-16	4.17E-16
S	60100	Pu-241	4.48E-09	8.07E-16	3.17E-16	1.12E-15
S	60100	Sb-125	1.95E-08	3.51E-15	1.38E-15	4.90E-15
S	60100	Sm-151	7.16E-12	1.29E-18	5.07E-19	1.80E-18
S	60100	Sn-126	8.45E-09	1.52E-15	5.98E-16	2.12E-15
S	60100	Sr-90	1.16E-06	2.09E-13	8.20E-14	2.91E-13
S	60100	Tc-99	2.83E-05	5.09E-12	2.00E-12	7.09E-12
S	60100	Th-232	3.56E-18	6.41E-25	2.52E-25	8.93E-25
S	60100	U-233	7.78E-11	1.40E-17	5.51E-18	1.95E-17
S	60100	U-234	2.28E-11	4.11E-18	1.62E-18	5.73E-18
S	60100	U-235	9.23E-13	1.66E-19	6.54E-20	2.32E-19
S	60100	U-236	7.56E-13	1.36E-19	5.35E-20	1.90E-19
S	60100	U-238	2.05E-11	3.69E-18	1.45E-18	5.14E-18
S	60100	Y-90	1.03E-06	1.86E-13	7.37E-14	2.59E-13
S	60100	Ru-106	4.38E-15	7.89E-22	3.10E-22	1.10E-21
S	60100	Cs-134	1.10E-13	1.98E-20	7.80E-21	2.76E-20
S	60100	Ba-137m	1.04E-20	1.88E-27	1.19E-28	2.00E-27
S	60100	Pu-242	2.57E-13	4.63E-20	1.82E-20	6.46E-20
S	60100	Ra-226	2.35E-12	4.23E-19	1.66E-19	5.90E-19
S	60100	U-232	1.44E-12	2.59E-19	1.02E-19	3.61E-19
S	60100	Pa-231	3.22E-18	5.79E-25	2.28E-25	8.07E-25
S	60100	Ni-59	1.16E-10	2.09E-17	8.20E-18	2.91E-17
S	60100	Ac-227	2.32E-11	4.18E-18	1.64E-18	5.83E-18
S	60100	Am-243	3.46E-11	6.23E-18	2.45E-18	8.67E-18
S	60100	Ra-228	1.44E-10	2.59E-17	1.02E-17	3.61E-17
S	60100	Cm-242	2.11E-09	3.79E-16	1.49E-16	5.28E-16

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
S	60100	Th-229	1.61E-18	2.90E-25	1.14E-25	4.04E-25
S	60100	Zr-93	1.52E-14	2.73E-21	1.07E-21	3.80E-21
S	60100	Nb-93m	2.59E-14	4.65E-21	1.83E-21	6.48E-21
S	60100	Cd-113m	1.37E-08	2.47E-15	9.71E-16	3.44E-15
S	60100	Se-79	1.65E-07	2.96E-14	1.17E-14	4.13E-14
S	66100	Am-241	5.20E-08	9.35E-15	3.79E-15	1.31E-14
S	66100	C-14	5.58E-05	0.00E+00	0.00E+00	0.00E+00
S	66100	Co-60	4.96E-16	8.92E-23	3.61E-23	1.25E-22
S	66100	Cm-243	1.30E-10	2.34E-17	9.49E-18	3.29E-17
S	66100	Cm-244	2.24E-09	4.04E-16	1.64E-16	5.67E-16
S	66100	Cs-137	6.60E-07	1.19E-13	4.82E-14	1.67E-13
S	66100	Eu-152	1.06E-15	1.91E-22	7.72E-23	2.68E-22
S	66100	Eu-154	6.12E-15	1.10E-21	4.46E-22	1.55E-21
S	66100	Eu-155	2.26E-15	4.06E-22	1.65E-22	5.71E-22
S	66100	H-3	2.43E-04	0.00E+00	0.00E+00	0.00E+00
S	66100	I-129	3.97E-12	1.39E-17	7.36E-19	1.46E-17
S	66100	Ni-63	7.58E-09	1.36E-15	5.52E-16	1.92E-15
S	66100	Np-237	1.93E-10	3.47E-17	1.41E-17	4.88E-17
S	66100	Pu-238	2.79E-10	5.02E-17	2.03E-17	7.05E-17
S	66100	Pu-239	6.17E-09	1.11E-15	4.50E-16	1.56E-15
S	66100	Pu-240	1.44E-09	2.60E-16	1.05E-16	3.65E-16
S	66100	Pu-241	3.89E-09	7.00E-16	2.84E-16	9.84E-16
S	66100	Sb-125	1.69E-08	3.05E-15	1.24E-15	4.29E-15
S	66100	Sm-151	6.22E-12	1.12E-18	4.53E-19	1.57E-18
S	66100	Sn-126	7.33E-09	1.32E-15	5.35E-16	1.85E-15
S	66100	Sr-90	1.01E-06	1.81E-13	7.33E-14	2.54E-13
S	66100	Tc-99	2.45E-05	4.41E-12	1.79E-12	6.20E-12
S	66100	Th-232	3.09E-18	5.56E-25	2.25E-25	7.81E-25
S	66100	U-233	6.75E-11	1.22E-17	4.92E-18	1.71E-17
S	66100	U-234	1.98E-11	3.57E-18	1.44E-18	5.01E-18
S	66100	U-235	8.01E-13	1.44E-19	5.84E-20	2.03E-19
S	66100	U-236	6.56E-13	1.18E-19	4.78E-20	1.66E-19
S	66100	U-238	1.78E-11	3.20E-18	1.30E-18	4.50E-18
S	66100	Y-90	8.85E-07	1.59E-13	6.52E-14	2.24E-13
S	66100	Ru-106	3.80E-15	6.85E-22	2.77E-22	9.62E-22
S	66100	Cs-134	9.56E-14	1.72E-20	6.97E-21	2.42E-20
S	66100	Ba-137m	7.73E-20	1.39E-26	6.53E-27	2.05E-26
S	66100	Pu-242	2.23E-13	4.02E-20	1.63E-20	5.65E-20
S	66100	Ra-226	2.04E-12	3.67E-19	1.49E-19	5.16E-19
S	66100	U-232	1.25E-12	2.25E-19	9.10E-20	3.16E-19
S	66100	Pa-231	2.79E-18	5.03E-25	2.04E-25	7.06E-25
S	66100	Ni-59	1.01E-10	1.81E-17	7.33E-18	2.54E-17
S	66100	Ac-227	2.02E-11	3.63E-18	1.47E-18	5.10E-18
S	66100	Am-243	3.00E-11	5.40E-18	2.19E-18	7.59E-18
S	66100	Ra-228	1.25E-10	2.25E-17	9.10E-18	3.16E-17
S	66100	Cm-242	1.83E-09	3.29E-16	1.33E-16	4.62E-16
S	66100	Th-229	1.40E-18	2.52E-25	1.02E-25	3.54E-25

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
S	66100	Zr-93	1.32E-14	2.37E-21	9.60E-22	3.33E-21
S	66100	Nb-93m	2.24E-14	4.04E-21	1.64E-21	5.67E-21
S	66100	Cd-113m	1.19E-08	2.14E-15	8.67E-16	3.01E-15
S	66100	Se-79	1.43E-07	2.57E-14	1.04E-14	3.61E-14
SSE	12100	Am-241	1.19E-06	2.13E-13	3.18E-14	2.45E-13
SSE	12100	C-14	6.32E-04	0.00E+00	0.00E+00	0.00E+00
SSE	12100	Co-60	1.13E-14	2.04E-21	3.03E-22	2.34E-21
SSE	12100	Cm-243	2.97E-09	5.35E-16	7.96E-17	6.14E-16
SSE	12100	Cm-244	5.12E-08	9.22E-15	1.37E-15	1.06E-14
SSE	12100	Cs-137	1.51E-05	2.71E-12	4.04E-13	3.12E-12
SSE	12100	Eu-152	2.42E-14	4.35E-21	6.47E-22	5.00E-21
SSE	12100	Eu-154	1.40E-13	2.51E-20	3.74E-21	2.89E-20
SSE	12100	Eu-155	5.15E-14	9.27E-21	1.38E-21	1.07E-20
SSE	12100	H-3	2.75E-03	0.00E+00	0.00E+00	0.00E+00
SSE	12100	I-129	1.05E-10	3.68E-16	1.11E-17	3.79E-16
SSE	12100	Ni-63	1.73E-07	3.11E-14	4.63E-15	3.57E-14
SSE	12100	Np-237	4.40E-09	7.92E-16	1.18E-16	9.10E-16
SSE	12100	Pu-238	6.36E-09	1.14E-15	1.70E-16	1.32E-15
SSE	12100	Pu-239	1.41E-07	2.53E-14	3.77E-15	2.91E-14
SSE	12100	Pu-240	3.29E-08	5.92E-15	8.82E-16	6.81E-15
SSE	12100	Pu-241	8.88E-08	1.60E-14	2.38E-15	1.84E-14
SSE	12100	Sb-125	3.87E-07	6.96E-14	1.04E-14	8.00E-14
SSE	12100	Sm-151	1.42E-10	2.55E-17	3.80E-18	2.93E-17
SSE	12100	Sn-126	1.67E-07	3.01E-14	4.48E-15	3.46E-14
SSE	12100	Sr-90	2.29E-05	4.13E-12	6.14E-13	4.74E-12
SSE	12100	Tc-99	5.60E-04	1.01E-10	1.50E-11	1.16E-10
SSE	12100	Th-232	7.05E-17	1.27E-23	1.89E-24	1.46E-23
SSE	12100	U-233	1.54E-09	2.77E-16	4.13E-17	3.19E-16
SSE	12100	U-234	4.52E-10	8.14E-17	1.21E-17	9.35E-17
SSE	12100	U-235	1.83E-11	3.29E-18	4.90E-19	3.78E-18
SSE	12100	U-236	1.50E-11	2.69E-18	4.01E-19	3.09E-18
SSE	12100	U-238	4.06E-10	7.30E-17	1.09E-17	8.39E-17
SSE	12100	Y-90	2.24E-05	4.03E-12	6.01E-13	4.63E-12
SSE	12100	Ru-106	8.69E-14	1.56E-20	2.33E-21	1.80E-20
SSE	12100	Cs-134	2.18E-12	3.93E-19	5.85E-20	4.51E-19
SSE	12100	Ba-137m	1.53E-16	2.75E-23	1.10E-23	3.85E-23
SSE	12100	Pu-242	5.10E-12	9.18E-19	1.37E-19	1.05E-18
SSE	12100	Ra-226	4.65E-11	8.38E-18	1.25E-18	9.62E-18
SSE	12100	U-232	2.85E-11	5.13E-18	7.63E-19	5.89E-18
SSE	12100	Pa-231	6.37E-17	1.15E-23	1.71E-24	1.32E-23
SSE	12100	Ni-59	2.29E-09	4.13E-16	6.14E-17	4.74E-16
SSE	12100	Ac-227	4.60E-10	8.28E-17	1.23E-17	9.51E-17
SSE	12100	Am-243	6.85E-10	1.23E-16	1.83E-17	1.42E-16
SSE	12100	Ra-228	2.85E-09	5.13E-16	7.63E-17	5.89E-16
SSE	12100	Cm-242	4.18E-08	7.52E-15	1.12E-15	8.64E-15
SSE	12100	Th-229	3.19E-17	5.74E-24	8.55E-25	6.60E-24
SSE	12100	Zr-93	3.00E-13	5.41E-20	8.04E-21	6.21E-20

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSE	12100	Nb-93m	5.12E-13	9.22E-20	1.37E-20	1.06E-19
SSE	12100	Cd-113m	2.71E-07	4.89E-14	7.27E-15	5.61E-14
SSE	12100	Se-79	3.26E-06	5.86E-13	8.73E-14	6.74E-13
SSE	16100	Am-241	8.02E-07	1.44E-13	2.33E-14	1.68E-13
SSE	16100	C-14	4.48E-04	0.00E+00	0.00E+00	0.00E+00
SSE	16100	Co-60	7.65E-15	1.38E-21	2.22E-22	1.60E-21
SSE	16100	Cm-243	2.01E-09	3.61E-16	5.84E-17	4.20E-16
SSE	16100	Cm-244	3.46E-08	6.23E-15	1.01E-15	7.24E-15
SSE	16100	Cs-137	1.02E-05	1.83E-12	2.96E-13	2.13E-12
SSE	16100	Eu-152	1.63E-14	2.94E-21	4.75E-22	3.41E-21
SSE	16100	Eu-154	9.44E-14	1.70E-20	2.74E-21	1.97E-20
SSE	16100	Eu-155	3.48E-14	6.27E-21	1.01E-21	7.28E-21
SSE	16100	H-3	1.95E-03	0.00E+00	0.00E+00	0.00E+00
SSE	16100	I-129	5.97E-11	2.09E-16	7.47E-18	2.16E-16
SSE	16100	Ni-63	1.17E-07	2.10E-14	3.40E-15	2.44E-14
SSE	16100	Np-237	2.97E-09	5.35E-16	8.65E-17	6.22E-16
SSE	16100	Pu-238	4.30E-09	7.74E-16	1.25E-16	8.99E-16
SSE	16100	Pu-239	9.51E-08	1.71E-14	2.77E-15	1.99E-14
SSE	16100	Pu-240	2.23E-08	4.01E-15	6.47E-16	4.65E-15
SSE	16100	Pu-241	6.00E-08	1.08E-14	1.74E-15	1.25E-14
SSE	16100	Sb-125	2.61E-07	4.71E-14	7.60E-15	5.47E-14
SSE	16100	Sm-151	9.59E-11	1.73E-17	2.79E-18	2.00E-17
SSE	16100	Sn-126	1.13E-07	2.04E-14	3.29E-15	2.37E-14
SSE	16100	Sr-90	1.55E-05	2.79E-12	4.51E-13	3.24E-12
SSE	16100	Tc-99	3.78E-04	6.81E-11	1.10E-11	7.91E-11
SSE	16100	Th-232	4.76E-17	8.58E-24	1.39E-24	9.96E-24
SSE	16100	U-233	1.04E-09	1.87E-16	3.03E-17	2.18E-16
SSE	16100	U-234	3.06E-10	5.50E-17	8.89E-18	6.39E-17
SSE	16100	U-235	1.24E-11	2.23E-18	3.59E-19	2.58E-18
SSE	16100	U-236	1.01E-11	1.82E-18	2.94E-19	2.11E-18
SSE	16100	U-238	2.74E-10	4.94E-17	7.97E-18	5.73E-17
SSE	16100	Y-90	1.50E-05	2.70E-12	4.38E-13	3.14E-12
SSE	16100	Ru-106	5.87E-14	1.06E-20	1.71E-21	1.23E-20
SSE	16100	Cs-134	1.48E-12	2.66E-19	4.29E-20	3.09E-19
SSE	16100	Ba-137m	4.01E-17	7.21E-24	7.42E-25	7.95E-24
SSE	16100	Pu-242	3.45E-12	6.20E-19	1.00E-19	7.21E-19
SSE	16100	Ra-226	3.15E-11	5.66E-18	9.15E-19	6.58E-18
SSE	16100	U-232	1.93E-11	3.47E-18	5.60E-19	4.03E-18
SSE	16100	Pa-231	4.31E-17	7.75E-24	1.25E-24	9.01E-24
SSE	16100	Ni-59	1.55E-09	2.79E-16	4.51E-17	3.24E-16
SSE	16100	Ac-227	3.11E-10	5.60E-17	9.04E-18	6.50E-17
SSE	16100	Am-243	4.63E-10	8.33E-17	1.35E-17	9.68E-17
SSE	16100	Ra-228	1.93E-09	3.47E-16	5.60E-17	4.03E-16
SSE	16100	Cm-242	2.82E-08	5.08E-15	8.21E-16	5.90E-15
SSE	16100	Th-229	2.16E-17	3.88E-24	6.27E-25	4.51E-24
SSE	16100	Zr-93	2.03E-13	3.65E-20	5.90E-21	4.24E-20
SSE	16100	Nb-93m	3.46E-13	6.23E-20	1.01E-20	7.24E-20

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSE	16100	Cd-113m	1.84E-07	3.30E-14	5.34E-15	3.84E-14
SSE	16100	Se-79	2.20E-06	3.96E-13	6.40E-14	4.61E-13
SSE	24100	Am-241	4.19E-07	7.54E-14	1.45E-14	8.99E-14
SSE	24100	C-14	2.76E-04	0.00E+00	0.00E+00	0.00E+00
SSE	24100	Co-60	4.00E-15	7.20E-22	1.38E-22	8.58E-22
SSE	24100	Cm-243	1.05E-09	1.89E-16	3.62E-17	2.25E-16
SSE	24100	Cm-244	1.81E-08	3.26E-15	6.25E-16	3.88E-15
SSE	24100	Cs-137	5.33E-06	9.59E-13	1.84E-13	1.14E-12
SSE	24100	Eu-152	8.54E-15	1.54E-21	2.95E-22	1.83E-21
SSE	24100	Eu-154	4.93E-14	8.88E-21	1.70E-21	1.06E-20
SSE	24100	Eu-155	1.82E-14	3.28E-21	6.29E-22	3.91E-21
SSE	24100	H-3	1.20E-03	0.00E+00	0.00E+00	0.00E+00
SSE	24100	I-129	2.52E-11	8.81E-17	4.08E-18	9.22E-17
SSE	24100	Ni-63	6.11E-08	1.10E-14	2.11E-15	1.31E-14
SSE	24100	Np-237	1.55E-09	2.80E-16	5.37E-17	3.34E-16
SSE	24100	Pu-238	2.25E-09	4.05E-16	7.76E-17	4.82E-16
SSE	24100	Pu-239	4.97E-08	8.95E-15	1.72E-15	1.07E-14
SSE	24100	Pu-240	1.16E-08	2.09E-15	4.02E-16	2.50E-15
SSE	24100	Pu-241	3.14E-08	5.65E-15	1.08E-15	6.73E-15
SSE	24100	Sb-125	1.37E-07	2.46E-14	4.72E-15	2.93E-14
SSE	24100	Sm-151	5.01E-11	9.02E-18	1.73E-18	1.08E-17
SSE	24100	Sn-126	5.91E-08	1.06E-14	2.04E-15	1.27E-14
SSE	24100	Sr-90	8.11E-06	1.46E-12	2.80E-13	1.74E-12
SSE	24100	Tc-99	1.98E-04	3.56E-11	6.83E-12	4.24E-11
SSE	24100	Th-232	2.49E-17	4.48E-24	8.60E-25	5.34E-24
SSE	24100	U-233	5.44E-10	9.80E-17	1.88E-17	1.17E-16
SSE	24100	U-234	1.60E-10	2.88E-17	5.52E-18	3.43E-17
SSE	24100	U-235	6.46E-12	1.16E-18	2.23E-19	1.39E-18
SSE	24100	U-236	5.29E-12	9.52E-19	1.83E-19	1.13E-18
SSE	24100	U-238	1.43E-10	2.58E-17	4.95E-18	3.07E-17
SSE	24100	Y-90	7.71E-06	1.39E-12	2.68E-13	1.66E-12
SSE	24100	Ru-106	3.07E-14	5.52E-21	1.06E-21	6.58E-21
SSE	24100	Cs-134	7.71E-13	1.39E-19	2.66E-20	1.65E-19
SSE	24100	Ba-137m	3.16E-18	5.69E-25	5.88E-25	1.16E-24
SSE	24100	Pu-242	1.80E-12	3.24E-19	6.22E-20	3.86E-19
SSE	24100	Ra-226	1.64E-11	2.96E-18	5.68E-19	3.53E-18
SSE	24100	U-232	1.01E-11	1.81E-18	3.47E-19	2.16E-18
SSE	24100	Pa-231	2.25E-17	4.05E-24	7.77E-25	4.83E-24
SSE	24100	Ni-59	8.11E-10	1.46E-16	2.80E-17	1.74E-16
SSE	24100	Ac-227	1.63E-10	2.93E-17	5.61E-18	3.49E-17
SSE	24100	Am-243	2.42E-10	4.36E-17	8.36E-18	5.19E-17
SSE	24100	Ra-228	1.01E-09	1.81E-16	3.47E-17	2.16E-16
SSE	24100	Cm-242	1.48E-08	2.66E-15	5.09E-16	3.16E-15
SSE	24100	Th-229	1.13E-17	2.03E-24	3.89E-25	2.42E-24
SSE	24100	Zr-93	1.06E-13	1.91E-20	3.66E-21	2.28E-20
SSE	24100	Nb-93m	1.81E-13	3.26E-20	6.25E-21	3.88E-20
SSE	24100	Cd-113m	9.59E-08	1.73E-14	3.31E-15	2.06E-14

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSE	24100	Se-79	1.15E-06	2.07E-13	3.98E-14	2.47E-13
SSE	30100	Am-241	2.88E-07	5.18E-14	1.12E-14	6.30E-14
SSE	30100	C-14	2.13E-04	0.00E+00	0.00E+00	0.00E+00
SSE	30100	Co-60	2.75E-15	4.94E-22	1.07E-22	6.01E-22
SSE	30100	Cm-243	7.21E-10	1.30E-16	2.80E-17	1.58E-16
SSE	30100	Cm-244	1.24E-08	2.24E-15	4.82E-16	2.72E-15
SSE	30100	Cs-137	3.66E-06	6.58E-13	1.42E-13	8.00E-13
SSE	30100	Eu-152	5.86E-15	1.06E-21	2.27E-22	1.28E-21
SSE	30100	Eu-154	3.39E-14	6.10E-21	1.31E-21	7.41E-21
SSE	30100	Eu-155	1.25E-14	2.25E-21	4.85E-22	2.74E-21
SSE	30100	H-3	9.26E-04	0.00E+00	0.00E+00	0.00E+00
SSE	30100	I-129	1.72E-11	6.03E-17	2.92E-18	6.32E-17
SSE	30100	Ni-63	4.19E-08	7.55E-15	1.63E-15	9.18E-15
SSE	30100	Np-237	1.07E-09	1.92E-16	4.14E-17	2.34E-16
SSE	30100	Pu-238	1.54E-09	2.78E-16	5.99E-17	3.38E-16
SSE	30100	Pu-239	3.42E-08	6.15E-15	1.32E-15	7.47E-15
SSE	30100	Pu-240	7.99E-09	1.44E-15	3.10E-16	1.75E-15
SSE	30100	Pu-241	2.15E-08	3.88E-15	8.36E-16	4.71E-15
SSE	30100	Sb-125	9.38E-08	1.69E-14	3.64E-15	2.05E-14
SSE	30100	Sm-151	3.44E-11	6.20E-18	1.34E-18	7.53E-18
SSE	30100	Sn-126	4.06E-08	7.31E-15	1.58E-15	8.88E-15
SSE	30100	Sr-90	5.57E-06	1.00E-12	2.16E-13	1.22E-12
SSE	30100	Tc-99	1.36E-04	2.44E-11	5.27E-12	2.97E-11
SSE	30100	Th-232	1.71E-17	3.08E-24	6.63E-25	3.74E-24
SSE	30100	U-233	3.74E-10	6.73E-17	1.45E-17	8.18E-17
SSE	30100	U-234	1.10E-10	1.97E-17	4.26E-18	2.40E-17
SSE	30100	U-235	4.44E-12	7.99E-19	1.72E-19	9.71E-19
SSE	30100	U-236	3.63E-12	6.53E-19	1.41E-19	7.94E-19
SSE	30100	U-238	9.84E-11	1.77E-17	3.82E-18	2.15E-17
SSE	30100	Y-90	5.24E-06	9.43E-13	2.05E-13	1.15E-12
SSE	30100	Ru-106	2.11E-14	3.79E-21	8.18E-22	4.61E-21
SSE	30100	Cs-134	5.30E-13	9.53E-20	2.05E-20	1.16E-19
SSE	30100	Ba-137m	1.23E-18	2.22E-25	2.30E-25	4.52E-25
SSE	30100	Pu-242	1.24E-12	2.23E-19	4.80E-20	2.71E-19
SSE	30100	Ra-226	1.13E-11	2.03E-18	4.38E-19	2.47E-18
SSE	30100	U-232	6.91E-12	1.24E-18	2.68E-19	1.51E-18
SSE	30100	Pa-231	1.55E-17	2.78E-24	6.00E-25	3.38E-24
SSE	30100	Ni-59	5.57E-10	1.00E-16	2.16E-17	1.22E-16
SSE	30100	Ac-227	1.12E-10	2.01E-17	4.33E-18	2.44E-17
SSE	30100	Am-243	1.66E-10	2.99E-17	6.45E-18	3.64E-17
SSE	30100	Ra-228	6.91E-10	1.24E-16	2.68E-17	1.51E-16
SSE	30100	Cm-242	1.01E-08	1.82E-15	3.93E-16	2.22E-15
SSE	30100	Th-229	7.74E-18	1.39E-24	3.00E-25	1.69E-24
SSE	30100	Zr-93	7.29E-14	1.31E-20	2.83E-21	1.59E-20
SSE	30100	Nb-93m	1.24E-13	2.24E-20	4.82E-21	2.72E-20
SSE	30100	Cd-113m	6.59E-08	1.19E-14	2.56E-15	1.44E-14
SSE	30100	Se-79	7.91E-07	1.42E-13	3.07E-14	1.73E-13

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSE	36100	Am-241	2.24E-07	4.03E-14	9.11E-15	4.94E-14
SSE	36100	C-14	1.72E-04	0.00E+00	0.00E+00	0.00E+00
SSE	36100	Co-60	2.13E-15	3.84E-22	8.69E-23	4.71E-22
SSE	36100	Cm-243	5.60E-10	1.01E-16	2.28E-17	1.24E-16
SSE	36100	Cm-244	9.66E-09	1.74E-15	3.93E-16	2.13E-15
SSE	36100	Cs-137	2.84E-06	5.12E-13	1.16E-13	6.28E-13
SSE	36100	Eu-152	4.56E-15	8.20E-22	1.86E-22	1.01E-21
SSE	36100	Eu-154	2.63E-14	4.74E-21	1.07E-21	5.81E-21
SSE	36100	Eu-155	9.72E-15	1.75E-21	3.96E-22	2.15E-21
SSE	36100	H-3	7.48E-04	0.00E+00	0.00E+00	0.00E+00
SSE	36100	I-129	1.26E-11	4.40E-17	2.18E-18	4.61E-17
SSE	36100	Ni-63	3.26E-08	5.87E-15	1.33E-15	7.20E-15
SSE	36100	Np-237	8.30E-10	1.49E-16	3.38E-17	1.83E-16
SSE	36100	Pu-238	1.20E-09	2.16E-16	4.88E-17	2.65E-16
SSE	36100	Pu-239	2.66E-08	4.78E-15	1.08E-15	5.86E-15
SSE	36100	Pu-240	6.21E-09	1.12E-15	2.53E-16	1.37E-15
SSE	36100	Pu-241	1.67E-08	3.01E-15	6.82E-16	3.70E-15
SSE	36100	Sb-125	7.30E-08	1.31E-14	2.97E-15	1.61E-14
SSE	36100	Sm-151	2.68E-11	4.82E-18	1.09E-18	5.91E-18
SSE	36100	Sn-126	3.16E-08	5.68E-15	1.29E-15	6.97E-15
SSE	36100	Sr-90	4.33E-06	7.79E-13	1.76E-13	9.55E-13
SSE	36100	Tc-99	1.06E-04	1.90E-11	4.30E-12	2.33E-11
SSE	36100	Th-232	1.33E-17	2.39E-24	5.41E-25	2.94E-24
SSE	36100	U-233	2.91E-10	5.23E-17	1.18E-17	6.41E-17
SSE	36100	U-234	8.53E-11	1.54E-17	3.47E-18	1.88E-17
SSE	36100	U-235	3.45E-12	6.21E-19	1.40E-19	7.61E-19
SSE	36100	U-236	2.82E-12	5.08E-19	1.15E-19	6.23E-19
SSE	36100	U-238	7.65E-11	1.38E-17	3.11E-18	1.69E-17
SSE	36100	Y-90	4.02E-06	7.24E-13	1.65E-13	8.89E-13
SSE	36100	Ru-106	1.64E-14	2.95E-21	6.67E-22	3.62E-21
SSE	36100	Cs-134	4.12E-13	7.41E-20	1.68E-20	9.09E-20
SSE	36100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SSE	36100	Pu-242	9.62E-13	1.73E-19	3.91E-20	2.12E-19
SSE	36100	Ra-226	8.78E-12	1.58E-18	3.57E-19	1.94E-18
SSE	36100	U-232	5.37E-12	9.67E-19	2.19E-19	1.19E-18
SSE	36100	Pa-231	1.20E-17	2.16E-24	4.89E-25	2.65E-24
SSE	36100	Ni-59	4.33E-10	7.79E-17	1.76E-17	9.55E-17
SSE	36100	Ac-227	8.68E-11	1.56E-17	3.53E-18	1.92E-17
SSE	36100	Am-243	1.29E-10	2.33E-17	5.26E-18	2.85E-17
SSE	36100	Ra-228	5.37E-10	9.67E-17	2.19E-17	1.19E-16
SSE	36100	Cm-242	7.87E-09	1.42E-15	3.20E-16	1.74E-15
SSE	36100	Th-229	6.02E-18	1.08E-24	2.45E-25	1.33E-24
SSE	36100	Zr-93	5.67E-14	1.02E-20	2.31E-21	1.25E-20
SSE	36100	Nb-93m	9.66E-14	1.74E-20	3.93E-21	2.13E-20
SSE	36100	Cd-113m	5.12E-08	9.22E-15	2.08E-15	1.13E-14
SSE	36100	Se-79	6.15E-07	1.11E-13	2.50E-14	1.36E-13
SSE	42100	Am-241	1.79E-07	3.22E-14	7.62E-15	3.99E-14

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSE	42100	C-14	1.44E-04	0.00E+00	0.00E+00	0.00E+00
SSE	42100	Co-60	1.71E-15	3.08E-22	7.27E-23	3.80E-22
SSE	42100	Cm-243	4.49E-10	8.08E-17	1.91E-17	9.98E-17
SSE	42100	Cm-244	7.73E-09	1.39E-15	3.29E-16	1.72E-15
SSE	42100	Cs-137	2.28E-06	4.10E-13	9.68E-14	5.07E-13
SSE	42100	Eu-152	3.65E-15	6.57E-22	1.55E-22	8.12E-22
SSE	42100	Eu-154	2.11E-14	3.80E-21	8.97E-22	4.69E-21
SSE	42100	Eu-155	7.78E-15	1.40E-21	3.31E-22	1.73E-21
SSE	42100	H-3	6.25E-04	0.00E+00	0.00E+00	0.00E+00
SSE	42100	I-129	9.47E-12	3.32E-17	1.68E-18	3.48E-17
SSE	42100	Ni-63	2.61E-08	4.70E-15	1.11E-15	5.81E-15
SSE	42100	Np-237	6.65E-10	1.20E-16	2.83E-17	1.48E-16
SSE	42100	Pu-238	9.61E-10	1.73E-16	4.09E-17	2.14E-16
SSE	42100	Pu-239	2.13E-08	3.83E-15	9.04E-16	4.73E-15
SSE	42100	Pu-240	4.97E-09	8.95E-16	2.12E-16	1.11E-15
SSE	42100	Pu-241	1.34E-08	2.41E-15	5.70E-16	2.98E-15
SSE	42100	Sb-125	5.84E-08	1.05E-14	2.48E-15	1.30E-14
SSE	42100	Sm-151	2.14E-11	3.86E-18	9.12E-19	4.77E-18
SSE	42100	Sn-126	2.53E-08	4.55E-15	1.08E-15	5.63E-15
SSE	42100	Sr-90	3.47E-06	6.24E-13	1.47E-13	7.71E-13
SSE	42100	Tc-99	8.45E-05	1.52E-11	3.60E-12	1.88E-11
SSE	42100	Th-232	1.06E-17	1.92E-24	4.53E-25	2.37E-24
SSE	42100	U-233	2.33E-10	4.19E-17	9.90E-18	5.18E-17
SSE	42100	U-234	6.83E-11	1.23E-17	2.91E-18	1.52E-17
SSE	42100	U-235	2.76E-12	4.97E-19	1.18E-19	6.15E-19
SSE	42100	U-236	2.26E-12	4.07E-19	9.61E-20	5.03E-19
SSE	42100	U-238	6.13E-11	1.10E-17	2.61E-18	1.36E-17
SSE	42100	Y-90	3.18E-06	5.73E-13	1.37E-13	7.10E-13
SSE	42100	Ru-106	1.31E-14	2.36E-21	5.58E-22	2.92E-21
SSE	42100	Cs-134	3.30E-13	5.93E-20	1.40E-20	7.34E-20
SSE	42100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SSE	42100	Pu-242	7.70E-13	1.39E-19	3.28E-20	1.71E-19
SSE	42100	Ra-226	7.03E-12	1.27E-18	2.99E-19	1.56E-18
SSE	42100	U-232	4.30E-12	7.74E-19	1.83E-19	9.57E-19
SSE	42100	Pa-231	9.63E-18	1.73E-24	4.09E-25	2.14E-24
SSE	42100	Ni-59	3.47E-10	6.24E-17	1.47E-17	7.71E-17
SSE	42100	Ac-227	6.95E-11	1.25E-17	2.96E-18	1.55E-17
SSE	42100	Am-243	1.03E-10	1.86E-17	4.40E-18	2.30E-17
SSE	42100	Ra-228	4.30E-10	7.74E-17	1.83E-17	9.57E-17
SSE	42100	Cm-242	6.30E-09	1.13E-15	2.68E-16	1.40E-15
SSE	42100	Th-229	4.82E-18	8.68E-25	2.05E-25	1.07E-24
SSE	42100	Zr-93	4.54E-14	8.17E-21	1.93E-21	1.01E-20
SSE	42100	Nb-93m	7.73E-14	1.39E-20	3.29E-21	1.72E-20
SSE	42100	Cd-113m	4.10E-08	7.38E-15	1.74E-15	9.13E-15
SSE	42100	Se-79	4.92E-07	8.86E-14	2.09E-14	1.10E-13
SSE	48100	Am-241	1.46E-07	2.62E-14	6.48E-15	3.27E-14
SSE	48100	C-14	1.23E-04	0.00E+00	0.00E+00	0.00E+00

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSE	48100	Co-60	1.39E-15	2.50E-22	6.18E-23	3.12E-22
SSE	48100	Cm-243	3.65E-10	6.57E-17	1.62E-17	8.19E-17
SSE	48100	Cm-244	6.29E-09	1.13E-15	2.80E-16	1.41E-15
SSE	48100	Cs-137	1.85E-06	3.33E-13	8.24E-14	4.16E-13
SSE	48100	Eu-152	2.97E-15	5.34E-22	1.32E-22	6.66E-22
SSE	48100	Eu-154	1.71E-14	3.09E-21	7.63E-22	3.85E-21
SSE	48100	Eu-155	6.33E-15	1.14E-21	2.82E-22	1.42E-21
SSE	48100	H-3	5.35E-04	0.00E+00	0.00E+00	0.00E+00
SSE	48100	I-129	7.32E-12	2.56E-17	1.32E-18	2.69E-17
SSE	48100	Ni-63	2.12E-08	3.82E-15	9.45E-16	4.77E-15
SSE	48100	Np-237	5.40E-10	9.73E-17	2.40E-17	1.21E-16
SSE	48100	Pu-238	7.81E-10	1.41E-16	3.48E-17	1.75E-16
SSE	48100	Pu-239	1.73E-08	3.11E-15	7.69E-16	3.88E-15
SSE	48100	Pu-240	4.04E-09	7.28E-16	1.80E-16	9.07E-16
SSE	48100	Pu-241	1.09E-08	1.96E-15	4.85E-16	2.45E-15
SSE	48100	Sb-125	4.75E-08	8.55E-15	2.11E-15	1.07E-14
SSE	48100	Sm-151	1.74E-11	3.14E-18	7.75E-19	3.91E-18
SSE	48100	Sn-126	2.06E-08	3.70E-15	9.15E-16	4.61E-15
SSE	48100	Sr-90	2.82E-06	5.07E-13	1.25E-13	6.32E-13
SSE	48100	Tc-99	6.87E-05	1.24E-11	3.06E-12	1.54E-11
SSE	48100	Th-232	8.66E-18	1.56E-24	3.85E-25	1.94E-24
SSE	48100	U-233	1.89E-10	3.41E-17	8.42E-18	4.25E-17
SSE	48100	U-234	5.55E-11	1.00E-17	2.47E-18	1.25E-17
SSE	48100	U-235	2.25E-12	4.04E-19	9.99E-20	5.04E-19
SSE	48100	U-236	1.84E-12	3.31E-19	8.18E-20	4.12E-19
SSE	48100	U-238	4.98E-11	8.97E-18	2.22E-18	1.12E-17
SSE	48100	Y-90	2.56E-06	4.60E-13	1.15E-13	5.75E-13
SSE	48100	Ru-106	1.07E-14	1.92E-21	4.75E-22	2.39E-21
SSE	48100	Cs-134	2.68E-13	4.82E-20	1.19E-20	6.02E-20
SSE	48100	Ba-137m	4.05E-20	7.30E-27	1.83E-28	7.48E-27
SSE	48100	Pu-242	6.26E-13	1.13E-19	2.79E-20	1.41E-19
SSE	48100	Ra-226	5.72E-12	1.03E-18	2.54E-19	1.28E-18
SSE	48100	U-232	3.50E-12	6.30E-19	1.56E-19	7.85E-19
SSE	48100	Pa-231	7.83E-18	1.41E-24	3.48E-25	1.76E-24
SSE	48100	Ni-59	2.82E-10	5.07E-17	1.25E-17	6.32E-17
SSE	48100	Ac-227	5.65E-11	1.02E-17	2.51E-18	1.27E-17
SSE	48100	Am-243	8.41E-11	1.51E-17	3.74E-18	1.89E-17
SSE	48100	Ra-228	3.50E-10	6.30E-17	1.56E-17	7.85E-17
SSE	48100	Cm-242	5.12E-09	9.22E-16	2.28E-16	1.15E-15
SSE	48100	Th-229	3.92E-18	7.06E-25	1.74E-25	8.80E-25
SSE	48100	Zr-93	3.69E-14	6.64E-21	1.64E-21	8.28E-21
SSE	48100	Nb-93m	6.29E-14	1.13E-20	2.80E-21	1.41E-20
SSE	48100	Cd-113m	3.33E-08	6.00E-15	1.48E-15	7.49E-15
SSE	48100	Se-79	4.00E-07	7.20E-14	1.78E-14	8.98E-14
SSE	54100	Am-241	1.18E-07	2.13E-14	5.55E-15	2.68E-14
SSE	54100	C-14	1.07E-04	0.00E+00	0.00E+00	0.00E+00
SSE	54100	Co-60	1.13E-15	2.03E-22	5.30E-23	2.56E-22

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSE	54100	Cm-243	2.96E-10	5.32E-17	1.39E-17	6.71E-17
SSE	54100	Cm-244	5.10E-09	9.18E-16	2.40E-16	1.16E-15
SSE	54100	Cs-137	1.50E-06	2.70E-13	7.06E-14	3.41E-13
SSE	54100	Eu-152	2.41E-15	4.33E-22	1.13E-22	5.46E-22
SSE	54100	Eu-154	1.39E-14	2.50E-21	6.54E-22	3.16E-21
SSE	54100	Eu-155	5.13E-15	9.23E-22	2.41E-22	1.16E-21
SSE	54100	H-3	4.66E-04	0.00E+00	0.00E+00	0.00E+00
SSE	54100	I-129	5.77E-12	2.02E-17	1.05E-18	2.13E-17
SSE	54100	Ni-63	1.72E-08	3.10E-15	8.10E-16	3.91E-15
SSE	54100	Np-237	4.38E-10	7.89E-17	2.06E-17	9.95E-17
SSE	54100	Pu-238	6.33E-10	1.14E-16	2.98E-17	1.44E-16
SSE	54100	Pu-239	1.40E-08	2.52E-15	6.59E-16	3.18E-15
SSE	54100	Pu-240	3.28E-09	5.90E-16	1.54E-16	7.44E-16
SSE	54100	Pu-241	8.84E-09	1.59E-15	4.16E-16	2.01E-15
SSE	54100	Sb-125	3.85E-08	6.93E-15	1.81E-15	8.74E-15
SSE	54100	Sm-151	1.41E-11	2.54E-18	6.64E-19	3.21E-18
SSE	54100	Sn-126	1.67E-08	3.00E-15	7.84E-16	3.78E-15
SSE	54100	Sr-90	2.28E-06	4.11E-13	1.07E-13	5.19E-13
SSE	54100	Tc-99	5.57E-05	1.00E-11	2.62E-12	1.27E-11
SSE	54100	Th-232	7.02E-18	1.26E-24	3.30E-25	1.59E-24
SSE	54100	U-233	1.53E-10	2.76E-17	7.22E-18	3.48E-17
SSE	54100	U-234	4.50E-11	8.10E-18	2.12E-18	1.02E-17
SSE	54100	U-235	1.82E-12	3.28E-19	8.57E-20	4.13E-19
SSE	54100	U-236	1.49E-12	2.68E-19	7.01E-20	3.38E-19
SSE	54100	U-238	4.04E-11	7.27E-18	1.90E-18	9.17E-18
SSE	54100	Y-90	2.05E-06	3.69E-13	9.77E-14	4.66E-13
SSE	54100	Ru-106	8.64E-15	1.56E-21	4.07E-22	1.96E-21
SSE	54100	Cs-134	2.17E-13	3.91E-20	1.02E-20	4.93E-20
SSE	54100	Ba-137m	1.83E-19	3.29E-26	1.96E-27	3.48E-26
SSE	54100	Pu-242	5.08E-13	9.14E-20	2.39E-20	1.15E-19
SSE	54100	Ra-226	4.63E-12	8.34E-19	2.18E-19	1.05E-18
SSE	54100	U-232	2.84E-12	5.10E-19	1.33E-19	6.44E-19
SSE	54100	Pa-231	6.34E-18	1.14E-24	2.98E-25	1.44E-24
SSE	54100	Ni-59	2.28E-10	4.11E-17	1.07E-17	5.19E-17
SSE	54100	Ac-227	4.58E-11	8.24E-18	2.15E-18	1.04E-17
SSE	54100	Am-243	6.82E-11	1.23E-17	3.21E-18	1.55E-17
SSE	54100	Ra-228	2.84E-10	5.10E-17	1.33E-17	6.44E-17
SSE	54100	Cm-242	4.15E-09	7.47E-16	1.95E-16	9.43E-16
SSE	54100	Th-229	3.18E-18	5.72E-25	1.49E-25	7.22E-25
SSE	54100	Zr-93	2.99E-14	5.38E-21	1.41E-21	6.79E-21
SSE	54100	Nb-93m	5.10E-14	9.18E-21	2.40E-21	1.16E-20
SSE	54100	Cd-113m	2.70E-08	4.87E-15	1.27E-15	6.14E-15
SSE	54100	Se-79	3.24E-07	5.84E-14	1.53E-14	7.37E-14
SSE	60100	Am-241	8.09E-08	1.46E-14	4.62E-15	1.92E-14
SSE	60100	C-14	9.49E-05	0.00E+00	0.00E+00	0.00E+00
SSE	60100	Co-60	7.72E-16	1.39E-22	4.40E-23	1.83E-22
SSE	60100	Cm-243	2.03E-10	3.65E-17	1.16E-17	4.80E-17

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSE	60100	Cm-244	3.49E-09	6.29E-16	1.99E-16	8.28E-16
SSE	60100	Cs-137	1.03E-06	1.85E-13	5.87E-14	2.44E-13
SSE	60100	Eu-152	1.65E-15	2.97E-22	9.41E-23	3.91E-22
SSE	60100	Eu-154	9.53E-15	1.72E-21	5.44E-22	2.26E-21
SSE	60100	Eu-155	3.52E-15	6.33E-22	2.01E-22	8.34E-22
SSE	60100	H-3	4.13E-04	0.00E+00	0.00E+00	0.00E+00
SSE	60100	I-129	4.63E-12	1.62E-17	8.51E-19	1.70E-17
SSE	60100	Ni-63	1.18E-08	2.12E-15	6.73E-16	2.80E-15
SSE	60100	Np-237	3.00E-10	5.40E-17	1.71E-17	7.12E-17
SSE	60100	Pu-238	4.34E-10	7.81E-17	2.48E-17	1.03E-16
SSE	60100	Pu-239	9.61E-09	1.73E-15	5.48E-16	2.28E-15
SSE	60100	Pu-240	2.25E-09	4.04E-16	1.28E-16	5.32E-16
SSE	60100	Pu-241	6.06E-09	1.09E-15	3.46E-16	1.44E-15
SSE	60100	Sb-125	2.64E-08	4.75E-15	1.51E-15	6.26E-15
SSE	60100	Sm-151	9.68E-12	1.74E-18	5.52E-19	2.29E-18
SSE	60100	Sn-126	1.14E-08	2.06E-15	6.51E-16	2.71E-15
SSE	60100	Sr-90	1.57E-06	2.82E-13	8.93E-14	3.71E-13
SSE	60100	Tc-99	3.82E-05	6.88E-12	2.18E-12	9.05E-12
SSE	60100	Th-232	4.81E-18	8.66E-25	2.74E-25	1.14E-24
SSE	60100	U-233	1.05E-10	1.89E-17	6.00E-18	2.49E-17
SSE	60100	U-234	3.09E-11	5.55E-18	1.76E-18	7.31E-18
SSE	60100	U-235	1.25E-12	2.25E-19	7.12E-20	2.96E-19
SSE	60100	U-236	1.02E-12	1.84E-19	5.82E-20	2.42E-19
SSE	60100	U-238	2.77E-11	4.98E-18	1.58E-18	6.56E-18
SSE	60100	Y-90	1.39E-06	2.51E-13	8.05E-14	3.31E-13
SSE	60100	Ru-106	5.92E-15	1.07E-21	3.38E-22	1.40E-21
SSE	60100	Cs-134	1.49E-13	2.68E-20	8.50E-21	3.53E-20
SSE	60100	Ba-137m	5.16E-20	9.29E-27	5.87E-28	9.88E-27
SSE	60100	Pu-242	3.48E-13	6.26E-20	1.98E-20	8.25E-20
SSE	60100	Ra-226	3.18E-12	5.72E-19	1.81E-19	7.53E-19
SSE	60100	U-232	1.94E-12	3.50E-19	1.11E-19	4.61E-19
SSE	60100	Pa-231	4.35E-18	7.83E-25	2.48E-25	1.03E-24
SSE	60100	Ni-59	1.57E-10	2.82E-17	8.93E-18	3.71E-17
SSE	60100	Ac-227	3.14E-11	5.65E-18	1.79E-18	7.44E-18
SSE	60100	Am-243	4.67E-11	8.41E-18	2.67E-18	1.11E-17
SSE	60100	Ra-228	1.94E-10	3.50E-17	1.11E-17	4.61E-17
SSE	60100	Cm-242	2.85E-09	5.12E-16	1.62E-16	6.75E-16
SSE	60100	Th-229	2.18E-18	3.92E-25	1.24E-25	5.16E-25
SSE	60100	Zr-93	2.05E-14	3.69E-21	1.17E-21	4.86E-21
SSE	60100	Nb-93m	3.49E-14	6.29E-21	1.99E-21	8.28E-21
SSE	60100	Cd-113m	1.85E-08	3.34E-15	1.06E-15	4.39E-15
SSE	60100	Se-79	2.22E-07	4.00E-14	1.27E-14	5.27E-14
SSE	66100	Am-241	7.01E-08	1.26E-14	4.12E-15	1.67E-14
SSE	66100	C-14	8.49E-05	0.00E+00	0.00E+00	0.00E+00
SSE	66100	Co-60	6.69E-16	1.20E-22	3.93E-23	1.60E-22
SSE	66100	Cm-243	1.76E-10	3.16E-17	1.03E-17	4.19E-17
SSE	66100	Cm-244	3.03E-09	5.45E-16	1.78E-16	7.23E-16

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SSE	66100	Cs-137	8.92E-07	1.60E-13	5.24E-14	2.13E-13
SSE	66100	Eu-152	1.43E-15	2.57E-22	8.39E-23	3.41E-22
SSE	66100	Eu-154	8.26E-15	1.49E-21	4.85E-22	1.97E-21
SSE	66100	Eu-155	3.05E-15	5.49E-22	1.79E-22	7.28E-22
SSE	66100	H-3	3.70E-04	0.00E+00	0.00E+00	0.00E+00
SSE	66100	I-129	3.79E-12	1.33E-17	6.98E-19	1.40E-17
SSE	66100	Ni-63	1.02E-08	1.84E-15	6.01E-16	2.44E-15
SSE	66100	Np-237	2.60E-10	4.68E-17	1.53E-17	6.21E-17
SSE	66100	Pu-238	3.76E-10	6.77E-17	2.21E-17	8.98E-17
SSE	66100	Pu-239	8.33E-09	1.50E-15	4.89E-16	1.99E-15
SSE	66100	Pu-240	1.95E-09	3.50E-16	1.14E-16	4.65E-16
SSE	66100	Pu-241	5.25E-09	9.45E-16	3.08E-16	1.25E-15
SSE	66100	Sb-125	2.29E-08	4.12E-15	1.34E-15	5.46E-15
SSE	66100	Sm-151	8.39E-12	1.51E-18	4.93E-19	2.00E-18
SSE	66100	Sn-126	9.90E-09	1.78E-15	5.81E-16	2.36E-15
SSE	66100	Sr-90	1.36E-06	2.44E-13	7.97E-14	3.24E-13
SSE	66100	Tc-99	3.31E-05	5.96E-12	1.94E-12	7.90E-12
SSE	66100	Th-232	4.17E-18	7.51E-25	2.45E-25	9.95E-25
SSE	66100	U-233	9.11E-11	1.64E-17	5.35E-18	2.18E-17
SSE	66100	U-234	2.67E-11	4.81E-18	1.57E-18	6.39E-18
SSE	66100	U-235	1.08E-12	1.95E-19	6.35E-20	2.58E-19
SSE	66100	U-236	8.85E-13	1.59E-19	5.20E-20	2.11E-19
SSE	66100	U-238	2.40E-11	4.32E-18	1.41E-18	5.73E-18
SSE	66100	Y-90	1.19E-06	2.15E-13	7.11E-14	2.86E-13
SSE	66100	Ru-106	5.14E-15	9.24E-22	3.02E-22	1.23E-21
SSE	66100	Cs-134	1.29E-13	2.32E-20	7.58E-21	3.08E-20
SSE	66100	Ba-137m	2.87E-19	5.17E-26	1.40E-26	6.57E-26
SSE	66100	Pu-242	3.02E-13	5.43E-20	1.77E-20	7.20E-20
SSE	66100	Ra-226	2.75E-12	4.96E-19	1.62E-19	6.57E-19
SSE	66100	U-232	1.68E-12	3.03E-19	9.90E-20	4.02E-19
SSE	66100	Pa-231	3.77E-18	6.79E-25	2.21E-25	9.00E-25
SSE	66100	Ni-59	1.36E-10	2.44E-17	7.97E-18	3.24E-17
SSE	66100	Ac-227	2.72E-11	4.90E-18	1.60E-18	6.49E-18
SSE	66100	Am-243	4.05E-11	7.29E-18	2.38E-18	9.67E-18
SSE	66100	Ra-228	1.68E-10	3.03E-17	9.89E-18	4.02E-17
SSE	66100	Cm-242	2.47E-09	4.44E-16	1.45E-16	5.89E-16
SSE	66100	Th-229	1.89E-18	3.40E-25	1.11E-25	4.51E-25
SSE	66100	Zr-93	1.78E-14	3.20E-21	1.04E-21	4.24E-21
SSE	66100	Nb-93m	3.03E-14	5.45E-21	1.78E-21	7.23E-21
SSE	66100	Cd-113m	1.61E-08	2.89E-15	9.43E-16	3.83E-15
SSE	66100	Se-79	1.93E-07	3.47E-14	1.13E-14	4.60E-14
SE	12100	Am-241	2.85E-06	5.14E-13	5.55E-14	5.69E-13
SE	12100	C-14	1.34E-03	0.00E+00	0.00E+00	0.00E+00
SE	12100	Co-60	2.72E-14	4.90E-21	5.29E-22	5.43E-21
SE	12100	Cm-243	7.15E-09	1.29E-15	1.39E-16	1.43E-15
SE	12100	Cm-244	1.23E-07	2.22E-14	2.40E-15	2.46E-14
SE	12100	Cs-137	3.63E-05	6.53E-12	7.05E-13	7.23E-12

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SE	12100	Eu-152	5.81E-14	1.05E-20	1.13E-21	1.16E-20
SE	12100	Eu-154	3.36E-13	6.05E-20	6.53E-21	6.70E-20
SE	12100	Eu-155	1.24E-13	2.23E-20	2.41E-21	2.47E-20
SE	12100	H-3	5.85E-03	0.00E+00	0.00E+00	0.00E+00
SE	12100	I-129	3.91E-10	1.37E-15	2.12E-17	1.39E-15
SE	12100	Ni-63	4.16E-07	7.49E-14	8.09E-15	8.30E-14
SE	12100	Np-237	1.06E-08	1.91E-15	2.06E-16	2.11E-15
SE	12100	Pu-238	1.53E-08	2.76E-15	2.98E-16	3.05E-15
SE	12100	Pu-239	3.39E-07	6.10E-14	6.58E-15	6.76E-14
SE	12100	Pu-240	7.92E-08	1.43E-14	1.54E-15	1.58E-14
SE	12100	Pu-241	2.14E-07	3.85E-14	4.15E-15	4.26E-14
SE	12100	Sb-125	9.31E-07	1.68E-13	1.81E-14	1.86E-13
SE	12100	Sm-151	3.41E-10	6.15E-17	6.64E-18	6.81E-17
SE	12100	Sn-126	4.03E-07	7.25E-14	7.83E-15	8.03E-14
SE	12100	Sr-90	5.52E-05	9.94E-12	1.07E-12	1.10E-11
SE	12100	Tc-99	1.35E-03	2.42E-10	2.62E-11	2.69E-10
SE	12100	Th-232	1.70E-16	3.05E-23	3.30E-24	3.38E-23
SE	12100	U-233	3.71E-09	6.67E-16	7.21E-17	7.39E-16
SE	12100	U-234	1.09E-09	1.96E-16	2.12E-17	2.17E-16
SE	12100	U-235	4.40E-11	7.92E-18	8.55E-19	8.78E-18
SE	12100	U-236	3.60E-11	6.48E-18	7.00E-19	7.18E-18
SE	12100	U-238	9.76E-10	1.76E-16	1.90E-17	1.95E-16
SE	12100	Y-90	5.43E-05	9.78E-12	1.06E-12	1.08E-11
SE	12100	Ru-106	2.09E-13	3.76E-20	4.06E-21	4.17E-20
SE	12100	Cs-134	5.25E-12	9.46E-19	1.02E-19	1.05E-18
SE	12100	Ba-137m	9.39E-13	1.69E-19	1.72E-19	3.41E-19
SE	12100	Pu-242	1.23E-11	2.21E-18	2.38E-19	2.45E-18
SE	12100	Ra-226	1.12E-10	2.02E-17	2.18E-18	2.23E-17
SE	12100	U-232	6.85E-11	1.23E-17	1.33E-18	1.37E-17
SE	12100	Pa-231	1.53E-16	2.76E-23	2.98E-24	3.06E-23
SE	12100	Ni-59	5.52E-09	9.94E-16	1.07E-16	1.10E-15
SE	12100	Ac-227	1.11E-09	1.99E-16	2.15E-17	2.21E-16
SE	12100	Am-243	1.65E-09	2.97E-16	3.20E-17	3.29E-16
SE	12100	Ra-228	6.85E-09	1.23E-15	1.33E-16	1.37E-15
SE	12100	Cm-242	1.01E-07	1.81E-14	1.95E-15	2.00E-14
SE	12100	Th-229	7.68E-17	1.38E-23	1.49E-24	1.53E-23
SE	12100	Zr-93	7.23E-13	1.30E-19	1.40E-20	1.44E-19
SE	12100	Nb-93m	1.23E-12	2.22E-19	2.40E-20	2.46E-19
SE	12100	Cd-113m	6.53E-07	1.18E-13	1.27E-14	1.30E-13
SE	12100	Se-79	7.84E-06	1.41E-12	1.52E-13	1.56E-12
SE	16100	Am-241	1.98E-06	3.56E-13	4.09E-14	3.97E-13
SE	16100	C-14	9.62E-04	0.00E+00	0.00E+00	0.00E+00
SE	16100	Co-60	1.89E-14	3.40E-21	3.90E-22	3.79E-21
SE	16100	Cm-243	4.96E-09	8.92E-16	1.03E-16	9.95E-16
SE	16100	Cm-244	8.55E-08	1.54E-14	1.77E-15	1.72E-14
SE	16100	Cs-137	2.52E-05	4.53E-12	5.20E-13	5.05E-12
SE	16100	Eu-152	4.03E-14	7.26E-21	8.34E-22	8.09E-21

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SE	16100	Eu-154	2.33E-13	4.20E-20	4.82E-21	4.68E-20
SE	16100	Eu-155	8.60E-14	1.55E-20	1.78E-21	1.73E-20
SE	16100	H-3	4.19E-03	0.00E+00	0.00E+00	0.00E+00
SE	16100	I-129	2.15E-10	7.53E-16	1.40E-17	7.67E-16
SE	16100	Ni-63	2.89E-07	5.19E-14	5.97E-15	5.79E-14
SE	16100	Np-237	7.34E-09	1.32E-15	1.52E-16	1.47E-15
SE	16100	Pu-238	1.06E-08	1.91E-15	2.20E-16	2.13E-15
SE	16100	Pu-239	2.35E-07	4.23E-14	4.86E-15	4.71E-14
SE	16100	Pu-240	5.49E-08	9.89E-15	1.14E-15	1.10E-14
SE	16100	Pu-241	1.48E-07	2.67E-14	3.06E-15	2.97E-14
SE	16100	Sb-125	6.46E-07	1.16E-13	1.33E-14	1.30E-13
SE	16100	Sm-151	2.37E-10	4.26E-17	4.90E-18	4.75E-17
SE	16100	Sn-126	2.79E-07	5.03E-14	5.78E-15	5.61E-14
SE	16100	Sr-90	3.83E-05	6.89E-12	7.92E-13	7.68E-12
SE	16100	Tc-99	9.34E-04	1.68E-10	1.93E-11	1.87E-10
SE	16100	Th-232	1.18E-16	2.12E-23	2.43E-24	2.36E-23
SE	16100	U-233	2.57E-09	4.63E-16	5.32E-17	5.16E-16
SE	16100	U-234	7.55E-10	1.36E-16	1.56E-17	1.51E-16
SE	16100	U-235	3.05E-11	5.49E-18	6.31E-19	6.13E-18
SE	16100	U-236	2.50E-11	4.50E-18	5.16E-19	5.01E-18
SE	16100	U-238	6.77E-10	1.22E-16	1.40E-17	1.36E-16
SE	16100	Y-90	3.75E-05	6.74E-12	7.77E-13	7.52E-12
SE	16100	Ru-106	1.45E-13	2.61E-20	3.00E-21	2.91E-20
SE	16100	Cs-134	3.64E-12	6.56E-19	7.53E-20	7.31E-19
SE	16100	Ba-137m	1.15E-14	2.08E-21	2.07E-21	4.15E-21
SE	16100	Pu-242	8.51E-12	1.53E-18	1.76E-19	1.71E-18
SE	16100	Ra-226	7.77E-11	1.40E-17	1.61E-18	1.56E-17
SE	16100	U-232	4.75E-11	8.56E-18	9.83E-19	9.54E-18
SE	16100	Pa-231	1.06E-16	1.91E-23	2.20E-24	2.13E-23
SE	16100	Ni-59	3.83E-09	6.89E-16	7.92E-17	7.68E-16
SE	16100	Ac-227	7.68E-10	1.38E-16	1.59E-17	1.54E-16
SE	16100	Am-243	1.14E-09	2.06E-16	2.36E-17	2.29E-16
SE	16100	Ra-228	4.75E-09	8.56E-16	9.83E-17	9.54E-16
SE	16100	Cm-242	6.97E-08	1.25E-14	1.44E-15	1.40E-14
SE	16100	Th-229	5.33E-17	9.59E-24	1.10E-24	1.07E-23
SE	16100	Zr-93	5.01E-13	9.02E-20	1.04E-20	1.01E-19
SE	16100	Nb-93m	8.55E-13	1.54E-19	1.77E-20	1.72E-19
SE	16100	Cd-113m	4.53E-07	8.16E-14	9.37E-15	9.10E-14
SE	16100	Se-79	5.44E-06	9.79E-13	1.12E-13	1.09E-12
SE	24100	Am-241	1.09E-06	1.97E-13	2.56E-14	2.22E-13
SE	24100	C-14	6.02E-04	0.00E+00	0.00E+00	0.00E+00
SE	24100	Co-60	1.04E-14	1.88E-21	2.45E-22	2.12E-21
SE	24100	Cm-243	2.74E-09	4.93E-16	6.42E-17	5.57E-16
SE	24100	Cm-244	4.72E-08	8.50E-15	1.11E-15	9.61E-15
SE	24100	Cs-137	1.39E-05	2.50E-12	3.26E-13	2.83E-12
SE	24100	Eu-152	2.23E-14	4.01E-21	5.23E-22	4.53E-21
SE	24100	Eu-154	1.29E-13	2.32E-20	3.02E-21	2.62E-20

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SE	24100	Eu-155	4.75E-14	8.55E-21	1.11E-21	9.67E-21
SE	24100	H-3	2.62E-03	0.00E+00	0.00E+00	0.00E+00
SE	24100	I-129	7.14E-11	2.50E-16	7.17E-18	2.57E-16
SE	24100	Ni-63	1.59E-07	2.87E-14	3.74E-15	3.24E-14
SE	24100	Np-237	4.06E-09	7.30E-16	9.52E-17	8.25E-16
SE	24100	Pu-238	5.87E-09	1.06E-15	1.38E-16	1.19E-15
SE	24100	Pu-239	1.30E-07	2.34E-14	3.04E-15	2.64E-14
SE	24100	Pu-240	3.04E-08	5.46E-15	7.12E-16	6.18E-15
SE	24100	Pu-241	8.19E-08	1.47E-14	1.92E-15	1.67E-14
SE	24100	Sb-125	3.57E-07	6.42E-14	8.37E-15	7.26E-14
SE	24100	Sm-151	1.31E-10	2.35E-17	3.07E-18	2.66E-17
SE	24100	Sn-126	1.54E-07	2.78E-14	3.62E-15	3.14E-14
SE	24100	Sr-90	2.12E-05	3.81E-12	4.96E-13	4.30E-12
SE	24100	Tc-99	5.16E-04	9.29E-11	1.21E-11	1.05E-10
SE	24100	Th-232	6.50E-17	1.17E-23	1.52E-24	1.32E-23
SE	24100	U-233	1.42E-09	2.56E-16	3.33E-17	2.89E-16
SE	24100	U-234	4.17E-10	7.51E-17	9.78E-18	8.48E-17
SE	24100	U-235	1.69E-11	3.04E-18	3.96E-19	3.43E-18
SE	24100	U-236	1.38E-11	2.48E-18	3.24E-19	2.81E-18
SE	24100	U-238	3.74E-10	6.73E-17	8.77E-18	7.61E-17
SE	24100	Y-90	2.05E-05	3.69E-12	4.82E-13	4.17E-12
SE	24100	Ru-106	8.01E-14	1.44E-20	1.88E-21	1.63E-20
SE	24100	Cs-134	2.01E-12	3.62E-19	4.72E-20	4.10E-19
SE	24100	Ba-137m	9.14E-17	1.65E-23	1.57E-24	1.80E-23
SE	24100	Pu-242	4.70E-12	8.46E-19	1.10E-19	9.56E-19
SE	24100	Ra-226	4.29E-11	7.73E-18	1.01E-18	8.73E-18
SE	24100	U-232	2.63E-11	4.73E-18	6.16E-19	5.34E-18
SE	24100	Pa-231	5.88E-17	1.06E-23	1.38E-24	1.20E-23
SE	24100	Ni-59	2.12E-09	3.81E-16	4.96E-17	4.30E-16
SE	24100	Ac-227	4.24E-10	7.63E-17	9.95E-18	8.63E-17
SE	24100	Am-243	6.32E-10	1.14E-16	1.48E-17	1.28E-16
SE	24100	Ra-228	2.63E-09	4.73E-16	6.16E-17	5.34E-16
SE	24100	Cm-242	3.85E-08	6.93E-15	9.03E-16	7.83E-15
SE	24100	Th-229	2.94E-17	5.30E-24	6.90E-25	5.99E-24
SE	24100	Zr-93	2.77E-13	4.99E-20	6.50E-21	5.63E-20
SE	24100	Nb-93m	4.72E-13	8.50E-20	1.11E-20	9.61E-20
SE	24100	Cd-113m	2.50E-07	4.51E-14	5.87E-15	5.09E-14
SE	24100	Se-79	3.00E-06	5.41E-13	7.05E-14	6.11E-13
SE	30100	Am-241	7.65E-07	1.38E-13	1.98E-14	1.58E-13
SE	30100	C-14	4.66E-04	0.00E+00	0.00E+00	0.00E+00
SE	30100	Co-60	7.30E-15	1.31E-21	1.89E-22	1.50E-21
SE	30100	Cm-243	1.92E-09	3.45E-16	4.96E-17	3.95E-16
SE	30100	Cm-244	3.31E-08	5.95E-15	8.56E-16	6.80E-15
SE	30100	Cs-137	9.73E-06	1.75E-12	2.52E-13	2.00E-12
SE	30100	Eu-152	1.56E-14	2.81E-21	4.04E-22	3.21E-21
SE	30100	Eu-154	9.01E-14	1.62E-20	2.33E-21	1.86E-20
SE	30100	Eu-155	3.33E-14	5.99E-21	8.61E-22	6.85E-21

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SE	30100	H-3	2.03E-03	0.00E+00	0.00E+00	0.00E+00
SE	30100	I-129	4.52E-11	1.58E-16	5.16E-18	1.63E-16
SE	30100	Ni-63	1.12E-07	2.01E-14	2.89E-15	2.30E-14
SE	30100	Np-237	2.84E-09	5.11E-16	7.35E-17	5.85E-16
SE	30100	Pu-238	4.11E-09	7.39E-16	1.06E-16	8.45E-16
SE	30100	Pu-239	9.09E-08	1.64E-14	2.35E-15	1.87E-14
SE	30100	Pu-240	2.12E-08	3.82E-15	5.50E-16	4.37E-15
SE	30100	Pu-241	5.73E-08	1.03E-14	1.48E-15	1.18E-14
SE	30100	Sb-125	2.50E-07	4.49E-14	6.46E-15	5.14E-14
SE	30100	Sm-151	9.16E-11	1.65E-17	2.37E-18	1.89E-17
SE	30100	Sn-126	1.08E-07	1.94E-14	2.80E-15	2.22E-14
SE	30100	Sr-90	1.48E-05	2.67E-12	3.83E-13	3.05E-12
SE	30100	Tc-99	3.61E-04	6.50E-11	9.35E-12	7.44E-11
SE	30100	Th-232	4.55E-17	8.19E-24	1.18E-24	9.37E-24
SE	30100	U-233	9.94E-10	1.79E-16	2.57E-17	2.05E-16
SE	30100	U-234	2.92E-10	5.25E-17	7.56E-18	6.01E-17
SE	30100	U-235	1.18E-11	2.12E-18	3.06E-19	2.43E-18
SE	30100	U-236	9.66E-12	1.74E-18	2.50E-19	1.99E-18
SE	30100	U-238	2.62E-10	4.71E-17	6.78E-18	5.39E-17
SE	30100	Y-90	1.42E-05	2.56E-12	3.70E-13	2.93E-12
SE	30100	Ru-106	5.61E-14	1.01E-20	1.45E-21	1.15E-20
SE	30100	Cs-134	1.41E-12	2.54E-19	3.65E-20	2.90E-19
SE	30100	Ba-137m	1.06E-16	1.91E-23	3.41E-24	2.25E-23
SE	30100	Pu-242	3.29E-12	5.92E-19	8.52E-20	6.78E-19
SE	30100	Ra-226	3.00E-11	5.41E-18	7.78E-19	6.19E-18
SE	30100	U-232	1.84E-11	3.31E-18	4.76E-19	3.79E-18
SE	30100	Pa-231	4.11E-17	7.40E-24	1.06E-24	8.47E-24
SE	30100	Ni-59	1.48E-09	2.67E-16	3.83E-17	3.05E-16
SE	30100	Ac-227	2.97E-10	5.34E-17	7.69E-18	6.11E-17
SE	30100	Am-243	4.42E-10	7.96E-17	1.14E-17	9.10E-17
SE	30100	Ra-228	1.84E-09	3.31E-16	4.76E-17	3.79E-16
SE	30100	Cm-242	2.70E-08	4.85E-15	6.98E-16	5.55E-15
SE	30100	Th-229	2.06E-17	3.71E-24	5.33E-25	4.24E-24
SE	30100	Zr-93	1.94E-13	3.49E-20	5.02E-21	3.99E-20
SE	30100	Nb-93m	3.31E-13	5.95E-20	8.56E-21	6.80E-20
SE	30100	Cd-113m	1.75E-07	3.15E-14	4.54E-15	3.61E-14
SE	30100	Se-79	2.10E-06	3.79E-13	5.45E-14	4.33E-13
SE	36100	Am-241	6.05E-07	1.09E-13	1.63E-14	1.25E-13
SE	36100	C-14	3.78E-04	0.00E+00	0.00E+00	0.00E+00
SE	36100	Co-60	5.78E-15	1.04E-21	1.55E-22	1.20E-21
SE	36100	Cm-243	1.52E-09	2.73E-16	4.07E-17	3.14E-16
SE	36100	Cm-244	2.61E-08	4.71E-15	7.02E-16	5.41E-15
SE	36100	Cs-137	7.70E-06	1.39E-12	2.07E-13	1.59E-12
SE	36100	Eu-152	1.23E-14	2.22E-21	3.31E-22	2.55E-21
SE	36100	Eu-154	7.13E-14	1.28E-20	1.91E-21	1.47E-20
SE	36100	Eu-155	2.63E-14	4.74E-21	7.07E-22	5.44E-21
SE	36100	H-3	1.64E-03	0.00E+00	0.00E+00	0.00E+00

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SE	36100	I-129	3.18E-11	1.11E-16	3.94E-18	1.15E-16
SE	36100	Ni-63	8.83E-08	1.59E-14	2.37E-15	1.83E-14
SE	36100	Np-237	2.25E-09	4.04E-16	6.03E-17	4.65E-16
SE	36100	Pu-238	3.25E-09	5.85E-16	8.72E-17	6.72E-16
SE	36100	Pu-239	7.19E-08	1.29E-14	1.93E-15	1.49E-14
SE	36100	Pu-240	1.68E-08	3.03E-15	4.51E-16	3.48E-15
SE	36100	Pu-241	4.53E-08	8.16E-15	1.22E-15	9.38E-15
SE	36100	Sb-125	1.97E-07	3.55E-14	5.30E-15	4.08E-14
SE	36100	Sm-151	7.24E-11	1.30E-17	1.95E-18	1.50E-17
SE	36100	Sn-126	8.54E-08	1.54E-14	2.29E-15	1.77E-14
SE	36100	Sr-90	1.17E-05	2.11E-12	3.15E-13	2.42E-12
SE	36100	Tc-99	2.86E-04	5.14E-11	7.68E-12	5.91E-11
SE	36100	Th-232	3.60E-17	6.48E-24	9.67E-25	7.44E-24
SE	36100	U-233	7.87E-10	1.42E-16	2.11E-17	1.63E-16
SE	36100	U-234	2.31E-10	4.16E-17	6.20E-18	4.78E-17
SE	36100	U-235	9.34E-12	1.68E-18	2.51E-19	1.93E-18
SE	36100	U-236	7.64E-12	1.38E-18	2.05E-19	1.58E-18
SE	36100	U-238	2.07E-10	3.73E-17	5.56E-18	4.28E-17
SE	36100	Y-90	1.12E-05	2.01E-12	3.02E-13	2.31E-12
SE	36100	Ru-106	4.44E-14	7.98E-21	1.19E-21	9.17E-21
SE	36100	Cs-134	1.11E-12	2.01E-19	2.99E-20	2.31E-19
SE	36100	Ba-137m	2.49E-17	4.48E-24	9.43E-25	5.42E-24
SE	36100	Pu-242	2.60E-12	4.69E-19	6.99E-20	5.38E-19
SE	36100	Ra-226	2.38E-11	4.28E-18	6.38E-19	4.92E-18
SE	36100	U-232	1.45E-11	2.62E-18	3.91E-19	3.01E-18
SE	36100	Pa-231	3.25E-17	5.86E-24	8.74E-25	6.73E-24
SE	36100	Ni-59	1.17E-09	2.11E-16	3.15E-17	2.42E-16
SE	36100	Ac-227	2.35E-10	4.23E-17	6.31E-18	4.86E-17
SE	36100	Am-243	3.50E-10	6.29E-17	9.39E-18	7.23E-17
SE	36100	Ra-228	1.45E-09	2.62E-16	3.91E-17	3.01E-16
SE	36100	Cm-242	2.13E-08	3.84E-15	5.73E-16	4.41E-15
SE	36100	Th-229	1.63E-17	2.93E-24	4.38E-25	3.37E-24
SE	36100	Zr-93	1.53E-13	2.76E-20	4.12E-21	3.17E-20
SE	36100	Nb-93m	2.61E-13	4.71E-20	7.02E-21	5.41E-20
SE	36100	Cd-113m	1.39E-07	2.50E-14	3.72E-15	2.87E-14
SE	36100	Se-79	1.66E-06	2.99E-13	4.47E-14	3.44E-13
SE	42100	Am-241	4.93E-07	8.87E-14	1.37E-14	1.02E-13
SE	42100	C-14	3.17E-04	0.00E+00	0.00E+00	0.00E+00
SE	42100	Co-60	4.70E-15	8.47E-22	1.31E-22	9.77E-22
SE	42100	Cm-243	1.23E-09	2.22E-16	3.43E-17	2.57E-16
SE	42100	Cm-244	2.13E-08	3.83E-15	5.91E-16	4.42E-15
SE	42100	Cs-137	6.27E-06	1.13E-12	1.74E-13	1.30E-12
SE	42100	Eu-152	1.00E-14	1.81E-21	2.79E-22	2.09E-21
SE	42100	Eu-154	5.81E-14	1.05E-20	1.61E-21	1.21E-20
SE	42100	Eu-155	2.14E-14	3.86E-21	5.95E-22	4.45E-21
SE	42100	H-3	1.38E-03	0.00E+00	0.00E+00	0.00E+00
SE	42100	I-129	2.30E-11	8.05E-17	3.08E-18	8.36E-17

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SE	42100	Ni-63	7.19E-08	1.29E-14	2.00E-15	1.49E-14
SE	42100	Np-237	1.83E-09	3.29E-16	5.08E-17	3.80E-16
SE	42100	Pu-238	2.64E-09	4.76E-16	7.34E-17	5.50E-16
SE	42100	Pu-239	5.85E-08	1.05E-14	1.62E-15	1.22E-14
SE	42100	Pu-240	1.37E-08	2.46E-15	3.80E-16	2.84E-15
SE	42100	Pu-241	3.69E-08	6.64E-15	1.02E-15	7.67E-15
SE	42100	Sb-125	1.61E-07	2.89E-14	4.46E-15	3.34E-14
SE	42100	Sm-151	5.90E-11	1.06E-17	1.64E-18	1.23E-17
SE	42100	Sn-126	6.96E-08	1.25E-14	1.93E-15	1.45E-14
SE	42100	Sr-90	9.54E-06	1.72E-12	2.65E-13	1.98E-12
SE	42100	Tc-99	2.33E-04	4.19E-11	6.46E-12	4.83E-11
SE	42100	Th-232	2.93E-17	5.28E-24	8.14E-25	6.09E-24
SE	42100	U-233	6.41E-10	1.15E-16	1.78E-17	1.33E-16
SE	42100	U-234	1.88E-10	3.38E-17	5.22E-18	3.91E-17
SE	42100	U-235	7.60E-12	1.37E-18	2.11E-19	1.58E-18
SE	42100	U-236	6.22E-12	1.12E-18	1.73E-19	1.29E-18
SE	42100	U-238	1.69E-10	3.04E-17	4.68E-18	3.50E-17
SE	42100	Y-90	9.02E-06	1.62E-12	2.52E-13	1.88E-12
SE	42100	Ru-106	3.61E-14	6.50E-21	1.00E-21	7.50E-21
SE	42100	Cs-134	9.08E-13	1.63E-19	2.52E-20	1.89E-19
SE	42100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SE	42100	Pu-242	2.12E-12	3.82E-19	5.89E-20	4.40E-19
SE	42100	Ra-226	1.94E-11	3.48E-18	5.37E-19	4.02E-18
SE	42100	U-232	1.18E-11	2.13E-18	3.29E-19	2.46E-18
SE	42100	Pa-231	2.65E-17	4.77E-24	7.36E-25	5.50E-24
SE	42100	Ni-59	9.54E-10	1.72E-16	2.65E-17	1.98E-16
SE	42100	Ac-227	1.91E-10	3.44E-17	5.31E-18	3.97E-17
SE	42100	Am-243	2.85E-10	5.13E-17	7.91E-18	5.92E-17
SE	42100	Ra-228	1.18E-09	2.13E-16	3.29E-17	2.46E-16
SE	42100	Cm-242	1.74E-08	3.12E-15	4.82E-16	3.61E-15
SE	42100	Th-229	1.33E-17	2.39E-24	3.68E-25	2.76E-24
SE	42100	Zr-93	1.25E-13	2.25E-20	3.47E-21	2.59E-20
SE	42100	Nb-93m	2.13E-13	3.83E-20	5.91E-21	4.42E-20
SE	42100	Cd-113m	1.13E-07	2.03E-14	3.13E-15	2.35E-14
SE	42100	Se-79	1.35E-06	2.44E-13	3.76E-14	2.81E-13
SE	48100	Am-241	4.08E-07	7.35E-14	1.17E-14	8.52E-14
SE	48100	C-14	2.72E-04	0.00E+00	0.00E+00	0.00E+00
SE	48100	Co-60	3.89E-15	7.01E-22	1.12E-22	8.13E-22
SE	48100	Cm-243	1.02E-09	1.84E-16	2.93E-17	2.13E-16
SE	48100	Cm-244	1.76E-08	3.17E-15	5.06E-16	3.68E-15
SE	48100	Cs-137	5.19E-06	9.34E-13	1.49E-13	1.08E-12
SE	48100	Eu-152	8.32E-15	1.50E-21	2.39E-22	1.74E-21
SE	48100	Eu-154	4.81E-14	8.65E-21	1.38E-21	1.00E-20
SE	48100	Eu-155	1.77E-14	3.19E-21	5.09E-22	3.70E-21
SE	48100	H-3	1.18E-03	0.00E+00	0.00E+00	0.00E+00
SE	48100	I-129	1.70E-11	5.94E-17	2.46E-18	6.18E-17
SE	48100	Ni-63	5.95E-08	1.07E-14	1.71E-15	1.24E-14

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SE	48100	Np-237	1.51E-09	2.73E-16	4.35E-17	3.16E-16
SE	48100	Pu-238	2.19E-09	3.94E-16	6.29E-17	4.57E-16
SE	48100	Pu-239	4.85E-08	8.72E-15	1.39E-15	1.01E-14
SE	48100	Pu-240	1.13E-08	2.04E-15	3.25E-16	2.36E-15
SE	48100	Pu-241	3.06E-08	5.50E-15	8.77E-16	6.38E-15
SE	48100	Sb-125	1.33E-07	2.40E-14	3.82E-15	2.78E-14
SE	48100	Sm-151	4.88E-11	8.79E-18	1.40E-18	1.02E-17
SE	48100	Sn-126	5.76E-08	1.04E-14	1.65E-15	1.20E-14
SE	48100	Sr-90	7.90E-06	1.42E-12	2.27E-13	1.65E-12
SE	48100	Tc-99	1.93E-04	3.47E-11	5.53E-12	4.02E-11
SE	48100	Th-232	2.43E-17	4.37E-24	6.96E-25	5.06E-24
SE	48100	U-233	5.30E-10	9.55E-17	1.52E-17	1.11E-16
SE	48100	U-234	1.56E-10	2.80E-17	4.47E-18	3.25E-17
SE	48100	U-235	6.30E-12	1.13E-18	1.81E-19	1.31E-18
SE	48100	U-236	5.15E-12	9.27E-19	1.48E-19	1.07E-18
SE	48100	U-238	1.40E-10	2.51E-17	4.01E-18	2.91E-17
SE	48100	Y-90	7.41E-06	1.33E-12	2.14E-13	1.55E-12
SE	48100	Ru-106	2.99E-14	5.38E-21	8.58E-22	6.24E-21
SE	48100	Cs-134	7.51E-13	1.35E-19	2.16E-20	1.57E-19
SE	48100	Ba-137m	7.58E-19	1.36E-25	1.41E-25	2.77E-25
SE	48100	Pu-242	1.75E-12	3.16E-19	5.04E-20	3.66E-19
SE	48100	Ra-226	1.60E-11	2.88E-18	4.60E-19	3.34E-18
SE	48100	U-232	9.80E-12	1.76E-18	2.81E-19	2.05E-18
SE	48100	Pa-231	2.19E-17	3.95E-24	6.30E-25	4.58E-24
SE	48100	Ni-59	7.90E-10	1.42E-16	2.27E-17	1.65E-16
SE	48100	Ac-227	1.58E-10	2.85E-17	4.54E-18	3.30E-17
SE	48100	Am-243	2.36E-10	4.24E-17	6.77E-18	4.92E-17
SE	48100	Ra-228	9.80E-10	1.76E-16	2.81E-17	2.05E-16
SE	48100	Cm-242	1.44E-08	2.59E-15	4.12E-16	3.00E-15
SE	48100	Th-229	1.10E-17	1.98E-24	3.15E-25	2.29E-24
SE	48100	Zr-93	1.03E-13	1.86E-20	2.97E-21	2.16E-20
SE	48100	Nb-93m	1.76E-13	3.17E-20	5.06E-21	3.68E-20
SE	48100	Cd-113m	9.35E-08	1.68E-14	2.68E-15	1.95E-14
SE	48100	Se-79	1.12E-06	2.02E-13	3.22E-14	2.34E-13
SE	54100	Am-241	3.38E-07	6.09E-14	1.01E-14	7.10E-14
SE	54100	C-14	2.38E-04	0.00E+00	0.00E+00	0.00E+00
SE	54100	Co-60	3.23E-15	5.81E-22	9.64E-23	6.77E-22
SE	54100	Cm-243	8.47E-10	1.52E-16	2.53E-17	1.78E-16
SE	54100	Cm-244	1.46E-08	2.63E-15	4.36E-16	3.06E-15
SE	54100	Cs-137	4.30E-06	7.74E-13	1.28E-13	9.02E-13
SE	54100	Eu-152	6.89E-15	1.24E-21	2.06E-22	1.45E-21
SE	54100	Eu-154	3.98E-14	7.17E-21	1.19E-21	8.36E-21
SE	54100	Eu-155	1.47E-14	2.65E-21	4.39E-22	3.08E-21
SE	54100	H-3	1.03E-03	0.00E+00	0.00E+00	0.00E+00
SE	54100	I-129	1.27E-11	4.44E-17	1.99E-18	4.64E-17
SE	54100	Ni-63	4.93E-08	8.88E-15	1.47E-15	1.03E-14
SE	54100	Np-237	1.26E-09	2.26E-16	3.75E-17	2.63E-16

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SE	54100	Pu-238	1.81E-09	3.27E-16	5.42E-17	3.81E-16
SE	54100	Pu-239	4.01E-08	7.23E-15	1.20E-15	8.43E-15
SE	54100	Pu-240	9.39E-09	1.69E-15	2.80E-16	1.97E-15
SE	54100	Pu-241	2.53E-08	4.56E-15	7.56E-16	5.31E-15
SE	54100	Sb-125	1.10E-07	1.99E-14	3.29E-15	2.31E-14
SE	54100	Sm-151	4.05E-11	7.28E-18	1.21E-18	8.49E-18
SE	54100	Sn-126	4.77E-08	8.59E-15	1.43E-15	1.00E-14
SE	54100	Sr-90	6.54E-06	1.18E-12	1.95E-13	1.37E-12
SE	54100	Tc-99	1.60E-04	2.87E-11	4.77E-12	3.35E-11
SE	54100	Th-232	2.01E-17	3.62E-24	6.00E-25	4.22E-24
SE	54100	U-233	4.39E-10	7.91E-17	1.31E-17	9.22E-17
SE	54100	U-234	1.29E-10	2.32E-17	3.85E-18	2.71E-17
SE	54100	U-235	5.22E-12	9.39E-19	1.56E-19	1.09E-18
SE	54100	U-236	4.27E-12	7.68E-19	1.27E-19	8.96E-19
SE	54100	U-238	1.16E-10	2.08E-17	3.45E-18	2.43E-17
SE	54100	Y-90	6.09E-06	1.10E-12	1.83E-13	1.28E-12
SE	54100	Ru-106	2.48E-14	4.46E-21	7.40E-22	5.20E-21
SE	54100	Cs-134	6.23E-13	1.12E-19	1.86E-20	1.31E-19
SE	54100	Ba-137m	6.10E-19	1.10E-25	1.13E-25	2.23E-25
SE	54100	Pu-242	1.45E-12	2.62E-19	4.34E-20	3.05E-19
SE	54100	Ra-226	1.33E-11	2.39E-18	3.96E-19	2.79E-18
SE	54100	U-232	8.12E-12	1.46E-18	2.43E-19	1.70E-18
SE	54100	Pa-231	1.82E-17	3.27E-24	5.43E-25	3.81E-24
SE	54100	Ni-59	6.54E-10	1.18E-16	1.95E-17	1.37E-16
SE	54100	Ac-227	1.31E-10	2.36E-17	3.92E-18	2.75E-17
SE	54100	Am-243	1.95E-10	3.52E-17	5.83E-18	4.10E-17
SE	54100	Ra-228	8.12E-10	1.46E-16	2.43E-17	1.70E-16
SE	54100	Cm-242	1.19E-08	2.14E-15	3.55E-16	2.50E-15
SE	54100	Th-229	9.10E-18	1.64E-24	2.72E-25	1.91E-24
SE	54100	Zr-93	8.57E-14	1.54E-20	2.56E-21	1.80E-20
SE	54100	Nb-93m	1.46E-13	2.63E-20	4.36E-21	3.06E-20
SE	54100	Cd-113m	7.74E-08	1.39E-14	2.31E-15	1.63E-14
SE	54100	Se-79	9.29E-07	1.67E-13	2.77E-14	1.95E-13
SE	60100	Am-241	2.31E-07	4.16E-14	8.28E-15	4.99E-14
SE	60100	C-14	2.11E-04	0.00E+00	0.00E+00	0.00E+00
SE	60100	Co-60	2.21E-15	3.97E-22	7.90E-23	4.76E-22
SE	60100	Cm-243	5.79E-10	1.04E-16	2.07E-17	1.25E-16
SE	60100	Cm-244	9.99E-09	1.80E-15	3.57E-16	2.16E-15
SE	60100	Cs-137	2.94E-06	5.29E-13	1.05E-13	6.34E-13
SE	60100	Eu-152	4.71E-15	8.48E-22	1.69E-22	1.02E-21
SE	60100	Eu-154	2.72E-14	4.90E-21	9.74E-22	5.88E-21
SE	60100	Eu-155	1.01E-14	1.81E-21	3.60E-22	2.17E-21
SE	60100	H-3	9.17E-04	0.00E+00	0.00E+00	0.00E+00
SE	60100	I-129	9.66E-12	3.38E-17	1.63E-18	3.54E-17
SE	60100	Ni-63	3.37E-08	6.07E-15	1.21E-15	7.28E-15
SE	60100	Np-237	8.58E-10	1.54E-16	3.07E-17	1.85E-16
SE	60100	Pu-238	1.24E-09	2.23E-16	4.44E-17	2.68E-16

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SE	60100	Pu-239	2.75E-08	4.94E-15	9.82E-16	5.92E-15
SE	60100	Pu-240	6.42E-09	1.16E-15	2.30E-16	1.39E-15
SE	60100	Pu-241	1.73E-08	3.12E-15	6.19E-16	3.74E-15
SE	60100	Sb-125	7.54E-08	1.36E-14	2.70E-15	1.63E-14
SE	60100	Sm-151	2.77E-11	4.98E-18	9.90E-19	5.97E-18
SE	60100	Sn-126	3.26E-08	5.88E-15	1.17E-15	7.04E-15
SE	60100	Sr-90	4.48E-06	8.06E-13	1.60E-13	9.66E-13
SE	60100	Tc-99	1.09E-04	1.97E-11	3.91E-12	2.36E-11
SE	60100	Th-232	1.37E-17	2.47E-24	4.92E-25	2.97E-24
SE	60100	U-233	3.01E-10	5.41E-17	1.08E-17	6.48E-17
SE	60100	U-234	8.82E-11	1.59E-17	3.16E-18	1.90E-17
SE	60100	U-235	3.57E-12	6.42E-19	1.28E-19	7.70E-19
SE	60100	U-236	2.92E-12	5.25E-19	1.04E-19	6.30E-19
SE	60100	U-238	7.91E-11	1.42E-17	2.83E-18	1.71E-17
SE	60100	Y-90	4.15E-06	7.47E-13	1.49E-13	8.96E-13
SE	60100	Ru-106	1.69E-14	3.05E-21	6.06E-22	3.66E-21
SE	60100	Cs-134	4.26E-13	7.66E-20	1.52E-20	9.19E-20
SE	60100	Ba-137m	2.74E-19	4.92E-26	5.09E-26	1.00E-25
SE	60100	Pu-242	9.94E-13	1.79E-19	3.56E-20	2.15E-19
SE	60100	Ra-226	9.08E-12	1.63E-18	3.25E-19	1.96E-18
SE	60100	U-232	5.56E-12	1.00E-18	1.99E-19	1.20E-18
SE	60100	Pa-231	1.24E-17	2.24E-24	4.45E-25	2.68E-24
SE	60100	Ni-59	4.48E-10	8.06E-17	1.60E-17	9.66E-17
SE	60100	Ac-227	8.97E-11	1.61E-17	3.21E-18	1.94E-17
SE	60100	Am-243	1.34E-10	2.40E-17	4.78E-18	2.88E-17
SE	60100	Ra-228	5.56E-10	1.00E-16	1.99E-17	1.20E-16
SE	60100	Cm-242	8.14E-09	1.47E-15	2.91E-16	1.76E-15
SE	60100	Th-229	6.23E-18	1.12E-24	2.23E-25	1.34E-24
SE	60100	Zr-93	5.86E-14	1.05E-20	2.10E-21	1.26E-20
SE	60100	Nb-93m	9.99E-14	1.80E-20	3.57E-21	2.16E-20
SE	60100	Cd-113m	5.30E-08	9.53E-15	1.89E-15	1.14E-14
SE	60100	Se-79	6.36E-07	1.14E-13	2.27E-14	1.37E-13
SE	66100	Am-241	2.03E-07	3.65E-14	7.42E-15	4.39E-14
SE	66100	C-14	1.89E-04	0.00E+00	0.00E+00	0.00E+00
SE	66100	Co-60	1.94E-15	3.48E-22	7.08E-23	4.19E-22
SE	66100	Cm-243	5.08E-10	9.15E-17	1.86E-17	1.10E-16
SE	66100	Cm-244	8.76E-09	1.58E-15	3.20E-16	1.90E-15
SE	66100	Cs-137	2.58E-06	4.64E-13	9.43E-14	5.58E-13
SE	66100	Eu-152	4.13E-15	7.44E-22	1.51E-22	8.95E-22
SE	66100	Eu-154	2.39E-14	4.30E-21	8.74E-22	5.17E-21
SE	66100	Eu-155	8.82E-15	1.59E-21	3.22E-22	1.91E-21
SE	66100	H-3	8.22E-04	0.00E+00	0.00E+00	0.00E+00
SE	66100	I-129	8.08E-12	2.83E-17	1.38E-18	2.96E-17
SE	66100	Ni-63	2.96E-08	5.32E-15	1.08E-15	6.41E-15
SE	66100	Np-237	7.53E-10	1.35E-16	2.75E-17	1.63E-16
SE	66100	Pu-238	1.09E-09	1.96E-16	3.98E-17	2.36E-16
SE	66100	Pu-239	2.41E-08	4.33E-15	8.81E-16	5.22E-15

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
SE	66100	Pu-240	5.63E-09	1.01E-15	2.06E-16	1.22E-15
SE	66100	Pu-241	1.52E-08	2.73E-15	5.55E-16	3.29E-15
SE	66100	Sb-125	6.62E-08	1.19E-14	2.42E-15	1.43E-14
SE	66100	Sm-151	2.43E-11	4.37E-18	8.88E-19	5.26E-18
SE	66100	Sn-126	2.86E-08	5.15E-15	1.05E-15	6.20E-15
SE	66100	Sr-90	3.92E-06	7.06E-13	1.44E-13	8.50E-13
SE	66100	Tc-99	9.57E-05	1.72E-11	3.50E-12	2.07E-11
SE	66100	Th-232	1.21E-17	2.17E-24	4.41E-25	2.61E-24
SE	66100	U-233	2.64E-10	4.74E-17	9.64E-18	5.71E-17
SE	66100	U-234	7.74E-11	1.39E-17	2.83E-18	1.68E-17
SE	66100	U-235	3.13E-12	5.63E-19	1.14E-19	6.78E-19
SE	66100	U-236	2.56E-12	4.61E-19	9.36E-20	5.54E-19
SE	66100	U-238	6.94E-11	1.25E-17	2.54E-18	1.50E-17
SE	66100	Y-90	3.61E-06	6.50E-13	1.33E-13	7.83E-13
SE	66100	Ru-106	1.49E-14	2.67E-21	5.43E-22	3.22E-21
SE	66100	Cs-134	3.73E-13	6.72E-20	1.37E-20	8.09E-20
SE	66100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SE	66100	Pu-242	8.72E-13	1.57E-19	3.19E-20	1.89E-19
SE	66100	Ra-226	7.96E-12	1.43E-18	2.91E-19	1.72E-18
SE	66100	U-232	4.87E-12	8.77E-19	1.78E-19	1.06E-18
SE	66100	Pa-231	1.09E-17	1.96E-24	3.99E-25	2.36E-24
SE	66100	Ni-59	3.92E-10	7.06E-17	1.44E-17	8.50E-17
SE	66100	Ac-227	7.87E-11	1.42E-17	2.88E-18	1.70E-17
SE	66100	Am-243	1.17E-10	2.11E-17	4.29E-18	2.54E-17
SE	66100	Ra-228	4.87E-10	8.77E-17	1.78E-17	1.06E-16
SE	66100	Cm-242	7.14E-09	1.28E-15	2.61E-16	1.55E-15
SE	66100	Th-229	5.46E-18	9.83E-25	2.00E-25	1.18E-24
SE	66100	Zr-93	5.14E-14	9.25E-21	1.88E-21	1.11E-20
SE	66100	Nb-93m	8.76E-14	1.58E-20	3.20E-21	1.90E-20
SE	66100	Cd-113m	4.65E-08	8.36E-15	1.70E-15	1.01E-14
SE	66100	Se-79	5.57E-07	1.00E-13	2.04E-14	1.21E-13
ESE	12100	Am-241	5.16E-06	9.28E-13	7.14E-14	9.99E-13
ESE	12100	C-14	2.32E-03	0.00E+00	0.00E+00	0.00E+00
ESE	12100	Co-60	4.92E-14	8.85E-21	6.81E-22	9.54E-21
ESE	12100	Cm-243	1.29E-08	2.32E-15	1.79E-16	2.50E-15
ESE	12100	Cm-244	2.23E-07	4.01E-14	3.08E-15	4.31E-14
ESE	12100	Cs-137	6.55E-05	1.18E-11	9.08E-13	1.27E-11
ESE	12100	Eu-152	1.05E-13	1.89E-20	1.45E-21	2.04E-20
ESE	12100	Eu-154	6.07E-13	1.09E-19	8.41E-21	1.18E-19
ESE	12100	Eu-155	2.24E-13	4.03E-20	3.10E-21	4.34E-20
ESE	12100	H-3	1.01E-02	0.00E+00	0.00E+00	0.00E+00
ESE	12100	I-129	7.11E-10	2.49E-15	2.23E-17	2.51E-15
ESE	12100	Ni-63	7.52E-07	1.35E-13	1.04E-14	1.46E-13
ESE	12100	Np-237	1.91E-08	3.44E-15	2.65E-16	3.71E-15
ESE	12100	Pu-238	2.77E-08	4.98E-15	3.83E-16	5.36E-15
ESE	12100	Pu-239	6.12E-07	1.10E-13	8.47E-15	1.19E-13
ESE	12100	Pu-240	1.43E-07	2.58E-14	1.98E-15	2.77E-14

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ESE	12100	Pu-241	3.86E-07	6.95E-14	5.35E-15	7.48E-14
ESE	12100	Sb-125	1.68E-06	3.03E-13	2.33E-14	3.26E-13
ESE	12100	Sm-151	6.17E-10	1.11E-16	8.54E-18	1.20E-16
ESE	12100	Sn-126	7.28E-07	1.31E-13	1.01E-14	1.41E-13
ESE	12100	Sr-90	9.97E-05	1.80E-11	1.38E-12	1.93E-11
ESE	12100	Tc-99	2.43E-03	4.38E-10	3.37E-11	4.72E-10
ESE	12100	Th-232	3.06E-16	5.52E-23	4.24E-24	5.94E-23
ESE	12100	U-233	6.70E-09	1.21E-15	9.28E-17	1.30E-15
ESE	12100	U-234	1.97E-09	3.54E-16	2.72E-17	3.81E-16
ESE	12100	U-235	7.95E-11	1.43E-17	1.10E-18	1.54E-17
ESE	12100	U-236	6.50E-11	1.17E-17	9.01E-19	1.26E-17
ESE	12100	U-238	1.76E-09	3.17E-16	2.44E-17	3.42E-16
ESE	12100	Y-90	9.85E-05	1.77E-11	1.37E-12	1.91E-11
ESE	12100	Ru-106	3.78E-13	6.80E-20	5.23E-21	7.32E-20
ESE	12100	Cs-134	9.49E-12	1.71E-18	1.31E-19	1.84E-18
ESE	12100	Ba-137m	3.20E-12	5.76E-19	8.27E-20	6.59E-19
ESE	12100	Pu-242	2.22E-11	3.99E-18	3.07E-19	4.30E-18
ESE	12100	Ra-226	2.02E-10	3.64E-17	2.80E-18	3.92E-17
ESE	12100	U-232	1.24E-10	2.23E-17	1.71E-18	2.40E-17
ESE	12100	Pa-231	2.77E-16	4.99E-23	3.84E-24	5.37E-23
ESE	12100	Ni-59	9.97E-09	1.80E-15	1.38E-16	1.93E-15
ESE	12100	Ac-227	2.00E-09	3.60E-16	2.77E-17	3.88E-16
ESE	12100	Am-243	2.98E-09	5.36E-16	4.12E-17	5.77E-16
ESE	12100	Ra-228	1.24E-08	2.23E-15	1.71E-16	2.40E-15
ESE	12100	Cm-242	1.82E-07	3.27E-14	2.52E-15	3.52E-14
ESE	12100	Th-229	1.39E-16	2.50E-23	1.92E-24	2.69E-23
ESE	12100	Zr-93	1.31E-12	2.35E-19	1.81E-20	2.53E-19
ESE	12100	Nb-93m	2.23E-12	4.01E-19	3.08E-20	4.31E-19
ESE	12100	Cd-113m	1.18E-06	2.12E-13	1.63E-14	2.29E-13
ESE	12100	Se-79	1.42E-05	2.55E-12	1.96E-13	2.75E-12
ESE	16100	Am-241	3.64E-06	6.56E-13	5.27E-14	7.08E-13
ESE	16100	C-14	1.68E-03	0.00E+00	0.00E+00	0.00E+00
ESE	16100	Co-60	3.47E-14	6.25E-21	5.03E-22	6.76E-21
ESE	16100	Cm-243	9.12E-09	1.64E-15	1.32E-16	1.77E-15
ESE	16100	Cm-244	1.57E-07	2.83E-14	2.28E-15	3.06E-14
ESE	16100	Cs-137	4.63E-05	8.33E-12	6.70E-13	9.00E-12
ESE	16100	Eu-152	7.42E-14	1.34E-20	1.07E-21	1.44E-20
ESE	16100	Eu-154	4.29E-13	7.72E-20	6.21E-21	8.34E-20
ESE	16100	Eu-155	1.58E-13	2.85E-20	2.29E-21	3.08E-20
ESE	16100	H-3	7.30E-03	0.00E+00	0.00E+00	0.00E+00
ESE	16100	I-129	3.96E-10	1.39E-15	1.42E-17	1.40E-15
ESE	16100	Ni-63	5.31E-07	9.56E-14	7.69E-15	1.03E-13
ESE	16100	Np-237	1.35E-08	2.43E-15	1.96E-16	2.63E-15
ESE	16100	Pu-238	1.95E-08	3.52E-15	2.83E-16	3.80E-15
ESE	16100	Pu-239	4.32E-07	7.78E-14	6.26E-15	8.41E-14
ESE	16100	Pu-240	1.01E-07	1.82E-14	1.46E-15	1.97E-14
ESE	16100	Pu-241	2.73E-07	4.91E-14	3.95E-15	5.30E-14

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ESE	16100	Sb-125	1.19E-06	2.14E-13	1.72E-14	2.31E-13
ESE	16100	Sm-151	4.36E-10	7.84E-17	6.31E-18	8.47E-17
ESE	16100	Sn-126	5.14E-07	9.25E-14	7.44E-15	9.99E-14
ESE	16100	Sr-90	7.05E-05	1.27E-11	1.02E-12	1.37E-11
ESE	16100	Tc-99	1.72E-03	3.09E-10	2.49E-11	3.34E-10
ESE	16100	Th-232	2.16E-16	3.90E-23	3.13E-24	4.21E-23
ESE	16100	U-233	4.73E-09	8.52E-16	6.85E-17	9.20E-16
ESE	16100	U-234	1.39E-09	2.50E-16	2.01E-17	2.70E-16
ESE	16100	U-235	5.62E-11	1.01E-17	8.13E-19	1.09E-17
ESE	16100	U-236	4.59E-11	8.27E-18	6.65E-19	8.94E-18
ESE	16100	U-238	1.25E-09	2.24E-16	1.80E-17	2.42E-16
ESE	16100	Y-90	6.93E-05	1.25E-11	1.00E-12	1.35E-11
ESE	16100	Ru-106	2.67E-13	4.80E-20	3.86E-21	5.19E-20
ESE	16100	Cs-134	6.70E-12	1.21E-18	9.71E-20	1.30E-18
ESE	16100	Ba-137m	1.45E-14	2.61E-21	4.42E-22	3.05E-21
ESE	16100	Pu-242	1.57E-11	2.82E-18	2.27E-19	3.04E-18
ESE	16100	Ra-226	1.43E-10	2.57E-17	2.07E-18	2.78E-17
ESE	16100	U-232	8.75E-11	1.57E-17	1.27E-18	1.70E-17
ESE	16100	Pa-231	1.96E-16	3.52E-23	2.83E-24	3.81E-23
ESE	16100	Ni-59	7.05E-09	1.27E-15	1.02E-16	1.37E-15
ESE	16100	Ac-227	1.41E-09	2.54E-16	2.05E-17	2.75E-16
ESE	16100	Am-243	2.10E-09	3.79E-16	3.05E-17	4.09E-16
ESE	16100	Ra-228	8.75E-09	1.57E-15	1.27E-16	1.70E-15
ESE	16100	Cm-242	1.28E-07	2.31E-14	1.86E-15	2.49E-14
ESE	16100	Th-229	9.80E-17	1.76E-23	1.42E-24	1.91E-23
ESE	16100	Zr-93	9.22E-13	1.66E-19	1.34E-20	1.79E-19
ESE	16100	Nb-93m	1.57E-12	2.83E-19	2.28E-20	3.06E-19
ESE	16100	Cd-113m	8.34E-07	1.50E-13	1.21E-14	1.62E-13
ESE	16100	Se-79	1.00E-05	1.80E-12	1.45E-13	1.95E-12
ESE	24100	Am-241	2.08E-06	3.74E-13	3.30E-14	4.07E-13
ESE	24100	C-14	1.06E-03	0.00E+00	0.00E+00	0.00E+00
ESE	24100	Co-60	1.98E-14	3.57E-21	3.14E-22	3.89E-21
ESE	24100	Cm-243	5.21E-09	9.38E-16	8.25E-17	1.02E-15
ESE	24100	Cm-244	8.98E-08	1.62E-14	1.42E-15	1.76E-14
ESE	24100	Cs-137	2.64E-05	4.76E-12	4.19E-13	5.18E-12
ESE	24100	Eu-152	4.24E-14	7.63E-21	6.71E-22	8.30E-21
ESE	24100	Eu-154	2.45E-13	4.41E-20	3.88E-21	4.80E-20
ESE	24100	Eu-155	9.04E-14	1.63E-20	1.43E-21	1.77E-20
ESE	24100	H-3	4.63E-03	0.00E+00	0.00E+00	0.00E+00
ESE	24100	I-129	1.16E-10	4.05E-16	6.17E-18	4.11E-16
ESE	24100	Ni-63	3.03E-07	5.46E-14	4.80E-15	5.94E-14
ESE	24100	Np-237	7.72E-09	1.39E-15	1.22E-16	1.51E-15
ESE	24100	Pu-238	1.12E-08	2.01E-15	1.77E-16	2.19E-15
ESE	24100	Pu-239	2.47E-07	4.44E-14	3.91E-15	4.84E-14
ESE	24100	Pu-240	5.77E-08	1.04E-14	9.15E-16	1.13E-14
ESE	24100	Pu-241	1.56E-07	2.80E-14	2.47E-15	3.05E-14
ESE	24100	Sb-125	6.78E-07	1.22E-13	1.07E-14	1.33E-13

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ESE	24100	Sm-151	2.49E-10	4.48E-17	3.94E-18	4.87E-17
ESE	24100	Sn-126	2.94E-07	5.28E-14	4.65E-15	5.75E-14
ESE	24100	Sr-90	4.02E-05	7.24E-12	6.37E-13	7.88E-12
ESE	24100	Tc-99	9.82E-04	1.77E-10	1.56E-11	1.92E-10
ESE	24100	Th-232	1.24E-16	2.23E-23	1.96E-24	2.42E-23
ESE	24100	U-233	2.70E-09	4.86E-16	4.28E-17	5.29E-16
ESE	24100	U-234	7.93E-10	1.43E-16	1.26E-17	1.55E-16
ESE	24100	U-235	3.21E-11	5.77E-18	5.08E-19	6.28E-18
ESE	24100	U-236	2.62E-11	4.72E-18	4.16E-19	5.14E-18
ESE	24100	U-238	7.12E-10	1.28E-16	1.13E-17	1.39E-16
ESE	24100	Y-90	3.93E-05	7.07E-12	6.23E-13	7.69E-12
ESE	24100	Ru-106	1.52E-13	2.74E-20	2.41E-21	2.98E-20
ESE	24100	Cs-134	3.83E-12	6.89E-19	6.07E-20	7.50E-19
ESE	24100	Ba-137m	1.92E-17	3.46E-24	1.40E-24	4.86E-24
ESE	24100	Pu-242	8.94E-12	1.61E-18	1.42E-19	1.75E-18
ESE	24100	Ra-226	8.17E-11	1.47E-17	1.29E-18	1.60E-17
ESE	24100	U-232	5.00E-11	8.99E-18	7.91E-19	9.78E-18
ESE	24100	Pa-231	1.12E-16	2.01E-23	1.77E-24	2.19E-23
ESE	24100	Ni-59	4.02E-09	7.24E-16	6.37E-17	7.88E-16
ESE	24100	Ac-227	8.07E-10	1.45E-16	1.28E-17	1.58E-16
ESE	24100	Am-243	1.20E-09	2.16E-16	1.90E-17	2.35E-16
ESE	24100	Ra-228	5.00E-09	8.99E-16	7.91E-17	9.78E-16
ESE	24100	Cm-242	7.33E-08	1.32E-14	1.16E-15	1.43E-14
ESE	24100	Th-229	5.60E-17	1.01E-23	8.87E-25	1.10E-23
ESE	24100	Zr-93	5.27E-13	9.48E-20	8.35E-21	1.03E-19
ESE	24100	Nb-93m	8.98E-13	1.62E-19	1.42E-20	1.76E-19
ESE	24100	Cd-113m	4.76E-07	8.57E-14	7.54E-15	9.33E-14
ESE	24100	Se-79	5.72E-06	1.03E-12	9.05E-14	1.12E-12
ESE	30100	Am-241	1.47E-06	2.64E-13	2.53E-14	2.90E-13
ESE	30100	C-14	8.28E-04	0.00E+00	0.00E+00	0.00E+00
ESE	30100	Co-60	1.40E-14	2.52E-21	2.41E-22	2.76E-21
ESE	30100	Cm-243	3.68E-09	6.62E-16	6.33E-17	7.25E-16
ESE	30100	Cm-244	6.34E-08	1.14E-14	1.09E-15	1.25E-14
ESE	30100	Cs-137	1.87E-05	3.36E-12	3.21E-13	3.68E-12
ESE	30100	Eu-152	2.99E-14	5.38E-21	5.15E-22	5.90E-21
ESE	30100	Eu-154	1.73E-13	3.11E-20	2.98E-21	3.41E-20
ESE	30100	Eu-155	6.38E-14	1.15E-20	1.10E-21	1.26E-20
ESE	30100	H-3	3.60E-03	0.00E+00	0.00E+00	0.00E+00
ESE	30100	I-129	6.88E-11	2.41E-16	4.25E-18	2.45E-16
ESE	30100	Ni-63	2.14E-07	3.85E-14	3.69E-15	4.22E-14
ESE	30100	Np-237	5.45E-09	9.80E-16	9.38E-17	1.07E-15
ESE	30100	Pu-238	7.87E-09	1.42E-15	1.36E-16	1.55E-15
ESE	30100	Pu-239	1.74E-07	3.14E-14	3.00E-15	3.44E-14
ESE	30100	Pu-240	4.07E-08	7.33E-15	7.02E-16	8.04E-15
ESE	30100	Pu-241	1.10E-07	1.98E-14	1.89E-15	2.17E-14
ESE	30100	Sb-125	4.79E-07	8.62E-14	8.24E-15	9.44E-14
ESE	30100	Sm-151	1.76E-10	3.16E-17	3.02E-18	3.46E-17

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ESE	30100	Sn-126	2.07E-07	3.73E-14	3.57E-15	4.09E-14
ESE	30100	Sr-90	2.84E-05	5.11E-12	4.89E-13	5.60E-12
ESE	30100	Tc-99	6.93E-04	1.25E-10	1.19E-11	1.37E-10
ESE	30100	Th-232	8.73E-17	1.57E-23	1.50E-24	1.72E-23
ESE	30100	U-233	1.91E-09	3.43E-16	3.28E-17	3.76E-16
ESE	30100	U-234	5.60E-10	1.01E-16	9.64E-18	1.10E-16
ESE	30100	U-235	2.26E-11	4.07E-18	3.90E-19	4.46E-18
ESE	30100	U-236	1.85E-11	3.33E-18	3.19E-19	3.65E-18
ESE	30100	U-238	5.02E-10	9.04E-17	8.65E-18	9.90E-17
ESE	30100	Y-90	2.75E-05	4.96E-12	4.75E-13	5.43E-12
ESE	30100	Ru-106	1.08E-13	1.94E-20	1.85E-21	2.12E-20
ESE	30100	Cs-134	2.70E-12	4.86E-19	4.65E-20	5.33E-19
ESE	30100	Ba-137m	2.19E-16	3.94E-23	2.02E-24	4.14E-23
ESE	30100	Pu-242	6.31E-12	1.14E-18	1.09E-19	1.24E-18
ESE	30100	Ra-226	5.76E-11	1.04E-17	9.92E-19	1.14E-17
ESE	30100	U-232	3.53E-11	6.35E-18	6.07E-19	6.95E-18
ESE	30100	Pa-231	7.89E-17	1.42E-23	1.36E-24	1.56E-23
ESE	30100	Ni-59	2.84E-09	5.11E-16	4.89E-17	5.60E-16
ESE	30100	Ac-227	5.69E-10	1.02E-16	9.80E-18	1.12E-16
ESE	30100	Am-243	8.48E-10	1.53E-16	1.46E-17	1.67E-16
ESE	30100	Ra-228	3.53E-09	6.35E-16	6.07E-17	6.95E-16
ESE	30100	Cm-242	5.17E-08	9.31E-15	8.90E-16	1.02E-14
ESE	30100	Th-229	3.95E-17	7.11E-24	6.80E-25	7.79E-24
ESE	30100	Zr-93	3.72E-13	6.69E-20	6.40E-21	7.33E-20
ESE	30100	Nb-93m	6.34E-13	1.14E-19	1.09E-20	1.25E-19
ESE	30100	Cd-113m	3.36E-07	6.05E-14	5.79E-15	6.63E-14
ESE	30100	Se-79	4.03E-06	7.26E-13	6.95E-14	7.95E-13
ESE	36100	Am-241	1.17E-06	2.11E-13	2.08E-14	2.32E-13
ESE	36100	C-14	6.75E-04	0.00E+00	0.00E+00	0.00E+00
ESE	36100	Co-60	1.12E-14	2.02E-21	1.98E-22	2.22E-21
ESE	36100	Cm-243	2.94E-09	5.29E-16	5.20E-17	5.81E-16
ESE	36100	Cm-244	5.07E-08	9.13E-15	8.97E-16	1.00E-14
ESE	36100	Cs-137	1.49E-05	2.69E-12	2.64E-13	2.95E-12
ESE	36100	Eu-152	2.39E-14	4.31E-21	4.23E-22	4.73E-21
ESE	36100	Eu-154	1.38E-13	2.49E-20	2.45E-21	2.73E-20
ESE	36100	Eu-155	5.10E-14	9.19E-21	9.03E-22	1.01E-20
ESE	36100	H-3	2.94E-03	0.00E+00	0.00E+00	0.00E+00
ESE	36100	I-129	4.68E-11	1.64E-16	3.17E-18	1.67E-16
ESE	36100	Ni-63	1.71E-07	3.08E-14	3.03E-15	3.38E-14
ESE	36100	Np-237	4.36E-09	7.84E-16	7.71E-17	8.61E-16
ESE	36100	Pu-238	6.30E-09	1.13E-15	1.11E-16	1.25E-15
ESE	36100	Pu-239	1.39E-07	2.51E-14	2.47E-15	2.76E-14
ESE	36100	Pu-240	3.26E-08	5.87E-15	5.77E-16	6.44E-15
ESE	36100	Pu-241	8.79E-08	1.58E-14	1.55E-15	1.74E-14
ESE	36100	Sb-125	3.83E-07	6.89E-14	6.77E-15	7.57E-14
ESE	36100	Sm-151	1.40E-10	2.53E-17	2.48E-18	2.78E-17
ESE	36100	Sn-126	1.66E-07	2.98E-14	2.93E-15	3.28E-14

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ESE	36100	Sr-90	2.27E-05	4.09E-12	4.02E-13	4.49E-12
ESE	36100	Tc-99	5.54E-04	9.98E-11	9.80E-12	1.10E-10
ESE	36100	Th-232	6.98E-17	1.26E-23	1.23E-24	1.38E-23
ESE	36100	U-233	1.53E-09	2.75E-16	2.70E-17	3.02E-16
ESE	36100	U-234	4.48E-10	8.06E-17	7.92E-18	8.85E-17
ESE	36100	U-235	1.81E-11	3.26E-18	3.20E-19	3.58E-18
ESE	36100	U-236	1.48E-11	2.67E-18	2.62E-19	2.93E-18
ESE	36100	U-238	4.02E-10	7.23E-17	7.10E-18	7.94E-17
ESE	36100	Y-90	2.19E-05	3.94E-12	3.88E-13	4.33E-12
ESE	36100	Ru-106	8.60E-14	1.55E-20	1.52E-21	1.70E-20
ESE	36100	Cs-134	2.16E-12	3.89E-19	3.82E-20	4.27E-19
ESE	36100	Ba-137m	9.18E-17	1.65E-23	1.86E-24	1.84E-23
ESE	36100	Pu-242	5.05E-12	9.09E-19	8.93E-20	9.98E-19
ESE	36100	Ra-226	4.61E-11	8.30E-18	8.15E-19	9.11E-18
ESE	36100	U-232	2.82E-11	5.08E-18	4.99E-19	5.58E-18
ESE	36100	Pa-231	6.31E-17	1.14E-23	1.12E-24	1.25E-23
ESE	36100	Ni-59	2.27E-09	4.09E-16	4.02E-17	4.49E-16
ESE	36100	Ac-227	4.55E-10	8.20E-17	8.06E-18	9.00E-17
ESE	36100	Am-243	6.78E-10	1.22E-16	1.20E-17	1.34E-16
ESE	36100	Ra-228	2.82E-09	5.08E-16	4.99E-17	5.58E-16
ESE	36100	Cm-242	4.14E-08	7.44E-15	7.31E-16	8.17E-15
ESE	36100	Th-229	3.16E-17	5.69E-24	5.59E-25	6.25E-24
ESE	36100	Zr-93	2.97E-13	5.35E-20	5.26E-21	5.88E-20
ESE	36100	Nb-93m	5.07E-13	9.13E-20	8.97E-21	1.00E-19
ESE	36100	Cd-113m	2.69E-07	4.84E-14	4.76E-15	5.32E-14
ESE	36100	Se-79	3.23E-06	5.81E-13	5.71E-14	6.38E-13
ESE	42100	Am-241	9.66E-07	1.74E-13	1.75E-14	1.91E-13
ESE	42100	C-14	5.68E-04	0.00E+00	0.00E+00	0.00E+00
ESE	42100	Co-60	9.22E-15	1.66E-21	1.67E-22	1.83E-21
ESE	42100	Cm-243	2.42E-09	4.36E-16	4.38E-17	4.80E-16
ESE	42100	Cm-244	4.17E-08	7.51E-15	7.56E-16	8.27E-15
ESE	42100	Cs-137	1.23E-05	2.21E-12	2.22E-13	2.43E-12
ESE	42100	Eu-152	1.97E-14	3.54E-21	3.57E-22	3.90E-21
ESE	42100	Eu-154	1.14E-13	2.05E-20	2.06E-21	2.25E-20
ESE	42100	Eu-155	4.20E-14	7.56E-21	7.61E-22	8.32E-21
ESE	42100	H-3	2.47E-03	0.00E+00	0.00E+00	0.00E+00
ESE	42100	I-129	3.20E-11	1.12E-16	2.40E-18	1.14E-16
ESE	42100	Ni-63	1.41E-07	2.54E-14	2.55E-15	2.79E-14
ESE	42100	Np-237	3.59E-09	6.45E-16	6.50E-17	7.10E-16
ESE	42100	Pu-238	5.18E-09	9.33E-16	9.39E-17	1.03E-15
ESE	42100	Pu-239	1.15E-07	2.06E-14	2.08E-15	2.27E-14
ESE	42100	Pu-240	2.68E-08	4.83E-15	4.86E-16	5.31E-15
ESE	42100	Pu-241	7.23E-08	1.30E-14	1.31E-15	1.43E-14
ESE	42100	Sb-125	3.15E-07	5.67E-14	5.71E-15	6.24E-14
ESE	42100	Sm-151	1.16E-10	2.08E-17	2.09E-18	2.29E-17
ESE	42100	Sn-126	1.36E-07	2.45E-14	2.47E-15	2.70E-14
ESE	42100	Sr-90	1.87E-05	3.37E-12	3.39E-13	3.70E-12

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ESE	42100	Tc-99	4.56E-04	8.21E-11	8.26E-12	9.04E-11
ESE	42100	Th-232	5.74E-17	1.03E-23	1.04E-24	1.14E-23
ESE	42100	U-233	1.26E-09	2.26E-16	2.27E-17	2.49E-16
ESE	42100	U-234	3.68E-10	6.63E-17	6.68E-18	7.30E-17
ESE	42100	U-235	1.49E-11	2.68E-18	2.70E-19	2.95E-18
ESE	42100	U-236	1.22E-11	2.19E-18	2.21E-19	2.42E-18
ESE	42100	U-238	3.31E-10	5.95E-17	5.99E-18	6.55E-17
ESE	42100	Y-90	1.79E-05	3.22E-12	3.25E-13	3.55E-12
ESE	42100	Ru-106	7.08E-14	1.27E-20	1.28E-21	1.40E-20
ESE	42100	Cs-134	1.78E-12	3.20E-19	3.22E-20	3.52E-19
ESE	42100	Ba-137m	8.28E-17	1.49E-23	1.89E-24	1.68E-23
ESE	42100	Pu-242	4.15E-12	7.48E-19	7.53E-20	8.23E-19
ESE	42100	Ra-226	3.79E-11	6.83E-18	6.87E-19	7.52E-18
ESE	42100	U-232	2.32E-11	4.18E-18	4.20E-19	4.60E-18
ESE	42100	Pa-231	5.19E-17	9.35E-24	9.41E-25	1.03E-23
ESE	42100	Ni-59	1.87E-09	3.37E-16	3.39E-17	3.70E-16
ESE	42100	Ac-227	3.75E-10	6.75E-17	6.79E-18	7.43E-17
ESE	42100	Am-243	5.58E-10	1.00E-16	1.01E-17	1.11E-16
ESE	42100	Ra-228	2.32E-09	4.18E-16	4.20E-17	4.60E-16
ESE	42100	Cm-242	3.40E-08	6.12E-15	6.16E-16	6.74E-15
ESE	42100	Th-229	2.60E-17	4.68E-24	4.71E-25	5.15E-24
ESE	42100	Zr-93	2.45E-13	4.41E-20	4.43E-21	4.85E-20
ESE	42100	Nb-93m	4.17E-13	7.51E-20	7.56E-21	8.27E-20
ESE	42100	Cd-113m	2.21E-07	3.98E-14	4.01E-15	4.38E-14
ESE	42100	Se-79	2.66E-06	4.78E-13	4.81E-14	5.26E-13
ESE	48100	Am-241	8.09E-07	1.46E-13	1.50E-14	1.61E-13
ESE	48100	C-14	4.89E-04	0.00E+00	0.00E+00	0.00E+00
ESE	48100	Co-60	7.72E-15	1.39E-21	1.43E-22	1.53E-21
ESE	48100	Cm-243	2.03E-09	3.65E-16	3.75E-17	4.02E-16
ESE	48100	Cm-244	3.49E-08	6.29E-15	6.47E-16	6.93E-15
ESE	48100	Cs-137	1.03E-05	1.85E-12	1.91E-13	2.04E-12
ESE	48100	Eu-152	1.65E-14	2.97E-21	3.05E-22	3.27E-21
ESE	48100	Eu-154	9.52E-14	1.71E-20	1.77E-21	1.89E-20
ESE	48100	Eu-155	3.51E-14	6.33E-21	6.51E-22	6.98E-21
ESE	48100	H-3	2.13E-03	0.00E+00	0.00E+00	0.00E+00
ESE	48100	I-129	2.15E-11	7.51E-17	1.84E-18	7.69E-17
ESE	48100	Ni-63	1.18E-07	2.12E-14	2.19E-15	2.34E-14
ESE	48100	Np-237	3.00E-09	5.40E-16	5.56E-17	5.96E-16
ESE	48100	Pu-238	4.34E-09	7.81E-16	8.04E-17	8.61E-16
ESE	48100	Pu-239	9.60E-08	1.73E-14	1.78E-15	1.91E-14
ESE	48100	Pu-240	2.24E-08	4.04E-15	4.16E-16	4.46E-15
ESE	48100	Pu-241	6.05E-08	1.09E-14	1.12E-15	1.20E-14
ESE	48100	Sb-125	2.64E-07	4.75E-14	4.89E-15	5.24E-14
ESE	48100	Sm-151	9.68E-11	1.74E-17	1.79E-18	1.92E-17
ESE	48100	Sn-126	1.14E-07	2.05E-14	2.12E-15	2.27E-14
ESE	48100	Sr-90	1.56E-05	2.82E-12	2.90E-13	3.11E-12
ESE	48100	Tc-99	3.82E-04	6.87E-11	7.08E-12	7.58E-11

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ESE	48100	Th-232	4.81E-17	8.65E-24	8.91E-25	9.54E-24
ESE	48100	U-233	1.05E-09	1.89E-16	1.95E-17	2.09E-16
ESE	48100	U-234	3.08E-10	5.55E-17	5.72E-18	6.12E-17
ESE	48100	U-235	1.25E-11	2.24E-18	2.31E-19	2.48E-18
ESE	48100	U-236	1.02E-11	1.84E-18	1.89E-19	2.03E-18
ESE	48100	U-238	2.77E-10	4.98E-17	5.13E-18	5.49E-17
ESE	48100	Y-90	1.49E-05	2.68E-12	2.77E-13	2.96E-12
ESE	48100	Ru-106	5.92E-14	1.07E-20	1.10E-21	1.18E-20
ESE	48100	Cs-134	1.49E-12	2.68E-19	2.76E-20	2.96E-19
ESE	48100	Ba-137m	1.81E-17	3.27E-24	4.76E-25	3.74E-24
ESE	48100	Pu-242	3.48E-12	6.26E-19	6.44E-20	6.90E-19
ESE	48100	Ra-226	3.17E-11	5.71E-18	5.88E-19	6.30E-18
ESE	48100	U-232	1.94E-11	3.50E-18	3.60E-19	3.86E-18
ESE	48100	Pa-231	4.35E-17	7.82E-24	8.06E-25	8.63E-24
ESE	48100	Ni-59	1.56E-09	2.82E-16	2.90E-17	3.11E-16
ESE	48100	Ac-227	3.14E-10	5.65E-17	5.81E-18	6.23E-17
ESE	48100	Am-243	4.67E-10	8.41E-17	8.66E-18	9.27E-17
ESE	48100	Ra-228	1.94E-09	3.50E-16	3.60E-17	3.86E-16
ESE	48100	Cm-242	2.85E-08	5.13E-15	5.28E-16	5.65E-15
ESE	48100	Th-229	2.18E-17	3.92E-24	4.03E-25	4.32E-24
ESE	48100	Zr-93	2.05E-13	3.69E-20	3.80E-21	4.07E-20
ESE	48100	Nb-93m	3.49E-13	6.29E-20	6.47E-21	6.93E-20
ESE	48100	Cd-113m	1.85E-07	3.33E-14	3.43E-15	3.68E-14
ESE	48100	Se-79	2.22E-06	4.00E-13	4.12E-14	4.41E-13
ESE	54100	Am-241	6.79E-07	1.22E-13	1.29E-14	1.35E-13
ESE	54100	C-14	4.28E-04	0.00E+00	0.00E+00	0.00E+00
ESE	54100	Co-60	6.47E-15	1.17E-21	1.23E-22	1.29E-21
ESE	54100	Cm-243	1.70E-09	3.06E-16	3.23E-17	3.38E-16
ESE	54100	Cm-244	2.93E-08	5.27E-15	5.57E-16	5.83E-15
ESE	54100	Cs-137	8.62E-06	1.55E-12	1.64E-13	1.72E-12
ESE	54100	Eu-152	1.38E-14	2.49E-21	2.63E-22	2.75E-21
ESE	54100	Eu-154	7.99E-14	1.44E-20	1.52E-21	1.59E-20
ESE	54100	Eu-155	2.95E-14	5.31E-21	5.61E-22	5.87E-21
ESE	54100	H-3	1.86E-03	0.00E+00	0.00E+00	0.00E+00
ESE	54100	I-129	1.37E-11	4.78E-17	1.41E-18	4.92E-17
ESE	54100	Ni-63	9.89E-08	1.78E-14	1.88E-15	1.97E-14
ESE	54100	Np-237	2.52E-09	4.53E-16	4.79E-17	5.01E-16
ESE	54100	Pu-238	3.64E-09	6.55E-16	6.92E-17	7.24E-16
ESE	54100	Pu-239	8.05E-08	1.45E-14	1.53E-15	1.60E-14
ESE	54100	Pu-240	1.88E-08	3.39E-15	3.58E-16	3.75E-15
ESE	54100	Pu-241	5.08E-08	9.14E-15	9.66E-16	1.01E-14
ESE	54100	Sb-125	2.21E-07	3.98E-14	4.21E-15	4.40E-14
ESE	54100	Sm-151	8.12E-11	1.46E-17	1.54E-18	1.62E-17
ESE	54100	Sn-126	9.58E-08	1.72E-14	1.82E-15	1.91E-14
ESE	54100	Sr-90	1.31E-05	2.36E-12	2.50E-13	2.61E-12
ESE	54100	Tc-99	3.20E-04	5.76E-11	6.09E-12	6.37E-11
ESE	54100	Th-232	4.03E-17	7.26E-24	7.67E-25	8.03E-24

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ESE	54100	U-233	8.81E-10	1.59E-16	1.68E-17	1.75E-16
ESE	54100	U-234	2.59E-10	4.66E-17	4.92E-18	5.15E-17
ESE	54100	U-235	1.05E-11	1.88E-18	1.99E-19	2.08E-18
ESE	54100	U-236	8.56E-12	1.54E-18	1.63E-19	1.70E-18
ESE	54100	U-238	2.32E-10	4.18E-17	4.42E-18	4.62E-17
ESE	54100	Y-90	1.24E-05	2.24E-12	2.37E-13	2.47E-12
ESE	54100	Ru-106	4.97E-14	8.95E-21	9.45E-22	9.89E-21
ESE	54100	Cs-134	1.25E-12	2.25E-19	2.38E-20	2.49E-19
ESE	54100	Ba-137m	1.68E-19	3.03E-26	3.13E-26	6.16E-26
ESE	54100	Pu-242	2.92E-12	5.25E-19	5.55E-20	5.81E-19
ESE	54100	Ra-226	2.66E-11	4.79E-18	5.07E-19	5.30E-18
ESE	54100	U-232	1.63E-11	2.93E-18	3.10E-19	3.24E-18
ESE	54100	Pa-231	3.65E-17	6.56E-24	6.94E-25	7.26E-24
ESE	54100	Ni-59	1.31E-09	2.36E-16	2.50E-17	2.61E-16
ESE	54100	Ac-227	2.63E-10	4.74E-17	5.01E-18	5.24E-17
ESE	54100	Am-243	3.92E-10	7.05E-17	7.45E-18	7.80E-17
ESE	54100	Ra-228	1.63E-09	2.93E-16	3.10E-17	3.24E-16
ESE	54100	Cm-242	2.39E-08	4.30E-15	4.54E-16	4.75E-15
ESE	54100	Th-229	1.83E-17	3.29E-24	3.47E-25	3.63E-24
ESE	54100	Zr-93	1.72E-13	3.09E-20	3.27E-21	3.42E-20
ESE	54100	Nb-93m	2.93E-13	5.27E-20	5.57E-21	5.83E-20
ESE	54100	Cd-113m	1.55E-07	2.80E-14	2.96E-15	3.09E-14
ESE	54100	Se-79	1.86E-06	3.36E-13	3.55E-14	3.71E-13
ESE	60100	Am-241	4.57E-07	8.23E-14	1.02E-14	9.25E-14
ESE	60100	C-14	3.81E-04	0.00E+00	0.00E+00	0.00E+00
ESE	60100	Co-60	4.36E-15	7.85E-22	9.75E-23	8.83E-22
ESE	60100	Cm-243	1.15E-09	2.06E-16	2.56E-17	2.32E-16
ESE	60100	Cm-244	1.97E-08	3.55E-15	4.41E-16	4.00E-15
ESE	60100	Cs-137	5.81E-06	1.05E-12	1.30E-13	1.18E-12
ESE	60100	Eu-152	9.32E-15	1.68E-21	2.08E-22	1.89E-21
ESE	60100	Eu-154	5.38E-14	9.69E-21	1.20E-21	1.09E-20
ESE	60100	Eu-155	1.99E-14	3.58E-21	4.44E-22	4.02E-21
ESE	60100	H-3	1.66E-03	0.00E+00	0.00E+00	0.00E+00
ESE	60100	I-129	7.81E-12	2.73E-17	1.08E-18	2.84E-17
ESE	60100	Ni-63	6.67E-08	1.20E-14	1.49E-15	1.35E-14
ESE	60100	Np-237	1.70E-09	3.05E-16	3.79E-17	3.43E-16
ESE	60100	Pu-238	2.45E-09	4.42E-16	5.48E-17	4.96E-16
ESE	60100	Pu-239	5.43E-08	9.77E-15	1.21E-15	1.10E-14
ESE	60100	Pu-240	1.27E-08	2.28E-15	2.84E-16	2.57E-15
ESE	60100	Pu-241	3.42E-08	6.16E-15	7.65E-16	6.93E-15
ESE	60100	Sb-125	1.49E-07	2.68E-14	3.33E-15	3.02E-14
ESE	60100	Sm-151	5.47E-11	9.85E-18	1.22E-18	1.11E-17
ESE	60100	Sn-126	6.45E-08	1.16E-14	1.44E-15	1.31E-14
ESE	60100	Sr-90	8.85E-06	1.59E-12	1.98E-13	1.79E-12
ESE	60100	Tc-99	2.16E-04	3.88E-11	4.82E-12	4.37E-11
ESE	60100	Th-232	2.72E-17	4.89E-24	6.08E-25	5.50E-24
ESE	60100	U-233	5.94E-10	1.07E-16	1.33E-17	1.20E-16

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ESE	60100	U-234	1.74E-10	3.14E-17	3.90E-18	3.53E-17
ESE	60100	U-235	7.05E-12	1.27E-18	1.58E-19	1.43E-18
ESE	60100	U-236	5.77E-12	1.04E-18	1.29E-19	1.17E-18
ESE	60100	U-238	1.56E-10	2.82E-17	3.50E-18	3.17E-17
ESE	60100	Y-90	8.33E-06	1.50E-12	1.87E-13	1.69E-12
ESE	60100	Ru-106	3.35E-14	6.03E-21	7.49E-22	6.78E-21
ESE	60100	Cs-134	8.42E-13	1.52E-19	1.88E-20	1.70E-19
ESE	60100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ESE	60100	Pu-242	1.97E-12	3.54E-19	4.39E-20	3.98E-19
ESE	60100	Ra-226	1.79E-11	3.23E-18	4.01E-19	3.63E-18
ESE	60100	U-232	1.10E-11	1.98E-18	2.46E-19	2.22E-18
ESE	60100	Pa-231	2.46E-17	4.42E-24	5.49E-25	4.97E-24
ESE	60100	Ni-59	8.85E-10	1.59E-16	1.98E-17	1.79E-16
ESE	60100	Ac-227	1.77E-10	3.19E-17	3.96E-18	3.59E-17
ESE	60100	Am-243	2.64E-10	4.75E-17	5.90E-18	5.34E-17
ESE	60100	Ra-228	1.10E-09	1.98E-16	2.45E-17	2.22E-16
ESE	60100	Cm-242	1.61E-08	2.90E-15	3.60E-16	3.26E-15
ESE	60100	Th-229	1.23E-17	2.22E-24	2.75E-25	2.49E-24
ESE	60100	Zr-93	1.16E-13	2.08E-20	2.59E-21	2.34E-20
ESE	60100	Nb-93m	1.97E-13	3.55E-20	4.41E-21	4.00E-20
ESE	60100	Cd-113m	1.05E-07	1.88E-14	2.34E-15	2.12E-14
ESE	60100	Se-79	1.26E-06	2.26E-13	2.81E-14	2.54E-13
ESE	66100	Am-241	4.04E-07	7.27E-14	9.17E-15	8.19E-14
ESE	66100	C-14	3.42E-04	0.00E+00	0.00E+00	0.00E+00
ESE	66100	Co-60	3.85E-15	6.94E-22	8.75E-23	7.81E-22
ESE	66100	Cm-243	1.01E-09	1.82E-16	2.30E-17	2.05E-16
ESE	66100	Cm-244	1.74E-08	3.14E-15	3.96E-16	3.53E-15
ESE	66100	Cs-137	5.13E-06	9.24E-13	1.17E-13	1.04E-12
ESE	66100	Eu-152	8.23E-15	1.48E-21	1.87E-22	1.67E-21
ESE	66100	Eu-154	4.76E-14	8.56E-21	1.08E-21	9.64E-21
ESE	66100	Eu-155	1.75E-14	3.16E-21	3.98E-22	3.56E-21
ESE	66100	H-3	1.49E-03	0.00E+00	0.00E+00	0.00E+00
ESE	66100	I-129	6.36E-12	2.22E-17	9.07E-19	2.32E-17
ESE	66100	Ni-63	5.89E-08	1.06E-14	1.34E-15	1.19E-14
ESE	66100	Np-237	1.50E-09	2.70E-16	3.40E-17	3.04E-16
ESE	66100	Pu-238	2.17E-09	3.90E-16	4.92E-17	4.39E-16
ESE	66100	Pu-239	4.79E-08	8.63E-15	1.09E-15	9.72E-15
ESE	66100	Pu-240	1.12E-08	2.02E-15	2.55E-16	2.27E-15
ESE	66100	Pu-241	3.02E-08	5.44E-15	6.86E-16	6.13E-15
ESE	66100	Sb-125	1.32E-07	2.37E-14	2.99E-15	2.67E-14
ESE	66100	Sm-151	4.83E-11	8.70E-18	1.10E-18	9.79E-18
ESE	66100	Sn-126	5.70E-08	1.03E-14	1.29E-15	1.16E-14
ESE	66100	Sr-90	7.81E-06	1.41E-12	1.77E-13	1.58E-12
ESE	66100	Tc-99	1.91E-04	3.43E-11	4.33E-12	3.86E-11
ESE	66100	Th-232	2.40E-17	4.32E-24	5.45E-25	4.87E-24
ESE	66100	U-233	5.25E-10	9.44E-17	1.19E-17	1.06E-16
ESE	66100	U-234	1.54E-10	2.77E-17	3.50E-18	3.12E-17

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ESE	66100	U-235	6.23E-12	1.12E-18	1.41E-19	1.26E-18
ESE	66100	U-236	5.10E-12	9.17E-19	1.16E-19	1.03E-18
ESE	66100	U-238	1.38E-10	2.49E-17	3.14E-18	2.80E-17
ESE	66100	Y-90	7.31E-06	1.32E-12	1.66E-13	1.48E-12
ESE	66100	Ru-106	2.96E-14	5.32E-21	6.72E-22	6.00E-21
ESE	66100	Cs-134	7.43E-13	1.34E-19	1.69E-20	1.51E-19
ESE	66100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ESE	66100	Pu-242	1.74E-12	3.13E-19	3.94E-20	3.52E-19
ESE	66100	Ra-226	1.59E-11	2.85E-18	3.60E-19	3.21E-18
ESE	66100	U-232	9.70E-12	1.75E-18	2.20E-19	1.97E-18
ESE	66100	Pa-231	2.17E-17	3.91E-24	4.93E-25	4.40E-24
ESE	66100	Ni-59	7.81E-10	1.41E-16	1.77E-17	1.58E-16
ESE	66100	Ac-227	1.57E-10	2.82E-17	3.56E-18	3.17E-17
ESE	66100	Am-243	2.33E-10	4.20E-17	5.30E-18	4.73E-17
ESE	66100	Ra-228	9.70E-10	1.75E-16	2.20E-17	1.97E-16
ESE	66100	Cm-242	1.42E-08	2.56E-15	3.23E-16	2.88E-15
ESE	66100	Th-229	1.09E-17	1.96E-24	2.47E-25	2.20E-24
ESE	66100	Zr-93	1.02E-13	1.84E-20	2.32E-21	2.07E-20
ESE	66100	Nb-93m	1.74E-13	3.14E-20	3.96E-21	3.53E-20
ESE	66100	Cd-113m	9.25E-08	1.66E-14	2.10E-15	1.87E-14
ESE	66100	Se-79	1.11E-06	2.00E-13	2.52E-14	2.25E-13
E	12100	Am-241	3.36E-06	6.05E-13	4.57E-14	6.50E-13
E	12100	C-14	1.59E-03	0.00E+00	0.00E+00	0.00E+00
E	12100	Co-60	3.21E-14	5.77E-21	4.36E-22	6.21E-21
E	12100	Cm-243	8.41E-09	1.51E-15	1.14E-16	1.63E-15
E	12100	Cm-244	1.45E-07	2.61E-14	1.97E-15	2.81E-14
E	12100	Cs-137	4.27E-05	7.69E-12	5.81E-13	8.27E-12
E	12100	Eu-152	6.84E-14	1.23E-20	9.31E-22	1.33E-20
E	12100	Eu-154	3.96E-13	7.12E-20	5.38E-21	7.66E-20
E	12100	Eu-155	1.46E-13	2.63E-20	1.99E-21	2.83E-20
E	12100	H-3	6.91E-03	0.00E+00	0.00E+00	0.00E+00
E	12100	I-129	2.89E-10	1.01E-15	1.21E-17	1.02E-15
E	12100	Ni-63	4.90E-07	8.82E-14	6.66E-15	9.48E-14
E	12100	Np-237	1.25E-08	2.24E-15	1.70E-16	2.41E-15
E	12100	Pu-238	1.80E-08	3.24E-15	2.45E-16	3.49E-15
E	12100	Pu-239	3.99E-07	7.18E-14	5.42E-15	7.72E-14
E	12100	Pu-240	9.33E-08	1.68E-14	1.27E-15	1.81E-14
E	12100	Pu-241	2.52E-07	4.53E-14	3.42E-15	4.87E-14
E	12100	Sb-125	1.10E-06	1.97E-13	1.49E-14	2.12E-13
E	12100	Sm-151	4.02E-10	7.23E-17	5.47E-18	7.78E-17
E	12100	Sn-126	4.74E-07	8.53E-14	6.45E-15	9.18E-14
E	12100	Sr-90	6.50E-05	1.17E-11	8.84E-13	1.26E-11
E	12100	Tc-99	1.59E-03	2.85E-10	2.16E-11	3.07E-10
E	12100	Th-232	2.00E-16	3.59E-23	2.72E-24	3.87E-23
E	12100	U-233	4.36E-09	7.86E-16	5.94E-17	8.45E-16
E	12100	U-234	1.28E-09	2.31E-16	1.74E-17	2.48E-16
E	12100	U-235	5.18E-11	9.33E-18	7.05E-19	1.00E-17

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
E	12100	U-236	4.24E-11	7.63E-18	5.76E-19	8.21E-18
E	12100	U-238	1.15E-09	2.07E-16	1.56E-17	2.22E-16
E	12100	Y-90	6.40E-05	1.15E-11	8.72E-13	1.24E-11
E	12100	Ru-106	2.46E-13	4.43E-20	3.35E-21	4.77E-20
E	12100	Cs-134	6.19E-12	1.11E-18	8.41E-20	1.20E-18
E	12100	Ba-137m	7.33E-14	1.32E-20	6.58E-21	1.98E-20
E	12100	Pu-242	1.44E-11	2.60E-18	1.96E-19	2.80E-18
E	12100	Ra-226	1.32E-10	2.37E-17	1.79E-18	2.55E-17
E	12100	U-232	8.07E-11	1.45E-17	1.10E-18	1.56E-17
E	12100	Pa-231	1.81E-16	3.25E-23	2.46E-24	3.50E-23
E	12100	Ni-59	6.50E-09	1.17E-15	8.84E-17	1.26E-15
E	12100	Ac-227	1.30E-09	2.35E-16	1.77E-17	2.52E-16
E	12100	Am-243	1.94E-09	3.49E-16	2.64E-17	3.76E-16
E	12100	Ra-228	8.07E-09	1.45E-15	1.10E-16	1.56E-15
E	12100	Cm-242	1.18E-07	2.13E-14	1.61E-15	2.29E-14
E	12100	Th-229	9.04E-17	1.63E-23	1.23E-24	1.75E-23
E	12100	Zr-93	8.51E-13	1.53E-19	1.16E-20	1.65E-19
E	12100	Nb-93m	1.45E-12	2.61E-19	1.97E-20	2.81E-19
E	12100	Cd-113m	7.69E-07	1.38E-13	1.05E-14	1.49E-13
E	12100	Se-79	9.23E-06	1.66E-12	1.26E-13	1.79E-12
E	16100	Am-241	2.37E-06	4.26E-13	3.36E-14	4.60E-13
E	16100	C-14	1.15E-03	0.00E+00	0.00E+00	0.00E+00
E	16100	Co-60	2.26E-14	4.06E-21	3.21E-22	4.38E-21
E	16100	Cm-243	5.93E-09	1.07E-15	8.42E-17	1.15E-15
E	16100	Cm-244	1.02E-07	1.84E-14	1.45E-15	1.98E-14
E	16100	Cs-137	3.01E-05	5.41E-12	4.27E-13	5.84E-12
E	16100	Eu-152	4.82E-14	8.68E-21	6.85E-22	9.36E-21
E	16100	Eu-154	2.79E-13	5.02E-20	3.96E-21	5.41E-20
E	16100	Eu-155	1.03E-13	1.85E-20	1.46E-21	2.00E-20
E	16100	H-3	5.01E-03	0.00E+00	0.00E+00	0.00E+00
E	16100	I-129	1.56E-10	5.47E-16	7.84E-18	5.55E-16
E	16100	Ni-63	3.45E-07	6.21E-14	4.90E-15	6.70E-14
E	16100	Np-237	8.78E-09	1.58E-15	1.25E-16	1.70E-15
E	16100	Pu-238	1.27E-08	2.28E-15	1.80E-16	2.47E-15
E	16100	Pu-239	2.81E-07	5.05E-14	3.99E-15	5.45E-14
E	16100	Pu-240	6.57E-08	1.18E-14	9.33E-16	1.28E-14
E	16100	Pu-241	1.77E-07	3.19E-14	2.52E-15	3.44E-14
E	16100	Sb-125	7.72E-07	1.39E-13	1.10E-14	1.50E-13
E	16100	Sm-151	2.83E-10	5.09E-17	4.02E-18	5.50E-17
E	16100	Sn-126	3.34E-07	6.01E-14	4.74E-15	6.48E-14
E	16100	Sr-90	4.58E-05	8.24E-12	6.50E-13	8.89E-12
E	16100	Tc-99	1.12E-03	2.01E-10	1.59E-11	2.17E-10
E	16100	Th-232	1.41E-16	2.53E-23	2.00E-24	2.73E-23
E	16100	U-233	3.07E-09	5.53E-16	4.37E-17	5.97E-16
E	16100	U-234	9.02E-10	1.62E-16	1.28E-17	1.75E-16
E	16100	U-235	3.65E-11	6.57E-18	5.18E-19	7.09E-18
E	16100	U-236	2.99E-11	5.37E-18	4.24E-19	5.80E-18

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
E	16100	U-238	8.09E-10	1.46E-16	1.15E-17	1.57E-16
E	16100	Y-90	4.49E-05	8.08E-12	6.38E-13	8.71E-12
E	16100	Ru-106	1.73E-13	3.12E-20	2.46E-21	3.37E-20
E	16100	Cs-134	4.36E-12	7.84E-19	6.19E-20	8.46E-19
E	16100	Ba-137m	2.86E-16	5.15E-23	3.35E-23	8.50E-23
E	16100	Pu-242	1.02E-11	1.83E-18	1.45E-19	1.98E-18
E	16100	Ra-226	9.29E-11	1.67E-17	1.32E-18	1.80E-17
E	16100	U-232	5.68E-11	1.02E-17	8.08E-19	1.10E-17
E	16100	Pa-231	1.27E-16	2.29E-23	1.81E-24	2.47E-23
E	16100	Ni-59	4.58E-09	8.24E-16	6.50E-17	8.89E-16
E	16100	Ac-227	9.18E-10	1.65E-16	1.30E-17	1.78E-16
E	16100	Am-243	1.37E-09	2.46E-16	1.94E-17	2.65E-16
E	16100	Ra-228	5.68E-09	1.02E-15	8.08E-17	1.10E-15
E	16100	Cm-242	8.33E-08	1.50E-14	1.18E-15	1.62E-14
E	16100	Th-229	6.37E-17	1.15E-23	9.05E-25	1.24E-23
E	16100	Zr-93	5.99E-13	1.08E-19	8.52E-21	1.16E-19
E	16100	Nb-93m	1.02E-12	1.84E-19	1.45E-20	1.98E-19
E	16100	Cd-113m	5.42E-07	9.75E-14	7.70E-15	1.05E-13
E	16100	Se-79	6.50E-06	1.17E-12	9.24E-14	1.26E-12
E	24100	Am-241	1.33E-06	2.39E-13	2.07E-14	2.59E-13
E	24100	C-14	7.31E-04	0.00E+00	0.00E+00	0.00E+00
E	24100	Co-60	1.27E-14	2.28E-21	1.98E-22	2.47E-21
E	24100	Cm-243	3.32E-09	5.98E-16	5.19E-17	6.50E-16
E	24100	Cm-244	5.72E-08	1.03E-14	8.94E-16	1.12E-14
E	24100	Cs-137	1.69E-05	3.03E-12	2.63E-13	3.30E-12
E	24100	Eu-152	2.70E-14	4.86E-21	4.22E-22	5.28E-21
E	24100	Eu-154	1.56E-13	2.81E-20	2.44E-21	3.05E-20
E	24100	Eu-155	5.76E-14	1.04E-20	9.00E-22	1.13E-20
E	24100	H-3	3.18E-03	0.00E+00	0.00E+00	0.00E+00
E	24100	I-129	4.49E-11	1.57E-16	3.75E-18	1.61E-16
E	24100	Ni-63	1.93E-07	3.48E-14	3.02E-15	3.78E-14
E	24100	Np-237	4.92E-09	8.86E-16	7.68E-17	9.62E-16
E	24100	Pu-238	7.11E-09	1.28E-15	1.11E-16	1.39E-15
E	24100	Pu-239	1.57E-07	2.83E-14	2.46E-15	3.08E-14
E	24100	Pu-240	3.68E-08	6.62E-15	5.75E-16	7.20E-15
E	24100	Pu-241	9.93E-08	1.79E-14	1.55E-15	1.94E-14
E	24100	Sb-125	4.32E-07	7.78E-14	6.75E-15	8.46E-14
E	24100	Sm-151	1.59E-10	2.86E-17	2.48E-18	3.10E-17
E	24100	Sn-126	1.87E-07	3.37E-14	2.92E-15	3.66E-14
E	24100	Sr-90	2.57E-05	4.62E-12	4.01E-13	5.02E-12
E	24100	Tc-99	6.26E-04	1.13E-10	9.77E-12	1.22E-10
E	24100	Th-232	7.88E-17	1.42E-23	1.23E-24	1.54E-23
E	24100	U-233	1.72E-09	3.10E-16	2.69E-17	3.37E-16
E	24100	U-234	5.06E-10	9.10E-17	7.90E-18	9.89E-17
E	24100	U-235	2.04E-11	3.68E-18	3.19E-19	4.00E-18
E	24100	U-236	1.67E-11	3.01E-18	2.61E-19	3.27E-18
E	24100	U-238	4.54E-10	8.16E-17	7.08E-18	8.87E-17

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
E	24100	Y-90	2.49E-05	4.48E-12	3.90E-13	4.87E-12
E	24100	Ru-106	9.71E-14	1.75E-20	1.52E-21	1.90E-20
E	24100	Cs-134	2.44E-12	4.39E-19	3.81E-20	4.77E-19
E	24100	Ba-137m	3.12E-17	5.62E-24	4.28E-25	6.05E-24
E	24100	Pu-242	5.70E-12	1.03E-18	8.90E-20	1.12E-18
E	24100	Ra-226	5.20E-11	9.37E-18	8.13E-19	1.02E-17
E	24100	U-232	3.18E-11	5.73E-18	4.97E-19	6.23E-18
E	24100	Pa-231	7.13E-17	1.28E-23	1.11E-24	1.39E-23
E	24100	Ni-59	2.57E-09	4.62E-16	4.01E-17	5.02E-16
E	24100	Ac-227	5.14E-10	9.26E-17	8.03E-18	1.01E-16
E	24100	Am-243	7.66E-10	1.38E-16	1.20E-17	1.50E-16
E	24100	Ra-228	3.18E-09	5.73E-16	4.97E-17	6.23E-16
E	24100	Cm-242	4.67E-08	8.40E-15	7.29E-16	9.13E-15
E	24100	Th-229	3.57E-17	6.42E-24	5.57E-25	6.98E-24
E	24100	Zr-93	3.36E-13	6.04E-20	5.24E-21	6.57E-20
E	24100	Nb-93m	5.72E-13	1.03E-19	8.94E-21	1.12E-19
E	24100	Cd-113m	3.04E-07	5.46E-14	4.74E-15	5.94E-14
E	24100	Se-79	3.64E-06	6.56E-13	5.69E-14	7.13E-13
E	30100	Am-241	9.22E-07	1.66E-13	1.58E-14	1.82E-13
E	30100	C-14	5.70E-04	0.00E+00	0.00E+00	0.00E+00
E	30100	Co-60	8.80E-15	1.58E-21	1.50E-22	1.73E-21
E	30100	Cm-243	2.31E-09	4.16E-16	3.95E-17	4.55E-16
E	30100	Cm-244	3.98E-08	7.17E-15	6.80E-16	7.85E-15
E	30100	Cs-137	1.17E-05	2.11E-12	2.00E-13	2.31E-12
E	30100	Eu-152	1.88E-14	3.38E-21	3.21E-22	3.70E-21
E	30100	Eu-154	1.09E-13	1.95E-20	1.85E-21	2.14E-20
E	30100	Eu-155	4.01E-14	7.21E-21	6.85E-22	7.90E-21
E	30100	H-3	2.48E-03	0.00E+00	0.00E+00	0.00E+00
E	30100	I-129	2.73E-11	9.55E-17	2.66E-18	9.81E-17
E	30100	Ni-63	1.34E-07	2.42E-14	2.30E-15	2.65E-14
E	30100	Np-237	3.42E-09	6.16E-16	5.84E-17	6.74E-16
E	30100	Pu-238	4.95E-09	8.90E-16	8.45E-17	9.75E-16
E	30100	Pu-239	1.09E-07	1.97E-14	1.87E-15	2.16E-14
E	30100	Pu-240	2.56E-08	4.61E-15	4.37E-16	5.04E-15
E	30100	Pu-241	6.90E-08	1.24E-14	1.18E-15	1.36E-14
E	30100	Sb-125	3.01E-07	5.41E-14	5.14E-15	5.93E-14
E	30100	Sm-151	1.10E-10	1.99E-17	1.88E-18	2.17E-17
E	30100	Sn-126	1.30E-07	2.34E-14	2.22E-15	2.56E-14
E	30100	Sr-90	1.78E-05	3.21E-12	3.05E-13	3.52E-12
E	30100	Tc-99	4.35E-04	7.83E-11	7.43E-12	8.58E-11
E	30100	Th-232	5.48E-17	9.86E-24	9.36E-25	1.08E-23
E	30100	U-233	1.20E-09	2.16E-16	2.05E-17	2.36E-16
E	30100	U-234	3.52E-10	6.33E-17	6.01E-18	6.93E-17
E	30100	U-235	1.42E-11	2.56E-18	2.43E-19	2.80E-18
E	30100	U-236	1.16E-11	2.09E-18	1.99E-19	2.29E-18
E	30100	U-238	3.15E-10	5.68E-17	5.39E-18	6.22E-17
E	30100	Y-90	1.72E-05	3.09E-12	2.94E-13	3.39E-12

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
E	30100	Ru-106	6.75E-14	1.22E-20	1.15E-21	1.33E-20
E	30100	Cs-134	1.70E-12	3.05E-19	2.90E-20	3.34E-19
E	30100	Ba-137m	1.10E-16	1.98E-23	2.06E-24	2.19E-23
E	30100	Pu-242	3.96E-12	7.13E-19	6.77E-20	7.81E-19
E	30100	Ra-226	3.62E-11	6.51E-18	6.18E-19	7.13E-18
E	30100	U-232	2.21E-11	3.99E-18	3.78E-19	4.36E-18
E	30100	Pa-231	4.95E-17	8.92E-24	8.47E-25	9.76E-24
E	30100	Ni-59	1.78E-09	3.21E-16	3.05E-17	3.52E-16
E	30100	Ac-227	3.58E-10	6.44E-17	6.11E-18	7.05E-17
E	30100	Am-243	5.32E-10	9.58E-17	9.10E-18	1.05E-16
E	30100	Ra-228	2.21E-09	3.99E-16	3.78E-17	4.36E-16
E	30100	Cm-242	3.25E-08	5.84E-15	5.55E-16	6.40E-15
E	30100	Th-229	2.48E-17	4.47E-24	4.24E-25	4.89E-24
E	30100	Zr-93	2.33E-13	4.20E-20	3.99E-21	4.60E-20
E	30100	Nb-93m	3.98E-13	7.17E-20	6.80E-21	7.85E-20
E	30100	Cd-113m	2.11E-07	3.80E-14	3.61E-15	4.16E-14
E	30100	Se-79	2.53E-06	4.56E-13	4.33E-14	4.99E-13
E	36100	Am-241	7.35E-07	1.32E-13	1.29E-14	1.45E-13
E	36100	C-14	4.65E-04	0.00E+00	0.00E+00	0.00E+00
E	36100	Co-60	7.02E-15	1.26E-21	1.23E-22	1.39E-21
E	36100	Cm-243	1.84E-09	3.32E-16	3.23E-17	3.64E-16
E	36100	Cm-244	3.18E-08	5.72E-15	5.57E-16	6.27E-15
E	36100	Cs-137	9.35E-06	1.68E-12	1.64E-13	1.85E-12
E	36100	Eu-152	1.50E-14	2.70E-21	2.63E-22	2.96E-21
E	36100	Eu-154	8.66E-14	1.56E-20	1.52E-21	1.71E-20
E	36100	Eu-155	3.20E-14	5.75E-21	5.61E-22	6.31E-21
E	36100	H-3	2.02E-03	0.00E+00	0.00E+00	0.00E+00
E	36100	I-129	1.88E-11	6.60E-17	2.01E-18	6.80E-17
E	36100	Ni-63	1.07E-07	1.93E-14	1.88E-15	2.12E-14
E	36100	Np-237	2.73E-09	4.91E-16	4.79E-17	5.39E-16
E	36100	Pu-238	3.95E-09	7.10E-16	6.92E-17	7.79E-16
E	36100	Pu-239	8.73E-08	1.57E-14	1.53E-15	1.72E-14
E	36100	Pu-240	2.04E-08	3.67E-15	3.58E-16	4.03E-15
E	36100	Pu-241	5.51E-08	9.91E-15	9.66E-16	1.09E-14
E	36100	Sb-125	2.40E-07	4.32E-14	4.21E-15	4.74E-14
E	36100	Sm-151	8.80E-11	1.58E-17	1.54E-18	1.74E-17
E	36100	Sn-126	1.04E-07	1.87E-14	1.82E-15	2.05E-14
E	36100	Sr-90	1.42E-05	2.56E-12	2.50E-13	2.81E-12
E	36100	Tc-99	3.47E-04	6.25E-11	6.09E-12	6.86E-11
E	36100	Th-232	4.37E-17	7.87E-24	7.67E-25	8.64E-24
E	36100	U-233	9.55E-10	1.72E-16	1.68E-17	1.89E-16
E	36100	U-234	2.80E-10	5.05E-17	4.92E-18	5.54E-17
E	36100	U-235	1.13E-11	2.04E-18	1.99E-19	2.24E-18
E	36100	U-236	9.28E-12	1.67E-18	1.63E-19	1.83E-18
E	36100	U-238	2.52E-10	4.53E-17	4.42E-18	4.97E-17
E	36100	Y-90	1.36E-05	2.45E-12	2.40E-13	2.69E-12
E	36100	Ru-106	5.39E-14	9.70E-21	9.45E-22	1.06E-20

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
E	36100	Cs-134	1.35E-12	2.44E-19	2.38E-20	2.67E-19
E	36100	Ba-137m	3.75E-17	6.74E-24	1.02E-24	7.76E-24
E	36100	Pu-242	3.16E-12	5.69E-19	5.55E-20	6.25E-19
E	36100	Ra-226	2.89E-11	5.20E-18	5.07E-19	5.70E-18
E	36100	U-232	1.77E-11	3.18E-18	3.10E-19	3.49E-18
E	36100	Pa-231	3.95E-17	7.11E-24	6.94E-25	7.81E-24
E	36100	Ni-59	1.42E-09	2.56E-16	2.50E-17	2.81E-16
E	36100	Ac-227	2.85E-10	5.13E-17	5.01E-18	5.64E-17
E	36100	Am-243	4.25E-10	7.65E-17	7.46E-18	8.39E-17
E	36100	Ra-228	1.77E-09	3.18E-16	3.10E-17	3.49E-16
E	36100	Cm-242	2.59E-08	4.66E-15	4.54E-16	5.12E-15
E	36100	Th-229	1.98E-17	3.56E-24	3.47E-25	3.91E-24
E	36100	Zr-93	1.86E-13	3.35E-20	3.27E-21	3.68E-20
E	36100	Nb-93m	3.18E-13	5.72E-20	5.57E-21	6.27E-20
E	36100	Cd-113m	1.68E-07	3.03E-14	2.96E-15	3.33E-14
E	36100	Se-79	2.02E-06	3.64E-13	3.55E-14	3.99E-13
E	42100	Am-241	6.03E-07	1.09E-13	1.08E-14	1.19E-13
E	42100	C-14	3.91E-04	0.00E+00	0.00E+00	0.00E+00
E	42100	Co-60	5.75E-15	1.04E-21	1.03E-22	1.14E-21
E	42100	Cm-243	1.51E-09	2.72E-16	2.72E-17	2.99E-16
E	42100	Cm-244	2.60E-08	4.69E-15	4.68E-16	5.15E-15
E	42100	Cs-137	7.66E-06	1.38E-12	1.38E-13	1.52E-12
E	42100	Eu-152	1.23E-14	2.21E-21	2.21E-22	2.43E-21
E	42100	Eu-154	7.10E-14	1.28E-20	1.28E-21	1.41E-20
E	42100	Eu-155	2.62E-14	4.72E-21	4.71E-22	5.19E-21
E	42100	H-3	1.70E-03	0.00E+00	0.00E+00	0.00E+00
E	42100	I-129	1.33E-11	4.64E-17	1.56E-18	4.80E-17
E	42100	Ni-63	8.79E-08	1.58E-14	1.58E-15	1.74E-14
E	42100	Np-237	2.24E-09	4.03E-16	4.02E-17	4.43E-16
E	42100	Pu-238	3.23E-09	5.82E-16	5.82E-17	6.40E-16
E	42100	Pu-239	7.16E-08	1.29E-14	1.29E-15	1.42E-14
E	42100	Pu-240	1.67E-08	3.01E-15	3.01E-16	3.31E-15
E	42100	Pu-241	4.51E-08	8.13E-15	8.12E-16	8.94E-15
E	42100	Sb-125	1.97E-07	3.54E-14	3.54E-15	3.89E-14
E	42100	Sm-151	7.21E-11	1.30E-17	1.30E-18	1.43E-17
E	42100	Sn-126	8.51E-08	1.53E-14	1.53E-15	1.68E-14
E	42100	Sr-90	1.17E-05	2.10E-12	2.10E-13	2.31E-12
E	42100	Tc-99	2.85E-04	5.12E-11	5.12E-12	5.63E-11
E	42100	Th-232	3.58E-17	6.45E-24	6.44E-25	7.10E-24
E	42100	U-233	7.83E-10	1.41E-16	1.41E-17	1.55E-16
E	42100	U-234	2.30E-10	4.14E-17	4.13E-18	4.55E-17
E	42100	U-235	9.30E-12	1.67E-18	1.67E-19	1.84E-18
E	42100	U-236	7.61E-12	1.37E-18	1.37E-19	1.51E-18
E	42100	U-238	2.06E-10	3.71E-17	3.71E-18	4.08E-17
E	42100	Y-90	1.11E-05	1.99E-12	2.00E-13	2.19E-12
E	42100	Ru-106	4.42E-14	7.95E-21	7.94E-22	8.74E-21
E	42100	Cs-134	1.11E-12	2.00E-19	2.00E-20	2.20E-19

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
E	42100	Ba-137m	9.47E-19	1.70E-25	1.76E-25	3.47E-25
E	42100	Pu-242	2.59E-12	4.67E-19	4.66E-20	5.13E-19
E	42100	Ra-226	2.37E-11	4.26E-18	4.26E-19	4.69E-18
E	42100	U-232	1.45E-11	2.61E-18	2.60E-19	2.87E-18
E	42100	Pa-231	3.24E-17	5.83E-24	5.83E-25	6.42E-24
E	42100	Ni-59	1.17E-09	2.10E-16	2.10E-17	2.31E-16
E	42100	Ac-227	2.34E-10	4.21E-17	4.21E-18	4.63E-17
E	42100	Am-243	3.48E-10	6.27E-17	6.26E-18	6.90E-17
E	42100	Ra-228	1.45E-09	2.61E-16	2.60E-17	2.87E-16
E	42100	Cm-242	2.12E-08	3.82E-15	3.82E-16	4.20E-15
E	42100	Th-229	1.62E-17	2.92E-24	2.92E-25	3.21E-24
E	42100	Zr-93	1.53E-13	2.75E-20	2.75E-21	3.02E-20
E	42100	Nb-93m	2.60E-13	4.69E-20	4.68E-21	5.15E-20
E	42100	Cd-113m	1.38E-07	2.49E-14	2.48E-15	2.73E-14
E	42100	Se-79	1.66E-06	2.98E-13	2.98E-14	3.28E-13
E	48100	Am-241	5.02E-07	9.04E-14	9.25E-15	9.96E-14
E	48100	C-14	3.37E-04	0.00E+00	0.00E+00	0.00E+00
E	48100	Co-60	4.79E-15	8.62E-22	8.82E-23	9.50E-22
E	48100	Cm-243	1.26E-09	2.26E-16	2.32E-17	2.50E-16
E	48100	Cm-244	2.17E-08	3.90E-15	3.99E-16	4.30E-15
E	48100	Cs-137	6.38E-06	1.15E-12	1.18E-13	1.27E-12
E	48100	Eu-152	1.02E-14	1.84E-21	1.88E-22	2.03E-21
E	48100	Eu-154	5.91E-14	1.06E-20	1.09E-21	1.17E-20
E	48100	Eu-155	2.18E-14	3.93E-21	4.02E-22	4.33E-21
E	48100	H-3	1.47E-03	0.00E+00	0.00E+00	0.00E+00
E	48100	I-129	9.39E-12	3.29E-17	1.23E-18	3.41E-17
E	48100	Ni-63	7.32E-08	1.32E-14	1.35E-15	1.45E-14
E	48100	Np-237	1.86E-09	3.35E-16	3.43E-17	3.70E-16
E	48100	Pu-238	2.69E-09	4.85E-16	4.96E-17	5.34E-16
E	48100	Pu-239	5.96E-08	1.07E-14	1.10E-15	1.18E-14
E	48100	Pu-240	1.39E-08	2.51E-15	2.57E-16	2.77E-15
E	48100	Pu-241	3.76E-08	6.76E-15	6.92E-16	7.46E-15
E	48100	Sb-125	1.64E-07	2.95E-14	3.02E-15	3.25E-14
E	48100	Sm-151	6.01E-11	1.08E-17	1.11E-18	1.19E-17
E	48100	Sn-126	7.09E-08	1.28E-14	1.30E-15	1.41E-14
E	48100	Sr-90	9.71E-06	1.75E-12	1.79E-13	1.93E-12
E	48100	Tc-99	2.37E-04	4.27E-11	4.36E-12	4.70E-11
E	48100	Th-232	2.98E-17	5.37E-24	5.50E-25	5.92E-24
E	48100	U-233	6.52E-10	1.17E-16	1.20E-17	1.29E-16
E	48100	U-234	1.91E-10	3.45E-17	3.53E-18	3.80E-17
E	48100	U-235	7.74E-12	1.39E-18	1.43E-19	1.54E-18
E	48100	U-236	6.33E-12	1.14E-18	1.17E-19	1.26E-18
E	48100	U-238	1.72E-10	3.09E-17	3.16E-18	3.41E-17
E	48100	Y-90	9.16E-06	1.65E-12	1.69E-13	1.82E-12
E	48100	Ru-106	3.68E-14	6.62E-21	6.77E-22	7.30E-21
E	48100	Cs-134	9.24E-13	1.66E-19	1.70E-20	1.83E-19
E	48100	Ba-137m	2.80E-19	5.05E-26	5.22E-26	1.03E-25

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
E	48100	Pu-242	2.16E-12	3.89E-19	3.98E-20	4.28E-19
E	48100	Ra-226	1.97E-11	3.55E-18	3.63E-19	3.91E-18
E	48100	U-232	1.21E-11	2.17E-18	2.22E-19	2.39E-18
E	48100	Pa-231	2.70E-17	4.86E-24	4.97E-25	5.35E-24
E	48100	Ni-59	9.71E-10	1.75E-16	1.79E-17	1.93E-16
E	48100	Ac-227	1.95E-10	3.50E-17	3.59E-18	3.86E-17
E	48100	Am-243	2.90E-10	5.22E-17	5.34E-18	5.75E-17
E	48100	Ra-228	1.21E-09	2.17E-16	2.22E-17	2.39E-16
E	48100	Cm-242	1.77E-08	3.18E-15	3.25E-16	3.51E-15
E	48100	Th-229	1.35E-17	2.43E-24	2.49E-25	2.68E-24
E	48100	Zr-93	1.27E-13	2.29E-20	2.34E-21	2.52E-20
E	48100	Nb-93m	2.17E-13	3.90E-20	3.99E-21	4.30E-20
E	48100	Cd-113m	1.15E-07	2.07E-14	2.12E-15	2.28E-14
E	48100	Se-79	1.38E-06	2.48E-13	2.54E-14	2.74E-13
E	54100	Am-241	4.18E-07	7.52E-14	7.91E-15	8.31E-14
E	54100	C-14	2.96E-04	0.00E+00	0.00E+00	0.00E+00
E	54100	Co-60	3.98E-15	7.17E-22	7.55E-23	7.93E-22
E	54100	Cm-243	1.05E-09	1.88E-16	1.98E-17	2.08E-16
E	54100	Cm-244	1.80E-08	3.25E-15	3.42E-16	3.59E-15
E	54100	Cs-137	5.31E-06	9.55E-13	1.01E-13	1.06E-12
E	54100	Eu-152	8.51E-15	1.53E-21	1.61E-22	1.69E-21
E	54100	Eu-154	4.92E-14	8.85E-21	9.32E-22	9.78E-21
E	54100	Eu-155	1.81E-14	3.27E-21	3.44E-22	3.61E-21
E	54100	H-3	1.29E-03	0.00E+00	0.00E+00	0.00E+00
E	54100	I-129	6.65E-12	2.33E-17	9.86E-19	2.43E-17
E	54100	Ni-63	6.09E-08	1.10E-14	1.15E-15	1.21E-14
E	54100	Np-237	1.55E-09	2.79E-16	2.94E-17	3.08E-16
E	54100	Pu-238	2.24E-09	4.03E-16	4.24E-17	4.46E-16
E	54100	Pu-239	4.96E-08	8.92E-15	9.39E-16	9.86E-15
E	54100	Pu-240	1.16E-08	2.09E-15	2.20E-16	2.31E-15
E	54100	Pu-241	3.13E-08	5.63E-15	5.92E-16	6.22E-15
E	54100	Sb-125	1.36E-07	2.45E-14	2.58E-15	2.71E-14
E	54100	Sm-151	5.00E-11	8.99E-18	9.46E-19	9.94E-18
E	54100	Sn-126	5.89E-08	1.06E-14	1.12E-15	1.17E-14
E	54100	Sr-90	8.08E-06	1.45E-12	1.53E-13	1.61E-12
E	54100	Tc-99	1.97E-04	3.55E-11	3.73E-12	3.92E-11
E	54100	Th-232	2.48E-17	4.47E-24	4.70E-25	4.94E-24
E	54100	U-233	5.43E-10	9.77E-17	1.03E-17	1.08E-16
E	54100	U-234	1.59E-10	2.87E-17	3.02E-18	3.17E-17
E	54100	U-235	6.44E-12	1.16E-18	1.22E-19	1.28E-18
E	54100	U-236	5.27E-12	9.48E-19	9.98E-20	1.05E-18
E	54100	U-238	1.43E-10	2.57E-17	2.71E-18	2.84E-17
E	54100	Y-90	7.56E-06	1.36E-12	1.44E-13	1.50E-12
E	54100	Ru-106	3.06E-14	5.51E-21	5.79E-22	6.08E-21
E	54100	Cs-134	7.69E-13	1.38E-19	1.46E-20	1.53E-19
E	54100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
E	54100	Pu-242	1.80E-12	3.23E-19	3.40E-20	3.57E-19

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
E	54100	Ra-226	1.64E-11	2.95E-18	3.11E-19	3.26E-18
E	54100	U-232	1.00E-11	1.81E-18	1.90E-19	2.00E-18
E	54100	Pa-231	2.24E-17	4.04E-24	4.25E-25	4.46E-24
E	54100	Ni-59	8.08E-10	1.45E-16	1.53E-17	1.61E-16
E	54100	Ac-227	1.62E-10	2.92E-17	3.07E-18	3.22E-17
E	54100	Am-243	2.41E-10	4.34E-17	4.57E-18	4.80E-17
E	54100	Ra-228	1.00E-09	1.81E-16	1.90E-17	2.00E-16
E	54100	Cm-242	1.47E-08	2.65E-15	2.78E-16	2.92E-15
E	54100	Th-229	1.12E-17	2.02E-24	2.13E-25	2.24E-24
E	54100	Zr-93	1.06E-13	1.90E-20	2.00E-21	2.10E-20
E	54100	Nb-93m	1.80E-13	3.25E-20	3.42E-21	3.59E-20
E	54100	Cd-113m	9.56E-08	1.72E-14	1.81E-15	1.90E-14
E	54100	Se-79	1.15E-06	2.07E-13	2.17E-14	2.28E-13
E	60100	Am-241	2.68E-07	4.83E-14	6.11E-15	5.44E-14
E	60100	C-14	2.63E-04	0.00E+00	0.00E+00	0.00E+00
E	60100	Co-60	2.56E-15	4.61E-22	5.83E-23	5.19E-22
E	60100	Cm-243	6.72E-10	1.21E-16	1.53E-17	1.36E-16
E	60100	Cm-244	1.16E-08	2.09E-15	2.64E-16	2.35E-15
E	60100	Cs-137	3.41E-06	6.14E-13	7.76E-14	6.92E-13
E	60100	Eu-152	5.47E-15	9.84E-22	1.24E-22	1.11E-21
E	60100	Eu-154	3.16E-14	5.69E-21	7.19E-22	6.41E-21
E	60100	Eu-155	1.17E-14	2.10E-21	2.65E-22	2.36E-21
E	60100	H-3	1.14E-03	0.00E+00	0.00E+00	0.00E+00
E	60100	I-129	4.75E-12	1.66E-17	7.98E-19	1.74E-17
E	60100	Ni-63	3.91E-08	7.04E-15	8.91E-16	7.93E-15
E	60100	Np-237	9.96E-10	1.79E-16	2.27E-17	2.02E-16
E	60100	Pu-238	1.44E-09	2.59E-16	3.28E-17	2.92E-16
E	60100	Pu-239	3.19E-08	5.73E-15	7.25E-16	6.46E-15
E	60100	Pu-240	7.45E-09	1.34E-15	1.70E-16	1.51E-15
E	60100	Pu-241	2.01E-08	3.62E-15	4.57E-16	4.07E-15
E	60100	Sb-125	8.75E-08	1.58E-14	1.99E-15	1.77E-14
E	60100	Sm-151	3.21E-11	5.78E-18	7.31E-19	6.51E-18
E	60100	Sn-126	3.79E-08	6.82E-15	8.62E-16	7.68E-15
E	60100	Sr-90	5.19E-06	9.34E-13	1.18E-13	1.05E-12
E	60100	Tc-99	1.27E-04	2.28E-11	2.88E-12	2.57E-11
E	60100	Th-232	1.60E-17	2.87E-24	3.63E-25	3.23E-24
E	60100	U-233	3.49E-10	6.28E-17	7.94E-18	7.07E-17
E	60100	U-234	1.02E-10	1.84E-17	2.33E-18	2.07E-17
E	60100	U-235	4.14E-12	7.45E-19	9.42E-20	8.39E-19
E	60100	U-236	3.39E-12	6.09E-19	7.71E-20	6.87E-19
E	60100	U-238	9.18E-11	1.65E-17	2.09E-18	1.86E-17
E	60100	Y-90	4.83E-06	8.69E-13	1.10E-13	9.80E-13
E	60100	Ru-106	1.97E-14	3.54E-21	4.47E-22	3.98E-21
E	60100	Cs-134	4.94E-13	8.89E-20	1.12E-20	1.00E-19
E	60100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
E	60100	Pu-242	1.15E-12	2.08E-19	2.63E-20	2.34E-19
E	60100	Ra-226	1.05E-11	1.90E-18	2.40E-19	2.14E-18

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
E	60100	U-232	6.45E-12	1.16E-18	1.47E-19	1.31E-18
E	60100	Pa-231	1.44E-17	2.60E-24	3.28E-25	2.92E-24
E	60100	Ni-59	5.19E-10	9.34E-17	1.18E-17	1.05E-16
E	60100	Ac-227	1.04E-10	1.87E-17	2.37E-18	2.11E-17
E	60100	Am-243	1.55E-10	2.79E-17	3.53E-18	3.14E-17
E	60100	Ra-228	6.45E-10	1.16E-16	1.47E-17	1.31E-16
E	60100	Cm-242	9.44E-09	1.70E-15	2.15E-16	1.91E-15
E	60100	Th-229	7.22E-18	1.30E-24	1.64E-25	1.46E-24
E	60100	Zr-93	6.80E-14	1.22E-20	1.55E-21	1.38E-20
E	60100	Nb-93m	1.16E-13	2.09E-20	2.64E-21	2.35E-20
E	60100	Cd-113m	6.14E-08	1.11E-14	1.40E-15	1.25E-14
E	60100	Se-79	7.37E-07	1.33E-13	1.68E-14	1.50E-13
E	66100	Am-241	2.36E-07	4.25E-14	5.47E-15	4.80E-14
E	66100	C-14	2.36E-04	0.00E+00	0.00E+00	0.00E+00
E	66100	Co-60	2.25E-15	4.06E-22	5.22E-23	4.58E-22
E	66100	Cm-243	5.92E-10	1.07E-16	1.37E-17	1.20E-16
E	66100	Cm-244	1.02E-08	1.84E-15	2.36E-16	2.07E-15
E	66100	Cs-137	3.00E-06	5.41E-13	6.95E-14	6.10E-13
E	66100	Eu-152	4.81E-15	8.66E-22	1.11E-22	9.78E-22
E	66100	Eu-154	2.78E-14	5.01E-21	6.44E-22	5.65E-21
E	66100	Eu-155	1.03E-14	1.85E-21	2.38E-22	2.09E-21
E	66100	H-3	1.03E-03	0.00E+00	0.00E+00	0.00E+00
E	66100	I-129	3.95E-12	1.38E-17	6.74E-19	1.45E-17
E	66100	Ni-63	3.44E-08	6.20E-15	7.97E-16	7.00E-15
E	66100	Np-237	8.77E-10	1.58E-16	2.03E-17	1.78E-16
E	66100	Pu-238	1.27E-09	2.28E-16	2.93E-17	2.57E-16
E	66100	Pu-239	2.80E-08	5.05E-15	6.49E-16	5.70E-15
E	66100	Pu-240	6.56E-09	1.18E-15	1.52E-16	1.33E-15
E	66100	Pu-241	1.77E-08	3.18E-15	4.09E-16	3.59E-15
E	66100	Sb-125	7.70E-08	1.39E-14	1.78E-15	1.57E-14
E	66100	Sm-151	2.83E-11	5.09E-18	6.54E-19	5.74E-18
E	66100	Sn-126	3.33E-08	6.00E-15	7.72E-16	6.77E-15
E	66100	Sr-90	4.57E-06	8.23E-13	1.06E-13	9.28E-13
E	66100	Tc-99	1.12E-04	2.01E-11	2.58E-12	2.27E-11
E	66100	Th-232	1.40E-17	2.53E-24	3.25E-25	2.85E-24
E	66100	U-233	3.07E-10	5.52E-17	7.10E-18	6.23E-17
E	66100	U-234	9.01E-11	1.62E-17	2.08E-18	1.83E-17
E	66100	U-235	3.64E-12	6.56E-19	8.43E-20	7.40E-19
E	66100	U-236	2.98E-12	5.37E-19	6.90E-20	6.06E-19
E	66100	U-238	8.08E-11	1.45E-17	1.87E-18	1.64E-17
E	66100	Y-90	4.22E-06	7.60E-13	9.81E-14	8.58E-13
E	66100	Ru-106	1.73E-14	3.11E-21	4.00E-22	3.51E-21
E	66100	Cs-134	4.35E-13	7.83E-20	1.01E-20	8.83E-20
E	66100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
E	66100	Pu-242	1.02E-12	1.83E-19	2.35E-20	2.06E-19
E	66100	Ra-226	9.27E-12	1.67E-18	2.15E-19	1.88E-18
E	66100	U-232	5.67E-12	1.02E-18	1.31E-19	1.15E-18

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
E	66100	Pa-231	1.27E-17	2.29E-24	2.94E-25	2.58E-24
E	66100	Ni-59	4.57E-10	8.23E-17	1.06E-17	9.29E-17
E	66100	Ac-227	9.16E-11	1.65E-17	2.12E-18	1.86E-17
E	66100	Am-243	1.36E-10	2.46E-17	3.16E-18	2.77E-17
E	66100	Ra-228	5.67E-10	1.02E-16	1.31E-17	1.15E-16
E	66100	Cm-242	8.31E-09	1.50E-15	1.92E-16	1.69E-15
E	66100	Th-229	6.36E-18	1.14E-24	1.47E-25	1.29E-24
E	66100	Zr-93	5.98E-14	1.08E-20	1.38E-21	1.22E-20
E	66100	Nb-93m	1.02E-13	1.84E-20	2.36E-21	2.07E-20
E	66100	Cd-113m	5.41E-08	9.74E-15	1.25E-15	1.10E-14
E	66100	Se-79	6.49E-07	1.17E-13	1.50E-14	1.32E-13
ENE	12100	Am-241	1.99E-06	3.57E-13	3.08E-14	3.88E-13
ENE	12100	C-14	9.80E-04	0.00E+00	0.00E+00	0.00E+00
ENE	12100	Co-60	1.89E-14	3.41E-21	2.93E-22	3.70E-21
ENE	12100	Cm-243	4.97E-09	8.95E-16	7.70E-17	9.72E-16
ENE	12100	Cm-244	8.57E-08	1.54E-14	1.33E-15	1.68E-14
ENE	12100	Cs-137	2.52E-05	4.54E-12	3.91E-13	4.93E-12
ENE	12100	Eu-152	4.05E-14	7.28E-21	6.27E-22	7.91E-21
ENE	12100	Eu-154	2.34E-13	4.21E-20	3.62E-21	4.57E-20
ENE	12100	Eu-155	8.63E-14	1.55E-20	1.34E-21	1.69E-20
ENE	12100	H-3	4.26E-03	0.00E+00	0.00E+00	0.00E+00
ENE	12100	I-129	2.08E-10	7.28E-16	1.22E-17	7.41E-16
ENE	12100	Ni-63	2.89E-07	5.21E-14	4.48E-15	5.66E-14
ENE	12100	Np-237	7.37E-09	1.33E-15	1.14E-16	1.44E-15
ENE	12100	Pu-238	1.07E-08	1.92E-15	1.65E-16	2.08E-15
ENE	12100	Pu-239	2.36E-07	4.24E-14	3.65E-15	4.61E-14
ENE	12100	Pu-240	5.51E-08	9.92E-15	8.54E-16	1.08E-14
ENE	12100	Pu-241	1.49E-07	2.68E-14	2.30E-15	2.91E-14
ENE	12100	Sb-125	6.48E-07	1.17E-13	1.00E-14	1.27E-13
ENE	12100	Sm-151	2.38E-10	4.28E-17	3.68E-18	4.64E-17
ENE	12100	Sn-126	2.80E-07	5.04E-14	4.34E-15	5.48E-14
ENE	12100	Sr-90	3.84E-05	6.91E-12	5.95E-13	7.51E-12
ENE	12100	Tc-99	9.37E-04	1.69E-10	1.45E-11	1.83E-10
ENE	12100	Th-232	1.18E-16	2.12E-23	1.83E-24	2.31E-23
ENE	12100	U-233	2.58E-09	4.64E-16	4.00E-17	5.04E-16
ENE	12100	U-234	7.57E-10	1.36E-16	1.17E-17	1.48E-16
ENE	12100	U-235	3.06E-11	5.51E-18	4.74E-19	5.99E-18
ENE	12100	U-236	2.51E-11	4.51E-18	3.88E-19	4.90E-18
ENE	12100	U-238	6.79E-10	1.22E-16	1.05E-17	1.33E-16
ENE	12100	Y-90	3.78E-05	6.80E-12	5.87E-13	7.38E-12
ENE	12100	Ru-106	1.45E-13	2.62E-20	2.25E-21	2.84E-20
ENE	12100	Cs-134	3.66E-12	6.58E-19	5.66E-20	7.15E-19
ENE	12100	Ba-137m	1.53E-12	2.75E-19	2.73E-19	5.48E-19
ENE	12100	Pu-242	8.54E-12	1.54E-18	1.32E-19	1.67E-18
ENE	12100	Ra-226	7.79E-11	1.40E-17	1.21E-18	1.52E-17
ENE	12100	U-232	4.77E-11	8.58E-18	7.39E-19	9.32E-18
ENE	12100	Pa-231	1.07E-16	1.92E-23	1.65E-24	2.09E-23

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ENE	12100	Ni-59	3.84E-09	6.91E-16	5.95E-17	7.51E-16
ENE	12100	Ac-227	7.70E-10	1.39E-16	1.19E-17	1.51E-16
ENE	12100	Am-243	1.15E-09	2.06E-16	1.78E-17	2.24E-16
ENE	12100	Ra-228	4.77E-09	8.58E-16	7.39E-17	9.32E-16
ENE	12100	Cm-242	6.99E-08	1.26E-14	1.08E-15	1.37E-14
ENE	12100	Th-229	5.34E-17	9.62E-24	8.28E-25	1.04E-23
ENE	12100	Zr-93	5.03E-13	9.05E-20	7.79E-21	9.83E-20
ENE	12100	Nb-93m	8.57E-13	1.54E-19	1.33E-20	1.68E-19
ENE	12100	Cd-113m	4.55E-07	8.18E-14	7.04E-15	8.89E-14
ENE	12100	Se-79	5.46E-06	9.82E-13	8.45E-14	1.07E-12
ENE	16100	Am-241	1.39E-06	2.50E-13	2.27E-14	2.73E-13
ENE	16100	C-14	7.09E-04	0.00E+00	0.00E+00	0.00E+00
ENE	16100	Co-60	1.33E-14	2.39E-21	2.16E-22	2.60E-21
ENE	16100	Cm-243	3.48E-09	6.27E-16	5.67E-17	6.84E-16
ENE	16100	Cm-244	6.00E-08	1.08E-14	9.78E-16	1.18E-14
ENE	16100	Cs-137	1.77E-05	3.18E-12	2.88E-13	3.47E-12
ENE	16100	Eu-152	2.83E-14	5.10E-21	4.62E-22	5.56E-21
ENE	16100	Eu-154	1.64E-13	2.95E-20	2.67E-21	3.21E-20
ENE	16100	Eu-155	6.04E-14	1.09E-20	9.85E-22	1.19E-20
ENE	16100	H-3	3.08E-03	0.00E+00	0.00E+00	0.00E+00
ENE	16100	I-129	1.18E-10	4.12E-16	8.30E-18	4.20E-16
ENE	16100	Ni-63	2.03E-07	3.65E-14	3.30E-15	3.98E-14
ENE	16100	Np-237	5.16E-09	9.29E-16	8.41E-17	1.01E-15
ENE	16100	Pu-238	7.46E-09	1.34E-15	1.22E-16	1.46E-15
ENE	16100	Pu-239	1.65E-07	2.97E-14	2.69E-15	3.24E-14
ENE	16100	Pu-240	3.86E-08	6.95E-15	6.29E-16	7.58E-15
ENE	16100	Pu-241	1.04E-07	1.87E-14	1.70E-15	2.04E-14
ENE	16100	Sb-125	4.53E-07	8.16E-14	7.39E-15	8.90E-14
ENE	16100	Sm-151	1.66E-10	2.99E-17	2.71E-18	3.26E-17
ENE	16100	Sn-126	1.96E-07	3.53E-14	3.20E-15	3.85E-14
ENE	16100	Sr-90	2.69E-05	4.84E-12	4.38E-13	5.28E-12
ENE	16100	Tc-99	6.56E-04	1.18E-10	1.07E-11	1.29E-10
ENE	16100	Th-232	8.26E-17	1.49E-23	1.35E-24	1.62E-23
ENE	16100	U-233	1.81E-09	3.25E-16	2.94E-17	3.55E-16
ENE	16100	U-234	5.30E-10	9.54E-17	8.64E-18	1.04E-16
ENE	16100	U-235	2.14E-11	3.86E-18	3.49E-19	4.21E-18
ENE	16100	U-236	1.75E-11	3.16E-18	2.86E-19	3.44E-18
ENE	16100	U-238	4.76E-10	8.56E-17	7.75E-18	9.34E-17
ENE	16100	Y-90	2.63E-05	4.73E-12	4.30E-13	5.16E-12
ENE	16100	Ru-106	1.02E-13	1.83E-20	1.66E-21	2.00E-20
ENE	16100	Cs-134	2.56E-12	4.61E-19	4.17E-20	5.02E-19
ENE	16100	Ba-137m	2.35E-14	4.22E-21	4.29E-21	8.52E-21
ENE	16100	Pu-242	5.98E-12	1.08E-18	9.74E-20	1.17E-18
ENE	16100	Ra-226	5.46E-11	9.82E-18	8.89E-19	1.07E-17
ENE	16100	U-232	3.34E-11	6.01E-18	5.44E-19	6.56E-18
ENE	16100	Pa-231	7.47E-17	1.34E-23	1.22E-24	1.47E-23
ENE	16100	Ni-59	2.69E-09	4.84E-16	4.38E-17	5.28E-16

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ENE	16100	Ac-227	5.39E-10	9.71E-17	8.79E-18	1.06E-16
ENE	16100	Am-243	8.03E-10	1.45E-16	1.31E-17	1.58E-16
ENE	16100	Ra-228	3.34E-09	6.01E-16	5.44E-17	6.55E-16
ENE	16100	Cm-242	4.90E-08	8.81E-15	7.98E-16	9.61E-15
ENE	16100	Th-229	3.74E-17	6.74E-24	6.10E-25	7.35E-24
ENE	16100	Zr-93	3.52E-13	6.34E-20	5.74E-21	6.91E-20
ENE	16100	Nb-93m	6.00E-13	1.08E-19	9.78E-21	1.18E-19
ENE	16100	Cd-113m	3.18E-07	5.73E-14	5.19E-15	6.25E-14
ENE	16100	Se-79	3.82E-06	6.88E-13	6.23E-14	7.50E-13
ENE	24100	Am-241	7.65E-07	1.38E-13	1.40E-14	1.52E-13
ENE	24100	C-14	4.49E-04	0.00E+00	0.00E+00	0.00E+00
ENE	24100	Co-60	7.30E-15	1.31E-21	1.34E-22	1.45E-21
ENE	24100	Cm-243	1.92E-09	3.45E-16	3.51E-17	3.80E-16
ENE	24100	Cm-244	3.30E-08	5.95E-15	6.05E-16	6.55E-15
ENE	24100	Cs-137	9.73E-06	1.75E-12	1.78E-13	1.93E-12
ENE	24100	Eu-152	1.56E-14	2.81E-21	2.85E-22	3.09E-21
ENE	24100	Eu-154	9.01E-14	1.62E-20	1.65E-21	1.79E-20
ENE	24100	Eu-155	3.33E-14	5.99E-21	6.09E-22	6.59E-21
ENE	24100	H-3	1.96E-03	0.00E+00	0.00E+00	0.00E+00
ENE	24100	I-129	4.20E-11	1.47E-16	4.48E-18	1.52E-16
ENE	24100	Ni-63	1.12E-07	2.01E-14	2.04E-15	2.21E-14
ENE	24100	Np-237	2.84E-09	5.11E-16	5.20E-17	5.63E-16
ENE	24100	Pu-238	4.10E-09	7.39E-16	7.52E-17	8.14E-16
ENE	24100	Pu-239	9.08E-08	1.63E-14	1.66E-15	1.80E-14
ENE	24100	Pu-240	2.12E-08	3.82E-15	3.89E-16	4.21E-15
ENE	24100	Pu-241	5.73E-08	1.03E-14	1.05E-15	1.14E-14
ENE	24100	Sb-125	2.50E-07	4.49E-14	4.57E-15	4.95E-14
ENE	24100	Sm-151	9.15E-11	1.65E-17	1.68E-18	1.82E-17
ENE	24100	Sn-126	1.08E-07	1.94E-14	1.98E-15	2.14E-14
ENE	24100	Sr-90	1.48E-05	2.66E-12	2.71E-13	2.94E-12
ENE	24100	Tc-99	3.61E-04	6.50E-11	6.61E-12	7.16E-11
ENE	24100	Th-232	4.55E-17	8.19E-24	8.33E-25	9.02E-24
ENE	24100	U-233	9.94E-10	1.79E-16	1.82E-17	1.97E-16
ENE	24100	U-234	2.92E-10	5.25E-17	5.34E-18	5.79E-17
ENE	24100	U-235	1.18E-11	2.12E-18	2.16E-19	2.34E-18
ENE	24100	U-236	9.65E-12	1.74E-18	1.77E-19	1.91E-18
ENE	24100	U-238	2.62E-10	4.71E-17	4.79E-18	5.19E-17
ENE	24100	Y-90	1.43E-05	2.58E-12	2.64E-13	2.84E-12
ENE	24100	Ru-106	5.61E-14	1.01E-20	1.03E-21	1.11E-20
ENE	24100	Cs-134	1.41E-12	2.54E-19	2.58E-20	2.79E-19
ENE	24100	Ba-137m	8.97E-17	1.61E-23	3.29E-24	1.94E-23
ENE	24100	Pu-242	3.29E-12	5.92E-19	6.02E-20	6.52E-19
ENE	24100	Ra-226	3.00E-11	5.41E-18	5.50E-19	5.96E-18
ENE	24100	U-232	1.84E-11	3.31E-18	3.37E-19	3.64E-18
ENE	24100	Pa-231	4.11E-17	7.40E-24	7.53E-25	8.15E-24
ENE	24100	Ni-59	1.48E-09	2.66E-16	2.71E-17	2.94E-16
ENE	24100	Ac-227	2.97E-10	5.34E-17	5.43E-18	5.89E-17

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ENE	24100	Am-243	4.42E-10	7.96E-17	8.09E-18	8.76E-17
ENE	24100	Ra-228	1.84E-09	3.31E-16	3.37E-17	3.64E-16
ENE	24100	Cm-242	2.69E-08	4.85E-15	4.93E-16	5.34E-15
ENE	24100	Th-229	2.06E-17	3.71E-24	3.77E-25	4.08E-24
ENE	24100	Zr-93	1.94E-13	3.49E-20	3.55E-21	3.84E-20
ENE	24100	Nb-93m	3.30E-13	5.95E-20	6.05E-21	6.55E-20
ENE	24100	Cd-113m	1.75E-07	3.15E-14	3.21E-15	3.47E-14
ENE	24100	Se-79	2.10E-06	3.78E-13	3.85E-14	4.17E-13
ENE	30100	Am-241	5.26E-07	9.47E-14	1.07E-14	1.05E-13
ENE	30100	C-14	3.50E-04	0.00E+00	0.00E+00	0.00E+00
ENE	30100	Co-60	5.02E-15	9.03E-22	1.02E-22	1.01E-21
ENE	30100	Cm-243	1.32E-09	2.37E-16	2.68E-17	2.64E-16
ENE	30100	Cm-244	2.27E-08	4.09E-15	4.62E-16	4.55E-15
ENE	30100	Cs-137	6.69E-06	1.20E-12	1.36E-13	1.34E-12
ENE	30100	Eu-152	1.07E-14	1.93E-21	2.18E-22	2.15E-21
ENE	30100	Eu-154	6.19E-14	1.11E-20	1.26E-21	1.24E-20
ENE	30100	Eu-155	2.29E-14	4.11E-21	4.65E-22	4.58E-21
ENE	30100	H-3	1.52E-03	0.00E+00	0.00E+00	0.00E+00
ENE	30100	I-129	2.75E-11	9.63E-17	3.30E-18	9.96E-17
ENE	30100	Ni-63	7.67E-08	1.38E-14	1.56E-15	1.54E-14
ENE	30100	Np-237	1.95E-09	3.51E-16	3.97E-17	3.91E-16
ENE	30100	Pu-238	2.82E-09	5.08E-16	5.74E-17	5.65E-16
ENE	30100	Pu-239	6.24E-08	1.12E-14	1.27E-15	1.25E-14
ENE	30100	Pu-240	1.46E-08	2.63E-15	2.97E-16	2.93E-15
ENE	30100	Pu-241	3.94E-08	7.09E-15	8.01E-16	7.89E-15
ENE	30100	Sb-125	1.72E-07	3.09E-14	3.49E-15	3.44E-14
ENE	30100	Sm-151	6.29E-11	1.13E-17	1.28E-18	1.26E-17
ENE	30100	Sn-126	7.42E-08	1.34E-14	1.51E-15	1.49E-14
ENE	30100	Sr-90	1.02E-05	1.83E-12	2.07E-13	2.04E-12
ENE	30100	Tc-99	2.48E-04	4.47E-11	5.05E-12	4.97E-11
ENE	30100	Th-232	3.13E-17	5.63E-24	6.36E-25	6.26E-24
ENE	30100	U-233	6.83E-10	1.23E-16	1.39E-17	1.37E-16
ENE	30100	U-234	2.01E-10	3.61E-17	4.08E-18	4.02E-17
ENE	30100	U-235	8.11E-12	1.46E-18	1.65E-19	1.63E-18
ENE	30100	U-236	6.64E-12	1.19E-18	1.35E-19	1.33E-18
ENE	30100	U-238	1.80E-10	3.24E-17	3.66E-18	3.60E-17
ENE	30100	Y-90	9.76E-06	1.76E-12	2.00E-13	1.96E-12
ENE	30100	Ru-106	3.85E-14	6.94E-21	7.84E-22	7.72E-21
ENE	30100	Cs-134	9.68E-13	1.74E-19	1.97E-20	1.94E-19
ENE	30100	Ba-137m	5.55E-17	9.98E-24	1.57E-24	1.16E-23
ENE	30100	Pu-242	2.26E-12	4.07E-19	4.60E-20	4.53E-19
ENE	30100	Ra-226	2.06E-11	3.72E-18	4.20E-19	4.14E-18
ENE	30100	U-232	1.26E-11	2.27E-18	2.57E-19	2.53E-18
ENE	30100	Pa-231	2.83E-17	5.09E-24	5.75E-25	5.66E-24
ENE	30100	Ni-59	1.02E-09	1.83E-16	2.07E-17	2.04E-16
ENE	30100	Ac-227	2.04E-10	3.67E-17	4.15E-18	4.09E-17
ENE	30100	Am-243	3.04E-10	5.47E-17	6.18E-18	6.09E-17

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ENE	30100	Ra-228	1.26E-09	2.27E-16	2.57E-17	2.53E-16
ENE	30100	Cm-242	1.85E-08	3.33E-15	3.77E-16	3.71E-15
ENE	30100	Th-229	1.42E-17	2.55E-24	2.88E-25	2.84E-24
ENE	30100	Zr-93	1.33E-13	2.40E-20	2.71E-21	2.67E-20
ENE	30100	Nb-93m	2.27E-13	4.09E-20	4.62E-21	4.55E-20
ENE	30100	Cd-113m	1.20E-07	2.17E-14	2.45E-15	2.41E-14
ENE	30100	Se-79	1.45E-06	2.60E-13	2.94E-14	2.90E-13
ENE	36100	Am-241	4.18E-07	7.53E-14	8.79E-15	8.41E-14
ENE	36100	C-14	1.82E-04	0.00E+00	0.00E+00	0.00E+00
ENE	36100	Co-60	3.99E-15	7.18E-22	8.39E-23	8.02E-22
ENE	36100	Cm-243	1.05E-09	1.89E-16	2.20E-17	2.11E-16
ENE	36100	Cm-244	1.81E-08	3.25E-15	3.80E-16	3.63E-15
ENE	36100	Cs-137	5.32E-06	9.57E-13	1.12E-13	1.07E-12
ENE	36100	Eu-152	8.52E-15	1.53E-21	1.79E-22	1.71E-21
ENE	36100	Eu-154	4.93E-14	8.87E-21	1.04E-21	9.90E-21
ENE	36100	Eu-155	1.82E-14	3.27E-21	3.82E-22	3.65E-21
ENE	36100	H-3	1.24E-03	0.00E+00	0.00E+00	0.00E+00
ENE	36100	I-129	1.99E-11	6.95E-17	2.56E-18	7.21E-17
ENE	36100	Ni-63	6.10E-08	1.10E-14	1.28E-15	1.23E-14
ENE	36100	Np-237	1.55E-09	2.79E-16	3.26E-17	3.12E-16
ENE	36100	Pu-238	2.24E-09	4.04E-16	4.72E-17	4.51E-16
ENE	36100	Pu-239	4.96E-08	8.94E-15	1.04E-15	9.98E-15
ENE	36100	Pu-240	1.16E-08	2.09E-15	2.44E-16	2.33E-15
ENE	36100	Pu-241	3.13E-08	5.64E-15	6.58E-16	6.29E-15
ENE	36100	Sb-125	1.36E-07	2.46E-14	2.87E-15	2.74E-14
ENE	36100	Sm-151	5.00E-11	9.01E-18	1.05E-18	1.01E-17
ENE	36100	Sn-126	5.90E-08	1.06E-14	1.24E-15	1.19E-14
ENE	36100	Sr-90	8.09E-06	1.46E-12	1.70E-13	1.63E-12
ENE	36100	Tc-99	1.97E-04	3.55E-11	4.15E-12	3.97E-11
ENE	36100	Th-232	2.49E-17	4.47E-24	5.23E-25	5.00E-24
ENE	36100	U-233	5.43E-10	9.78E-17	1.14E-17	1.09E-16
ENE	36100	U-234	1.59E-10	2.87E-17	3.35E-18	3.21E-17
ENE	36100	U-235	6.45E-12	1.16E-18	1.36E-19	1.30E-18
ENE	36100	U-236	5.28E-12	9.50E-19	1.11E-19	1.06E-18
ENE	36100	U-238	1.43E-10	2.58E-17	3.01E-18	2.88E-17
ENE	36100	Y-90	7.70E-06	1.39E-12	1.63E-13	1.55E-12
ENE	36100	Ru-106	3.06E-14	5.51E-21	6.44E-22	6.16E-21
ENE	36100	Cs-134	7.70E-13	1.39E-19	1.62E-20	1.55E-19
ENE	36100	Ba-137m	1.49E-17	2.68E-24	7.55E-25	3.44E-24
ENE	36100	Pu-242	1.80E-12	3.24E-19	3.78E-20	3.61E-19
ENE	36100	Ra-226	1.64E-11	2.96E-18	3.45E-19	3.30E-18
ENE	36100	U-232	1.00E-11	1.81E-18	2.11E-19	2.02E-18
ENE	36100	Pa-231	2.25E-17	4.05E-24	4.72E-25	4.52E-24
ENE	36100	Ni-59	8.09E-10	1.46E-16	1.70E-17	1.63E-16
ENE	36100	Ac-227	1.62E-10	2.92E-17	3.41E-18	3.26E-17
ENE	36100	Am-243	2.42E-10	4.35E-17	5.08E-18	4.86E-17
ENE	36100	Ra-228	1.00E-09	1.81E-16	2.11E-17	2.02E-16

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AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ENE	36100	Cm-242	1.47E-08	2.65E-15	3.10E-16	2.96E-15
ENE	36100	Th-229	1.13E-17	2.03E-24	2.37E-25	2.26E-24
ENE	36100	Zr-93	1.06E-13	1.91E-20	2.23E-21	2.13E-20
ENE	36100	Nb-93m	1.81E-13	3.25E-20	3.80E-21	3.63E-20
ENE	36100	Cd-113m	9.58E-08	1.72E-14	2.01E-15	1.93E-14
ENE	36100	Se-79	1.15E-06	2.07E-13	2.42E-14	2.31E-13
ENE	42100	Am-241	3.42E-07	6.15E-14	7.40E-15	6.89E-14
ENE	42100	C-14	2.40E-04	0.00E+00	0.00E+00	0.00E+00
ENE	42100	Co-60	3.26E-15	5.87E-22	7.06E-23	6.58E-22
ENE	42100	Cm-243	8.56E-10	1.54E-16	1.85E-17	1.73E-16
ENE	42100	Cm-244	1.48E-08	2.66E-15	3.20E-16	2.98E-15
ENE	42100	Cs-137	4.34E-06	7.82E-13	9.41E-14	8.76E-13
ENE	42100	Eu-152	6.96E-15	1.25E-21	1.51E-22	1.40E-21
ENE	42100	Eu-154	4.02E-14	7.24E-21	8.72E-22	8.11E-21
ENE	42100	Eu-155	1.48E-14	2.67E-21	3.22E-22	2.99E-21
ENE	42100	H-3	1.04E-03	0.00E+00	0.00E+00	0.00E+00
ENE	42100	I-129	1.48E-11	5.17E-17	2.04E-18	5.37E-17
ENE	42100	Ni-63	4.98E-08	8.97E-15	1.08E-15	1.00E-14
ENE	42100	Np-237	1.27E-09	2.28E-16	2.75E-17	2.56E-16
ENE	42100	Pu-238	1.83E-09	3.30E-16	3.97E-17	3.70E-16
ENE	42100	Pu-239	4.06E-08	7.30E-15	8.79E-16	8.18E-15
ENE	42100	Pu-240	9.49E-09	1.71E-15	2.05E-16	1.91E-15
ENE	42100	Pu-241	2.56E-08	4.60E-15	5.54E-16	5.16E-15
ENE	42100	Sb-125	1.11E-07	2.01E-14	2.41E-15	2.25E-14
ENE	42100	Sm-151	4.09E-11	7.36E-18	8.86E-19	8.24E-18
ENE	42100	Sn-126	4.82E-08	8.68E-15	1.04E-15	9.73E-15
ENE	42100	Sr-90	6.61E-06	1.19E-12	1.43E-13	1.33E-12
ENE	42100	Tc-99	1.61E-04	2.90E-11	3.49E-12	3.25E-11
ENE	42100	Th-232	2.03E-17	3.66E-24	4.40E-25	4.10E-24
ENE	42100	U-233	4.44E-10	7.99E-17	9.62E-18	8.95E-17
ENE	42100	U-234	1.30E-10	2.35E-17	2.82E-18	2.63E-17
ENE	42100	U-235	5.27E-12	9.49E-19	1.14E-19	1.06E-18
ENE	42100	U-236	4.31E-12	7.76E-19	9.34E-20	8.69E-19
ENE	42100	U-238	1.17E-10	2.10E-17	2.53E-18	2.36E-17
ENE	42100	Y-90	6.24E-06	1.12E-12	1.37E-13	1.26E-12
ENE	42100	Ru-106	2.50E-14	4.50E-21	5.42E-22	5.05E-21
ENE	42100	Cs-134	6.29E-13	1.13E-19	1.36E-20	1.27E-19
ENE	42100	Ba-137m	3.96E-18	7.12E-25	3.85E-25	1.10E-24
ENE	42100	Pu-242	1.47E-12	2.64E-19	3.18E-20	2.96E-19
ENE	42100	Ra-226	1.34E-11	2.41E-18	2.91E-19	2.70E-18
ENE	42100	U-232	8.21E-12	1.48E-18	1.78E-19	1.66E-18
ENE	42100	Pa-231	1.84E-17	3.31E-24	3.98E-25	3.70E-24
ENE	42100	Ni-59	6.61E-10	1.19E-16	1.43E-17	1.33E-16
ENE	42100	Ac-227	1.33E-10	2.39E-17	2.87E-18	2.67E-17
ENE	42100	Am-243	1.97E-10	3.55E-17	4.28E-18	3.98E-17
ENE	42100	Ra-228	8.21E-10	1.48E-16	1.78E-17	1.66E-16
ENE	42100	Cm-242	1.20E-08	2.17E-15	2.61E-16	2.43E-15

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ENE	42100	Th-229	9.20E-18	1.66E-24	1.99E-25	1.85E-24
ENE	42100	Zr-93	8.65E-14	1.56E-20	1.87E-21	1.75E-20
ENE	42100	Nb-93m	1.48E-13	2.66E-20	3.20E-21	2.98E-20
ENE	42100	Cd-113m	7.82E-08	1.41E-14	1.70E-15	1.58E-14
ENE	42100	Se-79	9.39E-07	1.69E-13	2.03E-14	1.89E-13
ENE	48100	Am-241	2.83E-07	5.10E-14	6.33E-15	5.73E-14
ENE	48100	C-14	2.07E-04	0.00E+00	0.00E+00	0.00E+00
ENE	48100	Co-60	2.70E-15	4.87E-22	6.04E-23	5.47E-22
ENE	48100	Cm-243	7.10E-10	1.28E-16	1.59E-17	1.44E-16
ENE	48100	Cm-244	1.22E-08	2.20E-15	2.73E-16	2.48E-15
ENE	48100	Cs-137	3.60E-06	6.48E-13	8.05E-14	7.29E-13
ENE	48100	Eu-152	5.77E-15	1.04E-21	1.29E-22	1.17E-21
ENE	48100	Eu-154	3.34E-14	6.01E-21	7.46E-22	6.75E-21
ENE	48100	Eu-155	1.23E-14	2.22E-21	2.75E-22	2.49E-21
ENE	48100	H-3	8.99E-04	0.00E+00	0.00E+00	0.00E+00
ENE	48100	I-129	1.12E-11	3.92E-17	1.65E-18	4.08E-17
ENE	48100	Ni-63	4.13E-08	7.44E-15	9.23E-16	8.36E-15
ENE	48100	Np-237	1.05E-09	1.89E-16	2.35E-17	2.13E-16
ENE	48100	Pu-238	1.52E-09	2.74E-16	3.40E-17	3.08E-16
ENE	48100	Pu-239	3.36E-08	6.05E-15	7.52E-16	6.80E-15
ENE	48100	Pu-240	7.86E-09	1.42E-15	1.76E-16	1.59E-15
ENE	48100	Pu-241	2.12E-08	3.82E-15	4.74E-16	4.29E-15
ENE	48100	Sb-125	9.24E-08	1.66E-14	2.06E-15	1.87E-14
ENE	48100	Sm-151	3.39E-11	6.10E-18	7.57E-19	6.86E-18
ENE	48100	Sn-126	4.00E-08	7.20E-15	8.94E-16	8.09E-15
ENE	48100	Sr-90	5.48E-06	9.87E-13	1.22E-13	1.11E-12
ENE	48100	Tc-99	1.34E-04	2.41E-11	2.99E-12	2.71E-11
ENE	48100	Th-232	1.68E-17	3.03E-24	3.76E-25	3.41E-24
ENE	48100	U-233	3.68E-10	6.63E-17	8.23E-18	7.45E-17
ENE	48100	U-234	1.08E-10	1.94E-17	2.41E-18	2.19E-17
ENE	48100	U-235	4.37E-12	7.86E-19	9.76E-20	8.84E-19
ENE	48100	U-236	3.57E-12	6.43E-19	7.99E-20	7.23E-19
ENE	48100	U-238	9.69E-11	1.74E-17	2.17E-18	1.96E-17
ENE	48100	Y-90	5.13E-06	9.24E-13	1.16E-13	1.04E-12
ENE	48100	Ru-106	2.07E-14	3.73E-21	4.64E-22	4.20E-21
ENE	48100	Cs-134	5.22E-13	9.39E-20	1.17E-20	1.06E-19
ENE	48100	Ba-137m	2.46E-19	4.43E-26	4.57E-26	9.00E-26
ENE	48100	Pu-242	1.22E-12	2.19E-19	2.72E-20	2.46E-19
ENE	48100	Ra-226	1.11E-11	2.00E-18	2.49E-19	2.25E-18
ENE	48100	U-232	6.81E-12	1.22E-18	1.52E-19	1.38E-18
ENE	48100	Pa-231	1.52E-17	2.74E-24	3.40E-25	3.08E-24
ENE	48100	Ni-59	5.48E-10	9.87E-17	1.22E-17	1.11E-16
ENE	48100	Ac-227	1.10E-10	1.98E-17	2.46E-18	2.22E-17
ENE	48100	Am-243	1.64E-10	2.95E-17	3.66E-18	3.31E-17
ENE	48100	Ra-228	6.80E-10	1.22E-16	1.52E-17	1.38E-16
ENE	48100	Cm-242	9.97E-09	1.79E-15	2.23E-16	2.02E-15
ENE	48100	Th-229	7.63E-18	1.37E-24	1.70E-25	1.54E-24

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ENE	48100	Zr-93	7.18E-14	1.29E-20	1.60E-21	1.45E-20
ENE	48100	Nb-93m	1.22E-13	2.20E-20	2.73E-21	2.48E-20
ENE	48100	Cd-113m	6.49E-08	1.17E-14	1.45E-15	1.31E-14
ENE	48100	Se-79	7.78E-07	1.40E-13	1.74E-14	1.58E-13
ENE	54100	Am-241	2.34E-07	4.22E-14	5.44E-15	4.76E-14
ENE	54100	C-14	1.81E-04	0.00E+00	0.00E+00	0.00E+00
ENE	54100	Co-60	2.24E-15	4.02E-22	5.19E-23	4.54E-22
ENE	54100	Cm-243	5.87E-10	1.06E-16	1.36E-17	1.19E-16
ENE	54100	Cm-244	1.01E-08	1.82E-15	2.35E-16	2.06E-15
ENE	54100	Cs-137	2.98E-06	5.36E-13	6.91E-14	6.05E-13
ENE	54100	Eu-152	4.77E-15	8.59E-22	1.11E-22	9.70E-22
ENE	54100	Eu-154	2.76E-14	4.97E-21	6.41E-22	5.61E-21
ENE	54100	Eu-155	1.02E-14	1.83E-21	2.36E-22	2.07E-21
ENE	54100	H-3	7.88E-04	0.00E+00	0.00E+00	0.00E+00
ENE	54100	I-129	8.62E-12	3.02E-17	1.36E-18	3.15E-17
ENE	54100	Ni-63	3.42E-08	6.15E-15	7.93E-16	6.94E-15
ENE	54100	Np-237	8.69E-10	1.56E-16	2.02E-17	1.77E-16
ENE	54100	Pu-238	1.26E-09	2.26E-16	2.92E-17	2.55E-16
ENE	54100	Pu-239	2.78E-08	5.01E-15	6.46E-16	5.65E-15
ENE	54100	Pu-240	6.50E-09	1.17E-15	1.51E-16	1.32E-15
ENE	54100	Pu-241	1.75E-08	3.16E-15	4.07E-16	3.56E-15
ENE	54100	Sb-125	7.64E-08	1.38E-14	1.77E-15	1.55E-14
ENE	54100	Sm-151	2.80E-11	5.04E-18	6.51E-19	5.70E-18
ENE	54100	Sn-126	3.31E-08	5.95E-15	7.68E-16	6.72E-15
ENE	54100	Sr-90	4.53E-06	8.16E-13	1.05E-13	9.21E-13
ENE	54100	Tc-99	1.11E-04	1.99E-11	2.57E-12	2.25E-11
ENE	54100	Th-232	1.39E-17	2.51E-24	3.23E-25	2.83E-24
ENE	54100	U-233	3.04E-10	5.48E-17	7.07E-18	6.19E-17
ENE	54100	U-234	8.93E-11	1.61E-17	2.07E-18	1.82E-17
ENE	54100	U-235	3.61E-12	6.50E-19	8.39E-20	7.34E-19
ENE	54100	U-236	2.96E-12	5.32E-19	6.86E-20	6.01E-19
ENE	54100	U-238	8.01E-11	1.44E-17	1.86E-18	1.63E-17
ENE	54100	Y-90	4.21E-06	7.58E-13	9.91E-14	8.57E-13
ENE	54100	Ru-106	1.72E-14	3.09E-21	3.98E-22	3.49E-21
ENE	54100	Cs-134	4.31E-13	7.76E-20	1.00E-20	8.76E-20
ENE	54100	Ba-137m	8.10E-19	1.46E-25	1.51E-25	2.97E-25
ENE	54100	Pu-242	1.01E-12	1.81E-19	2.34E-20	2.05E-19
ENE	54100	Ra-226	9.20E-12	1.66E-18	2.14E-19	1.87E-18
ENE	54100	U-232	5.63E-12	1.01E-18	1.31E-19	1.14E-18
ENE	54100	Pa-231	1.26E-17	2.27E-24	2.92E-25	2.56E-24
ENE	54100	Ni-59	4.53E-10	8.16E-17	1.05E-17	9.21E-17
ENE	54100	Ac-227	9.09E-11	1.64E-17	2.11E-18	1.85E-17
ENE	54100	Am-243	1.35E-10	2.44E-17	3.14E-18	2.75E-17
ENE	54100	Ra-228	5.63E-10	1.01E-16	1.31E-17	1.14E-16
ENE	54100	Cm-242	8.24E-09	1.48E-15	1.91E-16	1.68E-15
ENE	54100	Th-229	6.31E-18	1.14E-24	1.46E-25	1.28E-24
ENE	54100	Zr-93	5.93E-14	1.07E-20	1.38E-21	1.21E-20

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ENE	54100	Nb-93m	1.01E-13	1.82E-20	2.35E-21	2.06E-20
ENE	54100	Cd-113m	5.36E-08	9.66E-15	1.25E-15	1.09E-14
ENE	54100	Se-79	6.44E-07	1.16E-13	1.49E-14	1.31E-13
ENE	60100	Am-241	1.48E-07	2.67E-14	4.29E-15	3.10E-14
ENE	60100	C-14	1.61E-04	0.00E+00	0.00E+00	0.00E+00
ENE	60100	Co-60	1.42E-15	2.55E-22	4.10E-23	2.96E-22
ENE	60100	Cm-243	3.72E-10	6.69E-17	1.08E-17	7.77E-17
ENE	60100	Cm-244	6.41E-09	1.15E-15	1.85E-16	1.34E-15
ENE	60100	Cs-137	1.89E-06	3.40E-13	5.46E-14	3.94E-13
ENE	60100	Eu-152	3.02E-15	5.44E-22	8.75E-23	6.32E-22
ENE	60100	Eu-154	1.75E-14	3.15E-21	5.05E-22	3.65E-21
ENE	60100	Eu-155	6.45E-15	1.16E-21	1.87E-22	1.35E-21
ENE	60100	H-3	7.00E-04	0.00E+00	0.00E+00	0.00E+00
ENE	60100	I-129	6.75E-12	2.36E-17	1.13E-18	2.48E-17
ENE	60100	Ni-63	2.16E-08	3.90E-15	6.26E-16	4.52E-15
ENE	60100	Np-237	5.51E-10	9.91E-17	1.59E-17	1.15E-16
ENE	60100	Pu-238	7.96E-10	1.43E-16	2.30E-17	1.66E-16
ENE	60100	Pu-239	1.76E-08	3.17E-15	5.10E-16	3.68E-15
ENE	60100	Pu-240	4.12E-09	7.42E-16	1.19E-16	8.61E-16
ENE	60100	Pu-241	1.11E-08	2.00E-15	3.21E-16	2.32E-15
ENE	60100	Sb-125	4.84E-08	8.71E-15	1.40E-15	1.01E-14
ENE	60100	Sm-151	1.78E-11	3.20E-18	5.14E-19	3.71E-18
ENE	60100	Sn-126	2.09E-08	3.77E-15	6.06E-16	4.38E-15
ENE	60100	Sr-90	2.87E-06	5.17E-13	8.30E-14	6.00E-13
ENE	60100	Tc-99	7.01E-05	1.26E-11	2.03E-12	1.46E-11
ENE	60100	Th-232	8.82E-18	1.59E-24	2.55E-25	1.84E-24
ENE	60100	U-233	1.93E-10	3.47E-17	5.58E-18	4.03E-17
ENE	60100	U-234	5.66E-11	1.02E-17	1.64E-18	1.18E-17
ENE	60100	U-235	2.29E-12	4.12E-19	6.62E-20	4.78E-19
ENE	60100	U-236	1.87E-12	3.37E-19	5.42E-20	3.91E-19
ENE	60100	U-238	5.08E-11	9.14E-18	1.47E-18	1.06E-17
ENE	60100	Y-90	2.65E-06	4.78E-13	7.79E-14	5.56E-13
ENE	60100	Ru-106	1.09E-14	1.96E-21	3.14E-22	2.27E-21
ENE	60100	Cs-134	2.73E-13	4.92E-20	7.90E-21	5.71E-20
ENE	60100	Ba-137m	3.70E-19	6.65E-26	6.87E-26	1.35E-25
ENE	60100	Pu-242	6.38E-13	1.15E-19	1.85E-20	1.33E-19
ENE	60100	Ra-226	5.83E-12	1.05E-18	1.69E-19	1.22E-18
ENE	60100	U-232	3.57E-12	6.42E-19	1.03E-19	7.45E-19
ENE	60100	Pa-231	7.98E-18	1.44E-24	2.31E-25	1.67E-24
ENE	60100	Ni-59	2.87E-10	5.17E-17	8.30E-18	6.00E-17
ENE	60100	Ac-227	5.76E-11	1.04E-17	1.66E-18	1.20E-17
ENE	60100	Am-243	8.57E-11	1.54E-17	2.48E-18	1.79E-17
ENE	60100	Ra-228	3.56E-10	6.42E-17	1.03E-17	7.45E-17
ENE	60100	Cm-242	5.22E-09	9.40E-16	1.51E-16	1.09E-15
ENE	60100	Th-229	4.00E-18	7.19E-25	1.16E-25	8.35E-25
ENE	60100	Zr-93	3.76E-14	6.77E-21	1.09E-21	7.85E-21
ENE	60100	Nb-93m	6.41E-14	1.15E-20	1.85E-21	1.34E-20

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ENE	60100	Cd-113m	3.40E-08	6.12E-15	9.83E-16	7.10E-15
ENE	60100	Se-79	4.08E-07	7.34E-14	1.18E-14	8.52E-14
ENE	66100	Am-241	1.30E-07	2.35E-14	3.85E-15	2.73E-14
ENE	66100	C-14	1.45E-04	0.00E+00	0.00E+00	0.00E+00
ENE	66100	Co-60	1.24E-15	2.24E-22	3.68E-23	2.61E-22
ENE	66100	Cm-243	3.27E-10	5.88E-17	9.65E-18	6.85E-17
ENE	66100	Cm-244	5.63E-09	1.01E-15	1.66E-16	1.18E-15
ENE	66100	Cs-137	1.66E-06	2.98E-13	4.90E-14	3.47E-13
ENE	66100	Eu-152	2.66E-15	4.78E-22	7.85E-23	5.57E-22
ENE	66100	Eu-154	1.54E-14	2.76E-21	4.54E-22	3.22E-21
ENE	66100	Eu-155	5.67E-15	1.02E-21	1.67E-22	1.19E-21
ENE	66100	H-3	6.30E-04	0.00E+00	0.00E+00	0.00E+00
ENE	66100	I-129	5.71E-12	2.00E-17	9.67E-19	2.10E-17
ENE	66100	Ni-63	1.90E-08	3.42E-15	5.62E-16	3.98E-15
ENE	66100	Np-237	4.84E-10	8.71E-17	1.43E-17	1.01E-16
ENE	66100	Pu-238	7.00E-10	1.26E-16	2.07E-17	1.47E-16
ENE	66100	Pu-239	1.55E-08	2.79E-15	4.58E-16	3.24E-15
ENE	66100	Pu-240	3.62E-09	6.52E-16	1.07E-16	7.59E-16
ENE	66100	Pu-241	9.76E-09	1.76E-15	2.89E-16	2.05E-15
ENE	66100	Sb-125	4.25E-08	7.66E-15	1.26E-15	8.91E-15
ENE	66100	Sm-151	1.56E-11	2.81E-18	4.61E-19	3.27E-18
ENE	66100	Sn-126	1.84E-08	3.31E-15	5.44E-16	3.86E-15
ENE	66100	Sr-90	2.52E-06	4.54E-13	7.46E-14	5.29E-13
ENE	66100	Tc-99	6.16E-05	1.11E-11	1.82E-12	1.29E-11
ENE	66100	Th-232	7.75E-18	1.40E-24	2.29E-25	1.62E-24
ENE	66100	U-233	1.69E-10	3.05E-17	5.01E-18	3.55E-17
ENE	66100	U-234	4.97E-11	8.95E-18	1.47E-18	1.04E-17
ENE	66100	U-235	2.01E-12	3.62E-19	5.94E-20	4.21E-19
ENE	66100	U-236	1.65E-12	2.96E-19	4.86E-20	3.45E-19
ENE	66100	U-238	4.46E-11	8.03E-18	1.32E-18	9.35E-18
ENE	66100	Y-90	2.31E-06	4.17E-13	6.95E-14	4.86E-13
ENE	66100	Ru-106	9.55E-15	1.72E-21	2.82E-22	2.00E-21
ENE	66100	Cs-134	2.40E-13	4.32E-20	7.09E-21	5.03E-20
ENE	66100	Ba-137m	7.37E-20	1.33E-26	1.37E-26	2.70E-26
ENE	66100	Pu-242	5.61E-13	1.01E-19	1.66E-20	1.18E-19
ENE	66100	Ra-226	5.12E-12	9.22E-19	1.51E-19	1.07E-18
ENE	66100	U-232	3.13E-12	5.64E-19	9.26E-20	6.56E-19
ENE	66100	Pa-231	7.01E-18	1.26E-24	2.07E-25	1.47E-24
ENE	66100	Ni-59	2.52E-10	4.54E-17	7.46E-18	5.29E-17
ENE	66100	Ac-227	5.06E-11	9.11E-18	1.49E-18	1.06E-17
ENE	66100	Am-243	7.53E-11	1.36E-17	2.23E-18	1.58E-17
ENE	66100	Ra-228	3.13E-10	5.64E-17	9.26E-18	6.56E-17
ENE	66100	Cm-242	4.59E-09	8.26E-16	1.36E-16	9.62E-16
ENE	66100	Th-229	3.51E-18	6.32E-25	1.04E-25	7.36E-25
ENE	66100	Zr-93	3.30E-14	5.95E-21	9.76E-22	6.92E-21
ENE	66100	Nb-93m	5.63E-14	1.01E-20	1.66E-21	1.18E-20
ENE	66100	Cd-113m	2.99E-08	5.38E-15	8.83E-16	6.26E-15

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
ENE	66100	Se-79	3.58E-07	6.45E-14	1.06E-14	7.51E-14
NE	12100	Am-241	1.31E-06	2.35E-13	2.16E-14	2.57E-13
NE	12100	C-14	7.05E-04	0.00E+00	0.00E+00	0.00E+00
NE	12100	Co-60	1.25E-14	2.25E-21	2.06E-22	2.45E-21
NE	12100	Cm-243	3.27E-09	5.89E-16	5.41E-17	6.43E-16
NE	12100	Cm-244	5.64E-08	1.02E-14	9.32E-16	1.11E-14
NE	12100	Cs-137	1.66E-05	2.99E-12	2.74E-13	3.27E-12
NE	12100	Eu-152	2.66E-14	4.79E-21	4.40E-22	5.23E-21
NE	12100	Eu-154	1.54E-13	2.77E-20	2.54E-21	3.03E-20
NE	12100	Eu-155	5.68E-14	1.02E-20	9.38E-22	1.12E-20
NE	12100	H-3	3.07E-03	0.00E+00	0.00E+00	0.00E+00
NE	12100	I-129	1.26E-10	4.43E-16	7.92E-18	4.51E-16
NE	12100	Ni-63	1.91E-07	3.43E-14	3.15E-15	3.75E-14
NE	12100	Np-237	4.85E-09	8.73E-16	8.01E-17	9.53E-16
NE	12100	Pu-238	7.01E-09	1.26E-15	1.16E-16	1.38E-15
NE	12100	Pu-239	1.55E-07	2.79E-14	2.56E-15	3.05E-14
NE	12100	Pu-240	3.63E-08	6.53E-15	5.99E-16	7.13E-15
NE	12100	Pu-241	9.79E-08	1.76E-14	1.62E-15	1.92E-14
NE	12100	Sb-125	4.26E-07	7.68E-14	7.04E-15	8.38E-14
NE	12100	Sm-151	1.56E-10	2.82E-17	2.58E-18	3.07E-17
NE	12100	Sn-126	1.84E-07	3.32E-14	3.05E-15	3.63E-14
NE	12100	Sr-90	2.53E-05	4.55E-12	4.18E-13	4.97E-12
NE	12100	Tc-99	6.17E-04	1.11E-10	1.02E-11	1.21E-10
NE	12100	Th-232	7.77E-17	1.40E-23	1.28E-24	1.53E-23
NE	12100	U-233	1.70E-09	3.06E-16	2.80E-17	3.34E-16
NE	12100	U-234	4.99E-10	8.97E-17	8.23E-18	9.80E-17
NE	12100	U-235	2.02E-11	3.63E-18	3.33E-19	3.96E-18
NE	12100	U-236	1.65E-11	2.97E-18	2.72E-19	3.24E-18
NE	12100	U-238	4.47E-10	8.05E-17	7.38E-18	8.79E-17
NE	12100	Y-90	2.48E-05	4.46E-12	4.11E-13	4.87E-12
NE	12100	Ru-106	9.58E-14	1.72E-20	1.58E-21	1.88E-20
NE	12100	Cs-134	2.41E-12	4.33E-19	3.97E-20	4.73E-19
NE	12100	Ba-137m	1.36E-14	2.45E-21	1.83E-21	4.28E-21
NE	12100	Pu-242	5.62E-12	1.01E-18	9.28E-20	1.10E-18
NE	12100	Ra-226	5.13E-11	9.24E-18	8.47E-19	1.01E-17
NE	12100	U-232	3.14E-11	5.65E-18	5.18E-19	6.17E-18
NE	12100	Pa-231	7.03E-17	1.26E-23	1.16E-24	1.38E-23
NE	12100	Ni-59	2.53E-09	4.55E-16	4.18E-17	4.97E-16
NE	12100	Ac-227	5.07E-10	9.13E-17	8.37E-18	9.96E-17
NE	12100	Am-243	7.55E-10	1.36E-16	1.25E-17	1.48E-16
NE	12100	Ra-228	3.14E-09	5.65E-16	5.18E-17	6.17E-16
NE	12100	Cm-242	4.60E-08	8.29E-15	7.60E-16	9.05E-15
NE	12100	Th-229	3.52E-17	6.33E-24	5.81E-25	6.91E-24
NE	12100	Zr-93	3.31E-13	5.96E-20	5.47E-21	6.51E-20
NE	12100	Nb-93m	5.64E-13	1.02E-19	9.32E-21	1.11E-19
NE	12100	Cd-113m	2.99E-07	5.39E-14	4.94E-15	5.88E-14
NE	12100	Se-79	3.59E-06	6.47E-13	5.93E-14	7.06E-13

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NE	16100	Am-241	9.08E-07	1.63E-13	1.59E-14	1.79E-13
NE	16100	C-14	5.09E-04	0.00E+00	0.00E+00	0.00E+00
NE	16100	Co-60	8.67E-15	1.56E-21	1.51E-22	1.71E-21
NE	16100	Cm-243	2.27E-09	4.09E-16	3.97E-17	4.49E-16
NE	16100	Cm-244	3.92E-08	7.06E-15	6.85E-16	7.74E-15
NE	16100	Cs-137	1.15E-05	2.08E-12	2.02E-13	2.28E-12
NE	16100	Eu-152	1.85E-14	3.33E-21	3.23E-22	3.65E-21
NE	16100	Eu-154	1.07E-13	1.93E-20	1.87E-21	2.11E-20
NE	16100	Eu-155	3.95E-14	7.10E-21	6.89E-22	7.79E-21
NE	16100	H-3	2.22E-03	0.00E+00	0.00E+00	0.00E+00
NE	16100	I-129	7.06E-11	2.47E-16	5.32E-18	2.53E-16
NE	16100	Ni-63	1.32E-07	2.38E-14	2.31E-15	2.61E-14
NE	16100	Np-237	3.37E-09	6.07E-16	5.88E-17	6.65E-16
NE	16100	Pu-238	4.87E-09	8.77E-16	8.51E-17	9.62E-16
NE	16100	Pu-239	1.08E-07	1.94E-14	1.88E-15	2.13E-14
NE	16100	Pu-240	2.52E-08	4.54E-15	4.40E-16	4.98E-15
NE	16100	Pu-241	6.80E-08	1.22E-14	1.19E-15	1.34E-14
NE	16100	Sb-125	2.96E-07	5.33E-14	5.17E-15	5.85E-14
NE	16100	Sm-151	1.09E-10	1.96E-17	1.90E-18	2.15E-17
NE	16100	Sn-126	1.28E-07	2.31E-14	2.24E-15	2.53E-14
NE	16100	Sr-90	1.76E-05	3.16E-12	3.07E-13	3.47E-12
NE	16100	Tc-99	4.29E-04	7.72E-11	7.48E-12	8.46E-11
NE	16100	Th-232	5.40E-17	9.72E-24	9.43E-25	1.07E-23
NE	16100	U-233	1.18E-09	2.12E-16	2.06E-17	2.33E-16
NE	16100	U-234	3.46E-10	6.23E-17	6.05E-18	6.84E-17
NE	16100	U-235	1.40E-11	2.52E-18	2.45E-19	2.77E-18
NE	16100	U-236	1.15E-11	2.06E-18	2.00E-19	2.26E-18
NE	16100	U-238	3.11E-10	5.59E-17	5.42E-18	6.13E-17
NE	16100	Y-90	1.71E-05	3.08E-12	3.00E-13	3.38E-12
NE	16100	Ru-106	6.65E-14	1.20E-20	1.16E-21	1.31E-20
NE	16100	Cs-134	1.67E-12	3.01E-19	2.92E-20	3.30E-19
NE	16100	Ba-137m	1.81E-16	3.26E-23	9.18E-24	4.18E-23
NE	16100	Pu-242	3.90E-12	7.03E-19	6.82E-20	7.71E-19
NE	16100	Ra-226	3.57E-11	6.42E-18	6.22E-19	7.04E-18
NE	16100	U-232	2.18E-11	3.93E-18	3.81E-19	4.31E-18
NE	16100	Pa-231	4.88E-17	8.79E-24	8.52E-25	9.64E-24
NE	16100	Ni-59	1.76E-09	3.16E-16	3.07E-17	3.47E-16
NE	16100	Ac-227	3.52E-10	6.34E-17	6.15E-18	6.96E-17
NE	16100	Am-243	5.25E-10	9.44E-17	9.16E-18	1.04E-16
NE	16100	Ra-228	2.18E-09	3.93E-16	3.81E-17	4.31E-16
NE	16100	Cm-242	3.20E-08	5.76E-15	5.59E-16	6.32E-15
NE	16100	Th-229	2.44E-17	4.40E-24	4.27E-25	4.83E-24
NE	16100	Zr-93	2.30E-13	4.14E-20	4.02E-21	4.54E-20
NE	16100	Nb-93m	3.92E-13	7.06E-20	6.85E-21	7.74E-20
NE	16100	Cd-113m	2.08E-07	3.74E-14	3.63E-15	4.11E-14
NE	16100	Se-79	2.50E-06	4.49E-13	4.36E-14	4.93E-13
NE	24100	Am-241	4.86E-07	8.74E-14	9.72E-15	9.72E-14

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m <sup>3</sup> )	Dry Depo Rate (pCi/cm <sup>2</sup> -s)	Wet Depo Rate (pCi/cm <sup>2</sup> -s)	Ground Depo Rate (pCi/cm <sup>2</sup> -s)
NE	24100	C-14	3.23E-04	0.00E+00	0.00E+00	0.00E+00
NE	24100	Co-60	4.63E-15	8.34E-22	9.28E-23	9.27E-22
NE	24100	Cm-243	1.22E-09	2.19E-16	2.44E-17	2.43E-16
NE	24100	Cm-244	2.10E-08	3.78E-15	4.20E-16	4.19E-15
NE	24100	Cs-137	6.17E-06	1.11E-12	1.24E-13	1.23E-12
NE	24100	Eu-152	9.90E-15	1.78E-21	1.98E-22	1.98E-21
NE	24100	Eu-154	5.72E-14	1.03E-20	1.14E-21	1.14E-20
NE	24100	Eu-155	2.11E-14	3.80E-21	4.22E-22	4.22E-21
NE	24100	H-3	1.40E-03	0.00E+00	0.00E+00	0.00E+00
NE	24100	I-129	2.49E-11	8.71E-17	2.82E-18	9.00E-17
NE	24100	Ni-63	7.08E-08	1.27E-14	1.42E-15	1.42E-14
NE	24100	Np-237	1.80E-09	3.24E-16	3.61E-17	3.60E-16
NE	24100	Pu-238	2.61E-09	4.69E-16	5.22E-17	5.21E-16
NE	24100	Pu-239	5.77E-08	1.04E-14	1.15E-15	1.15E-14
NE	24100	Pu-240	1.35E-08	2.43E-15	2.70E-16	2.70E-15
NE	24100	Pu-241	3.64E-08	6.55E-15	7.28E-16	7.27E-15
NE	24100	Sb-125	1.58E-07	2.85E-14	3.17E-15	3.17E-14
NE	24100	Sm-151	5.81E-11	1.05E-17	1.16E-18	1.16E-17
NE	24100	Sn-126	6.85E-08	1.23E-14	1.37E-15	1.37E-14
NE	24100	Sr-90	9.40E-06	1.69E-12	1.88E-13	1.88E-12
NE	24100	Tc-99	2.29E-04	4.13E-11	4.59E-12	4.59E-11
NE	24100	Th-232	2.89E-17	5.20E-24	5.78E-25	5.77E-24
NE	24100	U-233	6.31E-10	1.14E-16	1.26E-17	1.26E-16
NE	24100	U-234	1.85E-10	3.33E-17	3.71E-18	3.70E-17
NE	24100	U-235	7.49E-12	1.35E-18	1.50E-19	1.50E-18
NE	24100	U-236	6.13E-12	1.10E-18	1.23E-19	1.23E-18
NE	24100	U-238	1.66E-10	2.99E-17	3.33E-18	3.32E-17
NE	24100	Y-90	9.03E-06	1.63E-12	1.82E-13	1.81E-12
NE	24100	Ru-106	3.56E-14	6.40E-21	7.12E-22	7.12E-21
NE	24100	Cs-134	8.94E-13	1.61E-19	1.79E-20	1.79E-19
NE	24100	Ba-137m	4.48E-19	8.06E-26	8.33E-26	1.64E-25
NE	24100	Pu-242	2.09E-12	3.76E-19	4.18E-20	4.18E-19
NE	24100	Ra-226	1.91E-11	3.43E-18	3.82E-19	3.81E-18
NE	24100	U-232	1.17E-11	2.10E-18	2.34E-19	2.33E-18
NE	24100	Pa-231	2.61E-17	4.70E-24	5.22E-25	5.22E-24
NE	24100	Ni-59	9.40E-10	1.69E-16	1.88E-17	1.88E-16
NE	24100	Ac-227	1.88E-10	3.39E-17	3.77E-18	3.77E-17
NE	24100	Am-243	2.81E-10	5.05E-17	5.62E-18	5.61E-17
NE	24100	Ra-228	1.17E-09	2.10E-16	2.34E-17	2.33E-16
NE	24100	Cm-242	1.71E-08	3.08E-15	3.42E-16	3.42E-15
NE	24100	Th-229	1.31E-17	2.35E-24	2.62E-25	2.62E-24
NE	24100	Zr-93	1.23E-13	2.21E-20	2.46E-21	2.46E-20
NE	24100	Nb-93m	2.10E-13	3.78E-20	4.20E-21	4.19E-20
NE	24100	Cd-113m	1.11E-07	2.00E-14	2.23E-15	2.22E-14
NE	24100	Se-79	1.33E-06	2.40E-13	2.67E-14	2.67E-13
NE	30100	Am-241	3.29E-07	5.91E-14	7.40E-15	6.65E-14
NE	30100	C-14	2.51E-04	0.00E+00	0.00E+00	0.00E+00

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NE	30100	Co-60	3.13E-15	5.64E-22	7.07E-23	6.35E-22
NE	30100	Cm-243	8.23E-10	1.48E-16	1.85E-17	1.67E-16
NE	30100	Cm-244	1.42E-08	2.55E-15	3.20E-16	2.87E-15
NE	30100	Cs-137	4.18E-06	7.52E-13	9.41E-14	8.46E-13
NE	30100	Eu-152	6.69E-15	1.20E-21	1.51E-22	1.36E-21
NE	30100	Eu-154	3.87E-14	6.96E-21	8.72E-22	7.83E-21
NE	30100	Eu-155	1.43E-14	2.57E-21	3.22E-22	2.89E-21
NE	30100	H-3	1.09E-03	0.00E+00	0.00E+00	0.00E+00
NE	30100	I-129	1.62E-11	5.66E-17	2.05E-18	5.87E-17
NE	30100	Ni-63	4.79E-08	8.62E-15	1.08E-15	9.70E-15
NE	30100	Np-237	1.22E-09	2.19E-16	2.75E-17	2.47E-16
NE	30100	Pu-238	1.76E-09	3.17E-16	3.97E-17	3.57E-16
NE	30100	Pu-239	3.90E-08	7.02E-15	8.79E-16	7.90E-15
NE	30100	Pu-240	9.12E-09	1.64E-15	2.06E-16	1.85E-15
NE	30100	Pu-241	2.46E-08	4.43E-15	5.54E-16	4.98E-15
NE	30100	Sb-125	1.07E-07	1.93E-14	2.41E-15	2.17E-14
NE	30100	Sm-151	3.93E-11	7.07E-18	8.86E-19	7.96E-18
NE	30100	Sn-126	4.64E-08	8.34E-15	1.04E-15	9.39E-15
NE	30100	Sr-90	6.36E-06	1.14E-12	1.43E-13	1.29E-12
NE	30100	Tc-99	1.55E-04	2.79E-11	3.49E-12	3.14E-11
NE	30100	Th-232	1.95E-17	3.51E-24	4.40E-25	3.95E-24
NE	30100	U-233	4.27E-10	7.68E-17	9.62E-18	8.64E-17
NE	30100	U-234	1.25E-10	2.25E-17	2.82E-18	2.54E-17
NE	30100	U-235	5.07E-12	9.12E-19	1.14E-19	1.03E-18
NE	30100	U-236	4.14E-12	7.46E-19	9.34E-20	8.39E-19
NE	30100	U-238	1.12E-10	2.02E-17	2.53E-18	2.28E-17
NE	30100	Y-90	6.06E-06	1.09E-12	1.38E-13	1.23E-12
NE	30100	Ru-106	2.41E-14	4.33E-21	5.42E-22	4.87E-21
NE	30100	Cs-134	6.05E-13	1.09E-19	1.36E-20	1.22E-19
NE	30100	Ba-137m	2.25E-17	4.06E-24	8.18E-25	4.87E-24
NE	30100	Pu-242	1.41E-12	2.54E-19	3.18E-20	2.86E-19
NE	30100	Ra-226	1.29E-11	2.32E-18	2.91E-19	2.61E-18
NE	30100	U-232	7.89E-12	1.42E-18	1.78E-19	1.60E-18
NE	30100	Pa-231	1.77E-17	3.18E-24	3.98E-25	3.58E-24
NE	30100	Ni-59	6.36E-10	1.14E-16	1.43E-17	1.29E-16
NE	30100	Ac-227	1.27E-10	2.29E-17	2.87E-18	2.58E-17
NE	30100	Am-243	1.90E-10	3.42E-17	4.28E-18	3.84E-17
NE	30100	Ra-228	7.89E-10	1.42E-16	1.78E-17	1.60E-16
NE	30100	Cm-242	1.16E-08	2.08E-15	2.61E-16	2.34E-15
NE	30100	Th-229	8.84E-18	1.59E-24	1.99E-25	1.79E-24
NE	30100	Zr-93	8.32E-14	1.50E-20	1.88E-21	1.69E-20
NE	30100	Nb-93m	1.42E-13	2.55E-20	3.20E-21	2.87E-20
NE	30100	Cd-113m	7.52E-08	1.35E-14	1.70E-15	1.52E-14
NE	30100	Se-79	9.03E-07	1.62E-13	2.03E-14	1.83E-13
NE	36100	Am-241	2.60E-07	4.68E-14	6.07E-15	5.29E-14
NE	36100	C-14	2.05E-04	0.00E+00	0.00E+00	0.00E+00
NE	36100	Co-60	2.48E-15	4.47E-22	5.79E-23	5.04E-22

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NE	36100	Cm-243	6.51E-10	1.17E-16	1.52E-17	1.32E-16
NE	36100	Cm-244	1.12E-08	2.02E-15	2.62E-16	2.28E-15
NE	36100	Cs-137	3.30E-06	5.95E-13	7.71E-14	6.72E-13
NE	36100	Eu-152	5.30E-15	9.53E-22	1.24E-22	1.08E-21
NE	36100	Eu-154	3.06E-14	5.51E-21	7.15E-22	6.23E-21
NE	36100	Eu-155	1.13E-14	2.03E-21	2.64E-22	2.30E-21
NE	36100	H-3	8.90E-04	0.00E+00	0.00E+00	0.00E+00
NE	36100	I-129	1.16E-11	4.05E-17	1.56E-18	4.20E-17
NE	36100	Ni-63	3.79E-08	6.82E-15	8.85E-16	7.71E-15
NE	36100	Np-237	9.65E-10	1.74E-16	2.25E-17	1.96E-16
NE	36100	Pu-238	1.39E-09	2.51E-16	3.26E-17	2.84E-16
NE	36100	Pu-239	3.09E-08	5.55E-15	7.20E-16	6.28E-15
NE	36100	Pu-240	7.22E-09	1.30E-15	1.68E-16	1.47E-15
NE	36100	Pu-241	1.95E-08	3.50E-15	4.54E-16	3.96E-15
NE	36100	Sb-125	8.48E-08	1.53E-14	1.98E-15	1.72E-14
NE	36100	Sm-151	3.11E-11	5.60E-18	7.26E-19	6.32E-18
NE	36100	Sn-126	3.67E-08	6.60E-15	8.56E-16	7.46E-15
NE	36100	Sr-90	5.03E-06	9.05E-13	1.17E-13	1.02E-12
NE	36100	Tc-99	1.23E-04	2.21E-11	2.86E-12	2.50E-11
NE	36100	Th-232	1.55E-17	2.78E-24	3.61E-25	3.14E-24
NE	36100	U-233	3.38E-10	6.08E-17	7.88E-18	6.87E-17
NE	36100	U-234	9.91E-11	1.78E-17	2.31E-18	2.02E-17
NE	36100	U-235	4.01E-12	7.22E-19	9.36E-20	8.15E-19
NE	36100	U-236	3.28E-12	5.90E-19	7.66E-20	6.67E-19
NE	36100	U-238	8.89E-11	1.60E-17	2.08E-18	1.81E-17
NE	36100	Y-90	4.75E-06	8.55E-13	1.12E-13	9.67E-13
NE	36100	Ru-106	1.90E-14	3.43E-21	4.45E-22	3.87E-21
NE	36100	Cs-134	4.79E-13	8.61E-20	1.12E-20	9.73E-20
NE	36100	Ba-137m	4.09E-18	7.36E-25	3.90E-25	1.13E-24
NE	36100	Pu-242	1.12E-12	2.01E-19	2.61E-20	2.27E-19
NE	36100	Ra-226	1.02E-11	1.84E-18	2.38E-19	2.08E-18
NE	36100	U-232	6.24E-12	1.12E-18	1.46E-19	1.27E-18
NE	36100	Pa-231	1.40E-17	2.51E-24	3.26E-25	2.84E-24
NE	36100	Ni-59	5.03E-10	9.05E-17	1.17E-17	1.02E-16
NE	36100	Ac-227	1.01E-10	1.82E-17	2.35E-18	2.05E-17
NE	36100	Am-243	1.50E-10	2.70E-17	3.51E-18	3.05E-17
NE	36100	Ra-228	6.24E-10	1.12E-16	1.46E-17	1.27E-16
NE	36100	Cm-242	9.15E-09	1.65E-15	2.14E-16	1.86E-15
NE	36100	Th-229	7.00E-18	1.26E-24	1.63E-25	1.42E-24
NE	36100	Zr-93	6.59E-14	1.19E-20	1.54E-21	1.34E-20
NE	36100	Nb-93m	1.12E-13	2.02E-20	2.62E-21	2.28E-20
NE	36100	Cd-113m	5.95E-08	1.07E-14	1.39E-15	1.21E-14
NE	36100	Se-79	7.14E-07	1.29E-13	1.67E-14	1.45E-13
NE	42100	Am-241	2.11E-07	3.80E-14	5.10E-15	4.31E-14
NE	42100	C-14	1.72E-04	0.00E+00	0.00E+00	0.00E+00
NE	42100	Co-60	2.02E-15	3.63E-22	4.87E-23	4.12E-22
NE	42100	Cm-243	5.29E-10	9.53E-17	1.28E-17	1.08E-16

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NE	42100	Cm-244	9.13E-09	1.64E-15	2.20E-16	1.86E-15
NE	42100	Cs-137	2.69E-06	4.84E-13	6.48E-14	5.48E-13
NE	42100	Eu-152	4.31E-15	7.75E-22	1.04E-22	8.79E-22
NE	42100	Eu-154	2.49E-14	4.48E-21	6.01E-22	5.08E-21
NE	42100	Eu-155	9.18E-15	1.65E-21	2.22E-22	1.87E-21
NE	42100	H-3	7.49E-04	0.00E+00	0.00E+00	0.00E+00
NE	42100	I-129	8.51E-12	2.98E-17	1.22E-18	3.10E-17
NE	42100	Ni-63	3.08E-08	5.55E-15	7.44E-16	6.29E-15
NE	42100	Np-237	7.84E-10	1.41E-16	1.89E-17	1.60E-16
NE	42100	Pu-238	1.13E-09	2.04E-16	2.74E-17	2.31E-16
NE	42100	Pu-239	2.51E-08	4.52E-15	6.05E-16	5.12E-15
NE	42100	Pu-240	5.87E-09	1.06E-15	1.42E-16	1.20E-15
NE	42100	Pu-241	1.58E-08	2.85E-15	3.82E-16	3.23E-15
NE	42100	Sb-125	6.89E-08	1.24E-14	1.66E-15	1.41E-14
NE	42100	Sm-151	2.53E-11	4.55E-18	6.10E-19	5.16E-18
NE	42100	Sn-126	2.98E-08	5.37E-15	7.20E-16	6.09E-15
NE	42100	Sr-90	4.09E-06	7.36E-13	9.87E-14	8.35E-13
NE	42100	Tc-99	9.98E-05	1.80E-11	2.41E-12	2.04E-11
NE	42100	Th-232	1.26E-17	2.26E-24	3.03E-25	2.56E-24
NE	42100	U-233	2.75E-10	4.94E-17	6.63E-18	5.60E-17
NE	42100	U-234	8.06E-11	1.45E-17	1.94E-18	1.65E-17
NE	42100	U-235	3.26E-12	5.87E-19	7.86E-20	6.65E-19
NE	42100	U-236	2.67E-12	4.80E-19	6.43E-20	5.44E-19
NE	42100	U-238	7.23E-11	1.30E-17	1.74E-18	1.48E-17
NE	42100	Y-90	3.82E-06	6.88E-13	9.34E-14	7.82E-13
NE	42100	Ru-106	1.55E-14	2.79E-21	3.74E-22	3.16E-21
NE	42100	Cs-134	3.89E-13	7.00E-20	9.39E-21	7.94E-20
NE	42100	Ba-137m	4.65E-19	8.38E-26	8.66E-26	1.70E-25
NE	42100	Pu-242	9.09E-13	1.64E-19	2.19E-20	1.85E-19
NE	42100	Ra-226	8.30E-12	1.49E-18	2.00E-19	1.69E-18
NE	42100	U-232	5.08E-12	9.14E-19	1.22E-19	1.04E-18
NE	42100	Pa-231	1.14E-17	2.04E-24	2.74E-25	2.32E-24
NE	42100	Ni-59	4.09E-10	7.36E-17	9.87E-18	8.35E-17
NE	42100	Ac-227	8.20E-11	1.48E-17	1.98E-18	1.67E-17
NE	42100	Am-243	1.22E-10	2.20E-17	2.95E-18	2.49E-17
NE	42100	Ra-228	5.08E-10	9.14E-17	1.22E-17	1.04E-16
NE	42100	Cm-242	7.44E-09	1.34E-15	1.80E-16	1.52E-15
NE	42100	Th-229	5.69E-18	1.02E-24	1.37E-25	1.16E-24
NE	42100	Zr-93	5.35E-14	9.64E-21	1.29E-21	1.09E-20
NE	42100	Nb-93m	9.13E-14	1.64E-20	2.20E-21	1.86E-20
NE	42100	Cd-113m	4.84E-08	8.71E-15	1.17E-15	9.88E-15
NE	42100	Se-79	5.81E-07	1.05E-13	1.40E-14	1.19E-13
NE	48100	Am-241	1.74E-07	3.14E-14	4.35E-15	3.57E-14
NE	48100	C-14	1.48E-04	0.00E+00	0.00E+00	0.00E+00
NE	48100	Co-60	1.66E-15	2.99E-22	4.15E-23	3.41E-22
NE	48100	Cm-243	4.36E-10	7.85E-17	1.09E-17	8.94E-17
NE	48100	Cm-244	7.52E-09	1.35E-15	1.88E-16	1.54E-15

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NE	48100	Cs-137	2.21E-06	3.98E-13	5.53E-14	4.54E-13
NE	48100	Eu-152	3.55E-15	6.39E-22	8.87E-23	7.27E-22
NE	48100	Eu-154	2.05E-14	3.69E-21	5.12E-22	4.20E-21
NE	48100	Eu-155	7.57E-15	1.36E-21	1.89E-22	1.55E-21
NE	48100	H-3	6.45E-04	0.00E+00	0.00E+00	0.00E+00
NE	48100	I-129	6.39E-12	2.24E-17	9.77E-19	2.34E-17
NE	48100	Ni-63	2.54E-08	4.57E-15	6.34E-16	5.21E-15
NE	48100	Np-237	6.46E-10	1.16E-16	1.61E-17	1.32E-16
NE	48100	Pu-238	9.34E-10	1.68E-16	2.33E-17	1.92E-16
NE	48100	Pu-239	2.07E-08	3.72E-15	5.16E-16	4.24E-15
NE	48100	Pu-240	4.83E-09	8.70E-16	1.21E-16	9.91E-16
NE	48100	Pu-241	1.30E-08	2.35E-15	3.26E-16	2.67E-15
NE	48100	Sb-125	5.68E-08	1.02E-14	1.42E-15	1.16E-14
NE	48100	Sm-151	2.08E-11	3.75E-18	5.21E-19	4.27E-18
NE	48100	Sn-126	2.46E-08	4.42E-15	6.14E-16	5.04E-15
NE	48100	Sr-90	3.37E-06	6.07E-13	8.42E-14	6.91E-13
NE	48100	Tc-99	8.22E-05	1.48E-11	2.05E-12	1.69E-11
NE	48100	Th-232	1.04E-17	1.86E-24	2.59E-25	2.12E-24
NE	48100	U-233	2.26E-10	4.07E-17	5.65E-18	4.64E-17
NE	48100	U-234	6.64E-11	1.20E-17	1.66E-18	1.36E-17
NE	48100	U-235	2.69E-12	4.83E-19	6.71E-20	5.51E-19
NE	48100	U-236	2.20E-12	3.96E-19	5.49E-20	4.50E-19
NE	48100	U-238	5.96E-11	1.07E-17	1.49E-18	1.22E-17
NE	48100	Y-90	3.12E-06	5.62E-13	7.91E-14	6.41E-13
NE	48100	Ru-106	1.28E-14	2.30E-21	3.19E-22	2.61E-21
NE	48100	Cs-134	3.21E-13	5.77E-20	8.01E-21	6.57E-20
NE	48100	Ba-137m	1.31E-20	2.36E-27	2.44E-27	4.80E-27
NE	48100	Pu-242	7.49E-13	1.35E-19	1.87E-20	1.53E-19
NE	48100	Ra-226	6.84E-12	1.23E-18	1.71E-19	1.40E-18
NE	48100	U-232	4.18E-12	7.53E-19	1.05E-19	8.58E-19
NE	48100	Pa-231	9.36E-18	1.68E-24	2.34E-25	1.92E-24
NE	48100	Ni-59	3.37E-10	6.07E-17	8.42E-18	6.91E-17
NE	48100	Ac-227	6.76E-11	1.22E-17	1.69E-18	1.38E-17
NE	48100	Am-243	1.01E-10	1.81E-17	2.51E-18	2.06E-17
NE	48100	Ra-228	4.18E-10	7.53E-17	1.05E-17	8.57E-17
NE	48100	Cm-242	6.13E-09	1.10E-15	1.53E-16	1.26E-15
NE	48100	Th-229	4.69E-18	8.44E-25	1.17E-25	9.61E-25
NE	48100	Zr-93	4.41E-14	7.94E-21	1.10E-21	9.04E-21
NE	48100	Nb-93m	7.52E-14	1.35E-20	1.88E-21	1.54E-20
NE	48100	Cd-113m	3.99E-08	7.18E-15	9.96E-16	8.17E-15
NE	48100	Se-79	4.79E-07	8.61E-14	1.20E-14	9.81E-14
NE	54100	Am-241	1.43E-07	2.57E-14	3.73E-15	2.94E-14
NE	54100	C-14	1.30E-04	0.00E+00	0.00E+00	0.00E+00
NE	54100	Co-60	1.36E-15	2.45E-22	3.56E-23	2.81E-22
NE	54100	Cm-243	3.58E-10	6.44E-17	9.34E-18	7.37E-17
NE	54100	Cm-244	6.16E-09	1.11E-15	1.61E-16	1.27E-15
NE	54100	Cs-137	1.81E-06	3.27E-13	4.74E-14	3.74E-13

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NE	54100	Eu-152	2.91E-15	5.24E-22	7.60E-23	6.00E-22
NE	54100	Eu-154	1.68E-14	3.03E-21	4.39E-22	3.47E-21
NE	54100	Eu-155	6.20E-15	1.12E-21	1.62E-22	1.28E-21
NE	54100	H-3	5.65E-04	0.00E+00	0.00E+00	0.00E+00
NE	54100	I-129	4.88E-12	1.71E-17	7.91E-19	1.79E-17
NE	54100	Ni-63	2.08E-08	3.75E-15	5.44E-16	4.29E-15
NE	54100	Np-237	5.30E-10	9.54E-17	1.38E-17	1.09E-16
NE	54100	Pu-238	7.66E-10	1.38E-16	2.00E-17	1.58E-16
NE	54100	Pu-239	1.69E-08	3.05E-15	4.42E-16	3.49E-15
NE	54100	Pu-240	3.96E-09	7.13E-16	1.03E-16	8.17E-16
NE	54100	Pu-241	1.07E-08	1.92E-15	2.79E-16	2.20E-15
NE	54100	Sb-125	4.66E-08	8.38E-15	1.22E-15	9.60E-15
NE	54100	Sm-151	1.71E-11	3.07E-18	4.46E-19	3.52E-18
NE	54100	Sn-126	2.01E-08	3.63E-15	5.26E-16	4.15E-15
NE	54100	Sr-90	2.76E-06	4.97E-13	7.21E-14	5.69E-13
NE	54100	Tc-99	6.74E-05	1.21E-11	1.76E-12	1.39E-11
NE	54100	Th-232	8.49E-18	1.53E-24	2.22E-25	1.75E-24
NE	54100	U-233	1.85E-10	3.34E-17	4.84E-18	3.82E-17
NE	54100	U-234	5.44E-11	9.80E-18	1.42E-18	1.12E-17
NE	54100	U-235	2.20E-12	3.96E-19	5.75E-20	4.54E-19
NE	54100	U-236	1.80E-12	3.24E-19	4.70E-20	3.71E-19
NE	54100	U-238	4.88E-11	8.79E-18	1.28E-18	1.01E-17
NE	54100	Y-90	2.54E-06	4.56E-13	6.73E-14	5.24E-13
NE	54100	Ru-106	1.05E-14	1.88E-21	2.73E-22	2.16E-21
NE	54100	Cs-134	2.63E-13	4.73E-20	6.86E-21	5.42E-20
NE	54100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NE	54100	Pu-242	6.14E-13	1.10E-19	1.60E-20	1.27E-19
NE	54100	Ra-226	5.60E-12	1.01E-18	1.46E-19	1.16E-18
NE	54100	U-232	3.43E-12	6.17E-19	8.95E-20	7.07E-19
NE	54100	Pa-231	7.67E-18	1.38E-24	2.00E-25	1.58E-24
NE	54100	Ni-59	2.76E-10	4.97E-17	7.21E-18	5.69E-17
NE	54100	Ac-227	5.54E-11	9.97E-18	1.45E-18	1.14E-17
NE	54100	Am-243	8.25E-11	1.48E-17	2.15E-18	1.70E-17
NE	54100	Ra-228	3.43E-10	6.17E-17	8.95E-18	7.07E-17
NE	54100	Cm-242	5.02E-09	9.04E-16	1.31E-16	1.04E-15
NE	54100	Th-229	3.84E-18	6.92E-25	1.00E-25	7.92E-25
NE	54100	Zr-93	3.62E-14	6.51E-21	9.44E-22	7.45E-21
NE	54100	Nb-93m	6.16E-14	1.11E-20	1.61E-21	1.27E-20
NE	54100	Cd-113m	3.27E-08	5.88E-15	8.54E-16	6.74E-15
NE	54100	Se-79	3.92E-07	7.06E-14	1.02E-14	8.09E-14
NE	60100	Am-241	8.99E-08	1.62E-14	2.95E-15	1.91E-14
NE	60100	C-14	1.15E-04	0.00E+00	0.00E+00	0.00E+00
NE	60100	Co-60	8.58E-16	1.54E-22	2.81E-23	1.83E-22
NE	60100	Cm-243	2.25E-10	4.05E-17	7.39E-18	4.79E-17
NE	60100	Cm-244	3.88E-09	6.99E-16	1.27E-16	8.26E-16
NE	60100	Cs-137	1.14E-06	2.06E-13	3.75E-14	2.43E-13
NE	60100	Eu-152	1.83E-15	3.30E-22	6.01E-23	3.90E-22

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NE	60100	Eu-154	1.06E-14	1.91E-21	3.47E-22	2.25E-21
NE	60100	Eu-155	3.91E-15	7.03E-22	1.28E-22	8.31E-22
NE	60100	H-3	5.02E-04	0.00E+00	0.00E+00	0.00E+00
NE	60100	I-129	3.80E-12	1.33E-17	6.48E-19	1.39E-17
NE	60100	Ni-63	1.31E-08	2.36E-15	4.30E-16	2.79E-15
NE	60100	Np-237	3.34E-10	6.00E-17	1.09E-17	7.10E-17
NE	60100	Pu-238	4.82E-10	8.68E-17	1.58E-17	1.03E-16
NE	60100	Pu-239	1.07E-08	1.92E-15	3.50E-16	2.27E-15
NE	60100	Pu-240	2.50E-09	4.49E-16	8.19E-17	5.31E-16
NE	60100	Pu-241	6.73E-09	1.21E-15	2.21E-16	1.43E-15
NE	60100	Sb-125	2.93E-08	5.28E-15	9.62E-16	6.24E-15
NE	60100	Sm-151	1.08E-11	1.94E-18	3.53E-19	2.29E-18
NE	60100	Sn-126	1.27E-08	2.28E-15	4.16E-16	2.70E-15
NE	60100	Sr-90	1.74E-06	3.13E-13	5.71E-14	3.70E-13
NE	60100	Tc-99	4.24E-05	7.64E-12	1.39E-12	9.03E-12
NE	60100	Th-232	5.34E-18	9.62E-25	1.75E-25	1.14E-24
NE	60100	U-233	1.17E-10	2.10E-17	3.83E-18	2.49E-17
NE	60100	U-234	3.43E-11	6.17E-18	1.12E-18	7.30E-18
NE	60100	U-235	1.39E-12	2.50E-19	4.55E-20	2.95E-19
NE	60100	U-236	1.13E-12	2.04E-19	3.72E-20	2.41E-19
NE	60100	U-238	3.08E-11	5.54E-18	1.01E-18	6.54E-18
NE	60100	Y-90	1.59E-06	2.87E-13	5.30E-14	3.40E-13
NE	60100	Ru-106	6.58E-15	1.19E-21	2.16E-22	1.40E-21
NE	60100	Cs-134	1.65E-13	2.98E-20	5.43E-21	3.52E-20
NE	60100	Ba-137m	1.82E-20	3.28E-27	8.43E-29	3.37E-27
NE	60100	Pu-242	3.87E-13	6.96E-20	1.27E-20	8.23E-20
NE	60100	Ra-226	3.53E-12	6.35E-19	1.16E-19	7.51E-19
NE	60100	U-232	2.16E-12	3.89E-19	7.08E-20	4.60E-19
NE	60100	Pa-231	4.83E-18	8.70E-25	1.59E-25	1.03E-24
NE	60100	Ni-59	1.74E-10	3.13E-17	5.71E-18	3.70E-17
NE	60100	Ac-227	3.49E-11	6.28E-18	1.14E-18	7.42E-18
NE	60100	Am-243	5.19E-11	9.35E-18	1.70E-18	1.11E-17
NE	60100	Ra-228	2.16E-10	3.89E-17	7.08E-18	4.60E-17
NE	60100	Cm-242	3.16E-09	5.69E-16	1.04E-16	6.73E-16
NE	60100	Th-229	2.42E-18	4.36E-25	7.94E-26	5.15E-25
NE	60100	Zr-93	2.28E-14	4.10E-21	7.47E-22	4.85E-21
NE	60100	Nb-93m	3.88E-14	6.99E-21	1.27E-21	8.26E-21
NE	60100	Cd-113m	2.06E-08	3.71E-15	6.75E-16	4.38E-15
NE	60100	Se-79	2.47E-07	4.45E-14	8.10E-15	5.26E-14
NE	66100	Am-241	7.88E-08	1.42E-14	2.64E-15	1.68E-14
NE	66100	C-14	1.04E-04	0.00E+00	0.00E+00	0.00E+00
NE	66100	Co-60	7.52E-16	1.35E-22	2.52E-23	1.61E-22
NE	66100	Cm-243	1.97E-10	3.55E-17	6.62E-18	4.22E-17
NE	66100	Cm-244	3.40E-09	6.13E-16	1.14E-16	7.27E-16
NE	66100	Cs-137	1.00E-06	1.80E-13	3.36E-14	2.14E-13
NE	66100	Eu-152	1.61E-15	2.89E-22	5.39E-23	3.43E-22
NE	66100	Eu-154	9.28E-15	1.67E-21	3.11E-22	1.98E-21

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NE	66100	Eu-155	3.42E-15	6.16E-22	1.15E-22	7.31E-22
NE	66100	H-3	4.51E-04	0.00E+00	0.00E+00	0.00E+00
NE	66100	I-129	3.17E-12	1.11E-17	5.47E-19	1.16E-17
NE	66100	Ni-63	1.15E-08	2.07E-15	3.86E-16	2.45E-15
NE	66100	Np-237	2.92E-10	5.26E-17	9.81E-18	6.24E-17
NE	66100	Pu-238	4.23E-10	7.61E-17	1.42E-17	9.03E-17
NE	66100	Pu-239	9.35E-09	1.68E-15	3.14E-16	2.00E-15
NE	66100	Pu-240	2.19E-09	3.94E-16	7.34E-17	4.67E-16
NE	66100	Pu-241	5.90E-09	1.06E-15	1.98E-16	1.26E-15
NE	66100	Sb-125	2.57E-08	4.63E-15	8.62E-16	5.49E-15
NE	66100	Sm-151	9.43E-12	1.70E-18	3.16E-19	2.01E-18
NE	66100	Sn-126	1.11E-08	2.00E-15	3.73E-16	2.38E-15
NE	66100	Sr-90	1.52E-06	2.74E-13	5.12E-14	3.26E-13
NE	66100	Tc-99	3.72E-05	6.70E-12	1.25E-12	7.94E-12
NE	66100	Th-232	4.68E-18	8.43E-25	1.57E-25	1.00E-24
NE	66100	U-233	1.02E-10	1.84E-17	3.44E-18	2.19E-17
NE	66100	U-234	3.01E-11	5.41E-18	1.01E-18	6.42E-18
NE	66100	U-235	1.22E-12	2.19E-19	4.08E-20	2.60E-19
NE	66100	U-236	9.94E-13	1.79E-19	3.34E-20	2.12E-19
NE	66100	U-238	2.70E-11	4.85E-18	9.05E-19	5.76E-18
NE	66100	Y-90	1.38E-06	2.49E-13	4.72E-14	2.96E-13
NE	66100	Ru-106	5.77E-15	1.04E-21	1.94E-22	1.23E-21
NE	66100	Cs-134	1.45E-13	2.61E-20	4.87E-21	3.10E-20
NE	66100	Ba-137m	1.55E-19	2.79E-26	1.72E-27	2.97E-26
NE	66100	Pu-242	3.39E-13	6.10E-20	1.14E-20	7.24E-20
NE	66100	Ra-226	3.09E-12	5.57E-19	1.04E-19	6.61E-19
NE	66100	U-232	1.89E-12	3.41E-19	6.35E-20	4.04E-19
NE	66100	Pa-231	4.24E-18	7.62E-25	1.42E-25	9.04E-25
NE	66100	Ni-59	1.52E-10	2.74E-17	5.12E-18	3.26E-17
NE	66100	Ac-227	3.06E-11	5.50E-18	1.03E-18	6.53E-18
NE	66100	Am-243	4.55E-11	8.19E-18	1.53E-18	9.72E-18
NE	66100	Ra-228	1.89E-10	3.41E-17	6.35E-18	4.04E-17
NE	66100	Cm-242	2.77E-09	4.99E-16	9.31E-17	5.92E-16
NE	66100	Th-229	2.12E-18	3.82E-25	7.12E-26	4.53E-25
NE	66100	Zr-93	2.00E-14	3.59E-21	6.70E-22	4.26E-21
NE	66100	Nb-93m	3.40E-14	6.13E-21	1.14E-21	7.27E-21
NE	66100	Cd-113m	1.80E-08	3.25E-15	6.06E-16	3.85E-15
NE	66100	Se-79	2.17E-07	3.90E-14	7.27E-15	4.62E-14
NNE	12100	Am-241	1.15E-06	2.06E-13	1.75E-14	2.24E-13
NNE	12100	C-14	6.66E-04	0.00E+00	0.00E+00	0.00E+00
NNE	12100	Co-60	1.09E-14	1.97E-21	1.67E-22	2.14E-21
NNE	12100	Cm-243	2.87E-09	5.17E-16	4.39E-17	5.60E-16
NNE	12100	Cm-244	4.95E-08	8.90E-15	7.57E-16	9.66E-15
NNE	12100	Cs-137	1.46E-05	2.62E-12	2.23E-13	2.84E-12
NNE	12100	Eu-152	2.33E-14	4.20E-21	3.57E-22	4.56E-21
NNE	12100	Eu-154	1.35E-13	2.43E-20	2.06E-21	2.63E-20
NNE	12100	Eu-155	4.98E-14	8.96E-21	7.62E-22	9.72E-21

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNE	12100	H-3	2.90E-03	0.00E+00	0.00E+00	0.00E+00
NNE	12100	I-129	5.24E-11	1.83E-16	3.80E-18	1.87E-16
NNE	12100	Ni-63	1.67E-07	3.01E-14	2.56E-15	3.26E-14
NNE	12100	Np-237	4.25E-09	7.65E-16	6.51E-17	8.30E-16
NNE	12100	Pu-238	6.15E-09	1.11E-15	9.41E-17	1.20E-15
NNE	12100	Pu-239	1.36E-07	2.45E-14	2.08E-15	2.66E-14
NNE	12100	Pu-240	3.18E-08	5.72E-15	4.87E-16	6.21E-15
NNE	12100	Pu-241	8.58E-08	1.54E-14	1.31E-15	1.68E-14
NNE	12100	Sb-125	3.74E-07	6.73E-14	5.72E-15	7.30E-14
NNE	12100	Sm-151	1.37E-10	2.47E-17	2.10E-18	2.68E-17
NNE	12100	Sn-126	1.62E-07	2.91E-14	2.47E-15	3.16E-14
NNE	12100	Sr-90	2.22E-05	3.99E-12	3.39E-13	4.33E-12
NNE	12100	Tc-99	5.41E-04	9.73E-11	8.28E-12	1.06E-10
NNE	12100	Th-232	6.81E-17	1.23E-23	1.04E-24	1.33E-23
NNE	12100	U-233	1.49E-09	2.68E-16	2.28E-17	2.91E-16
NNE	12100	U-234	4.37E-10	7.86E-17	6.69E-18	8.53E-17
NNE	12100	U-235	1.77E-11	3.18E-18	2.70E-19	3.45E-18
NNE	12100	U-236	1.45E-11	2.60E-18	2.21E-19	2.82E-18
NNE	12100	U-238	3.92E-10	7.05E-17	6.00E-18	7.65E-17
NNE	12100	Y-90	2.16E-05	3.90E-12	3.32E-13	4.23E-12
NNE	12100	Ru-106	8.39E-14	1.51E-20	1.28E-21	1.64E-20
NNE	12100	Cs-134	2.11E-12	3.80E-19	3.23E-20	4.12E-19
NNE	12100	Ba-137m	1.94E-16	3.50E-23	7.12E-24	4.21E-23
NNE	12100	Pu-242	4.93E-12	8.87E-19	7.54E-20	9.62E-19
NNE	12100	Ra-226	4.50E-11	8.10E-18	6.88E-19	8.78E-18
NNE	12100	U-232	2.75E-11	4.95E-18	4.21E-19	5.37E-18
NNE	12100	Pa-231	6.16E-17	1.11E-23	9.42E-25	1.20E-23
NNE	12100	Ni-59	2.22E-09	3.99E-16	3.39E-17	4.33E-16
NNE	12100	Ac-227	4.44E-10	8.00E-17	6.80E-18	8.68E-17
NNE	12100	Am-243	6.62E-10	1.19E-16	1.01E-17	1.29E-16
NNE	12100	Ra-228	2.75E-09	4.95E-16	4.21E-17	5.37E-16
NNE	12100	Cm-242	4.04E-08	7.26E-15	6.18E-16	7.88E-15
NNE	12100	Th-229	3.08E-17	5.55E-24	4.72E-25	6.02E-24
NNE	12100	Zr-93	2.90E-13	5.22E-20	4.44E-21	5.67E-20
NNE	12100	Nb-93m	4.95E-13	8.90E-20	7.57E-21	9.66E-20
NNE	12100	Cd-113m	2.62E-07	4.72E-14	4.02E-15	5.12E-14
NNE	12100	Se-79	3.15E-06	5.67E-13	4.82E-14	6.15E-13
NNE	16100	Am-241	7.92E-07	1.43E-13	1.28E-14	1.55E-13
NNE	16100	C-14	4.82E-04	0.00E+00	0.00E+00	0.00E+00
NNE	16100	Co-60	7.56E-15	1.36E-21	1.22E-22	1.48E-21
NNE	16100	Cm-243	1.98E-09	3.57E-16	3.20E-17	3.89E-16
NNE	16100	Cm-244	3.42E-08	6.15E-15	5.52E-16	6.71E-15
NNE	16100	Cs-137	1.01E-05	1.81E-12	1.63E-13	1.97E-12
NNE	16100	Eu-152	1.61E-14	2.90E-21	2.61E-22	3.16E-21
NNE	16100	Eu-154	9.32E-14	1.68E-20	1.51E-21	1.83E-20
NNE	16100	Eu-155	3.44E-14	6.19E-21	5.56E-22	6.75E-21
NNE	16100	H-3	2.10E-03	0.00E+00	0.00E+00	0.00E+00

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNE	16100	I-129	2.79E-11	9.77E-17	2.50E-18	1.00E-16
NNE	16100	Ni-63	1.15E-07	2.08E-14	1.86E-15	2.26E-14
NNE	16100	Np-237	2.94E-09	5.29E-16	4.75E-17	5.76E-16
NNE	16100	Pu-238	4.25E-09	7.65E-16	6.86E-17	8.33E-16
NNE	16100	Pu-239	9.40E-08	1.69E-14	1.52E-15	1.84E-14
NNE	16100	Pu-240	2.20E-08	3.96E-15	3.55E-16	4.31E-15
NNE	16100	Pu-241	5.93E-08	1.07E-14	9.57E-16	1.16E-14
NNE	16100	Sb-125	2.58E-07	4.65E-14	4.17E-15	5.07E-14
NNE	16100	Sm-151	9.47E-11	1.71E-17	1.53E-18	1.86E-17
NNE	16100	Sn-126	1.12E-07	2.01E-14	1.80E-15	2.19E-14
NNE	16100	Sr-90	1.53E-05	2.76E-12	2.47E-13	3.00E-12
NNE	16100	Tc-99	3.74E-04	6.73E-11	6.04E-12	7.33E-11
NNE	16100	Th-232	4.71E-17	8.47E-24	7.60E-25	9.23E-24
NNE	16100	U-233	1.03E-09	1.85E-16	1.66E-17	2.02E-16
NNE	16100	U-234	3.02E-10	5.44E-17	4.88E-18	5.92E-17
NNE	16100	U-235	1.22E-11	2.20E-18	1.97E-19	2.40E-18
NNE	16100	U-236	9.99E-12	1.80E-18	1.61E-19	1.96E-18
NNE	16100	U-238	2.71E-10	4.88E-17	4.37E-18	5.31E-17
NNE	16100	Y-90	1.48E-05	2.67E-12	2.41E-13	2.91E-12
NNE	16100	Ru-106	5.80E-14	1.04E-20	9.37E-22	1.14E-20
NNE	16100	Cs-134	1.46E-12	2.62E-19	2.35E-20	2.86E-19
NNE	16100	Ba-137m	1.25E-16	2.25E-23	1.40E-24	2.39E-23
NNE	16100	Pu-242	3.40E-12	6.13E-19	5.50E-20	6.68E-19
NNE	16100	Ra-226	3.11E-11	5.60E-18	5.02E-19	6.10E-18
NNE	16100	U-232	1.90E-11	3.42E-18	3.07E-19	3.73E-18
NNE	16100	Pa-231	4.26E-17	7.66E-24	6.87E-25	8.35E-24
NNE	16100	Ni-59	1.53E-09	2.76E-16	2.47E-17	3.00E-16
NNE	16100	Ac-227	3.07E-10	5.53E-17	4.96E-18	6.02E-17
NNE	16100	Am-243	4.57E-10	8.23E-17	7.39E-18	8.97E-17
NNE	16100	Ra-228	1.90E-09	3.42E-16	3.07E-17	3.73E-16
NNE	16100	Cm-242	2.79E-08	5.02E-15	4.50E-16	5.47E-15
NNE	16100	Th-229	2.13E-17	3.84E-24	3.44E-25	4.18E-24
NNE	16100	Zr-93	2.01E-13	3.61E-20	3.24E-21	3.93E-20
NNE	16100	Nb-93m	3.42E-13	6.15E-20	5.52E-21	6.71E-20
NNE	16100	Cd-113m	1.81E-07	3.26E-14	2.93E-15	3.56E-14
NNE	16100	Se-79	2.18E-06	3.92E-13	3.51E-14	4.27E-13
NNE	24100	Am-241	4.12E-07	7.42E-14	7.63E-15	8.19E-14
NNE	24100	C-14	3.06E-04	0.00E+00	0.00E+00	0.00E+00
NNE	24100	Co-60	3.93E-15	7.08E-22	7.28E-23	7.81E-22
NNE	24100	Cm-243	1.03E-09	1.86E-16	1.91E-17	2.05E-16
NNE	24100	Cm-244	1.78E-08	3.20E-15	3.30E-16	3.53E-15
NNE	24100	Cs-137	5.24E-06	9.43E-13	9.70E-14	1.04E-12
NNE	24100	Eu-152	8.40E-15	1.51E-21	1.56E-22	1.67E-21
NNE	24100	Eu-154	4.86E-14	8.74E-21	8.99E-22	9.64E-21
NNE	24100	Eu-155	1.79E-14	3.23E-21	3.32E-22	3.56E-21
NNE	24100	H-3	1.33E-03	0.00E+00	0.00E+00	0.00E+00
NNE	24100	I-129	9.45E-12	3.31E-17	1.29E-18	3.44E-17

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNE	24100	Ni-63	6.01E-08	1.08E-14	1.11E-15	1.19E-14
NNE	24100	Np-237	1.53E-09	2.75E-16	2.83E-17	3.04E-16
NNE	24100	Pu-238	2.21E-09	3.98E-16	4.10E-17	4.39E-16
NNE	24100	Pu-239	4.89E-08	8.81E-15	9.06E-16	9.72E-15
NNE	24100	Pu-240	1.14E-08	2.06E-15	2.12E-16	2.27E-15
NNE	24100	Pu-241	3.09E-08	5.56E-15	5.72E-16	6.13E-15
NNE	24100	Sb-125	1.34E-07	2.42E-14	2.49E-15	2.67E-14
NNE	24100	Sm-151	4.93E-11	8.88E-18	9.13E-19	9.79E-18
NNE	24100	Sn-126	5.82E-08	1.05E-14	1.08E-15	1.16E-14
NNE	24100	Sr-90	7.98E-06	1.44E-12	1.48E-13	1.58E-12
NNE	24100	Tc-99	1.95E-04	3.50E-11	3.60E-12	3.86E-11
NNE	24100	Th-232	2.45E-17	4.41E-24	4.54E-25	4.87E-24
NNE	24100	U-233	5.36E-10	9.64E-17	9.92E-18	1.06E-16
NNE	24100	U-234	1.57E-10	2.83E-17	2.91E-18	3.12E-17
NNE	24100	U-235	6.36E-12	1.14E-18	1.18E-19	1.26E-18
NNE	24100	U-236	5.20E-12	9.36E-19	9.63E-20	1.03E-18
NNE	24100	U-238	1.41E-10	2.54E-17	2.61E-18	2.80E-17
NNE	24100	Y-90	7.61E-06	1.37E-12	1.42E-13	1.51E-12
NNE	24100	Ru-106	3.02E-14	5.44E-21	5.59E-22	6.00E-21
NNE	24100	Cs-134	7.59E-13	1.37E-19	1.41E-20	1.51E-19
NNE	24100	Ba-137m	2.45E-17	4.41E-24	8.18E-25	5.23E-24
NNE	24100	Pu-242	1.77E-12	3.19E-19	3.28E-20	3.52E-19
NNE	24100	Ra-226	1.62E-11	2.91E-18	3.00E-19	3.21E-18
NNE	24100	U-232	9.90E-12	1.78E-18	1.83E-19	1.97E-18
NNE	24100	Pa-231	2.22E-17	3.99E-24	4.10E-25	4.40E-24
NNE	24100	Ni-59	7.98E-10	1.44E-16	1.48E-17	1.58E-16
NNE	24100	Ac-227	1.60E-10	2.88E-17	2.96E-18	3.17E-17
NNE	24100	Am-243	2.38E-10	4.29E-17	4.41E-18	4.73E-17
NNE	24100	Ra-228	9.90E-10	1.78E-16	1.83E-17	1.97E-16
NNE	24100	Cm-242	1.45E-08	2.61E-15	2.69E-16	2.88E-15
NNE	24100	Th-229	1.11E-17	2.00E-24	2.06E-25	2.20E-24
NNE	24100	Zr-93	1.04E-13	1.88E-20	1.93E-21	2.07E-20
NNE	24100	Nb-93m	1.78E-13	3.20E-20	3.30E-21	3.53E-20
NNE	24100	Cd-113m	9.44E-08	1.70E-14	1.75E-15	1.87E-14
NNE	24100	Se-79	1.13E-06	2.04E-13	2.10E-14	2.25E-13
NNE	30100	Am-241	2.73E-07	4.92E-14	5.73E-15	5.49E-14
NNE	30100	C-14	2.38E-04	0.00E+00	0.00E+00	0.00E+00
NNE	30100	Co-60	2.61E-15	4.69E-22	5.47E-23	5.24E-22
NNE	30100	Cm-243	6.84E-10	1.23E-16	1.43E-17	1.38E-16
NNE	30100	Cm-244	1.18E-08	2.12E-15	2.47E-16	2.37E-15
NNE	30100	Cs-137	3.47E-06	6.25E-13	7.28E-14	6.98E-13
NNE	30100	Eu-152	5.57E-15	1.00E-21	1.17E-22	1.12E-21
NNE	30100	Eu-154	3.22E-14	5.79E-21	6.75E-22	6.47E-21
NNE	30100	Eu-155	1.19E-14	2.14E-21	2.49E-22	2.39E-21
NNE	30100	H-3	1.04E-03	0.00E+00	0.00E+00	0.00E+00
NNE	30100	I-129	6.12E-12	2.14E-17	9.12E-19	2.23E-17
NNE	30100	Ni-63	3.98E-08	7.17E-15	8.35E-16	8.00E-15

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNE	30100	Np-237	1.01E-09	1.82E-16	2.13E-17	2.04E-16
NNE	30100	Pu-238	1.47E-09	2.64E-16	3.07E-17	2.95E-16
NNE	30100	Pu-239	3.24E-08	5.84E-15	6.80E-16	6.52E-15
NNE	30100	Pu-240	7.58E-09	1.36E-15	1.59E-16	1.52E-15
NNE	30100	Pu-241	2.05E-08	3.68E-15	4.29E-16	4.11E-15
NNE	30100	Sb-125	8.91E-08	1.60E-14	1.87E-15	1.79E-14
NNE	30100	Sm-151	3.27E-11	5.88E-18	6.85E-19	6.57E-18
NNE	30100	Sn-126	3.86E-08	6.94E-15	8.08E-16	7.75E-15
NNE	30100	Sr-90	5.29E-06	9.51E-13	1.11E-13	1.06E-12
NNE	30100	Tc-99	1.29E-04	2.32E-11	2.70E-12	2.59E-11
NNE	30100	Th-232	1.62E-17	2.92E-24	3.41E-25	3.26E-24
NNE	30100	U-233	3.55E-10	6.39E-17	7.44E-18	7.13E-17
NNE	30100	U-234	1.04E-10	1.88E-17	2.18E-18	2.09E-17
NNE	30100	U-235	4.21E-12	7.58E-19	8.83E-20	8.47E-19
NNE	30100	U-236	3.45E-12	6.20E-19	7.23E-20	6.93E-19
NNE	30100	U-238	9.35E-11	1.68E-17	1.96E-18	1.88E-17
NNE	30100	Y-90	4.99E-06	8.98E-13	1.05E-13	1.00E-12
NNE	30100	Ru-106	2.00E-14	3.60E-21	4.20E-22	4.02E-21
NNE	30100	Cs-134	5.03E-13	9.05E-20	1.05E-20	1.01E-19
NNE	30100	Ba-137m	2.98E-19	5.37E-26	5.55E-26	1.09E-25
NNE	30100	Pu-242	1.17E-12	2.11E-19	2.46E-20	2.36E-19
NNE	30100	Ra-226	1.07E-11	1.93E-18	2.25E-19	2.16E-18
NNE	30100	U-232	6.56E-12	1.18E-18	1.38E-19	1.32E-18
NNE	30100	Pa-231	1.47E-17	2.64E-24	3.08E-25	2.95E-24
NNE	30100	Ni-59	5.29E-10	9.51E-17	1.11E-17	1.06E-16
NNE	30100	Ac-227	1.06E-10	1.91E-17	2.22E-18	2.13E-17
NNE	30100	Am-243	1.58E-10	2.84E-17	3.31E-18	3.17E-17
NNE	30100	Ra-228	6.56E-10	1.18E-16	1.38E-17	1.32E-16
NNE	30100	Cm-242	9.62E-09	1.73E-15	2.02E-16	1.93E-15
NNE	30100	Th-229	7.35E-18	1.32E-24	1.54E-25	1.48E-24
NNE	30100	Zr-93	6.92E-14	1.25E-20	1.45E-21	1.39E-20
NNE	30100	Nb-93m	1.18E-13	2.12E-20	2.47E-21	2.37E-20
NNE	30100	Cd-113m	6.26E-08	1.13E-14	1.31E-15	1.26E-14
NNE	30100	Se-79	7.51E-07	1.35E-13	1.57E-14	1.51E-13
NNE	36100	Am-241	2.15E-07	3.87E-14	4.66E-15	4.34E-14
NNE	36100	C-14	1.94E-04	0.00E+00	0.00E+00	0.00E+00
NNE	36100	Co-60	2.05E-15	3.70E-22	4.45E-23	4.14E-22
NNE	36100	Cm-243	5.39E-10	9.70E-17	1.17E-17	1.09E-16
NNE	36100	Cm-244	9.29E-09	1.67E-15	2.01E-16	1.87E-15
NNE	36100	Cs-137	2.73E-06	4.92E-13	5.93E-14	5.52E-13
NNE	36100	Eu-152	4.38E-15	7.89E-22	9.50E-23	8.84E-22
NNE	36100	Eu-154	2.53E-14	4.56E-21	5.49E-22	5.11E-21
NNE	36100	Eu-155	9.35E-15	1.68E-21	2.03E-22	1.89E-21
NNE	36100	H-3	8.45E-04	0.00E+00	0.00E+00	0.00E+00
NNE	36100	I-129	4.33E-12	1.52E-17	6.78E-19	1.58E-17
NNE	36100	Ni-63	3.14E-08	5.65E-15	6.80E-16	6.33E-15
NNE	36100	Np-237	7.98E-10	1.44E-16	1.73E-17	1.61E-16

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNE	36100	Pu-238	1.15E-09	2.08E-16	2.50E-17	2.33E-16
NNE	36100	Pu-239	2.55E-08	4.60E-15	5.53E-16	5.15E-15
NNE	36100	Pu-240	5.97E-09	1.07E-15	1.29E-16	1.20E-15
NNE	36100	Pu-241	1.61E-08	2.90E-15	3.49E-16	3.25E-15
NNE	36100	Sb-125	7.02E-08	1.26E-14	1.52E-15	1.42E-14
NNE	36100	Sm-151	2.57E-11	4.63E-18	5.58E-19	5.19E-18
NNE	36100	Sn-126	3.04E-08	5.47E-15	6.58E-16	6.12E-15
NNE	36100	Sr-90	4.16E-06	7.49E-13	9.02E-14	8.39E-13
NNE	36100	Tc-99	1.02E-04	1.83E-11	2.20E-12	2.05E-11
NNE	36100	Th-232	1.28E-17	2.30E-24	2.77E-25	2.58E-24
NNE	36100	U-233	2.80E-10	5.03E-17	6.06E-18	5.64E-17
NNE	36100	U-234	8.20E-11	1.48E-17	1.78E-18	1.65E-17
NNE	36100	U-235	3.32E-12	5.97E-19	7.19E-20	6.69E-19
NNE	36100	U-236	2.71E-12	4.89E-19	5.88E-20	5.47E-19
NNE	36100	U-238	7.36E-11	1.32E-17	1.59E-18	1.48E-17
NNE	36100	Y-90	3.88E-06	6.99E-13	8.49E-14	7.84E-13
NNE	36100	Ru-106	1.58E-14	2.84E-21	3.41E-22	3.18E-21
NNE	36100	Cs-134	3.96E-13	7.13E-20	8.58E-21	7.99E-20
NNE	36100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NNE	36100	Pu-242	9.25E-13	1.66E-19	2.00E-20	1.87E-19
NNE	36100	Ra-226	8.45E-12	1.52E-18	1.83E-19	1.70E-18
NNE	36100	U-232	5.17E-12	9.30E-19	1.12E-19	1.04E-18
NNE	36100	Pa-231	1.16E-17	2.08E-24	2.51E-25	2.33E-24
NNE	36100	Ni-59	4.16E-10	7.49E-17	9.02E-18	8.39E-17
NNE	36100	Ac-227	8.34E-11	1.50E-17	1.81E-18	1.68E-17
NNE	36100	Am-243	1.24E-10	2.24E-17	2.69E-18	2.51E-17
NNE	36100	Ra-228	5.17E-10	9.30E-17	1.12E-17	1.04E-16
NNE	36100	Cm-242	7.57E-09	1.36E-15	1.64E-16	1.53E-15
NNE	36100	Th-229	5.79E-18	1.04E-24	1.25E-25	1.17E-24
NNE	36100	Zr-93	5.45E-14	9.81E-21	1.18E-21	1.10E-20
NNE	36100	Nb-93m	9.29E-14	1.67E-20	2.01E-21	1.87E-20
NNE	36100	Cd-113m	4.93E-08	8.87E-15	1.07E-15	9.94E-15
NNE	36100	Se-79	5.91E-07	1.06E-13	1.28E-14	1.19E-13
NNE	42100	Am-241	1.74E-07	3.13E-14	3.89E-15	3.52E-14
NNE	42100	C-14	1.63E-04	0.00E+00	0.00E+00	0.00E+00
NNE	42100	Co-60	1.66E-15	2.99E-22	3.71E-23	3.36E-22
NNE	42100	Cm-243	4.35E-10	7.84E-17	9.74E-18	8.81E-17
NNE	42100	Cm-244	7.51E-09	1.35E-15	1.68E-16	1.52E-15
NNE	42100	Cs-137	2.21E-06	3.98E-13	4.94E-14	4.47E-13
NNE	42100	Eu-152	3.54E-15	6.37E-22	7.92E-23	7.17E-22
NNE	42100	Eu-154	2.05E-14	3.68E-21	4.58E-22	4.14E-21
NNE	42100	Eu-155	7.55E-15	1.36E-21	1.69E-22	1.53E-21
NNE	42100	H-3	7.11E-04	0.00E+00	0.00E+00	0.00E+00
NNE	42100	I-129	3.17E-12	1.11E-17	5.17E-19	1.16E-17
NNE	42100	Ni-63	2.53E-08	4.56E-15	5.67E-16	5.13E-15
NNE	42100	Np-237	6.45E-10	1.16E-16	1.44E-17	1.31E-16
NNE	42100	Pu-238	9.32E-10	1.68E-16	2.09E-17	1.89E-16

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNE	42100	Pu-239	2.06E-08	3.71E-15	4.61E-16	4.18E-15
NNE	42100	Pu-240	4.82E-09	8.68E-16	1.08E-16	9.76E-16
NNE	42100	Pu-241	1.30E-08	2.34E-15	2.91E-16	2.63E-15
NNE	42100	Sb-125	5.67E-08	1.02E-14	1.27E-15	1.15E-14
NNE	42100	Sm-151	2.08E-11	3.74E-18	4.65E-19	4.21E-18
NNE	42100	Sn-126	2.45E-08	4.42E-15	5.49E-16	4.96E-15
NNE	42100	Sr-90	3.36E-06	6.05E-13	7.52E-14	6.80E-13
NNE	42100	Tc-99	8.20E-05	1.48E-11	1.83E-12	1.66E-11
NNE	42100	Th-232	1.03E-17	1.86E-24	2.31E-25	2.09E-24
NNE	42100	U-233	2.26E-10	4.06E-17	5.05E-18	4.57E-17
NNE	42100	U-234	6.63E-11	1.19E-17	1.48E-18	1.34E-17
NNE	42100	U-235	2.68E-12	4.82E-19	5.99E-20	5.42E-19
NNE	42100	U-236	2.19E-12	3.95E-19	4.90E-20	4.44E-19
NNE	42100	U-238	5.95E-11	1.07E-17	1.33E-18	1.20E-17
NNE	42100	Y-90	3.10E-06	5.59E-13	7.00E-14	6.29E-13
NNE	42100	Ru-106	1.27E-14	2.29E-21	2.85E-22	2.58E-21
NNE	42100	Cs-134	3.20E-13	5.76E-20	7.15E-21	6.47E-20
NNE	42100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NNE	42100	Pu-242	7.47E-13	1.35E-19	1.67E-20	1.51E-19
NNE	42100	Ra-226	6.82E-12	1.23E-18	1.53E-19	1.38E-18
NNE	42100	U-232	4.18E-12	7.52E-19	9.34E-20	8.45E-19
NNE	42100	Pa-231	9.34E-18	1.68E-24	2.09E-25	1.89E-24
NNE	42100	Ni-59	3.36E-10	6.05E-17	7.52E-18	6.81E-17
NNE	42100	Ac-227	6.74E-11	1.21E-17	1.51E-18	1.36E-17
NNE	42100	Am-243	1.00E-10	1.81E-17	2.24E-18	2.03E-17
NNE	42100	Ra-228	4.17E-10	7.51E-17	9.34E-18	8.45E-17
NNE	42100	Cm-242	6.12E-09	1.10E-15	1.37E-16	1.24E-15
NNE	42100	Th-229	4.68E-18	8.42E-25	1.05E-25	9.47E-25
NNE	42100	Zr-93	4.40E-14	7.92E-21	9.84E-22	8.91E-21
NNE	42100	Nb-93m	7.51E-14	1.35E-20	1.68E-21	1.52E-20
NNE	42100	Cd-113m	3.98E-08	7.16E-15	8.90E-16	8.05E-15
NNE	42100	Se-79	4.78E-07	8.60E-14	1.07E-14	9.67E-14
NNE	48100	Am-241	1.42E-07	2.56E-14	3.28E-15	2.89E-14
NNE	48100	C-14	1.41E-04	0.00E+00	0.00E+00	0.00E+00
NNE	48100	Co-60	1.36E-15	2.44E-22	3.13E-23	2.75E-22
NNE	48100	Cm-243	3.56E-10	6.41E-17	8.23E-18	7.23E-17
NNE	48100	Cm-244	6.13E-09	1.10E-15	1.42E-16	1.25E-15
NNE	48100	Cs-137	1.81E-06	3.25E-13	4.17E-14	3.67E-13
NNE	48100	Eu-152	2.89E-15	5.21E-22	6.69E-23	5.88E-22
NNE	48100	Eu-154	1.67E-14	3.01E-21	3.87E-22	3.40E-21
NNE	48100	Eu-155	6.17E-15	1.11E-21	1.43E-22	1.25E-21
NNE	48100	H-3	6.12E-04	0.00E+00	0.00E+00	0.00E+00
NNE	48100	I-129	2.37E-12	8.31E-18	4.03E-19	8.71E-18
NNE	48100	Ni-63	2.07E-08	3.73E-15	4.79E-16	4.21E-15
NNE	48100	Np-237	5.27E-10	9.49E-17	1.22E-17	1.07E-16
NNE	48100	Pu-238	7.62E-10	1.37E-16	1.76E-17	1.55E-16
NNE	48100	Pu-239	1.69E-08	3.04E-15	3.90E-16	3.43E-15

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNE	48100	Pu-240	3.94E-09	7.10E-16	9.12E-17	8.01E-16
NNE	48100	Pu-241	1.06E-08	1.91E-15	2.46E-16	2.16E-15
NNE	48100	Sb-125	4.63E-08	8.34E-15	1.07E-15	9.41E-15
NNE	48100	Sm-151	1.70E-11	3.06E-18	3.93E-19	3.45E-18
NNE	48100	Sn-126	2.01E-08	3.61E-15	4.64E-16	4.07E-15
NNE	48100	Sr-90	2.75E-06	4.95E-13	6.35E-14	5.58E-13
NNE	48100	Tc-99	6.71E-05	1.21E-11	1.55E-12	1.36E-11
NNE	48100	Th-232	8.45E-18	1.52E-24	1.95E-25	1.72E-24
NNE	48100	U-233	1.85E-10	3.32E-17	4.27E-18	3.75E-17
NNE	48100	U-234	5.42E-11	9.75E-18	1.25E-18	1.10E-17
NNE	48100	U-235	2.19E-12	3.94E-19	5.06E-20	4.45E-19
NNE	48100	U-236	1.79E-12	3.23E-19	4.14E-20	3.64E-19
NNE	48100	U-238	4.86E-11	8.75E-18	1.12E-18	9.87E-18
NNE	48100	Y-90	2.51E-06	4.51E-13	5.86E-14	5.10E-13
NNE	48100	Ru-106	1.04E-14	1.87E-21	2.41E-22	2.11E-21
NNE	48100	Cs-134	2.61E-13	4.71E-20	6.05E-21	5.31E-20
NNE	48100	Ba-137m	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NNE	48100	Pu-242	6.11E-13	1.10E-19	1.41E-20	1.24E-19
NNE	48100	Ra-226	5.58E-12	1.00E-18	1.29E-19	1.13E-18
NNE	48100	U-232	3.41E-12	6.14E-19	7.89E-20	6.93E-19
NNE	48100	Pa-231	7.64E-18	1.37E-24	1.77E-25	1.55E-24
NNE	48100	Ni-59	2.75E-10	4.95E-17	6.35E-18	5.58E-17
NNE	48100	Ac-227	5.51E-11	9.92E-18	1.27E-18	1.12E-17
NNE	48100	Am-243	8.21E-11	1.48E-17	1.90E-18	1.67E-17
NNE	48100	Ra-228	3.41E-10	6.14E-17	7.89E-18	6.93E-17
NNE	48100	Cm-242	5.00E-09	9.00E-16	1.16E-16	1.02E-15
NNE	48100	Th-229	3.82E-18	6.88E-25	8.84E-26	7.77E-25
NNE	48100	Zr-93	3.60E-14	6.48E-21	8.32E-22	7.31E-21
NNE	48100	Nb-93m	6.13E-14	1.10E-20	1.42E-21	1.25E-20
NNE	48100	Cd-113m	3.25E-08	5.86E-15	7.52E-16	6.61E-15
NNE	48100	Se-79	3.90E-07	7.03E-14	9.02E-15	7.93E-14
NNE	54100	Am-241	1.15E-07	2.07E-14	2.78E-15	2.35E-14
NNE	54100	C-14	1.23E-04	0.00E+00	0.00E+00	0.00E+00
NNE	54100	Co-60	1.10E-15	1.97E-22	2.65E-23	2.24E-22
NNE	54100	Cm-243	2.88E-10	5.18E-17	6.95E-18	5.88E-17
NNE	54100	Cm-244	4.96E-09	8.94E-16	1.20E-16	1.01E-15
NNE	54100	Cs-137	1.46E-06	2.63E-13	3.53E-14	2.98E-13
NNE	54100	Eu-152	2.34E-15	4.22E-22	5.66E-23	4.78E-22
NNE	54100	Eu-154	1.35E-14	2.44E-21	3.27E-22	2.76E-21
NNE	54100	Eu-155	5.00E-15	8.99E-22	1.21E-22	1.02E-21
NNE	54100	H-3	5.37E-04	0.00E+00	0.00E+00	0.00E+00
NNE	54100	I-129	1.82E-12	6.37E-18	3.19E-19	6.69E-18
NNE	54100	Ni-63	1.68E-08	3.02E-15	4.05E-16	3.42E-15
NNE	54100	Np-237	4.27E-10	7.68E-17	1.03E-17	8.71E-17
NNE	54100	Pu-238	6.17E-10	1.11E-16	1.49E-17	1.26E-16
NNE	54100	Pu-239	1.36E-08	2.46E-15	3.30E-16	2.79E-15
NNE	54100	Pu-240	3.19E-09	5.75E-16	7.71E-17	6.52E-16

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Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNE	54100	Pu-241	8.61E-09	1.55E-15	2.08E-16	1.76E-15
NNE	54100	Sb-125	3.75E-08	6.75E-15	9.05E-16	7.65E-15
NNE	54100	Sm-151	1.38E-11	2.48E-18	3.32E-19	2.81E-18
NNE	54100	Sn-126	1.62E-08	2.92E-15	3.92E-16	3.31E-15
NNE	54100	Sr-90	2.22E-06	4.00E-13	5.37E-14	4.54E-13
NNE	54100	Tc-99	5.43E-05	9.77E-12	1.31E-12	1.11E-11
NNE	54100	Th-232	6.83E-18	1.23E-24	1.65E-25	1.40E-24
NNE	54100	U-233	1.49E-10	2.69E-17	3.61E-18	3.05E-17
NNE	54100	U-234	4.38E-11	7.89E-18	1.06E-18	8.95E-18
NNE	54100	U-235	1.77E-12	3.19E-19	4.28E-20	3.62E-19
NNE	54100	U-236	1.45E-12	2.61E-19	3.50E-20	2.96E-19
NNE	54100	U-238	3.93E-11	7.08E-18	9.50E-19	8.03E-18
NNE	54100	Y-90	2.01E-06	3.61E-13	4.91E-14	4.10E-13
NNE	54100	Ru-106	8.42E-15	1.52E-21	2.03E-22	1.72E-21
NNE	54100	Cs-134	2.12E-13	3.81E-20	5.11E-21	4.32E-20
NNE	54100	Ba-137m	8.15E-20	1.47E-26	3.73E-28	1.50E-26
NNE	54100	Pu-242	4.94E-13	8.90E-20	1.19E-20	1.01E-19
NNE	54100	Ra-226	4.51E-12	8.12E-19	1.09E-19	9.21E-19
NNE	54100	U-232	2.76E-12	4.97E-19	6.67E-20	5.64E-19
NNE	54100	Pa-231	6.18E-18	1.11E-24	1.49E-25	1.26E-24
NNE	54100	Ni-59	2.22E-10	4.00E-17	5.37E-18	4.54E-17
NNE	54100	Ac-227	4.46E-11	8.03E-18	1.08E-18	9.10E-18
NNE	54100	Am-243	6.64E-11	1.20E-17	1.60E-18	1.36E-17
NNE	54100	Ra-228	2.76E-10	4.97E-17	6.67E-18	5.64E-17
NNE	54100	Cm-242	4.04E-09	7.28E-16	9.77E-17	8.26E-16
NNE	54100	Th-229	3.10E-18	5.57E-25	7.47E-26	6.32E-25
NNE	54100	Zr-93	2.91E-14	5.24E-21	7.03E-22	5.95E-21
NNE	54100	Nb-93m	4.96E-14	8.94E-21	1.20E-21	1.01E-20
NNE	54100	Cd-113m	2.63E-08	4.74E-15	6.36E-16	5.37E-15
NNE	54100	Se-79	3.16E-07	5.69E-14	7.63E-15	6.45E-14
NNE	60100	Am-241	6.86E-08	1.23E-14	2.11E-15	1.45E-14
NNE	60100	C-14	1.10E-04	0.00E+00	0.00E+00	0.00E+00
NNE	60100	Co-60	6.55E-16	1.18E-22	2.02E-23	1.38E-22
NNE	60100	Cm-243	1.72E-10	3.09E-17	5.29E-18	3.62E-17
NNE	60100	Cm-244	2.96E-09	5.33E-16	9.12E-17	6.24E-16
NNE	60100	Cs-137	8.72E-07	1.57E-13	2.69E-14	1.84E-13
NNE	60100	Eu-152	1.40E-15	2.52E-22	4.30E-23	2.95E-22
NNE	60100	Eu-154	8.08E-15	1.45E-21	2.49E-22	1.70E-21
NNE	60100	Eu-155	2.98E-15	5.37E-22	9.18E-23	6.28E-22
NNE	60100	H-3	4.77E-04	0.00E+00	0.00E+00	0.00E+00
NNE	60100	I-129	1.42E-12	4.98E-18	2.56E-19	5.24E-18
NNE	60100	Ni-63	1.00E-08	1.80E-15	3.08E-16	2.11E-15
NNE	60100	Np-237	2.55E-10	4.58E-17	7.84E-18	5.37E-17
NNE	60100	Pu-238	3.68E-10	6.62E-17	1.13E-17	7.76E-17
NNE	60100	Pu-239	8.14E-09	1.47E-15	2.51E-16	1.72E-15
NNE	60100	Pu-240	1.90E-09	3.43E-16	5.86E-17	4.01E-16
NNE	60100	Pu-241	5.14E-09	9.24E-16	1.58E-16	1.08E-15

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNE	60100	Sb-125	2.24E-08	4.03E-15	6.89E-16	4.72E-15
NNE	60100	Sm-151	8.21E-12	1.48E-18	2.53E-19	1.73E-18
NNE	60100	Sn-126	9.68E-09	1.74E-15	2.98E-16	2.04E-15
NNE	60100	Sr-90	1.33E-06	2.39E-13	4.09E-14	2.80E-13
NNE	60100	Tc-99	3.24E-05	5.83E-12	9.97E-13	6.83E-12
NNE	60100	Th-232	4.08E-18	7.34E-25	1.26E-25	8.60E-25
NNE	60100	U-233	8.91E-11	1.60E-17	2.74E-18	1.88E-17
NNE	60100	U-234	2.62E-11	4.71E-18	8.06E-19	5.51E-18
NNE	60100	U-235	1.06E-12	1.90E-19	3.26E-20	2.23E-19
NNE	60100	U-236	8.66E-13	1.56E-19	2.67E-20	1.82E-19
NNE	60100	U-238	2.35E-11	4.22E-18	7.23E-19	4.95E-18
NNE	60100	Y-90	1.19E-06	2.14E-13	3.71E-14	2.51E-13
NNE	60100	Ru-106	5.02E-15	9.04E-22	1.55E-22	1.06E-21
NNE	60100	Cs-134	1.26E-13	2.27E-20	3.89E-21	2.66E-20
NNE	60100	Ba-137m	1.40E-19	2.51E-26	1.54E-27	2.67E-26
NNE	60100	Pu-242	2.95E-13	5.31E-20	9.08E-21	6.22E-20
NNE	60100	Ra-226	2.69E-12	4.85E-19	8.29E-20	5.68E-19
NNE	60100	U-232	1.65E-12	2.97E-19	5.07E-20	3.47E-19
NNE	60100	Pa-231	3.69E-18	6.64E-25	1.14E-25	7.77E-25
NNE	60100	Ni-59	1.33E-10	2.39E-17	4.09E-18	2.80E-17
NNE	60100	Ac-227	2.66E-11	4.79E-18	8.19E-19	5.61E-18
NNE	60100	Am-243	3.96E-11	7.13E-18	1.22E-18	8.35E-18
NNE	60100	Ra-228	1.65E-10	2.97E-17	5.07E-18	3.47E-17
NNE	60100	Cm-242	2.41E-09	4.34E-16	7.43E-17	5.09E-16
NNE	60100	Th-229	1.85E-18	3.32E-25	5.69E-26	3.89E-25
NNE	60100	Zr-93	1.74E-14	3.13E-21	5.35E-22	3.66E-21
NNE	60100	Nb-93m	2.96E-14	5.33E-21	9.12E-22	6.24E-21
NNE	60100	Cd-113m	1.57E-08	2.83E-15	4.84E-16	3.31E-15
NNE	60100	Se-79	1.89E-07	3.39E-14	5.80E-15	3.97E-14
NNE	66100	Am-241	5.98E-08	1.08E-14	1.88E-15	1.26E-14
NNE	66100	C-14	9.86E-05	0.00E+00	0.00E+00	0.00E+00
NNE	66100	Co-60	5.70E-16	1.03E-22	1.80E-23	1.21E-22
NNE	66100	Cm-243	1.50E-10	2.70E-17	4.71E-18	3.17E-17
NNE	66100	Cm-244	2.58E-09	4.65E-16	8.12E-17	5.46E-16
NNE	66100	Cs-137	7.60E-07	1.37E-13	2.39E-14	1.61E-13
NNE	66100	Eu-152	1.22E-15	2.19E-22	3.83E-23	2.58E-22
NNE	66100	Eu-154	7.04E-15	1.27E-21	2.22E-22	1.49E-21
NNE	66100	Eu-155	2.60E-15	4.68E-22	8.18E-23	5.49E-22
NNE	66100	H-3	4.29E-04	0.00E+00	0.00E+00	0.00E+00
NNE	66100	I-129	1.16E-12	4.06E-18	2.10E-19	4.27E-18
NNE	66100	Ni-63	8.72E-09	1.57E-15	2.74E-16	1.84E-15
NNE	66100	Np-237	2.22E-10	3.99E-17	6.98E-18	4.69E-17
NNE	66100	Pu-238	3.21E-10	5.77E-17	1.01E-17	6.78E-17
NNE	66100	Pu-239	7.10E-09	1.28E-15	2.23E-16	1.50E-15
NNE	66100	Pu-240	1.66E-09	2.99E-16	5.22E-17	3.51E-16
NNE	66100	Pu-241	4.48E-09	8.06E-16	1.41E-16	9.47E-16
NNE	66100	Sb-125	1.95E-08	3.51E-15	6.14E-16	4.12E-15

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ESTIMATED RADIONUCLIDE CONCENTRATIONS  
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Conc (pCi/m3)	Dry Depo Rate (pCi/cm2-s)	Wet Depo Rate (pCi/cm2-s)	Ground Depo Rate (pCi/cm2-s)
NNE	66100	Sm-151	7.15E-12	1.29E-18	2.25E-19	1.51E-18
NNE	66100	Sn-126	8.44E-09	1.52E-15	2.66E-16	1.78E-15
NNE	66100	Sr-90	1.16E-06	2.08E-13	3.64E-14	2.45E-13
NNE	66100	Tc-99	2.82E-05	5.08E-12	8.88E-13	5.97E-12
NNE	66100	Th-232	3.55E-18	6.40E-25	1.12E-25	7.52E-25
NNE	66100	U-233	7.77E-11	1.40E-17	2.44E-18	1.64E-17
NNE	66100	U-234	2.28E-11	4.10E-18	7.18E-19	4.82E-18
NNE	66100	U-235	9.22E-13	1.66E-19	2.90E-20	1.95E-19
NNE	66100	U-236	7.54E-13	1.36E-19	2.37E-20	1.60E-19
NNE	66100	U-238	2.05E-11	3.68E-18	6.44E-19	4.33E-18
NNE	66100	Y-90	1.03E-06	1.85E-13	3.27E-14	2.18E-13
NNE	66100	Ru-106	4.38E-15	7.88E-22	1.38E-22	9.26E-22
NNE	66100	Cs-134	1.10E-13	1.98E-20	3.46E-21	2.33E-20
NNE	66100	Ba-137m	7.09E-20	1.28E-26	8.03E-28	1.36E-26
NNE	66100	Pu-242	2.57E-13	4.63E-20	8.09E-21	5.44E-20
NNE	66100	Ra-226	2.35E-12	4.22E-19	7.39E-20	4.96E-19
NNE	66100	U-232	1.44E-12	2.59E-19	4.52E-20	3.04E-19
NNE	66100	Pa-231	3.21E-18	5.78E-25	1.01E-25	6.80E-25
NNE	66100	Ni-59	1.16E-10	2.08E-17	3.64E-18	2.45E-17
NNE	66100	Ac-227	2.32E-11	4.17E-18	7.30E-19	4.90E-18
NNE	66100	Am-243	3.45E-11	6.22E-18	1.09E-18	7.30E-18
NNE	66100	Ra-228	1.44E-10	2.58E-17	4.52E-18	3.04E-17
NNE	66100	Cm-242	2.10E-09	3.78E-16	6.62E-17	4.45E-16
NNE	66100	Th-229	1.61E-18	2.90E-25	5.06E-26	3.40E-25
NNE	66100	Zr-93	1.51E-14	2.73E-21	4.77E-22	3.20E-21
NNE	66100	Nb-93m	2.58E-14	4.65E-21	8.12E-22	5.46E-21
NNE	66100	Cd-113m	1.37E-08	2.46E-15	4.31E-16	2.90E-15
NNE	66100	Se-79	1.64E-07	2.96E-14	5.17E-15	3.47E-14

C A P 8 8 - P C

Version 4.0

Clean Air Act Assessment Package - 1988

C H I / Q T A B L E S

Non-Radon Individual Assessment  
Thu Apr 23 07:54:45 2026

Facility: EMF Effluent Transfer to IP-2 Tanks  
Address:  
City:  
State: WA Zip:

Source Category:  
Source Type: Stack  
Emission Year: 2026

Comments:

Dataset Name: EMF Tanker Truck  
Dataset Date: Apr 23, 2026 07:54 AM  
Wind File: C:\Users\bawalker\Documents\CAP88\Wind Files\a19200E10.wnd

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CHI/Q  
Page 1

GROUND-LEVEL CHI/Q VALUES FOR Am-241  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

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Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

---

Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHI/Q  
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GROUND-LEVEL CHI/Q VALUES FOR C-14  
SOLUBILITY: G  
CHEMFORM: Carbone Dioxide (CO2)  
SIZE: 0.000  
CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	6.480E-08	4.685E-08	2.967E-08	2.309E-08	1.882E-08	1.583E-08	1.362E-08
NNW	8.886E-08	6.416E-08	4.057E-08	3.155E-08	2.569E-08	2.160E-08	1.859E-08
NW	8.774E-08	6.307E-08	3.965E-08	3.077E-08	2.501E-08	2.100E-08	1.805E-08
WNW	5.827E-08	4.159E-08	2.592E-08	2.004E-08	1.625E-08	1.362E-08	1.169E-08
W	4.287E-08	3.042E-08	1.882E-08	1.450E-08	1.173E-08	9.804E-09	8.399E-09
WSW	3.596E-08	2.551E-08	1.578E-08	1.215E-08	9.827E-09	8.215E-09	7.037E-09
SW	3.067E-08	2.163E-08	1.328E-08	1.020E-08	8.223E-09	6.861E-09	5.868E-09
SSW	3.060E-08	2.146E-08	1.307E-08	9.997E-09	8.042E-09	6.695E-09	5.715E-09
S	3.673E-08	2.581E-08	1.576E-08	1.207E-08	9.720E-09	8.098E-09	6.917E-09
SSE	5.383E-08	3.815E-08	2.356E-08	1.813E-08	1.465E-08	1.224E-08	1.047E-08
SE	1.146E-07	8.202E-08	5.130E-08	3.969E-08	3.220E-08	2.699E-08	2.317E-08
ESE	1.976E-07	1.430E-07	9.064E-08	7.056E-08	5.751E-08	4.839E-08	4.166E-08
E	1.354E-07	9.815E-08	6.234E-08	4.857E-08	3.962E-08	3.335E-08	2.873E-08
ENE	8.351E-08	6.042E-08	3.830E-08	2.982E-08	2.431E-08	2.045E-08	1.761E-08
NE	6.007E-08	4.342E-08	2.749E-08	2.140E-08	1.744E-08	1.467E-08	1.263E-08
NNE	5.679E-08	4.110E-08	2.607E-08	2.030E-08	1.655E-08	1.393E-08	1.200E-08

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Distance (meters)

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Dir	54100	60100	66100
N	1.194E-08	1.061E-08	9.535E-09
NNW	1.628E-08	1.447E-08	1.300E-08
NW	1.580E-08	1.403E-08	1.259E-08
WNW	1.021E-08	9.056E-09	8.123E-09
W	7.330E-09	6.491E-09	5.815E-09
WSW	6.140E-09	5.436E-09	4.871E-09
SW	5.113E-09	4.522E-09	4.047E-09
SSW	4.973E-09	4.392E-09	3.927E-09
S	6.021E-09	5.320E-09	4.758E-09
SSE	9.135E-09	8.085E-09	7.240E-09
SE	2.025E-08	1.796E-08	1.611E-08
ESE	3.651E-08	3.245E-08	2.916E-08
E	2.519E-08	2.239E-08	2.013E-08
ENE	1.544E-08	1.372E-08	1.233E-08
NE	1.107E-08	9.834E-09	8.839E-09
NNE	1.052E-08	9.347E-09	8.403E-09

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CHI/Q  
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GROUND-LEVEL CHI/Q VALUES FOR Co-60  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.850E-08	1.508E-08	1.011E-08	7.976E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.129E-08	9.153E-09	7.524E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.192E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.190E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.915E-09	6.058E-09	4.688E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.884E-09	4.616E-09	3.557E-09	2.817E-09	2.260E-09
SW	1.837E-08	1.224E-08	6.201E-09	4.239E-09	3.269E-09	2.595E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.034E-09	3.902E-09	3.118E-09	2.534E-09
S	2.440E-08	1.637E-08	8.562E-09	5.957E-09	4.622E-09	3.698E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.479E-09	6.594E-09	5.278E-09	4.291E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.784E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.326E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.681E-09	7.662E-09	6.229E-09	5.133E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.051E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.297E-09	2.563E-09	2.235E-09
NNW	6.148E-09	3.621E-09	3.161E-09
NW	5.422E-09	3.287E-09	2.858E-09
WNW	3.240E-09	2.084E-09	1.806E-09
W	2.414E-09	1.605E-09	1.386E-09
WSW	1.800E-09	1.187E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.531E-09
SSE	3.479E-09	2.385E-09	2.067E-09
SE	9.968E-09	6.817E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.904E-09	4.374E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**24590-WTP-RPT-ENV-26-001, Rev 1**  
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**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

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CHI/Q  
Page 4

GROUND-LEVEL CHI/Q VALUES FOR Cm-243  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.201E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.133E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.414E-09	1.605E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHI/Q  
Page 5

GROUND-LEVEL CHI/Q VALUES FOR Cm-244  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.201E-09	4.240E-09	3.269E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.133E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.422E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.414E-09	1.605E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.374E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 6

GROUND-LEVEL CHI/Q VALUES FOR Cs-137  
 SOLUBILITY: F  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.201E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.133E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.414E-09	1.605E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 7

GROUND-LEVEL CHI/Q VALUES FOR Eu-152  
SOLUBILITY: M  
CHEMFORM: Particulate  
SIZE: 1.000  
CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.976E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.884E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.201E-09	4.240E-09	3.269E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.133E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

---

Dir	54100	60100	66100
N	4.297E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.422E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.414E-09	1.605E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.374E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 8

GROUND-LEVEL CHI/Q VALUES FOR Eu-154  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.976E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.129E-08	9.153E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.192E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.915E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.884E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.201E-09	4.240E-09	3.269E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.562E-09	5.957E-09	4.623E-09	3.698E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.326E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.133E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

---

Dir	54100	60100	66100
N	4.297E-09	2.563E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.422E-09	3.287E-09	2.859E-09
WNW	3.240E-09	2.084E-09	1.806E-09
W	2.414E-09	1.605E-09	1.386E-09
WSW	1.800E-09	1.187E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.531E-09
SSE	3.479E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.817E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.374E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 9

GROUND-LEVEL CHI/Q VALUES FOR Eu-155  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

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Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.850E-08	1.508E-08	1.011E-08	7.976E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.129E-08	9.153E-09	7.524E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.192E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.190E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.915E-09	6.058E-09	4.688E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.884E-09	4.616E-09	3.557E-09	2.817E-09	2.260E-09
SW	1.837E-08	1.224E-08	6.201E-09	4.239E-09	3.269E-09	2.595E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.034E-09	3.902E-09	3.118E-09	2.534E-09
S	2.440E-08	1.637E-08	8.562E-09	5.957E-09	4.622E-09	3.698E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.479E-09	6.594E-09	5.278E-09	4.291E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.784E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.326E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.167E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.681E-09	7.662E-09	6.229E-09	5.133E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.051E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.297E-09	2.563E-09	2.235E-09
NNW	6.148E-09	3.621E-09	3.161E-09
NW	5.422E-09	3.287E-09	2.858E-09
WNW	3.240E-09	2.084E-09	1.806E-09
W	2.414E-09	1.605E-09	1.386E-09
WSW	1.800E-09	1.187E-09	1.022E-09
SW	1.679E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.531E-09
SSE	3.479E-09	2.385E-09	2.067E-09
SE	9.968E-09	6.817E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.962E-09
ENE	6.904E-09	4.374E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 10

GROUND-LEVEL CHI/Q VALUES FOR H-3  
 SOLUBILITY: V  
 CHEMFORM: Tritiated Water Vapor (HTO)  
 SIZE: 0.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

---

Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	6.480E-08	4.685E-08	2.967E-08	2.309E-08	1.881E-08	1.583E-08	1.362E-08
NNW	8.886E-08	6.416E-08	4.057E-08	3.155E-08	2.569E-08	2.160E-08	1.859E-08
NW	8.774E-08	6.307E-08	3.965E-08	3.076E-08	2.501E-08	2.100E-08	1.805E-08
WNW	5.827E-08	4.159E-08	2.592E-08	2.004E-08	1.625E-08	1.362E-08	1.169E-08
W	4.287E-08	3.042E-08	1.882E-08	1.450E-08	1.172E-08	9.803E-09	8.398E-09
WSW	3.596E-08	2.551E-08	1.578E-08	1.215E-08	9.826E-09	8.214E-09	7.036E-09
SW	3.066E-08	2.163E-08	1.328E-08	1.019E-08	8.223E-09	6.861E-09	5.867E-09
SSW	3.060E-08	2.146E-08	1.307E-08	9.997E-09	8.042E-09	6.695E-09	5.715E-09
S	3.673E-08	2.581E-08	1.576E-08	1.207E-08	9.720E-09	8.098E-09	6.916E-09
SSE	5.383E-08	3.815E-08	2.356E-08	1.813E-08	1.465E-08	1.223E-08	1.047E-08
SE	1.146E-07	8.202E-08	5.130E-08	3.969E-08	3.220E-08	2.699E-08	2.316E-08
ESE	1.976E-07	1.430E-07	9.064E-08	7.056E-08	5.751E-08	4.838E-08	4.166E-08
E	1.354E-07	9.815E-08	6.233E-08	4.857E-08	3.962E-08	3.335E-08	2.873E-08
ENE	8.351E-08	6.042E-08	3.830E-08	2.982E-08	2.431E-08	2.045E-08	1.761E-08
NE	6.007E-08	4.342E-08	2.749E-08	2.140E-08	1.744E-08	1.467E-08	1.263E-08
NNE	5.679E-08	4.110E-08	2.607E-08	2.030E-08	1.655E-08	1.393E-08	1.200E-08

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Distance (meters)

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Dir	54100	60100	66100
N	1.194E-08	1.061E-08	9.535E-09
NNW	1.628E-08	1.447E-08	1.300E-08
NW	1.580E-08	1.403E-08	1.259E-08
WNW	1.021E-08	9.055E-09	8.122E-09
W	7.329E-09	6.490E-09	5.815E-09
WSW	6.139E-09	5.436E-09	4.870E-09
SW	5.113E-09	4.522E-09	4.047E-09
SSW	4.972E-09	4.392E-09	3.926E-09
S	6.021E-09	5.320E-09	4.758E-09
SSE	9.135E-09	8.084E-09	7.240E-09
SE	2.025E-08	1.796E-08	1.611E-08
ESE	3.651E-08	3.245E-08	2.916E-08
E	2.519E-08	2.239E-08	2.013E-08
ENE	1.544E-08	1.372E-08	1.233E-08
NE	1.107E-08	9.834E-09	8.838E-09
NNE	1.052E-08	9.347E-09	8.402E-09

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CHI/Q  
Page 11

GROUND-LEVEL CHI/Q VALUES FOR I-129  
 SOLUBILITY: F  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	8.191E-10	4.335E-10	1.471E-10	9.547E-11	6.753E-11	4.936E-11	3.701E-11
NNW	1.312E-09	6.980E-10	2.387E-10	1.550E-10	1.098E-10	8.043E-11	6.042E-11
NW	1.690E-09	9.470E-10	3.814E-10	2.574E-10	1.862E-10	1.392E-10	1.066E-10
WNW	1.251E-09	7.344E-10	3.329E-10	2.298E-10	1.675E-10	1.260E-10	9.703E-11
W	9.294E-10	5.514E-10	2.559E-10	1.760E-10	1.274E-10	9.509E-11	7.261E-11
WSW	6.171E-10	3.722E-10	1.778E-10	1.219E-10	8.771E-11	6.501E-11	4.927E-11
SW	7.648E-10	4.703E-10	2.325E-10	1.625E-10	1.192E-10	9.010E-11	6.965E-11
SSW	1.176E-09	7.039E-10	3.310E-10	2.312E-10	1.705E-10	1.298E-10	1.011E-10
S	1.406E-09	8.266E-10	3.736E-10	2.589E-10	1.901E-10	1.441E-10	1.118E-10
SSE	1.537E-09	8.719E-10	3.677E-10	2.514E-10	1.834E-10	1.383E-10	1.069E-10
SE	5.712E-09	3.139E-09	1.043E-09	6.604E-10	4.644E-10	3.360E-10	2.477E-10
ESE	1.038E-08	5.785E-09	1.687E-09	1.004E-09	6.836E-10	4.672E-10	3.133E-10
E	4.214E-09	2.281E-09	6.552E-10	3.983E-10	2.752E-10	1.936E-10	1.371E-10
ENE	3.039E-09	1.717E-09	6.135E-10	4.017E-10	2.900E-10	2.156E-10	1.635E-10
NE	1.847E-09	1.031E-09	3.635E-10	2.361E-10	1.688E-10	1.242E-10	9.333E-11
NNE	7.651E-10	4.075E-10	1.379E-10	8.933E-11	6.324E-11	4.624E-11	3.467E-11

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Distance (meters)

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Dir	54100	60100	66100
N	2.836E-11	2.220E-11	1.798E-11
NNW	4.639E-11	3.637E-11	2.963E-11
NW	8.336E-11	6.628E-11	5.411E-11
WNW	7.607E-11	6.052E-11	4.890E-11
W	5.643E-11	4.449E-11	3.555E-11
WSW	3.798E-11	2.967E-11	2.347E-11
SW	5.479E-11	4.370E-11	3.528E-11
SSW	8.027E-11	6.467E-11	5.288E-11
S	8.845E-11	7.104E-11	5.802E-11
SSE	8.430E-11	6.757E-11	5.532E-11
SE	1.853E-10	1.410E-10	1.179E-10
ESE	1.996E-10	1.140E-10	9.279E-11
E	9.713E-11	6.931E-11	5.767E-11
ENE	1.259E-10	9.857E-11	8.337E-11
NE	7.126E-11	5.542E-11	4.622E-11
NNE	2.656E-11	2.079E-11	1.693E-11

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CHI/Q  
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GROUND-LEVEL CHI/Q VALUES FOR Ni-63  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHI/Q  
Page 13

GROUND-LEVEL CHI/Q VALUES FOR Np-237  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHI/Q  
Page 14

GROUND-LEVEL CHI/Q VALUES FOR Pu-238  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

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CHI/Q  
Page 15

GROUND-LEVEL CHI/Q VALUES FOR Pu-239  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

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CHI/Q  
Page 16

GROUND-LEVEL CHI/Q VALUES FOR Pu-240  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 17

GROUND-LEVEL CHI/Q VALUES FOR Pu-241  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.976E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.884E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.201E-09	4.240E-09	3.269E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.133E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.422E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.414E-09	1.605E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.374E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

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CHI/Q  
Page 18

GROUND-LEVEL CHI/Q VALUES FOR Sb-125  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

---

Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.850E-08	1.508E-08	1.011E-08	7.975E-09	6.454E-09	5.288E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.128E-08	9.152E-09	7.524E-09
NW	5.450E-08	3.743E-08	1.954E-08	1.296E-08	1.017E-08	8.191E-09	6.688E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.952E-09	6.190E-09	4.953E-09	4.018E-09
W	2.607E-08	1.751E-08	8.914E-09	6.057E-09	4.688E-09	3.731E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.884E-09	4.616E-09	3.556E-09	2.817E-09	2.260E-09
SW	1.837E-08	1.224E-08	6.201E-09	4.239E-09	3.269E-09	2.595E-09	2.091E-09
SSW	2.052E-08	1.373E-08	7.175E-09	5.034E-09	3.901E-09	3.117E-09	2.534E-09
S	2.439E-08	1.637E-08	8.562E-09	5.956E-09	4.622E-09	3.698E-09	3.010E-09
SSE	3.494E-08	2.362E-08	1.235E-08	8.479E-09	6.593E-09	5.278E-09	4.291E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.784E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.130E-08	4.326E-08	3.461E-08	2.848E-08	2.383E-08
E	9.901E-08	6.973E-08	3.907E-08	2.717E-08	2.167E-08	1.777E-08	1.479E-08
ENE	5.851E-08	4.097E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.349E-09
NE	3.853E-08	2.677E-08	1.431E-08	9.681E-09	7.662E-09	6.228E-09	5.133E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.051E-09	6.340E-09	5.122E-09	4.186E-09

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Distance (meters)

---

Dir	54100	60100	66100
N	4.297E-09	2.563E-09	2.234E-09
NNW	6.148E-09	3.621E-09	3.160E-09
NW	5.421E-09	3.287E-09	2.858E-09
WNW	3.239E-09	2.084E-09	1.806E-09
W	2.414E-09	1.605E-09	1.386E-09
WSW	1.799E-09	1.187E-09	1.022E-09
SW	1.679E-09	1.167E-09	1.007E-09
SSW	2.061E-09	1.494E-09	1.296E-09
S	2.453E-09	1.764E-09	1.531E-09
SSE	3.479E-09	2.384E-09	2.067E-09
SE	9.968E-09	6.817E-09	5.978E-09
ESE	1.999E-08	1.347E-08	1.190E-08
E	1.231E-08	7.908E-09	6.962E-09
ENE	6.904E-09	4.374E-09	3.843E-09
NE	4.207E-09	2.649E-09	2.322E-09
NNE	3.388E-09	2.021E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 19

GROUND-LEVEL CHI/Q VALUES FOR Sm-151  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**24590-WTP-RPT-ENV-26-001, Rev 1**  
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**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

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CHI/Q  
Page 20

GROUND-LEVEL CHI/Q VALUES FOR Sn-126  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 21

GROUND-LEVEL CHI/Q VALUES FOR Sr-90  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.201E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.133E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.414E-09	1.605E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHI/Q  
Page 22

GROUND-LEVEL CHI/Q VALUES FOR Tc-99  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHI/Q  
Page 23

GROUND-LEVEL CHI/Q VALUES FOR Th-232  
 SOLUBILITY: S  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 24

GROUND-LEVEL CHI/Q VALUES FOR U-233  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

---

Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHI/Q  
Page 25

GROUND-LEVEL CHI/Q VALUES FOR U-234  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**Application for WTP Effluent Management Facility**  
**(EMF) Effluent Transfer**

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CHI/Q  
Page 26

GROUND-LEVEL CHI/Q VALUES FOR U-235  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

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Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 27

GROUND-LEVEL CHI/Q VALUES FOR U-236  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHI/Q  
Page 28

GROUND-LEVEL CHI/Q VALUES FOR U-238  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

---

Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 29

GROUND-LEVEL CHI/Q VALUES FOR Y-90  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.023E-08	2.768E-08	1.443E-08	9.579E-09	7.472E-09	5.982E-09	4.848E-09
NNW	5.674E-08	3.914E-08	2.064E-08	1.359E-08	1.063E-08	8.535E-09	6.947E-09
NW	5.324E-08	3.628E-08	1.866E-08	1.224E-08	9.492E-09	7.562E-09	6.104E-09
WNW	3.358E-08	2.254E-08	1.134E-08	7.441E-09	5.716E-09	4.514E-09	3.615E-09
W	2.529E-08	1.682E-08	8.398E-09	5.627E-09	4.292E-09	3.367E-09	2.678E-09
WSW	1.992E-08	1.316E-08	6.440E-09	4.252E-09	3.223E-09	2.512E-09	1.983E-09
SW	1.779E-08	1.173E-08	5.821E-09	3.923E-09	2.979E-09	2.330E-09	1.850E-09
SSW	1.997E-08	1.325E-08	6.808E-09	4.720E-09	3.612E-09	2.850E-09	2.288E-09
S	2.378E-08	1.582E-08	8.142E-09	5.602E-09	4.295E-09	3.395E-09	2.731E-09
SSE	3.408E-08	2.285E-08	1.175E-08	7.979E-09	6.130E-09	4.848E-09	3.895E-09
SE	8.275E-08	5.708E-08	3.120E-08	2.168E-08	1.701E-08	1.375E-08	1.129E-08
ESE	1.500E-07	1.056E-07	5.980E-08	4.195E-08	3.335E-08	2.728E-08	2.269E-08
E	9.754E-08	6.835E-08	3.793E-08	2.618E-08	2.074E-08	1.688E-08	1.395E-08
ENE	5.754E-08	4.007E-08	2.181E-08	1.488E-08	1.173E-08	9.506E-09	7.818E-09
NE	3.776E-08	2.606E-08	1.376E-08	9.227E-09	7.234E-09	5.825E-09	4.756E-09
NNE	3.297E-08	2.261E-08	1.159E-08	7.602E-09	5.919E-09	4.728E-09	3.821E-09

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Distance (meters)

---

Dir	54100	60100	66100
N	3.897E-09	2.305E-09	1.989E-09
NNW	5.621E-09	3.281E-09	2.836E-09
NW	4.893E-09	2.944E-09	2.532E-09
WNW	2.877E-09	1.836E-09	1.571E-09
W	2.117E-09	1.394E-09	1.187E-09
WSW	1.555E-09	1.014E-09	8.596E-10
SW	1.464E-09	1.008E-09	8.579E-10
SSW	1.839E-09	1.323E-09	1.133E-09
S	2.200E-09	1.571E-09	1.348E-09
SSE	3.121E-09	2.123E-09	1.819E-09
SE	9.284E-09	6.319E-09	5.500E-09
ESE	1.892E-08	1.269E-08	1.114E-08
E	1.152E-08	7.357E-09	6.431E-09
ENE	6.413E-09	4.044E-09	3.526E-09
NE	3.863E-09	2.427E-09	2.109E-09
NNE	3.058E-09	1.815E-09	1.565E-09

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CHI/Q  
Page 30

GROUND-LEVEL CHI/Q VALUES FOR Ru-106  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.112E-08	2.850E-08	1.508E-08	1.011E-08	7.973E-09	6.452E-09	5.286E-09
NNW	5.789E-08	4.020E-08	2.148E-08	1.429E-08	1.128E-08	9.149E-09	7.521E-09
NW	5.449E-08	3.742E-08	1.954E-08	1.296E-08	1.016E-08	8.188E-09	6.685E-09
WNW	3.451E-08	2.337E-08	1.196E-08	7.950E-09	6.187E-09	4.951E-09	4.016E-09
W	2.606E-08	1.750E-08	8.912E-09	6.055E-09	4.686E-09	3.729E-09	3.009E-09
WSW	2.060E-08	1.376E-08	6.881E-09	4.614E-09	3.555E-09	2.815E-09	2.259E-09
SW	1.837E-08	1.224E-08	6.199E-09	4.238E-09	3.267E-09	2.594E-09	2.090E-09
SSW	2.052E-08	1.373E-08	7.174E-09	5.033E-09	3.900E-09	3.116E-09	2.533E-09
S	2.439E-08	1.636E-08	8.560E-09	5.955E-09	4.620E-09	3.696E-09	3.009E-09
SSE	3.494E-08	2.362E-08	1.235E-08	8.477E-09	6.591E-09	5.276E-09	4.289E-09
SE	8.411E-08	5.833E-08	3.222E-08	2.255E-08	1.784E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.130E-08	4.326E-08	3.460E-08	2.847E-08	2.383E-08
E	9.901E-08	6.972E-08	3.907E-08	2.716E-08	2.167E-08	1.777E-08	1.479E-08
ENE	5.851E-08	4.097E-08	2.255E-08	1.550E-08	1.232E-08	1.007E-08	8.346E-09
NE	3.853E-08	2.676E-08	1.431E-08	9.679E-09	7.660E-09	6.226E-09	5.131E-09
NNE	3.376E-08	2.333E-08	1.215E-08	8.049E-09	6.338E-09	5.120E-09	4.185E-09

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Distance (meters)

---

Dir	54100	60100	66100
N	4.295E-09	2.562E-09	2.233E-09
NNW	6.145E-09	3.619E-09	3.159E-09
NW	5.419E-09	3.285E-09	2.856E-09
WNW	3.238E-09	2.083E-09	1.804E-09
W	2.412E-09	1.604E-09	1.385E-09
WSW	1.798E-09	1.186E-09	1.021E-09
SW	1.678E-09	1.166E-09	1.006E-09
SSW	2.060E-09	1.494E-09	1.295E-09
S	2.451E-09	1.763E-09	1.530E-09
SSE	3.477E-09	2.383E-09	2.066E-09
SE	9.964E-09	6.814E-09	5.976E-09
ESE	1.999E-08	1.347E-08	1.190E-08
E	1.230E-08	7.905E-09	6.959E-09
ENE	6.902E-09	4.372E-09	3.842E-09
NE	4.206E-09	2.648E-09	2.321E-09
NNE	3.387E-09	2.020E-09	1.761E-09

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CHI/Q  
Page 31

GROUND-LEVEL CHI/Q VALUES FOR Cs-134  
 SOLUBILITY: F  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.850E-08	1.508E-08	1.011E-08	7.975E-09	6.454E-09	5.288E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.128E-08	9.152E-09	7.523E-09
NW	5.450E-08	3.742E-08	1.954E-08	1.296E-08	1.016E-08	8.191E-09	6.687E-09
WNW	3.451E-08	2.338E-08	1.197E-08	7.952E-09	6.189E-09	4.953E-09	4.018E-09
W	2.607E-08	1.751E-08	8.914E-09	6.057E-09	4.688E-09	3.731E-09	3.010E-09
WSW	2.060E-08	1.376E-08	6.883E-09	4.616E-09	3.556E-09	2.816E-09	2.260E-09
SW	1.837E-08	1.224E-08	6.200E-09	4.239E-09	3.269E-09	2.595E-09	2.091E-09
SSW	2.052E-08	1.373E-08	7.175E-09	5.034E-09	3.901E-09	3.117E-09	2.534E-09
S	2.439E-08	1.637E-08	8.561E-09	5.956E-09	4.622E-09	3.698E-09	3.010E-09
SSE	3.494E-08	2.362E-08	1.235E-08	8.478E-09	6.593E-09	5.277E-09	4.291E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.784E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.130E-08	4.326E-08	3.461E-08	2.848E-08	2.383E-08
E	9.901E-08	6.973E-08	3.907E-08	2.717E-08	2.167E-08	1.777E-08	1.479E-08
ENE	5.851E-08	4.097E-08	2.255E-08	1.550E-08	1.232E-08	1.007E-08	8.348E-09
NE	3.853E-08	2.677E-08	1.431E-08	9.680E-09	7.662E-09	6.228E-09	5.132E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.050E-09	6.340E-09	5.122E-09	4.186E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.296E-09	2.563E-09	2.234E-09
NNW	6.147E-09	3.621E-09	3.160E-09
NW	5.421E-09	3.287E-09	2.858E-09
WNW	3.239E-09	2.084E-09	1.805E-09
W	2.413E-09	1.605E-09	1.385E-09
WSW	1.799E-09	1.187E-09	1.021E-09
SW	1.679E-09	1.167E-09	1.007E-09
SSW	2.061E-09	1.494E-09	1.296E-09
S	2.452E-09	1.764E-09	1.531E-09
SSE	3.478E-09	2.384E-09	2.067E-09
SE	9.967E-09	6.816E-09	5.978E-09
ESE	1.999E-08	1.347E-08	1.190E-08
E	1.231E-08	7.907E-09	6.961E-09
ENE	6.903E-09	4.373E-09	3.843E-09
NE	4.207E-09	2.649E-09	2.322E-09
NNE	3.388E-09	2.021E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 32

GROUND-LEVEL CHI/Q VALUES FOR Ba-137m  
 SOLUBILITY: B  
 CHEMFORM: B  
 SIZE: 0.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

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Dir	12100	16100	24100	30100	36100	42100	48100
N	4.154E-19	3.101E-20	5.350E-20	2.535E-22	0.000E+00	0.000E+00	0.000E+00
NNW	6.105E-19	1.770E-21	1.747E-19	1.298E-21	0.000E+00	0.000E+00	0.000E+00
NW	2.175E-19	3.449E-19	3.397E-20	2.469E-21	0.000E+00	0.000E+00	0.000E+00
WNW	4.302E-20	3.217E-19	9.789E-21	0.000E+00	0.000E+00	0.000E+00	1.699E-22
W	1.969E-19	1.078E-19	3.609E-21	0.000E+00	0.000E+00	0.000E+00	3.143E-22
WSW	2.075E-19	1.944E-20	5.739E-22	0.000E+00	0.000E+00	3.104E-22	6.386E-22
SW	8.327E-20	6.546E-20	3.747E-21	6.173E-22	0.000E+00	2.077E-22	5.051E-23
SSW	2.549E-19	1.484E-19	2.627E-21	2.501E-21	0.000E+00	1.422E-23	2.093E-22
S	2.279E-19	8.618E-20	6.481E-21	2.653E-21	0.000E+00	4.977E-23	1.606E-23
SSE	3.537E-19	9.291E-20	7.332E-21	2.862E-21	0.000E+00	0.000E+00	9.400E-23
SE	2.178E-15	2.677E-17	2.120E-19	2.460E-19	5.773E-20	0.000E+00	1.758E-21
ESE	7.421E-15	3.361E-17	4.455E-20	5.073E-19	2.128E-19	1.920E-19	4.207E-20
E	1.699E-16	6.634E-19	7.241E-20	2.555E-19	8.689E-20	2.196E-21	6.504E-22
ENE	3.547E-15	5.443E-17	2.080E-19	1.286E-19	3.454E-20	9.175E-21	5.701E-22
NE	3.156E-17	4.199E-19	1.039E-21	5.225E-20	9.477E-21	1.079E-21	3.041E-23
NNE	4.509E-19	2.899E-19	5.681E-20	6.918E-22	0.000E+00	0.000E+00	0.000E+00

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Distance (meters)

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Dir	54100	60100	66100
N	0.000E+00	0.000E+00	4.553E-22
NNW	0.000E+00	0.000E+00	0.000E+00
NW	0.000E+00	5.836E-23	3.338E-22
WNW	3.883E-22	6.539E-22	3.090E-22
W	6.612E-22	2.339E-22	8.321E-23
WSW	1.955E-22	4.475E-23	4.660E-23
SW	3.263E-22	1.159E-22	2.227E-23
SSW	8.237E-23	2.248E-22	3.139E-22
S	1.459E-22	2.421E-23	1.793E-22
SSE	4.237E-22	1.197E-22	6.664E-22
SE	1.414E-21	6.344E-22	0.000E+00
ESE	3.901E-22	0.000E+00	0.000E+00
E	0.000E+00	0.000E+00	0.000E+00
ENE	1.879E-21	8.570E-22	1.710E-22
NE	0.000E+00	4.230E-23	3.599E-22
NNE	1.890E-22	3.237E-22	1.645E-22

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 33

GROUND-LEVEL CHI/Q VALUES FOR Pu-242  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

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Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHI/Q  
Page 34

GROUND-LEVEL CHI/Q VALUES FOR Ra-226  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 35

GROUND-LEVEL CHI/Q VALUES FOR U-232  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.414E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
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GROUND-LEVEL CHI/Q VALUES FOR Pa-231  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

---

Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 37

GROUND-LEVEL CHI/Q VALUES FOR Ni-59  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

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Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 38

GROUND-LEVEL CHI/Q VALUES FOR Ac-227  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.201E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.133E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.422E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.414E-09	1.605E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 39

GROUND-LEVEL CHI/Q VALUES FOR Am-243  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHI/Q  
Page 40

GROUND-LEVEL CHI/Q VALUES FOR Ra-228  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.850E-08	1.508E-08	1.011E-08	7.976E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.129E-08	9.153E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.192E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.190E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.915E-09	6.058E-09	4.688E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.884E-09	4.617E-09	3.557E-09	2.817E-09	2.260E-09
SW	1.837E-08	1.224E-08	6.201E-09	4.239E-09	3.269E-09	2.595E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.534E-09
S	2.440E-08	1.637E-08	8.562E-09	5.957E-09	4.622E-09	3.698E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.291E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.784E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.326E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.681E-09	7.663E-09	6.229E-09	5.133E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.051E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.297E-09	2.563E-09	2.235E-09
NNW	6.148E-09	3.621E-09	3.161E-09
NW	5.422E-09	3.287E-09	2.858E-09
WNW	3.240E-09	2.084E-09	1.806E-09
W	2.414E-09	1.605E-09	1.386E-09
WSW	1.800E-09	1.187E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.531E-09
SSE	3.479E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.817E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.374E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHIQ  
Page 41

GROUND-LEVEL CHI/Q VALUES FOR Cm-242  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.111E-08	2.849E-08	1.507E-08	1.011E-08	7.968E-09	6.447E-09	5.282E-09
NNW	5.788E-08	4.019E-08	2.147E-08	1.428E-08	1.127E-08	9.144E-09	7.515E-09
NW	5.448E-08	3.741E-08	1.953E-08	1.295E-08	1.016E-08	8.182E-09	6.679E-09
WNW	3.450E-08	2.337E-08	1.196E-08	7.945E-09	6.183E-09	4.947E-09	4.012E-09
W	2.606E-08	1.750E-08	8.907E-09	6.051E-09	4.682E-09	3.726E-09	3.006E-09
WSW	2.059E-08	1.375E-08	6.877E-09	4.611E-09	3.551E-09	2.812E-09	2.256E-09
SW	1.837E-08	1.223E-08	6.195E-09	4.235E-09	3.265E-09	2.591E-09	2.088E-09
SSW	2.051E-08	1.373E-08	7.170E-09	5.030E-09	3.897E-09	3.114E-09	2.531E-09
S	2.439E-08	1.636E-08	8.556E-09	5.951E-09	4.617E-09	3.694E-09	3.006E-09
SSE	3.493E-08	2.361E-08	1.234E-08	8.472E-09	6.586E-09	5.272E-09	4.285E-09
SE	8.409E-08	5.832E-08	3.221E-08	2.255E-08	1.783E-08	1.452E-08	1.202E-08
ESE	1.519E-07	1.073E-07	6.128E-08	4.324E-08	3.459E-08	2.846E-08	2.382E-08
E	9.899E-08	6.971E-08	3.906E-08	2.716E-08	2.166E-08	1.776E-08	1.478E-08
ENE	5.850E-08	4.096E-08	2.254E-08	1.549E-08	1.232E-08	1.006E-08	8.341E-09
NE	3.852E-08	2.676E-08	1.431E-08	9.674E-09	7.656E-09	6.222E-09	5.127E-09
NNE	3.376E-08	2.333E-08	1.214E-08	8.044E-09	6.334E-09	5.116E-09	4.181E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.291E-09	2.559E-09	2.231E-09
NNW	6.140E-09	3.616E-09	3.156E-09
NW	5.414E-09	3.282E-09	2.853E-09
WNW	3.234E-09	2.080E-09	1.802E-09
W	2.409E-09	1.602E-09	1.383E-09
WSW	1.796E-09	1.185E-09	1.019E-09
SW	1.676E-09	1.164E-09	1.005E-09
SSW	2.058E-09	1.492E-09	1.294E-09
S	2.449E-09	1.762E-09	1.528E-09
SSE	3.474E-09	2.381E-09	2.063E-09
SE	9.958E-09	6.809E-09	5.971E-09
ESE	1.998E-08	1.346E-08	1.189E-08
E	1.230E-08	7.900E-09	6.954E-09
ENE	6.897E-09	4.369E-09	3.839E-09
NE	4.202E-09	2.646E-09	2.319E-09
NNE	3.383E-09	2.018E-09	1.759E-09

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**(EMF) Effluent Transfer**

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CHI/Q  
Page 42

GROUND-LEVEL CHI/Q VALUES FOR Th-229  
 SOLUBILITY: S  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHI/Q  
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GROUND-LEVEL CHI/Q VALUES FOR Zr-93  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHI/Q  
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GROUND-LEVEL CHI/Q VALUES FOR Nb-93m  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

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Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.976E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.201E-09	4.240E-09	3.269E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.133E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.422E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.414E-09	1.605E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.374E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHI/Q  
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GROUND-LEVEL CHI/Q VALUES FOR Cd-113m  
 SOLUBILITY: M  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

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Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.976E-09	6.455E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.148E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.011E-09
WSW	2.060E-08	1.376E-08	6.884E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.201E-09	4.240E-09	3.269E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.411E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.133E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

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Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.422E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.414E-09	1.605E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.374E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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CHI/Q  
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GROUND-LEVEL CHI/Q VALUES FOR Se-79  
 SOLUBILITY: F  
 CHEMFORM: Particulate  
 SIZE: 1.000  
 CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

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Distance (meters)

---

Dir	12100	16100	24100	30100	36100	42100	48100
N	4.113E-08	2.851E-08	1.508E-08	1.012E-08	7.977E-09	6.456E-09	5.289E-09
NNW	5.790E-08	4.020E-08	2.149E-08	1.429E-08	1.129E-08	9.154E-09	7.525E-09
NW	5.450E-08	3.743E-08	1.955E-08	1.296E-08	1.017E-08	8.193E-09	6.689E-09
WNW	3.452E-08	2.338E-08	1.197E-08	7.953E-09	6.191E-09	4.954E-09	4.019E-09
W	2.607E-08	1.751E-08	8.916E-09	6.058E-09	4.689E-09	3.732E-09	3.012E-09
WSW	2.060E-08	1.376E-08	6.885E-09	4.617E-09	3.557E-09	2.817E-09	2.261E-09
SW	1.837E-08	1.224E-08	6.202E-09	4.240E-09	3.270E-09	2.596E-09	2.092E-09
SSW	2.052E-08	1.373E-08	7.176E-09	5.035E-09	3.902E-09	3.118E-09	2.535E-09
S	2.440E-08	1.637E-08	8.563E-09	5.957E-09	4.623E-09	3.699E-09	3.011E-09
SSE	3.495E-08	2.363E-08	1.235E-08	8.480E-09	6.594E-09	5.279E-09	4.292E-09
SE	8.412E-08	5.834E-08	3.223E-08	2.256E-08	1.785E-08	1.453E-08	1.203E-08
ESE	1.519E-07	1.073E-07	6.131E-08	4.327E-08	3.461E-08	2.848E-08	2.384E-08
E	9.902E-08	6.973E-08	3.908E-08	2.717E-08	2.168E-08	1.777E-08	1.480E-08
ENE	5.852E-08	4.098E-08	2.255E-08	1.550E-08	1.233E-08	1.007E-08	8.350E-09
NE	3.853E-08	2.677E-08	1.432E-08	9.682E-09	7.663E-09	6.229E-09	5.134E-09
NNE	3.377E-08	2.334E-08	1.215E-08	8.052E-09	6.341E-09	5.123E-09	4.187E-09

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Distance (meters)

---

Dir	54100	60100	66100
N	4.298E-09	2.564E-09	2.235E-09
NNW	6.149E-09	3.622E-09	3.161E-09
NW	5.423E-09	3.288E-09	2.859E-09
WNW	3.240E-09	2.085E-09	1.806E-09
W	2.415E-09	1.606E-09	1.386E-09
WSW	1.800E-09	1.188E-09	1.022E-09
SW	1.680E-09	1.167E-09	1.007E-09
SSW	2.062E-09	1.495E-09	1.296E-09
S	2.453E-09	1.765E-09	1.532E-09
SSE	3.480E-09	2.385E-09	2.067E-09
SE	9.969E-09	6.818E-09	5.979E-09
ESE	2.000E-08	1.348E-08	1.190E-08
E	1.231E-08	7.909E-09	6.963E-09
ENE	6.905E-09	4.375E-09	3.844E-09
NE	4.208E-09	2.650E-09	2.323E-09
NNE	3.389E-09	2.022E-09	1.762E-09

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