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LOS ALAMOS NATIONAL LABORATORY
CARLSBAD OPERATIONS

INV-NPA-19, Revision 0

PERFORMANCE ASSESSMENT INVENTORY REPORT – 2019 FOR THE NATIONAL ENVIRONMENTAL POLICY ACT ADDITIONAL PANELS EVALUATION

LA-UR-19-32088

Effective Date: 12-2-19

Originator:

Gregory D. Van Soest, LANL-CO Inventory Team Member — Date: 12/2/2019

Approved by:

Bill McInroy, LANL-CO Inventory Team Leader — Date: 12/2/2019

Laurie Smith, LANL-CO Quality Assurance Manager — Date: 12/2/2019

Ned Elkins, LANL-CO Program Director/Division Leader — Date: 12.2.20

INV-1912-01-01-01

History of Revision

Revision Number	Effective Date	Pages Affected	Description of Revision
0	12-2-19	All	Original release.

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1.0 PURPOSE

This *Performance Assessment Inventory Report – 2019 for the National Environmental Policy Act Additional Panels Evaluation* (NEPA PAIR-2019; hereafter referred to as "this report") was prepared by the Los Alamos National Laboratory - Carlsbad Operations (LANL-CO) as requested by Sandia National Laboratories – Carlsbad Programs Group (SNL-CPG) in a letter dated October 16, 2019, from Todd Zeitler to Bill McInroy of LANL-CO (SNL 2019; provided as Attachment 1, hereafter referred to as the "SNL WIPP Inventory Needs Letter"). This report documents the transuranic (TRU) waste inventory data needs that were requested in the SNL WIPP Inventory Needs Letter.

The inventory information provided in this report will be used by SNL-CPG to conduct a Waste Isolation Pilot Plant (WIPP) Performance Assessment (PA), which will model the performance of the WIPP repository in support of the National Environmental Policy Act (NEPA) analysis for additional panels at the WIPP.

2.0 SCOPE

As requested, the information provided in this report is primarily based on the annual inventory as of December 31, 2018 that was collected from the TRU waste sites and provided a basis for the *Annual Transuranic Waste Inventory Report (ATWIR) – 2019* (ATWIR-2019; DOE 2019a). The inventory presented within this report differs from that presented in the ATWIR-2019 in the following ways:

- Changes were incorporated to include ~42.2 metric tons of waste from the National Nuclear Security Administration Surplus Plutonium Disposition (SPD) project at the Savannah River Site. These changes included the replacement of two waste streams (SR-KAC-HET-1 and SR-KAC-PuOx-1) with two new waste streams (SR-KAC-HET-SPD and SR-KAC-PuOx-SPD). As of November 2019, an amended Record of Decision for the disposition of the 42.2 metric tons of surplus plutonium is pending. In order to support the schedule for the NEPA analysis for additional panels at the WIPP, this report assumes the inclusion of the surplus plutonium in the WIPP inventory so that potential impacts can be conservatively evaluated.
- Projections for waste generation up through calendar year (CY) 2050 are included (the ATWIR-2019 only included projections through CY 2033).
- The inventory is scaled to model a full repository (see section 4.2).

During the inventory collection, the waste streams are segregated into the following categories:

- *Emplaced* (already shipped from the TRU waste site to the WIPP or to Waste Control Specialists [WCS], a temporary storage location near Andrews, Texas),
- *WIPP-bound* (appear to meet the requirements for emplacement at the WIPP), and
- *Potential* (have uncertainties regarding eligibility for emplacement at the WIPP, as of the cutoff date).

For this report, only *Emplaced* and *WIPP-bound* waste streams were considered.

3.0 REFERENCES, ACRONYMS, AND DEFINITIONS

3.1 References

DOE 1996. *Title 40 CFR Part 191 Compliance Certification Application for the Waste Isolation Pilot Plant*. 21 vols. DOE/CAO-1996-2184. October, 1996. U.S. Department of Energy, Carlsbad Area Office, Carlsbad, NM.

DOE 2004. *Title 40 CFR Part 191 Compliance Recertification Application 2004*. 10 vols. DOE/WIPP-2004-3231. March, 2004. U.S. Department of Energy, Carlsbad Field Office, Carlsbad, NM.

DOE 2009. *Title 40 CFR Part 191 Compliance Recertification Application 2009*. DOE/WIPP-2009-2225. 2009. U.S. Department of Energy, Carlsbad Field Office, Carlsbad, NM.

DOE 2014. *Title 40 CFR Part 191 Compliance Recertification Application 2014*. DOE/WIPP-14-3503. March 2014. U.S. Department of Energy, Carlsbad Field Office, Carlsbad, NM.

DOE 2017. Quality Assurance Program Document, Revision 13. U.S. Department of Energy, Carlsbad Field Office, DOE/CBFO-94-1012.

DOE 2019a. *Annual Transuranic Waste Inventory Report – 2019*, Revision 0. U.S. Department of Energy, Carlsbad Field Office, DOE/TRU-19-3425.

DOE 2019b. *Title 40 CFR Part 191 Compliance Recertification Application 2019*. DOE/WIPP-19-3609. March 2019. U.S. Department of Energy, Carlsbad Field Office, Carlsbad, NM.

DOE and State of New Mexico 1988. *Modification to the Agreement for Consultation and Cooperation Between the Department of Energy and the State of New Mexico on the Waste Isolation Pilot Plant*, July 1, 1981 (dated April 18, 1988), Carlsbad Area Office, Carlsbad, NM.

EPA 1996. *Criteria for the Certification and Recertification of the Waste Isolation Pilot Plant's Compliance With the 40 CFR Part 191 Disposal Regulations,* Final Rule, Title 40 CFR, Part 194, Federal Register, February 9, 1996. U.S. Environmental Protection Agency, Washington, D.C.

LANL 2019a. *Comprehensive Inventory Database*, software version v.2.03 S.2.03, data version D.18.NEPA. LANL-CO. October 3, 2019.

LANL 2019b. *Chemical and Cement Components 2018 Inventory Estimates for National Environmental Policy Act Additional Panels Evaluation* LANL-CO. INV-SAR-55, Revision 0, November 2019.

LANL 2019c. *Estimation of Cellulose, Plastic, and Rubber Emplacement and Operational Materials in the Waste Isolation Pilot Plant for the National Environmental Policy Act Evaluation on Additional Panels.* LANL-CO. INV-SAR-56, Revision 0, November 2019.

ORNL 2009. *SCALE: A Modular Code System for Performing Standardized Computer Analyses for Licensing Evaluation*. Oak Ridge National Laboratory. ORNL/TM-2005/39, Version 6, Vols.I–III January 2009. Oak Ridge, TN. Available from Radiation Safety Information Computational Center at Oak Ridge National Laboratory as CCC-750.

SNL 2019. *Sandia's WIPP Inventory Needs for the Additional Panels NEPA Performance Assessment*, letter dated October 16, 2019 from Todd Zeitler (SNL-CPG) to Bill McInroy (LANL-CO).

U.S. Congress 1992 and 1996. *Waste Isolation Pilot Plant Land Withdrawal Act*, Public Law 102-579 (1992), as amended by Public Law 104-201, (1996).

3.2 Acronyms

ATWIR	Annual Transuranic Waste Inventory Report
CFR	Code of Federal Regulations
CH	contact-handled
CID	Comprehensive Inventory Database
CPR	cellulose, plastic and rubber
CY	calendar year
DOE	[United States] Department of Energy
EDTA	ethylenediaminetetraacetic acid
LANL-CO	Los Alamos National Laboratory – Carlsbad Operations
ORIGEN-S	Oak Ridge Isotope Generation and Depletion Code (a module of SCALE version 6)
MgO	magnesium oxide
NEPA	National Environmental Policy Act
PA	Performance Assessment
PAIR	Performance Assessment Inventory Report
QA	Quality Assurance
QAPD	[CBFO] Quality Assurance Program Document
RH	remote-handled
SCALE	Standardized Computer Analysis for Licensing Evaluation
SNL-CPG	Sandia National Laboratories – Carlsbad Programs Group
SPD	Surplus Plutonium Disposition
TRU	transuranic
WIPP	Waste Isolation Pilot Plant

WCS	Waste Control Specialists
WDS	[WIPP] Waste Data System

3.3 Definitions

emplaced	Permanently disposed underground at WIPP, stored above ground at WIPP, in temporary storage at WCS, or in transit to WCS/WIPP as of the inventory date (December 31, 2018) for this report.
projected	Not yet generated; estimated as future generation.
scaled (scaling)	A methodology by which actual inventory values are artificially increased in order to simulate a “full” repository.
stored	Already generated; in storage at a TRU waste site.

4.0 METHODOLOGY

4.1 Annual Inventory Collection and Publication

Inventory data and projected estimates are collected annually from the TRU waste sites and the WIPP Waste Data System (WDS) in order to maintain an updated inventory estimate of the United States Department of Energy (DOE) TRU waste complex. The data are compiled in the Comprehensive Inventory Database (CID; LANL 2019a), which is software developed and qualified under the LANL-CO Quality Assurance (QA) program in accordance with the DOE Carlsbad Field Office (CBFO) *Quality Assurance Program Document* (QAPD; DOE 2017). Additionally, the CID automates the radionuclide decay process by using the Oak Ridge Isotope Generation and Depletion Code (ORIGEN-S), a module of *Standardized Computer Analysis for Licensing Evaluation* (SCALE) Version 6 (ORNL 2009), and a depletion and decay library that is qualified for use under the LANL-CO QA program in accordance with the QAPD. The CID is then used to generate the data reported in each ATWIR.

The data provided in this report are based upon the TRU waste inventory as of December 31, 2018, supplemented with modifications to include the SPD, and labeled as CID data version D.18.NEPA (LANL 2019a).

Additionally, supplemental analyses were performed in order to completely satisfy the SNL WIPP Inventory Needs Letter requests (see section 4.3 below).

4.2 Scaling to a Full Repository

PA modeling in support of WIPP explicitly assumes that the WIPP is filled to its legislated capacity at time of closure, as required in Title 40 Code of Federal Regulations (CFR) Part 194.24 (EPA 1996). The legislated capacity for WIPP is 175,564 m^3 (6,200,000 ft^3), as set by the *WIPP Land Withdrawal Act* (U.S. Congress 1992 and 1996), with a limit of 7,079 m^3 (250,000 ft^3) for remote-handled (RH)-TRU waste as imposed by the *Consultation and Cooperation Agreement* (DOE and State of New Mexico 1988); therefore, the difference in the full legislated volume capacity and the RH-TRU imposed disposal limit sets the contact-handled (CH)-TRU disposal limit at 168,485 m^3 (5,950,000 ft^3). The volume of anticipated (stored plus projected) and emplaced TRU waste reported by the DOE TRU waste sites for the December 31, 2018 inventory collection is less than the legislated volume capacity for WIPP.

Since each of the requests included in the SNL WIPP Inventory Needs Letter (see Attachment 1) specify that the inventory be “scaled to a full repository,” a scaling methodology was implemented through the CID whereby a portion of the inventory was scaled such that the totals reflect a “full” WIPP repository in terms of volume. The approved scaling methodology is to scale only the *projected* (not yet generated) portion of the inventory, since this represents future waste. By contrast, the *stored* (already generated) and *emplaced* (already shipped to WIPP or WCS) waste are fixed, known portions of the inventory that are left intact. This methodology is consistent with scaling previously performed for the initial WIPP Compliance Certification Application (DOE 1996) and Compliance Recertification Applications 2004 (DOE 2004), 2009 (DOE 2009), 2014 (DOE 2014), and 2019 (DOE 2019b).

The CID is configured to produce scaled values by only scaling that portion of the waste which is projected. To do so, it has calculated scaling factors (for CH-TRU and RH-TRU waste separately) by which the respective projected volume totals are multiplied such that, when added with the stored and emplaced portions, are equal to the disposal limits (168,485 m^3 for CH-TRU, and 7,079 m^3 for RH-TRU) for the WIPP. These same scaling factors were then also used to scale the projected portion of radionuclide activity and non-radiological material mass estimates provided in this report.

The scaling factors calculated by the CID and used for this report are as follows (rounded to three significant figures):

CH-TRU	2.97
RH-TRU	6.96

4.3 Supplemental Analyses

Two additional analyses were performed to supplement the inventory information that the CID could not readily provide: *Chemical and Cement Components 2018 Inventory Estimates for National Environmental Policy Act Additional Panels Evaluation* (LANL 2019b) and *Estimation of Cellulose, Plastic, and Rubber Emplacement and Operational Materials in the Waste Isolation Pilot Plant for the National Environmental Policy Act Evaluation on Additional Panels* (LANL 2019c).

The *Chemical and Cement Components 2018 Inventory Estimates for National Environmental Policy Act Additional Panels Evaluation* (LANL 2019b) analysis was performed to determine the total amount of oxyanions, complexing agents (organic ligands), and cement that would be present in a full WIPP repository. These inventory estimates are only available for that data collected from the TRU waste sites. Data on these components are not available from the WDS, which would represent the already-emplaced portion. Therefore, an analysis was warranted to estimate the total mass for these constituents, including those that have already been emplaced at the WIPP. The results from this analysis report are presented in Table 5-6, Table 5-8, and Table 5-9 below.

The *Estimation of Cellulose, Plastic, and Rubber Emplacement and Operational Materials in the Waste Isolation Pilot Plant for the National Environmental Policy Act Evaluation on Additional Panels* (LANL 2019c) analysis was performed to estimate the amount of emplacement materials (used to facilitate the emplacement of waste, but not including the container packages themselves) and operational materials (used during operational activities and will remain in the repository at closure) in a full WIPP repository. Since the CID only compiles the materials data related to the waste and the packaging containers, this supplemental analysis was warranted. The results from this analysis report are presented in Table 5-7 below.

5.0 RESULTS

5.1 Radionuclides & Volumes

SNL WIPP Inventory Needs Letter Request #1

1. *Waste stream volumes (in m^3) and inventory of radionuclides on a waste stream basis for both CH- and RH-TRU waste, supplied in Curies and decayed to the year 2050, for the following radionuclides (scaled to a full repository): ^{241}Am, ^{243}Am, ^{244}Cm, ^{137}Cs, ^{237}Np, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{241}Pu, ^{242}Pu, ^{244}Pu, ^{90}Sr, ^{229}Th, ^{230}Th, ^{232}Th, ^{233}U, ^{234}U, ^{235}U,^{236}U, and ^{238}U.*

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2050

Site	Waste Stream ID	Scaled Vol (m^3)	Am-241	Am-243	Cm-244	Cs-137	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	Sr-90	Th-229	Th-230	Th-232	U-233	U-234	U-235	U-236	U-238
AE	AE-T001	363.43	2.04E+01	2.90E+00	1.11E+02	1.74E+01	1.17E-01	2.54E+00	4.00E+01	1.91E+01	1.67E+01	2.38E-01	7.74E-05	1.25E+01	4.01E-04	1.80E-03	1.17E-03	6.02E-02	9.82E-01	8.15E-04	2.89E-05	2.93E-02
AE	AE-T003	26.53	3.82E+00	9.63E-02	5.11E-03	3.00E-01	5.59E-03	6.44E+00	3.98E+00	3.61E+00	5.80E+00	4.56E-02	7.96E-07	1.40E-01	1.74E-06	6.71E-04	1.70E-04	5.09E-04	2.61E-02	1.64E-05	1.13E-05	6.65E-04
AE	WP-AECHDM	78.33	5.32E+01	1.87E+00	2.24E-02	6.57E-01	1.23E-01	4.55E+01	8.54E+01	6.43E+01	1.13E+01	2.62E-02	9.72E-16	6.39E-01	8.67E-03	3.55E-05	1.04E-13	4.20E-02	8.57E-02	1.50E-03	8.97E-05	4.41E-02
AE	WP-AECHHM	11.55	1.37E+01	5.12E-03	--	5.15E-04	1.91E-03	3.17E+00	4.12E+01	1.64E+01	5.85E-10	2.02E-03	--	5.01E-04	3.20E-04	2.42E-06	2.65E-14	3.68E-07	5.83E-03	1.07E-04	2.29E-05	2.69E-03
AE	WP-MU-W002	1.47	6.54E+00	1.13E-03	--	6.19E-07	3.95E-03	--	2.27E-02	--	--	--	--	6.02E-07	1.09E-03	4.95E-13	--	7.96E-07	2.29E-09	1.05E-09	--	1.73E-05
AW	AW-N027.531	20.41	1.99E+02	4.74E-08	--	8.33E-04	1.12E-02	--	6.65E+00	--	--	--	--	8.47E-04	2.03E-09	7.53E-12	--	1.45E-06	4.96E-08	7.60E-05	--	5.35E-04
AW	AW-T033.1325	123.93	2.15E+02	5.04E-02	1.85E+00	3.44E+00	3.56E-01	1.85E+01	4.09E+01	3.54E+00	--	8.54E-04	--	3.18E+00	7.40E-08	2.30E-06	2.47E-14	5.09E-05	8.52E-03	2.37E-04	1.69E-05	9.56E-03
IN	IN-AE-102	110.04	2.76E+01	3.59E-04	--	2.94E-02	1.85E-03	4.58E+00	4.70E+01	1.43E+01	2.58E+01	3.02E-03	--	3.08E-02	3.23E-10	3.03E-07	1.07E-14	2.37E-07	1.26E-03	2.27E-04	1.36E-05	1.31E-03
IN	IN-AE-105	1.68	1.36E+00	--	--	3.71E-07	2.73E-05	1.28E-01	1.60E+00	7.76E-01	1.41E+00	2.25E-04	--	3.87E-07	4.02E-12	3.45E-09	6.96E-16	2.99E-09	1.77E-05	1.05E-06	8.05E-07	1.22E-12
IN	IN-BC-203	1.90	2.09E+00	--	--	--	7.05E-05	3.34E-01	5.00E+00	1.16E+00	1.66E+00	1.42E-04	--	--	1.34E-11	2.54E-07	1.10E-15	9.13E-09	7.87E-04	2.17E-04	1.24E-06	1.54E-04
IN	IN-BN004	25.83	5.33E+01	--	--	2.93E-07	2.31E-03	2.77E+00	9.44E+01	2.10E+01	2.44E+01	2.14E-03	--	3.07E-07	4.03E-10	1.76E-07	1.67E-14	2.91E-07	7.22E-04	1.25E-04	2.05E-05	1.09E-11
IN	IN-BN222	32.55	5.41E+01	--	--	1.09E-07	1.14E-03	6.65E+00	2.24E+02	5.01E+01	8.72E+01	3.88E-03	--	1.14E-07	1.52E-10	1.10E-07	3.76E-14	1.20E-07	7.03E-04	1.09E-05	4.75E-05	1.92E-11
IN	IN-BN-501	0.21	3.88E-02	--	--	2.46E-06	1.45E-06	1.53E-04	7.42E-03	1.64E-03	1.88E-03	2.16E-07	--	2.57E-06	2.43E-13	4.58E-10	1.31E-18	1.77E-10	1.52E-06	4.84E-07	1.61E-09	1.11E-15
IN	IN-BN510	0.76	1.36E-01	--	--	--	3.66E-06	1.23E-02	4.83E-01	1.13E-01	8.84E-02	9.56E-06	--	--	7.90E-13	3.34E-10	1.39E-16	4.92E-10	1.68E-06	1.95E-08	1.37E-07	6.08E-14
IN	IN-BN510.1	18.24	2.59E+01	3.62E-03	--	4.88E-04	3.55E-03	2.43E+00	2.40E+01	5.84E+00	6.11E+00	8.17E-04	--	5.08E-04	8.73E-10	1.42E-07	5.85E-15	5.46E-07	5.58E-04	4.79E-05	6.41E-06	1.71E-03
IN	IN-BN510.2	12.54	4.13E+01	5.59E-04	--	8.32E-03	3.54E-03	3.85E+00	4.49E+01	1.77E+01	3.05E+01	2.61E-03	--	8.65E-03	8.39E-10	5.62E-07	1.77E-14	5.29E-07	1.87E-03	2.48E-03	1.94E-05	5.39E-04
IN	IN-BN510.3	383.42	2.82E+02	4.49E-02	5.67E-01	6.19E-02	1.51E-02	2.71E+03	4.17E+02	1.03E+02	1.13E+02	1.58E-02	--	6.44E-02	5.15E-05	5.73E-05	9.76E-14	1.63E-02	3.25E-01	4.04E-03	1.10E-04	4.85E-03
IN	IN-BN510.4	2944.34	5.19E+03	2.39E-01	1.80E+00	6.72E-01	1.60E-01	7.99E+03	9.47E+03	2.20E+03	2.37E+03	3.34E-01	--	7.04E-01	6.10E-03	1.91E-04	1.87E-03	2.17E+00	1.04E+00	6.31E-02	2.09E-03	2.75E+00
IN	IN-BN-522	10.92	2.25E+00	--	--	6.24E-06	5.20E-05	2.24E-01	5.81E+00	1.27E+00	1.67E+00	1.61E-04	--	6.53E-06	7.52E-12	2.21E-08	1.01E-15	5.75E-09	8.43E-05	7.45E-06	1.24E-06	6.17E-04
IN	IN-BN-529	0.21	1.67E-02	--	--	3.66E-06	1.75E-06	2.36E-04	1.15E-02	2.55E-03	2.97E-03	3.34E-07	--	3.82E-06	3.41E-13	3.97E-12	2.03E-18	2.39E-10	2.51E-08	3.74E-10	2.49E-09	1.71E-15
IN	IN-BN-538	332.55	4.39E+00	--	--	5.14E-05	9.23E-05	8.50E-01	2.03E+01	4.50E+00	5.93E+00	5.93E-04	--	5.38E-05	1.22E-11	2.17E-08	4.15E-07	9.72E-09	1.16E-04	9.82E-06	4.27E-06	2.94E-12
IN	IN-BN600	115.92	8.93E+00	1.62E-04	--	6.14E-03	2.91E-04	1.24E+00	2.92E+01	6.61E+00	6.61E+00	6.02E-04	--	6.43E-03	4.48E-11	3.42E-08	4.95E-15	3.40E-08	1.77E-04	5.69E-06	6.27E-06	2.29E-04
IN	IN-BN650	2800.98	8.54E+03	1.81E-03	1.73E-01	1.54E-02	2.31E-01	1.87E+02	3.34E+03	7.53E+02	8.54E+02	9.12E-02	--	1.61E-02	2.25E-04	9.44E-05	6.00E-13	7.77E-02	3.21E-01	2.59E-02	7.37E-04	1.69E+00
IN	IN-BN835	11.76	1.71E+00	--	--	2.62E-07	1.95E-04	6.50E+01	1.46E-01	9.07E-02	1.02E-01	1.01E-04	--	2.73E-07	4.49E-11	1.33E-06	8.60E-17	2.89E-08	7.64E-03	5.16E-09	9.68E-08	6.49E-05
IN	IN-BN836	34.23	1.88E-03	--	--	3.90E-07	4.48E-05	5.25E+00	1.07E-02	7.29E-03	1.46E-03	8.40E-06	--	4.05E-07	1.11E-11	1.10E-07	6.91E-18	7.00E-09	6.27E-04	1.51E-06	7.78E-09	4.69E-14
IN	IN-BNINW216	117.18	1.69E+03	1.70E-05	--	4.09E-07	4.29E-02	1.12E+01	1.55E+02	3.97E+01	9.99E+01	1.62E-02	--	4.27E-07	6.41E-09	1.35E-06	3.16E-14	4.85E-06	5.03E-03	7.47E-04	3.88E-05	2.35E-02
IN	IN-BNINW218	43.05	5.39E+00	--	--	4.82E-08	1.13E-04	1.32E-01	3.88E+00	8.32E-01	1.52E+00	1.27E-04	--	5.03E-08	1.54E-11	4.14E-06	6.63E-16	1.20E-08	1.37E-02	1.38E-03	8.14E-07	1.56E-01
IN	IN-BW-515	1.14	2.13E+00	--	--	1.85E-07	4.81E-05	2.90E-01	2.21E+00	1.06E+00	2.03E+00	2.15E-04	--	1.93E-07	7.24E-12	2.52E-08	8.97E-16	5.40E-09	9.57E-05	2.08E-05	1.07E-06	1.06E-05
IN	IN-BW-516	0.76	8.75E-02	--	--	3.04E-08	1.73E-05	8.57E-03	2.39E-01	5.38E-02	8.05E-02	6.79E-06	--	3.17E-08	3.69E-12	4.05E-09	4.55E-17	2.49E-09	1.34E-05	3.96E-06	5.43E-08	4.26E-06
IN	IN-BW-517	0.38	8.10E-01	--	--	--	1.66E-05	7.78E-02	7.59E-01	3.94E-01	6.13E-01	9.21E-05	--	--	2.15E-12	1.91E-09	2.95E-16	1.72E-09	1.03E-05	7.77E-07	3.74E-07	4.57E-13
IN	IN-ID-RF-S3114	41.16	1.39E+00	--	--	1.57E-07	5.64E-05	1.79E-01	7.09E+00	1.53E+00	2.06E+00	1.38E-04	--	1.65E-07	9.75E-12	8.71E-09	1.22E-15	7.05E-09	3.78E-05	5.09E-06	1.50E-06	2.73E-05
IN	IN-ID-RF-S3150-A	0.84	8.00E-02	--	--	4.06E-08	4.89E-06	1.54E-02	4.89E-01	1.05E-01	2.06E-01	7.62E-06	--	4.24E-08	9.63E-13	8.01E-10	8.92E-17	6.62E-10	3.37E-06	5.58E-07	1.06E-07	4.02E-14
IN	IN-ID-RF-S5100-A	0.21	3.56E-01	--	--	--	1.05E-05	8.61E-04	4.55E-02	1.01E-02	7.16E-03	1.33E-06	--	--	2.51E-12	2.60E-11	1.36E-17	1.49E-09	1.24E-07	1.93E-09	1.28E-08	8.87E-15
IN	IN-ID-RF-S5126	2.10	9.41E-01	--	--	--	2.29E-05	1.52E-01	4.78E+00	1.10E+00	1.15E+00	8.34E-05	--	--	3.23E-12	2.40E-09	8.21E-16	2.52E-09	1.56E-05	1.51E-07	1.04E-06	4.14E-13
IN	IN-ID-RF-S5300-A	2.10	4.09E-03	--	--	--	4.83E-08	2.55E-04	1.24E-02	2.75E-03	3.16E-03	3.60E-07	--	--	4.13E-15	5.50E-12	2.76E-18	3.84E-12	3.09E-08	4.52E-10	3.02E-09	2.07E-15
IN	IN-ID-SDA-Debris	662.97	5.27E+02	--	--	4.63E-04	1.41E-02	3.28E+01	1.20E+03	2.68E+02	2.53E+02	2.79E-02	--	4.83E-04	2.18E-05	7.94E-05	3.85E-10	6.89E-03	2.42E-01	6.15E-03	2.86E-04	3.57E-01
IN	IN-ID-SDA-Sludge	2796.36	4.27E+03	--	1.94E-02	1.66E-02	1.18E-01	4.60E+01	1.41E+03	3.16E+02	4.71E+02	5.59E-02	--	1.72E-02	1.66E-04	3.18E-04	3.00E-13	5.24E-02	9.63E-01	2.54E-02	3.38E-04	3.70E+00
IN	IN-ID-SDA-Soil	633.57	5.52E+02	--	--	4.46E-03	1.50E-02	1.22E+01	4.16E+02	9.22E+01	1.10E+02	1.34E-02	--	4.64E-03	5.93E-06	6.45E-05	2.44E-07	1.88E-03	1.96E-01	2.79E-02	9.85E-05	5.92E-01
IN	IN-ID-SRP-S3000	1133.16	1.01E+04	2.45E-05	--	2.07E-05	2.45E-01	5.38E+01	9.46E+02	2.41E+02	5.40E+02	7.48E-02	--	2.17E-05	2.97E-04	1.46E-05	1.92E-13	1.02E-01	5.09E-02	9.20E-03	2.36E-04	2.73E-01
IN	IN-IW-608	41.36	5.51E-01	--	--	1.48E-07	2.19E-05	3.33E+01	2.02E+00	4.79E-01	5.54E-01	1.11E-04	--	1.55E-07	3.54E-12	5.25E-07	3.59E-16	2.65E-09	3.42E-03	6.36E-08	4.55E-07	5.51E-13
IN	IN-MD-842	44.55	1.04E-03	--	--	--	1.12E-08	1.03E+00	2.01E-03	1.37E-03	3.54E-04	1.59E-06	--	--	7.77E-16	1.73E-08	1.09E-18	8.03E-13	1.09E-04	6.52E-11	1.34E-09	8.12E-15
IN	IN-MO-530	0.38	6.71E+01	--	--	--	1.76E-03	2.85E+02	5.96E-01	4.08E-01	6.86E-02	4.73E-04	--	--	2.91E-10	5.46E-06	3.66E-16	2.08E-07	3.24E-02	2.06E-08	4.23E-07	2.57E-12
IN	IN-MO-535	1.14	2.52E+02	--	--	3.05E-04	6.36E-03	6.77E+02	1.42E+00	9.71E-01	1.60E-01	1.13E-03	--	3.18E-04	1.04E-09	1.30E-05	8.71E-16	7.48E-07	7.71E-02	4.91E-08	1.01E-06	6.11E-12
IN	IN-MO-540	3.80	2.24E+01	3.65E-10	--	--	5.08E-04	6.75E+00	7.74E-03	5.28E-03	9.83E-04	6.11E-06	--	--	7.86E-11	1.34E-07	4.73E-18	5.76E-08	7.82E-04	4.50E-06	5.48E-09	3.32E-14
IN	IN-MX-142	0.76	2.49E+01	2.36E-11	--	--	5.19E-04	--	3.01E-09	--	--	--	--	--	6.71E-11	--	--	5.38E-08	--	5.35E-17	--	--
IN	IN-RF-005	18.48	3.11E+01	--	--	--	8.74E-04	1.24E-01	5.57E+00	1.59E+00	3.15E+00	7.83E-04	--	1.44E-05	1.35E-10	2.42E-08	1.26E-15	1.01E-07	8.61E-05	1.38E-05	1.55E-06	4.92E-04
IN	IN-RF-090	4.20	1.89E-01	--	--	--	4.24E-06	6.85E-03	8.19E-01	1.48E-01	1.38E-01	1.20E-05	--	--	6.06E-13	2.27E-07	1.18E-16	4.65E-10	7.50E-04	3.64E-05	1.45E-07	1.03E-02
IN	IN-RF-311	2.10	1.18E+01	--	--	5.90E-07	2.64E-04	3.46E+00	5.59E+01	1.26E+01	6.07E+00	9.40E-04	--	6.11E-07	4.78E-11	8.41E-08	1.40E-14	3.21E-08	4.46E-04	2.15E-06	1.46E-05	5.69E-12
IN	IN-RF-393	2.94	3.31E+00	--	--	--	5.62E-05	9.46E-01	2.01E+01	4.72E+00	7.32E+00	3.41E-04	--	--	7.91E-12	2.02E-08	4.48E-15	5.92E-09	1.14E-04	7.12E-07	5.04E-06	1.90E-12
IN	IN-RF-409	13.44	4.30E+02	--	--	--	7.43E-03	9.25E+00	2.09E+02	4.82E+01	6.56E+01	8.55E-03	--	--	8.99E-10	1.56E-07	3.84E-14	7.31E-07	9.84E-04	6.79E-06	4.72E-05	4.38E-11
IN	IN-RF-410	8.40	8.62E+01	--	--	2.11E-06	2.12E-03	1.07E+00	1.90E+01	4.47E+00	1.04E+01	1.31E-03	--	2.19E-06	3.56E-10	2.18E-08	4.24E-15	2.52E-07	1.26E-04	6.73E-07	4.77E-06	7.32E-12
IN	IN-RF-411	8.82	5.43E+01	--	--	--	1.16E-03	4.37E+00	1.55E+02	3.58E+01	3.62E+01	3.66E-03	--	--	1.62E-10	7.35E-08	2.85E-14	1.25E-07	4.64E-04	5.04E-06	3.50E-05	1.87E-11
IN	IN-RF-412	0.42	4.06E+00	--	--	--	1.14E-04	1.22E-01	1.73E+00	2.87E-01	4.41E-01	1.50E-04	--	--	2.92E-11	4.27E-09	4.44E-16	1.65E-08	1.90E-05	7.83E-08	3.91E-07	1.07E-12
IN	IN-RF-414	2.10	1.47E+01	--	--	--	3.15E-04	1.66E+00	4.95E+01	1.13E+01	1.36E+01	1.18E-03	--	--	4.40E-11	2.83E-08	9.03E-15	3.39E-08	1.78E-04	1.94E-06	1.11E-05	6.06E-12
IN	IN-RF-420	2.10	6.10E+00	--	--	--	1.24E-04	5.34E-01	2.75E+01	5.91E+00	8.97E+00	5.72E-04	--	--	1.71E-11	2.61E-08	4.71E-15	1.33E-08	1.13E-04	1.91E-05	5.78E-06	2.93E-12
IN	IN-RF-422	3.36	1.30E+00	--	--	--	3.56E-05	1.08E-01	4.96E+00	1.09E+00	1.31E+00	1.41E-04	--	--	7.53E-12	2.78E-09	1.28E-15	4.75E-09	1.43E-05	1.96E-07	1.30E-06	8.75E-13
IN	IN-RF-697	4.62	8.71E-01	--	--	1.61E-06	1.93E-05	5.85E-02	1.72E+00	3.82E-01	4.91E-01	5.02E-05	--	1.68E-06	2.85E-12	1.05E-09	3.23E-16	2.14E-09	6.44E-06	5.77E-08	3.85E-07	2.65E-13

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2050
(Continued)

Site	Waste Stream ID	Scaled Vol (m^3)	Am-241	Am-243	Cm-244	Cs-137	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	Sr-90	Th-229	Th-230	Th-232	U-233	U-234	U-235	U-236	U-238
IN	IN-RF-745	9.66	4.52E-01	--	--	--	1.24E-05	6.13E-04	2.98E-02	6.61E-03	7.63E-03	8.71E-07	--	--	2.00E-12	9.34E-09	5.60E-18	1.46E-09	2.99E-05	5.81E-06	6.67E-09	1.93E-04
IN	IN-RF-753	0.84	1.46E+00	--	--	--	4.02E-05	7.07E-02	6.23E-01	1.50E-01	9.98E-02	3.60E-05	--	--	6.80E-12	3.92E-08	1.34E-16	4.84E-09	1.26E-04	3.20E-07	1.55E-07	1.95E-13
IN	IN-RF-823	0.42	2.25E-03	--	--	--	2.30E-08	6.71E-04	3.25E-02	7.19E-03	8.65E-03	9.47E-07	--	--	1.98E-15	2.35E-11	1.11E-17	1.78E-12	1.05E-07	1.47E-09	9.81E-09	6.76E-15
IN	IN-RF-990	15.12	3.42E-01	--	--	--	1.11E-05	8.66E-03	2.35E-01	5.32E-02	7.76E-02	7.45E-06	--	--	1.80E-12	5.10E-08	4.24E-17	1.33E-09	1.69E-04	3.86E-05	5.21E-08	7.42E-04
IN	IN-SD-178	7.98	1.65E+01	--	--	1.10E-04	4.13E-04	8.90E-02	4.31E+00	9.55E-01	1.14E+00	1.26E-04	--	1.15E-04	6.13E-11	5.09E-07	7.61E-16	4.65E-08	1.68E-03	5.66E-05	9.34E-07	2.44E-02
IN	WA-BNINW216	3.84	5.95E+01	--	--	--	1.51E-03	2.35E-01	5.17E+00	1.30E+00	2.12E+00	3.80E-04	--	--	2.58E-10	6.34E-08	1.23E-15	1.81E-07	2.05E-04	2.27E-05	1.39E-06	1.02E-03
IN	WA-ID-RF-S3114	5.04	1.02E-01	--	--	--	2.46E-06	1.12E-02	3.59E-01	7.87E-02	9.59E-02	1.14E-05	--	--	4.16E-13	4.66E-09	7.47E-17	2.93E-10	1.47E-05	3.63E-07	8.41E-08	6.39E-14
IN	WA-ID-SDA-SLUDGE	63.21	2.91E+01	--	--	3.96E-06	8.72E-04	7.51E-01	2.32E+01	5.14E+00	6.06E+00	9.20E-04	--	4.13E-06	1.52E-10	2.02E-05	4.60E-15	1.07E-07	6.28E-02	1.68E-03	5.33E-06	6.46E-02
IN	WP-BN004	189.55	4.79E+02	--	4.06E-01	1.05E-03	1.85E-01	4.26E+01	1.38E+03	3.12E+02	4.19E+02	2.91E-02	--	1.67E-03	8.32E-04	5.17E-06	3.47E-13	2.43E-01	1.70E-02	2.64E-03	3.61E-04	3.13E-03
IN	WP-BN161	27.30	5.57E+01	--	--	--	1.34E-03	7.03E+00	2.34E+02	5.32E+01	4.83E+01	4.31E-03	--	--	3.03E-10	2.31E-07	7.54E-14	1.81E-07	1.06E-03	1.29E-05	6.94E-05	2.94E-11
IN	WP-BN211	243.18	5.38E+02	5.10E-06	--	5.16E-07	3.26E-02	6.31E+01	2.06E+03	4.75E+02	4.16E+02	3.99E-02	--	8.19E-07	1.18E-04	3.16E-06	6.74E-13	3.04E-02	1.22E-02	7.17E-04	6.21E-04	4.60E-06
IN	WP-BN222	50.82	9.34E+01	--	--	--	2.23E-01	1.22E+01	4.06E+02	9.19E+01	9.23E+01	7.32E-03	--	--	8.20E-08	4.29E-07	1.30E-13	4.25E-05	1.91E-03	3.87E-05	1.20E-04	4.99E-11
IN	WP-BN243	71.40	4.31E+01	--	2.52E-01	5.25E-08	3.21E-03	4.04E+00	1.18E+02	2.65E+01	2.48E+01	2.65E-03	--	8.31E-08	1.04E-09	4.95E-07	3.76E-14	5.55E-07	1.51E-03	2.46E-04	3.46E-05	1.81E-11
IN	WP-BN252	88.20	2.29E+02	--	--	1.65E-07	6.43E-02	2.86E+01	1.14E+03	2.43E+02	2.94E+02	2.65E-02	--	2.46E-07	2.30E-08	1.10E-06	3.45E-13	1.20E-05	4.72E-03	2.83E-04	3.18E-04	1.81E-10
IN	WP-BN296	237.09	7.17E+02	--	2.39E-01	3.45E-06	4.92E-02	6.11E+01	1.78E+03	3.94E+02	3.51E+02	4.00E-02	--	5.80E-06	2.18E-05	2.33E-06	5.59E-13	5.65E-03	1.00E-02	4.26E-04	5.15E-04	6.75E-04
IN	WP-BN304	143.01	5.72E+01	--	--	1.57E-04	3.18E-03	1.10E+04	3.04E+01	2.29E+01	3.28E+01	1.94E-02	--	2.98E-04	9.76E-10	3.51E-04	3.24E-14	5.31E-07	1.64E+00	4.45E-05	2.98E-05	2.39E-02
IN	WP-BN510	9631.04	4.07E+03	9.55E-04	7.08E-01	4.86E-04	1.97E-01	3.60E+03	1.36E+04	2.95E+03	3.35E+03	2.79E-01	--	8.19E-04	3.04E-03	1.29E-04	3.45E-12	8.66E-01	5.76E-01	1.70E-02	3.50E-03	3.98E-02
IN	WP-BN510.1	3412.52	3.44E+03	8.19E-02	1.80E+00	3.66E-02	1.20E-01	4.63E+03	6.18E+03	1.45E+03	1.88E+03	2.13E-01	--	6.32E-02	1.60E-04	1.14E-04	1.45E-12	4.93E-02	6.01E-01	7.12E-03	1.59E-03	6.38E-02
IN	WP-BN510.2	75.90	1.73E+02	2.44E-03	--	1.88E-02	1.39E-02	3.75E+02	1.00E+02	3.78E+01	6.28E+01	9.69E-03	--	3.35E-02	3.26E-09	1.09E-05	3.79E-14	2.06E-06	5.36E-02	4.55E-03	4.15E-05	1.42E-02
IN	WP-BN510.3	22.42	4.66E+01	--	--	7.53E-04	8.56E-03	1.28E+02	2.67E+01	1.10E+01	1.58E+01	2.84E-03	--	1.38E-03	3.36E-05	2.75E-06	1.04E-14	1.06E-02	1.55E-02	6.03E-04	1.18E-05	2.83E-04
IN	WP-BN600	2.31	1.27E-02	--	--	--	7.98E-07	5.46E-03	4.70E-02	1.08E-02	1.23E-02	1.26E-06	--	--	2.01E-13	1.33E-10	1.20E-17	1.22E-10	7.04E-07	1.81E-09	1.25E-08	7.61E-15
IN	WP-BN835	516.81	4.18E+01	--	--	3.81E-05	7.18E-03	1.34E+03	3.56E+00	2.28E+00	6.09E+00	2.33E-03	--	6.26E-05	2.18E-09	3.63E-05	2.81E-15	1.23E-06	1.83E-01	2.78E-07	2.78E-06	2.54E-04
IN	WP-BN836	821.73	2.50E+00	--	--	1.98E-04	2.27E-03	1.34E+03	2.79E+00	1.88E+00	1.50E+00	2.16E-03	--	3.08E-04	6.53E-10	3.27E-05	2.10E-15	3.82E-07	1.73E-01	3.50E-05	2.18E-06	1.34E-05
IN	WP-BNINW216	3340.46	4.23E+04	--	--	4.26E-05	9.99E-01	2.47E+02	2.98E+03	7.81E+02	1.88E+03	4.47E-01	--	6.59E-05	3.36E-04	8.85E-05	7.00E-13	1.09E-01	2.89E-01	4.32E-02	8.10E-04	1.23E+00
IN	WP-BNINW218	253.03	4.86E+01	--	--	4.43E-06	2.68E-01	2.01E+00	5.53E+01	1.15E+01	1.95E+01	1.73E-03	--	6.84E-06	7.76E-08	3.60E-05	1.28E-14	4.53E-05	1.01E-01	8.54E-03	1.33E-05	9.66E-01
IN	WP-ID-AECHDM	16.38	1.39E+01	2.71E-04	--	9.04E-03	1.50E-02	3.59E+00	1.80E+01	5.62E+00	7.16E+00	3.53E-04	--	8.55E-03	3.89E-09	5.50E-07	5.64E-15	2.40E-06	1.82E-03	1.48E-05	6.17E-06	2.71E-03
IN	WP-ID-AECHHM	6.30	7.69E+00	2.32E-10	--	1.60E-02	2.09E-03	2.62E-01	5.41E+00	8.72E-01	1.44E+00	3.67E-05	--	1.51E-02	5.86E-10	3.31E-07	9.71E-16	3.45E-07	9.40E-04	2.37E-05	1.01E-06	4.71E-04
IN	WP-ID-GEVNC-02	1.26	3.59E-02	--	--	1.72E-02	4.78E-07	3.29E-04	3.15E-03	1.46E-03	2.46E-03	8.67E-07	--	4.48E-03	8.62E-11	2.24E-09	2.00E-16	2.46E-08	6.11E-06	2.18E-07	1.02E-07	1.11E-07
IN	WP-ID-LBNL-S5400	0.21	1.01E-01	--	--	--	1.28E-03	--	--	--	--	--	--	--	3.72E-10	--	--	2.17E-07	--	--	--	--
IN	WP-ID-LL-M001-S5400	40.32	8.67E+01	2.05E-05	1.29E+00	5.73E-05	2.47E-03	8.16E+01	1.75E+02	4.39E+01	9.97E+01	6.64E-03	--	5.35E-05	7.86E-05	7.57E-06	5.14E-14	2.24E-02	2.57E-02	4.42E-04	5.20E-05	1.83E-04
IN	WP-ID-LL-T004-S3141	1.05	2.00E+01	--	--	7.50E-07	3.94E-04	2.20E-01	6.96E+00	1.68E+00	3.96E+00	2.50E-04	--	2.75E-07	6.69E-11	5.65E-09	1.97E-15	4.57E-08	2.92E-05	2.74E-07	2.00E-06	1.55E-12
IN	WP-ID-LL-W019-S3900	3.57	7.98E+00	--	--	1.01E-07	1.78E-04	5.21E-01	7.09E+00	1.98E+00	6.89E+00	3.58E-04	--	6.87E-08	3.91E-05	7.86E-08	2.32E-15	1.11E-02	2.46E-04	5.27E-06	2.35E-06	2.22E-12
IN	WP-ID-NRD.1	18.27	5.68E+02	--	--	2.26E-05	1.25E-02	--	--	6.37E-01	--	--	--	2.34E-05	2.22E-09	--	7.09E-16	1.50E-06	--	--	7.37E-07	--
IN	WP-ID-NTLBL-S3900	0.21	2.26E-01	--	--	2.69E-06	2.48E-05	7.54E-02	5.89E-01	1.36E-01	2.32E-01	4.12E-05	--	2.78E-06	7.32E-12	2.04E-09	1.67E-16	4.15E-09	1.03E-05	2.38E-08	1.65E-07	2.62E-13
IN	WP-ID-NTLBL-S5400	2.09	1.89E+00	--	--	2.42E-07	3.53E-04	2.46E-01	5.79E-02	6.04E-02	1.81E+00	2.14E-04	--	2.50E-07	1.08E-10	6.66E-09	7.44E-17	6.07E-08	3.35E-05	2.34E-09	7.35E-08	1.36E-12
IN	WP-ID-NTLLLBL-S5400	1.88	1.03E-01	2.95E-05	--	--	1.31E-06	6.17E-03	2.17E-01	4.61E-02	1.01E-01	8.66E-06	--	--	1.35E-13	1.67E-10	5.67E-17	1.14E-10	8.42E-07	8.77E-09	5.60E-08	5.51E-14
IN	WP-ID-NTLLNL-S3900	12.60	2.11E+01	--	2.28E-02	3.13E-04	7.29E-04	9.75E-01	5.47E+00	1.34E+00	1.85E+00	1.89E-04	--	3.23E-04	6.87E-05	1.97E-07	1.65E-15	1.91E-02	5.85E-04	2.07E-05	1.63E-06	5.42E-05
IN	WP-ID-NTLLNL-S5400	136.42	4.22E+01	2.66E-04	2.91E+00	3.49E-06	1.63E-03	7.56E+00	4.02E+01	1.13E+01	9.57E+01	5.04E-03	--	3.61E-06	1.72E-04	4.53E-07	1.39E-14	4.77E-02	1.69E-03	3.19E-05	1.37E-05	3.21E-11
IN	WP-ID-NTLRC-S5400	0.21	3.36E-01	--	--	--	7.09E-05	4.14E-02	1.49E+00	3.25E-01	2.75E-01	2.76E-05	--	--	2.18E-11	6.95E-08	4.00E-16	1.22E-08	1.87E-04	6.29E-06	3.95E-07	1.07E-05
IN	WP-ID-NT-RF-DECON	0.42	2.05E-01	--	--	1.02E-06	1.76E-05	5.88E-02	3.67E-01	7.42E-02	1.18E-01	2.30E-05	--	1.05E-06	5.06E-12	1.60E-09	9.13E-17	2.89E-09	8.03E-06	1.48E-08	9.02E-08	1.46E-13
IN	WP-ID-NTS-EGG-HET	0.21	1.57E-01	--	--	--	3.33E-06	5.05E-02	1.42E+00	2.78E-01	1.58E-01	4.37E-05	--	--	6.34E-13	1.37E-09	3.43E-16	4.11E-10	6.90E-06	5.74E-08	3.39E-07	2.78E-13
IN	WP-ID-NTS-ITRI-S5310	0.21	1.30E-04	--	--	--	3.30E-08	6.69E-02	9.59E-03	2.57E-04	4.00E-04	4.26E-07	--	--	1.02E-14	1.82E-09	3.16E-19	5.73E-12	9.14E-06	3.87E-10	3.12E-10	2.71E-15

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2050
(Continued)

Site	Waste Stream ID	Scaled Vol (m^3)	Am-241	Am-243	Cm-244	Cs-137	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	Sr-90	Th-229	Th-230	Th-232	U-233	U-234	U-235	U-236	U-238
IN	WP-ID-NTS-TTR-HET	0.21	4.81E-03	--	--	1.96E-07	3.04E-07	7.58E-04	7.52E-02	5.84E-03	5.78E-03	1.61E-07	--	2.03E-07	8.44E-14	2.06E-11	7.19E-18	4.86E-11	1.04E-07	3.04E-09	7.10E-09	1.02E-15
IN	WP-ID-NTVERB-S5400	3.76	7.87E+00	1.68E-04	3.42E-01	--	1.47E-04	4.81E-01	2.67E+00	1.20E+00	1.62E+01	1.75E-04	--	--	2.65E-11	1.31E-08	1.48E-15	1.75E-08	6.58E-05	1.08E-07	1.46E-06	1.11E-12
IN	WP-ID-RF-BNL-ASH	0.21	1.64E-01	--	--	--	4.10E-06	1.74E-02	7.31E-01	1.67E-01	1.31E-01	1.34E-05	--	--	9.79E-13	5.82E-10	2.48E-16	5.71E-10	2.66E-06	3.24E-08	2.23E-07	9.39E-14
IN	WP-ID-RF-S3114	2235.33	9.36E+01	4.96E-06	--	8.24E-06	2.78E-03	9.61E+00	2.63E+02	5.60E+01	8.46E+01	6.32E-03	--	4.62E-05	4.89E-10	8.14E-06	5.02E-14	3.43E-07	2.58E-02	6.67E-04	5.81E-05	3.86E-02
IN	WP-ID-RF-S3150-A	159.39	4.70E+01	--	--	8.08E-06	2.42E-03	5.85E+00	1.71E+02	3.72E+01	6.02E+01	3.16E-03	--	1.29E-05	5.90E-10	1.49E-06	4.14E-14	3.60E-07	4.50E-03	1.13E-04	4.30E-05	3.03E-04
IN	WP-ID-RF-S5100-A	386.61	1.69E+02	--	--	5.55E-06	3.85E-03	1.52E+01	6.32E+02	1.33E+02	1.11E+02	1.15E-02	--	7.82E-06	1.07E-05	1.25E-06	1.81E-13	2.83E-03	4.19E-03	1.15E-04	1.70E-04	4.50E-06
IN	WP-ID-RF-S5126	159.81	1.94E+02	--	--	4.69E-06	5.23E-03	2.29E+01	8.73E+02	2.03E+02	2.01E+02	1.85E-02	--	7.18E-06	8.23E-04	7.28E-06	2.74E-13	2.18E-01	2.00E-02	4.92E-05	2.58E-04	1.60E-03
IN	WP-ID-RF-S5300-A	1299.06	9.26E+01	1.71E-08	1.24E-01	1.04E-05	5.20E-03	6.18E+00	2.49E+02	5.58E+01	6.25E+01	5.41E-03	--	1.31E-05	9.94E-04	8.13E-06	5.90E-14	2.98E-01	2.36E-02	6.10E-04	6.29E-05	8.79E-04
IN	WP-ID-SA-T001	5.88	6.06E+00	3.02E-02	1.13E+00	1.10E-07	7.09E-04	6.02E+00	4.51E+00	3.67E-01	4.51E-01	4.23E-05	--	1.04E-07	1.91E-10	1.74E-02	4.03E-16	1.13E-07	1.26E-03	1.08E-05	4.20E-07	7.99E-04
IN	WP-ID-SDA-DEBRIS	452.33	3.82E+02	--	--	3.32E-04	1.04E-02	2.38E+01	8.88E+02	1.98E+02	1.70E+02	2.72E-02	--	3.44E-04	1.74E-05	4.33E-05	2.09E-13	5.21E-03	1.25E-01	3.14E-03	2.23E-04	2.42E-01
IN	WP-ID-SDA-SLUDGE	4651.50	8.31E+03	--	3.94E-02	3.29E-02	2.26E-01	8.98E+01	2.72E+03	6.08E+02	9.55E+02	1.08E-01	--	2.78E+00	3.11E-04	5.71E-04	5.45E-13	1.01E-01	1.78E+00	4.68E-02	6.31E-04	7.11E+00
IN	WP-ID-SDA-SOIL	719.04	6.76E+02	--	--	5.32E-03	1.88E-02	1.47E+01	5.13E+02	1.14E+02	1.23E+02	1.63E-02	--	5.52E-03	7.92E-06	8.03E-05	1.20E-13	2.37E-03	2.31E-01	5.97E-03	1.28E-04	7.02E-01
IN	WP-ID-SNL-HCF-S5400	1.68	4.81E-01	--	8.56E-04	1.20E-02	2.81E-03	1.62E-01	5.69E-01	1.56E-02	1.05E-01	1.33E-03	--	9.04E-03	1.46E-07	4.73E-06	3.35E-13	4.29E-05	1.32E-02	4.28E-04	1.74E-04	1.54E-04
IN	WP-ID-SNL-SOURCES-S5400	0.63	1.30E-01	4.81E-08	--	1.10E-07	2.92E-06	1.14E-03	2.12E-03	2.72E-03	1.98E-03	2.07E-06	--	--	5.22E-13	2.77E-11	3.03E-18	3.52E-10	1.47E-07	8.15E-11	3.15E-09	1.25E-14
IN	WP-INW161.001	19.32	3.21E+01	--	--	--	4.58E-04	3.75E+00	1.57E+02	3.54E+01	3.90E+01	3.52E-03	--	--	6.18E-11	2.79E-07	5.97E-14	4.54E-08	9.23E-04	9.50E-05	5.04E-05	5.56E-06
IN	WP-INW169.001	19.32	5.54E+00	--	--	--	8.11E-05	4.67E-01	1.96E+01	4.37E+00	5.44E+00	5.91E-04	--	--	1.12E-11	1.49E-07	7.38E-15	8.16E-09	3.74E-04	7.32E-05	6.23E-06	4.37E-06
IN	WP-INW198.001	49.56	7.79E+00	--	--	--	1.11E-04	8.44E-01	3.78E+01	8.41E+00	9.49E+00	8.87E-04	--	--	1.10E-06	9.51E-08	1.42E-14	2.60E-04	2.81E-04	3.74E-05	1.20E-05	5.90E-05
IN	WP-INW211.001	304.08	9.55E+02	--	--	--	1.36E-02	9.38E+01	3.64E+03	8.07E+02	1.16E+03	1.40E-01	--	--	5.46E-05	5.28E-06	1.36E-12	1.30E-02	1.92E-02	1.11E-03	1.15E-03	1.47E-03
IN	WP-INW216.001	1252.17	5.35E+04	--	--	--	8.63E-01	7.99E+01	3.26E+03	7.29E+02	1.02E+03	1.18E-01	--	--	1.41E-04	2.77E-04	1.23E-12	3.36E-02	6.35E-01	1.03E-01	1.04E-03	3.89E+00
IN	WP-INW218.001	1115.95	8.06E+02	--	--	--	1.28E-02	1.19E+01	4.97E+02	1.11E+02	1.53E+02	1.70E-02	--	--	4.69E-05	4.08E-04	1.87E-13	1.11E-02	9.27E-01	1.02E-01	1.58E-04	8.75E+00
IN	WP-INW222.001	65.73	6.73E+01	--	--	--	9.67E-04	7.03E+00	2.84E+02	6.35E+01	7.79E+01	7.40E-03	--	--	1.31E-10	6.50E-07	1.07E-13	9.63E-08	2.01E-03	1.18E-04	9.05E-05	7.02E-03
IN	WP-INW243.001	75.60	8.50E+01	--	--	--	1.26E-03	7.30E+00	2.37E+02	5.27E+01	7.20E+01	6.81E-03	--	--	1.04E-05	1.09E-06	8.90E-14	2.47E-03	3.04E-03	4.59E-04	7.51E-05	3.18E-04
IN	WP-INW247.001R1	118.02	1.09E+02	--	--	--	1.56E-03	1.74E+01	4.15E+02	9.43E+01	1.31E+02	7.92E-03	--	--	3.18E-05	6.82E-07	1.59E-13	7.54E-03	2.89E-03	2.56E-05	1.34E-04	5.90E-11
IN	WP-INW252.001	61.53	7.86E+01	--	--	--	1.07E-03	8.51E+00	3.01E+02	6.82E+01	1.26E+02	6.81E-03	--	--	1.39E-10	6.68E-07	1.15E-13	1.04E-07	2.17E-03	2.39E-04	9.71E-05	5.07E-11
IN	WP-INW276.001	10.29	7.31E+00	--	--	--	1.08E-04	1.64E+00	3.17E+01	7.22E+00	1.01E+01	6.55E-04	--	--	1.63E-11	7.59E-08	1.43E-14	1.13E-08	2.97E-04	1.89E-06	1.11E-05	5.28E-12
IN	WP-INW276.002	16.17	1.15E+01	--	--	--	1.72E-04	2.46E+00	4.77E+01	1.08E+01	1.52E+01	9.82E-04	--	--	3.33E-06	1.15E-07	2.14E-14	7.30E-04	4.49E-04	3.20E-06	1.67E-05	7.92E-12
IN	WP-INW276.003	188.37	4.36E+02	--	--	--	6.00E-03	9.24E+01	1.72E+03	3.92E+02	6.76E+02	3.66E-02	--	--	2.20E-04	3.65E-06	6.61E-13	5.21E-02	1.54E-02	1.21E-04	5.58E-04	1.12E-06
IN	WP-INW276.004	47.25	1.02E+02	--	--	--	1.42E-03	1.93E+01	3.67E+02	8.33E+01	1.42E+02	7.65E-03	--	--	1.91E-04	8.08E-07	1.41E-13	4.53E-02	3.32E-03	4.57E-05	1.19E-04	5.69E-11
IN	WP-INW296.001	98.70	1.78E+02	--	--	--	2.63E-03	2.05E+01	5.12E+02	1.16E+02	1.64E+02	1.10E-02	--	--	4.27E-05	1.09E-06	1.95E-13	1.01E-02	4.04E-03	1.76E-04	1.65E-04	3.96E-04
KN	KN-B234TRU	323.29	2.66E+01	--	--	--	3.57E-04	2.17E+00	9.04E+01	9.01E+01	1.77E+01	--	--	--	1.20E-03	5.02E-02	1.68E-02	3.25E-01	3.25E-01	6.16E-02	6.17E-02	7.94E-03
LA	LA-CIN01.001	1259.09	7.91E+04	2.63E+00	--	1.88E-03	1.38E+00	8.01E+03	1.66E+04	4.50E+03	1.89E+04	4.98E+00	2.53E-06	1.79E-03	1.46E-03	5.66E-04	5.11E-04	5.20E-01	2.32E+00	1.70E-02	1.12E-02	6.31E-01
LA	LA-CIN02.001	121.05	2.81E+02	1.19E-03	--	2.19E-05	4.66E-03	2.17E+01	3.74E+02	1.45E+01	2.07E+01	2.16E-03	--	1.79E-05	1.13E-05	1.39E-06	1.38E-14	9.20E-07	5.42E-03	7.86E-04	1.55E-05	4.85E-05
LA	LA-CIN03.001	2.94	4.38E-02	2.19E-05	--	5.41E-05	1.62E-05	9.40E-02	6.37E-01	3.98E-02	5.87E-02	1.76E-06	--	5.12E-05	5.94E-07	1.76E-07	3.78E-17	2.49E-09	5.38E-04	1.27E-05	4.25E-08	5.05E-04
LA	LA-LA225D	4.62	4.17E-01	3.52E-04	--	1.39E-05	3.99E-05	2.43E-01	8.74E-01	1.69E-01	2.74E-01	1.18E-05	--	1.32E-05	1.80E-06	2.89E-08	2.93E-16	5.86E-09	1.01E-04	6.84E-07	2.55E-07	9.90E-07
LA	LA-LA238HONR	2.03	2.12E-01	--	--	--	1.86E-06	1.31E+02	1.00E-01	5.03E-02	8.25E-01	4.15E-05	--	--	1.05E-13	7.63E-06	3.77E-17	1.19E-10	3.24E-02	8.22E-09	4.77E-08	2.06E-13
LA	LA-LA238HOR	0.36	7.87E-01	--	--	--	6.89E-06	4.84E+02	3.71E-01	1.86E-01	3.06E+00	1.54E-04	--	--	3.90E-13	2.83E-05	1.40E-16	4.39E-10	1.20E-01	3.04E-08	1.77E-07	7.63E-13
LA	LA-LAMHD02238	3.67	1.45E+00	--	--	--	1.27E-05	9.00E+02	6.89E-01	3.45E-01	5.65E+00	2.84E-04	--	--	7.22E-13	5.26E-05	2.59E-16	8.12E-10	2.23E-01	5.65E-08	3.27E-07	1.41E-12
LA	LA-LAMIN04S	8.23	4.48E+02	--	--	--	4.40E-03	2.39E+01	8.01E+02	2.02E+02	7.61E+02	1.97E-02	--	--	2.74E-10	1.24E-06	1.56E-13	2.97E-07	5.40E-03	7.48E-05	1.94E-04	1.84E-07
LA	LA-LANHD01	32.07	6.46E+00	--	--	--	5.78E-05	1.47E+00	3.93E+01	5.61E+00	2.24E+01	2.32E-02	2.53E-08	--	3.35E-12	1.22E-07	5.22E-15	3.73E-09	4.86E-04	7.01E-06	5.97E-06	8.99E-05
LA	LA-LANHD02238	14.14	6.15E+00	--	--	--	5.38E-05	3.87E+03	2.94E+00	1.47E+00	2.39E+01	1.20E-03	--	--	3.05E-12	2.26E-04	1.10E-15	3.43E-09	9.59E-01	2.41E-07	1.39E-06	5.98E-12
LA	LA-LANIN03NC	6.25	9.19E+01	--	--	--	8.88E-04	5.83E+00	1.95E+02	4.99E+01	1.86E+02	4.91E-03	--	--	5.47E-11	3.06E-07	3.79E-14	5.95E-08	1.33E-03	1.60E-05	4.76E-05	2.35E-08
LA	LA-MHD01.001	25478.30	5.63E+04	1.76E+00	--	4.06E-03	9.51E-01	9.70E+05	1.31E+05	3.46E+04	1.11E+05	4.39E+01	3.54E-05	3.87E-03	1.37E-03	5.79E-02	3.85E-11	4.86E-01	2.45E+02	6.25E-02	4.08E-02	1.48E-01
LA	LA-MHD03.001	4572.65	7.29E+03	1.45E-01	1.44E+03	9.10E+00	1.77E-01	2.72E+03	3.50E+04	8.20E+03	2.65E+04	5.17E-01	--	8.16E+00	2.57E-08	2.20E-04	1.29E-03	1.98E-05	8.82E-01	1.08E-02	8.62E-03	5.81E-04
LA	LA-MHD04.001	100.42	4.69E+01	2.59E-04	--	4.45E-06	1.16E-03	1.71E+02	1.14E+02	3.67E+01	4.60E+01	5.57E-03	--	4.23E-06	7.19E-06	1.27E-05	2.92E-14	2.48E-03	5.04E-02	2.42E-05	3.59E-05	2.85E-11
LA	LA-MHD05-ITRI.001	4.61	1.84E+01	4.17E-05	9.52E-01	2.49E-07	3.40E-04	2.78E-02	7.74E-01	1.57E-01	2.61E-01	8.72E-06	--	2.35E-07	3.42E-07	5.65E-10	1.45E-16	3.60E-08	3.26E-06	2.75E-08	1.65E-07	4.87E-14
LA	LA-MHD08.001	5.95	1.25E+00	4.49E-02	--	7.09E-05	1.15E-04	4.66E-02	4.89E-02	2.65E-02	1.33E-01	7.66E-04	--	6.71E-05	2.60E-11	2.51E-09	2.51E-17	1.68E-08	1.02E-05	1.73E-09	2.82E-08	4.28E-12
LA	LA-MHD09.001	26.45	3.36E+00	3.56E-05	--	2.64E-06	1.15E-04	2.87E+00	2.05E+00	6.42E-01	2.05E+00	5.13E-04	--	2.50E-06	2.19E-11	2.34E-07	6.09E-16	1.49E-08	8.68E-04	4.32E-06	6.85E-07	2.87E-12
LA	LA-MIN02-V.001	58.39	7.40E+02	4.77E-02	--	2.47E-05	1.70E-02	4.21E+01	1.65E+02	3.11E+01	6.27E+01	2.93E-03	--	2.35E-05	2.44E-09	3.64E-06	2.48E-14	1.87E-06	1.41E-02	8.49E-05	3.05E-05	8.47E-04
LA	LA-MIN03-NC.001	60.27	4.45E+01	9.32E-05	--	2.49E-04	5.14E-04	1.14E+01	4.70E+01	7.64E+00	4.84E+01	1.27E-01	1.40E-07	2.30E-04	5.94E-06	7.01E-07	7.36E-15	3.98E-08	2.94E-03	6.83E-05	8.28E-06	1.01E-04

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2050
(Continued)

Site	Waste Stream ID	Scaled Vol (m^3)	Am-241	Am-243	Cm-244	Cs-137	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	Sr-90	Th-229	Th-230	Th-232	U-233	U-234	U-235	U-236	U-238
LA	LA-MIN04-S.001	3.97	5.55E+01	2.33E-02	--	1.23E-04	1.07E-03	1.72E+00	6.44E+01	1.59E+01	2.38E+01	1.06E-02	--	1.18E-04	1.63E-10	2.00E-07	1.60E-14	1.18E-07	6.88E-04	1.41E-05	1.75E-05	6.50E-04
LA	LA-MIN05-V.001	3.14	1.74E+00	1.48E-05	--	3.10E-06	6.17E-03	3.05E-01	9.43E+00	2.20E+00	4.71E+00	1.38E-04	--	1.89E-06	1.52E-09	1.66E-07	2.09E-15	9.63E-07	5.18E-04	1.22E-05	2.35E-06	7.73E-13
LA	LA-MIN06-NS.001	9.45	9.04E+01	1.19E-02	--	1.48E-06	2.00E-03	7.60E-01	2.59E+01	6.40E+00	1.52E+01	5.79E-04	--	7.47E-07	2.67E-10	5.15E-07	4.80E-15	2.12E-07	1.79E-03	2.53E-05	6.08E-06	7.78E-04
LA	LA-MSG04.001	62.50	7.46E-01	2.58E-05	--	1.28E-03	1.46E-05	9.43E-02	6.28E+00	9.19E-01	2.06E+00	5.37E-05	--	1.79E-04	2.29E-12	8.83E-07	8.72E-16	1.65E-09	2.67E-03	7.27E-05	9.81E-07	6.94E-04
LA	LA-NCD01	3.15	2.22E+00	--	--	--	1.96E-05	2.51E-01	1.10E+01	2.56E+00	8.33E+00	1.49E-04	--	--	1.12E-12	6.24E-08	3.07E-15	1.25E-09	2.24E-04	6.25E-06	3.16E-06	5.08E-08
LA	LA-OS-00-01.001	44.30	1.76E+04	--	--	1.41E+01	1.86E-01	2.07E+03	6.48E+03	1.59E+03	9.75E+02	1.27E-01	--	6.46E-04	3.32E-08	1.23E-04	1.19E-12	2.05E-05	5.18E-01	2.04E-04	1.51E-03	1.46E-08
LA	LA-OS-00-04	0.01	2.00E-01	--	--	--	2.47E-06	--	2.90E-05	1.83E-05	7.53E-06	--	--	--	9.28E-13	--	1.84E-20	4.18E-10	--	2.13E-12	2.01E-11	--
LA	LA-TA-00-01	81.93	7.23E-01	--	--	--	2.12E-03	1.13E+00	1.25E+00	4.26E-02	8.16E-02	2.48E-06	--	--	7.46E-10	3.41E-08	5.77E-17	3.95E-07	1.63E-04	5.31E-08	5.44E-08	1.65E-14
LA	LA-TA-03-10	11.33	3.23E+00	4.89E-04	--	1.09E-05	7.03E-03	4.17E+01	1.36E+01	3.22E+00	1.13E+01	2.82E-04	--	--	4.89E-06	3.39E-06	1.88E-14	5.83E-04	1.36E-02	1.12E-04	1.34E-05	2.12E-05
LA	LA-TA-03-14	9.40	--	--	--	--	--	2.05E+00	6.19E-03	--	--	--	--	--	--	2.17E-07	--	--	5.82E-04	4.52E-10	--	--
LA	LA-TA-03-28	1.05	--	--	--	--	--	1.95E+00	--	--	--	--	--	--	--	2.20E-07	--	--	5.73E-04	--	--	--
LA	LA-TA-03-30	0.21	--	--	--	--	--	3.76E-02	--	--	--	--	--	--	--	4.24E-09	--	--	1.10E-05	--	--	--
LA	LA-TA-03-CVD-C&NC	16.99	2.99E+01	--	--	--	2.72E-04	3.39E+00	1.48E+02	3.45E+01	1.12E+02	2.01E-03	--	--	1.66E-11	1.47E-07	2.59E-14	1.80E-08	6.65E-04	1.02E-05	3.28E-05	9.97E-12
LA	LA-TA-21-01	0.21	4.53E-02	--	--	--	4.13E-07	5.07E-03	2.23E-01	5.21E-02	1.61E-01	3.03E-06	--	--	2.50E-14	2.30E-10	4.15E-17	2.73E-11	1.02E-06	1.56E-08	5.10E-08	1.55E-14
LA	LA-TA-21-05	0.42	2.32E-01	--	--	--	5.11E-06	1.83E-02	1.05E+00	2.49E-01	1.11E-01	1.69E-05	--	--	1.59E-12	3.62E-09	1.00E-15	7.71E-10	7.66E-06	1.96E-05	5.48E-07	1.94E-13
LA	LA-TA-21-06	329.28	8.07E+01	--	--	--	1.71E-03	1.03E+04	2.03E+02	6.15E+01	4.40E+01	1.15E-02	--	--	5.01E-10	1.23E-03	2.34E-13	2.50E-07	3.13E+00	9.36E-04	1.32E-04	1.28E-10
LA	LA-TA-21-07	635.99	3.75E+01	--	--	--	7.87E-04	7.89E+03	1.78E+02	3.74E+01	2.08E+01	3.35E-03	--	--	2.24E-10	7.77E-04	1.38E-13	1.14E-07	2.15E+00	1.81E-05	7.89E-05	3.69E-11
LA	LA-TA-21-08	4.20	8.93E-01	--	--	--	1.96E-05	6.60E+01	2.66E+00	7.48E-01	4.39E-01	1.12E-04	--	--	6.06E-12	6.99E-06	3.00E-15	2.95E-09	1.87E-02	2.93E-07	1.64E-06	1.29E-12
LA	LA-TA-21-09	14.28	7.52E-02	--	--	--	1.71E-06	1.07E+03	3.58E-01	8.34E-02	3.25E-02	4.86E-06	--	--	5.63E-13	1.20E-04	3.54E-16	2.65E-10	3.13E-01	4.02E-08	1.88E-07	5.73E-14
LA	LA-TA-21-12	346.25	1.51E+02	--	--	--	3.18E-03	3.24E+04	2.72E+02	9.15E+01	8.39E+01	2.49E-02	--	--	2.58E-01	4.54E-03	3.39E-13	4.15E+01	1.09E+01	1.97E-03	1.93E-04	2.74E-10
LA	LA-TA-21-13	459.01	9.84E+03	--	--	8.17E-02	1.32E-01	2.32E+01	6.25E+01	4.75E-04	8.05E-03	2.75E-08	--	5.41E-02	1.36E-08	2.72E-06	1.64E-13	1.16E-05	8.85E-03	2.14E-02	8.29E-05	1.08E-02
LA	LA-TA-21-15	3.36	7.30E-01	--	--	--	1.56E-05	5.79E-02	4.71E+00	8.08E-01	3.81E-01	4.71E-05	--	--	4.60E-12	1.07E-08	3.07E-15	2.29E-09	2.33E-05	4.63E-07	1.73E-06	5.26E-13
LA	LA-TA-21-16	55.02	1.45E+02	--	--	--	1.74E-03	1.90E+01	6.33E+02	1.51E+02	3.11E+02	1.25E-02	--	--	1.79E-10	1.40E-06	2.04E-13	1.50E-07	4.85E-03	3.29E-03	1.92E-04	8.31E-11
LA	LA-TA-21-17	0.63	5.48E-03	--	--	--	1.25E-07	4.23E-04	2.61E-02	6.08E-03	2.37E-03	3.55E-07	--	--	4.11E-14	8.69E-11	2.58E-17	1.94E-11	1.80E-07	2.93E-09	1.37E-08	4.18E-15
LA	LA-TA-50-18	0.42	2.80E-01	--	--	--	7.32E-06	--	5.70E-03	--	--	--	--	--	2.78E-12	--	--	1.23E-09	--	4.27E-10	--	--
LA	LA-TA-50-19	63.42	2.21E+01	--	--	--	2.35E-04	1.56E+00	4.13E+00	6.41E-01	2.08E+00	3.72E-05	--	--	1.54E-11	4.17E-08	8.24E-16	1.64E-08	2.18E-04	1.88E-06	8.26E-07	1.53E-08
LA	LA-TA-55-14	0.21	3.39E-01	--	--	--	3.95E-06	6.62E-03	2.99E-01	6.97E-02	1.87E-01	4.05E-06	--	--	3.23E-13	3.46E-10	6.61E-17	3.07E-10	1.42E-06	2.17E-08	7.44E-08	2.26E-14
LA	LA-TA-55-19	103.17	3.15E+02	--	--	1.67E-08	4.92E-03	1.55E+03	5.12E+02	1.92E+02	1.26E+03	2.11E-01	1.43E-07	--	5.79E-10	1.53E-04	1.57E-12	4.76E-07	5.95E-01	6.75E-03	1.09E-03	1.53E-03
LA	LA-TA-55-20	3.99	2.37E+00	--	--	--	2.09E-05	3.64E-01	9.73E+00	2.57E+00	9.32E+00	2.39E-04	--	--	1.21E-12	1.67E-08	1.93E-15	1.35E-09	7.47E-05	6.60E-07	2.44E-06	1.19E-12
LA	LA-TA-55-21	2.31	3.34E-01	--	--	--	6.97E-06	1.81E+01	5.80E-01	2.07E-01	1.93E-01	5.51E-05	--	--	1.97E-12	4.06E-06	7.64E-16	1.00E-09	8.42E-03	6.21E-08	4.36E-07	2.02E-06
LA	LA-TA-55-30	248.56	3.52E+02	2.45E-05	--	--	3.15E-03	4.73E+02	4.06E+02	1.61E+02	1.23E+03	2.70E-01	1.81E-07	--	1.82E-10	3.15E-05	1.71E-13	2.03E-07	1.30E-01	6.62E-04	1.85E-04	8.39E-03
LA	LA-TA-55-32	2.36	1.40E+01	--	--	--	1.25E-04	1.53E+00	6.67E+01	1.56E+01	5.05E+01	9.04E-04	--	--	7.15E-12	7.38E-08	1.18E-14	8.01E-09	3.26E-04	5.41E-06	1.49E-05	7.63E-09
LA	LA-TA-55-38	1.47	2.73E+00	--	--	--	2.37E-05	2.43E+01	1.76E+00	7.38E-01	1.11E+01	4.63E-02	5.11E-08	--	1.33E-12	1.41E-06	5.53E-16	1.50E-09	5.99E-03	1.21E-07	7.00E-07	2.30E-10
LA	LA-TA-55-54	7.27	5.12E+01	--	--	--	4.52E-04	5.79E+00	2.53E+02	5.91E+01	1.92E+02	3.43E-03	--	--	2.58E-11	3.50E-07	4.65E-14	2.89E-08	1.47E-03	2.80E-05	5.75E-05	9.79E-08
LA	LA-TRU-Empty-110	1.88	1.24E-02	4.38E-08	--	--	1.73E-07	--	4.52E-05	1.06E-05	1.22E-04	--	--	--	1.83E-14	--	1.00E-20	1.55E-11	--	1.61E-12	1.13E-11	--
LA	LA-TRU-Empty-55	13.16	2.32E-01	6.78E-06	--	3.78E-08	5.19E-06	1.56E+01	3.46E-01	7.97E-02	2.37E-01	1.48E-08	--	3.59E-08	7.43E-13	1.23E-06	6.35E-17	5.69E-10	4.84E-03	2.21E-07	7.80E-08	7.59E-17
LA	LA-TRU-Empty-85	82.72	2.11E+02	2.19E-02	--	6.14E-04	6.45E-03	1.71E+01	4.67E+01	1.02E+01	4.27E+01	2.61E-04	3.71E-13	5.83E-04	2.58E-06	1.48E-06	9.47E-15	7.62E-07	5.75E-03	1.62E-05	1.08E-05	4.16E-04
LA	WA-LA-CIN01.001	6.72	5.82E+02	5.87E-02	--	3.10E-05	1.69E-02	8.62E+00	1.55E+02	3.82E+01	6.83E+01	2.16E-01	--	2.93E-05	3.18E-09	1.86E-07	3.83E-14	2.15E-06	1.05E-03	5.66E-06	4.19E-05	1.24E-09
LA	WC-LA-CIN01.001	16.80	1.24E+03	8.46E-02	--	2.71E-05	3.04E-02	1.49E+01	2.01E+02	5.83E+01	1.34E+02	1.98E-01	--	2.56E-05	5.08E-09	3.36E-06	5.53E-14	3.60E-06	1.10E-02	2.36E-04	6.22E-05	9.64E-03
LA	WC-LA-CIN02.001	0.21	1.75E-01	--	--	--	7.98E-06	9.19E-02	9.79E-02	1.45E-02	2.04E-02	5.39E-06	--	--	1.63E-12	1.43E-08	1.38E-17	1.09E-09	4.82E-05	9.30E-07	1.55E-08	3.01E-14
LA	WC-LA-MHD01.001	9.45	1.49E+02	4.40E-02	--	5.74E-05	5.50E-03	6.50E+00	1.27E+02	3.75E+01	5.21E+01	4.90E-02	--	5.44E-05	1.07E-09	1.23E-06	3.56E-14	7.22E-07	4.07E-03	8.65E-05	4.00E-05	4.05E-04
LA	WC-LA-MHD03.001	0.63	3.45E+00	3.22E-06	--	3.36E-06	7.86E-05	1.98E+01	1.05E+00	5.80E-01	3.00E-01	9.18E-05	--	3.18E-06	1.27E-11	1.74E-06	5.51E-16	9.09E-09	6.37E-03	3.72E-08	6.20E-07	5.13E-13
LA	WC-LA-MHD05-ITRI.001	0.21	7.80E-06	7.62E-02	--	--	7.05E-05	4.99E+00	7.90E-05	--	3.76E-04	--	--	--	1.74E-11	4.42E-07	--	1.10E-08	1.61E-03	1.40E-12	--	--
LA	WC-LA-MHD08.001	0.21	1.30E+00	1.78E-04	--	--	3.06E-05	7.28E-02	7.11E-01	3.41E-01	1.29E+00	1.14E-04	--	--	5.11E-12	1.48E-09	3.24E-16	3.61E-09	8.55E-06	2.52E-08	3.64E-07	6.37E-13
LA	WC-LA-MHD09.001	0.84	8.47E-02	4.13E-11	--	1.79E-07	2.73E-06	1.79E-03	8.81E-02	2.07E-02	3.13E-02	1.21E-06	--	1.70E-07	5.11E-13	3.64E-11	1.96E-17	3.49E-10	2.10E-07	3.13E-09	2.21E-08	6.74E-15
LA	WC-LA-MIN02-V.001	26.03	1.04E+03	9.20E-02	--	2.11E-05	2.41E-02	1.18E+01	4.18E+02	1.07E+02	1.79E+02	2.18E-02	--	2.00E-05	4.41E-05	2.46E-06	1.01E-13	1.40E-02	8.10E-03	1.81E-04	1.14E-04	2.56E-03
LA	WC-LA-MIN03-NC.001	3.99	1.15E+00	3.30E-05	--	8.00E-05	2.66E-05	6.23E-02	1.16E+00	1.62E-01	1.77E-01	2.86E-05	--	7.58E-05	4.32E-12	7.86E-08	1.54E-16	3.09E-09	2.41E-04	5.83E-06	1.73E-07	1.60E-13
LA	WC-LA-MIN04-S.001	0.21	1.73E+00	--	--	--	3.51E-05	1.68E-01	3.17E+00	9.02E-01	5.87E-01	1.21E-04	--	--	5.51E-12	3.63E-09	9.04E-16	3.95E-09	2.04E-05	1.15E-07	9.90E-07	6.93E-13
LA	WC-LA-MIN05-V.001	0.42	3.45E-02	--	--	9.25E-07	3.78E-04	1.11E-01	9.04E-02	2.36E-02	3.04E-02	1.41E-05	--	8.75E-07	9.87E-11	2.41E-09	2.37E-17	6.07E-08	1.35E-05	3.29E-09	2.59E-08	8.12E-14
LA	WP-LA-CIN01.001	294.30	1.97E+04	1.16E+00	--	1.43E-03	5.18E-01	5.27E+02	4.47E+03	1.23E+03	2.42E+03	1.88E+00	--	1.36E-03	8.95E-08	7.12E-05	1.16E-12	6.27E-05	2.45E-01	3.55E-03	1.31E-03	1.95E-01
LA	WP-LA-CIN02.001	107.39	4.59E+02	8.43E-02	--	3.38E-02	2.01E-02	5.20E+01	3.55E+02	9.51E+01	1.39E+02	2.30E-02	--	3.20E-02	1.26E-05	8.54E-06	9.02E-14	3.99E-03	2.87E-02	5.72E-04	1.02E-04	2.48E-04

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2050
(Continued)

Site	Waste Stream ID	Scaled Vol (m^3)	Am-241	Am-243	Cm-244	Cs-137	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	Sr-90	Th-229	Th-230	Th-232	U-233	U-234	U-235	U-236	U-238
LA	WP-LA-MHD01.001	3101.34	2.24E+04	1.03E+00	1.90E+01	3.50E-03	7.99E-01	6.48E+04	4.56E+04	1.21E+04	2.10E+04	1.58E+01	--	3.31E-03	5.74E-03	1.41E-02	4.52E-06	1.82E+00	2.06E+01	1.14E-02	1.29E-02	7.50E-02
LA	WP-LA-MHD02.001	13.65	1.85E+00	3.99E-05	--	8.83E-07	1.09E-04	1.26E+03	1.39E+00	6.98E-01	8.13E-01	7.18E-04	--	8.26E-07	9.91E-09	1.74E-04	9.90E-16	2.57E-06	5.18E-01	6.92E-07	9.11E-07	4.90E-12
LA	WP-LA-MHD02-PTX.001	0.63	5.06E-02	--	--	5.77E-08	1.08E-06	9.27E-03	1.31E-01	2.77E-02	2.57E-02	3.21E-06	--	5.44E-08	1.89E-13	2.25E-10	3.08E-17	1.28E-10	1.19E-06	5.03E-09	3.20E-08	1.94E-14
LA	WP-LA-MHD03.001	665.72	3.39E+02	1.04E-01	1.31E+00	5.04E-02	1.30E-01	2.85E+03	6.11E+02	1.58E+02	3.41E+02	2.64E-01	--	4.78E-02	5.57E-04	2.59E-04	1.50E-13	1.76E-01	9.41E-01	1.97E-03	1.69E-04	6.74E-03
LA	WP-LA-MHD04.001	530.45	1.27E+02	4.99E-03	--	1.30E-03	5.54E-03	1.26E+03	2.26E+02	8.27E+01	1.25E+02	2.04E-02	--	1.23E-03	3.72E-06	1.10E-04	7.84E-14	1.18E-03	4.02E-01	1.58E-04	8.83E-05	3.82E-04
LA	WP-LA-MHD05-ITRI.001	11.22	3.98E+00	6.53E-03	2.19E+00	2.30E-06	1.48E-04	2.24E+01	1.03E+01	1.40E+00	2.43E+00	1.94E-04	--	2.18E-06	2.89E-11	1.82E-06	1.32E-15	1.95E-08	6.74E-03	5.76E-07	1.49E-06	1.09E-12
LA	WP-LA-MHD08.001	9.34	1.93E+00	2.17E-02	2.15E+00	1.44E-04	4.39E-04	3.01E-01	2.69E+00	1.12E+00	1.20E+00	1.11E-03	--	1.36E-04	1.05E-10	6.53E-09	1.06E-15	6.69E-08	3.66E-05	9.54E-08	1.19E-06	6.22E-12
LA	WP-LA-MHD09.001	103.13	4.98E+02	2.27E-02	--	2.47E-02	1.71E-02	1.23E+02	2.74E+01	9.95E+00	2.15E+01	4.51E-03	--	2.34E-02	3.26E-09	1.06E-05	9.43E-15	2.21E-06	3.88E-02	1.22E-05	1.06E-05	1.11E-04
LA	WP-LA-MHD10.001	65.80	3.31E+00	8.28E-07	--	5.05E-07	4.20E-05	1.93E+00	1.26E+01	3.40E+00	3.67E+00	6.95E-04	--	4.77E-07	4.19E-12	4.17E-08	3.40E-15	3.61E-09	2.34E-04	4.59E-07	3.73E-06	3.99E-12
LA	WP-LA-MIN02-V.001	86.65	2.84E+03	1.81E-01	--	2.87E-05	6.40E-02	4.41E+01	1.05E+03	2.82E+02	5.24E+02	1.61E-01	--	2.72E-05	1.03E-08	9.49E-06	2.67E-13	7.38E-06	3.11E-02	6.81E-04	3.01E-04	3.68E-02
LA	WP-LA-MIN03-NC.001	786.03	3.92E+02	4.84E-03	--	3.13E-02	8.84E-03	1.20E+01	2.45E+02	3.34E+01	1.06E+02	1.93E-02	--	2.65E-02	2.02E-09	1.54E-05	3.17E-14	1.21E-06	4.71E-02	1.15E-03	3.57E-05	1.06E-03
LA	WP-LA-MIN04-S.001	17.64	7.61E+02	1.42E-02	1.37E-01	3.11E-05	1.58E-02	3.02E+01	7.37E+02	1.97E+02	2.99E+02	1.22E-01	--	2.94E-05	2.43E-09	1.11E-06	1.87E-13	1.77E-06	5.05E-03	6.34E-05	2.10E-04	6.82E-10
LA	WP-LA-MIN05-V.001	0.84	1.73E-01	9.75E-12	--	1.97E-06	5.60E-05	5.54E-01	1.69E-01	3.99E-02	6.06E-02	2.55E-06	--	1.87E-06	1.35E-11	4.89E-08	3.78E-17	8.60E-09	1.79E-04	5.98E-09	4.26E-08	1.42E-14
LA	WP-LA-MSG04.001	2.10	6.40E-01	--	--	1.12E-07	1.60E-05	--	1.92E-01	--	--	--	--	1.06E-07	2.82E-12	--	--	1.94E-09	--	7.01E-09	--	--
LA	WP-LA-OS-00-01	0.10	2.61E+00	--	--	9.52E-05	5.29E-05	1.23E+00	4.77E+00	4.84E+00	6.99E-01	9.65E-05	--	8.29E-05	1.12E-11	9.33E-02	8.17E-15	6.74E-09	2.03E-04	2.26E-07	6.90E-06	7.18E-13
LA	WP-LA-OS-00-01.001	20.80	1.67E+04	--	--	3.93E+00	1.95E-01	7.91E+03	1.12E+03	3.35E+02	2.08E+02	9.07E-02	--	8.32E-01	5.51E-08	4.54E-04	3.00E-13	2.79E-05	1.84E+00	8.66E-05	3.47E-04	1.58E-06
LA	WP-LA-OS-00-03	14.70	2.28E+01	--	--	1.57E-07	3.29E-04	1.85E-04	1.43E-03	1.05E-03	1.90E-03	3.94E-07	--	1.30E-07	5.79E-11	1.08E-11	1.42E-18	3.60E-08	3.99E-08	8.46E-11	1.34E-09	1.69E-12
LA	WP-LA-OS-00-04	0.00	2.67E-01	--	--	9.37E-05	3.29E-06	4.81E-02	1.68E+00	4.43E-01	1.29E-01	6.10E-05	--	7.47E-05	1.14E-12	4.85E-09	4.69E-16	5.21E-10	1.67E-05	1.42E-07	5.00E-07	1.81E-09
LA	WP-LA-TA-55-19.01	81.08	7.78E+01	4.35E-03	--	3.39E-07	5.00E-03	1.45E+01	2.49E+02	6.13E+01	7.62E+01	1.67E-01	--	--	1.93E-09	8.15E-05	1.08E-13	9.37E-07	1.20E-01	2.38E-04	8.91E-05	3.87E-04
LA	WP-LA-TA-55-19.02	213.29	4.38E+02	7.72E-02	--	2.05E-04	2.75E-02	1.45E+02	8.16E+02	2.27E+02	3.98E+02	1.24E+00	--	1.78E-04	1.87E-05	2.03E-03	2.06E-05	4.54E-03	8.27E-01	9.90E-04	3.17E-04	1.53E-03
LA	WP-LA-TA-55-30	91.98	1.31E+02	6.49E-03	--	3.12E-03	9.61E-03	3.24E+01	2.47E+02	6.93E+01	1.08E+02	5.98E-02	--	2.90E-03	3.91E-05	5.35E-06	3.28E-05	9.49E-03	1.48E-02	2.27E-04	9.67E-05	5.58E-04
LA	WP-LA-TA-55-43.01	189.88	6.32E-01	1.43E-05	--	--	4.71E-05	3.81E+02	4.66E-01	7.60E-01	6.83E-01	5.33E-04	--	--	2.01E-11	3.26E-05	4.58E-06	9.32E-09	1.01E-01	2.34E-08	1.15E-06	4.22E-12
LB	LB-T001	0.83	2.04E-02	3.57E-03	8.81E-04	1.54E-07	3.42E-05	1.02E-02	1.23E-03	4.54E-05	1.09E-04	1.66E-14	8.52E-14	--	6.64E-12	1.60E-10	2.23E-06	4.73E-09	1.05E-06	3.86E-11	4.09E-11	1.55E-09
LB	LB-T002	0.83	3.81E-05	4.76E-08	--	--	2.31E-07	--	2.18E-04	--	4.10E-05	--	--	--	4.50E-14	--	--	3.20E-11	--	6.89E-12	--	--
LL	LL-M001	2110.69	6.85E+03	5.08E-01	4.65E+02	6.73E-01	4.27E-01	6.46E+03	1.24E+04	3.47E+03	4.82E+03	1.41E+00	1.30E-07	6.41E-01	5.65E-03	1.04E-02	1.10E-03	1.05E+00	9.22E-01	3.54E-02	3.29E-03	4.04E-02
LL	LL-T004	7.71	2.12E+02	--	9.43E-03	--	2.26E-03	1.12E+02	5.02E+02	1.17E+02	1.24E+02	1.20E-02	--	--	1.56E-10	1.89E-06	9.30E-14	1.62E-07	1.20E-02	1.63E-05	1.14E-04	6.16E-11
LL	LL-W018-S5100	1052.93	6.66E+01	--	8.54E-03	--	9.10E-04	3.66E+00	4.28E+01	1.28E+01	4.75E+01	2.77E-03	--	--	1.05E-10	1.10E-07	1.73E-14	8.39E-08	5.29E-04	1.81E-06	1.63E-05	1.85E-11
LL	LL-W018-SS	3.30	2.50E+02	3.51E-05	5.92E-04	2.00E-02	3.63E-03	3.16E+01	2.03E+00	6.47E-03	2.08E-01	--	1.03E-20	5.86E-02	4.40E-10	9.52E-07	8.75E-18	3.45E-07	4.56E-03	1.53E-06	8.25E-09	--
LL	LL-W019	117.65	1.61E+02	6.58E-05	9.59E-03	9.44E-05	1.20E-02	4.59E+02	3.40E+02	8.87E+01	2.19E+02	1.78E-02	--	8.99E-05	1.57E-02	7.86E-06	4.67E-05	5.59E+00	4.93E-02	1.06E-03	8.42E-05	6.94E-03
LL	WP-BLCHDN.001	1.68	1.02E-01	2.23E-03	3.77E-02	--	8.96E-04	6.21E-02	6.28E-06	5.00E-04	2.79E-04	--	--	--	3.61E-10	2.18E-09	3.72E-19	1.79E-07	9.72E-06	1.56E-13	4.36E-10	--
LL	WP-LL-M001-S5400	141.54	3.30E+02	1.35E-02	5.86E+00	7.61E-06	7.76E-02	2.53E+02	5.98E+02	1.67E+02	2.57E+02	3.17E-02	--	6.99E-06	3.00E-08	1.68E-05	2.59E-13	1.50E-05	5.84E-02	5.23E-04	2.28E-04	3.54E-03
ND	ND-T001	0.42	2.79E+01	--	--	--	3.64E-04	--	--	--	--	--	--	--	3.58E-11	--	--	3.11E-08	--	--	--	--
ND	ND-T002	1.68	3.54E+00	--	--	--	4.86E-05	--	--	--	--	--	--	--	5.29E-12	--	--	4.37E-09	--	--	--	--
NT	NT-JAS-01	433.03	3.97E+01	--	--	--	7.49E-04	2.09E+01	4.33E+02	9.84E+01	9.09E+01	5.51E-03	--	--	1.64E-10	7.71E-07	1.59E-13	9.68E-08	3.36E-03	2.01E-05	1.37E-04	4.02E-11
NT	NT-W021	5.46	8.52E+00	--	--	--	1.05E-04	9.95E-01	5.10E+01	1.17E+01	9.85E+00	1.04E-03	--	--	1.76E-11	2.60E-06	1.37E-14	1.10E-08	7.12E-03	5.00E-05	1.38E-05	2.48E-03
NT	WP-NTLBL-S5400	1.68	1.07E+00	5.78E-03	1.73E-01	1.92E-05	6.91E-04	1.04E-01	6.72E-01	1.54E-01	4.22E-01	2.12E-05	--	1.79E-05	2.63E-10	3.48E-09	2.26E-16	1.34E-07	1.59E-05	2.98E-08	2.04E-07	1.48E-13
NT	WP-NTLRC-S5400	3.15	5.41E+00	3.50E-05	--	4.15E-07	3.19E-04	4.09E-01	7.19E+00	2.63E+00	4.18E+00	2.93E-04	--	3.88E-07	1.03E-10	1.85E-06	3.90E-15	5.48E-08	4.50E-03	1.48E-04	3.51E-06	1.05E-04
NT	WP-NT-RF-BERYLLIUM	29.61	4.78E+00	9.14E-07	--	--	1.04E-04	6.76E-01	2.42E+01	5.49E+00	5.38E+00	4.31E-04	--	--	2.35E-05	3.96E-07	8.14E-15	5.94E-03	1.00E-03	1.90E-05	7.33E-06	2.31E-04
NT	WP-NT-RF-GRAPHITE	3.78	4.93E+00	--	--	--	9.45E-05	8.52E-01	3.88E+01	7.17E+00	8.08E+00	5.25E-04	--	--	1.92E-11	5.20E-08	1.06E-14	1.18E-08	1.87E-04	1.72E-06	9.58E-06	2.84E-05
NT	WP-NT-RF-METAL	6.09	1.08E+00	2.71E-06	--	--	2.49E-05	1.52E-01	6.73E+00	1.66E+00	1.90E+00	1.35E-04	--	--	5.85E-12	1.85E-05	2.47E-15	3.42E-09	4.46E-02	2.77E-05	2.22E-06	2.23E-02
NT	WP-NTS54332R0	296.31	1.42E+02	1.29E-02	5.89E-01	9.01E-05	1.61E-02	1.80E+01	3.69E+02	9.62E+01	1.39E+02	1.04E-02	--	8.59E-05	8.59E-04	1.21E-05	1.43E-13	2.17E-01	3.05E-02	3.47E-04	1.28E-04	1.01E-02
NT	WP-NTS54COMR0	49.56	3.53E+01	2.09E-02	4.95E+00	3.13E-05	5.35E-03	1.53E+01	5.12E+01	1.22E+01	1.58E+01	1.84E-03	--	2.93E-05	1.03E-03	1.35E-06	1.81E-14	2.61E-01	4.37E-03	1.54E-05	1.63E-05	8.79E-04
NT	WP-NTS54MIX1R0	0.42	3.81E-03	9.53E-05	--	2.72E-05	8.44E-07	2.87E-04	2.89E-02	6.93E-03	2.83E-03	6.83E-07	--	--	3.54E-13	1.11E-11	1.17E-17	1.70E-10	4.72E-08	1.37E-09	9.87E-09	5.08E-15
OR	OR-CHEM-CH-HET	39.29	1.09E+02	3.16E-02	4.11E+00	2.11E+02	1.37E-03	1.62E+01	4.94E+00	2.08E+00	7.03E+00	2.20E-03	1.20E-15	3.03E+00	6.69E-03	5.77E-06	4.00E-07	2.38E+00	2.04E-02	3.19E-04	1.96E-06	1.53E-02

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2050
(Continued)

Site	Waste Stream ID	Scaled Vol (m^3)	Am-241	Am-243	Cm-244	Cs-137	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	Sr-90	Th-229	Th-230	Th-232	U-233	U-234	U-235	U-236	U-238
OR	OR-CRF-CH-HET	3.99	1.40E-01	8.52E-03	5.73E-01	2.43E-02	1.14E-05	3.95E-01	7.67E-03	3.95E-02	1.99E-01	2.52E-04	2.22E-13	1.67E-02	6.26E-06	9.44E-09	1.73E-16	2.22E-03	5.15E-05	1.14E-07	1.28E-07	3.09E-08
OR	OR-GENR-CH-HET	32.40	6.39E+00	4.78E-01	2.61E+00	1.36E-03	1.26E-01	2.29E+00	2.78E+00	2.82E+00	7.76E+00	1.48E-01	1.09E-03	1.94E-03	8.94E-05	1.65E-07	6.96E-06	2.47E-02	6.74E-04	1.10E-04	1.11E-04	4.97E-04
OR	OR-IFEL-CH-HET	36.75	1.45E+00	--	1.62E+00	2.06E-01	3.10E-04	1.21E+00	1.93E+00	3.42E-01	2.40E+00	9.82E-06	7.28E-14	4.25E-02	3.90E-04	3.48E-06	7.61E-05	1.39E-01	1.19E-02	2.29E-04	5.20E-04	2.87E-04
OR	OR-ISTP-CH-HET	131.68	2.75E+02	9.25E-01	3.51E+02	4.18E-02	8.53E-02	3.51E+02	2.94E+01	2.67E+01	9.04E+01	9.27E-01	4.38E-05	1.06E-02	1.33E-03	6.57E-05	3.62E-05	4.17E-01	1.17E-01	8.70E-04	1.63E-04	5.42E-04
OR	OR-MRF-CH-HET	8.61	8.54E-01	1.25E-03	3.29E-02	7.21E-04	6.09E-05	9.26E-02	1.13E+00	3.35E-01	1.41E-01	1.18E-04	--	6.83E-04	2.62E-06	1.10E-08	3.00E-16	8.52E-04	3.91E-05	9.94E-07	3.47E-07	1.93E-05
OR	OR-NBL-CH-HET	12.39	8.60E-01	4.76E-04	1.50E-02	9.57E-05	4.35E-05	1.16E-01	9.45E-01	3.70E-01	5.97E-01	9.84E-05	--	9.12E-05	1.45E-05	4.96E-08	2.77E-16	5.16E-03	1.74E-04	1.06E-05	3.51E-07	8.85E-05
OR	OR-NFS-CH-HET	103.74	5.10E+01	2.89E-04	1.42E-01	2.77E-04	1.19E-03	1.26E+01	1.28E+02	4.25E+01	7.27E+01	8.72E-03	--	2.64E-04	7.78E-04	5.05E-07	2.89E-04	1.95E-01	2.33E-03	7.74E-05	4.03E-05	2.95E-03
OR	OR-NFS-CH-HOM	8.92	6.67E+01	5.24E-03	--	1.09E-04	1.19E-03	1.00E+01	1.01E+02	3.39E+01	5.86E+01	6.37E-03	--	1.04E-04	9.72E-05	1.84E-07	4.63E-05	5.47E-03	1.12E-03	7.63E-06	3.22E-05	2.12E-04
OR	OR-NFS-CH-SOIL	26.67	2.10E+00	--	--	1.19E-06	4.94E-05	5.66E-06	3.88E-01	4.11E+00	3.01E-01	5.26E+00	--	4.61E-06	9.45E-06	8.37E-04	8.30E-06	6.80E-04	1.41E-04	6.61E-06	3.90E-06	1.55E-04
OR	OR-OXIDE-CH-HET	0.65	2.13E+03	1.57E-03	--	1.48E-05	3.84E-02	4.51E+02	2.17E+02	5.60E+02	2.28E+03	2.53E+00	--	1.41E-05	6.06E-03	4.02E-05	1.96E-12	2.09E+00	1.16E-01	6.72E-05	1.13E-03	1.11E-03
OR	OR-PGDP-CH-HET	6.51	3.13E-01	2.55E-05	--	8.12E-05	1.15E-01	1.17E-01	9.13E-01	2.05E-01	7.28E-01	2.05E-05	--	7.74E-05	1.83E-05	1.20E-06	4.02E-07	6.51E-03	4.08E-03	6.96E-04	1.94E-07	1.71E-02
OR	OR-RADP-CH-HET	36.13	1.64E+01	2.29E-01	1.11E+01	8.59E-02	2.12E-02	5.37E+00	1.57E+01	6.16E+00	7.32E+00	1.65E-03	5.80E-04	3.13E-02	2.33E-03	1.04E-06	1.00E-05	6.71E-01	3.20E-03	5.69E-05	6.78E-06	1.98E-04
OR	OR-REDC-CH-HET	2121.81	8.01E+02	2.91E+01	4.35E+03	4.78E+01	4.09E+00	1.11E+04	1.29E+02	2.35E+02	2.74E+02	1.84E+00	4.24E-03	3.05E+02	1.03E-02	3.02E-02	5.23E-05	1.66E+00	1.39E+00	5.50E-04	3.11E-04	1.09E-02
OR	OR-RF-CH-HET	67.48	6.06E+01	1.24E-02	1.77E+00	5.22E+00	1.66E-03	3.45E+01	7.58E+01	3.49E+01	8.75E+01	1.15E-02	1.46E-14	8.45E+00	8.64E-02	9.70E-05	1.61E-04	2.70E+01	3.31E-01	3.28E-04	1.39E-04	5.32E-04
OR	OR-RF-CH-HOM	1.05	5.14E-02	--	--	7.32E-04	1.14E-06	3.17E-04	1.04E-03	--	--	--	--	1.03E-02	3.15E-13	2.46E-11	--	1.64E-10	7.60E-08	6.68E-11	--	--
OR	OR-SWSA-CH-HET	0.63	1.82E-01	1.90E-04	7.97E-02	5.90E-05	8.09E-05	5.47E-03	1.99E-03	1.08E-03	5.67E-04	4.62E-08	--	5.60E-05	5.22E-05	4.33E-08	6.40E-19	1.71E-02	1.39E-04	6.66E-11	8.58E-10	2.44E-16
OR	OR-SWSA-CH-SOIL	2.73	1.67E-01	1.63E-04	6.93E+00	7.31E-06	9.38E-06	9.08E-02	7.05E-02	7.45E-02	4.46E-02	2.37E-05	--	6.94E-06	1.22E-06	5.38E-09	1.01E-06	1.25E-09	2.20E-05	2.61E-07	5.48E-08	9.24E-14
OR	OR-TBD-CH-HET	22.89	8.43E+01	3.98E-03	4.07E-02	6.97E-02	3.85E-02	1.50E+02	2.69E+01	2.04E+01	5.09E+00	1.14E-02	1.42E-03	2.56E-02	3.52E-02	3.42E-04	5.04E-04	5.41E+00	7.26E-02	1.32E-03	3.97E-04	2.39E-03
OR	OR-W1A-CH-SOIL	9.03	4.85E+00	6.71E-04	6.49E-03	1.21E+01	2.30E-03	3.31E-01	1.07E+00	3.83E-03	1.32E+00	5.91E-04	--	1.09E-01	4.55E+00	2.70E-03	6.32E-02	5.95E+00	2.06E-01	3.51E-03	5.35E-03	6.17E-02
OR	OR-WSTR-CH-HET	8.40	4.28E-01	8.01E-04	1.92E-03	6.39E-01	1.03E-04	8.99E-02	7.00E+00	1.00E-02	1.43E-02	1.82E-05	--	1.06E-02	1.82E-04	5.37E-05	9.36E-05	2.70E-03	2.71E-03	4.02E-05	3.15E-05	7.84E-05
OR	OR-Y12-CH-HET	0.63	--	--	--	--	6.34E-03	2.03E-04	3.10E-02	1.30E-05	--	--	--	--	1.41E-09	1.72E-07	1.10E-20	9.38E-07	5.49E-04	7.47E-05	1.31E-11	6.14E-04
OR	WP-OR-CHEM-CH-HET	10.71	1.39E+00	9.26E-04	6.05E-02	1.31E-02	5.94E-04	2.03E+00	8.77E-01	3.79E-01	1.15E+00	7.69E-04	--	1.11E-02	9.90E-04	1.17E-07	4.21E-16	2.65E-01	4.50E-04	2.16E-06	4.38E-07	2.22E-06
OR	WP-OR-GENR-CH-HET	4.20	1.21E-01	3.61E-02	2.47E-01	1.22E-05	4.32E-04	1.38E+00	7.18E-02	3.01E-01	9.48E-03	5.65E-06	--	1.14E-05	1.31E-10	5.98E-07	3.51E-16	7.49E-08	1.71E-03	3.30E-05	3.56E-07	3.85E-05
OR	WP-OR-ISTP-CH-HET	23.73	3.95E+01	8.12E-02	2.63E+01	1.70E-04	6.72E-03	1.17E+02	6.48E+00	4.65E+00	1.47E+01	1.08E-02	--	1.60E-04	3.13E-06	1.28E-05	5.02E-15	6.84E-04	4.28E-02	8.44E-06	5.27E-06	3.25E-04
OR	WP-OR-NBL-CH-HET	2.73	8.30E-02	1.99E-04	--	1.03E-04	3.15E-06	1.60E-02	1.26E-01	3.67E-02	1.65E-01	5.86E-06	--	9.72E-05	7.52E-06	1.13E-08	4.08E-17	2.19E-03	3.24E-05	6.62E-07	4.24E-08	3.55E-14
OR	WP-OR-NFS-CH-HET	23.52	2.64E+00	3.15E-11	--	4.14E-07	4.99E-05	2.53E-01	4.41E+00	1.33E+00	1.56E+00	2.06E-04	--	3.88E-07	1.07E-06	2.21E-08	1.72E-15	2.90E-04	7.41E-05	1.70E-06	1.66E-06	9.27E-04
OR	WP-OR-NFS-CH-HET-A	46.62	1.41E+01	2.64E-04	1.34E-02	5.00E-02	3.01E-04	1.28E+00	2.95E+01	8.28E+00	8.09E+00	1.19E-03	--	4.41E-04	2.11E-05	9.74E-08	9.22E-15	6.16E-03	3.50E-04	5.04E-06	9.58E-06	2.25E-04
OR	WP-OR-NFS-CH-SOIL	291.90	1.56E+02	4.02E-05	--	6.31E-04	2.81E-03	1.34E+01	3.25E+02	1.08E+02	1.45E+02	1.14E-02	--	6.01E-04	1.99E-04	2.66E-07	9.26E-05	1.53E-02	1.56E-03	2.87E-05	1.03E-04	1.32E-03
OR	WP-OR-RADP-CH-HET	47.88	1.38E+01	8.80E-02	3.16E+00	5.55E-03	3.60E-03	1.14E+01	1.09E+01	2.03E+00	3.05E+00	3.94E-04	--	5.23E-03	1.24E-04	9.27E-07	1.36E-06	3.13E-02	3.28E-03	1.96E-05	2.33E-06	2.13E-04
OR	WP-OR-REDC-CH-HET	339.36	4.44E+01	1.10E+00	6.07E+02	1.62E+00	2.45E-02	2.59E+01	1.83E+01	3.42E+01	4.32E+01	3.66E-02	5.07E-11	2.66E+01	2.78E-04	2.82E-06	1.11E-12	6.33E-02	1.09E-02	1.20E-04	3.09E-05	4.63E-04
OR	WP-OR-RF-CH-HET	41.37	3.46E+01	3.05E-03	1.02E+00	2.28E-03	8.00E-04	4.51E+00	3.63E+01	1.82E+01	5.81E+01	3.62E-03	--	2.15E-03	1.31E-03	1.57E-04	2.65E-04	2.17E-01	4.39E-01	3.45E-04	2.10E-05	4.99E-04
RF	WP-RF001.01	951.82	1.70E+03	1.18E-03	--	--	7.52E-02	1.07E+02	3.36E+03	7.79E+02	1.75E+03	1.18E-01	--	--	2.98E-04	8.59E-05	1.16E-12	7.53E-02	2.15E-01	9.71E-03	1.04E-03	2.21E-03
RF	WP-RF002.01	1426.82	1.67E+03	1.05E-03	--	1.27E-04	3.16E-02	1.58E+02	4.40E+03	1.03E+03	2.70E+03	1.23E-01	--	--	8.64E-05	5.84E-05	1.53E-12	2.19E-02	1.53E-01	7.20E-03	1.38E-03	2.83E-01
RF	WP-RF003.01	133.17	3.06E+03	--	--	--	4.47E-02	3.82E+02	1.27E+04	3.06E+03	5.25E+03	2.93E-01	--	--	4.07E-05	1.98E-05	4.74E-12	1.01E-02	7.49E-02	1.07E-03	4.17E-03	1.31E-03
RF	WP-RF004.01	278.36	2.77E+02	8.80E-07	--	--	4.83E-03	2.36E+01	6.86E+02	1.58E+02	4.33E+02	1.91E-02	--	--	8.87E-10	9.26E-06	2.35E-13	5.69E-07	2.41E-02	6.91E-04	2.12E-04	7.54E-04
RF	WP-RF005.01	28.01	5.16E+03	--	--	--	8.96E-02	1.47E+02	4.78E+03	1.22E+03	1.01E+03	1.01E-01	--	--	1.58E-08	6.51E-06	2.33E-12	1.02E-05	2.60E-02	3.22E-04	1.85E-03	8.00E-10
RF	WP-RF005.02	18.40	6.16E+03	--	--	--	1.03E-01	8.74E+01	2.90E+03	7.60E+02	5.85E+02	6.46E-02	--	--	1.67E-08	3.81E-06	1.34E-12	1.13E-05	1.54E-02	1.59E-04	1.10E-03	1.72E-07
RF	WP-RF006.01	57.39	2.39E+03	--	--	--	3.24E-02	3.57E+02	9.21E+03	2.22E+03	6.43E+03	2.97E-01	--	--	4.71E-09	1.46E-05	3.44E-12	3.30E-06	6.07E-02	6.08E-04	3.03E-03	1.39E-06
RF	WP-RF008.01	26.11	1.18E+03	--	--	--	2.93E-02	1.45E+02	3.39E+03	9.27E+02	1.63E+03	1.36E-01	--	--	7.32E-09	5.20E-06	1.44E-12	4.16E-06	2.30E-02	1.81E-04	1.27E-03	7.62E-08
RF	WP-RF009.01	320.03	6.55E+04	--	--	--	1.32E+00	1.44E+03	5.49E+04	1.36E+04	1.45E+04	1.37E+00	--	--	2.61E-07	5.20E-05	2.02E-11	1.64E-04	2.29E-01	2.74E-03	1.82E-02	2.72E-06
RF	WP-RF010.01	562.87	1.83E+03	4.09E-05	--	--	2.97E-02	1.84E+02	6.25E+03	1.46E+03	2.70E+03	1.59E-01	--	--	4.97E-09	5.73E-05	2.16E-12	3.31E-06	1.52E-01	4.26E-03	1.94E-03	3.58E-03
RF	WP-RF011.01	54.81	3.13E+02	--	--	--	4.41E-03	4.51E+01	1.49E+03	3.56E+02	5.18E+02	3.06E-02	--	--	6.10E-10	1.88E-06	5.52E-13	4.41E-07	7.77E-03	9.02E-05	4.86E-04	4.21E-06
RF	WP-RF015.01	1.68	5.86E+00	--	--	--	1.56E-04	6.72E-01	1.87E+01	4.36E+00	1.16E+01	5.82E-04	--	--	4.45E-11	2.59E-08	7.36E-15	2.39E-08	1.11E-04	8.86E-07	6.21E-06	4.33E-12
RF	WP-RF029.01	4313.96	2.98E+03	1.44E-03	--	1.01E-05	6.09E-02	2.66E+02	6.84E+03	1.64E+03	5.08E+03	2.21E-01	4.78E-16	6.47E-08	1.31E-08	4.25E-05	2.44E-12	7.89E-06	1.22E-01	2.94E-03	2.19E-03	1.26E-03
RF	WP-RF031.01	20.47	1.49E+01	--	--	--	2.35E-04	1.65E+00	4.81E+01	1.11E+01	2.88E+01	1.32E-03	--	--	4.03E-11	4.36E-07	1.72E-14	2.64E-08	1.15E-03	3.13E-05	1.52E-05	4.10E-05

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2050
(Continued)

Site	Waste Stream ID	Scaled Vol (m^3)	Am-241	Am-243	Cm-244	Cs-137	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	Sr-90	Th-229	Th-230	Th-232	U-233	U-234	U-235	U-236	U-238
RF	WP-RF032.01	51.51	2.66E+03	--	--	--	5.86E-02	2.27E+02	8.61E+03	2.01E+03	2.62E+03	1.51E-01	--	--	1.33E-08	8.70E-06	3.12E-12	7.84E-06	3.72E-02	4.47E-04	2.75E-03	5.05E-07
RF	WP-RF033.01	16.64	1.84E+02	--	--	--	2.96E-03	2.50E+01	7.98E+02	1.86E+02	3.86E+02	1.84E-02	--	--	5.23E-10	1.01E-06	2.88E-13	3.38E-07	4.22E-03	4.68E-05	2.53E-04	6.00E-05
RF	WP-RF036.01	44.52	8.14E+01	8.11E-05	--	--	1.34E-03	9.58E+00	2.64E+02	6.15E+01	1.80E+02	8.18E-03	--	--	2.46E-10	1.38E-06	9.53E-14	1.56E-07	3.96E-03	1.22E-04	8.39E-05	2.98E-03
RF	WP-RF101.01	156.95	5.10E+02	1.05E-03	--	--	8.29E-03	5.87E+01	1.69E+03	3.93E+02	9.82E+02	4.61E-02	--	--	1.44E-09	1.92E-05	5.84E-13	9.41E-07	5.05E-02	1.42E-03	5.25E-04	8.53E-04
RF	WP-RF101.29	30.65	4.52E+01	--	--	--	7.10E-04	5.64E+00	1.56E+02	3.62E+01	8.91E+01	4.24E-03	--	--	1.18E-10	2.47E-06	5.37E-14	7.87E-08	6.37E-03	1.86E-04	4.84E-05	2.04E-04
RF	WP-RF101.30	93.64	4.22E+02	3.13E-04	--	--	7.93E-03	2.81E+01	8.78E+02	2.06E+02	4.28E+02	2.54E-02	--	--	1.56E-09	7.93E-06	3.19E-13	9.72E-07	2.08E-02	5.69E-04	2.81E-04	1.85E-04
RF	WP-RF101.31	60.64	8.55E+01	1.36E-05	--	--	1.35E-03	7.78E+00	2.34E+02	5.53E+01	1.20E+02	8.25E-03	--	--	2.16E-10	2.59E-06	8.20E-14	1.47E-07	6.81E-03	1.93E-04	7.38E-05	8.29E-05
RF	WP-RF101.35	73.69	2.92E+02	--	--	--	5.59E-03	2.17E+01	6.37E+02	1.48E+02	3.76E+02	2.08E-02	--	--	1.11E-09	3.57E-05	2.20E-13	6.91E-07	8.78E-02	2.74E-03	1.98E-04	2.19E-04
RF	WP-RF102.01	221.46	2.18E+02	1.99E-04	--	3.90E-03	4.04E-03	2.15E+01	5.72E+02	1.36E+02	4.08E+02	1.77E-02	--	--	8.06E-10	2.42E-06	2.02E-13	5.00E-07	7.38E-03	1.61E-04	1.82E-04	3.99E-04
RF	WP-RF102.31	120.18	1.66E+02	1.92E-05	--	--	3.21E-03	9.88E+00	2.74E+02	6.47E+01	1.72E+02	8.46E-03	--	--	6.51E-10	3.70E-06	1.00E-13	4.00E-07	9.47E-03	2.88E-04	8.83E-05	2.14E-03
RF	WP-RF104.01	45.46	1.49E+02	2.27E-04	--	--	2.89E-03	1.16E+01	4.09E+02	9.60E+01	1.77E+02	9.38E-03	--	--	5.78E-10	7.36E-07	1.42E-13	3.59E-07	2.61E-03	4.65E-05	1.28E-04	1.40E-04
RF	WP-RF107.01	64.05	2.47E+03	--	--	--	5.21E-02	6.73E+00	1.90E+02	4.40E+01	1.27E+02	5.79E-03	--	--	1.09E-08	7.50E-06	6.83E-14	6.65E-06	1.82E-02	1.12E-03	6.01E-05	5.98E-02
RF	WP-RF107.03	61.53	1.68E+01	--	--	--	3.49E-04	8.25E-01	2.31E+01	5.36E+00	1.55E+01	7.07E-04	--	--	7.49E-11	3.27E-05	8.31E-15	4.51E-08	7.75E-02	9.13E-03	7.32E-06	6.86E-01
RF	WP-RF107.04	104.79	6.69E+01	--	--	--	1.38E-03	2.96E+00	8.31E+01	1.92E+01	5.82E+01	2.53E-03	--	--	2.88E-10	9.71E-07	2.85E-14	1.77E-07	2.56E-03	2.15E-04	2.57E-05	1.54E-02
RF	WP-RF107.05	4.41	7.40E+00	--	--	--	1.18E-04	7.24E-01	2.04E+01	4.72E+00	1.37E+01	6.22E-04	--	--	2.04E-11	4.19E-06	7.32E-15	1.33E-08	9.97E-03	3.19E-04	6.44E-06	2.81E-06
RF	WP-RF107.06	14.49	8.38E-01	--	--	--	1.07E-05	1.08E-01	3.05E+00	7.05E-01	2.03E+00	9.27E-05	--	--	1.33E-12	9.80E-07	1.09E-15	1.01E-09	2.33E-03	2.63E-04	9.63E-07	2.01E-02
RF	WP-RF107.07	57.75	3.73E+02	1.69E-03	--	--	7.17E-03	2.64E+01	7.23E+02	1.68E+02	5.15E+02	2.23E-02	--	--	1.44E-09	5.73E-05	2.49E-13	8.91E-07	1.41E-01	4.45E-03	2.25E-04	2.20E-03
RF	WP-RF110.01	9.08	7.49E+01	1.72E-03	--	--	1.18E-03	4.51E+00	1.25E+02	2.92E+01	7.28E+01	6.56E-03	--	--	1.82E-10	5.12E-07	4.32E-14	1.26E-07	1.56E-03	3.54E-05	3.89E-05	1.94E-04
RF	WP-RF110.05	19.95	1.06E+02	--	--	--	1.49E-03	1.49E+01	4.61E+02	1.06E+02	1.66E+02	1.03E-02	--	--	2.02E-10	2.61E-06	1.65E-13	1.48E-07	7.26E-03	1.80E-04	1.45E-04	1.67E-05
RF	WP-RF113.01	0.42	1.05E-01	--	--	--	2.23E-06	1.30E-02	3.70E-01	8.57E-02	2.36E-01	1.13E-05	--	--	5.38E-13	4.80E-10	1.39E-16	3.06E-10	2.09E-06	1.71E-08	1.19E-07	8.22E-14
RF	WP-RF115.01	40.30	5.83E+02	--	--	--	9.10E-03	7.52E+01	2.53E+03	5.87E+02	6.89E+02	4.93E-02	--	--	1.43E-09	2.98E-06	9.09E-13	9.78E-07	1.26E-02	1.46E-04	8.01E-04	6.25E-04
RF	WP-RF116.01	0.93	2.36E+01	--	--	--	4.57E-04	1.83E+00	9.79E+01	2.26E+01	1.64E+01	1.52E-03	--	--	9.33E-11	6.73E-08	3.66E-14	5.71E-08	2.93E-04	4.53E-06	3.15E-05	1.11E-11
RF	WP-RF117.01	1.89	7.89E+00	--	--	--	1.36E-04	8.78E-01	2.44E+01	5.67E+00	1.60E+01	7.30E-04	--	--	2.58E-11	6.48E-07	8.79E-15	1.62E-08	1.60E-03	4.81E-05	7.74E-06	4.15E-07
RF	WP-RF118.01	336.84	1.76E+04	1.25E-03	--	--	2.87E-01	3.05E+03	6.66E+04	1.79E+04	2.98E+04	2.18E+00	--	--	4.98E-08	2.24E-04	2.77E-11	3.25E-05	7.53E-01	1.19E-02	2.44E-02	2.00E-04
RF	WP-RF119.01	23.55	5.40E+01	--	--	--	9.52E-04	5.27E+00	1.47E+02	3.45E+01	9.47E+01	4.46E-03	--	--	1.83E-10	3.84E-07	5.34E-14	1.15E-07	1.29E-03	2.38E-05	4.70E-05	2.13E-04
RF	WP-RF121.01	10.78	3.08E+02	--	--	--	4.25E-03	4.58E+01	1.97E+03	4.70E+02	4.11E+02	3.05E-02	--	--	5.38E-10	1.88E-06	7.28E-13	4.08E-07	7.81E-03	1.10E-04	6.41E-04	1.81E-07
RF	WP-RF122.01	9.63	3.02E+02	--	--	--	6.04E-02	4.52E+01	1.37E+03	3.29E+02	3.79E+02	3.48E-02	--	--	2.32E-08	1.58E-06	5.10E-13	1.16E-05	7.07E-03	6.21E-05	4.49E-04	2.48E-10
RF	WP-RF122.03	4.41	3.31E+01	--	--	--	8.74E-04	4.99E-01	1.42E+01	3.28E+00	9.44E+00	4.30E-04	--	--	2.18E-10	3.83E-06	5.08E-15	1.25E-07	9.11E-03	6.06E-04	4.48E-06	3.39E-02
RF	WP-RF122.04	54.60	3.13E+02	--	--	--	8.11E-03	5.70E+00	1.61E+02	3.72E+01	1.08E+02	4.90E-03	--	--	2.01E-09	1.42E-05	5.77E-14	1.15E-06	3.40E-02	3.51E-03	5.08E-05	2.34E-01
RF	WP-RF122.05	16.38	3.55E+00	--	--	--	6.06E-05	1.95E-01	5.45E+00	1.26E+00	3.67E+00	1.67E-04	--	--	1.07E-11	8.50E-06	1.96E-15	6.96E-09	2.01E-02	1.05E-03	1.73E-06	3.90E-02
RF	WP-RF122.06	2.03	6.67E+01	--	--	--	1.26E-03	7.20E+00	2.52E+02	5.94E+01	6.83E+01	6.37E-03	--	--	2.49E-10	3.88E-07	9.20E-14	1.55E-07	1.45E-03	2.44E-05	8.10E-05	2.81E-04
RF	WP-RF123.01	1.97	7.61E+01	--	--	--	1.13E-03	7.29E+00	3.02E+02	7.01E+01	8.52E+01	4.97E-03	--	--	1.61E-10	4.01E-07	1.09E-13	1.15E-07	1.48E-03	2.69E-05	9.57E-05	9.90E-08
RF	WP-RF123.02	0.84	2.61E-02	--	--	--	3.27E-07	2.99E-03	8.30E-02	1.93E-02	5.61E-02	2.55E-06	--	--	3.72E-14	9.90E-08	2.99E-17	2.95E-11	2.34E-04	2.70E-05	2.63E-08	2.10E-03
RF	WP-RF123.03	12.18	3.09E+02	--	--	--	6.82E-03	7.38E+00	2.06E+02	4.77E+01	1.38E+02	6.31E-03	--	--	1.51E-09	3.28E-07	7.39E-14	9.01E-07	1.32E-03	2.83E-05	6.51E-05	1.47E-03
RF	WP-RF123.04	44.94	2.43E+02	--	--	--	3.78E-03	2.93E+01	8.06E+02	1.87E+02	5.73E+02	2.49E-02	--	--	6.40E-10	1.31E-06	2.78E-13	4.22E-07	5.27E-03	6.38E-05	2.50E-04	2.61E-04
RF	WP-RF124.01	95.12	7.33E+01	4.49E-06	--	--	2.29E-03	8.26E+00	2.47E+02	5.66E+01	1.55E+02	6.59E-03	--	--	6.35E-10	3.17E-06	8.40E-14	3.51E-07	8.25E-03	1.35E-04	7.56E-05	1.42E-04
RF	WP-RF124.02	13.44	1.94E+01	--	--	--	3.68E-04	2.32E+00	6.66E+01	1.52E+01	4.10E+01	1.84E-03	--	--	7.77E-11	2.11E-07	2.36E-14	4.68E-08	6.70E-04	1.29E-05	2.08E-05	8.78E-08
RF	WP-RF125.01	6.29	2.37E+02	--	--	--	7.76E-03	1.11E+01	3.86E+02	8.91E+01	1.41E+02	7.66E-03	--	--	2.19E-09	4.08E-06	1.38E-13	1.20E-06	1.05E-02	3.03E-04	1.22E-04	6.28E-04
RF	WP-RF126.01	0.24	6.51E+00	--	--	--	8.75E-05	1.07E+00	3.87E+01	8.64E+00	1.06E+01	5.44E-04	--	--	1.09E-11	5.68E-08	1.40E-14	8.31E-09	2.12E-04	3.08E-06	1.21E-05	1.14E-08
RF	WP-RF126.04	0.49	1.45E+01	--	--	--	2.03E-04	1.77E+00	7.07E+01	1.62E+01	1.80E+01	1.27E-03	--	--	2.63E-11	1.21E-07	2.63E-14	1.97E-08	4.14E-04	6.66E-06	2.27E-05	3.15E-08
RF	WP-RF128.01	46.51	1.39E+03	--	--	--	2.07E-02	2.71E+02	8.49E+03	2.05E+03	2.45E+03	1.51E-01	--	--	3.21E-09	1.00E-05	3.32E-12	2.20E-06	4.36E-02	3.97E-04	2.86E-03	3.00E-08
RF	WP-RF129.01	462.89	3.65E+02	1.02E-04	--	3.95E-05	6.73E-03	3.25E+01	8.67E+02	2.07E+02	5.86E+02	2.72E-02	2.03E-19	--	1.35E-09	1.76E-05	3.21E-13	8.30E-07	4.39E-02	1.41E-03	2.82E-04	6.21E-04
RF	WP-RF129.05	445.99	4.31E+02	3.41E-04	--	--	1.56E-02	2.93E+01	7.50E+02	1.81E+02	5.43E+02	2.47E-02	--	--	4.65E-09	3.45E-06	2.80E-13	2.50E-06	1.03E-02	2.20E-04	2.46E-04	6.31E-05
RF	WP-RF130.01	28.77	3.32E+02	--	2.79E-08	2.61E-04	1.24E-02	1.80E+01	4.95E+02	1.15E+02	3.52E+02	1.53E-02	3.01E-15	1.18E-02	3.59E-09	2.11E-05	4.56E-09	1.96E-06	4.30E-02	1.60E-03	1.53E-04	2.29E-03
RF	WP-RF134.02	11.28	3.29E-01	--	--	--	4.34E-06	3.27E-02	9.24E-01	2.14E-01	5.91E-01	2.82E-05	--	--	5.32E-13	1.20E-09	3.46E-16	4.08E-10	5.24E-06	4.28E-08	2.98E-07	2.06E-13
RF	WP-RF135.01	2.31	5.14E+00	--	--	--	1.22E-04	1.16E-01	3.31E+00	7.64E-01	2.20E+00	1.00E-04	--	--	2.84E-11	1.40E-07	1.18E-15	1.66E-08	3.40E-04	3.73E-05	1.04E-06	2.89E-03
RF	WP-RF135.02	10.50	2.19E+00	--	--	--	4.02E-05	2.18E-01	6.17E+00	1.43E+00	4.12E+00	1.88E-04	--	--	8.13E-12	1.75E-06	2.21E-15	4.98E-09	4.15E-03	1.33E-04	1.95E-06	1.17E-06
RF	WP-RF137.01	0.42	3.39E-01	--	--	--	7.96E-06	2.35E-02	6.81E-01	1.57E-01	4.28E-01	2.05E-05	--	--	1.97E-12	8.64E-10	2.54E-16	1.12E-09	3.77E-06	3.16E-08	2.19E-07	1.49E-13
RF	WP-RF139.01	11.76	3.45E+02	--	--	--	8.29E-03	1.17E+00	3.34E+01	7.72E+00	2.22E+01	1.01E-03	--	--	1.93E-09	1.07E-06	1.20E-14	1.13E-06	2.63E-03	2.01E-04	1.05E-05	1.30E-02
RF	WP-RF140.01	171.31	8.40E+01	1.35E-05	--	--	1.42E-03	9.65E+00	2.47E+02	5.98E+01	1.79E+02	8.12E-03	--	--	2.66E-10	3.91E-07	9.27E-14	1.68E-07	1.63E-03	1.52E-05	8.16E-05	3.51E-08
RF	WP-RF141.01	10.69	2.80E+02	--	--	--	3.65E-03	5.08E+01	1.82E+03	4.24E+02	5.37E+02	2.81E-02	--	--	4.41E-10	1.17E-04	6.86E-13	3.40E-07	2.74E-01	8.65E-03	5.92E-04	7.58E-05
RF	WP-RF141.02	41.28	1.95E+03	--	--	--	2.71E-01	1.98E+02	7.42E+03	1.77E+03	1.96E+03	1.52E-01	--	--	1.06E-07	1.33E-04	2.86E-12	5.23E-05	3.24E-01	9.75E-03	2.46E-03	8.32E-05
RL	RL105-01	59.11	1.92E+00	--	--	7.63E-02	2.30E-05	2.16E-01	1.47E+00	7.03E-01	3.43E+00	3.18E-05	--	1.38E-01	2.25E-12	9.80E-09	8.65E-16	1.94E-09	4.00E-05	3.19E-07	8.54E-07	5.56E-06
RL	RL105-03	69.09	4.75E+01	--	--	4.49E+01	1.18E-03	3.39E+00	2.31E+01	1.27E+01	7.99E+01	6.05E-03	--	2.11E+02	2.59E-10	1.59E-05	1.99E-13	1.58E-07	4.13E-02	1.54E-03	1.04E-04	3.29E-02
RL	RL200-01	75.79	4.64E+00	--	--	4.50E-03	6.28E-05	2.83E-01	1.51E+01	3.42E+00	4.83E+00	2.94E-04	--	3.16E-04	7.36E-12	9.75E-09	4.85E-15	5.82E-09	4.39E-05	7.02E-07	4.47E-06	1.02E-06
RL	RL200-02	20562.67	6.54E+03	--	--	6.69E+00	1.08E-01	1.55E+02	3.45E+03	1.03E+03	1.24E+03	8.18E-02	--	9.62E+01	4.87E-07	3.45E-04	1.46E-04	1.45E-04	3.88E-02	9.95E-04	2.17E-03	1.79E-02
RL	RL201-03	14.49	2.67E+01	--	--	1.09E+00	3.48E-04	6.83E-04	1.88E+00	4.62E-01	7.17E-03	6.76E-07	--	2.67E+01	3.42E-11	1.54E-10	5.14E-16	2.98E-08	8.57E-07	7.22E-08	5.34E-07	7.00E-03

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2050
(Continued)

Site	Waste Stream ID	Scaled Vol (m^3)	Am-241	Am-243	Cm-244	Cs-137	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	Sr-90	Th-229	Th-230	Th-232	U-233	U-234	U-235	U-236	U-238
RL	RL202S-01	1.26	5.02E-02	--	--	4.68E-08	2.56E-06	8.27E-03	6.53E-02	2.44E-02	2.41E-02	2.81E-06	--	4.00E-08	6.49E-13	2.13E-10	2.86E-17	3.88E-10	1.10E-06	2.57E-09	2.89E-08	1.74E-14
RL	RL209E-01	101.18	2.85E+03	--	--	2.20E-06	5.65E-02	3.98E+02	3.82E+03	1.39E+03	2.47E+03	2.05E-01	--	1.88E-06	9.53E-09	3.74E-05	1.55E-12	6.55E-06	1.29E-01	2.98E-03	1.61E-03	7.24E-03
RL	RL216Z-02	342.30	1.66E+03	--	--	--	2.00E-02	2.77E+02	4.49E+03	1.05E+03	2.53E+03	6.32E-02	--	--	1.91E-09	6.72E-06	1.17E-12	1.67E-06	3.57E-02	1.72E-04	1.22E-03	3.83E-10
RL	RL221U-03	0.42	1.34E-04	--	--	1.27E-04	1.63E-09	1.18E-05	6.78E-04	1.54E-04	1.47E-04	1.32E-08	--	1.09E-04	1.52E-16	2.87E-13	1.72E-19	1.35E-13	1.52E-09	2.61E-11	1.79E-10	7.99E-17
RL	RL222S-01	367.92	6.10E+01	1.02E-04	--	1.64E-01	8.22E-03	3.38E+00	2.64E+01	1.12E+01	4.70E+01	7.71E-04	--	1.38E-01	2.71E-04	1.02E-07	1.31E-14	7.70E-02	4.91E-04	2.39E-06	1.33E-05	3.36E-02
RL	RL231Z-01	608.05	3.76E+02	5.31E-05	--	9.54E-03	1.05E-02	4.43E+01	4.70E+02	1.50E+02	5.08E+02	1.28E-02	--	8.04E-03	2.24E-09	2.21E-05	9.06E-05	1.41E-06	6.28E-02	1.10E-03	1.78E-04	4.59E-02
RL	RL231Z-03	0.84	1.12E-01	--	--	--	2.60E-06	6.10E-05	3.08E-01	1.06E-01	1.98E-02	9.52E-06	--	--	8.26E-13	5.85E-12	3.93E-16	4.00E-10	1.64E-08	2.16E-08	2.24E-07	1.05E-13
RL	RL233S-01	41.85	1.57E+01	--	--	1.19E-03	3.21E-03	1.71E+00	1.59E+01	7.12E+00	1.83E+01	1.46E-03	--	1.02E-03	9.39E-10	5.51E-08	8.34E-15	5.40E-07	2.57E-04	1.65E-06	8.44E-06	1.53E-05
RL	RL233S-03	5.25	3.82E-01	--	--	2.45E-06	3.17E-04	6.76E-02	3.65E-01	1.47E-01	1.22E-01	9.33E-05	--	1.92E-06	1.00E-10	1.84E-09	1.80E-16	5.59E-08	9.24E-06	1.47E-08	1.78E-07	5.93E-13
RL	RL300-01	114.03	5.47E+02	3.34E-02	9.60E-01	8.21E+01	9.36E-03	6.27E+01	1.21E+03	3.83E+02	1.04E+03	1.29E-01	--	8.83E-03	2.75E-04	4.01E-05	6.23E-03	8.04E-02	1.05E-01	4.32E-03	4.44E-04	3.68E-02
RL	RL300-03	5.67	1.44E+01	--	--	8.81E-04	2.45E-04	2.10E+00	1.50E+01	7.64E+00	1.86E+01	1.27E-03	--	1.03E-03	3.68E-11	1.16E-07	8.51E-15	2.64E-08	4.51E-04	6.86E-06	8.84E-06	1.09E-04
RL	RL308-01	347.76	2.20E+04	1.85E-03	--	7.73E-02	2.74E-01	4.40E+03	9.46E+03	6.11E+03	2.03E+04	5.80E+00	--	6.61E-02	2.56E-04	1.58E-04	5.30E-04	7.48E-02	7.09E-01	1.44E-02	7.07E-03	2.03E-01
RL	RL308-03	0.42	2.55E-01	--	--	--	5.09E-06	3.53E-02	3.33E-01	1.26E-01	1.00E-01	1.53E-05	--	--	1.24E-12	2.55E-09	3.68E-16	6.82E-10	8.12E-06	2.07E-08	2.36E-07	1.50E-13
RL	RL325-01	736.80	6.47E+02	4.01E-02	1.05E+00	2.67E+00	3.91E-02	9.35E+01	4.93E+02	2.25E+02	9.54E+02	3.15E-02	--	6.94E+00	5.20E-04	2.98E-04	7.79E-03	1.52E-01	8.38E-01	2.44E-02	2.60E-04	5.10E-01
RL	RL325-03	12.18	2.86E+01	1.22E-01	1.39E+01	5.59E-02	4.48E-03	7.05E+00	2.47E+01	9.69E+00	5.46E+01	2.72E-03	--	5.37E-02	1.23E-09	2.90E-07	1.08E-14	7.30E-07	1.24E-03	1.79E-05	1.12E-05	2.22E-04
RL	RL325-05	282.36	6.20E+01	4.45E-01	3.96E+01	5.86E+00	7.29E-02	2.20E+03	2.66E+02	5.49E+01	1.84E+02	1.53E-02	1.56E-10	2.10E+01	6.99E-05	3.78E-05	8.64E-07	5.53E-05	2.36E-01	1.10E-04	7.63E-05	3.28E-04
RL	RL618-01	5.64	3.30E+00	4.33E-04	--	3.80E-02	4.27E-04	8.55E-01	6.54E+00	2.51E+00	2.52E+00	2.90E-04	--	4.16E-02	1.46E-10	2.72E-08	3.56E-15	7.71E-08	1.27E-04	9.66E-05	3.28E-06	7.64E-04
RL	RLALE-02	0.63	2.79E-04	--	--	1.41E-07	2.94E-09	1.93E-05	5.29E-02	1.71E-03	8.30E-04	1.68E-07	2.27E-11	1.21E-07	2.42E-16	4.69E-13	1.90E-18	2.26E-13	2.49E-09	2.03E-09	1.98E-09	1.01E-15
RL	RLARG-01	11.13	6.39E+01	--	--	3.43E-07	1.28E-03	1.69E+02	4.56E+01	2.32E+01	3.49E+01	8.11E-04	--	2.89E-07	3.24E-10	2.73E-05	1.45E-05	1.74E-07	6.42E-02	1.08E-03	4.47E-05	1.51E-03
RL	RLBAT-01	30.18	1.78E+01	--	--	--	1.28E-03	6.75E+01	1.49E+01	6.66E+00	3.04E+01	3.22E-04	--	--	3.47E-10	8.93E-06	4.04E-06	2.04E-07	2.85E-02	6.82E-04	7.90E-06	3.52E-03
RL	RLBW-01	144.23	3.31E+02	--	--	9.04E-02	4.34E-03	3.84E+01	2.50E+02	1.25E+02	5.19E+02	1.12E-02	--	7.74E-02	4.88E-10	4.46E-06	1.39E-13	3.95E-07	1.48E-02	2.70E-04	1.44E-04	1.15E-02
RL	RLBW-03	11.13	4.48E+01	--	--	1.38E-06	6.80E-04	5.68E+00	4.28E+01	2.16E+01	5.49E+01	2.90E-03	--	1.19E-06	9.31E-11	4.39E-07	2.53E-14	6.90E-08	1.55E-03	3.06E-05	2.56E-05	4.79E-04
RL	RLCFF-01	4.62	5.43E+00	--	--	--	6.51E-05	6.43E-01	4.12E+00	2.16E+00	8.67E+00	2.41E-04	--	--	6.23E-12	1.91E-08	2.53E-15	5.44E-09	9.23E-05	3.96E-07	2.56E-06	3.50E-06
RL	RLCFF-03	5.04	6.65E+00	--	--	--	8.25E-05	1.31E+01	7.16E+00	3.51E+00	7.28E+00	4.45E-04	--	--	8.07E-12	3.56E-07	4.11E-15	6.99E-09	1.79E-03	2.57E-06	4.16E-06	4.90E-05
RL	RLCH2-01	25.20	9.29E-02	--	--	2.67E-01	1.22E-06	6.52E-03	6.63E-02	1.69E-02	2.36E-02	--	--	2.29E-01	1.25E-13	1.68E-10	1.98E-17	1.06E-10	8.66E-07	2.61E-09	2.01E-08	--
RL	RLESG-01	25.79	2.50E+01	--	--	8.70E-01	3.18E-04	3.47E+00	2.63E+01	1.28E+01	5.14E+01	3.22E-03	--	7.95E-01	4.31E-07	9.86E-06	1.42E-14	1.26E-04	2.77E-02	5.19E-04	1.48E-05	3.59E-04
RL	RLESG-03	1.05	3.98E-02	--	--	1.58E-03	4.29E-07	6.51E-03	1.82E-01	4.89E-02	1.08E-01	5.39E-05	--	1.35E-03	3.61E-14	7.54E-09	5.45E-17	3.34E-11	2.14E-05	7.64E-07	5.66E-08	8.01E-09
RL	RLEXX-01	134.61	3.28E+02	--	--	--	4.88E-03	9.05E+01	7.69E+01	6.55E+01	3.09E+02	8.00E-02	--	--	6.28E-10	4.88E-06	7.29E-14	4.80E-07	1.91E-02	1.02E-04	7.57E-05	3.94E-03
RL	RLFFTF-01	1.05	1.38E-02	--	--	4.71E-03	1.68E-07	2.67E-03	1.10E-02	9.48E-03	1.48E-02	--	--	3.01E-03	1.57E-14	6.47E-11	1.06E-17	1.39E-11	3.43E-07	4.24E-10	1.10E-08	--
RL	RLGEV-01	109.81	1.29E+02	--	--	1.25E-05	2.00E-03	1.97E+01	1.41E+02	6.15E+01	1.59E+02	9.74E-03	--	1.07E-05	2.75E-10	2.44E-05	6.85E-14	2.04E-07	6.93E-02	1.42E-03	7.11E-05	4.85E-02
RL	RLGEV-03	1.89	1.17E+01	--	--	3.01E-08	1.37E-04	1.35E+00	7.01E+00	3.95E+00	2.21E+01	1.60E-04	--	2.63E-08	1.27E-11	2.60E-07	4.63E-15	1.12E-08	7.91E-04	2.07E-05	4.69E-06	3.06E-04
RL	RLHAN-01	527.52	5.13E+02	6.97E-03	2.40E-01	1.34E+00	1.70E-02	6.54E+01	3.83E+02	1.77E+02	7.96E+02	1.31E-02	--	1.13E+00	8.12E-04	1.09E-05	7.62E-05	2.15E-01	3.39E-02	9.10E-04	2.10E-04	1.36E-02
RL	RLHAN-03	0.21	3.80E-02	--	--	--	4.54E-07	2.90E-03	1.50E-02	8.44E-03	4.92E-02	--	--	--	4.18E-14	7.05E-11	9.39E-18	3.73E-11	3.74E-07	5.76E-10	9.76E-09	--
RL	RLIAEA-03	0.42	7.84E-01	--	--	7.14E-06	1.03E-05	3.11E-01	2.21E-01	2.83E-01	2.69E-01	4.19E-04	--	6.12E-06	1.04E-12	7.98E-09	3.31E-16	8.90E-10	4.12E-05	8.70E-09	3.36E-07	2.60E-12
RL	RLMLL-01	2.30	2.42E-01	--	--	--	5.78E-06	2.00E-02	4.58E-01	1.38E-01	7.79E-02	9.27E-06	--	--	2.02E-12	3.42E-07	6.03E-16	9.27E-10	4.86E-04	2.20E-05	3.17E-07	6.76E-04
RL	RLP11-01	24.44	2.00E+00	--	--	--	2.34E-05	2.30E-01	1.20E+00	6.74E-01	3.77E+00	2.73E-05	--	--	2.18E-12	5.90E-09	7.90E-16	1.92E-09	3.05E-05	4.72E-08	8.00E-07	1.69E-13
RL	RLPFP-01	4339.26	7.87E+03	8.24E-02	--	1.65E-01	1.84E-01	1.07E+03	6.79E+03	3.10E+03	1.05E+04	9.37E-01	--	1.45E-01	1.96E-03	8.98E-05	1.68E-04	5.73E-01	3.16E-01	5.98E-03	3.58E-03	8.98E-02
RL	RLPFP-03	36.75	1.37E+02	--	--	2.23E-05	2.20E-03	2.13E+01	2.13E+02	6.82E+01	1.47E+02	1.36E-02	--	1.91E-05	3.11E-10	5.91E-06	7.60E-14	2.29E-07	1.78E-02	9.10E-05	7.89E-05	7.22E-04
RL	RLPFP-04	66.36	6.00E+02	--	--	1.28E-03	8.78E-03	7.29E+01	9.92E+02	3.23E+02	9.11E+02	3.74E-02	--	1.10E-03	1.14E-09	3.15E-06	3.59E-13	8.68E-07	1.32E-02	1.74E-04	3.73E-04	1.94E-03
RL	RLPFP-05	2784.44	1.75E+03	3.83E-05	--	2.75E-05	7.53E-02	2.48E+02	3.05E+03	8.85E+02	2.23E+03	1.98E-01	--	2.42E-05	1.32E-08	4.19E-06	7.05E-13	9.49E-06	2.64E-02	6.60E-04	8.66E-04	8.62E-04
RL	RLPURX-01	865.61	9.51E+03	8.71E-04	--	8.74E+00	1.15E-01	1.94E+03	1.36E+04	5.16E+03	2.58E+04	1.22E+00	--	7.49E+00	1.10E-02	4.98E-05	5.74E-12	3.22E+00	2.57E-01	7.70E-04	5.97E-03	4.07E-03
RL	RLRFET-01	203.68	9.94E+01	--	--	--	2.16E-03	2.57E+00	1.27E+02	3.02E+01	1.73E+01	2.50E-03	--	--	5.97E-10	1.91E-03	9.65E-14	3.10E-07	3.16E+00	1.44E-01	5.92E-05	4.41E+00
RL	RLSAN-01	3.36	5.53E+01	--	--	--	1.13E-03	5.12E+00	3.30E+01	1.85E+01	2.82E+01	7.46E-04	--	--	2.99E-10	4.00E-06	6.10E-14	1.57E-07	7.08E-03	2.55E-04	3.69E-05	6.24E-04
RL	RLSWO-01	161.06	4.36E+02	4.26E-06	--	3.21E-01	5.10E-03	6.04E+01	2.93E+02	1.57E+02	8.14E+02	2.23E-01	--	3.79E-04	7.54E-06	1.58E-06	1.75E-13	2.20E-03	8.11E-03	2.30E-05	1.82E-04	3.95E-05
RL	RLSWO-05	154.68	1.24E+01	9.17E-11	--	3.24E-05	1.27E-03	3.44E+00	3.04E+01	9.54E+00	1.26E+01	9.18E-04	--	3.07E-05	1.36E-05	7.38E-08	4.35E-08	4.70E-03	4.18E-04	2.79E-06	9.33E-06	2.58E-05
RL	RLWAR-01	213.70	7.11E+01	--	--	8.00E-08	1.18E-02	9.90E+00	4.58E+01	2.38E+01	1.04E+02	4.82E-03	--	6.89E-08	3.27E-09	6.66E-06	2.65E-14	1.93E-06	1.92E-02	6.41E-04	2.75E-05	2.90E-03
RL	RLWAR-03	7.98	1.34E+02	--	--	3.07E-07	1.76E-03	1.86E+01	5.90E+01	3.88E+01	1.31E+02	3.16E-02	--	--	1.93E-10	8.32E-07	5.02E-14	1.58E-07	3.39E-03	4.04E-05	4.84E-05	3.64E-05
RL	WP-RLBWD.001	91.98	2.68E+02	--	--	1.25E-03	4.85E-03	4.05E+01	3.13E+02	1.52E+02	2.69E+02	3.21E-02	--	1.29E-03	7.66E-10	6.82E-06	1.69E-13	5.40E-07	2.15E-02	8.05E-05	1.75E-04	5.87E-03
RL	WP-RLCBWD.001	158.97	3.81E+02	2.04E-05	--	4.64E-03	6.92E-03	5.53E+01	4.32E+02	2.05E+02	3.96E+02	3.63E-02	--	3.96E-03	1.26E-04	5.11E-06	2.65E-13	3.42E-02	1.69E-02	2.61E-04	2.55E-04	5.25E-03
RL	WP-RLCCP300D1	17.01	4.23E+01	7.08E-05	1.62E-01	1.03E-04	1.14E-03	8.66E+00	3.64E+01	1.84E+01	3.59E+01	5.84E-03	--	1.06E-04	2.08E-05	5.42E-06	2.05E-14	6.06E-03	1.56E-02	3.44E-04	2.13E-05	1.20E-03
RL	WP-RLCCP308D1	37.60	1.68E+01	1.35E-05	--	1.23E-05	3.52E-04	1.27E+00	1.94E+01	4.17E+00	1.15E+01	2.63E-04	--	1.27E-05	6.13E-11	4.62E-06	4.64E-15	4.17E-08	1.30E-02	4.27E-04	4.82E-06	1.59E-12
RL	WP-RLCFFD.001	251.16	5.83E+02	--	--	9.14E-06	7.69E-03	7.22E+01	6.07E+02	3.06E+02	5.94E+02	4.73E-02	--	7.79E-06	8.54E-10	3.67E-06	1.31E-06	6.95E-07	1.43E-02	1.62E-04	3.82E-04	3.04E-03
RL	WP-RLETECD.001	16.17	1.80E+01	--	--	2.66E-02	3.73E-04	1.75E+00	1.47E+01	6.67E+00	1.44E+01	1.23E-03	--	2.27E-02	7.14E-11	8.84E-06	5.86E-06	4.60E-08	2.30E-02	5.95E-04	8.30E-06	5.90E-04
RL	WP-RLEXXOD.001	6.93	5.93E+01	--	--	--	9.37E-04	1.60E+01	1.39E+01	1.18E+01	4.84E+01	1.44E-02	--	--	1.37E-10	9.92E-07	1.53E-14	9.81E-08	3.63E-03	1.83E-05	1.47E-05	7.31E-04
RL	WP-RLHMOX.001	45.48	1.00E+04	4.28E-04	--	2.35E-04	5.46E-01	1.21E+03	7.74E+03	3.91E+03	7.81E+03	1.96E+00	--	1.97E-04	1.81E-07	3.60E-04	6.06E-12	9.44E-05	9.41E-01	4.88E-02	5.34E-03	5.96E-01
RL	WP-RLM209ED.001	11.34	8.46E+01	--	--	6.92E-08	1.79E-03	1.14E+01	1.14E+02	4.19E+01	6.36E+01	6.10E-03	--	5.89E-08	3.48E-10	1.30E-06	5.41E-14	2.23E-07	4.13E-03	9.76E-05	5.22E-05	1.83E-04

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2050
(Continued)

Site	Waste Stream ID	Scaled Vol (m^3)	Am-241	Am-243	Cm-244	Cs-137	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	Sr-90	Th-229	Th-230	Th-232	U-233	U-234	U-235	U-236	U-238
RL	WP-RLM231ZD.001	18.27	2.29E+01	2.66E-05	--	5.75E-04	1.47E-02	2.45E+00	6.21E+01	1.52E+01	1.67E+01	1.53E-03	--	5.72E-04	4.20E-09	1.33E-06	1.69E-14	2.46E-06	3.85E-03	4.02E-05	1.76E-05	9.78E-04
RL	WP-RLM233SD.001	45.43	3.06E+01	--	--	1.12E-03	1.32E-02	4.35E+00	4.38E+01	1.31E+01	1.87E+01	1.01E-02	--	9.61E-04	4.34E-09	2.17E-07	1.70E-14	2.37E-06	8.51E-04	9.83E-06	1.64E-05	1.20E-04
RL	WP-RLM300D.001	14.07	3.67E+01	6.75E-04	--	2.78E-05	1.30E-03	6.20E+00	4.16E+01	1.95E+01	3.93E+01	3.87E-03	--	2.37E-05	3.28E-10	4.02E-06	4.59E-05	1.92E-07	1.08E-02	4.61E-04	2.43E-05	1.14E-02
RL	WP-RLM308D.001	43.82	2.16E+03	1.42E-03	--	1.68E-02	4.75E-02	4.20E+02	1.01E+03	6.30E+02	1.78E+03	5.82E-01	--	1.43E-02	5.67E-05	3.40E-05	1.97E-04	1.54E-02	1.16E-01	2.02E-03	7.85E-04	2.61E-02
RL	WP-RLM325D.001	205.58	8.77E+02	6.58E-02	2.34E+00	3.91E-02	2.81E-02	1.30E+02	3.78E+02	1.73E+02	4.06E+02	5.97E-01	--	3.38E-02	4.17E-05	4.04E-05	2.35E-04	1.22E-02	1.20E-01	2.79E-03	2.00E-04	1.78E-02
RL	WP-RLMGEVALD.001	11.34	9.10E+00	--	--	9.47E-07	1.57E-04	1.39E+00	1.00E+01	4.25E+00	9.54E+00	7.04E-04	--	8.07E-07	2.59E-11	8.14E-07	5.48E-15	1.77E-08	2.20E-03	1.12E-04	5.29E-06	1.39E-03
RL	WP-RLMHASH.001	14.59	7.99E+02	--	--	1.42E-06	1.20E-02	5.58E+01	2.44E+03	6.02E+02	4.64E+02	8.17E-02	--	6.28E-07	7.15E-06	2.06E-06	9.75E-13	1.73E-03	8.96E-03	1.14E-04	8.40E-04	5.96E-10
RL	WP-RLMPDT.001	1658.62	5.67E+03	3.87E-03	--	1.07E-02	2.53E-01	9.49E+02	9.06E+03	3.02E+03	6.28E+03	5.71E-01	--	9.15E-03	2.10E-03	4.74E-05	8.97E-05	5.70E-01	1.86E-01	2.06E-03	3.76E-03	1.83E-02
RL	WP-RLMPFPDD	451.49	8.91E+02	1.60E-04	--	6.19E-03	1.98E-02	1.27E+02	1.43E+03	5.05E+02	7.66E+02	3.52E+00	--	3.53E-04	1.22E-04	1.07E-05	5.62E-13	3.58E-02	3.75E-02	1.54E-04	5.84E-04	7.28E-03
RL	WP-RLMPURX.001	102.89	8.90E+02	1.15E-04	--	1.25E+00	1.23E-02	1.72E+02	1.30E+03	4.83E+02	2.01E+03	1.10E-01	--	1.07E+00	1.37E-03	5.13E-06	6.24E-13	3.70E-01	2.47E-02	7.12E-05	6.02E-04	2.65E-04
RL	WP-RLMSSC.001	15.18	9.16E+02	--	--	--	1.25E-02	1.52E+02	2.79E+03	6.17E+02	1.41E+03	7.24E-02	--	--	1.61E-09	5.68E-06	9.98E-13	1.21E-06	2.46E-02	1.36E-04	8.60E-04	3.93E-04
RL	WP-RLMWARD.001	102.06	1.20E+02	1.44E-11	--	2.38E-06	2.13E-03	2.79E+01	4.76E+01	3.03E+01	1.08E+02	2.37E-02	--	2.03E-06	3.60E-10	8.19E-06	1.92E-06	2.43E-07	2.31E-02	7.39E-04	3.78E-05	3.92E-03
RL	WP-RLNPDT.002	383.88	7.61E+02	3.47E-03	--	5.71E-04	1.19E-02	1.46E+02	2.01E+03	4.78E+02	1.06E+03	8.39E-02	--	3.68E-04	1.88E-09	6.70E-06	6.21E-08	1.28E-06	2.67E-02	2.47E-04	6.38E-04	4.35E-04
RL	WP-RLNPURX.001	36.75	3.56E+02	4.12E-05	--	7.48E-04	4.32E-03	7.17E+01	4.11E+02	1.60E+02	8.74E+02	5.02E-02	--	4.48E-04	4.74E-10	2.52E-06	2.47E-13	3.82E-07	1.12E-02	1.87E-05	2.18E-04	3.58E-10
RL	WP-RLRFETS.001	14.98	6.55E+02	--	--	7.38E-06	9.35E-03	5.80E+01	3.81E+03	6.30E+02	6.91E+02	6.53E-02	--	7.04E-07	3.10E-05	4.28E-06	1.02E-12	7.51E-03	1.43E-02	3.52E-04	8.79E-04	4.76E-10
RL	WP-RLSWOCD.001	32.13	2.11E+01	5.55E-06	--	5.74E-04	4.89E-04	3.64E+00	3.82E+01	1.25E+01	2.52E+01	1.89E-03	--	4.89E-04	1.02E-10	2.20E-07	1.61E-14	6.38E-08	8.10E-04	1.25E-05	1.55E-05	7.92E-06
RL	WP-RLVIPAC.001	154.16	3.77E+02	1.69E-05	--	7.20E-04	8.37E-03	1.10E+02	9.76E+02	2.98E+02	1.89E+02	8.82E-02	--	6.12E-04	5.99E-05	2.14E-04	4.22E-13	1.55E-02	5.38E-01	1.37E-02	3.89E-04	2.62E-01
SA	SA-W134	1.47	3.38E-02	--	--	1.59E-01	3.57E-07	9.18E-03	5.81E-02	3.27E-02	5.88E-02	8.45E-06	--	6.76E-03	9.62E-12	4.84E-08	2.42E-05	3.15E-09	1.51E-04	5.05E-06	3.39E-08	1.84E-06
SA	SA-W136	98.93	7.65E+02	--	--	--	9.18E-03	1.88E-01	8.28E+00	2.15E+00	2.56E+00	2.52E-04	--	--	7.68E-10	3.83E-09	2.04E-15	7.24E-07	2.21E-05	2.94E-07	2.29E-06	1.41E-12
SA	SA-W137	0.84	3.43E-01	--	--	3.02E-03	4.21E-06	1.34E-01	4.90E-01	2.16E-01	3.15E-01	2.02E-04	--	--	3.96E-13	6.55E-09	2.41E-16	3.51E-10	2.65E-05	4.42E-07	2.50E-07	9.11E-06
SA	SA-W138M	0.21	1.32E-03	--	--	8.12E-08	1.74E-08	6.33E-08	1.58E-05	--	--	--	--	--	1.75E-15	1.54E-15	--	1.51E-12	8.15E-12	6.08E-13	--	--
SP	SP-CHHD	6.27	2.73E-02	--	--	1.45E+00	3.15E-07	2.16E-03	2.58E-01	--	6.46E-03	6.86E-04	--	5.46E-02	2.47E-14	6.72E-07	--	2.40E-11	2.09E-03	1.31E-04	--	2.26E-03
SR	SR-221H-EUOx	1.46	7.28E-03	1.06E-08	4.68E-04	8.21E-04	1.93E-03	5.77E-03	5.05E-01	4.02E-06	--	1.93E-03	--	7.76E-04	5.25E-02	9.38E-03	1.93E-03	7.27E+00	1.06E+01	8.48E-01	2.71E-12	2.51E-02
SR	SR-AGNS-HOM	1.26	8.58E-01	--	--	--	6.80E-04	5.94E-01	1.34E+00	3.16E-01	2.32E+00	5.52E-05	--	--	1.86E-10	4.40E-08	3.34E-16	1.11E-07	1.61E-04	4.37E-06	3.56E-07	9.27E-05
SR	SR-BCLDP.003.001	0.21	3.60E-02	2.27E-05	4.86E-04	3.55E-03	6.72E-07	1.87E-02	3.24E-03	5.28E-03	7.10E-02	1.58E-05	--	3.36E-03	2.13E-13	1.92E-09	3.82E-16	1.08E-10	6.71E-06	7.75E-08	2.12E-07	4.58E-07
SR	SR-BCLDP.004.004	0.21	9.55E-03	2.74E-05	--	4.66E-04	4.03E-06	3.63E-02	8.23E-04	1.35E-03	--	1.61E-08	--	4.34E-04	3.11E-12	5.41E-09	2.19E-18	1.16E-09	1.53E-05	1.69E-07	1.88E-09	3.26E-06
SR	SR-BCLDP-HET	3.76	1.16E-01	--	--	--	1.30E-06	2.21E+01	1.00E-01	4.62E-02	1.79E-01	1.43E-05	--	--	1.08E-13	4.79E-07	4.63E-17	1.01E-10	2.68E-03	3.65E-09	5.07E-08	8.22E-14
SR	SR-DWPF-HET	0.21	9.15E-02	--	--	1.25E-03	2.07E-06	1.47E-02	3.10E-03	4.87E-02	1.25E-02	--	--	1.17E-03	1.14E-05	4.67E-10	6.90E-17	2.96E-03	2.18E-06	4.10E-07	6.35E-08	1.16E-05
SR	SR-HBL-235F-HET	2.51	7.51E-04	--	--	--	1.72E-04	1.02E+00	9.41E-04	5.14E-04	4.73E-03	6.13E-07	--	--	4.50E-11	2.20E-08	5.15E-19	2.77E-08	1.23E-04	3.43E-11	5.63E-10	3.52E-15
SR	SR-KAC-HET	658.67	5.47E+02	--	--	--	9.46E-03	1.19E+02	1.32E+03	3.41E+02	6.12E+02	1.13E-01	--	--	1.35E-09	2.58E-06	3.42E-13	1.00E-06	1.45E-02	2.56E-03	3.74E-04	8.83E-05
SR	SR-KAC-HET-A	0.21	1.74E-01	--	--	--	3.02E-06	3.80E-02	4.21E-01	1.09E-01	1.95E-01	3.60E-05	--	--	4.32E-13	8.22E-10	1.09E-16	3.20E-10	4.61E-06	8.15E-07	1.19E-07	2.81E-08
SR	SR-KAC-HET-SPD	4233.00	1.72E+03	--	--	--	3.17E-02	2.37E+02	7.31E+03	1.62E+03	1.72E+03	2.04E-01	--	--	3.54E-09	3.25E-06	1.07E-12	3.04E-06	2.26E-02	7.07E-04	1.44E-03	1.51E-05
SR	SR-KAC-PuOx	837.70	8.58E+05	--	--	--	2.17E+01	1.59E+05	7.94E+05	3.85E+05	8.96E+05	1.79E+02	--	--	2.04E-03	1.58E-01	2.71E-10	7.49E-01	5.60E+02	5.13E+00	3.54E-01	2.01E+00
SR	SR-KAC-PuOx-SPD	5356.21	1.72E+06	--	--	--	3.17E+01	2.37E+05	7.31E+06	1.62E+06	1.72E+06	2.04E+02	--	--	3.54E-06	1.47E-02	1.07E-09	3.04E-03	6.43E+01	7.07E-01	1.44E+00	1.51E-02
SR	SR-LA-PAD1	4.62	4.76E+00	1.73E-06	--	5.23E-06	2.65E-04	1.43E+03	2.16E+00	3.41E+00	6.09E+00	4.34E-03	--	5.92E-06	2.16E-06	1.46E-04	2.98E-07	6.66E-04	5.10E-01	5.23E-06	3.74E-06	2.49E-11
SR	SR-MD-HET	14.63	5.79E-01	1.19E-06	1.50E-05	4.19E-05	1.07E-04	6.53E+01	1.22E+00	1.87E-01	9.06E-01	1.19E-04	--	3.97E-05	8.05E-05	4.08E-05	3.64E-06	2.55E-02	2.25E-02	6.84E-06	2.00E-07	1.22E-04
SR	SR-MD-PAD1	60.19	3.73E+01	1.14E-04	1.78E-02	7.19E-02	3.74E-03	1.26E+04	1.99E+01	2.69E+01	4.99E+01	3.30E-02	--	6.80E-02	8.55E-10	1.24E-03	9.73E-05	5.51E-07	4.46E+00	6.31E-05	2.88E-05	2.30E-04
SR	SR-MD-SOIL	2.10	1.60E-02	--	--	2.03E-06	2.33E-06	8.14E-01	2.60E-02	3.75E-03	8.41E-03	5.02E-06	--	1.92E-06	5.75E-13	8.03E-08	3.76E-18	3.59E-10	2.83E-04	9.49E-10	4.12E-09	2.88E-14
SR	SR-NIST-HET	0.21	6.62E+00	--	--	--	8.05E-05	6.21E+00	2.57E+00	6.08E-01	4.46E+00	1.09E-04	--	--	7.29E-12	2.93E-07	1.48E-13	6.59E-09	1.21E-03	6.36E-06	7.93E-05	2.50E-07
SR	SR-SDD-HET-A	5.65	2.11E-02	3.00E-06	7.86E-05	5.93E-05	4.26E-05	2.63E+00	1.91E-01	2.67E-02	9.08E-02	2.37E-05	--	1.38E-02	9.47E-09	6.07E-08	6.16E-16	3.00E-06	3.30E-04	5.16E-08	3.61E-07	9.58E-07
SR	SR-SDD-HOM-A	3.99	1.61E-01	5.89E-04	--	--	8.10E-02	7.38E+00	8.68E-01	1.64E-01	4.37E-01	3.77E-01	--	--	1.17E-03	2.76E-04	4.40E-12	3.69E-01	8.33E-01	6.60E-04	2.47E-03	4.01E-02
SR	SR-SDD-HOM-B	10.70	3.00E+00	6.19E-04	8.19E-03	2.17E-03	6.27E-03	3.83E+02	2.81E+01	3.92E+00	1.24E+01	1.36E-02	--	8.91E-04	1.63E-09	9.41E-06	9.64E-14	1.00E-06	4.98E-02	2.82E-05	5.50E-05	8.03E-04
SR	SR-SWMF-HET-A	69.59	5.50E+00	3.69E-04	3.37E-02	1.87E-03	4.70E-03	3.85E+02	1.01E+01	2.86E+00	7.60E+00	7.42E-03	--	1.77E-03	1.31E-06	2.94E-05	1.17E-07	4.04E-04	1.08E-01	9.83E-06	3.14E-06	3.50E-04
SR	SR-SWMF-HET-B	1.05	3.47E-01	4.42E-01	1.07E+01	2.60E-06	4.25E-06	5.37E-01	1.37E-03	2.44E-01	5.48E-02	1.41E-04	4.60E-14	2.46E-06	3.74E-13	1.16E-08	1.94E-16	3.43E-10	6.50E-05	4.14E-11	2.29E-07	8.06E-13
SR	SR-W026-221F-HEPA	0.84	2.70E-01	4.85E-14	--	7.95E-08	4.31E-06	4.68E-02	7.83E-01	2.10E-01	4.43E-01	2.66E-05	--	7.52E-08	6.41E-07	1.02E-08	2.10E-16	1.97E-04	3.27E-05	6.15E-07	2.30E-07	4.28E-08
SR	SR-W026-221F-HET	6.48	3.22E+00	4.99E-06	8.66E-03	2.53E-04	6.19E-05	1.93E+00	9.85E+00	2.71E+00	7.91E+00	1.68E-03	--	2.40E-04	9.54E-12	3.97E-07	3.10E-07	6.91E-09	1.31E-03	1.48E-05	2.89E-06	9.61E-05
SR	SR-W026-221F-HET-A	12.01	1.40E+00	--	7.51E-03	3.61E-01	2.36E-05	1.03E-01	2.42E+00	6.08E-01	3.30E+00	1.06E-04	--	9.59E-02	1.03E-07	2.64E-07	6.98E-15	3.16E-05	7.82E-04	2.45E-05	4.15E-06	9.29E-06

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2050
(Continued)

Site	Waste Stream ID	Scaled Vol (m^3)	Am-241	Am-243	Cm-244	Cs-137	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	Sr-90	Th-229	Th-230	Th-232	U-233	U-234	U-235	U-236	U-238
SR	SR-W026-221F-HOM	1.47	7.81E-01	1.69E-07	--	1.55E-02	2.98E-05	3.99E-01	2.69E+00	6.02E-01	1.13E+00	8.55E-05	--	7.68E-06	6.51E-12	2.42E-08	6.37E-16	4.15E-09	9.30E-05	1.32E-07	6.79E-07	4.53E-07
SR	SR-W026-772F-HET	326.45	8.61E+01	6.82E-04	2.65E-01	1.33E-01	7.84E-02	2.16E+03	1.26E+02	3.14E+01	1.19E+02	1.45E-02	--	1.25E-01	7.94E-05	2.02E-04	1.65E-04	2.46E-02	7.32E-01	5.04E-04	3.35E-05	4.20E-04
SR	SR-W027-221F-HET-A	7.74	1.76E+00	1.52E-06	5.74E-05	1.66E-06	3.20E-05	3.14E-01	4.94E+00	1.24E+00	2.66E+00	1.18E-04	--	1.57E-06	2.32E-07	7.42E-08	1.24E-15	7.14E-05	2.36E-04	9.76E-07	1.36E-06	2.48E-06
SR	SR-W027-221H-HEPA	172.02	3.11E+00	2.03E-05	--	1.12E-01	6.86E-03	1.22E+03	6.12E+00	1.71E+00	6.61E+00	3.09E-03	--	1.06E-01	1.78E-09	1.23E-04	1.72E-15	1.10E-06	4.31E-01	1.91E-05	1.88E-06	1.77E-11
SR	SR-W027-221H-HET	93.47	2.53E+01	1.67E-04	6.97E-02	6.14E-04	1.39E-01	5.54E+03	2.34E+01	6.57E+00	1.03E+02	1.49E-02	--	5.79E-04	1.05E-04	5.42E-04	2.11E-04	3.31E-02	1.95E+00	2.15E-04	7.01E-06	2.23E-04
SR	SR-W027-221H-HET-C	130.39	3.39E+01	9.12E-04	--	1.81E-03	3.02E-01	1.76E+02	1.10E+02	2.65E+01	4.00E+01	1.51E-02	--	1.72E-03	7.19E-06	2.30E-05	2.51E-14	2.30E-03	7.94E-02	9.26E-04	2.83E-05	5.64E-05
SR	SR-W027-221H-HOM	0.84	3.15E-01	9.66E-08	--	2.02E-03	1.20E-04	4.87E-01	6.69E-01	1.82E-01	3.85E-01	6.51E-05	--	1.91E-03	1.52E-08	4.39E-07	9.84E-15	4.69E-06	1.32E-03	2.42E-05	5.49E-06	1.27E-06
SR	SR-W027-235F-HEPA	9.82	1.12E-01	1.33E-12	--	3.10E-07	1.68E-03	7.30E+00	6.38E-02	2.76E-02	8.41E-02	4.89E-05	--	2.93E-07	4.14E-10	1.08E-06	2.61E-17	2.62E-07	3.67E-03	2.46E-05	2.94E-08	2.73E-13
SR	SR-W027-235F-HET	7.12	2.52E+00	1.05E-05	6.31E-04	7.97E-06	3.05E-02	6.64E+02	1.15E+00	4.95E-01	7.45E+00	9.51E-04	--	7.55E-06	4.98E-06	8.58E-05	1.07E-05	1.58E-03	2.97E-01	2.27E-05	5.29E-07	1.03E-05
SR	SR-W027-235F-HOM	0.21	4.91E-02	--	--	--	4.88E-07	3.92E+01	3.66E-02	2.00E-02	1.75E-01	2.38E-05	--	--	3.68E-14	9.00E-07	2.11E-17	3.57E-11	4.90E-03	1.37E-09	2.25E-08	1.41E-13
SR	SR-W027-235F-IR	174.11	7.11E+01	3.01E-04	2.20E-02	2.57E-04	8.77E-01	1.99E+04	3.32E+01	1.43E+01	2.73E+02	2.74E-02	--	2.46E-04	1.23E-04	2.08E-03	3.09E-04	4.54E-02	8.25E+00	6.52E-04	1.31E-05	2.96E-04
SR	SR-W027-321-322M-HET	1.26	5.80E+00	--	--	--	6.73E-04	2.35E-02	5.25E-02	1.24E-02	3.17E+01	2.16E-06	--	--	1.66E-10	5.08E-10	1.24E-17	1.03E-07	2.85E-06	1.92E-09	1.36E-08	1.24E-14
SR	SR-W027-773A-HET	1211.78	2.35E+02	1.25E+00	3.00E+01	4.25E-01	2.84E-01	9.15E+03	5.04E+02	1.16E+02	3.90E+02	2.50E-02	2.89E-11	4.02E-01	1.71E-04	8.98E-04	6.27E-04	5.42E-02	3.22E+00	1.32E-03	1.23E-04	1.24E-02
SR	SR-W027-773A-HOM	1.05	6.03E-04	--	--	3.20E-03	1.41E-05	5.26E+01	4.37E-05	2.22E-05	8.47E-05	2.14E-05	--	3.02E-03	3.68E-12	5.35E-06	2.23E-20	2.27E-09	1.88E-02	1.59E-12	2.44E-11	1.23E-13
SR	SR-W027-FB-Pre86-C	63.67	6.51E+01	8.18E-05	5.21E-02	1.34E-04	3.73E-03	1.79E+01	1.60E+02	4.57E+01	1.15E+02	8.42E-03	--	1.27E-04	2.46E-06	1.65E-06	4.48E-06	7.58E-04	5.88E-03	1.68E-05	5.01E-05	4.86E-05
SR	SR-W027-HBL-Box	82.90	5.77E-01	3.97E-08	1.33E-03	7.94E-04	3.41E-03	1.62E+02	1.10E+00	3.28E-01	1.11E+00	6.40E-04	--	7.52E-04	8.41E-10	1.53E-05	3.11E-16	5.32E-07	5.52E-02	3.93E-07	3.50E-07	3.58E-12
SR	WP-SR2001.001.00	61.74	1.48E+00	--	--	1.85E-06	1.88E-05	7.64E-01	9.64E+00	1.91E+00	3.40E+00	1.93E-04	--	--	2.28E-12	3.09E-08	3.36E-15	1.75E-09	1.29E-04	4.66E-07	2.78E-06	1.47E-12
SR	WP-SR2002.002.00	70.56	4.99E+00	--	--	6.34E-06	6.81E-05	3.32E-01	1.13E+01	2.61E+00	8.10E+00	3.57E-04	--	5.00E-07	3.73E-04	1.28E-08	4.41E-15	8.86E-02	5.47E-05	5.36E-07	3.72E-06	2.66E-12
SR	WP-SR-221H-PUOX	33.34	9.47E+02	--	--	7.02E-04	1.79E-02	1.74E+02	4.39E+03	1.06E+03	1.16E+03	3.05E-01	--	6.65E-04	2.65E-09	4.64E-06	1.01E-12	1.95E-06	2.37E-02	2.28E-04	1.13E-03	6.34E-06
SR	WP-SR-AGNS-HET	35.07	4.60E+00	4.61E-05	4.62E-04	1.05E-04	2.27E-03	9.63E+00	3.08E+00	1.92E+00	6.12E+00	9.15E-04	--	9.83E-05	1.48E-06	1.09E-06	2.86E-06	4.11E-04	3.50E-03	2.44E-05	2.33E-06	4.95E-04
SR	WP-SR-AGNS-HOM	2.52	3.06E+00	--	--	1.44E-04	9.63E-04	1.23E+00	2.40E+00	8.88E-01	2.84E+00	2.05E-04	--	1.36E-04	2.86E-10	1.91E-07	1.52E-07	1.64E-07	5.96E-04	3.21E-05	1.05E-06	1.22E-03
SR	WP-SR-BCLDP.003.001	0.42	9.13E-02	--	--	7.29E-03	1.03E-06	4.72E-02	8.21E-03	1.33E-02	1.72E-01	4.00E-05	--	6.88E-03	8.72E-14	5.03E-09	1.41E-17	8.07E-11	1.72E-05	3.08E-10	1.50E-08	2.36E-13
SR	WP-SR-BCLDP-HET	7.32	9.03E-02	--	--	1.94E-06	4.14E-06	4.57E+00	1.85E-01	5.14E-02	7.26E-02	1.13E-05	--	1.83E-06	9.38E-13	3.78E-07	5.43E-17	5.92E-10	1.35E-03	2.88E-06	5.79E-08	6.66E-14
SR	WP-SR-HBL-235F-HET	44.47	5.59E+00	--	--	8.09E-06	5.69E-02	2.66E+01	3.34E+00	1.73E+00	3.68E+00	5.97E-04	--	7.64E-06	1.57E-08	2.54E-06	1.83E-15	9.39E-06	8.85E-03	1.46E-05	1.95E-06	3.52E-12
SR	WP-SR-KAC-HET	0.21	2.45E-02	--	--	1.82E-07	5.94E-07	5.20E-03	9.21E-02	2.03E-02	2.63E-02	1.74E-06	--	1.72E-07	1.10E-13	2.51E-09	2.14E-17	7.36E-11	7.49E-06	1.51E-07	2.29E-08	1.03E-14
SR	WP-SR-LA-PAD1	69.93	8.88E+01	3.22E-05	--	9.58E-05	4.73E-03	2.63E+04	1.66E+02	6.17E+01	1.08E+02	8.15E-02	--	1.06E-04	4.24E-05	2.80E-03	5.21E-06	1.27E-02	9.58E+00	9.88E-05	6.95E-05	4.80E-10
SR	WP-SR-MD-HET	269.77	8.72E+00	1.58E-05	1.98E-04	5.98E-04	1.51E-03	9.17E+02	1.94E+01	3.58E+00	1.31E+01	1.68E-03	--	5.66E-04	1.30E-03	5.88E-04	5.36E-05	3.55E-01	3.20E-01	1.01E-04	3.92E-06	1.82E-03
SR	WP-SR-MD-HOM-A	2.31	7.97E-01	--	--	2.35E-08	4.92E-04	1.21E+02	3.05E-01	1.27E-02	7.96E-01	5.22E-05	--	2.21E-08	4.37E-06	1.49E-05	1.64E-17	1.18E-03	4.66E-02	1.62E-06	1.58E-08	4.47E-04
SR	WP-SR-MD-HOM-C	0.63	1.37E-02	--	--	1.34E-06	9.22E-06	1.59E+00	2.78E-02	--	--	6.65E-07	--	1.26E-06	2.78E-12	1.80E-07	--	1.59E-09	5.90E-04	5.75E-07	--	4.13E-15
SR	WP-SR-MD-PAD1	464.38	2.52E+02	7.28E-04	1.11E-01	3.91E-01	2.33E-02	8.32E+04	1.35E+02	1.73E+02	3.04E+02	2.24E-01	--	3.70E-01	5.88E-09	8.86E-03	5.86E-04	3.60E-06	3.03E+01	3.95E-04	1.95E-04	1.41E-03
SR	WP-SR-MD-SOIL	21.03	1.16E-01	--	--	1.72E-05	1.62E-05	7.39E+00	1.86E-01	2.77E-02	6.05E-02	3.76E-05	--	1.63E-05	4.19E-12	7.41E-07	2.93E-17	2.55E-09	2.56E-03	6.97E-09	3.12E-08	2.22E-13
SR	WP-SR-SDD-HET-A	3.76	6.56E-03	--	--	1.51E-04	2.30E-05	3.85E-03	1.39E-01	3.19E-02	3.90E-02	5.22E-06	--	1.43E-04	6.34E-12	8.83E-11	3.38E-17	3.80E-09	4.81E-07	5.19E-09	3.60E-08	3.08E-14
SR	WP-SR-SDD-HOM-A	1.47	1.09E-01	1.08E-05	--	1.63E-03	1.33E-05	7.23E-02	7.78E-01	1.79E-01	5.47E-01	2.34E-05	--	1.54E-03	3.64E-12	7.23E-08	1.99E-16	2.15E-09	2.06E-04	2.06E-05	2.07E-07	8.82E-04
SR	WP-SR-SDD-HOM-B	14.03	4.73E-01	7.07E-05	--	4.95E-03	3.45E-04	7.81E+00	2.59E+00	7.73E-01	1.26E+00	2.69E-04	--	4.67E-03	9.42E-11	8.24E-07	8.17E-16	5.65E-08	2.82E-03	4.23E-05	8.71E-07	1.67E-03
SR	WP-SR-SWMF-HET-A	270.22	2.37E+01	1.58E-03	1.41E-01	8.71E-03	1.92E-02	1.65E+03	4.23E+01	1.20E+01	3.39E+01	3.07E-02	--	8.24E-03	6.01E-06	1.27E-04	5.03E-07	1.85E-03	4.70E-01	4.60E-05	1.31E-05	1.49E-03

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2050
(Continued)

Site	Waste Stream ID	Scaled Vol (m^3)	Am-241	Am-243	Cm-244	Cs-137	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	Sr-90	Th-229	Th-230	Th-232	U-233	U-234	U-235	U-236	U-238
SR	WP-SR-W026-221F-HEPA	409.84	1.55E+02	2.74E-11	--	4.47E-05	2.46E-03	2.58E+01	4.48E+02	1.19E+02	2.34E+02	1.51E-02	--	4.22E-05	3.75E-04	5.47E-06	1.25E-13	1.12E-01	1.72E-02	3.20E-04	1.34E-04	2.26E-05
SR	WP-SR-W026-221F-HET	836.29	4.89E+02	6.42E-04	1.04E+00	3.00E-02	1.11E-02	2.65E+02	1.39E+03	3.88E+02	1.05E+03	2.37E-01	--	2.83E-02	2.03E-09	6.21E-05	4.37E-05	1.37E-06	1.94E-01	2.06E-03	4.38E-04	1.31E-02
SR	WP-SR-W026-221F-HET-A	1.05	5.57E-02	--	--	2.32E-02	1.34E-06	1.64E-02	2.64E-01	6.11E-02	7.23E-02	6.24E-06	--	2.18E-02	2.56E-13	3.97E-10	6.81E-17	1.68E-10	2.11E-06	1.02E-08	7.07E-08	3.77E-14
SR	WP-SR-W026-221F-HOM	10.71	7.04E+00	1.74E-06	--	6.56E-05	2.83E-04	3.61E+00	2.42E+01	5.41E+00	9.40E+00	7.49E-04	--	6.17E-05	6.83E-11	2.41E-07	6.34E-15	4.14E-08	8.82E-04	1.26E-06	6.42E-06	5.03E-06
SR	WP-SR-W026-772F-HET	884.01	2.86E+02	2.32E-03	7.66E-01	3.71E-01	2.48E-01	6.85E+03	4.12E+02	1.06E+02	3.64E+02	4.71E-02	--	3.48E-01	2.70E-04	6.92E-04	5.53E-04	7.93E-02	2.39E+00	1.67E-03	1.19E-04	1.36E-03
SR	WP-SR-W027-221F-HETA	1157.49	1.10E+03	1.07E-04	1.56E-03	3.23E-04	2.22E-02	2.33E+02	2.53E+03	7.84E+02	2.56E+03	1.27E-01	--	2.86E-04	5.36E-04	9.55E-05	1.25E-04	1.57E-01	2.81E-01	2.39E-04	9.07E-04	2.26E-03
SR	WP-SR-W027-221F-HET-A	104.19	2.79E+01	--	--	2.57E-05	5.27E-04	5.10E+00	7.52E+01	1.94E+01	4.02E+01	1.91E-03	--	2.43E-05	9.25E-06	2.53E-06	2.05E-14	2.77E-03	7.53E-03	1.52E-05	2.18E-05	9.65E-05
SR	WP-SR-W027-221H-HEPA	344.35	7.82E+00	4.03E-05	--	2.30E-01	1.35E-02	3.29E+03	1.26E+01	3.83E+00	1.64E+01	7.02E-03	--	2.17E-01	3.69E-09	3.45E-04	4.05E-15	2.21E-06	1.18E+00	4.03E-05	4.32E-06	4.14E-11
SR	WP-SR-W027-221H-HET	1636.25	5.79E+02	2.64E-02	1.25E+00	1.21E-02	2.96E+00	1.18E+05	5.17E+02	1.50E+02	2.14E+03	3.22E-01	--	1.14E-02	2.49E-03	1.24E-02	5.23E-03	7.45E-01	4.26E+01	4.66E-03	1.69E-04	5.08E-03
SR	WP-SR-W027-221H-HET-C	56.70	1.61E+01	4.74E-04	--	8.32E-04	1.44E-01	8.32E+01	5.24E+01	1.26E+01	1.74E+01	7.24E-03	--	7.85E-04	3.62E-06	1.19E-05	1.34E-14	1.10E-03	3.91E-02	4.57E-04	1.42E-05	2.96E-05
SR	WP-SR-W027-221H-HET-D	7.56	3.17E-01	--	--	8.52E-07	5.63E-03	1.87E+00	6.03E-01	1.71E-01	2.62E-01	7.19E-05	--	8.02E-07	1.72E-09	1.29E-05	2.00E-16	9.77E-07	3.52E-02	4.73E-03	2.02E-07	1.09E-04
SR	WP-SR-W027-221H-HOM	2.10	1.92E+00	--	--	2.34E-06	2.35E-04	7.91E-01	8.62E+00	2.08E+00	3.38E+00	3.62E-04	--	2.20E-06	6.38E-11	1.71E-07	2.31E-15	3.79E-08	5.24E-04	1.03E-05	2.40E-06	2.19E-12
SR	WP-SR-W027-235F-HEPA	80.84	1.31E+00	1.23E-11	--	2.97E-06	1.48E-02	1.62E+02	6.99E-01	3.57E-01	1.01E+00	8.37E-04	--	2.81E-06	4.06E-09	2.04E-05	3.77E-16	2.43E-06	6.81E-02	2.17E-04	4.02E-07	4.93E-12
SR	WP-SR-W027-235F-HET	447.38	2.12E+02	8.83E-04	4.64E-02	6.19E-04	2.37E+00	5.38E+04	9.63E+01	4.17E+01	5.78E+02	8.49E-02	--	5.84E-04	5.04E-04	7.17E-03	9.09E-04	1.51E-01	2.37E+01	1.82E-03	4.69E-05	8.63E-04
SR	WP-SR-W027-235F-HOM	4.20	1.78E-01	1.42E-06	--	8.42E-06	8.45E-03	3.34E+00	3.85E-02	1.02E-02	9.56E-01	1.93E-05	--	7.93E-06	2.45E-09	3.66E-07	1.13E-17	1.43E-06	1.22E-03	1.48E-09	1.18E-08	1.17E-13
SR	WP-SR-W027-321-322M-HET	3.15	9.29E-02	1.38E-10	--	1.37E-07	7.55E-04	3.16E-02	6.74E-02	5.13E-02	1.07E-01	1.02E-04	--	1.29E-07	2.08E-10	2.07E-09	5.42E-17	1.24E-07	7.81E-06	2.53E-09	5.78E-08	6.01E-13
SR	WP-SR-W027-321M-HOM	0.21	--	--	--	4.44E-07	3.75E-06	3.30E-02	1.26E-03	--	--	1.36E-08	--	4.19E-07	1.03E-12	3.51E-09	--	6.19E-10	1.20E-05	4.73E-11	--	8.02E-17
SR	WP-SR-W027-773A-HET	556.49	1.16E+02	5.84E-01	2.16E+01	2.80E-01	2.31E-01	4.67E+03	2.35E+02	5.56E+01	1.80E+02	4.76E-01	2.23E-14	2.64E-01	9.41E-05	4.75E-04	3.01E-04	2.90E-02	1.67E+00	8.04E-04	6.09E-05	1.06E-02
SR	WP-SR-W027-773A-HOM	0.63	3.61E-04	--	--	1.88E-03	8.46E-06	3.13E+01	2.62E-05	1.33E-05	4.84E-05	1.29E-05	--	1.77E-03	2.33E-12	3.32E-06	1.41E-20	1.40E-09	1.14E-02	9.80E-13	1.50E-11	7.58E-14
SR	WP-SR-W027-FB-PRE86-C	1596.62	2.05E+03	2.50E-03	1.62E+00	3.85E-03	1.13E-01	5.55E+02	4.86E+03	1.41E+03	3.45E+03	2.55E-01	--	3.62E-03	8.07E-05	6.61E-05	1.33E-04	2.42E-02	2.22E-01	5.12E-04	1.58E-03	1.46E-03
SR	WP-SR-W027-HBL-BOX	1308.93	1.35E+01	1.33E-06	1.68E-02	1.25E-02	2.23E-01	6.48E+03	2.08E+01	7.17E+00	2.82E+01	5.22E-01	--	1.18E-02	5.81E-08	6.25E-04	7.19E-15	3.57E-05	2.21E+00	2.69E-05	7.87E-06	4.85E-05
Grand Total		**1.68E+05**	**3.21E+06**	**4.89E+01**	**7.56E+03**	**4.91E+02**	**8.14E+01**	**1.96E+06**	**8.77E+06**	**2.19E+06**	**3.04E+06**	**4.96E+02**	**7.49E-03**	**7.49E+02**	**5.10E+00**	**5.22E-01**	**1.15E-01**	**1.19E+02**	**1.09E+03**	**7.86E+00**	**2.10E+00**	**4.42E+01**

Table 5-2. RH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2050

Site	Waste Stream ID	Scaled Vol (m^3)	Am-241	Am-243	Cm-244	Cs-137	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	Sr-90	Th-229	Th-230	Th-232	U-233	U-234	U-235	U-236	U-238
AE	AE-T009	390.46	7.45E+02	3.76E+01	1.09E+02	4.96E+03	1.43E-02	6.02E+02	6.35E+02	3.78E+02	1.12E+02	2.94E-01	9.10E-15	3.38E+03	2.98E-02	1.61E-04	1.19E-09	3.25E-04	2.30E-01	4.92E-02	3.58E-04	3.23E-01
AE	WA-AERHDM	1.98	1.07E+00	--	--	6.13E+00	1.04E-05	8.81E-01	4.00E-01	2.68E-01	2.05E+00	5.83E-04	--	3.75E+00	1.65E-10	3.94E-07	2.01E-16	5.91E-08	1.38E-03	4.07E-05	2.55E-07	4.35E-05
AE	WP-AERHDM	66.56	5.75E+02	2.36E-01	3.27E+02	3.65E+03	8.89E-03	6.05E+02	1.83E+02	1.49E+02	1.23E+03	3.49E-01	--	2.10E+03	1.53E-04	2.11E-04	1.48E-13	4.71E-02	6.56E-01	1.29E-02	1.62E-04	3.03E-02
AW	AW-T031.1322	285.53	7.65E+02	1.29E-01	1.00E+01	5.50E+03	8.02E-01	1.70E+02	2.24E+02	2.40E+01	7.26E+01	8.16E-02	--	8.18E+03	1.60E-07	1.68E-04	1.90E-11	1.12E-04	5.79E-01	8.48E-03	1.20E-02	4.00E-03
AW	AW-W020.13	95.19	4.50E+02	2.49E-03	1.14E-02	1.15E+04	3.95E-02	1.56E+02	2.05E+02	7.96E+01	7.32E+02	9.47E-03	1.64E-17	5.61E+03	3.61E-04	4.48E-04	2.48E-11	1.29E-01	1.53E+00	2.56E-02	1.58E-02	2.24E-02
BT	BT-T001	7.56	3.22E-02	1.13E-04	--	2.55E+01	1.61E-04	9.71E-01	1.03E-03	--	3.58E-02	1.85E-05	--	2.41E+01	6.90E-05	1.01E-07	7.21E-14	9.86E-03	3.90E-04	3.79E-06	4.57E-05	1.82E-08

Table 5-2. RH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2050
(Continued)

Site	Waste Stream ID	Scaled Vol (m^3)	Am-241	Am-243	Cm-244	Cs-137	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	Sr-90	Th-229	Th-230	Th-232	U-233	U-234	U-235	U-236	U-238
BT	WP-BT-T001	3.15	9.34E-02	--	1.17E-02	5.38E+00	1.18E-06	8.92E-01	1.10E-02	1.55E-02	4.70E-02	6.56E-03	--	7.41E+00	2.53E-05	8.39E-07	1.72E-17	7.38E-03	2.39E-03	5.08E-05	1.79E-08	6.45E-06
IN	IN-AE-AGHC-02	55.44	5.00E+02	--	2.68E+00	1.15E+03	5.09E-03	8.22E+01	4.92E+02	2.61E+02	4.72E+02	1.23E-01	--	7.51E+02	4.41E-05	5.11E-04	1.95E-13	1.57E-02	1.74E+00	6.17E-02	2.48E-04	2.27E-02
IN	IN-ID-ANLE-BIN	0.63	5.68E-02	--	--	2.81E-02	6.35E-07	5.72E-03	2.21E-02	1.30E-02	1.39E-02	4.21E-04	--	2.38E-02	1.54E-06	2.41E-08	1.10E-17	5.15E-04	7.75E-05	2.44E-06	1.31E-08	4.40E-07
IN	IN-ID-ANLW-W269-RH	0.63	3.16E+00	--	--	1.00E-01	3.80E-05	2.50E-01	1.76E+01	3.69E+00	--	4.06E-02	--	2.48E-02	1.31E-09	1.89E-08	3.50E-15	4.17E-07	7.09E-05	1.31E-06	3.93E-06	1.41E-08
IN	IN-ID-BTO-030	1.26	1.44E-02	--	--	5.46E+00	1.73E-07	2.79E-01	1.98E-01	4.17E-03	--	7.19E-04	--	8.48E+00	7.35E-06	6.76E-07	3.96E-18	2.33E-03	2.06E-03	4.57E-05	4.45E-09	3.16E-05
IN	IN-ID-EBR-S5000	4.41	5.65E-06	--	--	5.97E+01	6.57E-11	5.88E-04	1.46E+01	5.33E-03	3.25E-06	2.60E-13	--	5.23E+00	2.54E-10	8.19E-08	5.05E-18	8.02E-08	3.11E-04	5.81E-02	5.68E-09	1.25E+00
IN	IN-ID-HFEF-S3000-RP	3.78	1.80E+01	--	2.65E-02	3.11E+01	1.91E-04	4.33E+00	1.57E+01	9.92E+00	2.25E+01	5.84E-03	--	3.71E+01	4.30E-09	1.09E-05	8.39E-15	1.45E-06	3.52E-02	1.25E-03	1.00E-05	1.59E-03
IN	IN-ID-HFEF-S5000-RP	20.16	4.88E+01	--	5.34E-02	5.26E+01	5.14E-04	1.37E+01	7.11E+01	4.01E+01	6.79E+01	1.41E-02	--	7.05E+01	6.57E-09	4.50E-05	3.39E-14	2.23E-06	1.45E-01	5.49E-03	4.04E-05	4.45E-03
IN	IN-ID-INL-152M	18.27	5.13E-01	--	--	3.71E+02	6.14E-06	2.60E-01	6.51E+01	5.26E+01	6.72E-02	7.82E-03	--	1.57E+02	4.09E-04	3.35E-04	4.99E-14	1.29E-01	1.01E+00	1.07E-01	5.62E-05	2.21E-01
IN	IN-ID-MFC-SOLID	1.26	9.25E-02	--	--	7.51E+00	1.05E-06	2.32E-02	1.71E-01	4.39E-02	--	8.19E-04	--	7.91E+00	4.14E-08	5.54E-06	3.71E-17	1.39E-05	1.77E-02	1.00E-03	4.43E-08	1.35E-04
IN	IN-ID-MISC-RH	0.63	3.96E-02	--	--	5.65E-02	4.48E-07	2.07E-03	2.40E-02	3.41E-03	--	2.21E-03	--	1.63E-01	4.04E-07	4.23E-08	2.89E-18	1.35E-04	1.36E-04	7.50E-06	3.44E-09	5.34E-07
IN	IN-ID-RF-S5000-RH	1.26	9.61E+01	--	--	3.82E-02	1.15E-03	2.51E-02	1.62E+00	3.55E-01	--	7.03E-04	--	2.22E-03	9.70E-07	5.72E-07	3.37E-16	3.07E-04	1.73E-03	5.70E-04	3.79E-07	4.23E-04
IN	IN-ID-Sample Fuel	2.52	--	--	--	1.02E-01	2.93E-03	--	8.67E+00	6.36E+00	--	--	--	--	2.12E-04	4.48E-11	1.42E-04	6.72E-02	2.70E-07	5.40E-04	6.79E-06	2.67E-03
IN	IN-ID-Source Material	0.63	1.68E+01	--	--	7.57E-05	1.90E-04	2.93E-02	1.20E+00	3.06E-01	1.47E-01	2.97E-05	--	6.19E-05	1.42E-11	2.13E-09	2.59E-16	1.41E-08	8.34E-06	8.75E-08	3.08E-07	1.18E-09
IN	IN-ID-TRA-W345-RH	0.63	1.96E-03	--	5.89E+01	--	8.67E-09	--	--	3.63E+00	5.45E-02	--	--	--	2.43E-16	--	3.19E-15	3.65E-13	--	--	3.67E-06	--
IN	IN-MO-545	1.17	6.90E+01	5.87E-13	--	--	7.34E-04	9.50E+01	9.83E-02	5.42E-03	9.58E-03	3.04E-05	5.28E-16	--	4.84E-11	1.50E-06	4.06E-18	5.14E-08	9.76E-03	3.10E-09	5.15E-09	1.51E-13
IN	IN-NRF-SPC-103	138.60	1.01E+02	--	--	5.30E+03	1.04E-03	2.78E+02	1.10E+01	1.11E+01	8.12E+01	3.62E-02	--	4.64E+03	1.45E-02	4.28E-04	8.29E-15	5.15E+00	1.47E+00	3.19E-02	1.05E-05	7.82E-03
IN	WP-ID-ANLE-S5000	118.74	1.23E+02	--	4.68E-01	2.41E+03	1.42E-03	2.55E+01	1.97E+02	9.05E+01	1.46E+02	5.20E-02	--	3.83E+02	5.22E-04	2.29E-04	9.07E-14	1.61E-01	6.75E-01	2.42E-02	9.93E-05	1.17E-02
IN	WP-ID-HFEF-S5400-RH	34.44	1.25E+01	--	8.75E-02	3.22E+02	1.39E-04	6.39E+00	2.15E+01	8.50E+00	2.62E+01	3.49E-03	--	2.61E+02	1.85E-04	2.44E-05	1.06E-12	5.55E-02	7.02E-02	6.85E-03	5.71E-04	9.17E-04
IN	WP-ID-INTEC-RH	0.42	1.22E+00	--	--	1.14E+00	1.52E-05	5.84E-01	1.31E-01	2.12E-01	1.31E+00	1.08E-03	--	6.26E-01	1.48E-12	2.40E-07	2.48E-16	1.29E-09	6.89E-04	7.41E-06	2.51E-07	1.66E-04
IN	WP-ID-MFC-S5400-RH	1.68	1.55E-01	--	--	3.10E+00	1.82E-06	1.73E-02	5.39E-01	1.57E-01	3.16E-01	2.53E-05	--	2.27E+00	2.49E-05	3.98E-07	1.93E-16	6.92E-03	1.06E-03	4.03E-05	1.91E-07	1.48E-05
IN	WP-ID-RTC-S3000	0.84	3.98E-02	--	--	7.09E-01	5.10E-07	1.08E-02	9.82E-03	7.11E-03	2.52E-02	1.08E-05	--	2.86E-01	4.34E-07	1.30E-07	8.33E-18	1.24E-04	3.54E-04	2.23E-05	8.44E-09	4.84E-05
IN	WP-IN-ID-NRF-153	3.36	2.63E-03	--	--	2.81E+00	3.36E-08	1.07E-01	4.60E-04	2.22E-04	2.56E-03	6.58E-07	--	6.79E-01	2.43E-06	7.26E-08	2.74E-19	6.74E-04	2.00E-04	6.56E-06	2.71E-10	4.38E-08
IN	WP-IN-ID-NRF-SPC	17.43	3.01E+00	--	--	4.63E+01	3.62E-05	1.98E+01	4.87E-01	6.34E-01	2.66E+00	1.51E-03	--	1.26E+02	4.04E-04	1.15E-05	6.70E-16	1.21E-01	3.40E-02	1.95E-03	7.14E-07	1.55E-04
KA	KA-T001	87.65	1.10E-01	1.16E-05	1.07E-02	8.33E+01	5.97E-04	2.51E+00	5.30E-03	4.36E-03	2.08E-01	2.69E-05	3.77E-13	7.85E+01	6.65E-10	1.77E-06	1.06E-11	1.86E-07	4.26E-03	8.28E-05	8.00E-04	3.18E-07
KA	KA-T002	4.38	2.97E-01	1.11E-07	4.16E-03	7.36E+01	3.86E-06	3.94E+00	8.60E-02	8.57E-02	1.26E-01	--	--	5.43E+01	4.44E-05	3.30E-03	1.67E-03	1.26E-02	1.32E-02	2.87E-03	2.87E-03	--
KA	KA-W016	4.38	1.74E-03	5.74E-06	3.75E-04	2.19E+00	1.01E-05	4.95E-02	8.97E-05	7.34E-05	8.81E-03	4.57E-07	1.87E-13	2.13E+00	1.75E-10	1.59E-07	4.51E-12	4.29E-08	6.97E-05	1.40E-06	1.35E-05	5.39E-09
LA	LA-TA-00-03	2.67	--	--	--	--	--	--	1.24E+01	--	--	--	--	--	--	--	--	--	--	8.55E-07	--	--
LA	LA-TA-03-27	77.43	4.81E+00	--	--	6.85E+02	4.81E-05	1.18E+00	8.01E+01	2.50E+00	1.57E+01	1.52E-03	--	4.57E+02	3.57E-12	5.93E-07	1.26E-14	3.50E-09	1.86E-03	8.25E-03	8.43E-06	4.07E-05
LA	WP-LA-MHD03.002	14.24	4.13E+01	--	--	2.11E+02	5.40E-04	1.50E+01	4.88E+01	2.83E+01	5.07E+01	1.75E-02	--	1.37E+02	4.19E-04	4.84E-05	3.83E-14	1.11E-01	1.23E-01	4.34E-03	3.61E-05	4.96E-04
OR	OR-CHEM-RH-HET	4.41	1.77E-01	7.68E-10	2.00E+00	6.97E-01	1.89E-06	6.96E-01	8.38E-03	8.34E-02	1.06E-04	4.91E-04	8.46E-10	9.97E-01	5.07E-06	1.13E-07	5.69E-17	1.80E-03	4.17E-04	1.13E-05	7.41E-08	2.07E-04
OR	OR-GENR-RH-HET	0.63	4.54E-02	2.74E-03	5.93E-06	5.06E-06	1.64E-04	--	1.36E-02	3.93E-08	9.58E-06	3.95E-11	2.26E-16	4.82E-06	3.20E-11	1.10E-28	1.28E-23	2.27E-08	1.78E-24	4.29E-10	2.23E-14	7.36E-20
OR	OR-ISTP-RH-HET	2.52	3.85E+01	4.21E-02	7.39E+01	2.00E-04	4.24E-03	3.31E+01	2.03E+00	4.55E+00	2.41E+00	1.81E-03	--	1.90E-04	7.75E-10	1.09E-06	1.00E-03	5.61E-07	5.33E-03	4.21E-05	4.13E-06	8.99E-12
OR	OR-MRF-RH-HET	1.89	--	--	--	7.30E+00	--	--	4.34E+00	--	--	--	--	4.54E+01	--	--	--	--	--	1.37E-07	--	--
OR	OR-RADP-RH-HET	6.30	3.28E-02	--	2.76E-02	3.62E+01	6.74E-07	2.92E-02	7.75E-02	3.06E-03	1.27E-02	1.68E-05	--	4.01E+00	8.14E-05	3.96E-07	2.42E-04	1.43E-02	6.66E-04	1.34E-05	5.41E-09	3.56E-04
OR	OR-REDC-RH-HET	1244.14	2.43E+03	3.64E+02	1.61E+04	8.71E+02	3.54E+00	1.12E+04	2.23E+02	1.01E+03	2.16E+03	1.13E+01	3.16E-06	1.44E+04	6.99E-07	2.88E-04	7.12E-13	4.93E-04	1.53E+00	5.06E-03	9.17E-04	1.18E-01
OR	OR-RF-RH-HET	157.89	8.48E+02	3.91E+00	2.16E+02	5.27E+03	2.73E-02	4.28E+02	1.05E+02	1.45E+02	3.11E+03	1.06E+00	8.79E-02	2.70E+03	2.27E-02	7.02E+00	4.17E-04	8.07E+00	2.22E-01	4.62E-03	1.01E-02	2.99E-02
OR	OR-TBD-RH-HET	214.83	1.41E+01	7.94E-04	6.47E+00	1.24E+04	1.36E-02	5.91E+02	1.06E+00	4.04E-01	1.24E+01	4.10E-04	5.39E-05	7.24E+03	6.58E-02	5.97E-04	4.61E-11	8.81E+00	6.86E-01	8.94E-03	1.43E-02	5.57E-03
OR	OR-W1A-RH-SOIL	10.08	7.87E+00	--	1.05E-01	3.62E+00	6.89E-05	9.99E-02	1.42E+00	7.97E-01	3.06E+01	7.61E-04	--	1.03E+00	1.74E-03	6.01E-06	5.97E-16	6.20E-01	2.04E-02	3.42E-04	7.55E-07	1.00E-02
OR	WP-OR-REDC-RH-HET	45.99	1.76E+02	8.28E+00	1.71E+03	8.99E+00	2.19E-03	4.66E+01	5.75E+01	1.11E+02	1.32E+02	1.76E-01	--	1.60E+02	5.02E-09	1.48E-05	1.14E-13	1.59E-06	4.42E-02	5.69E-04	1.22E-04	8.79E-03
RL	RL100D-08	0.55	2.25E-02	1.34E-05	--	1.89E-01	2.43E-06	4.48E-03	8.36E-03	1.08E-02	1.34E-01	4.21E-06	--	1.28E-01	6.30E-13	1.03E-10	1.14E-17	3.83E-10	5.61E-07	2.19E-06	1.21E-08	1.62E-05
RL	RL105-08	115.94	1.04E+01	--	4.09E-03	7.41E+01	1.40E-04	1.64E+00	7.82E+00	4.16E+00	1.33E+01	1.16E-04	--	3.38E+01	1.68E-11	1.49E-07	6.18E-15	1.31E-08	4.78E-04	2.14E-05	5.56E-06	4.50E-04
RL	RL105-09	687.50	7.64E+02	--	--	1.49E+03	6.87E-02	6.20E+01	4.07E+02	2.35E+02	5.63E+02	9.85E-02	--	1.97E+03	2.27E-08	4.92E-04	3.36E-10	1.21E-05	1.22E+00	4.91E-02	1.55E-01	1.07E+00
RL	RL209E-08	0.22	2.76E+00	--	--	--	5.58E-05	3.85E-01	3.49E+00	1.22E+00	1.88E+00	1.52E-04	--	--	1.07E-11	1.16E-08	1.65E-15	6.85E-09	5.56E-05	1.48E-07	1.55E-06	1.02E-12
RL	RL221U-08	30.25	3.26E+01	4.61E-06	1.64E-01	2.13E+02	6.33E-02	4.82E+00	4.86E+01	1.38E+01	1.02E+02	1.40E-03	--	1.54E+02	2.31E-08	9.50E-05	9.46E-06	1.20E-05	2.52E-01	2.66E-04	1.67E-05	4.94E-03
RL	RL222S-08	1.32	5.05E-01	1.88E-02	--	8.16E-02	2.08E-03	3.17E-02	4.67E+00	1.19E-01	1.73E+00	4.17E-04	1.73E-06	1.27E-01	1.26E-03	1.01E-09	1.69E-16	3.26E-01	4.74E-06	8.07E-06	1.56E-07	2.92E-04

Table 5-2. RH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2050
(Continued)

Site	Waste Stream ID	Scaled Vol (m^3)	Am-241	Am-243	Cm-244	Cs-137	Np-237	Pu-238	Pu-239	Pu-240	Pu-241	Pu-242	Pu-244	Sr-90	Th-229	Th-230	Th-232	U-233	U-234	U-235	U-236	U-238
RL	RL300-07	113.40	6.45E+02	3.40E+00	6.22E+01	1.93E+04	3.30E-02	1.61E+02	5.84E+01	6.91E+01	6.06E+02	2.53E-01	6.72E-13	8.75E+03	7.78E-04	3.91E-05	3.89E-11	1.77E-01	9.80E-02	1.38E-03	1.58E-02	4.37E-02
RL	RL300-08	383.06	4.39E+02	1.87E-03	5.66E+01	5.41E+04	5.86E-03	2.47E+01	9.26E+00	9.71E+00	5.44E+01	1.26E-02	2.95E-11	3.26E+04	6.07E-10	6.37E-07	1.37E-14	5.14E-07	3.28E-03	5.70E-05	1.26E-05	1.06E-03
RL	RL308-08	20.68	5.26E-03	--	3.68E-05	1.46E+00	6.27E-08	2.59E-03	2.37E-03	2.54E-03	9.86E-03	7.75E-07	--	2.46E+00	6.09E-15	7.04E-11	3.12E-18	5.26E-12	3.54E-07	3.07E-09	3.08E-09	1.01E-06
RL	RL325-07	958.42	2.16E+03	1.15E+01	1.75E+02	1.43E+03	1.38E-01	1.04E+04	3.37E+02	3.41E+02	7.13E+03	6.63E-01	--	7.50E+03	3.04E-08	2.17E-04	3.75E-12	1.98E-05	1.24E+00	8.39E-03	2.29E-03	2.45E-02
RL	RL325-08	854.29	2.40E+02	3.75E-03	1.70E+00	3.09E+02	3.63E-01	1.65E+01	1.66E+02	6.84E+01	1.87E+02	1.24E-02	--	1.88E+03	2.81E-03	4.83E-05	3.97E-03	8.21E-01	1.36E-01	5.49E-03	2.11E-04	1.04E-02
RL	RL325-09	6.49	9.79E-01	8.82E-03	1.40E-01	3.66E+01	7.66E-05	5.07E-01	6.95E-02	1.24E-01	1.30E+00	5.98E-04	--	3.62E+02	2.77E-11	8.89E-08	8.89E-14	1.44E-08	2.97E-04	2.73E-06	5.01E-05	7.78E-05
RL	RL618-08	18.70	1.39E+00	--	--	1.23E+02	2.00E-05	1.60E-01	1.22E+00	4.70E-01	4.18E-01	--	--	1.35E+02	2.46E-12	5.16E-09	6.67E-16	1.91E-09	2.42E-05	1.84E-04	6.14E-07	3.50E-03
RL	RLBART-08	0.33	4.19E-01	--	--	--	9.91E-06	3.14E-07	3.37E-06	1.63E-06	6.70E-07	4.72E-10	--	--	3.09E-12	2.81E-14	5.69E-21	1.51E-09	8.13E-11	2.30E-13	3.34E-12	5.06E-18
RL	RLBAT-08	6.82	4.73E+00	2.51E-02	4.37E-01	2.24E+01	6.80E-05	2.25E+00	4.21E-01	6.90E-01	5.44E+00	1.83E-03	--	1.37E+01	5.64E-11	2.45E-07	1.66E-13	1.80E-08	7.29E-04	1.66E-05	7.05E-05	3.23E-04
RL	RLBET-08	0.22	6.60E-03	--	--	3.87E-05	7.86E-08	1.53E-03	9.82E-03	5.52E-03	8.98E-03	2.20E-07	--	3.31E-05	7.22E-15	5.78E-08	6.14E-18	6.44E-12	1.61E-04	5.91E-06	6.38E-09	6.25E-08
RL	RLBW-08	0.22	1.28E+00	--	--	--	1.61E-05	1.42E-01	7.59E-01	4.27E-01	2.07E+00	1.73E-05	--	--	1.73E-12	4.29E-09	5.79E-16	1.42E-09	2.06E-05	3.22E-08	5.45E-07	1.15E-13
RL	RLCH2-09	0.22	1.46E-03	--	--	4.68E-02	1.80E-08	1.69E-05	7.18E-04	1.53E-04	--	--	--	4.18E-01	1.59E-15	3.66E-13	1.54E-19	1.46E-12	2.05E-09	2.62E-11	1.68E-10	--
RL	RLESG-08	22.77	5.17E+00	--	--	7.78E-01	6.05E-05	5.37E-01	3.18E+00	1.70E+00	8.23E+00	6.51E-05	--	2.18E-01	5.48E-12	1.30E-08	1.90E-15	4.92E-09	6.92E-05	1.22E-07	1.97E-06	3.94E-13
RL	RLFFTF-08	0.33	3.47E-03	7.71E-11	--	2.16E-01	4.22E-08	5.72E-04	2.35E-03	2.01E-03	5.70E-03	--	--	2.19E-04	4.17E-15	1.55E-11	2.48E-18	3.58E-12	7.81E-08	9.48E-11	2.45E-09	--
RL	RLGEV-08	6.49	1.28E+01	--	--	3.82E+00	2.60E-04	1.00E+00	6.47E+01	1.47E+01	6.81E+00	1.26E-03	--	2.71E+00	6.81E-11	5.62E-07	4.83E-14	3.60E-08	1.03E-03	3.98E-05	2.92E-05	1.10E-03
RL	RLHAN-08	17.60	1.61E+01	6.29E-05	--	9.52E-01	2.61E-04	1.34E+00	9.52E+00	3.68E+00	2.16E+01	1.48E-04	--	7.35E-01	6.85E-06	3.25E-08	4.09E-15	2.00E-03	1.72E-04	3.66E-07	4.25E-06	8.98E-13
RL	RLMLB-08	0.22	8.72E-02	--	2.97E+00	--	1.81E-06	8.00E-03	5.20E-02	1.31E-01	4.24E-02	1.19E-06	--	--	4.93E-13	6.92E-10	2.87E-16	2.56E-10	2.03E-06	3.48E-09	2.02E-07	1.25E-14
RL	RLPFP-08	29.81	6.74E+02	1.43E-11	--	2.13E-04	1.30E-02	9.24E+01	3.26E+02	1.57E+02	5.81E+02	4.54E-02	--	1.83E-04	2.15E-09	2.55E-06	1.74E-13	1.49E-06	1.28E-02	4.33E-05	1.81E-04	1.18E-04
RL	RLPURX-08	23.87	8.50E-01	--	--	--	1.54E-05	2.35E-02	1.08E-01	2.56E-02	8.88E-01	1.45E-06	--	--	3.56E-12	2.33E-09	9.76E-17	1.98E-09	6.44E-06	7.68E-09	5.49E-08	1.62E-14
RL	RLWTP-08	417.81	2.09E+00	--	--	2.81E+02	2.36E-03	1.17E+00	7.76E-01	1.65E-01	6.18E-02	--	--	2.98E+02	8.41E-05	1.53E-06	1.58E-13	2.18E-02	3.85E-03	1.45E-04	7.28E-05	3.26E-03
SA	SA-W135	4.36	1.70E+01	--	--	7.30E+01	1.80E-04	5.38E+00	1.88E+01	1.20E+01	3.02E+01	5.63E-03	--	5.19E+01	3.39E-09	2.14E-05	1.07E-14	1.11E-06	6.67E-02	2.13E-03	1.24E-05	7.12E-04
SA	SA-W139	4.59	1.18E+02	--	--	5.32E+02	1.18E-03	3.81E+01	1.31E+02	8.32E+01	2.32E+02	3.92E-02	--	3.80E+02	2.23E-08	1.40E-04	6.63E-14	7.73E-06	4.64E-01	1.48E-02	8.14E-05	4.95E-03
SA	WP-SNL-HCF-S5400-RH	4.62	9.44E-01	--	--	1.39E+01	1.17E-05	4.51E-01	5.17E-01	3.27E-01	7.69E-01	2.63E-03	--	7.47E+00	1.02E-06	1.22E-05	3.65E-16	2.98E-04	3.41E-02	1.11E-03	3.79E-07	1.70E-04
SP	SP-RHHD	1.89	2.95E-01	--	--	4.10E+00	3.43E-06	8.87E-03	6.92E-01	--	1.46E-02	2.80E-03	--	1.18E+00	2.71E-13	2.82E-06	8.12E-15	2.63E-10	8.77E-03	8.54E-04	4.70E-06	9.59E-03
SP	SP-RHIN	0.63	4.59E-02	--	--	5.83E+00	5.21E-07	4.88E-03	5.54E-01	--	2.32E-02	4.27E-03	--	1.23E-01	4.04E-14	1.31E-06	--	3.95E-11	4.06E-03	3.12E-04	--	6.27E-03
SR	SR-RH-221H.01	4.41	9.20E-01	--	--	--	2.44E+00	1.14E+03	1.19E+00	6.14E-01	5.76E+00	7.11E-04	--	--	6.03E-07	2.89E-05	3.03E-14	3.81E-04	1.51E-01	6.07E-05	1.74E-05	5.32E-08
SR	SR-RH-221H.02	1.65	--	--	--	--	9.04E-04	1.66E+00	1.92E-02	1.31E-02	--	2.26E-04	--	--	2.36E-10	1.13E-07	1.31E-17	1.45E-07	4.27E-04	7.00E-10	1.43E-08	1.30E-12
SR	SR-RH-235F.01	1.26	2.40E+02	--	--	--	3.75E-02	2.94E+02	2.99E+00	7.89E-01	9.94E+02	2.88E-04	--	--	9.37E-09	6.35E-06	7.91E-16	5.83E-06	3.56E-02	1.09E-07	8.66E-07	1.66E-12
SR	SR-RH-772F.01	0.63	9.61E-03	--	--	2.93E-01	4.09E-06	2.51E-02	2.68E-02	8.13E-03	8.59E-03	1.33E-06	--	2.72E-01	1.75E-12	1.90E-09	3.98E-16	8.37E-10	6.26E-06	1.95E-08	1.74E-07	9.93E-15
SR	SR-RH-773A.01	104.66	1.65E+01	5.36E+00	1.11E+02	4.20E+01	5.92E-04	2.13E+02	7.62E+00	5.19E+00	9.94E+00	2.14E-03	1.17E-11	2.92E+01	1.73E-10	7.46E-06	6.87E-15	9.39E-08	3.33E-02	3.45E-07	6.36E-06	1.53E-11
SR	SR-RH-DWPF-HET	22.96	1.18E+01	--	--	2.20E+00	2.10E-04	2.09E+00	3.94E-01	6.20E+00	3.14E+00	--	--	2.10E-01	9.92E-04	2.86E-08	4.08E-15	3.76E-01	1.99E-04	5.22E-05	5.51E-06	1.48E-03
SR	SR-RH-FBL.01	1.26	4.30E+00	--	--	2.56E-06	6.12E-05	1.38E+00	1.83E+00	1.80E+00	2.94E+00	8.97E-05	--	2.39E-06	5.18E-05	1.24E-07	2.67E-15	1.31E-02	4.00E-04	3.79E-06	2.41E-06	2.61E-05
SR	SR-RH-FBL.02	0.99	2.13E-03	--	--	--	6.20E-05	3.81E-05	1.89E-03	1.37E-03	1.98E-03	5.16E-01	--	--	2.40E-11	4.78E-05	2.02E-14	1.21E-08	1.16E-01	1.47E+00	9.09E-06	7.38E-02
SR	SR-RH-MNDPAD1.01	3.15	1.35E+00	--	--	--	1.16E-05	1.75E+03	1.65E+00	9.02E-01	7.19E+00	1.08E-03	--	--	7.37E-13	4.48E-05	1.06E-15	7.71E-10	2.32E-01	6.52E-08	1.07E-06	6.69E-12
SR	SR-RH-SDD.01	0.63	6.48E+00	--	--	--	8.66E-05	6.77E+01	1.42E+00	8.54E-01	6.17E+00	1.43E-03	--	--	9.78E-12	2.04E-06	1.16E-15	7.89E-09	9.79E-03	6.02E-08	1.09E-06	9.53E-12
SR	SR-RH-SWD.01	0.63	3.92E-02	1.84E-02	4.47E-01	2.29E-03	1.34E-04	5.70E-02	8.62E-02	3.04E-02	1.58E-01	9.41E-06	1.65E-15	1.54E-03	3.50E-11	1.23E-09	2.84E-17	2.15E-08	6.90E-06	3.14E-09	3.18E-08	5.39E-14
SR	WP-SR-BCLDP.001.001	1.05	6.85E-01	--	4.18E-02	2.98E+00	8.89E-06	2.52E-01	5.57E-02	9.02E-02	7.16E-01	3.30E-04	--	1.90E+00	2.92E-06	1.15E-07	1.16E-16	7.92E-04	3.16E-04	4.21E-06	1.12E-07	5.68E-05
SR	WP-SR-BCLDP.001.002	0.84	4.06E-01	--	5.09E-02	2.20E-01	5.22E-06	9.49E-02	1.60E-02	2.65E-02	4.83E-01	2.11E-04	--	1.40E+00	2.31E-06	7.97E-08	3.38E-17	6.25E-04	2.13E-04	3.01E-06	3.27E-08	4.10E-05
SR	WP-SR-BCLDP.002	0.21	3.76E+00	--	2.30E-01	1.64E+01	4.89E-05	1.38E+00	3.07E-01	4.95E-01	3.94E+00	1.82E-03	--	1.04E+01	1.61E-05	6.35E-07	6.38E-16	4.36E-03	1.74E-03	2.31E-05	6.16E-07	3.12E-04
SR	WP-SR-BCLDP.003	1.47	1.01E-01	--	6.19E-03	4.41E-01	1.32E-06	3.73E-02	8.25E-03	1.34E-02	1.06E-01	4.89E-05	--	2.80E-01	4.33E-07	1.71E-08	1.72E-17	1.17E-04	4.67E-05	6.23E-07	1.66E-08	8.40E-06
SR	WP-SR-BCLDP.004.002	1.05	9.08E-02	--	1.15E-02	4.90E-02	1.16E-06	2.12E-02	3.58E-03	5.92E-03	1.10E-01	4.71E-05	--	3.11E-01	5.15E-07	1.77E-08	7.56E-18	1.40E-04	4.73E-05	6.71E-07	7.31E-09	9.14E-06
SR	WP-SR-BCLDP.004.003	0.42	1.35E-01	--	9.17E-03	2.09E-01	1.72E-06	5.67E-02	1.36E-02	2.12E-02	1.66E-01	7.28E-05	--	4.74E-01	6.86E-07	2.85E-08	2.73E-17	1.86E-04	7.75E-05	1.06E-06	2.63E-08	1.41E-05
SR	WP-SR-RH-FBL.01	1.68	4.81E+01	--	--	1.10E-04	5.88E-04	1.73E+01	2.16E+01	2.17E+01	4.65E+01	3.43E-03	--	1.03E-04	5.90E-04	1.43E-06	2.42E-14	1.72E-01	5.04E-03	5.49E-05	2.51E-05	3.66E-04
SR	WP-SR-RL-BCLDP.001	18.42	6.41E+01	--	4.03E+00	2.93E+02	8.11E-04	2.38E+01	5.27E+00	8.53E+00	7.12E+01	4.91E-01	--	1.87E+02	2.60E-04	1.05E-05	1.05E-14	7.22E-02	2.94E-02	3.90E-04	1.04E-05	5.37E-03
SR	WP-SR-RL-BCLDP.002	0.21	6.72E+01	--	1.25E+00	2.46E+02	1.09E-03	5.51E-02	1.89E-02	4.72E-02	1.37E-01	8.89E-05	--	1.59E+02	1.68E-10	1.87E-08	6.40E-17	1.16E-07	4.66E-05	8.20E-07	5.81E-08	3.79E-05
VN	WP-GEVNC.01	19.74	6.80E+01	--	--	2.50E+01	9.30E-04	5.40E-01	5.28E+00	2.44E+00	3.87E+00	1.44E-03	--	7.22E+00	1.62E-07	3.90E-06	3.01E-15	4.50E-05	1.04E-02	3.74E-04	2.97E-06	1.89E-04
Grand Total		**7.08E+03**	**1.28E+04**	**4.35E+02**	**1.90E+04**	**1.34E+05**	**7.64E+00**	**2.87E+04**	**4.35E+03**	**3.49E+03**	**1.92E+04**	**1.57E+01**	**8.80E-02**	**1.06E+05**	**1.44E-01**	**7.02E+00**	**7.45E-03**	**2.55E+01**	**1.50E+01**	**1.99E+00**	**2.33E-01**	**3.35E+00**

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2. *Total CH- and RH-TRU inventories of all radionuclides (scaled to a full repository), supplied in Curies and decayed through the years; 2050, 2150, 2400, 3050, 7050, and 12050.*

Table 5-3. CH Radionuclide Activities (Ci) Decayed thru Specified Years

Radionuclide	2050	2150	2400	3050	7050	12050
Ac-225	5.10E+00	6.10E+00	8.56E+00	1.48E+01	4.77E+01	7.99E+01
Ac-227	5.82E+01	4.80E+01	4.74E+01	4.69E+01	4.58E+01	4.78E+01
Ac-228	1.13E-01	1.15E-01	1.15E-01	1.15E-01	1.15E-01	1.15E-01
Ag-108	9.55E-04	5.54E-04	1.41E-04	4.07E-06	1.34E-15	1.89E-27
Ag-108m	1.10E-02	6.36E-03	1.63E-03	4.68E-05	1.54E-14	2.17E-26
Ag-109m	5.66E-12	--	--	--	--	--
Ag-110	1.21E-16	--	--	--	--	--
Ag-110m	8.86E-15	--	--	--	--	--
Am-241	3.21E+06	2.82E+06	1.89E+06	6.67E+05	1.10E+03	4.53E+00
Am-242	1.24E+01	7.59E+00	2.22E+00	9.09E-02	2.62E-10	5.55E-21
Am-242m	1.25E+01	7.62E+00	2.23E+00	9.13E-02	2.63E-10	5.57E-21
Am-243	4.89E+01	4.85E+01	4.74E+01	4.46E+01	3.11E+01	1.99E+01
Am-245	5.31E-15	--	--	--	--	--
Am-246	4.64E-07	4.62E-07	4.58E-07	4.46E-07	3.80E-07	3.12E-07
At-217	5.10E+00	6.10E+00	8.56E+00	1.48E+01	4.77E+01	7.99E+01
Ba-133	7.67E-04	1.05E-06	7.40E-14	1.86E-32	--	--
Ba-137m	4.64E+02	4.60E+01	1.43E-01	4.27E-08	--	--
Bi-210	1.71E+00	2.33E+00	2.48E+00	4.58E+00	4.76E+01	1.21E+02
Bi-211	5.83E+01	4.80E+01	4.74E+01	4.69E+01	4.58E+01	4.78E+01
Bi-212	1.12E+03	4.15E+02	3.48E+01	1.69E-01	1.15E-01	1.15E-01
Bi-213	5.10E+00	6.10E+00	8.56E+00	1.47E+01	4.77E+01	7.99E+01
Bi-214	2.41E+00	2.35E+00	2.48E+00	4.58E+00	4.76E+01	1.21E+02
Bk-249	3.66E-10	--	--	--	--	--
Bk-250	2.60E-07	2.59E-07	2.56E-07	2.50E-07	2.13E-07	1.74E-07
C-14	1.11E-02	1.10E-02	1.07E-02	9.86E-03	6.08E-03	3.32E-03
Ca-45	1.79E-32	--	--	--	--	--
Cd-109	5.66E-12	--	--	--	--	--
Cd-113	1.00E-21	1.23E-21	1.23E-21	1.23E-21	1.23E-21	1.23E-21
Cd-113m	1.09E-04	7.99E-07	3.67E-12	4.85E-26	--	--
Ce-144	2.09E-12	--	--	--	--	--
Cf-249	2.13E+01	1.75E+01	1.07E+01	2.95E+00	1.08E-03	5.48E-08
Cf-250	1.82E+01	9.07E-02	4.16E-07	2.50E-07	2.13E-07	1.74E-07
Cf-251	1.39E+00	1.29E+00	1.06E+00	6.42E-01	2.93E-02	6.17E-04
Cf-252	2.33E-02	9.66E-14	--	--	--	--
Cl-36	3.56E-07	3.56E-07	3.56E-07	3.56E-07	3.52E-07	3.48E-07
Cm-242	1.03E+01	6.27E+00	1.84E+00	7.52E-02	2.18E-10	4.60E-21
Cm-243	2.47E+00	2.17E-01	4.97E-04	6.77E-11	--	--
Cm-244	7.56E+03	1.64E+02	1.14E-02	1.76E-13	--	--
Cm-245	8.48E+00	8.57E+00	8.68E+00	8.54E+00	6.25E+00	4.16E+00
Cm-246	1.64E+02	1.62E+02	1.56E+02	1.42E+02	7.90E+01	3.80E+01
Cm-247	1.32E+00	1.32E+00	1.32E+00	1.32E+00	1.32E+00	1.32E+00

Table 5-3. CH Radionuclide Activities (Ci) Decayed thru Specified Years (Continued)

Radionuclide	2050	2150	2400	3050	7050	12050
Cm-248	1.74E+00	1.74E+00	1.74E+00	1.74E+00	1.72E+00	1.70E+00
Cm-250	1.86E-06	1.85E-06	1.83E-06	1.78E-06	1.52E-06	1.25E-06
Co-60	4.96E-02	9.61E-08	5.02E-22	--	--	--
Cs-134	5.62E-05	1.41E-19	--	--	--	--
Cs-135	6.05E-07	6.05E-07	6.05E-07	6.05E-07	6.04E-07	6.03E-07
Cs-137	4.91E+02	4.87E+01	1.51E-01	4.53E-08	--	--
Eu-152	8.16E-01	4.50E-03	1.01E-08	2.11E-23	--	--
Eu-154	2.73E+00	8.55E-04	1.48E-12	--	--	--
Eu-155	2.70E-01	9.98E-08	8.28E-24	--	--	--
Fe-55	2.13E-05	2.00E-16	--	--	--	--
Fr-221	5.10E+00	6.10E+00	8.56E+00	1.48E+01	4.77E+01	7.99E+01
Fr-223	8.04E-01	6.63E-01	6.54E-01	6.48E-01	6.32E-01	6.60E-01
Gd-152	1.32E-13	1.60E-13	1.60E-13	1.60E-13	1.60E-13	1.60E-13
Gd-153	4.13E-16	--	--	--	--	--
H-3	3.61E+04	1.30E+02	1.03E-04	1.38E-20	--	--
Ho-166m	2.27E-03	2.14E-03	1.85E-03	1.27E-03	1.26E-04	7.03E-06
I-129	4.48E-03	4.48E-03	4.48E-03	4.48E-03	4.48E-03	4.48E-03
K-40	8.49E-02	8.49E-02	8.49E-02	8.49E-02	8.49E-02	8.49E-02
Kr-85	2.25E-01	3.51E-04	3.34E-11	1.86E-29	--	--
Mn-54	8.83E-14	--	--	--	--	--
Na-22	3.38E-04	9.10E-16	--	--	--	--
Nb-93m	1.43E-05	1.62E-05	1.62E-05	1.62E-05	1.61E-05	1.61E-05
Nb-94	3.39E-03	3.37E-03	3.35E-03	3.27E-03	2.85E-03	2.41E-03
Nd-144	1.86E-15	1.86E-15	1.86E-15	1.86E-15	1.86E-15	1.86E-15
Ni-59	2.53E-02	2.53E-02	2.52E-02	2.51E-02	2.42E-02	2.31E-02
Ni-63	1.15E+01	5.78E+00	1.02E+00	1.13E-02	1.06E-14	9.72E-30
Np-237	8.14E+01	1.80E+02	3.68E+02	6.15E+02	7.48E+02	7.47E+02
Np-238	5.61E-02	3.43E-02	1.00E-02	4.11E-04	1.19E-12	2.51E-23
Np-239	4.89E+01	4.85E+01	4.74E+01	4.46E+01	3.11E+01	1.99E+01
Np-240	8.98E-06	8.98E-06	8.98E-06	8.99E-06	9.06E-06	9.14E-06
Np-240m	7.48E-03	7.48E-03	7.49E-03	7.50E-03	7.55E-03	7.62E-03
Pa-231	4.77E+01	4.76E+01	4.74E+01	4.69E+01	4.58E+01	4.78E+01
Pa-233	8.14E+01	1.80E+02	3.68E+02	6.15E+02	7.48E+02	7.47E+02
Pa-234	5.75E-02	5.75E-02	5.75E-02	5.75E-02	5.75E-02	5.75E-02
Pa-234m	4.42E+01	4.42E+01	4.42E+01	4.42E+01	4.42E+01	4.42E+01
Pb-209	5.10E+00	6.10E+00	8.56E+00	1.47E+01	4.77E+01	7.99E+01
Pb-210	1.71E+00	2.33E+00	2.48E+00	4.58E+00	4.76E+01	1.21E+02
Pb-211	5.83E+01	4.80E+01	4.74E+01	4.69E+01	4.58E+01	4.78E+01
Pb-212	1.12E+03	4.15E+02	3.48E+01	1.69E-01	1.15E-01	1.15E-01
Pb-214	2.41E+00	2.35E+00	2.48E+00	4.58E+00	4.76E+01	1.21E+02
Pd-107	4.75E-06	4.75E-06	4.75E-06	4.75E-06	4.75E-06	4.75E-06
Pm-146	7.51E-08	2.70E-13	6.62E-27	--	--	--
Pm-147	7.07E-03	2.36E-14	--	--	--	--
Po-210	1.71E+00	2.33E+00	2.48E+00	4.58E+00	4.76E+01	1.21E+02
Po-211	1.60E-01	1.32E-01	1.30E-01	1.29E-01	1.26E-01	1.32E-01
Po-212	7.18E+02	2.66E+02	2.23E+01	1.09E-01	7.36E-02	7.36E-02
Po-213	5.00E+00	5.97E+00	8.38E+00	1.44E+01	4.67E+01	7.82E+01
Po-214	2.41E+00	2.35E+00	2.48E+00	4.58E+00	4.76E+01	1.21E+02

Table 5-3. CH Radionuclide Activities (Ci) Decayed thru Specified Years (Continued)

Radionuclide	2050	2150	2400	3050	7050	12050
Po-215	5.83E+01	4.80E+01	4.74E+01	4.69E+01	4.58E+01	4.78E+01
Po-216	1.12E+03	4.15E+02	3.48E+01	1.69E-01	1.15E-01	1.15E-01
Po-218	2.41E+00	2.35E+00	2.48E+00	4.58E+00	4.76E+01	1.21E+02
Pr-144	2.09E-12	--	--	--	--	--
Pr-144m	2.93E-14	--	--	--	--	--
Pu-236	2.87E-13	1.20E-23	--	--	--	--
Pu-238	1.96E+06	8.88E+05	1.23E+05	7.24E+02	5.92E-10	1.22E-20
Pu-239	8.77E+06	8.75E+06	8.68E+06	8.52E+06	7.60E+06	6.58E+06
Pu-240	2.19E+06	2.17E+06	2.11E+06	1.97E+06	1.29E+06	7.61E+05
Pu-241	3.04E+06	2.43E+04	8.83E+00	8.55E+00	6.26E+00	4.17E+00
Pu-242	4.96E+02	4.96E+02	4.96E+02	4.95E+02	4.93E+02	4.88E+02
Pu-243	1.32E+00	1.32E+00	1.32E+00	1.32E+00	1.32E+00	1.32E+00
Pu-244	7.49E-03	7.49E-03	7.50E-03	7.50E-03	7.56E-03	7.63E-03
Pu-246	4.64E-07	4.62E-07	4.58E-07	4.46E-07	3.80E-07	3.12E-07
Ra-223	5.83E+01	4.80E+01	4.74E+01	4.69E+01	4.58E+01	4.78E+01
Ra-224	1.12E+03	4.15E+02	3.48E+01	1.69E-01	1.15E-01	1.15E-01
Ra-225	5.10E+00	6.10E+00	8.56E+00	1.48E+01	4.77E+01	7.99E+01
Ra-226	2.41E+00	2.35E+00	2.48E+00	4.58E+00	4.76E+01	1.21E+02
Ra-228	1.13E-01	1.15E-01	1.15E-01	1.15E-01	1.15E-01	1.15E-01
Rb-87	3.46E-10	3.46E-10	3.46E-10	3.46E-10	3.46E-10	3.46E-10
Rh-106	9.59E-09	--	--	--	--	--
Rn-219	5.83E+01	4.80E+01	4.74E+01	4.69E+01	4.58E+01	4.78E+01
Rn-220	1.12E+03	4.15E+02	3.48E+01	1.69E-01	1.15E-01	1.15E-01
Rn-222	2.41E+00	2.35E+00	2.48E+00	4.58E+00	4.76E+01	1.21E+02
Ru-106	9.59E-09	--	--	--	--	--
Sb-125	5.04E-04	4.72E-15	--	--	--	--
Sb-126	1.32E-06	1.32E-06	1.32E-06	1.31E-06	1.27E-06	1.23E-06
Sb-126m	3.50E-05	3.50E-05	3.50E-05	3.48E-05	3.38E-05	3.27E-05
Se-79	2.06E-04	2.06E-04	2.06E-04	2.06E-04	2.04E-04	2.02E-04
Sm-146	1.80E-13	1.81E-13	1.81E-13	1.81E-13	1.81E-13	1.81E-13
Sm-147	1.10E-09	1.10E-09	1.10E-09	1.10E-09	1.10E-09	1.10E-09
Sm-148	2.57E-28	1.61E-27	5.12E-27	1.42E-26	7.04E-26	1.41E-25
Sm-151	1.12E+01	5.18E+00	7.55E-01	5.05E-03	2.10E-16	3.94E-33
Sn-119m	1.41E-30	--	--	--	--	--
Sn-121	6.05E-05	1.72E-05	7.35E-07	2.04E-10	--	--
Sn-121m	7.80E-05	2.21E-05	9.48E-07	2.63E-10	--	--
Sn-126	3.50E-05	3.50E-05	3.50E-05	3.48E-05	3.38E-05	3.27E-05
Sr-90	7.49E+02	6.38E+01	1.35E-01	1.51E-08	--	--
Tc-99	6.98E+01	6.98E+01	6.98E+01	6.96E+01	6.87E+01	6.76E+01
Te-123	6.98E-22	6.98E-22	6.98E-22	6.98E-22	6.98E-22	6.98E-22
Te-125m	1.23E-04	1.15E-15	--	--	--	--
Th-227	5.75E+01	4.74E+01	4.68E+01	4.63E+01	4.52E+01	4.72E+01
Th-228	1.12E+03	4.15E+02	3.48E+01	1.69E-01	1.15E-01	1.15E-01
Th-229	5.10E+00	6.10E+00	8.56E+00	1.48E+01	4.77E+01	7.99E+01
Th-230	5.22E-01	1.72E+00	5.51E+00	1.61E+01	7.97E+01	1.55E+02
Th-231	7.86E+00	8.72E+00	1.09E+01	1.64E+01	4.81E+01	8.29E+01
Th-232	1.15E-01	1.15E-01	1.15E-01	1.15E-01	1.15E-01	1.15E-01
Th-234	4.42E+01	4.42E+01	4.42E+01	4.42E+01	4.42E+01	4.42E+01

Table 5-3. CH Radionuclide Activities (Ci) Decayed thru Specified Years (Continued)

Radionuclide	2050	2150	2400	3050	7050	12050
Tl-204	5.83E-10	6.34E-18	7.82E-38	--	--	--
Tl-206	2.25E-06	3.08E-06	3.27E-06	6.04E-06	6.28E-05	1.59E-04
Tl-207	5.81E+01	4.79E+01	4.73E+01	4.68E+01	4.57E+01	4.77E+01
Tl-208	4.03E+02	1.49E+02	1.25E+01	6.09E-02	4.13E-02	4.13E-02
Tl-209	1.07E-01	1.28E-01	1.80E-01	3.10E-01	1.00E+00	1.68E+00
U-232	1.09E+03	4.04E+02	3.37E+01	5.31E-02	2.98E-19	--
U-233	1.19E+02	1.19E+02	1.19E+02	1.21E+02	1.31E+02	1.44E+02
U-234	1.09E+03	1.47E+03	1.75E+03	1.79E+03	1.77E+03	1.74E+03
U-235	7.86E+00	8.72E+00	1.09E+01	1.64E+01	4.81E+01	8.29E+01
U-236	2.10E+00	8.54E+00	2.44E+01	6.36E+01	2.54E+02	4.02E+02
U-237	7.27E+01	5.80E-01	2.11E-04	2.04E-04	1.50E-04	9.96E-05
U-238	4.42E+01	4.42E+01	4.42E+01	4.42E+01	4.42E+01	4.42E+01
U-240	7.48E-03	7.48E-03	7.49E-03	7.50E-03	7.55E-03	7.62E-03
Y-90	7.49E+02	6.38E+01	1.35E-01	1.51E-08	--	--
Zn-65	2.52E-17	--	--	--	--	--
Zr-93	1.62E-05	1.62E-05	1.62E-05	1.62E-05	1.61E-05	1.61E-05
Grand Total	**1.92E+07**	**1.47E+07**	**1.28E+07**	**1.12E+07**	**8.89E+06**	**7.35E+06**

Table 5-4. RH Radionuclide Activities (Ci) Decayed thru Specified Years

Radionuclide	2050	2150	2400	3050	7050	12050
Ac-225	1.44E-01	3.67E-01	9.14E-01	2.28E+00	9.12E+00	1.48E+01
Ac-227	4.78E+00	6.24E+00	6.29E+00	6.23E+00	5.89E+00	5.50E+00
Ac-228	1.13E-02	7.45E-03	7.45E-03	7.45E-03	7.45E-03	7.45E-03
Ag-108	5.34E-03	3.09E-03	7.90E-04	2.27E-05	7.50E-15	1.05E-26
Ag-108m	6.13E-02	3.55E-02	9.08E-03	2.61E-04	8.62E-14	1.21E-25
Ag-109m	1.97E-07	--	--	--	--	--
Ag-110	4.98E-16	--	--	--	--	--
Ag-110m	3.66E-14	--	--	--	--	--
Am-241	1.28E+04	1.14E+04	7.67E+03	2.71E+03	1.28E+01	5.35E+00
Am-242	2.65E+00	1.62E+00	4.75E-01	1.95E-02	5.61E-11	1.19E-21
Am-242m	2.67E+00	1.63E+00	4.77E-01	1.95E-02	5.64E-11	1.19E-21
Am-243	4.35E+02	4.30E+02	4.20E+02	3.96E+02	2.72E+02	1.70E+02
Am-245	2.43E-13	--	--	--	--	--
Am-246	1.06E-07	1.06E-07	1.05E-07	1.02E-07	8.72E-08	7.15E-08
Ar-39	5.07E-02	3.92E-02	2.06E-02	3.85E-03	1.29E-07	3.26E-13
Ar-42	7.08E-02	8.61E-03	4.43E-05	4.98E-11	--	--
At-217	1.44E-01	3.67E-01	9.14E-01	2.28E+00	9.12E+00	1.48E+01
Ba-133	1.53E+00	2.11E-03	1.48E-10	3.71E-29	--	--
Ba-137m	1.26E+05	1.25E+04	3.88E+01	1.16E-05	--	--
Be-10	1.37E-05	1.37E-05	1.37E-05	1.37E-05	1.36E-05	1.36E-05
Bi-210	2.36E+01	2.70E+01	2.49E+01	2.05E+01	9.88E+00	8.51E+00
Bi-211	4.78E+00	6.24E+00	6.29E+00	6.23E+00	5.89E+00	5.50E+00
Bi-212	8.32E+00	3.08E+00	2.65E-01	7.85E-03	7.45E-03	7.45E-03
Bi-213	1.44E-01	3.67E-01	9.14E-01	2.28E+00	9.11E+00	1.48E+01
Bi-214	2.78E+01	2.70E+01	2.49E+01	2.05E+01	9.88E+00	8.51E+00

Table 5-4. RH Radionuclide Activities (Ci) Decayed thru Specified Years (Continued)

Radionuclide	2050	2150	2400	3050	7050	12050
Bk-249	1.67E-08	--	--	--	--	--
Bk-250	5.96E-08	5.94E-08	5.88E-08	5.73E-08	4.89E-08	4.00E-08
C-14	1.54E+00	1.52E+00	1.48E+00	1.36E+00	8.41E-01	4.59E-01
Ca-45	2.15E-22	--	--	--	--	--
Cd-109	1.97E-07	--	--	--	--	--
Cd-113	1.30E-17	1.59E-17	1.59E-17	1.59E-17	1.59E-17	1.59E-17
Cd-113m	1.35E+00	9.87E-03	4.53E-08	6.00E-22	--	--
Ce-144	1.96E-09	--	--	--	--	--
Cf-249	6.75E+01	5.54E+01	3.38E+01	9.34E+00	3.42E-03	1.74E-07
Cf-250	8.24E+01	4.12E-01	7.85E-07	5.73E-08	4.89E-08	4.00E-08
Cf-251	1.65E+01	1.53E+01	1.26E+01	7.64E+00	3.48E-01	7.34E-03
Cf-252	1.53E-02	6.35E-14	--	--	--	--
Cm-242	2.19E+00	1.34E+00	3.93E-01	1.61E-02	4.66E-11	9.85E-22
Cm-243	1.35E+01	1.18E+00	2.71E-03	3.69E-10	--	--
Cm-244	1.90E+04	4.13E+02	2.87E-02	4.44E-13	--	--
Cm-245	9.15E+00	9.57E+00	1.03E+01	1.07E+01	8.02E+00	5.33E+00
Cm-246	5.02E+02	4.95E+02	4.77E+02	4.34E+02	2.41E+02	1.16E+02
Cm-247	1.26E-01	1.26E-01	1.26E-01	1.26E-01	1.27E-01	1.27E-01
Cm-248	2.02E+00	2.02E+00	2.02E+00	2.02E+00	2.00E+00	1.98E+00
Cm-250	4.26E-07	4.24E-07	4.20E-07	4.09E-07	3.49E-07	2.86E-07
Co-60	2.67E+01	5.18E-05	2.70E-19	--	--	--
Cs-134	2.63E-02	6.61E-17	--	--	--	--
Cs-135	4.62E-02	4.62E-02	4.61E-02	4.61E-02	4.61E-02	4.60E-02
Cs-137	1.34E+05	1.33E+04	4.11E+01	1.23E-05	--	--
Es-254	2.17E-17	--	--	--	--	--
Eu-152	3.42E+01	1.89E-01	4.25E-07	8.84E-22	--	--
Eu-154	6.34E+02	1.99E-01	3.44E-10	--	--	--
Eu-155	1.25E+01	4.62E-06	3.83E-22	--	--	--
Fe-55	2.20E-01	2.06E-12	--	--	--	--
Fr-221	1.44E-01	3.67E-01	9.14E-01	2.28E+00	9.12E+00	1.48E+01
Fr-223	6.60E-02	8.62E-02	8.68E-02	8.59E-02	8.12E-02	7.59E-02
Gd-152	5.21E-12	6.38E-12	6.39E-12	6.39E-12	6.39E-12	6.39E-12
Gd-153	4.58E-15	--	--	--	--	--
H-3	2.50E+03	9.03E+00	7.10E-06	9.56E-22	--	--
Ho-166m	1.64E-06	1.55E-06	1.34E-06	9.20E-07	9.12E-08	5.08E-09
I-129	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.25E-01	7.24E-01
In-115	1.51E-16	1.51E-16	1.51E-16	1.51E-16	1.51E-16	1.51E-16
Ir-194	1.82E-03	1.74E-08	4.94E-21	--	--	--
K-42	7.08E-02	8.61E-03	4.43E-05	4.98E-11	--	--
Kr-85	1.47E+02	2.29E-01	2.18E-08	1.22E-26	--	--
La-137	4.27E-07	4.26E-07	4.25E-07	4.22E-07	4.03E-07	3.80E-07
Mn-54	3.71E-10	--	--	--	--	--
Mo-93	3.74E-01	3.67E-01	3.49E-01	3.07E-01	1.39E-01	5.16E-02
Na-22	4.09E-05	1.10E-16	--	--	--	--
Nb-91	7.95E-02	7.18E-02	5.56E-02	2.87E-02	4.86E-04	2.97E-06
Nb-92	6.00E-08	6.00E-08	6.00E-08	6.00E-08	6.00E-08	6.00E-08
Nb-93m	2.60E+00	5.32E-01	4.89E-01	4.54E-01	3.15E-01	2.43E-01
Nb-94	3.90E+00	3.89E+00	3.85E+00	3.77E+00	3.29E+00	2.77E+00

Table 5-4. RH Radionuclide Activities (Ci) Decayed thru Specified Years (Continued)

Radionuclide	2050	2150	2400	3050	7050	12050
Nd-144	4.28E-12	4.28E-12	4.28E-12	4.28E-12	4.28E-12	4.28E-12
Ni-59	3.44E+00	3.43E+00	3.43E+00	3.40E+00	3.28E+00	3.13E+00
Ni-63	4.43E+02	2.22E+02	3.92E+01	4.35E-01	4.07E-13	3.73E-28
Np-235	1.06E-08	--	--	--	--	--
Np-237	7.64E+00	8.04E+00	8.80E+00	9.80E+00	1.03E+01	1.03E+01
Np-238	1.20E-02	7.34E-03	2.15E-03	8.79E-05	2.54E-13	5.36E-24
Np-239	4.35E+02	4.30E+02	4.20E+02	3.96E+02	2.72E+02	1.70E+02
Np-240	1.05E-04	1.05E-04	1.05E-04	1.05E-04	1.06E-04	1.06E-04
Np-240m	8.78E-02	8.78E-02	8.79E-02	8.79E-02	8.79E-02	8.80E-02
Os-194	1.82E-03	1.74E-08	4.94E-21	--	--	--
Pa-231	6.31E+00	6.31E+00	6.28E+00	6.22E+00	5.88E+00	5.49E+00
Pa-233	7.64E+00	8.04E+00	8.80E+00	9.80E+00	1.03E+01	1.03E+01
Pa-234	4.35E-03	4.35E-03	4.35E-03	4.35E-03	4.35E-03	4.35E-03
Pa-234m	3.35E+00	3.35E+00	3.35E+00	3.35E+00	3.35E+00	3.35E+00
Pb-209	1.44E-01	3.67E-01	9.14E-01	2.28E+00	9.11E+00	1.48E+01
Pb-210	2.36E+01	2.70E+01	2.49E+01	2.05E+01	9.88E+00	8.51E+00
Pb-211	4.78E+00	6.24E+00	6.29E+00	6.23E+00	5.89E+00	5.50E+00
Pb-212	8.32E+00	3.08E+00	2.65E-01	7.85E-03	7.45E-03	7.45E-03
Pb-214	2.78E+01	2.70E+01	2.49E+01	2.05E+01	9.88E+00	8.51E+00
Pd-107	1.08E-02	1.08E-02	1.08E-02	1.08E-02	1.08E-02	1.08E-02
Pm-145	9.88E-01	1.97E-02	1.10E-06	9.71E-18	--	--
Pm-146	8.01E-02	2.88E-07	7.07E-21	--	--	--
Pm-147	1.52E-01	5.08E-13	--	--	--	--
Po-210	2.36E+01	2.70E+01	2.49E+01	2.05E+01	9.88E+00	8.51E+00
Po-211	1.32E-02	1.72E-02	1.73E-02	1.71E-02	1.62E-02	1.51E-02
Po-212	5.33E+00	1.98E+00	1.69E-01	5.03E-03	4.77E-03	4.77E-03
Po-213	1.41E-01	3.59E-01	8.95E-01	2.23E+00	8.92E+00	1.45E+01
Po-214	2.78E+01	2.70E+01	2.49E+01	2.05E+01	9.88E+00	8.51E+00
Po-215	4.78E+00	6.24E+00	6.29E+00	6.23E+00	5.89E+00	5.50E+00
Po-216	8.32E+00	3.08E+00	2.65E-01	7.85E-03	7.45E-03	7.45E-03
Po-218	2.78E+01	2.70E+01	2.49E+01	2.06E+01	9.88E+00	8.52E+00
Pr-144	1.96E-09	--	--	--	--	--
Pr-144m	2.74E-11	--	--	--	--	--
Pu-236	1.58E-03	6.59E-14	--	--	--	--
Pu-238	2.87E+04	1.30E+04	1.80E+03	1.06E+01	1.24E-10	2.62E-21
Pu-239	4.35E+03	4.34E+03	4.31E+03	4.24E+03	3.82E+03	3.33E+03
Pu-240	3.49E+03	3.50E+03	3.41E+03	3.19E+03	2.09E+03	1.23E+03
Pu-241	1.92E+04	1.63E+02	1.03E+01	1.07E+01	8.03E+00	5.34E+00
Pu-242	1.57E+01	1.58E+01	1.60E+01	1.66E+01	1.89E+01	2.03E+01
Pu-243	1.26E-01	1.26E-01	1.26E-01	1.26E-01	1.27E-01	1.27E-01
Pu-244	8.80E-02	8.80E-02	8.80E-02	8.80E-02	8.80E-02	8.81E-02
Pu-246	1.06E-07	1.06E-07	1.05E-07	1.02E-07	8.72E-08	7.15E-08
Ra-223	4.78E+00	6.24E+00	6.29E+00	6.23E+00	5.89E+00	5.50E+00
Ra-224	8.32E+00	3.08E+00	2.65E-01	7.85E-03	7.45E-03	7.45E-03
Ra-225	1.44E-01	3.67E-01	9.14E-01	2.28E+00	9.12E+00	1.48E+01
Ra-226	2.78E+01	2.70E+01	2.49E+01	2.06E+01	9.88E+00	8.52E+00
Ra-228	1.13E-02	7.45E-03	7.45E-03	7.45E-03	7.45E-03	7.45E-03
Rb-87	1.14E-06	1.14E-06	1.14E-06	1.14E-06	1.14E-06	1.14E-06

Table 5-4. RH Radionuclide Activities (Ci) Decayed thru Specified Years (Continued)

Radionuclide	2050	2150	2400	3050	7050	12050
Rh-102	4.76E-17	--	--	--	--	--
Rh-106	3.14E-07	--	--	--	--	--
Rn-219	4.78E+00	6.24E+00	6.29E+00	6.23E+00	5.89E+00	5.50E+00
Rn-220	8.32E+00	3.08E+00	2.65E-01	7.85E-03	7.45E-03	7.45E-03
Rn-222	2.78E+01	2.70E+01	2.49E+01	2.06E+01	9.88E+00	8.52E+00
Ru-106	3.14E-07	--	--	--	--	--
Sb-125	1.88E-01	1.77E-12	--	--	--	--
Sb-126	7.93E-03	7.92E-03	7.91E-03	7.88E-03	7.66E-03	7.40E-03
Sb-126m	1.14E-01	1.14E-01	1.14E-01	1.14E-01	1.10E-01	1.07E-01
Se-79	1.47E-01	1.47E-01	1.47E-01	1.47E-01	1.45E-01	1.44E-01
Sm-145	8.23E-11	--	--	--	--	--
Sm-146	7.93E-08	8.07E-08	8.07E-08	8.07E-08	8.07E-08	8.07E-08
Sm-147	5.49E-08	5.49E-08	5.49E-08	5.49E-08	5.49E-08	5.49E-08
Sm-148	2.99E-15	2.99E-15	2.99E-15	2.99E-15	2.99E-15	2.99E-15
Sm-151	9.18E+01	4.25E+01	6.20E+00	4.15E-02	1.72E-15	3.24E-32
Sn-119m	6.15E-12	--	--	--	--	--
Sn-121	2.40E+00	6.82E-01	2.92E-02	8.10E-06	--	--
Sn-121m	3.10E+00	8.79E-01	3.76E-02	1.04E-05	--	--
Sn-126	1.14E-01	1.14E-01	1.14E-01	1.14E-01	1.10E-01	1.07E-01
Sr-90	1.06E+05	9.00E+03	1.91E+01	2.13E-06	--	--
Tb-157	1.94E-01	1.22E-01	3.86E-02	1.91E-03	1.79E-11	1.66E-21
Tc-97	1.57E-06	1.57E-06	1.57E-06	1.57E-06	1.57E-06	1.56E-06
Tc-98	5.16E-07	5.16E-07	5.16E-07	5.16E-07	5.15E-07	5.15E-07
Tc-99	1.75E+02	1.75E+02	1.75E+02	1.75E+02	1.72E+02	1.69E+02
Te-123	3.87E-14	3.87E-14	3.87E-14	3.87E-14	3.87E-14	3.87E-14
Te-125m	4.60E-02	4.31E-13	--	--	--	--
Th-227	4.72E+00	6.16E+00	6.20E+00	6.14E+00	5.80E+00	5.42E+00
Th-228	8.32E+00	3.08E+00	2.65E-01	7.85E-03	7.45E-03	7.45E-03
Th-229	1.44E-01	3.67E-01	9.14E-01	2.28E+00	9.12E+00	1.48E+01
Th-230	7.02E+00	7.03E+00	7.07E+00	7.18E+00	7.82E+00	8.59E+00
Th-231	1.99E+00	1.99E+00	1.99E+00	1.99E+00	2.01E+00	2.03E+00
Th-232	7.45E-03	7.45E-03	7.45E-03	7.45E-03	7.45E-03	7.45E-03
Th-234	3.35E+00	3.35E+00	3.35E+00	3.35E+00	3.35E+00	3.35E+00
Tl-206	3.11E-05	3.57E-05	3.29E-05	2.71E-05	1.30E-05	1.12E-05
Tl-207	4.77E+00	6.23E+00	6.27E+00	6.21E+00	5.87E+00	5.48E+00
Tl-208	2.99E+00	1.11E+00	9.51E-02	2.82E-03	2.68E-03	2.68E-03
Tl-209	3.03E-03	7.70E-03	1.92E-02	4.79E-02	1.91E-01	3.10E-01
Tm-171	2.59E-05	5.45E-21	--	--	--	--
U-232	8.08E+00	2.99E+00	2.50E-01	3.93E-04	2.21E-21	--
U-233	2.55E+01	2.55E+01	2.55E+01	2.55E+01	2.52E+01	2.49E+01
U-234	1.50E+01	2.06E+01	2.46E+01	2.52E+01	2.50E+01	2.47E+01
U-235	1.99E+00	1.99E+00	1.99E+00	1.99E+00	2.01E+00	2.03E+00
U-236	2.33E-01	2.43E-01	2.68E-01	3.32E-01	6.39E-01	8.79E-01
U-237	4.59E-01	3.89E-03	2.46E-04	2.56E-04	1.92E-04	1.28E-04
U-238	3.35E+00	3.35E+00	3.35E+00	3.35E+00	3.35E+00	3.35E+00
U-240	8.78E-02	8.78E-02	8.79E-02	8.79E-02	8.79E-02	8.80E-02
V-49	8.90E-10	--	--	--	--	--
Y-90	1.06E+05	9.00E+03	1.91E+01	2.13E-06	--	--

Table 5-4. RH Radionuclide Activities (Ci) Decayed thru Specified Years (Continued)

Radionuclide	2050	2150	2400	3050	7050	12050
Zn-65	1.41E-14	--	--	--	--	--
Zr-93	2.01E-01	2.01E-01	2.01E-01	2.01E-01	2.01E-01	2.00E-01
Grand Total	**5.65E+05**	**7.90E+04**	**1.93E+04**	**1.20E+04**	**7.23E+03**	**5.57E+03**

5.2 Waste, Packaging, Emplacement, and Operational Materials

SNL WIPP Inventory Needs Letter Request #'s 3 & 4

3. *Total inventory (scaled to a full repository) of all nonradiological waste material parameters reported in masses (in kg) for both CH- and RH-TRU waste. Nonradiological waste material parameters include: cellulosic, plastic and rubber (CPR) materials; iron-based metal/alloys; aluminum-based metal/alloys; other metals; solidified inorganic materials; solidified organic materials; vitrified materials; cements; soils; and other inorganic materials. These components may affect actinide solubility or gas generation rates.*

   Include only Portland cement (and concrete or other cements containing CaO or $Ca(OH)_2$) in the inventory of cement. Specify whether the partial mass density of cement is based on unreacted (dry) cement, reacted (hydrated) cement, or a combination. Do not include Portland cement under other waste material parameters.

4. *Total inventory (scaled to a full repository) of steel, lead, CPR and any other materials used to facilitate packaging of waste in the WIPP, reported as masses (in kg) for both CH- and RH-TRU waste. These materials may affect gas generation rates.*

Table 5-5. Waste and Packaging Materials

Waste Materials	CH Mass (kg)	RH Mass (kg)
Iron-based Metal/Alloys	2.12E+07	9.20E+05
Aluminum-based Metal/Alloys	2.74E+05	5.32E+04
Other Metal/Alloys	1.37E+06	1.04E+05
Other Inorganic Materials	1.23E+07	3.92E+06
Cellulose	4.44E+06	1.32E+05
Rubber	9.92E+05	3.79E+04
Plastic	5.76E+06	3.36E+05
Cement*	2.25E+06	2.08E+03
Solidified Inorganic Material	1.27E+07	2.77E+04
Solidified Organic Material	4.87E+06	4.94E+03
Soil	1.04E+07	1.26E+04
Vitrified	--	--
Packaging Materials		
Cellulose	1.21E+07	--
Plastic	7.55E+06	4.80E+05
Rubber	1.43E+05	5.77E+03
Steel	7.27E+07	1.67E+07
Lead	--	1.41E+07
Grand Total	**1.69E+08**	**3.68E+07**

** The Cement totals here reflect only those reported by the TRU waste sites. The emplaced portion is accounted for in the Solidified Inorganic Material, Solidified Organic Material, and Other Inorganic Materials categories. For an estimate of total cements, see Table 5-6 below.*

Table 5-6. Cements

Type	CH Mass (kg)	RH Mass (kg)
Reacted Only	3.06E+06	3.35E+03
Unreacted Only	7.38E+03	--
Combination Reacted / Unreacted	6.55E+06	1.47E+02
Grand Total	**9.62E+06**	**3.50E+03**

NOTE: These estimates taken from LANL 2019b. For more information, see section 4.3. These values account for the emplaced amounts and the estimated amounts reported by the sites.

SNL WIPP Inventory Needs Letter Request #5

5. *Total inventory (scaled to a full repository) of any non-containerized CPR materials and other biodegradable materials that will be disposed of in WIPP, reported as masses (in kg). This includes any CPR*

materials used in general WIPP operations or to directly facilitate emplacement of waste and [magnesium oxide] MgO in the WIPP. These materials may affect gas generation rates.

Table 5-7. Emplacement and Operational Materials

Material	Emplacement Material Mass (kg)	Operational Material Mass (kg)	Total Mass (kg)
Cellulose	3.21E+05	4.50E+01	3.21E+05
Plastic	3.31E+06	4.89E+03	3.31E+06
Rubber	--	4.79E+03	4.79E+03
Grand Total	**3.63E+06**	**9.72E+03**	**3.64E+06**

NOTE: These estimates taken from LANL 2019c. For more information, see section 4.3.

5.3 Other Chemical Constituents

SNL WIPP Inventory Needs Letter Request #6

6. *Total inventory (scaled to a full repository) of organic ligands (acetic acid, sodium acetate, citric acid, sodium citrate, oxalic acid, sodium oxalate and sodium [ethylenediaminetetraacetic acid] EDTA) and oxyanions (sulfates, nitrates and phosphates), reported as masses (in kg). These components may affect actinide solubility or gas generation rates.*

Table 5-8. Oxyanions

Oxyanion	Total Mass (kg)
Nitrate	1.82E+06
Phosphate	2.66E+05
Sulfate	5.05E+05
Grand Total	**2.59E+06**

NOTE: These estimates taken from LANL 2019b. For more information, see section 4.3.

Table 5-9. Organic Ligands

Organic Ligand	Total Mass (kg)
Acetate	1.31E+04
Acetic Acid	1.56E+04
Citrate	2.65E+03
Citric Acid	5.26E+03
EDTA	4.20E+02
Oxalate	7.15E+02
Oxalic Acid	1.79E+04
Grand Total	**5.56E+04**

NOTE: These estimates taken from LANL 2019b. For more information, see section 4.3.

6.0 ATTACHMENTS

Attachment 1: SNL WIPP Inventory Needs Letter (10/16/2019)

ATTACHMENT 1. SNL WIPP INVENTORY NEEDS LETTER (10/16/2019)

Sandia National Laboratories
Operated for the U.S. Department of Energy by
Sandia Corporation

Todd R. Zeitler
Principal Member of Technical Staff
PO Box 5800, MS0750
Albuquerque, NM 87185

Phone: (505) 284-9519
Internet: tzeitle@sandia.gov

October 16, 2019

Bill McInroy
Los Alamos National Laboratory
Carlsbad Office
115 N Main St.
Carlsbad, NM 88220

Subject: Sandia's WIPP Inventory Needs for the Additional Panels NEPA Performance Assessment

This letter details Sandia's WIPP inventory data needs for the Additional Panel NEPA Performance Assessment. The data needs are largely the same as Zeitler (2018). The inventory needs to report waste volume using the new LWA volume methodology, waste that is emplaced, stored at WCS and is identified in the ATWIR-2019 as WIPP-bound. This inventory should include all WIPP-bound waste to the year 2050 and also contain the surplus Pu from SRS (6 MT and 42.2 MT).

In order to conduct performance assessments of the WIPP that account for revisions to the inventory and account for both currently emplaced waste and to-be-emplaced waste (WIPP-bound), we will need an update to the following:

1. Waste stream volumes (in m^3) and inventory of radionuclides on a waste stream basis for both CH- and RH-TRU waste, supplied in Curies and decayed to the year 2050, for the following radionuclides (scaled to a full repository):

   ^{241}Am, ^{243}Am, ^{244}Cm, ^{137}Cs, ^{237}Np, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{241}Pu, ^{242}Pu, ^{244}Pu, ^{90}Sr, ^{229}Th, ^{230}Th, ^{232}Th, ^{233}U, ^{234}U, ^{235}U, ^{236}U, and ^{238}U.

2. Total CH- and RH-TRU inventories of all radionuclides (scaled to a full repository), supplied in Curies and decayed through the years: 2050, 2150, 2400, 3050, 7050, and 12050.

3. Total inventory (scaled to a full repository) of all nonradiological waste material parameters reported as masses (in kg) for both CH- and RH-TRU waste. Nonradiological waste material parameters include: cellulosic, plastic and rubber (CPR) materials; iron-based metal/alloys; aluminum-based metal/alloys; other metals; solidified inorganic materials; solidified organic materials; vitrified materials; cements; soils; and other inorganic materials. These components may affect actinide solubility or gas generation rates.

Include only Portland cement (and concrete or other cements containing CaO or $Ca(OH)_2$) in the inventory of cement. Specify whether the partial mass density of cement is based on unreacted (dry) cement, reacted (hydrated) cement, or a combination. Do not include Portland cement under other waste material parameters.

4. Total inventory (scaled to a full repository) of steel, lead, CPR and any other materials used to facilitate packaging of waste in the WIPP, reported as masses (in kg) for both CH- and RH-TRU waste. These materials may affect gas generation rates.

5. Total inventory (scaled to a full repository) of any non-containerized CPR materials and other biodegradable materials that will be disposed of in WIPP, reported as masses (in kg). This includes any CPR materials used in general WIPP operations or to directly facilitate emplacement of waste and MgO in the WIPP. These materials may affect gas generation rates.

6. Total inventory (scaled to a full repository) of organic ligands (acetic acid, sodium acetate, citric acid, sodium citrate, oxalic acid, sodium oxalate and sodium EDTA) and oxyanions (sulfates, nitrates and phosphates), reported as masses (in kg). These components may affect actinide solubility or gas generation rates.

In order for the update to be incorporated into performance assessment calculations, the data must be collected and analyzed in accordance with a Quality Assurance program approved by the Carlsbad Field Office.

Sincerely,

Todd R. Zeitler

References:
Zeitler, T.R. 2018. "Sandia's WIPP Inventory Data Needs for Performance Assessment" Correspondence. October, 2018. Carlsbad, NM: Sandia National Laboratories.

CC:

George Basabilvazo, DOE
Russ Patterson, DOE
Greg Van Soest, LANL
Paul Shoemaker, SNL
Department 8881 Day File