LOS ALAMOS NATIONAL LABORATORY
CARLSBAD OPERATIONS

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PERFORMANCE ASSESSMENT INVENTORY REPORT - 2012

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History of Revision

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0	11-29-12	All	Original release.

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1.0 PURPOSE

This *Performance Assessment Inventory Report - 2012* (PAIR-2012; hereafter referred to as "this report") has been prepared by the Los Alamos National Laboratory - Carlsbad Operations (LANL-CO) as requested by Russ Patterson, U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) Compliance Certification Manager (Patterson 2012). The inventory information provided in this report will be used by the Sandia National Laboratories - Carlsbad (SNL-C) to perform a comparison analysis of the effects of the latest available inventory information on performance assessment (PA) in support of the Waste Isolation Pilot Plant (WIPP) third Compliance Recertification Application (CRA-2014). This report documents the transuranic (TRU) waste inventory data needs that were requested by SNL-C in a letter dated June 5, 2009, from Sean Dunagan to Russ Patterson of CBFO (SNL 2009). This letter (hereafter referred to as the "SNL WIPP Inventory Data Needs Letter") is provided as Attachment 1 to this report.

2.0 SCOPE

The information provided in this report is based on the annual inventory collected from the TRU waste sites and documented in the *Annual Transuranic Waste Inventory Report - 2012* (ATWIR-2012; DOE 2012). The ATWIR-2012 contains an inventory of defense-related TRU waste information as of December 31, 2011, and segregates the waste streams into the following categories:

- *Emplaced* (already emplaced in the WIPP),
- *WIPP-bound* (likely to be shipped to WIPP), and
- *Potential* (potential future WIPP waste).

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

3.0 REFERENCES, ACRONYMS, AND DEFINITIONS

3.1 References

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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 (EPA), Washington, D.C.

LANL 2009. *Performance Assessment Inventory Report – 2008*. LANL-CO. INV-PA-08, Revision 0, April 23, 2009. LANL-CO Record ID# INV-0904-03-01-01.

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LANL 2012b. *Chemical and Cement Components 2011 Inventory Estimates*. LANL-CO. INV-SAR-28, Revision 0, November 1, 2012. LANL-CO Record ID# INV-1211-01-01-01.

LANL 2012c. *Estimation of Cellulose, Plastic, and Rubber Emplacement Materials in the Waste Isolation Pilot Plant (WIPP)*. LANL-CO. INV-SAR-27, Revision 0, November 5, 2012. LANL-CO Record ID# INV-1211-02-01-01.

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.

Patterson 2012. *Email from Russ Patterson (CBFO) to Bill McInroy (LANL-CO) requesting a PA Inventory Report based on the 2012 Inventory Report*. August 22, 2012. LANL-CO Record ID# INV-1210-01-01-01.

SNL 2009. *Sandia's WIPP Inventory Data Needs for Performance Assessment, Rev. 2.*, letter dated June 5, 2009 from Sean Dunagan (SNL-C) to Russ Patterson (DOE-CBFO). LANL-CO Record ID# INV-0907-03-01-01.

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
CBFO	Carlsbad Field Office
CCA	Compliance Certification Application
CFR	Code of Federal Regulations
CH	contact-handled
CID	Comprehensive Inventory Database
CRA	Compliance Recertification Application
DOE	[United States] Department of Energy
EPA	[United States] Environmental Protection Agency
LANL-CO	Los Alamos National Laboratory – Carlsbad Operations
ORIGEN-S	Oak Ridge Isotope Generation and Depletion Code (a module of SCALE version 6)
PA	performance assessment
PAIR	Performance Assessment Inventory Report
QA	Quality Assurance

QAPD	[WIPP] Quality Assurance Program Document
RH	remote-handled
SCALE	Standardized Computer Analysis for Licensing Evaluation
SNL-C	Sandia National Laboratories - Carlsbad
TRU	transuranic
WIPP	Waste Isolation Pilot Plant
WDS	[WIPP] Waste Data System

3.3 Definitions

emplaced	Already shipped and emplaced at the WIPP.
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 DOE TRU waste complex. The data are compiled in the Comprehensive Inventory Database (CID; LANL 2012a), which is software developed and qualified under the LANL-CO Quality Assurance (QA) program in accordance with the WIPP *Quality Assurance Program Document* (QAPD; DOE 2010). Additionally, the CID facilitates the decay and buildup correction of radionuclide activities by using Oak Ridge Isotope Generation and Depletion (ORIGEN-S) module of *Standardized Computer Analysis for Licensing Evaluation* (SCALE) Version 6 (ORNL 2009), acquired software also qualified under the LANL-CO QA program in accordance with the QAPD.

All inventory data are then reported from the CID and included in the ATWIR for that year.

The data provided in this report are based upon the ATWIR-2012 (DOE 2012) and CID data version D.11.00 (LANL 2012a), which report the TRU waste inventory as of December 31, 2011. Additionally, supplemental analyses were performed in order to completely satisfy the SNL WIPP Inventory Data 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 ATWIR-2012 is less than the legislated volume capacity for WIPP.

Since each of the requests included in the SNL WIPP Inventory Data 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 proper 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 in WIPP) waste are fixed, known portions of the inventory that would be left intact. This methodology is consistent with scaling previously performed for the initial WIPP Compliance Certification Application (DOE 1996; CCA) and CRA’s 2004 (DOE 2004) and 2009 (DOE 2009).

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 both CH-TRU and RH-TRU separately) by which the respective projected volume totals are multiplied in order 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	2.66
RH-TRU	3.67

4.3 Supplemental Analyses

Two additional analyses were performed to supplement the inventory information that the CID could not readily provide. They are: *Estimation of Cellulose, Plastic, and Rubber Emplacement Materials in the Waste Isolation Pilot Plant (WIPP)* (LANL 2012c) and *Chemical and Cement Components 2011 Inventory Estimates* (LANL 2012b).

The *Estimation of Cellulose, Plastic, and Rubber Emplacement Materials in the WIPP* (LANL 2012c) analysis was performed in order to estimate the amount of emplacement materials (not associated with container packages themselves) 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.

The *Chemical and Cement Components 2011 Inventory Estimates* (LANL 2012b) analysis was performed in order to determine the total amount of oxyanions, complexing agents (a.k.a. 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. They are not available from the WDS, which would represent the already-emplaced portion. Therefore, an analysis was warranted in order to account for those constituents 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.

5.0 RESULTS

5.1 Radionuclides & Volumes

SNL WIPP Inventory Data 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 2033, 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 2033

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	187.92	1.11E+01	2.74E+00	2.57E+02	4.68E+00	1.09E-01	3.34E+00	2.65E+01	1.93E+01	1.64E+01	1.74E-02	8.65E-06	3.90E+00	1.43E-05	8.89E-03	9.93E-06	6.93E-03	1.49E-02	2.03E-04	3.45E-05	1.33E-03
AE	AE-T003	3.12	1.27E+00	3.41E-02	4.38E-03	1.73E-01	1.86E-03	2.67E+00	1.59E+00	1.47E+00	4.92E+00	1.36E-02	1.36E-07	1.18E-01	2.43E-07	1.03E-04	1.14E-06	1.20E-04	2.71E-04	3.78E-06	3.61E-06	9.04E-05
AE	WP-AECHDM	102.33	5.42E+01	1.88E+00	4.30E-02	9.74E-01	1.23E-01	5.20E+01	8.54E+01	6.45E+01	2.56E+01	2.62E-02	5.89E-16	9.71E-01	8.62E-03	2.23E-05	4.24E-14	4.20E-02	8.33E-02	1.50E-03	5.73E-05	4.41E-02
AE	WP-AECHHM	13.95	1.41E+01	5.13E-03	--	7.63E-04	1.83E-03	3.62E+00	4.13E+01	1.64E+01	2.96E-10	2.02E-03	--	7.62E-04	3.21E-04	1.52E-06	1.08E-14	2.30E-07	5.67E-03	1.07E-04	1.46E-05	2.69E-03
AE	WP-MU-W002	4.50	6.72E+00	1.14E-03	--	9.17E-07	3.91E-03	--	2.27E-02	--	--	--	--	9.15E-07	1.09E-03	2.02E-13	--	5.05E-07	1.46E-09	6.70E-10	--	1.73E-05
AW	AW-5649N	0.21	8.45E-04	--	--	--	5.37E-09	5.98E-06	2.45E-03	1.22E-03	6.31E-03	--	--	--	1.76E-16	5.54E-14	5.56E-19	2.58E-13	4.67E-10	6.03E-11	9.02E-10	--
AW	AW-N027.531	13.62	2.33E+00	1.57E-14	1.53E-09	3.64E-02	3.96E-03	2.88E-01	5.92E+00	2.59E+00	4.58E+00	7.17E-04	--	7.10E-02	4.37E-10	7.09E-06	7.68E-09	4.13E-07	1.32E-02	4.44E-04	4.95E-05	4.27E-06
AW	AW-T033.1325	75.67	2.52E+02	3.09E-01	9.50E-01	1.04E-02	1.37E-01	1.97E+00	5.16E+01	1.27E+01	9.02E+02	2.28E-03	--	3.15E-02	1.50E-08	1.20E-05	6.57E-10	1.42E-05	2.26E-02	6.05E-04	1.35E-04	4.51E-05
IN	IN-AECHDM-PK	0.21	6.75E+00	1.28E-04	--	9.08E-03	4.45E-04	1.31E-01	1.93E+00	6.96E-01	2.08E+00	5.14E-05	--	8.78E-03	3.80E-11	3.84E-08	2.46E-16	4.01E-08	1.94E-04	4.26E-06	4.54E-07	9.68E-04
IN	IN-BN004	548.10	2.91E+02	--	--	4.01E-06	1.26E-02	2.04E+01	6.32E+02	1.42E+02	3.18E+02	1.51E-02	--	4.25E-06	1.23E-09	1.56E-06	5.98E-14	1.20E-06	7.83E-03	9.66E-04	1.01E-04	5.18E-02
IN	IN-BN050	0.21	--	--	--	--	6.92E-05	--	2.49E-02	--	--	--	--	--	2.55E-11	--	--	1.32E-08	--	1.08E-09	--	--
IN	IN-BN090	544.32	2.58E+00	--	--	7.96E-06	5.31E-05	3.97E-01	8.52E+00	1.95E+00	3.80E+00	1.67E-04	--	8.44E-06	4.42E-12	1.49E-07	8.21E-16	4.51E-09	6.88E-04	1.62E-04	1.39E-06	2.41E-03
IN	IN-BN095	236.25	1.08E+00	--	--	2.55E-06	9.19E-06	1.75E-02	7.29E-01	1.62E-01	4.90E-01	2.11E-05	--	2.70E-06	3.95E-13	1.49E-07	8.00E-17	5.18E-10	6.23E-04	1.54E-04	1.25E-07	2.30E-03
IN	IN-BN203	72.00	8.20E+00	--	--	7.89E-07	2.76E-04	8.77E-01	1.73E+01	4.18E+00	1.18E+01	4.84E-04	--	8.38E-07	2.39E-11	3.07E-07	1.62E-15	2.46E-08	1.48E-03	4.42E-04	2.85E-06	7.50E-04
IN	IN-BN204	3.78	2.85E-01	--	--	1.88E-07	2.73E-05	4.35E+00	3.59E-01	1.01E-01	2.57E-01	6.90E-05	--	1.99E-07	3.09E-12	4.33E-08	4.61E-17	2.85E-09	3.53E-04	4.00E-06	7.46E-08	2.68E-13
IN	IN-BN222	207.90	1.89E+02	--	--	3.60E-07	5.08E-02	2.73E+01	8.35E+02	1.90E+02	4.76E+02	1.47E-02	--	3.81E-07	5.98E-09	2.82E-07	8.67E-14	5.45E-06	2.26E-03	5.45E-05	1.40E-04	4.03E-05
IN	IN-BN290	4.50	1.76E+00	--	--	--	2.94E-05	3.02E-01	8.63E+00	1.91E+00	2.92E+00	1.42E-04	--	--	2.11E-12	2.34E-09	7.39E-16	2.29E-09	2.15E-05	1.96E-07	1.30E-06	5.07E-13
IN	IN-BN311	36.00	7.80E+01	--	--	--	1.35E-03	1.87E+01	3.77E+02	8.84E+01	1.51E+02	6.93E-03	--	--	1.55E-10	2.75E-07	6.22E-14	1.31E-07	1.86E-03	1.15E-05	8.12E-05	3.33E-11
IN	IN-BN375	9.45	3.35E+00	--	--	6.20E-08	6.36E-05	1.85E-01	5.96E+00	1.39E+00	2.53E+00	1.27E-04	--	6.76E-08	6.13E-12	2.30E-09	7.44E-16	5.73E-09	1.68E-05	5.25E-07	1.12E-06	5.30E-13
IN	IN-BN409	40.50	2.45E+02	--	--	3.95E-06	3.80E-03	1.04E+01	2.53E+02	5.83E+01	1.27E+02	8.09E-03	--	4.19E-06	2.97E-10	9.62E-08	2.66E-14	3.05E-07	8.09E-04	6.75E-06	4.32E-05	3.14E-11
IN	IN-BN421	72.00	3.13E+02	--	--	2.87E-06	6.38E-03	6.00E+01	1.13E+03	2.60E+02	4.70E+02	2.34E-02	--	3.05E-06	6.77E-10	7.32E-07	1.49E-13	6.06E-07	5.40E-03	5.54E-05	2.16E-04	3.02E-05
IN	IN-BN425	4.50	1.50E-03	--	--	--	8.72E-09	6.04E-04	2.56E-02	5.68E-03	1.52E-02	7.46E-07	--	--	2.76E-16	2.44E-09	3.50E-18	4.06E-13	9.19E-06	1.25E-06	4.89E-09	8.58E-05
IN	IN-BN430	18.00	1.34E+01	--	--	1.01E-06	2.10E-04	1.64E+00	5.73E+01	1.28E+01	1.97E+01	9.55E-04	--	1.07E-06	1.57E-11	1.39E-08	5.38E-15	1.66E-08	1.22E-04	1.35E-06	9.08E-06	3.55E-12
IN	IN-BN431	3.78	2.29E+00	--	--	--	1.37E-03	3.79E-01	1.05E+01	2.42E+00	3.44E+00	1.80E-04	--	--	1.38E-10	2.94E-09	9.37E-16	1.36E-07	2.70E-05	2.38E-07	1.65E-06	6.41E-13
IN	IN-BN432	144.00	1.71E+03	--	--	3.22E-04	2.12E-02	2.05E+01	5.55E+02	1.27E+02	2.75E+02	1.10E-02	--	3.40E-04	7.96E-06	2.38E-07	6.76E-14	3.36E-03	1.80E-03	3.31E-05	1.01E-04	4.60E-11
IN	IN-BN510	57.23	1.71E+01	3.72E-06	5.25E-03	3.35E-06	7.49E-04	8.08E+00	6.41E+01	1.39E+01	3.16E+01	1.28E-03	--	5.80E-06	1.09E-06	1.55E-06	6.85E-15	4.75E-04	6.82E-03	5.76E-03	1.07E-05	1.91E-04
IN	IN-BN510.1	4773.83	5.11E+01	8.00E-08	--	2.81E-06	1.15E-03	2.34E+02	8.73E+01	1.85E+01	4.24E+01	2.02E-03	--	2.99E-06	4.96E-06	1.72E-06	6.53E-15	2.56E-03	1.62E-02	9.06E-05	1.20E-05	5.30E-04
IN	IN-BN600	402.86	3.82E+01	--	--	--	1.16E-03	8.40E+00	1.80E+02	4.11E+01	7.92E+01	3.51E-03	--	--	9.04E-11	5.93E-08	1.45E-14	9.77E-08	5.69E-04	3.90E-06	2.68E-05	1.20E-11
IN	IN-BN806	20.79	5.57E+00	--	--	1.61E-07	1.13E-04	1.15E+00	3.15E+01	7.20E+00	1.76E+01	5.19E-04	--	1.70E-07	1.21E-11	1.35E-08	4.13E-15	1.08E-08	1.01E-04	8.70E-07	5.98E-06	2.25E-12
IN	IN-BN811	3.78	3.33E-01	--	--	--	1.62E-05	6.46E+01	1.66E-01	9.89E-02	1.07E-01	1.07E-04	--	--	4.82E-12	2.06E-06	1.40E-16	2.64E-09	9.61E-03	7.21E-09	1.29E-07	2.26E-04
IN	IN-BN817	15.12	2.78E+00	--	--	--	5.88E-05	6.53E-01	1.73E+01	3.96E+00	9.32E+00	2.80E-04	--	--	6.84E-12	8.31E-09	2.44E-15	5.86E-09	6.00E-05	4.95E-07	3.40E-06	1.26E-12
IN	IN-BN823	9.45	3.72E-02	--	--	--	2.71E-01	1.11E-02	2.39E-01	5.46E-02	1.36E-01	6.00E-06	--	--	4.34E-08	1.41E-10	3.36E-17	3.41E-05	1.02E-06	6.83E-09	4.69E-08	2.70E-14
IN	IN-BN835	75.60	2.12E+00	--	--	1.21E-06	2.94E-04	1.61E+02	3.09E-01	1.96E-01	2.13E-01	2.19E-04	--	1.28E-06	3.64E-11	1.62E-06	9.70E-17	3.22E-08	1.31E-02	1.61E-07	1.51E-07	9.49E-05
IN	IN-BN836	153.09	4.45E-01	--	--	4.87E-04	1.36E-04	1.01E+01	4.38E-01	1.19E-01	2.93E-01	2.94E-05	--	5.15E-04	1.60E-11	9.65E-08	5.44E-17	1.46E-08	8.00E-04	1.62E-06	8.81E-08	6.62E-07
IN	IN-BN842	77.49	3.40E-02	--	--	--	3.29E-07	1.27E+02	8.38E+00	1.33E-02	1.46E-01	1.17E-05	--	--	2.57E-14	4.05E-06	1.88E-17	2.43E-11	1.89E-02	3.64E-07	1.73E-08	7.97E-14
IN	IN-BN976	52.92	9.91E+01	--	--	6.76E-06	1.99E-03	1.21E+01	3.78E+02	8.71E+01	1.37E+02	7.18E-03	--	7.13E-06	1.97E-10	2.75E-07	4.65E-14	1.82E-07	1.61E-03	1.13E-04	6.97E-05	2.97E-03
IN	IN-BN978	22.50	1.21E-01	--	--	--	1.01E-06	1.10E-02	4.84E-01	1.07E-01	2.39E-01	1.40E-05	--	--	4.52E-14	4.04E-08	5.72E-17	5.79E-11	1.63E-04	3.43E-05	8.58E-08	9.02E-04
IN	IN-BNINW216	6151.95	2.39E+04	5.07E-05	--	6.76E-05	4.78E-01	1.36E+02	2.10E+03	5.32E+02	2.02E+03	1.69E-01	--	7.17E-05	3.90E-08	2.85E-05	2.24E-13	4.01E-05	1.34E-01	2.54E-02	3.79E-04	7.13E-01
IN	IN-BNINW218	521.64	1.50E+01	--	--	1.14E-06	1.14E-02	5.05E+00	1.08E+01	2.28E+00	5.55E+00	3.51E-04	--	1.21E-06	1.81E-09	3.76E-05	1.40E-15	1.42E-06	1.41E-01	1.26E-02	1.96E-06	1.67E+00
IN	IN-ID-MFC-S5400	0.62	3.97E-02	--	--	4.29E-06	1.28E-06	1.33E-03	5.01E-02	1.12E-02	3.11E-02	1.75E-06	--	4.56E-06	1.01E-13	1.79E-09	3.96E-18	1.09E-10	8.88E-06	2.37E-07	7.29E-09	5.97E-15
IN	IN-ID-RF-S3114	3548.88	2.57E+01	3.13E-06	--	4.97E-06	6.01E-04	2.14E+00	8.71E+01	1.75E+01	4.89E+01	1.73E-03	--	3.67E-05	5.94E-11	5.60E-07	8.63E-15	5.59E-08	2.43E-03	7.54E-05	1.34E-05	3.28E-03
IN	IN-ID-RF-S3150-A	60.57	3.46E+01	--	--	7.50E-06	9.48E-04	4.07E+00	1.26E+02	2.67E+01	7.77E+01	2.19E-03	--	7.92E-06	1.05E-10	6.14E-07	1.42E-14	9.39E-08	2.64E-03	7.89E-05	2.13E-05	2.25E-04
IN	IN-ID-RF-S5126	39.69	1.53E+02	--	--	5.05E-06	2.97E-03	1.98E+01	7.05E+02	1.61E+02	3.52E+02	1.32E-02	--	5.33E-06	3.86E-04	2.63E-07	8.59E-14	1.63E-01	1.87E-03	2.47E-05	1.29E-04	8.78E-04
IN	IN-ID-RF-S5300-A	6694.20	5.14E+01	1.27E-08	1.63E-01	9.43E-06	3.72E-03	5.24E+00	2.09E+02	4.66E+01	8.78E+01	4.04E-03	--	9.96E-06	6.14E-04	4.07E-06	2.48E-14	2.59E-01	1.66E-02	5.16E-04	3.73E-05	7.40E-04
IN	IN-ID-SA-T001	3.74	2.53E-01	--	9.15E-03	2.50E-08	5.75E-06	5.06E+00	8.73E-01	7.64E-02	7.49E-02	2.46E-06	--	2.42E-08	4.19E-13	7.95E-08	2.70E-17	4.62E-10	5.60E-04	6.86E-06	4.98E-08	6.64E-04
IN	IN-ID-SDA-Debris	635.25	5.49E+02	--	--	3.47E-04	1.20E-02	3.85E+01	1.26E+03	2.82E+02	5.23E+02	2.91E-02	--	3.70E-04	1.43E-05	3.54E-05	4.13E-10	7.40E-03	1.76E-01	4.44E-03	1.84E-04	3.44E-01
IN	IN-ID-SDA-Sludge	2426.34	4.74E+03	--	3.72E-02	2.51E-02	1.07E-01	5.48E+01	1.51E+03	3.38E+02	9.99E+02	5.98E-02	--	2.67E-02	1.14E-04	1.77E-04	1.20E-13	5.89E-02	8.78E-01	2.31E-02	2.21E-04	3.82E+00
IN	IN-ID-SDA-Soil	476.32	4.63E+02	--	--	5.16E-03	1.02E-02	1.13E+01	3.45E+02	7.67E+01	1.80E+02	1.11E-02	--	5.49E-03	3.07E-06	3.08E-05	2.07E-07	1.59E-03	1.52E-01	2.33E-02	5.00E-05	4.69E-01
IN	IN-ID-SNL-HCF-S5400	1.04	4.34E-04	--	--	1.04E-03	3.14E-09	5.19E-06	8.37E-03	6.54E-04	--	--	--	1.00E-03	9.75E-17	4.13E-09	2.32E-19	1.51E-13	2.04E-05	6.45E-07	4.26E-10	--
IN	IN-MFC-S5490	36.00	1.52E+01	1.87E-02	5.74E-02	6.26E-04	8.27E-03	1.19E-01	3.12E+00	7.65E-01	5.46E+01	1.38E-04	--	1.90E-03	9.07E-10	7.26E-07	3.97E-11	8.58E-07	1.37E-03	3.66E-05	8.13E-06	2.73E-06
IN	IN-W170	0.42	1.99E+00	--	--	--	2.94E-05	--	8.56E+00	--	--	--	--	--	3.69E-12	--	--	2.84E-09	--	3.71E-07	--	--
IN	IN-W171	1.46	2.65E+00	2.46E-03	--	--	2.84E-05	--	7.45E+00	--	9.05E+00	--	--	--	2.60E-12	--	--	2.28E-09	--	3.23E-07	--	--
IN	IN-W259	139.50	--	--	--	--	--	--	2.90E+01	3.20E+00	--	--	--	--	--	--	4.53E-15	--	--	7.22E-03	4.17E-06	--
IN	IN-W283	24.75	3.50E+01	--	--	--	5.00E-04	4.35E+00	1.98E+02	4.47E+01	6.58E+01	3.24E-03	--	--	7.73E-11	2.80E-07	1.18E-13	5.24E-08	9.41E-04	1.17E-05	7.97E-05	3.01E-11
IN	IN-W287	87.78	6.85E-01	--	--	--	5.49E-02	--	1.80E+01	2.13E+02	2.38E+00	--	--	--	2.03E-08	1.03E-10	3.02E-13	1.05E-05	5.10E-07	1.64E-06	2.78E-04	4.12E-03
IN	IN-W323	15.12	6.49E-01	--	--	--	6.28E-06	7.67E+00	1.99E+00	--	2.78E+00	--	--	--	4.91E-13	2.44E-07	--	4.64E-10	1.14E-03	7.67E-04	--	--

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2033
(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-W337	0.21	--	--	--	--	--	--	3.04E+00	6.28E-01	--	--	--	--	--	--	8.91E-16	--	--	8.25E-05	8.20E-07	--
IN	IN-W345	7.07	3.93E+01	--	--	--	5.80E-04	8.34E+00	9.54E+00	6.05E+00	--	--	--	--	7.28E-11	2.65E-07	2.77E-04	5.61E-08	1.24E-03	1.27E-04	7.89E-06	--
IN	IN-W347	38.06	6.54E+01	--	--	1.04E-04	1.74E-03	6.59E+00	1.16E+02	3.71E+01	9.79E+01	4.11E-03	--	1.11E-04	1.55E-10	3.82E-07	1.56E-14	1.55E-07	1.97E-03	3.58E-04	2.64E-05	6.05E-03
IN	IN-W351	1.46	2.24E+00	--	--	--	3.60E-05	2.13E-01	2.42E+00	1.26E+00	4.14E+00	4.23E-04	--	--	2.72E-12	1.81E-09	5.32E-16	2.86E-09	1.59E-05	5.72E-08	8.98E-07	1.57E-12
IN	IN-W358	2.50	--	--	--	--	--	6.14E+02	3.76E+00	7.22E+00	--	--	--	--	--	1.41E-05	7.63E-15	--	7.68E-02	1.41E-07	8.13E-06	--
IN	WP-BN004	379.14	4.43E+02	--	6.19E-01	1.35E-03	1.81E-01	4.41E+01	1.31E+03	2.96E+02	6.87E+02	2.73E-02	--	2.19E-03	5.98E-04	3.46E-06	1.70E-13	2.43E-01	1.53E-02	2.60E-03	2.46E-04	3.06E-03
IN	WP-BN161	58.39	5.52E+01	--	--	--	1.05E-03	7.97E+00	2.34E+02	5.33E+01	1.05E+02	4.31E-03	--	--	1.09E-10	9.92E-08	3.06E-14	9.81E-08	7.25E-04	9.18E-06	4.42E-05	1.87E-11
IN	WP-BN211	522.34	5.35E+02	5.11E-06	--	7.47E-07	2.98E-02	7.17E+01	2.07E+03	4.76E+02	9.02E+02	3.99E-02	--	1.21E-06	7.48E-05	1.58E-06	2.73E-13	3.04E-02	9.20E-03	6.84E-04	3.95E-04	4.60E-06
IN	WP-BN222	74.06	5.46E+01	--	--	--	1.68E-01	8.16E+00	2.39E+02	5.42E+01	1.15E+02	4.29E-03	--	--	2.51E-08	1.10E-07	3.11E-14	2.04E-05	7.75E-04	1.84E-05	4.50E-05	1.86E-11
IN	WP-BN243	149.96	4.33E+01	--	4.65E-01	7.60E-08	2.99E-03	4.59E+00	1.18E+02	2.65E+01	5.37E+01	2.65E-03	--	1.23E-07	4.08E-10	2.87E-07	1.52E-14	3.40E-07	1.31E-03	2.45E-04	2.20E-05	1.15E-11
IN	WP-BN252	178.58	2.23E+02	--	--	2.39E-07	6.31E-02	3.24E+01	1.14E+03	2.44E+02	6.36E+02	2.65E-02	--	3.65E-07	9.24E-09	5.07E-07	1.40E-13	7.55E-06	3.35E-03	2.65E-04	2.02E-04	1.15E-10
IN	WP-BN296	474.54	7.22E+02	--	4.41E-01	4.99E-06	4.54E-02	6.94E+01	1.78E+03	3.95E+02	7.60E+02	4.00E-02	--	8.60E-06	1.39E-05	1.06E-06	2.26E-13	5.64E-03	7.09E-03	1.00E+00	3.28E-04	6.75E-04
IN	WP-BN304	304.51	5.74E+01	--	--	2.27E-04	2.89E-03	1.25E+04	3.04E+01	2.29E+01	7.10E+01	1.94E-02	--	4.42E-04	3.80E-10	1.48E-04	1.31E-14	3.19E-07	1.11E+00	4.40E-05	1.90E-05	2.39E-02
IN	WP-BN510	9626.84	4.05E+03	9.56E-04	1.26E+00	6.87E-04	1.77E-01	4.05E+03	1.36E+04	2.95E+03	6.91E+03	2.79E-01	--	1.18E-03	1.90E-03	2.90E-04	1.35E-12	8.66E-01	1.41E+00	1.02E+00	2.19E-03	3.98E-02
IN	WP-BN510.1	1412.06	1.33E+03	9.15E-05	2.96E-01	7.17E-04	3.49E-02	7.70E+02	3.17E+03	8.11E+02	2.47E+03	1.25E-01	--	1.24E-03	3.31E-05	8.43E-06	2.87E-13	1.71E-02	6.70E-02	2.09E-03	5.29E-04	8.92E-03
IN	WP-BN600	2.31	1.25E-02	--	--	--	7.32E-07	6.20E-03	4.71E-02	1.08E-02	2.66E-02	1.26E-06	--	--	6.83E-14	4.81E-11	4.18E-18	6.88E-11	4.41E-07	1.07E-09	7.36E-09	4.49E-15
IN	WP-BN835	1072.36	4.16E+01	--	--	5.10E-05	6.87E-03	1.43E+03	3.46E+00	2.22E+00	1.11E+01	2.25E-03	--	8.54E-05	9.88E-10	1.69E-05	1.27E-15	8.11E-07	1.27E-01	2.29E-07	1.84E-06	2.14E-04
IN	WP-BN836	1763.05	2.49E+00	--	--	2.62E-04	2.24E-03	1.47E+03	2.79E+00	1.88E+00	2.65E+00	2.16E-03	--	4.14E-04	3.10E-10	1.62E-05	1.00E-15	2.62E-07	1.25E-01	3.38E-05	1.51E-06	1.34E-05
IN	WP-BNINW216	5368.27	3.58E+04	--	--	5.05E-05	7.37E-01	2.24E+02	2.44E+03	6.36E+02	2.27E+03	3.74E-01	--	7.90E-05	1.12E-04	5.37E-05	3.39E-13	4.72E-02	2.26E-01	3.54E-02	5.09E-04	1.98E+00
IN	WP-BNINW218	515.41	4.36E+01	--	--	5.58E-06	2.62E-01	1.99E+00	4.92E+01	1.02E+01	2.79E+01	1.50E-03	--	8.75E-06	4.19E-08	1.71E-05	6.26E-15	3.29E-05	6.44E-02	5.54E-03	8.74E-06	6.13E-01
IN	WP-ID-AECHDM	5.25	8.13E+00	1.56E-04	--	1.08E-02	5.36E-04	1.66E-01	2.42E+00	8.64E-01	2.52E+00	6.36E-05	--	1.05E-02	4.58E-11	5.89E-08	3.06E-16	4.83E-08	2.96E-04	5.37E-06	5.63E-07	1.17E-03
IN	WP-ID-GEVNC-02	1.26	3.68E-02	--	--	2.55E-02	2.78E-07	3.76E-04	3.15E-03	1.46E-03	5.59E-03	8.67E-07	--	6.81E-03	4.96E-11	1.29E-09	1.15E-16	2.46E-08	6.10E-06	2.18E-07	1.02E-07	1.11E-07
IN	WP-ID-LBNL-S5400	0.21	1.04E-01	--	--	--	1.28E-03	--	--	--	--	--	--	--	1.18E-10	--	--	1.22E-07	--	--	--	--
IN	WP-ID-LL-M001-S5400	43.24	8.48E+01	2.05E-05	2.47E+00	8.49E-05	2.00E-03	9.33E+01	1.75E+02	4.39E+01	2.27E+02	6.64E-03	--	8.14E-05	4.52E-05	3.87E-06	1.70E-14	2.24E-02	2.15E-02	4.39E-04	3.00E-05	1.83E-04
IN	WP-ID-LL-T004-S3141	3.76	2.03E+01	--	--	1.11E-06	2.83E-04	2.51E-01	6.96E+00	1.69E+00	9.00E+00	2.50E-04	--	4.18E-07	1.84E-11	1.95E-09	6.53E-16	2.07E-08	1.79E-05	1.58E-07	1.15E-06	8.94E-13
IN	WP-ID-LL-W019-S3900	5.97	7.90E+00	--	--	1.49E-07	1.34E-04	5.96E-01	7.10E+00	1.99E+00	1.57E+01	3.58E-04	--	1.04E-07	2.25E-05	4.21E-08	7.69E-16	1.11E-02	2.20E-04	5.15E-06	1.35E-06	1.28E-12
IN	WP-ID-NRD.1	18.27	5.84E+02	--	--	3.35E-05	9.38E-03	--	--	6.38E-01	--	--	--	3.56E-05	6.05E-10	--	2.26E-16	6.93E-07	--	--	4.16E-07	--
IN	WP-ID-NT-RF-DECON	0.42	2.06E-01	--	--	1.51E-06	1.65E-05	6.73E-02	3.67E-01	7.43E-02	2.67E-01	2.30E-05	--	1.60E-06	1.70E-12	5.71E-10	3.13E-17	1.64E-09	5.02E-06	8.69E-09	5.29E-08	8.55E-14
IN	WP-ID-NTLBL-S3900	1.88	2.23E-01	--	--	3.98E-06	2.35E-05	8.62E-02	5.89E-01	1.36E-01	5.27E-01	4.12E-05	--	4.23E-06	2.48E-12	7.31E-10	5.74E-17	2.37E-09	6.43E-06	1.39E-08	9.69E-08	1.54E-13
IN	WP-ID-NTLBL-S5400	2.09	1.87E+00	--	--	3.59E-07	3.43E-04	2.81E-01	5.79E-02	6.05E-02	4.11E+00	2.14E-04	--	3.81E-07	3.69E-11	2.38E-09	2.55E-17	3.51E-08	2.09E-05	1.37E-09	4.31E-08	7.97E-13
IN	WP-ID-NTLLLBL-S5400	1.88	1.01E-01	2.96E-05	--	--	7.50E-07	7.05E-03	2.17E-01	4.61E-02	2.29E-01	8.66E-06	--	--	2.65E-14	5.98E-11	1.94E-17	3.82E-11	5.26E-07	5.14E-09	3.28E-08	3.23E-14
IN	WP-ID-NTLLNL-S3900	18.02	2.16E+01	--	4.37E-02	4.63E-04	6.12E-04	1.12E+00	5.47E+00	1.34E+00	4.20E+00	1.89E-04	--	4.91E-04	4.03E-05	1.09E-07	5.65E-16	1.91E-02	5.35E-04	2.06E-05	9.54E-07	5.42E-05
IN	WP-ID-NTLLNL-S5400	139.55	3.93E+01	2.66E-04	5.59E+00	5.17E-06	1.41E-03	8.65E+00	4.03E+01	1.13E+01	2.18E+02	5.04E-03	--	5.48E-06	1.01E-04	2.19E-07	4.76E-15	4.77E-02	1.30E-03	3.13E-05	8.04E-06	1.88E-11
IN	WP-ID-NTLRC-S5400	0.21	3.34E-01	--	--	--	6.91E-05	4.74E-02	1.49E+00	3.26E-01	6.24E-01	2.76E-05	--	--	7.46E-12	4.04E-08	1.37E-16	7.08E-09	1.85E-04	6.27E-06	2.32E-07	1.07E-05
IN	WP-ID-NTS-EGG-HET	0.21	1.54E-01	--	--	--	2.47E-06	5.77E-02	1.42E+00	2.79E-01	3.60E-01	4.37E-05	--	--	1.88E-13	4.90E-10	1.18E-16	1.97E-10	4.30E-06	3.36E-08	1.98E-07	1.63E-13
IN	WP-ID-NTS-ITRI-S5310	0.21	1.16E-04	--	--	--	3.23E-08	7.65E-02	9.59E-03	2.57E-04	9.11E-04	4.26E-07	--	--	3.51E-15	6.49E-10	1.08E-19	3.33E-12	5.70E-06	2.27E-10	1.83E-10	1.59E-15
IN	WP-ID-NTS-TTR-HET	0.21	4.70E-03	--	--	2.90E-07	2.78E-07	8.67E-04	7.52E-02	5.85E-03	1.31E-02	1.61E-07	--	3.08E-07	2.82E-14	7.36E-12	2.46E-18	2.72E-11	6.46E-08	1.78E-09	4.16E-09	5.98E-16
IN	WP-ID-NTVERB-S5400	3.76	7.39E+00	1.69E-04	6.57E-01	--	1.05E-04	5.51E-01	2.68E+00	1.20E+00	3.68E+01	1.75E-04	--	--	7.75E-12	4.67E-09	5.06E-16	8.20E-09	4.11E-05	6.33E-08	8.54E-07	6.52E-13
IN	WP-ID-RF-BNL-ASH	0.21	1.63E-01	--	--	--	3.20E-06	1.99E-02	7.32E-01	1.68E-01	2.97E-01	1.35E-05	--	--	3.35E-13	2.35E-10	9.61E-17	3.01E-10	1.76E-06	2.02E-08	1.39E-07	5.84E-14
IN	WP-ID-RF-S3114	1270.84	3.56E+01	4.40E-06	--	7.28E-06	1.01E-03	3.54E+00	1.18E+02	2.43E+01	6.80E+01	2.58E-03	--	5.46E-05	1.06E-10	9.06E-07	1.20E-14	9.79E-08	3.93E-03	1.07E-04	1.88E-05	5.14E-03
IN	WP-ID-RF-S3150-A	238.56	4.60E+01	--	--	1.05E-05	2.22E-03	6.38E+00	1.69E+02	3.67E+01	1.06E+02	3.12E-03	--	1.72E-05	2.73E-10	9.91E-07	1.96E-14	2.38E-07	4.25E-03	1.10E-04	2.94E-05	3.02E-04

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2033
(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-RF-S5100-A	641.62	1.69E+02	--	--	8.04E-06	2.97E-03	1.72E+01	6.32E+02	1.34E+02	2.41E+02	1.15E-02	--	1.16E-05	6.71E-06	6.84E-07	7.13E-14	2.83E-03	3.46E-03	1.05E-04	1.07E-04	4.50E-06
IN	WP-ID-RF-S5126	250.79	1.91E+02	--	--	5.36E-01	4.23E-03	2.59E+01	8.73E+02	2.03E+02	4.36E+02	1.85E-02	--	1.06E-05	5.17E-04	4.42E-06	1.08E-13	2.18E-01	1.89E-02	3.54E-05	1.62E-04	1.60E-03
IN	WP-ID-RF-S5300-A	2779.30	9.25E+01	1.71E-08	1.89E-01	1.34E-05	4.86E-03	6.71E+00	2.48E+02	5.57E+01	1.06E+02	5.39E-03	--	1.70E-05	7.06E-04	5.73E-06	2.97E-14	2.98E-01	2.34E-02	6.05E-04	4.45E-05	8.76E-04
IN	WP-ID-SA-T001	2.10	3.06E-01	--	1.20E-02	3.44E-08	6.96E-06	6.08E+00	1.04E+00	9.56E-02	9.01E-02	3.00E-06	--	3.32E-08	5.07E-13	1.10E-07	3.38E-17	5.59E-10	7.43E-04	8.06E-06	6.23E-08	7.79E-04
IN	WP-ID-SDA-DEBRIS	519.09	3.68E+02	--	--	2.30E-04	8.27E-03	2.59E+01	8.70E+02	1.94E+02	3.26E+02	2.67E-02	--	2.45E-04	1.10E-05	2.64E-05	8.18E-14	5.21E-03	1.21E-01	3.04E-03	1.38E-04	2.31E-01
IN	WP-ID-SDA-SLUDGE	5417.47	7.82E+03	--	6.00E-02	4.16E-02	1.82E-01	9.15E+01	2.54E+03	5.69E+02	1.52E+03	1.00E-01	--	3.64E+00	2.13E-04	3.05E-04	2.40E-13	1.01E-01	1.38E+00	3.63E-02	4.05E-04	5.63E+00
IN	WP-ID-SDA-SOIL	1054.05	6.71E+02	--	--	7.34E-03	1.53E-02	1.59E+01	4.99E+02	1.11E+02	2.35E+02	1.59E-02	--	7.79E-03	5.00E-06	4.78E-05	4.67E-14	2.37E-03	2.17E-01	5.61E-03	7.88E-05	6.21E-01
IN	WP-ID-SNL-HCF-S5400	0.63	5.66E-04	--	--	1.19E-03	4.11E-09	1.25E-05	1.02E-02	1.45E-03	--	--	--	1.15E-03	1.27E-16	6.36E-09	5.14E-19	1.97E-13	3.14E-05	7.77E-07	9.46E-10	--
IN	WP-ID-SNL-SOURCES-S5400	0.63	1.33E-01	4.82E-08	--	1.62E-07	2.19E-06	1.30E-03	2.12E-03	2.73E-03	4.49E-03	2.07E-06	--	--	1.43E-13	9.19E-12	9.66E-19	1.63E-10	8.83E-08	4.60E-11	1.78E-09	7.06E-15
IN	WP-INW161.001	19.32	3.13E+01	--	--	--	2.83E-04	4.29E+00	1.57E+02	3.55E+01	8.87E+01	3.52E-03	--	--	1.59E-11	1.50E-07	2.49E-14	1.81E-08	7.30E-04	9.24E-05	3.26E-05	5.56E-06
IN	WP-INW169.001	19.32	5.46E+00	--	--	--	5.07E-05	5.34E-01	1.97E+01	4.38E+00	1.24E+01	5.91E-04	--	--	2.92E-12	9.26E-08	3.08E-15	3.29E-09	3.50E-04	7.29E-05	4.03E-06	4.37E-06
IN	WP-INW198.001	49.56	7.60E+00	--	--	--	6.86E-05	9.66E-01	3.78E+01	8.42E+00	2.16E+01	8.87E-04	--	--	7.08E-07	5.45E-08	5.92E-15	2.60E-04	2.37E-04	3.68E-05	7.74E-06	5.90E-05
IN	WP-INW211.001	306.79	9.31E+02	--	--	--	8.41E-03	1.07E+02	3.64E+03	8.09E+02	2.64E+03	1.40E-01	--	--	3.53E-05	2.65E-06	5.69E-13	1.30E-02	1.44E-02	1.05E-03	7.43E-04	1.47E-03
IN	WP-INW216.001	1256.77	5.48E+04	--	--	--	5.82E-01	9.07E+01	3.26E+03	7.30E+02	2.21E+03	1.18E-01	--	--	9.42E-05	1.84E-04	5.47E-13	3.35E-02	6.31E-01	1.03E-01	6.93E-04	3.89E+00
IN	WP-INW218.001	1117.41	8.21E+02	--	--	--	8.57E-03	1.35E+01	4.97E+02	1.11E+02	3.32E+02	1.70E-02	--	--	3.13E-05	2.72E-04	8.31E-14	1.11E-02	9.26E-01	1.02E-01	1.05E-04	8.75E+00
IN	WP-INW222.001	65.73	6.59E+01	--	--	--	5.99E-04	8.03E+00	2.84E+02	6.37E+01	1.77E+02	7.40E-03	--	--	3.40E-11	3.62E-07	4.48E-14	3.84E-08	1.65E-03	1.13E-04	5.85E-05	7.02E-03
IN	WP-INW243.001	75.60	8.43E+01	--	--	--	8.22E-04	8.29E+00	2.37E+02	5.28E+01	1.56E+02	6.81E-03	--	--	6.95E-06	6.71E-07	3.96E-14	2.47E-03	2.69E-03	4.55E-04	5.01E-05	3.18E-04
IN	WP-INW247.001R1	118.02	1.07E+02	--	--	--	9.96E-04	1.97E+01	4.15E+02	9.44E+01	2.84E+02	7.92E-03	--	--	2.12E-05	3.18E-07	7.08E-14	7.54E-03	2.05E-03	1.91E-05	8.96E-05	3.93E-11
IN	WP-INW252.001	61.53	7.53E+01	--	--	--	6.48E-04	9.73E+00	3.01E+02	6.83E+01	2.87E+02	6.81E-03	--	--	3.50E-11	3.62E-07	4.80E-14	4.04E-08	1.73E-03	2.34E-04	6.28E-05	3.28E-11
IN	WP-INW276.001	10.29	7.10E+00	--	--	--	7.05E-05	1.86E+00	3.17E+01	7.23E+00	2.20E+01	6.55E-04	--	--	5.08E-12	3.79E-08	6.86E-15	5.07E-09	2.19E-04	1.39E-06	7.72E-06	3.66E-12
IN	WP-INW276.002	16.17	1.12E+01	--	--	--	1.09E-04	2.81E+00	4.77E+01	1.08E+01	3.45E+01	9.82E-04	--	--	2.24E-06	5.48E-08	9.72E-15	7.30E-04	3.23E-04	2.41E-06	1.12E-05	5.33E-12
IN	WP-INW276.003	188.37	4.23E+02	--	--	--	3.91E-03	1.04E+02	1.73E+03	3.92E+02	1.40E+03	3.66E-02	--	--	1.51E-04	1.80E-06	3.13E-13	5.21E-02	1.12E-02	9.52E-05	3.84E-04	1.12E-06
IN	WP-INW276.004	47.25	9.90E+01	--	--	--	9.33E-04	2.18E+01	3.67E+02	8.34E+01	2.92E+02	7.65E-03	--	--	1.31E-04	4.08E-07	6.65E-14	4.53E-02	2.45E-03	4.03E-05	8.16E-05	3.91E-11
IN	WP-INW296.001	98.70	1.77E+02	--	--	--	1.71E-03	2.32E+01	5.13E+02	1.16E+02	3.55E+02	1.10E-02	--	--	2.85E-05	5.63E-07	8.69E-14	1.01E-02	3.06E-03	1.68E-04	1.10E-04	3.96E-04
KN	KN-B234TRU	810.15	2.08E+03	--	--	--	2.04E-02	1.84E+02	7.04E+03	7.02E+03	2.33E+03	--	--	--	6.86E-02	3.92E+00	1.30E+00	2.52E+01	2.52E+01	4.78E+00	4.79E+00	6.17E-01
LA	LA-CIN01.001	799.85	3.77E+04	5.81E-01	--	4.78E-01	3.26E-01	2.99E+03	1.32E+04	3.52E+03	1.98E+04	4.43E+00	1.06E-06	4.59E-01	3.28E-04	1.95E-04	3.35E-03	1.40E-01	9.33E-01	1.41E-02	3.29E-03	4.54E-01
LA	LA-CIN02.001	358.72	8.75E+02	9.14E-04	--	2.39E-01	1.07E-02	1.01E+02	1.28E+03	4.25E+01	1.50E+02	7.25E-03	--	6.37E-03	6.75E-10	7.96E-06	1.85E-14	7.58E-07	3.97E-02	5.80E-03	3.07E-05	1.34E-05
LA	LA-CIN03.001	3.33	8.97E-01	--	--	1.79E-04	9.28E-06	1.87E-01	3.62E+00	7.84E-01	4.36E+00	1.07E-04	--	1.72E-04	5.95E-07	6.51E-08	3.88E-16	6.55E-10	2.80E-04	6.07E-06	6.04E-07	1.06E-04
LA	LA-LAMHD02238	0.42	1.85E-02	--	--	--	1.11E-07	1.32E+01	9.33E-03	4.69E-03	1.25E-01	3.87E-06	--	--	3.01E-15	4.50E-07	1.66E-18	4.89E-12	2.66E-03	6.74E-10	3.06E-09	1.32E-14
LA	LA-LAMHD04001	1.89	8.97E-04	--	--	3.02E-04	6.51E-09	1.71E-04	4.09E-02	--	--	--	--	4.32E-05	2.02E-16	8.92E-09	--	3.12E-13	4.41E-05	2.39E-06	--	4.62E-05
LA	LA-LAMIN04S	1.87	2.03E+01	--	--	--	1.32E-04	1.66E+00	6.71E+01	1.57E+01	8.24E+01	9.09E-04	--	--	3.80E-12	4.08E-08	5.55E-15	6.03E-09	2.56E-04	3.95E-06	1.02E-05	3.10E-12
LA	LA-LAMSG04001	34.02	1.30E-01	--	--	2.87E-02	9.46E-07	2.69E-02	5.65E+00	--	--	--	--	6.77E-03	2.93E-14	6.87E-07	--	4.54E-11	3.40E-03	3.87E-04	--	1.63E-03
LA	LA-LANHD01	2.93	6.29E+00	--	--	--	3.78E-05	1.00E+00	2.98E+01	7.47E+00	4.17E+01	5.83E-04	--	--	1.03E-12	2.53E-08	2.64E-15	1.67E-09	1.58E-04	1.73E-06	4.87E-06	1.99E-12
LA	LA-LANHD02238	0.62	9.90E-02	--	--	--	5.94E-07	7.04E+01	4.99E-02	2.51E-02	6.67E-01	2.07E-05	--	--	1.61E-14	2.41E-06	8.88E-18	2.61E-11	1.42E-02	3.60E-09	1.64E-08	7.06E-14
LA	LA-LANIN03NC	1.04	2.02E+01	--	--	--	1.39E-04	7.86E-01	3.18E+01	7.42E+00	3.90E+01	4.30E-04	--	--	4.18E-12	1.93E-08	2.63E-15	6.54E-09	1.21E-04	1.87E-06	4.84E-06	1.47E-12
LA	LA-MHD01.001	9005.91	2.31E+04	8.65E-01	7.14E+01	5.27E-01	5.40E-01	8.92E+04	4.62E+04	1.25E+04	5.65E+04	2.28E+01	7.06E-06	5.08E-01	2.35E-03	3.40E-03	6.15E-07	1.06E+00	1.86E+01	1.19E-02	9.24E-03	1.95E-01
LA	LA-MHD03.001	610.90	1.06E+02	5.92E-02	1.57E+02	3.78E+00	1.65E-01	9.46E+02	3.08E+02	8.51E+01	4.61E+02	2.45E-02	9.10E-09	3.14E+00	1.69E-06	4.75E-05	5.63E-14	1.79E-05	2.42E-01	5.24E-03	7.71E-05	1.67E-03
LA	LA-MHD04.001	1581.27	3.77E+01	2.75E-06	--	1.55E-03	7.45E-04	2.39E+03	4.70E+02	2.80E+01	1.02E+02	6.80E-04	--	1.49E-03	6.99E-11	4.07E-05	1.39E-14	6.67E-08	2.64E-01	5.54E-05	2.16E-05	2.74E-12
LA	LA-MHD05-ITRI.001	8.34	2.08E+01	2.84E-02	5.60E+00	1.27E-06	1.67E-04	3.40E+01	3.36E+00	2.93E-01	1.56E+00	3.16E-05	--	1.23E-06	6.25E-12	4.57E-07	1.08E-16	8.80E-09	3.33E-03	7.62E-08	1.93E-07	1.13E-13
LA	LA-MHD08.001	2.29	5.63E-01	8.72E-03	1.52E-05	3.35E-05	2.98E-03	8.29E-02	2.80E-01	4.40E-02	1.23E-01	1.00E-01	--	3.23E-05	3.30E-10	7.04E-10	1.10E-07	3.12E-07	6.18E-06	6.63E-09	3.13E-08	3.72E-10
LA	LA-MHD09.001	60.24	2.66E+02	8.19E-03	--	4.20E-02	7.80E-03	1.03E+02	1.62E+01	3.26E+00	1.91E+01	1.03E-03	--	5.79E-04	7.08E-10	4.96E-06	1.37E-15	7.05E-07	2.62E-02	2.62E-05	2.32E-06	5.20E-05
LA	LA-MIN02-V.001	10.21	6.04E+00	1.38E-04	--	3.10E-05	5.24E-04	3.48E+01	2.86E+01	7.21E+00	2.89E+01	6.36E-04	--	2.99E-05	5.94E-11	6.10E-07	3.29E-15	5.46E-08	3.97E-03	3.59E-05	5.34E-06	1.31E-05
LA	LA-MIN03-NC.001	74.26	3.03E+01	1.93E-04	--	4.18E-04	3.23E-04	6.96E+00	3.23E+01	1.53E+00	9.53E+00	1.10E-04	--	4.02E-04	3.30E-06	5.05E-07	1.00E-15	2.19E-08	2.38E-03	6.44E-05	1.37E-06	8.45E-05
LA	LA-MIN04-S.001	14.35	1.29E+02	2.36E-02	1.81E-01	5.75E-04	3.07E-03	1.91E+01	4.89E+02	1.23E+02	3.38E+02	1.01E-02	--	5.56E-04	2.50E-10	4.46E-07	4.77E-14	2.61E-07	2.77E-03	4.56E-05	8.40E-05	3.61E-11
LA	LA-MSG04.001	38.33	5.50E-01	--	--	7.53E-07	2.38E-05	1.76E-04	1.10E+01	1.88E-02	5.49E-02	2.99E-05	1.75E-04	4.02E-06	1.00E-08	1.05E-09	6.65E-18	5.18E-06	5.19E-06	2.37E-07	1.23E-08	1.36E-06
LA	LA-OS-00-01.001	47.22	3.57E+03	--	1.26E+03	2.34E+00	2.83E-02	6.60E+02	--	2.03E+01	--	2.49E-05	--	--	1.05E-09	5.60E-06	7.24E-15	1.48E-06	4.92E-02	--	1.28E-05	4.63E-14
LA	LA-TA-00-01	128.22	6.30E+00	5.34E-08	--	1.08E-03	2.19E-03	1.94E+00	4.57E+01	6.62E+00	2.69E+01	3.67E-04	--	1.04E-03	2.99E-10	3.56E-08	3.53E-15	2.53E-07	2.23E-04	2.22E-06	5.30E-06	1.54E-12
LA	LA-TA-03-01	0.21	4.71E-02	--	--	--	7.04E-06	4.49E-03	1.88E-01	4.39E-02	1.89E-01	2.53E-06	--	--	8.75E-13	4.52E-11	2.17E-17	7.73E-10	3.66E-07	4.81E-09	3.38E-08	1.02E-14
LA	LA-TA-03-09	0.62	2.95E-01	7.65E-04	--	6.20E-07	1.71E-04	1.30E+00	3.08E+00	7.20E-01	3.80E+00	4.21E-05	--	--	1.57E-11	4.36E-08	2.55E-16	1.62E-08	2.58E-04	1.81E-07	4.69E-07	1.44E-13
LA	LA-TA-03-10	64.68	5.03E-01	1.65E-06	--	--	1.07E-05	2.57E-02	1.06E+00	2.47E-01	1.17E+00	1.42E-05	--	--	9.01E-13	1.66E-09	1.36E-16	9.16E-10	8.45E-06	6.11E-06	2.02E-07	8.13E-08
LA	LA-TA-03-12	0.21	3.72E-02	--	--	7.84E-06	2.66E-07	4.57E-03	1.91E-01	4.47E-02	1.92E-01	2.58E-06	--	7.53E-06	1.01E-14	1.44E-10	2.21E-17	1.39E-11	7.82E-07	1.20E-08	3.44E-08	1.04E-14
LA	LA-TA-03-14	9.45	--	--	--	--	--	2.33E+00	6.28E-03	--	--	--	--	--	--	1.45E-07	--	--	4.95E-04	3.65E-10	--	--

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2033
(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-TA-03-28	1.04	--	--	--	--	--	2.23E+00	--	--	--	--	--	--	--	1.44E-07	--	--	4.84E-04	--	--	--
LA	LA-TA-03-30	0.21	--	--	--	--	--	4.34E-02	--	--	--	--	--	--	--	2.69E-09	--	--	9.21E-06	--	--	--
LA	LA-TA-03-34	37.80	1.35E-03	--	--	1.88E-07	9.80E-09	1.46E+00	3.74E-03	8.73E-04	--	--	--	8.09E-08	3.04E-16	3.07E-08	3.09E-19	4.70E-13	2.00E-04	2.90E-06	5.69E-10	--
LA	LA-TA-03-42	9.45	1.64E-02	8.90E-06	--	1.67E-05	1.40E-06	3.37E-01	2.81E-02	6.56E-03	2.35E-02	3.79E-07	--	--	2.22E-13	4.62E-09	4.32E-18	1.72E-10	3.22E-05	4.71E-07	5.84E-09	1.76E-15
LA	LA-TA-21-01	3.78	2.32E-01	--	--	4.60E-03	5.99E-06	4.89E-02	2.46E+00	4.39E-01	2.29E+00	--	--	6.46E-04	4.67E-13	2.40E-08	1.55E-16	5.03E-10	1.20E-04	5.39E-06	2.86E-07	2.53E-05
LA	LA-TA-21-05	0.42	2.35E-01	--	--	2.03E-05	4.00E-06	2.07E-02	1.06E+00	2.52E-01	2.29E-01	1.70E-05	--	1.86E-05	7.82E-13	2.64E-09	6.44E-16	4.77E-10	6.89E-06	1.98E-05	4.42E-07	1.55E-13
LA	LA-TA-21-06	326.35	7.97E+01	--	--	4.33E-03	1.30E-03	1.12E+04	2.05E+02	6.21E+01	8.71E+01	1.17E-02	--	3.97E-03	2.37E-10	8.00E-04	1.48E-13	1.50E-07	2.58E+00	9.45E-04	1.05E-04	1.03E-10
LA	LA-TA-21-07	631.57	3.76E+01	--	--	3.09E-03	6.17E-04	8.85E+03	1.80E+02	3.78E+01	4.06E+01	3.37E-03	--	2.83E-03	1.12E-10	5.22E-04	9.00E-14	7.09E-08	1.83E+00	1.58E-05	6.40E-05	2.98E-11
LA	LA-TA-21-08	4.16	9.01E-01	--	--	5.34E-05	1.50E-05	7.56E+01	2.69E+00	7.55E-01	9.51E-01	1.12E-04	--	4.89E-05	2.81E-12	4.51E-06	1.86E-15	1.75E-09	1.57E-02	2.53E-07	1.30E-06	1.01E-12
LA	LA-TA-21-09	14.14	7.62E-02	--	--	6.93E-06	1.30E-06	1.23E+03	3.62E-01	8.44E-02	7.40E-02	4.88E-06	--	6.33E-06	2.55E-13	7.63E-05	2.15E-16	1.55E-10	2.61E-01	3.45E-08	1.48E-07	4.47E-14
LA	LA-TA-21-12	341.38	1.41E+02	--	--	6.68E-03	2.31E-03	3.31E+04	2.75E+02	9.22E+01	1.47E+02	2.60E-02	--	6.13E-03	2.06E-01	2.91E-03	2.12E-13	4.20E+01	8.71E+00	1.99E-03	1.53E-04	2.26E-10
LA	LA-TA-21-13	504.69	1.01E+04	--	--	1.23E-01	8.70E-02	2.60E+01	6.33E+01	--	--	--	--	8.36E-02	3.78E-09	1.78E-06	--	4.94E-06	8.46E-03	2.16E-02	--	1.10E-02
LA	LA-TA-21-15	3.54	6.87E-01	--	--	1.45E-04	4.91E-06	8.44E-02	4.79E+00	8.24E-01	3.55E+00	4.76E-05	--	1.39E-04	1.86E-13	2.66E-09	4.08E-16	2.56E-10	1.44E-05	2.54E-07	6.35E-07	1.92E-13
LA	LA-TA-21-16	57.41	1.36E+02	--	--	2.57E-02	9.68E-04	2.10E+01	6.40E+02	1.53E+02	7.09E+02	1.25E-02	--	2.47E-02	3.66E-11	7.14E-07	7.54E-14	5.04E-08	3.81E-03	3.32E-03	1.18E-04	5.03E-11
LA	LA-TA-21-17	0.62	5.56E-03	--	--	5.05E-07	9.49E-08	4.87E-04	2.64E-02	6.15E-03	5.40E-03	3.56E-07	--	4.62E-07	1.86E-14	6.09E-11	1.57E-17	1.13E-11	1.60E-07	2.52E-09	1.08E-08	3.26E-15
LA	LA-TA-50-18	0.42	2.90E-01	--	--	--	5.82E-06	--	5.78E-03	--	--	--	--	--	1.32E-12	--	--	7.58E-10	--	3.36E-10	--	--
LA	LA-TA-50-19	62.82	2.33E+01	--	--	--	1.99E-04	1.80E+00	8.03E+00	1.51E+00	6.54E+00	8.74E-05	--	--	8.59E-12	2.15E-08	7.45E-16	1.12E-08	1.61E-04	4.46E-07	1.16E-06	3.53E-13
LA	LA-TA-55-14	0.62	8.31E+00	--	--	--	5.73E-05	3.24E-01	1.31E+01	3.06E+00	1.61E+01	1.77E-04	--	--	1.72E-12	7.96E-09	1.08E-15	2.69E-09	5.00E-05	7.71E-07	1.99E-06	6.06E-13
LA	LA-TA-55-19	42.64	2.43E+02	--	--	5.86E-03	5.05E-03	9.73E+01	2.50E+02	1.23E+02	3.44E+02	6.98E-02	--	5.41E-03	1.32E-09	1.07E-04	2.40E-12	7.11E-07	2.29E-01	6.07E-03	1.02E-03	1.41E-03
LA	LA-TA-55-21	2.29	3.18E-01	--	--	1.47E-05	4.92E-06	1.47E+01	5.85E-01	2.08E-01	3.91E-01	5.71E-05	--	1.35E-05	8.05E-13	2.46E-06	4.45E-16	5.36E-10	6.24E-03	5.26E-08	3.34E-07	2.04E-06
LA	LA-TA-55-30	68.22	2.77E+02	--	--	4.09E-03	4.19E-03	1.26E+02	1.82E+02	1.06E+02	3.64E+02	1.44E-01	2.64E-08	3.78E-03	6.58E-10	2.38E-05	2.84E-13	4.47E-07	5.98E-02	5.94E-04	1.92E-04	8.48E-03
LA	LA-TA-55-32	1.89	1.09E-02	--	--	--	4.87E-07	9.86E-02	2.53E-02	5.90E-03	1.83E-02	3.41E-07	--	--	7.18E-14	1.35E-09	3.89E-18	5.67E-11	9.42E-06	7.47E-10	5.25E-09	1.59E-15
LA	LA-TA-55-38	1.04	2.52E-02	--	--	3.98E-06	2.09E-07	1.83E+01	1.91E-02	9.45E-03	2.68E-02	9.81E-06	--	3.82E-06	8.88E-15	1.01E-06	4.67E-18	1.17E-11	4.94E-03	1.21E-09	7.28E-09	3.96E-14
LA	WP-LA-CIN01.001	25.73	7.22E+02	1.44E-03	--	4.31E-06	1.32E-02	1.86E+01	1.53E+02	3.69E+01	1.10E+02	4.16E-02	--	4.15E-06	1.04E-09	4.06E-07	1.55E-14	1.08E-06	2.51E-03	3.15E-05	2.62E-05	1.55E-10
LA	WP-LA-CIN02.001	38.93	3.04E+02	8.22E-02	--	4.33E-02	1.11E-02	3.77E+01	1.63E+02	4.62E+01	1.35E+02	1.29E-02	--	4.17E-02	1.14E-09	3.39E-06	2.11E-14	1.07E-06	1.62E-02	3.32E-04	3.42E-05	4.98E-11
LA	WP-LA-MHD01.001	3714.59	1.32E+04	5.42E-01	2.00E+01	3.25E-03	3.81E-01	6.07E+04	3.11E+04	8.03E+03	2.45E+04	1.08E+01	--	1.08E+00	3.31E-03	1.21E-02	4.52E-06	1.51E+00	1.80E+01	9.02E-03	5.95E-03	4.89E-02
LA	WP-LA-MHD02-PTX.001	0.63	5.09E-02	--	--	8.35E-08	8.14E-07	1.05E-02	1.31E-01	2.77E-02	5.56E-02	3.21E-06	--	8.06E-08	5.72E-14	8.15E-11	1.07E-17	6.26E-11	7.48E-07	2.97E-09	1.89E-08	1.14E-14
LA	WP-LA-MHD02.001	13.65	1.87E+00	4.00E-05	--	1.31E-06	9.89E-05	1.44E+03	1.39E+00	7.00E-01	1.85E+00	7.18E-04	--	1.25E-06	6.08E-09	9.80E-05	3.73E-16	2.57E-06	4.54E-01	6.69E-07	5.60E-07	3.01E-12
LA	WP-LA-MHD03.001	470.97	2.81E+02	6.03E-02	7.46E-01	5.75E-03	4.06E-02	2.47E+03	4.63E+02	1.20E+02	4.59E+02	1.58E-01	--	5.52E-03	4.78E-05	1.26E-04	5.47E-14	2.18E-02	6.43E-01	7.58E-04	8.87E-05	2.90E-03
LA	WP-LA-MHD04.001	8.37	7.92E-01	1.85E-03	--	9.84E-08	5.68E-04	4.07E+02	1.01E+00	3.53E-01	1.03E+00	2.33E-04	--	9.47E-08	6.76E-11	2.15E-05	1.61E-16	6.15E-08	1.09E-01	2.48E-08	2.61E-07	9.05E-13
LA	WP-LA-MHD05-ITRI.001	6.29	1.92E+00	5.67E-03	1.63E+00	5.05E-07	9.10E-05	1.33E+01	5.41E+00	7.84E-01	1.79E+00	3.50E-05	--	4.87E-07	8.29E-12	5.56E-07	3.02E-16	8.40E-09	3.09E-03	3.33E-07	5.33E-07	1.25E-13
LA	WP-LA-MHD08.001	7.56	1.63E+00	8.81E-03	5.48E-01	1.52E-04	1.96E-04	2.19E-01	1.53E+00	3.63E-01	1.33E+00	5.25E-05	--	1.47E-04	2.08E-11	2.12E-09	1.52E-16	1.98E-08	1.75E-05	3.61E-08	2.57E-07	1.95E-13
LA	WP-LA-MHD09.001	4.82	5.70E+01	2.11E-04	--	1.54E-05	8.59E-04	1.99E+00	1.55E+00	1.23E+00	1.01E+01	1.48E-03	--	1.49E-05	5.81E-11	9.48E-08	4.78E-16	6.45E-08	5.17E-04	9.33E-06	8.42E-07	5.32E-05
LA	WP-LA-MIN03-NC.001	792.08	3.93E+02	4.62E-03	--	3.92E-02	7.49E-03	1.29E+01	2.43E+02	3.33E+01	1.68E+02	1.92E-02	--	3.36E-02	1.11E-09	1.08E-05	1.65E-14	8.46E-07	4.57E-02	1.12E-03	2.56E-05	1.01E-03
LA	WP-LA-OS-00-01	0.42	2.65E+00	--	--	1.41E-04	3.84E-05	1.41E+00	4.78E+00	4.85E+00	1.59E+00	9.65E-05	--	1.26E-04	3.78E-12	9.33E-02	3.41E-15	3.37E-09	1.40E-04	1.46E-07	4.46E-06	4.64E-13
LA	WP-LA-OS-00-01.001	198.24	1.22E+04	--	--	7.95E-01	1.00E-01	7.68E+03	9.71E+02	2.91E+02	3.01E+02	7.93E-02	--	1.05E+00	1.64E-08	2.50E-04	1.33E-13	1.11E-05	1.38E+00	6.51E-05	2.16E-04	1.37E-06
LA	WP-LA-OS-00-03	14.70	2.34E+01	--	--	2.33E-07	2.01E-04	2.11E-04	1.43E-03	1.05E-03	4.32E-03	3.94E-07	--	1.97E-07	2.00E-11	5.29E-12	5.21E-19	1.63E-08	3.04E-08	6.06E-11	8.11E-10	1.69E-12
LA	WP-LA-TA-55-19.01	81.08	7.68E+01	4.36E-03	--	4.91E-07	4.60E-03	1.64E+01	2.49E+02	6.14E+01	1.65E+02	1.67E-01	--	--	8.47E-10	6.38E-05	4.89E-14	6.03E-07	1.20E-01	2.34E-04	6.00E-05	3.87E-04
LA	WP-LA-TA-55-19.02	230.57	4.33E+02	7.73E-02	--	2.97E-04	2.52E-02	1.65E+02	8.16E+02	2.28E+02	8.63E+02	1.24E+00	--	2.64E-04	1.24E-05	1.91E-03	2.06E-05	4.54E-03	8.20E-01	9.77E-04	2.09E-04	1.53E-03
LA	WP-LA-TA-55-30	96.15	1.30E+02	6.49E-03	--	4.41E-03	8.98E-03	3.65E+01	2.47E+02	6.94E+01	2.24E+02	5.98E-02	--	4.20E-03	2.67E-05	3.40E-06	3.28E-05	9.49E-03	1.34E-02	2.23E-04	6.59E-05	5.58E-04
LA	WP-LA-TA-55-43.01	189.88	6.22E-01	1.44E-05	--	--	4.39E-05	4.32E+02	4.66E-01	7.62E-01	1.48E+00	5.33E-04	--	--	9.22E-12	1.90E-05	4.58E-06	6.16E-09	8.27E-02	1.61E-08	7.91E-07	2.90E-12
LB	LB-T001	0.76	3.76E-02	3.65E-05	--	2.09E-04	3.12E-02	--	1.13E+00	3.65E-02	2.10E-01	1.20E-11	5.39E-11	--	2.88E-09	8.92E-15	2.05E-03	2.98E-06	8.82E-11	2.44E-08	2.38E-08	1.43E-06
LB	LB-T002	0.76	3.92E-02	4.38E-05	--	--	2.12E-04	--	2.01E-01	--	1.20E-01	--	--	--	1.96E-11	--	--	2.02E-08	--	4.36E-09	--	--
LL	LL-M001	1097.53	3.76E+03	5.93E-01	8.64E+02	1.10E+00	6.45E-02	3.35E+03	4.12E+03	1.21E+03	4.61E+03	3.94E-01	8.41E-09	1.06E+00	5.83E-03	7.55E-04	3.61E-05	9.98E-01	3.92E-01	7.04E-03	8.58E-04	2.72E-02
LL	LL-T004	1.25	3.08E-02	--	7.84E-04	--	4.09E-07	8.65E-03	4.96E-02	2.39E-02	8.83E-02	7.78E-06	--	--	2.83E-14	7.34E-11	1.01E-17	3.06E-11	6.45E-07	1.17E-09	1.70E-08	2.90E-14
LL	LL-W018-S5100	859.74	8.15E+01	--	2.01E-02	--	6.66E-04	5.14E+00	5.25E+01	1.57E+01	1.33E+02	3.40E-03	--	--	2.82E-11	5.18E-08	7.77E-15	3.71E-08	4.19E-04	1.35E-06	1.21E-05	1.37E-11
LL	LL-W018-SS	15.22	2.78E+02	3.80E-05	1.23E-03	3.21E-02	2.42E-03	3.91E+01	2.19E+00	7.01E-03	4.64E-01	--	6.32E-21	9.64E-02	1.07E-10	3.93E-07	3.46E-18	1.39E-07	3.18E-03	1.62E-06	5.40E-09	--
LL	LL-W019	73.52	1.49E+02	7.52E-06	2.59E-02	7.93E-05	7.16E-03	7.59E+01	3.50E+02	9.44E+01	3.84E+02	1.61E-02	--	1.62E-05	8.39E-03	9.10E-07	3.98E-14	3.98E+00	6.86E-03	1.51E-03	6.72E-05	7.81E-03
LL	WP-BLCHDN.001	1.68	1.05E-01	2.23E-03	7.23E-02	--	8.95E-04	7.10E-02	4.37E-06	4.05E-04	2.21E-04	--	--	--	1.43E-10	9.04E-10	1.06E-19	1.13E-07	6.53E-06	6.66E-14	2.06E-10	--

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2033
(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
LL	WP-LL-M001-S5400	144.46	3.28E+02	1.35E-02	1.12E+01	1.13E-05	7.58E-02	2.90E+02	5.98E+02	1.68E+02	5.85E+02	3.16E-02	--	1.06E-05	1.18E-08	8.68E-06	1.03E-13	9.35E-06	4.54E-02	5.13E-04	1.44E-04	3.54E-03
ND	ND-T001	11.47	7.91E+02	--	--	--	5.74E-03	--	--	--	--	--	--	--	1.78E-10	--	--	2.75E-07	--	--	--	--
ND	ND-T002	3.67	7.94E+00	--	--	--	6.29E-05	--	--	--	--	--	--	--	2.33E-12	--	--	3.30E-09	--	--	--	--
NT	NT-JAS-01	169.64	2.18E+01	--	--	--	2.97E-04	6.81E+00	2.51E+02	5.72E+01	1.28E+02	3.15E-03	--	--	3.03E-11	9.32E-08	3.77E-14	2.66E-08	6.50E-04	7.43E-06	5.09E-05	1.46E-11
NT	NT-W021	5.41	8.39E+00	--	--	--	6.67E-05	1.11E+00	5.10E+01	1.17E+01	1.94E+01	1.04E-03	--	--	7.54E-12	1.68E-06	5.78E-15	5.76E-09	7.08E-03	4.93E-05	9.01E-06	2.48E-03
NT	WP-NT-RF-BERYLLIUM	29.61	4.68E+00	9.16E-07	--	--	7.76E-05	7.73E-01	2.42E+01	5.50E+00	1.22E+01	4.31E-04	--	--	1.46E-05	2.41E-07	3.15E-15	5.94E-03	9.70E-04	1.85E-05	4.56E-06	2.31E-04
NT	WP-NT-RF-GRAPHITE	3.78	4.72E+00	--	--	--	6.78E-05	9.75E-01	3.88E+01	7.18E+00	1.84E+01	5.25E-04	--	--	6.22E-12	2.61E-08	4.12E-15	5.82E-09	1.43E-04	1.07E-06	5.96E-06	2.84E-05
NT	WP-NT-RF-METAL	6.09	1.03E+00	2.71E-06	--	--	1.91E-05	1.74E-01	6.73E+00	1.66E+00	4.33E+00	1.35E-04	--	--	2.01E-12	1.15E-05	9.55E-16	1.79E-09	4.46E-02	2.76E-05	1.38E-06	2.23E-02
NT	WP-NTLBL-S5400	1.68	1.09E+00	5.79E-03	3.32E-01	2.84E-05	6.85E-04	1.19E-01	6.72E-01	1.54E-01	9.58E-01	2.12E-05	--	2.72E-05	1.01E-10	1.41E-09	8.75E-17	8.26E-08	1.05E-05	1.85E-08	1.27E-07	9.19E-14
NT	WP-NTLRC-S5400	3.15	5.38E+00	3.51E-05	--	6.15E-07	2.89E-04	4.68E-01	7.19E+00	2.63E+00	9.50E+00	2.93E-04	--	5.89E-07	3.85E-11	1.15E-06	1.51E-15	3.23E-08	4.48E-03	1.48E-04	2.19E-06	1.05E-04
NT	WP-NTS54332R0	309.83	1.41E+02	1.30E-02	1.09E+00	1.30E-04	1.54E-02	2.04E+01	3.69E+02	9.63E+01	3.01E+02	1.04E-02	--	1.27E-04	5.54E-04	7.66E-06	5.93E-14	2.17E-01	2.96E-02	1.00E+00	8.28E-05	1.01E-02
NT	WP-NTS54COMR0	50.81	3.56E+01	2.09E-02	9.13E+00	4.54E-05	5.17E-03	1.74E+01	5.12E+01	1.22E+01	3.42E+01	1.84E-03	--	4.34E-05	6.65E-04	7.62E-07	7.50E-15	2.61E-01	3.63E-03	1.46E-05	1.05E-05	8.79E-04
NT	WP-NTS54MIX1R0	0.42	3.80E-03	9.54E-05	--	4.04E-05	8.23E-07	3.28E-04	2.89E-02	6.94E-03	6.43E-03	6.83E-07	--	--	1.46E-13	4.82E-12	4.88E-18	1.08E-10	3.25E-08	8.83E-10	6.38E-09	3.28E-15
OR	OR-CHEM-CH-HET	20.38	1.07E+01	5.36E-02	1.13E+01	3.45E+00	8.91E-05	2.13E+02	6.25E+00	8.36E-01	2.03E+00	1.30E-03	1.02E-12	1.98E+00	2.13E-03	2.00E-06	3.41E-06	1.10E+00	1.69E-02	8.45E-05	5.58E-07	2.26E-03
OR	OR-GENR-CH-HET	28.08	1.09E+00	9.00E-01	1.85E+01	1.42E-02	3.71E-02	5.27E+00	7.92E+00	3.59E-01	1.23E-03	3.30E-01	1.90E-09	1.17E-02	5.28E-06	5.57E-04	3.61E-06	3.53E-06	1.62E-03	9.26E-06	2.16E-07	1.49E-03
OR	OR-ISTP-CH-HET	146.85	1.92E+03	1.35E+00	1.09E+03	1.89E-03	4.79E-01	2.56E+03	8.35E+01	4.75E+02	2.38E+04	3.03E-01	9.37E-03	2.23E-04	3.55E-03	5.15E-02	1.25E-03	1.82E+00	2.67E-01	9.56E-04	1.59E-03	1.85E-03
OR	OR-NBL-CH-HET	21.63	2.41E-01	4.16E-03	1.44E+01	2.38E-01	3.41E-06	1.46E+00	2.11E+00	9.78E-01	3.68E-02	1.65E-06	2.62E-09	1.11E-01	7.44E-05	5.00E-07	7.50E-06	3.28E-02	2.52E-03	3.24E-04	6.23E-07	2.00E-03
OR	OR-NFS-CH-HET	95.06	1.16E+02	5.67E-06	1.41E+01	1.19E-05	7.80E-04	2.40E+01	1.95E+02	1.06E+02	6.32E+02	1.13E-02	1.42E-09	1.15E-05	4.37E-05	1.22E-03	2.48E-05	1.05E-02	6.01E+00	3.69E-04	6.99E-05	6.38E-03
OR	OR-NFS-CH-HOM	11.44	8.78E+01	--	--	3.24E-05	2.27E-03	1.53E+01	1.30E+02	5.18E+01	3.24E+02	8.45E-03	--	3.14E-05	4.08E-05	1.85E-04	8.72E-06	1.27E-02	9.16E-01	1.17E-04	3.38E-05	2.50E-03
OR	OR-NFS-CH-SOIL	12.48	5.39E+00	--	--	3.78E-06	3.72E-05	8.70E-01	1.18E+01	4.94E+00	2.01E+01	4.12E-04	--	3.37E-06	3.27E-05	6.43E-05	7.81E-06	1.69E-02	2.05E-01	2.11E-05	3.22E-06	2.68E-04
OR	OR-PGDP-CH-HET	7.70	--	--	--	--	1.73E-01	--	5.57E-01	--	--	--	--	--	7.58E-08	9.12E-06	--	3.60E-05	2.07E-02	8.34E-04	--	2.06E-02
OR	OR-RADP-CH-HET	33.70	1.01E+01	1.39E-01	4.32E+01	1.37E-04	1.36E-03	1.15E+01	2.84E+01	2.35E+00	2.07E+01	1.92E-03	1.77E-08	1.11E-04	5.22E-05	5.08E-07	1.11E-13	2.69E-02	2.89E-03	2.02E-04	1.49E-06	6.12E-06
OR	OR-RADP-CH-SOILS	1.25	--	--	9.55E-06	--	--	4.11E-05	6.59E-02	1.94E-02	--	--	--	1.84E-05	--	1.59E-12	3.27E-17	--	6.76E-09	3.12E-09	2.76E-08	3.36E-09
OR	OR-REDC-CH-HET	391.02	1.16E+02	1.12E+00	6.88E+02	1.71E+00	6.10E-02	1.83E+02	3.54E+01	5.42E+01	1.77E+03	9.06E-03	1.31E-06	8.62E+00	1.90E-03	1.81E-05	1.22E-06	9.83E-01	9.53E-02	1.40E-04	1.52E-01	1.16E-03
OR	OR-RF-CH-HET	69.68	7.43E+01	1.06E-01	1.51E+02	4.54E-01	7.17E-04	1.58E+02	1.28E+02	5.06E+01	1.02E+03	1.65E+00	1.46E-16	2.29E-01	7.00E-02	4.57E-05	3.66E-04	5.25E+00	1.45E-02	1.80E-04	3.47E-05	5.43E-04
OR	OR-RF-CH-HOM	2.50	4.61E-02	--	--	1.54E-03	7.46E-07	1.40E-02	4.23E-02	4.16E-02	--	--	--	1.48E-02	1.12E-13	2.25E-08	7.02E-17	7.88E-11	5.22E-05	2.29E-06	5.92E-08	8.27E-05
OR	OR-SWSA-CH-HET	14.35	1.99E-03	6.24E-06	2.65E+01	1.33E-05	7.74E-05	6.02E-03	7.98E-03	9.69E-02	1.01E-03	4.62E-08	--	1.29E-05	3.54E-04	2.99E-10	1.42E-04	1.83E-01	1.68E-06	1.73E-10	3.61E-08	1.58E-16
OR	OR-SWSA-CH-SOIL	23.30	6.31E+01	4.34E-05	1.54E+01	5.69E-06	3.26E-03	2.57E-03	3.65E+00	6.58E-02	2.90E-02	2.13E-06	--	5.50E-06	5.50E-04	1.81E-11	9.77E-05	2.84E-01	1.74E-07	8.72E-06	2.71E-08	7.27E-15
OR	OR-TBD-CH-HET	15.18	1.32E+02	1.59E+00	7.31E-01	1.07E-01	5.17E-02	1.88E+02	5.12E+01	1.17E+02	1.46E+01	1.20E-02	5.79E-04	2.40E-02	3.21E-03	1.08E-05	4.05E-06	7.63E-01	3.12E-02	2.17E-04	1.67E-04	1.18E-02
OR	OR-W203	225.54	2.91E+00	1.84E-01	1.20E+00	6.61E+00	1.44E-05	1.94E+00	1.55E-01	1.66E+00	1.06E+01	2.41E-02	7.56E-10	4.77E+01	2.26E-13	1.12E-08	4.40E-16	4.87E-10	1.20E-04	1.43E-06	9.51E-07	1.15E-05
OR	OR-WSTR-CH-HET	5.82	--	--	4.30E-03	--	--	3.70E-02	4.99E-01	6.24E-05	--	--	--	--	--	1.43E-09	5.13E-20	--	6.09E-06	2.36E-08	5.73E-11	--
OR	OR-Y12-CH-HET	1.25	--	--	--	--	6.34E-03	1.81E-04	6.19E-02	1.29E-05	--	--	--	--	2.79E-09	4.10E-07	2.18E-20	1.32E-06	9.30E-04	1.42E-04	1.84E-11	6.25E-04
OR	WP-OR-CHEM-CH-HET	10.71	1.38E+00	9.28E-04	1.12E-01	1.90E-02	5.87E-04	2.30E+00	8.77E-01	3.79E-01	2.49E+00	7.69E-04	--	1.64E-02	6.18E-04	5.77E-08	1.47E-16	2.65E-01	3.52E-04	2.15E-06	2.58E-07	2.22E-06
OR	WP-OR-GENR-CH-HET	4.20	1.24E-01	3.62E-02	4.73E-01	1.80E-05	4.31E-04	1.58E+00	7.19E-02	3.01E-01	2.15E-02	5.65E-06	--	1.74E-05	4.38E-11	3.36E-07	1.16E-16	4.31E-08	1.64E-03	3.29E-05	2.05E-07	3.85E-05
OR	WP-OR-ISTP-CH-HET	23.73	4.00E+01	8.13E-02	5.04E+01	2.51E-04	6.50E-03	1.34E+02	6.49E+00	4.59E+00	3.33E+01	1.08E-02	--	2.43E-04	2.12E-06	6.54E-06	1.59E-15	6.84E-04	3.68E-02	8.33E-06	2.94E-06	3.25E-04
OR	WP-OR-NBL-CH-HET	2.73	7.87E-02	1.99E-04	--	1.49E-04	2.73E-06	1.81E-02	1.26E-01	3.67E-02	3.57E-01	5.86E-06	--	1.44E-04	4.44E-06	6.56E-09	1.42E-17	2.19E-03	3.16E-05	6.60E-07	2.50E-08	2.09E-14
OR	WP-OR-NFS-CH-HET	23.52	2.65E+00	2.31E-11	--	5.99E-07	3.62E-05	2.87E-01	4.41E+00	1.34E+00	3.37E+00	2.06E-04	--	5.76E-07	6.62E-07	1.21E-08	6.60E-16	2.90E-04	6.19E-05	1.63E-06	1.03E-06	9.27E-04
OR	WP-OR-NFS-CH-HET-A	46.62	1.41E+01	2.65E-04	2.47E-02	7.24E-02	2.28E-04	1.45E+00	2.96E+01	8.29E+00	1.75E+01	1.19E-03	--	6.54E-04	1.24E-05	5.04E-08	3.21E-15	6.16E-03	2.88E-04	4.57E-06	5.65E-06	2.25E-04
OR	WP-OR-NFS-CH-SOIL	108.55	1.37E+02	7.72E-06	--	3.91E-04	2.16E-03	1.29E+01	2.99E+02	9.97E+01	1.93E+02	1.03E-02	--	3.76E-04	1.55E-04	1.20E-07	8.73E-05	1.75E-07	1.01E-03	7.36E-06	7.39E-05	9.71E-05
OR	WP-OR-RADP-CH-HET	47.88	1.41E+01	8.81E-02	5.61E+00	7.85E-03	3.53E-03	1.29E+01	1.09E+01	2.02E+00	6.30E+00	3.94E-04	--	7.57E-03	8.27E-05	5.09E-07	1.36E-06	3.13E-02	2.77E-03	1.95E-05	1.43E-06	2.13E-04
OR	WP-OR-REDC-CH-HET	105.21	1.06E+01	2.80E-01	2.86E+02	2.48E-01	2.16E-03	6.51E+00	1.03E+01	1.09E+01	3.33E+01	1.83E-02	--	4.13E+00	2.44E-05	8.92E-07	4.32E-15	5.97E-03	4.28E-03	6.99E-05	7.43E-06	3.27E-04
OR	WP-OR-RF-CH-HET	41.37	3.33E+01	3.05E-03	1.88E+00	3.30E-03	6.23E-04	5.12E+00	3.63E+01	1.82E+01	1.26E+02	3.62E-03	--	3.18E-03	1.01E-03	9.28E-05	2.65E-04	2.17E-01	4.39E-01	3.45E-04	1.24E-05	4.99E-04

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2033
(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-RF001.01	986.46	1.69E+03	1.18E-03	--	--	6.86E-02	1.18E+02	3.36E+03	7.80E+02	3.12E+03	1.18E-01	--	--	2.18E-04	6.24E-05	6.21E-13	7.53E-02	2.12E-01	9.67E-03	7.63E-04	2.21E-03
RF	WP-RF002.01	1459.51	1.63E+03	1.06E-03	--	1.71E-04	2.46E-02	1.75E+02	4.40E+03	1.04E+03	5.06E+03	1.23E-01	--	--	6.15E-05	4.06E-05	7.76E-13	2.19E-02	1.46E-01	7.14E-03	9.82E-04	2.83E-01
RF	WP-RF003.01	358.61	2.97E+03	--	--	--	3.20E-02	4.24E+02	1.27E+04	3.06E+03	9.84E+03	2.93E-01	--	--	2.92E-05	1.17E-05	2.44E-12	1.01E-02	6.01E-02	9.09E-04	2.99E-03	1.31E-03
RF	WP-RF004.01	285.55	2.69E+02	8.81E-07	--	--	3.59E-03	2.64E+01	6.86E+02	1.59E+02	8.52E+02	1.92E-02	--	--	3.52E-10	6.22E-06	1.12E-13	3.13E-07	2.31E-02	6.81E-04	1.46E-04	7.54E-04
RF	WP-RF005.01	120.54	5.26E+03	--	--	--	6.26E-02	1.67E+02	4.78E+03	1.23E+03	2.19E+03	1.01E-01	--	--	5.29E-09	3.19E-06	1.10E-12	4.95E-06	1.90E-02	2.46E-04	1.27E-03	5.49E-10
RF	WP-RF005.02	79.17	6.29E+03	--	--	--	7.28E-02	9.85E+01	2.90E+03	7.61E+02	1.21E+03	6.46E-02	--	--	5.74E-09	1.96E-06	6.44E-13	5.57E-06	1.14E-02	1.16E-04	7.67E-04	1.72E-07
RF	WP-RF006.01	237.93	2.35E+03	--	--	--	2.86E-02	3.71E+02	9.21E+03	2.22E+03	8.19E+03	2.97E-01	--	--	3.41E-09	1.19E-05	2.73E-12	2.63E-06	5.56E-02	5.62E-04	2.70E-03	1.39E-06
RF	WP-RF008.01	98.06	1.16E+03	--	--	--	2.47E-02	1.59E+02	3.39E+03	9.28E+02	2.91E+03	1.36E-01	--	--	3.69E-09	2.95E-06	7.85E-13	2.75E-06	1.78E-02	1.41E-04	9.36E-04	7.60E-08
RF	WP-RF009.01	1339.57	6.64E+04	--	--	--	1.07E+00	1.58E+03	5.49E+04	1.36E+04	2.58E+04	1.37E+00	--	--	1.22E-07	2.96E-05	1.09E-11	1.01E-04	1.78E-01	2.09E-03	1.33E-02	2.72E-06
RF	WP-RF010.01	630.50	1.79E+03	4.09E-05	--	--	2.21E-02	2.03E+02	6.26E+03	1.46E+03	5.06E+03	1.59E-01	--	--	2.06E-09	3.96E-05	1.09E-12	1.85E-06	1.45E-01	4.18E-03	1.38E-03	3.58E-03
RF	WP-RF011.01	79.86	3.02E+02	--	--	--	2.91E-03	5.08E+01	1.49E+03	3.57E+02	1.07E+03	3.06E-02	--	--	1.95E-10	9.48E-07	2.51E-13	2.03E-07	5.74E-03	6.82E-05	3.28E-04	4.21E-06
RF	WP-RF015.01	1.68	5.53E+00	--	--	--	1.25E-04	7.68E-01	1.87E+01	4.37E+00	2.64E+01	5.82E-04	--	--	1.69E-11	1.13E-08	3.07E-15	1.35E-08	7.61E-05	5.72E-07	4.02E-06	2.80E-12
RF	WP-RF029.01	4324.01	2.87E+03	1.44E-03	--	1.43E-05	4.67E-02	2.99E+02	6.85E+03	1.65E+03	1.05E+04	2.21E-01	3.04E-16	9.36E-08	5.08E-09	2.65E-05	1.08E-12	4.39E-06	1.10E-01	2.83E-03	1.46E-03	1.26E-03
RF	WP-RF031.01	20.79	1.40E+01	--	--	--	1.55E-04	1.89E+00	4.81E+01	1.11E+01	6.54E+01	1.32E-03	--	--	1.23E-11	2.62E-07	6.85E-15	1.20E-08	1.07E-03	3.05E-05	9.57E-06	4.10E-05
RF	WP-RF032.01	211.26	2.63E+03	--	--	--	4.66E-02	2.53E+02	8.61E+03	2.02E+03	5.15E+03	1.52E-01	--	--	5.69E-09	4.51E-06	1.51E-12	4.64E-06	2.78E-02	3.29E-04	1.91E-03	5.05E-07
RF	WP-RF033.01	25.83	1.75E+02	--	--	--	2.08E-03	2.81E+01	7.99E+02	1.86E+02	7.96E+02	1.84E-02	--	--	1.92E-10	5.02E-07	1.31E-13	1.74E-07	3.10E-03	3.50E-05	1.71E-04	6.00E-05
RF	WP-RF036.01	44.52	7.60E+01	8.12E-05	--	--	9.02E-04	1.10E+01	2.64E+02	6.16E+01	4.08E+02	8.18E-03	--	--	7.80E-11	7.95E-07	3.79E-14	7.35E-08	3.47E-03	1.18E-04	5.30E-05	2.98E-03
RF	WP-RF101.01	175.94	4.89E+02	1.05E-03	--	--	6.01E-03	6.55E+01	1.69E+03	3.94E+02	1.93E+03	4.61E-02	--	--	5.61E-10	1.28E-05	2.77E-13	5.06E-07	4.81E-02	1.40E-03	3.62E-04	8.53E-04
RF	WP-RF101.29	30.65	4.35E+01	--	--	--	5.23E-04	6.25E+00	1.56E+02	3.63E+01	1.67E+02	4.24E-03	--	--	4.92E-11	1.72E-06	2.72E-14	4.39E-08	6.15E-03	1.84E-04	3.44E-05	2.04E-04
RF	WP-RF101.30	118.06	4.17E+02	3.13E-04	--	--	6.03E-03	3.14E+01	8.78E+02	2.06E+02	8.41E+02	2.54E-02	--	--	6.38E-10	5.33E-06	1.54E-13	5.47E-07	1.97E-02	5.57E-04	1.96E-04	1.85E-04
RF	WP-RF101.31	62.93	8.41E+01	1.36E-05	--	--	1.02E-03	8.55E+00	2.34E+02	5.54E+01	2.14E+02	8.25E-03	--	--	9.51E-11	1.85E-06	4.41E-14	8.50E-08	6.54E-03	1.90E-04	5.42E-05	8.29E-05
RF	WP-RF101.35	80.16	2.87E+02	--	--	--	4.37E-03	2.41E+01	6.38E+02	1.49E+02	7.04E+02	2.08E-02	--	--	4.87E-10	2.52E-05	1.11E-13	4.09E-07	8.69E-02	2.74E-03	1.41E-04	2.19E-04
RF	WP-RF102.01	223.13	2.10E+02	1.99E-04	--	5.40E-03	3.07E-03	2.40E+01	5.72E+02	1.36E+02	8.03E+02	1.77E-02	--	--	3.30E-10	1.52E-06	9.57E-14	2.83E-07	6.49E-03	1.54E-04	1.25E-04	3.99E-04
RF	WP-RF102.31	123.79	1.64E+02	1.92E-05	--	--	2.41E-03	1.11E+01	2.75E+02	6.48E+01	3.56E+02	8.46E-03	--	--	2.49E-10	2.42E-06	4.56E-14	2.17E-07	9.02E-03	2.84E-04	5.96E-05	2.14E-03
RF	WP-RF104.01	54.76	1.46E+02	2.27E-04	--	--	2.17E-03	1.31E+01	4.09E+02	9.61E+01	3.65E+02	9.38E-03	--	--	2.18E-10	4.11E-07	6.33E-14	1.94E-07	2.09E-03	4.05E-05	8.55E-05	1.40E-04
RF	WP-RF107.01	64.05	2.54E+03	--	--	--	3.83E-02	7.70E+00	1.90E+02	4.41E+01	2.89E+02	5.79E-03	--	--	3.56E-09	4.68E-06	2.71E-14	3.30E-06	1.79E-02	1.12E-03	3.79E-05	5.98E-02
RF	WP-RF107.03	61.53	1.66E+01	--	--	--	2.56E-04	9.43E-01	2.31E+01	5.37E+00	3.53E+01	7.07E-04	--	--	2.50E-11	2.06E-05	3.30E-15	2.27E-08	7.75E-02	9.13E-03	4.62E-06	6.86E-01
RF	WP-RF107.04	111.26	6.64E+01	--	--	--	1.04E-03	3.36E+00	8.32E+01	1.93E+01	1.26E+02	2.53E-03	--	--	1.02E-10	6.05E-07	1.18E-14	9.23E-08	2.42E-03	2.13E-04	1.66E-05	1.54E-02
RF	WP-RF107.05	4.41	7.02E+00	--	--	--	7.85E-05	8.28E-01	2.04E+01	4.73E+00	3.10E+01	6.22E-04	--	--	6.24E-12	2.64E-06	2.91E-15	6.08E-09	9.93E-03	3.18E-04	4.07E-06	2.81E-06
RF	WP-RF107.06	14.49	7.74E-01	--	--	--	6.23E-06	1.23E-01	3.05E+00	7.07E-01	4.62E+00	9.27E-05	--	--	3.32E-13	6.17E-07	4.35E-16	3.82E-10	2.32E-03	2.63E-04	6.07E-07	2.01E-02
RF	WP-RF107.07	59.42	3.63E+02	1.69E-03	--	--	5.26E-03	2.99E+01	7.24E+02	1.68E+02	1.12E+03	2.23E-02	--	--	5.02E-10	3.68E-05	1.04E-13	4.59E-07	1.39E-01	4.44E-03	1.45E-04	2.20E-03
RF	WP-RF110.01	9.24	7.43E+01	1.72E-03	--	--	8.41E-04	5.04E+00	1.25E+02	2.92E+01	1.43E+02	6.56E-03	--	--	6.64E-11	3.23E-07	2.05E-14	6.45E-08	1.37E-03	3.37E-05	2.68E-05	1.94E-04
RF	WP-RF110.05	31.64	1.03E+02	--	--	--	1.01E-03	1.66E+01	4.61E+02	1.06E+02	3.27E+02	1.03E-02	--	--	6.98E-11	1.71E-06	7.97E-14	7.15E-08	6.64E-03	1.74E-04	1.01E-04	1.66E-05
RF	WP-RF113.01	0.42	9.81E-02	--	--	--	1.70E-06	1.48E-02	3.70E-01	8.58E-02	5.11E-01	1.13E-05	--	--	2.07E-13	2.17E-10	6.03E-17	1.70E-10	1.47E-06	1.13E-08	7.89E-08	5.43E-14
RF	WP-RF115.01	115.87	5.73E+02	--	--	--	6.28E-03	8.46E+01	2.53E+03	5.88E+02	1.42E+03	4.93E-02	--	--	4.87E-10	1.47E-06	4.13E-13	4.76E-07	9.20E-03	1.09E-04	5.40E-04	6.25E-04
RF	WP-RF116.01	3.99	2.35E+01	--	--	--	3.35E-04	2.07E+00	9.79E+01	2.27E+01	3.56E+01	1.52E-03	--	--	3.33E-11	3.05E-08	1.59E-14	2.95E-08	2.05E-04	2.99E-06	2.08E-05	7.29E-12
RF	WP-RF117.01	1.89	7.47E+00	--	--	--	9.56E-05	9.96E-01	2.44E+01	5.68E+00	3.46E+01	7.30E-04	--	--	9.02E-12	4.16E-07	3.74E-15	8.17E-09	1.56E-03	4.77E-05	5.05E-06	4.15E-07
RF	WP-RF118.01	1446.06	1.71E+04	1.25E-03	--	--	2.13E-01	3.38E+03	6.66E+04	1.79E+04	5.58E+04	2.18E+00	--	--	2.11E-08	1.41E-04	1.43E-11	1.84E-05	6.35E-01	1.11E-02	1.75E-02	2.00E-04
RF	WP-RF119.01	24.36	5.14E+01	--	--	--	6.60E-04	6.02E+00	1.47E+02	3.45E+01	2.15E+02	4.46E-03	--	--	5.91E-11	2.02E-07	2.12E-14	5.51E-08	1.02E-03	2.13E-05	2.97E-05	2.13E-04
RF	WP-RF121.01	46.41	3.00E+02	--	--	--	2.67E-03	5.20E+01	1.97E+03	4.71E+02	8.89E+02	3.05E-02	--	--	1.46E-10	8.87E-07	3.10E-13	1.68E-07	5.60E-03	7.87E-05	4.19E-04	1.81E-07
RF	WP-RF122.01	35.91	2.95E+02	--	--	--	5.89E-02	5.08E+01	1.37E+03	3.29E+02	7.82E+02	3.48E-02	--	--	1.05E-08	7.47E-07	2.32E-13	7.74E-06	5.04E-03	4.19E-05	3.03E-04	1.67E-10
RF	WP-RF122.03	4.41	3.36E+01	--	--	--	6.90E-04	5.71E-01	1.42E+01	3.28E+00	2.15E+01	4.30E-04	--	--	7.68E-11	2.41E-06	2.02E-15	6.69E-08	9.08E-03	6.06E-04	2.82E-06	3.39E-02
RF	WP-RF122.04	54.60	3.17E+02	--	--	--	6.38E-03	6.52E+00	1.61E+02	3.73E+01	2.45E+02	4.90E-03	--	--	7.06E-10	8.90E-06	2.30E-14	6.16E-07	3.37E-02	3.50E-03	3.21E-05	2.34E-01
RF	WP-RF122.05	16.38	3.49E+00	--	--	--	4.12E-05	2.23E-01	5.46E+00	1.27E+00	8.34E+00	1.67E-04	--	--	3.26E-12	5.36E-06	7.79E-16	3.20E-09	2.01E-02	1.05E-03	1.09E-06	3.90E-02
RF	WP-RF122.06	7.35	6.59E+01	--	--	--	9.38E-04	8.10E+00	2.52E+02	5.95E+01	1.41E+02	6.36E-03	--	--	9.46E-11	2.10E-07	4.18E-14	8.33E-08	1.12E-03	2.06E-05	5.47E-05	2.81E-04
RF	WP-RF123.01	9.44	7.49E+01	--	--	--	7.59E-04	8.20E+00	3.02E+02	7.03E+01	1.76E+02	4.97E-03	--	--	5.19E-11	2.19E-07	4.94E-14	5.37E-08	1.16E-03	2.25E-05	6.46E-05	9.90E-08
RF	WP-RF123.02	0.84	2.44E-02	--	--	--	1.87E-07	3.42E-03	8.30E-02	1.93E-02	1.28E-01	2.55E-06	--	--	8.48E-15	6.24E-08	1.19E-17	1.06E-11	2.34E-04	2.70E-05	1.66E-08	2.10E-03
RF	WP-RF123.03	12.18	3.12E+02	--	--	--	5.21E-03	8.37E+00	2.06E+02	4.78E+01	3.00E+02	6.31E-03	--	--	5.50E-10	1.60E-07	3.15E-14	4.82E-07	9.63E-04	2.50E-05	4.25E-05	1.47E-03
RF	WP-RF123.04	44.94	2.29E+02	--	--	--	2.63E-03	3.30E+01	8.06E+02	1.88E+02	1.18E+03	2.49E-02	--	--	2.29E-10	6.72E-07	1.24E-13	2.13E-07	3.95E-03	5.19E-05	1.67E-04	2.61E-04
RF	WP-RF124.01	95.12	7.03E+01	4.49E-06	--	--	1.99E-03	9.16E+00	2.47E+02	5.67E+01	2.91E+02	6.59E-03	--	--	3.04E-10	2.20E-06	4.25E-14	2.30E-07	7.94E-03	1.32E-04	5.38E-05	1.42E-04
RF	WP-RF124.02	13.44	1.86E+01	--	--	--	2.81E-04	2.59E+00	6.66E+01	1.52E+01	8.06E+01	1.84E-03	--	--	3.28E-11	1.31E-07	1.14E-14	2.70E-08	5.74E-04	1.20E-05	1.45E-05	8.78E-08
RF	WP-RF125.01	14.47	2.38E+02	--	--	--	6.53E-03	1.26E+01	3.86E+02	8.92E+01	3.04E+02	7.66E-03	--	--	8.62E-10	2.58E-06	5.87E-14	7.02E-07	9.93E-03	2.97E-04	7.93E-05	6.28E-04
RF	WP-RF126.01	1.05	6.23E+00	--	--	--	5.22E-05	1.23E+00	3.87E+01	8.66E+00	2.41E+01	5.44E-04	--	--	2.66E-12	2.78E-08	5.70E-15	3.16E-09	1.57E-04	2.43E-06	7.70E-06	1.14E-08
RF	WP-RF126.04	2.10	1.41E+01	--	--	--	1.24E-04	2.03E+00	7.07E+01	1.63E+01	4.09E+01	1.27E-03	--	--	6.54E-12	6.35E-08	1.07E-14	7.66E-09	3.23E-04	5.48E-06	1.45E-05	3.15E-08
RF	WP-RF128.01	200.13	1.34E+03	--	--	--	1.40E-02	3.05E+02	8.50E+03	2.06E+03	5.06E+03	1.51E-01	--	--	1.11E-09	4.83E-06	1.54E-12	1.07E-06	3.14E-02	2.71E-04	1.95E-03	2.97E-08
RF	WP-RF129.01	465.47	3.52E+02	1.02E-04	--	5.71E-05	4.87E-03	3.68E+01	8.67E+02	2.07E+02	1.27E+03	2.72E-02	1.26E-19	--	4.76E-10	1.12E-05	1.36E-13	4.26E-07	4.24E-02	1.39E-03	1.84E-04	6.21E-04
RF	WP-RF129.05	445.99	4.21E+02	3.42E-04	--	--	1.34E-02	3.32E+01	7.51E+02	1.81E+02	1.18E+03	2.47E-02	--	--	1.86E-09	2.04E-06	1.19E-13	1.49E-06	8.91E-03	2.08E-04	1.61E-04	6.31E-05

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2033
(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-RF130.01	38.79	3.28E+02	--	4.95E-08	3.69E-04	1.08E-02	2.03E+01	4.95E+02	1.15E+02	7.26E+02	1.53E-02	1.99E-15	1.71E-02	1.51E-09	1.52E-05	4.56E-09	1.21E-06	4.22E-02	1.60E-03	1.02E-04	2.29E-03
RF	WP-RF134.02	11.28	3.13E-01	--	--	--	2.56E-06	3.74E-02	9.25E-01	2.14E-01	1.34E+00	2.82E-05	--	--	1.28E-13	5.12E-10	1.41E-16	1.53E-10	3.57E-06	2.73E-08	1.91E-07	1.31E-13
RF	WP-RF135.01	2.31	5.19E+00	--	--	--	9.49E-05	1.32E-01	3.31E+00	7.65E-01	4.76E+00	1.00E-04	--	--	1.06E-11	9.06E-08	5.04E-16	9.09E-09	3.35E-04	3.73E-05	6.81E-07	2.89E-03
RF	WP-RF135.02	10.50	2.07E+00	--	--	--	2.84E-05	2.50E-01	6.17E+00	1.43E+00	9.37E+00	1.88E-04	--	--	2.68E-12	1.10E-06	8.79E-16	2.45E-09	4.14E-03	1.33E-04	1.23E-06	1.17E-06
RF	WP-RF137.01	0.42	3.30E-01	--	--	--	6.11E-06	2.68E-02	6.81E-01	1.57E-01	9.73E-01	2.05E-05	--	--	7.05E-13	3.67E-10	1.04E-16	5.97E-10	2.56E-06	2.01E-08	1.40E-07	9.52E-14
RF	WP-RF139.01	11.76	3.54E+02	--	--	--	6.36E-03	1.34E+00	3.34E+01	7.73E+00	5.04E+01	1.01E-03	--	--	6.60E-10	6.68E-07	4.76E-15	5.89E-07	2.57E-03	2.00E-04	6.65E-06	1.30E-02
RF	WP-RF140.01	171.31	7.92E+01	1.36E-05	--	--	9.92E-04	1.09E+01	2.47E+02	5.99E+01	3.87E+02	8.12E-03	--	--	9.26E-11	1.84E-07	3.94E-14	8.41E-08	1.17E-03	1.13E-05	5.33E-05	3.50E-08
RF	WP-RF141.01	45.99	2.65E+02	--	--	--	2.14E-03	5.81E+01	1.82E+03	4.25E+02	1.22E+03	2.81E-02	--	--	1.05E-10	7.42E-05	2.80E-13	1.27E-07	2.72E-01	8.62E-03	3.78E-04	7.58E-05
RF	WP-RF141.02	177.66	1.92E+03	--	--	--	2.60E-01	2.27E+02	7.42E+03	1.77E+03	4.46E+03	1.52E-01	--	--	4.26E-08	8.36E-05	1.16E-12	3.27E-05	3.14E-01	9.63E-03	1.57E-03	8.32E-05
RL	RL105-01	186.26	5.31E+01	9.67E-02	7.34E-01	1.41E+02	4.29E-02	6.94E+00	2.67E+01	1.08E+01	3.54E+02	3.20E-03	--	4.85E+01	4.72E-09	1.55E-06	1.60E-12	4.46E-06	7.29E-03	3.80E-03	1.36E-03	6.20E-02
RL	RL105-03	68.43	4.55E+01	--	--	6.66E+01	9.12E-04	3.88E+00	2.31E+01	1.27E+01	1.82E+02	6.06E-03	--	3.22E+02	8.20E-11	9.44E-06	5.80E-15	8.04E-08	4.12E-02	1.54E-03	9.41E-06	3.30E-02
RL	RL200-01	149.30	7.80E+01	--	--	3.03E-01	6.97E-04	1.16E-01	9.49E-01	3.39E-01	1.78E+00	3.29E-05	--	2.19E-02	3.27E-11	1.27E-09	1.81E-16	4.11E-08	9.89E-06	2.52E-08	2.72E-07	1.38E-13
RL	RL200-02	5892.28	3.06E+03	--	--	1.12E+00	9.14E-02	3.79E+02	9.80E+03	2.57E+03	6.01E+03	1.95E-01	--	9.84E-01	7.78E-09	2.94E-06	9.96E-13	8.03E-06	2.70E-02	2.22E-04	1.75E-03	6.95E-10
RL	RL201-03	13.52	2.74E+01	--	--	1.62E+00	1.99E-04	7.81E-04	1.88E+00	4.63E-01	1.63E-02	6.76E-07	--	4.07E+01	6.17E-12	4.93E-11	1.64E-16	9.54E-09	4.86E-07	4.08E-08	3.02E-07	7.00E-03
RL	RL202S-01	1.04	5.06E-02	--	--	6.94E-08	2.28E-06	9.46E-03	6.53E-02	2.44E-02	5.47E-02	2.81E-06	--	6.07E-08	2.07E-13	7.34E-11	9.45E-18	2.10E-10	6.73E-07	1.48E-09	1.66E-08	1.00E-14
RL	RL209E-01	484.11	2.82E+03	--	--	3.25E-06	4.08E-02	4.55E+02	3.83E+03	1.39E+03	5.62E+03	2.05E-01	--	2.85E-06	2.56E-09	1.88E-05	4.94E-13	2.95E-06	1.08E-01	2.91E-03	9.09E-04	7.24E-03
RL	RL216Z-02	309.27	1.60E+03	--	--	--	1.10E-02	3.18E+02	4.50E+03	1.06E+03	5.77E+03	6.33E-02	--	--	3.49E-10	2.24E-06	3.74E-13	5.29E-07	2.15E-02	9.76E-05	6.89E-04	2.16E-10
RL	RL221T-01	8.74	1.60E-01	--	--	--	2.83E-06	1.56E-02	9.46E-02	5.32E-02	1.19E-01	2.16E-06	--	--	5.78E-13	9.69E-10	1.36E-16	3.46E-10	3.32E-06	5.50E-09	9.32E-08	1.98E-14
RL	RL221U-03	0.21	1.32E-04	--	--	1.88E-04	8.92E-10	1.35E-05	6.79E-04	1.55E-04	3.35E-04	1.32E-08	--	1.65E-04	2.65E-17	9.55E-14	5.47E-20	4.16E-14	9.17E-10	1.47E-11	1.01E-10	4.51E-17
RL	RL222S-01	123.47	2.18E+01	4.19E-05	--	1.00E-01	3.22E-03	1.16E+00	7.45E+00	3.36E+00	2.99E+01	2.43E-04	--	8.65E-02	6.41E-05	1.24E-08	1.30E-15	3.17E-02	9.89E-05	7.27E-07	2.29E-06	1.39E-02
RL	RL231Z-01	1539.54	2.96E+02	4.92E-03	--	3.58E-02	2.45E-02	5.87E+01	5.97E+02	1.59E+02	6.72E+02	1.91E-02	--	3.14E-02	2.35E-09	1.84E-05	6.14E-14	2.35E-06	8.88E-02	2.26E-03	1.08E-04	1.40E-02
RL	RL231Z-03	0.62	1.14E-01	--	--	--	1.98E-06	6.98E-05	3.09E-01	1.06E-01	4.50E-02	9.52E-06	--	--	3.61E-13	3.52E-12	2.27E-16	2.30E-10	1.33E-08	1.64E-08	1.71E-07	7.98E-14
RL	RL233S-01	44.00	1.96E+01	--	--	1.02E-03	7.91E-03	3.14E+00	2.78E+01	9.03E+00	3.07E+01	2.73E-03	--	8.97E-04	7.94E-10	5.51E-08	3.49E-15	7.85E-07	3.69E-04	5.49E-06	6.15E-06	7.30E-05
RL	RL233S-03	5.20	3.88E-01	--	--	3.63E-06	3.15E-04	7.74E-02	3.65E-01	1.47E-01	2.78E-01	9.33E-05	--	2.92E-06	3.46E-11	6.57E-10	6.18E-17	3.27E-08	5.77E-06	8.63E-09	1.04E-07	3.47E-13
RL	RL300-01	158.92	3.19E+02	5.05E-03	--	1.59E-02	8.39E-03	6.60E+01	3.88E+02	1.79E+02	9.64E+02	3.47E-02	--	1.40E-02	6.39E-10	1.73E-05	3.38E-04	6.95E-07	8.75E-02	3.75E-03	1.16E-04	8.75E-02
RL	RL300-03	3.74	1.40E+01	--	--	1.31E-03	1.66E-04	2.40E+00	1.50E+01	7.66E+00	4.22E+01	1.27E-03	--	1.57E-03	9.40E-12	5.33E-08	2.71E-15	1.12E-08	3.43E-04	6.61E-06	4.99E-06	1.09E-04
RL	RL308-01	561.02	2.18E+04	1.85E-03	--	1.14E-01	1.53E-01	5.04E+03	9.46E+03	6.12E+03	4.61E+04	5.80E+00	--	1.01E-01	1.45E-04	6.42E-05	5.30E-04	7.48E-02	4.83E-01	1.42E-02	3.99E-03	2.03E-01
RL	RL308-03	0.42	2.57E-01	--	--	--	3.66E-06	4.03E-02	3.34E-01	1.27E-01	2.27E-01	1.53E-05	--	--	4.72E-13	1.42E-09	1.96E-16	3.56E-10	6.31E-06	1.51E-08	1.73E-07	1.09E-13
RL	RL325-01	1206.60	2.02E+03	4.70E-01	3.51E+00	6.15E-01	2.23E-01	7.53E+02	1.76E+03	7.09E+02	4.41E+03	2.11E-01	--	5.93E-01	1.09E-04	7.12E-05	1.92E-03	5.62E-02	3.77E-01	1.13E-02	4.62E-04	1.12E-01
RL	RL325-03	14.35	5.71E+01	1.21E-01	2.67E+01	5.72E-02	4.63E-03	1.23E+01	5.19E+01	2.42E+01	2.17E+02	4.48E-03	--	2.16E-01	4.03E-10	2.61E-07	8.53E-15	4.23E-07	1.69E-03	3.53E-05	1.57E-05	5.21E-04
RL	RL618-01	158.76	6.02E+02	--	--	2.06E+03	5.29E-03	2.56E+02	1.31E+02	1.25E+03	3.01E+02	1.58E+03	--	1.81E+03	2.45E-10	2.79E-06	6.65E-13	3.10E-07	2.17E-02	3.49E-06	9.97E-04	6.63E-06
RL	RLALE-02	0.62	2.51E-04	--	--	2.08E-07	1.47E-09	2.21E-05	5.29E-02	1.71E-03	1.89E-03	1.68E-07	2.27E-11	1.83E-07	3.90E-17	1.56E-13	6.06E-19	6.39E-14	1.50E-09	1.15E-09	1.12E-09	5.72E-16
RL	RLARG-01	13.31	6.11E+01	--	--	--	8.70E-04	1.94E+02	4.38E+01	2.22E+01	7.55E+01	7.70E-04	--	--	1.17E-10	7.48E-06	1.45E-05	8.62E-08	3.19E-02	2.07E-06	3.16E-05	5.73E-12
RL	RLBAT-01	45.18	9.40E+00	--	--	--	1.45E-03	9.84E+01	1.10E+01	4.16E+00	3.25E+01	2.36E-04	--	--	1.43E-10	4.45E-06	5.24E-06	1.42E-07	2.44E-02	6.58E-04	2.83E-06	5.59E-04
RL	RLBW-01	204.33	3.57E+02	1.80E-05	--	4.47E-02	4.23E-03	6.19E+01	4.12E+02	1.96E+02	9.97E+02	3.51E-02	--	3.92E-02	6.22E-05	2.18E-06	6.93E-14	3.21E-02	1.28E-02	2.39E-04	1.28E-04	4.98E-03
RL	RLBW-03	2.70	1.35E+01	--	--	4.31E-07	1.46E-04	2.16E+00	1.34E+01	6.83E+00	3.65E+01	1.10E-03	--	3.87E-07	8.23E-12	8.45E-08	2.64E-15	9.71E-09	4.74E-04	1.03E-05	4.65E-06	1.64E-04
RL	RLCFF-01	3.33	6.96E+00	--	--	1.78E-07	5.04E-05	1.03E+00	7.42E+00	3.75E+00	1.80E+01	6.11E-04	--	1.56E-07	1.72E-12	1.81E-08	1.62E-08	2.52E-09	1.21E-04	1.85E-06	2.56E-06	4.49E-05
RL	RLCFF-03	4.99	6.53E+00	--	--	--	4.61E-05	1.50E+01	7.16E+00	3.51E+00	1.66E+01	4.45E-04	--	--	1.49E-12	1.27E-07	1.36E-15	2.24E-09	1.12E-03	2.45E-06	2.39E-06	4.90E-05
RL	RLCH2-01	2.10	2.88E-02	--	--	2.47E-01	2.15E-07	2.29E-03	2.02E-02	5.18E-03	1.69E-02	--	--	1.07E+00	3.19E-06	1.81E-11	2.00E-18	1.58E-03	1.66E-07	2.05E-06	3.53E-09	4.47E-05
RL	RLESG-01	35.75	2.86E+01	--	--	7.07E-02	4.12E-04	3.29E+00	2.35E+01	1.07E+01	6.07E+01	1.99E-03	--	5.60E-02	2.58E-11	7.52E-06	8.96E-06	2.98E-08	3.73E-02	9.48E-04	6.96E-06	9.26E-04
RL	RLESG-03	1.04	2.16E-02	--	--	2.33E-03	1.18E-07	4.75E-03	1.64E-01	4.03E-02	2.07E-01	2.64E-06	--	2.05E-03	2.94E-15	3.35E-11	1.43E-17	4.95E-12	3.22E-07	3.56E-09	2.63E-08	9.02E-15
RL	RLEXX-01	129.79	3.24E+02	--	--	--	3.08E-03	1.03E+02	7.69E+01	6.56E+01	7.03E+02	8.00E-02	--	--	1.46E-10	2.24E-06	2.32E-14	1.86E-07	1.45E-02	1.00E-04	4.28E-05	3.94E-03
RL	RLFFTF-01	1.04	1.36E-02	--	--	6.98E-03	9.22E-08	3.05E-03	1.10E-02	9.50E-03	3.36E-02	--	--	4.58E-03	2.74E-15	2.15E-11	3.36E-18	4.31E-12	2.07E-07	2.39E-10	6.19E-09	--
RL	RLGEV-01	224.26	1.26E+02	--	--	1.85E-05	1.30E-03	2.26E+01	1.42E+02	6.16E+01	3.62E+02	9.74E-03	--	1.62E-05	6.67E-11	1.37E-05	2.18E-14	8.25E-08	6.83E-02	1.42E-03	4.02E-05	4.85E-02
RL	RLGEV-03	1.87	1.10E+01	--	--	4.46E-08	7.32E-05	1.52E+00	6.93E+00	3.91E+00	4.97E+01	1.58E-04	--	4.00E-08	2.28E-12	1.23E-08	1.51E-15	3.47E-09	1.11E-04	2.37E-07	2.67E-06	1.20E-06
RL	RLHAN-01	626.73	3.06E+02	--	--	3.32E-05	2.75E-03	3.72E+01	4.56E+02	1.59E+02	5.58E+02	2.40E-02	--	2.92E-05	1.28E-10	2.88E-07	6.15E-14	1.63E-07	2.64E-03	1.03E-05	1.08E-04	8.55E-11
RL	RLIAEA-03	0.42	7.94E-01	--	--	1.06E-05	5.90E-06	3.55E-01	2.21E-01	2.83E-01	6.12E-01	4.19E-04	--	9.31E-06	1.98E-13	2.75E-09	1.10E-16	2.93E-10	2.53E-05	5.00E-09	1.93E-07	1.50E-12
RL	RLMLL-01	1.04	8.76E-02	--	--	--	1.59E-06	8.53E-03	5.20E-02	2.92E-02	6.24E-02	1.19E-06	--	--	3.34E-13	5.49E-10	7.72E-17	1.97E-10	1.85E-06	3.07E-09	5.21E-08	1.10E-14
RL	RLP11-01	64.26	3.79E+00	--	--	--	2.52E-05	5.25E-01	2.39E+00	1.35E+00	1.72E+01	5.46E-05	--	--	7.82E-13	4.07E-09	5.22E-16	1.19E-09	3.74E-05	5.42E-08	9.20E-07	1.95E-13
RL	RLPFP-01	13099.27	3.80E+04	6.12E-03	--	9.78E-02	7.83E-01	7.88E+03	6.62E+04	2.17E+04	1.09E+05	4.14E+00	--	8.59E-02	5.70E-03	6.58E-04	4.65E-04	2.95E+00	3.51E+00	8.65E-02	1.42E-02	1.56E+00
RL	RLPFP-03	15.18	1.25E+02	--	--	3.64E-05	1.39E-03	2.41E+01	2.18E+02	6.79E+01	3.37E+02	1.26E-02	--	3.20E-05	7.56E-11	3.47E-06	2.40E-14	9.16E-08	1.80E-02	8.61E-05	4.43E-05	6.66E-04
RL	RLPFP-04	19.55	8.37E+01	--	--	1.53E-03	1.17E-03	1.38E+01	1.86E+02	5.25E+01	2.71E+02	6.22E-03	--	1.34E-03	7.24E-11	8.38E-07	1.86E-14	8.38E-08	4.60E-03	1.26E-04	3.42E-05	1.83E-03
RL	RLPURX-01	721.83	4.47E+03	4.50E-04	--	6.67E+00	3.31E-02	1.14E+03	7.00E+03	2.66E+03	3.03E+04	6.27E-01	--	5.87E+00	3.21E-03	8.84E-06	9.43E-13	1.66E+00	8.13E-02	2.80E-04	1.74E-03	2.10E-03
RL	RLRFET-01	253.14	7.69E+01	--	--	--	1.26E-03	7.30E-01	4.08E+00	2.30E+00	8.34E+00	9.31E-05	--	--	1.94E-10	2.96E-08	4.04E-15	1.35E-07	1.23E-04	1.97E-07	3.34E-06	7.08E-13
RL	RLSAN-01	4.16	5.57E+01	--	--	--	8.25E-04	5.85E+00	3.30E+01	1.86E+01	6.42E+01	7.46E-04	--	--	1.20E-10	2.48E-07	3.40E-14	8.50E-08	1.01E-03	1.62E-06	2.76E-05	5.79E-12
RL	RLSWO-01	325.85	1.57E+02	2.09E-05	--	6.78E-03	2.64E-03	3.30E+01	2.93E+02	9.69E+01	5.13E+02	1.48E-02	--	5.96E-03	1.78E-10	6.86E-07	3.43E-14	2.01E-07	4.47E-03	8.86E-05	6.31E-05	6.01E-05
RL	RLWAR-01	448.84	3.61E+02	7.50E-12	--	1.14E-05	4.13E-03	9.99E+01	1.47E+02	9.33E+01	8.73E+02	7.32E-02	--	1.00E-05	2.28E-10	1.44E-05	5.88E-06	2.74E-07	7.44E-02	2.54E-03	6.08E-05	1.40E-02

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2033
(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	RLWAR-03	7.28	5.21E+00	--	--	4.55E-07	5.09E-05	1.01E+00	3.96E+00	1.92E+00	1.35E+01	7.53E-04	--	--	2.87E-12	1.87E-07	8.77E-16	3.32E-09	8.53E-04	3.81E-05	1.42E-06	3.64E-05
RL	WP-RLBWD.001	91.98	2.64E+02	--	--	1.81E-03	3.47E-03	4.60E+01	3.13E+02	1.52E+02	5.82E+02	3.21E-02	--	1.92E-03	2.23E-10	3.80E-06	5.88E-14	2.51E-07	1.96E-02	7.56E-05	1.04E-04	5.87E-03
RL	WP-RLCBWD.001	207.48	3.75E+02	2.05E-05	--	6.71E-03	4.96E-03	6.27E+01	4.32E+02	2.05E+02	8.57E+02	3.63E-02	--	5.87E-03	7.82E-05	2.82E-06	1.01E-13	3.42E-02	1.43E-02	2.54E-04	1.58E-04	5.25E-03
RL	WP-RLCCP300D1	17.01	4.19E+01	7.10E-05	3.11E-01	1.52E-04	9.06E-04	9.91E+00	3.64E+01	1.85E+01	8.16E+01	5.84E-03	--	1.62E-04	1.17E-05	3.01E-06	6.54E-15	6.06E-03	1.52E-02	3.43E-04	1.20E-05	1.20E-03
RL	WP-RLCCP308D1	37.60	1.68E+01	1.35E-05	--	1.82E-05	2.60E-04	1.45E+00	1.94E+01	4.18E+00	2.62E+01	2.63E-04	--	1.94E-05	1.67E-11	2.60E-06	1.48E-15	1.91E-08	1.29E-02	4.27E-04	2.72E-06	8.99E-13
RL	WP-RLCFFD.001	286.43	5.76E+02	--	--	1.26E-05	5.06E-03	8.06E+01	6.07E+02	3.07E+02	1.17E+03	4.73E-02	--	1.10E-05	2.54E-10	2.02E-06	1.31E-06	3.07E-07	1.13E-02	1.53E-04	2.55E-04	3.04E-03
RL	WP-RLETECD.001	35.10	1.79E+01	--	--	3.85E-02	2.80E-04	1.99E+00	1.47E+01	6.68E+00	3.12E+01	1.23E-03	--	3.37E-02	2.34E-11	5.46E-06	5.86E-06	2.32E-08	2.29E-02	5.94E-04	5.15E-06	5.90E-04
RL	WP-RLEXXOD.001	12.14	5.88E+01	--	--	--	6.11E-04	1.83E+01	1.39E+01	1.19E+01	1.10E+02	1.44E-02	--	--	3.60E-11	4.88E-07	5.42E-15	4.10E-08	2.81E-03	1.81E-05	8.78E-06	7.31E-04
RL	WP-RLHMOX.001	195.72	9.99E+03	4.29E-04	--	3.40E-04	4.94E-01	1.37E+03	7.75E+03	3.92E+03	1.69E+04	1.96E+00	--	2.92E-04	7.40E-08	2.26E-04	2.58E-12	5.82E-05	8.83E-01	4.87E-02	3.49E-03	5.96E-01
RL	WP-RLM209ED.001	27.16	8.43E+01	--	--	1.00E-07	1.35E-03	1.29E+01	1.14E+02	4.20E+01	1.38E+02	6.10E-03	--	8.73E-08	1.15E-10	7.36E-07	2.07E-14	1.13E-07	3.59E-03	9.58E-05	3.23E-05	1.83E-04
RL	WP-RLM231ZD.001	22.34	2.28E+01	2.67E-05	--	8.32E-04	1.45E-02	2.78E+00	6.22E+01	1.52E+01	3.63E+01	1.53E-03	--	8.48E-04	1.47E-09	7.68E-07	5.88E-15	1.45E-06	3.73E-03	3.92E-05	1.04E-05	9.78E-04
RL	WP-RLM233SD.001	50.96	3.07E+01	--	--	1.59E-03	1.30E-02	4.90E+00	4.39E+01	1.31E+01	3.87E+01	1.01E-02	--	1.39E-03	1.79E-09	1.13E-07	7.01E-15	1.51E-06	6.55E-04	9.18E-06	1.05E-05	1.20E-04
RL	WP-RLM300D.001	31.34	3.61E+01	6.76E-04	--	4.02E-05	1.11E-03	7.04E+00	4.16E+01	1.95E+01	8.51E+01	3.87E-03	--	3.52E-05	1.18E-10	2.45E-06	4.59E-05	1.08E-07	1.05E-02	4.60E-04	1.50E-05	1.14E-02
RL	WP-RLM308D.001	82.51	2.15E+03	1.42E-03	--	2.32E-02	3.77E-02	4.70E+02	1.01E+03	6.31E+02	3.49E+03	5.82E-01	--	2.02E-02	3.78E-05	2.02E-05	1.97E-04	1.54E-02	9.85E-02	2.01E-03	5.23E-04	2.61E-02
RL	WP-RLM325D.001	231.51	8.84E+02	6.59E-02	4.16E+00	5.53E-02	2.38E-02	1.46E+02	3.78E+02	1.73E+02	8.38E+02	5.97E-01	--	4.89E-02	2.57E-05	2.42E-05	2.35E-04	1.22E-02	1.15E-01	2.79E-03	1.23E-04	1.78E-02
RL	WP-RLMGEVALD.001	26.32	8.96E+00	--	--	1.37E-06	1.11E-04	1.58E+00	1.00E+01	4.25E+00	2.07E+01	7.04E-04	--	1.20E-06	8.00E-12	4.95E-07	2.10E-15	8.34E-09	2.13E-03	1.12E-04	3.28E-06	1.39E-03
RL	WP-RLMHASH.001	62.79	8.02E+02	--	--	2.01E-06	8.10E-03	6.28E+01	2.44E+03	6.03E+02	9.58E+02	8.17E-02	--	9.08E-07	4.87E-06	9.89E-07	4.52E-13	1.73E-03	6.45E-03	7.76E-05	5.72E-04	4.06E-10
RL	WP-RLMPDT.001	2130.11	5.59E+03	3.88E-03	--	1.48E-02	2.27E-01	1.06E+03	9.06E+03	3.02E+03	1.24E+04	5.71E-01	--	1.29E-02	1.40E-03	2.60E-05	8.97E-05	5.70E-01	1.46E-01	1.94E-03	2.51E-03	1.83E-02
RL	WP-RLMPFPDD	451.49	8.84E+02	1.60E-04	--	8.96E-03	1.51E-02	1.45E+02	1.43E+03	5.05E+02	1.66E+03	3.52E+00	--	5.24E-04	7.23E-05	5.58E-06	1.96E-13	3.58E-02	3.14E-02	1.32E-04	3.44E-04	7.28E-03
RL	WP-RLMPURX.001	149.84	8.50E+02	1.15E-04	--	1.69E+00	8.65E-03	1.91E+02	1.30E+03	4.84E+02	3.76E+03	1.10E-01	--	1.47E+00	9.44E-04	2.57E-06	2.98E-13	3.70E-01	1.81E-02	5.45E-05	4.16E-04	2.65E-04
RL	WP-RLMSSC.001	65.31	8.85E+02	--	--	--	7.86E-03	1.72E+02	2.79E+03	6.18E+02	3.06E+03	7.24E-02	--	--	4.46E-10	2.59E-06	4.35E-13	5.03E-07	1.73E-02	9.16E-05	5.68E-04	3.93E-04
RL	WP-RLMWARD.001	106.65	1.18E+02	1.06E-11	--	3.45E-06	1.52E-03	3.16E+01	4.76E+01	3.04E+01	2.34E+02	2.37E-02	--	3.01E-06	1.12E-10	4.89E-06	1.92E-06	1.16E-07	2.17E-02	7.38E-04	2.34E-05	3.92E-03
RL	WP-RLNPDT.002	441.48	7.46E+02	3.48E-03	--	7.71E-04	8.71E-03	1.62E+02	2.01E+03	4.79E+02	1.99E+03	8.39E-02	--	5.08E-04	7.59E-10	3.84E-06	6.21E-08	7.02E-07	2.10E-02	2.21E-04	4.54E-04	4.35E-04
RL	WP-RLNPURX.001	39.15	3.34E+02	4.12E-05	--	1.06E-03	2.63E-03	8.08E+01	4.12E+02	1.60E+02	1.80E+03	5.02E-02	--	6.48E-04	1.31E-10	1.19E-06	1.12E-13	1.56E-07	8.01E-03	1.26E-05	1.47E-04	2.41E-10
RL	WP-RLRFETS.001	64.47	6.46E+02	--	--	1.04E-05	6.19E-03	6.53E+01	3.81E+03	6.31E+02	1.43E+03	6.53E-02	--	1.02E-06	2.11E-05	2.49E-06	4.73E-13	7.51E-03	1.17E-02	2.95E-04	5.99E-04	3.24E-10
RL	WP-RLSWOCD.001	39.74	2.07E+01	5.56E-06	--	8.30E-04	3.81E-04	4.13E+00	3.82E+01	1.25E+01	5.47E+01	1.89E-03	--	7.25E-04	3.48E-11	1.13E-07	6.17E-15	3.35E-08	6.35E-04	1.19E-05	9.62E-06	7.92E-06
RL	WP-RLVIPAC.001	154.16	3.79E+02	1.69E-05	--	1.07E-03	6.29E-03	1.26E+02	9.77E+02	2.98E+02	4.29E+02	8.82E-02	--	9.30E-04	3.68E-05	1.31E-04	1.59E-13	1.55E-02	5.32E-01	1.37E-02	2.39E-04	2.62E-01
SA	SA-W136	13.68	1.41E+00	--	--	--	8.14E-06	5.95E-01	2.25E+01	5.32E+00	1.22E+01	1.81E-04	--	--	2.24E-13	4.61E-09	2.06E-15	3.58E-10	4.23E-05	5.11E-07	3.62E-06	6.47E-13
SA	SA-W137	0.21	4.70E-06	--	--	--	2.54E-11	--	1.30E-03	1.28E-04	4.66E-05	--	--	--	6.23E-19	--	4.52E-20	1.05E-15	--	2.82E-11	8.33E-11	--
SA	SA-W138M	0.21	3.94E-06	--	--	--	1.92E-10	--	--	--	--	--	--	--	1.61E-17	--	--	1.70E-14	--	--	--	--
SR	SR-221H-PuOx	19.14	1.38E+02	--	--	--	1.62E-03	1.89E+01	5.29E+02	1.27E+02	4.84E+02	1.76E-02	--	--	9.21E-11	1.33E-07	4.50E-14	1.10E-07	1.28E-03	1.15E-05	8.28E-05	6.02E-11
SR	SR-AGNS-HET	1.89	6.98E-02	3.41E-07	--	9.79E-07	3.48E-05	1.32E-01	4.66E-02	2.83E-02	5.09E-02	1.29E-05	--	9.03E-07	2.89E-08	2.21E-08	1.57E-08	6.23E-06	5.67E-05	3.45E-07	4.45E-08	7.00E-06
SR	SR-AGNS-HOM	7.56	2.19E+00	--	--	--	1.71E-03	1.32E+00	3.35E+00	7.89E-01	2.81E+00	1.38E-04	--	--	9.04E-10	1.70E-07	1.62E-15	3.90E-07	4.63E-04	1.10E-05	1.24E-06	2.32E-04
SR	SR-BCLDP-HET	15.12	3.41E-01	--	--	--	3.09E-06	6.94E+01	2.97E-01	1.37E-01	7.46E-01	4.25E-05	--	--	1.68E-13	9.50E-07	9.03E-17	1.95E-10	6.63E-03	8.77E-09	1.22E-07	1.98E-13
SR	SR-BCLDP.003.001	1.89	1.83E-02	6.79E-05	1.90E-03	8.95E-02	1.00E-06	7.62E-03	1.37E-03	2.24E-03	3.52E-02	5.52E-06	--	4.30E-02	4.15E-13	2.01E-09	9.14E-16	2.19E-10	7.63E-06	2.31E-07	6.19E-07	1.37E-06
SR	SR-BCLDP.004.004	1.89	1.98E-02	--	1.19E-02	--	1.98E-07	6.69E-03	8.23E-04	1.42E-03	--	--	--	1.00E+00	9.37E-13	3.26E-09	3.32E-15	3.64E-10	1.21E-05	1.69E-07	2.24E-06	3.26E-06
SR	SR-KAC-HET	23.36	1.94E+01	--	--	--	2.63E-04	4.70E+00	4.73E+01	1.22E+01	3.92E+01	4.04E-03	--	--	1.93E-11	4.35E-08	5.59E-15	2.03E-08	3.66E-04	9.09E-05	9.05E-06	3.16E-06
SR	SR-LA-PAD1	102.06	3.14E+01	1.33E-05	--	1.56E-05	1.78E-03	7.03E+03	1.30E+01	9.09E+00	1.29E+01	2.89E-02	--	1.90E-05	3.30E-05	1.65E-03	2.56E-14	6.07E-03	3.61E+00	2.84E-05	1.67E-05	2.78E-10
SR	SR-MD-HET	179.49	2.29E+01	4.77E-05	2.42E-04	9.69E-04	4.45E-03	2.02E+03	5.00E+01	7.64E+00	1.09E+01	4.45E-03	--	8.83E-04	4.77E-03	4.60E-04	1.21E-01	8.92E-01	1.03E+00	2.86E-04	1.38E-05	5.14E-03
SR	SR-MD-HOM-C	1.89	9.18E-04	--	--	--	9.14E-09	2.66E-01	--	--	--	6.68E-09	--	--	5.30E-16	3.64E-09	--	5.99E-13	2.54E-05	--	--	1.59E-17
SR	SR-MD-PAD1	473.64	2.82E+01	8.36E-05	7.20E-03	4.32E-02	2.80E-03	7.54E+03	1.31E+01	8.06E+00	1.09E+01	2.63E-02	--	3.93E-02	1.77E-09	1.79E-03	2.27E-14	6.77E-07	3.92E+00	3.87E-05	1.48E-05	3.46E-05
SR	SR-MD-SOIL	28.35	1.80E-01	--	--	3.02E-05	2.54E-05	9.54E+00	2.93E-01	4.23E-02	1.86E-01	5.62E-05	--	2.91E-05	2.49E-12	4.81E-07	1.64E-17	2.47E-09	2.61E-03	6.63E-09	2.88E-08	2.00E-13
SR	SR-NIST-HET	1.89	6.61E+00	--	--	--	8.48E-05	6.11E+00	2.57E+00	6.08E-01	4.05E+00	1.09E-04	--	--	8.52E-12	3.16E-07	1.56E-13	7.31E-09	1.24E-03	6.37E-06	7.94E-05	2.50E-07
SR	SR-SDD-HET-A	9.02	2.63E-02	3.99E-06	1.47E-04	9.70E-05	5.65E-05	3.74E+00	2.54E-01	3.55E-02	1.86E-01	3.15E-05	--	2.28E-02	9.43E-09	4.81E-08	6.07E-16	3.98E-06	3.47E-04	6.62E-08	4.70E-07	1.27E-06
SR	SR-SDD-HET-B	7.56	1.94E+00	--	--	--	2.69E-05	7.87E+01	2.56E+00	6.27E-01	2.88E+00	1.53E-04	--	9.79E-09	3.53E-12	3.04E-06	1.06E-15	2.63E-09	1.30E-02	1.21E-07	8.93E-07	9.07E-10
SR	SR-SDD-HOM-A	8.15	2.11E-01	7.94E-04	--	--	1.10E-01	1.08E+01	1.18E+00	2.24E-01	9.18E-01	5.14E-01	--	--	1.19E-03	2.81E-04	4.49E-12	5.02E-01	1.13E+00	8.98E-04	3.37E-03	5.45E-02
SR	SR-SDD-HOM-B	25.90	6.40E+00	1.42E-03	2.76E-02	6.29E-03	1.44E-02	9.52E+02	6.46E+01	9.01E+00	4.62E+01	3.12E-02	--	2.62E-03	1.99E-09	1.23E-05	1.60E-13	1.68E-06	8.84E-02	6.41E-05	1.23E-04	1.84E-03
SR	SR-SWMF-HET-A	246.06	2.56E+01	2.13E-03	2.75E-01	1.02E-02	2.30E-02	1.74E+03	5.01E+01	1.32E+01	6.78E+01	3.85E-02	--	9.84E-03	5.27E-06	7.25E-05	6.98E-07	2.40E-03	3.81E-01	5.14E-05	9.77E-06	2.04E-03
SR	SR-SWMF-HET-B	3.78	6.78E-01	8.83E-01	1.12E+01	--	1.23E-05	9.41E-01	3.17E-03	5.16E-01	5.31E-02	2.82E-04	1.34E-13	--	2.32E-12	4.73E-08	8.77E-16	1.46E-09	1.78E-04	1.32E-10	7.11E-07	2.35E-12
SR	SR-SWMF-SOIL	7.56	3.76E+00	4.89E+00	6.20E+01	--	6.80E-05	5.21E+00	1.76E-02	2.86E+00	2.94E-01	1.56E-03	7.44E-13	--	1.28E-11	2.62E-07	4.86E-15	8.07E-09	9.87E-04	7.33E-10	3.94E-06	1.30E-11

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2033
(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-HEPA	18.90	5.22E+00	1.11E-12	--	1.01E-06	9.50E-05	8.49E-01	1.60E+01	4.17E+00	6.44E+00	4.84E-04	--	9.50E-07	1.56E-05	2.40E-07	5.65E-15	4.13E-03	6.64E-04	1.24E-05	5.32E-06	8.97E-07
SR	SR-W026-221F-HET	433.01	4.14E+02	5.77E-05	2.29E-02	6.43E-04	7.36E-03	2.93E+02	1.38E+03	3.82E+02	1.57E+03	2.42E-01	--	6.26E-04	8.00E-10	4.55E-05	4.50E-05	7.00E-07	1.84E-01	2.13E-03	3.28E-04	1.40E-02
SR	SR-W026-221F-HET-A	3.78	1.37E+00	--	1.02E-02	4.34E-01	2.00E-05	1.10E-01	2.42E+00	6.08E-01	4.85E+00	1.06E-04	--	1.17E-01	8.05E-08	2.06E-07	5.36E-15	3.16E-05	7.79E-04	2.45E-05	4.01E-06	9.29E-06
SR	SR-W026-221F-HOM	9.98	3.55E+00	2.20E-03	--	1.38E-02	2.01E-04	4.46E+00	1.53E+01	3.86E+00	1.45E+01	5.80E-02	--	6.79E-03	6.13E-11	4.66E-07	5.22E-15	3.36E-08	1.48E-03	1.32E-04	4.92E-06	4.45E-03
SR	SR-W026-772F-HET	342.40	9.76E+01	7.64E-04	3.70E-01	1.69E-01	8.78E-02	2.62E+03	1.44E+02	3.59E+01	1.91E+02	1.61E-02	--	1.60E-01	7.42E-05	1.80E-04	1.91E-04	2.84E-02	7.89E-01	5.75E-04	3.09E-05	3.85E-04
SR	SR-W026-DWPF-HET	1.89	7.68E-04	5.82E-06	1.72E-04	9.33E-03	9.80E-07	8.80E-03	5.32E-04	1.95E-04	8.40E-04	4.06E-07	--	2.37E-01	1.15E-08	8.21E-10	1.07E-16	4.87E-06	3.67E-06	3.07E-07	8.06E-08	9.73E-07
SR	SR-W026-MFFF-1	7894.41	7.41E+02	--	--	--	2.49E-03	2.81E+03	2.12E+04	7.77E+03	1.64E+04	--	--	--	2.86E-11	1.69E-05	1.95E-12	6.93E-08	1.77E-01	8.00E-03	4.27E-03	6.91E-05
SR	SR-W026-WSB-2	1565.50	2.01E+05	--	--	--	1.19E+00	1.31E-02	3.10E+02	1.54E+02	1.30E+02	1.18E-02	--	--	2.46E-08	7.77E-05	2.53E-13	4.65E-05	4.70E-01	1.51E-02	3.26E-04	1.42E-04
SR	SR-W027-221F-HET-A	88.76	6.95E+01	2.97E-06	7.66E-05	1.75E-05	1.36E-03	1.41E+01	1.68E+02	5.18E+01	1.13E+02	7.82E-03	--	1.52E-05	4.02E-05	4.89E-06	8.41E-06	9.73E-03	1.24E-02	1.70E-05	7.22E-05	9.23E-05
SR	SR-W027-221H-HEPA	131.91	1.54E+00	1.92E-05	--	1.41E-01	5.61E-03	3.93E+02	5.35E+00	1.32E+00	6.35E+00	2.16E-03	--	1.35E-01	7.79E-10	2.46E-05	7.07E-16	6.56E-07	1.15E-01	1.06E-05	1.06E-06	9.04E-12
SR	SR-W027-221H-HET	50.93	1.31E+01	8.14E-05	4.83E-02	3.81E-04	7.13E-02	3.00E+03	1.23E+01	3.41E+00	8.08E+01	7.69E-03	--	3.64E-04	4.47E-05	2.15E-04	1.12E-04	1.75E-02	9.39E-01	1.14E-04	2.93E-06	1.18E-04
SR	SR-W027-221H-HET-C	460.72	1.33E+02	--	--	7.14E-03	1.25E+00	2.67E+02	4.48E+02	1.11E+02	2.22E+02	2.74E-02	--	6.83E-03	2.01E-07	9.46E-05	6.80E-14	1.57E-04	3.67E-01	7.31E-03	9.50E-05	8.28E-04
SR	SR-W027-221H-HOM	5.24	1.09E+00	3.38E-07	--	9.12E-03	4.15E-04	1.86E+00	2.34E+00	6.37E-01	2.29E+00	2.28E-04	--	8.77E-03	3.74E-08	1.07E-06	2.41E-14	1.64E-05	4.56E-03	8.47E-05	1.90E-05	4.45E-06
SR	SR-W027-235F-HEPA	18.90	1.97E-01	2.94E-12	--	3.81E-07	3.06E-03	8.27E+00	1.12E-01	4.86E-02	7.52E-02	8.56E-05	--	3.53E-07	1.46E-09	2.27E-06	8.91E-17	6.65E-07	5.61E-03	4.50E-05	7.21E-08	6.64E-13
SR	SR-W027-235F-HET	37.93	7.28E+00	3.13E-05	2.57E-03	2.87E-05	9.12E-02	2.12E+03	3.45E+00	1.48E+00	3.28E+01	2.85E-03	--	2.75E-05	1.16E-05	1.93E-04	3.21E-05	4.72E-03	8.42E-01	6.78E-05	1.23E-06	3.08E-05
SR	SR-W027-235F-HOM	6.69	9.97E-01	--	--	--	1.10E-05	7.60E+02	7.32E-01	3.99E-01	2.89E+00	4.77E-04	--	--	1.02E-12	2.18E-05	5.16E-16	8.95E-10	1.07E-01	3.03E-08	4.97E-07	3.11E-12
SR	SR-W027-235F/221H-HET	43.42	1.38E-02	--	--	--	3.03E-03	1.71E+01	1.66E-02	9.03E-03	6.23E-02	1.08E-05	--	--	1.07E-09	5.15E-07	1.22E-17	5.66E-07	2.46E-03	7.02E-10	1.15E-08	7.20E-14
SR	SR-W027-321-322M-HET	4.37	2.17E+01	--	--	--	2.46E-03	7.24E-02	1.84E-01	4.33E-02	5.12E+01	7.57E-06	--	--	1.21E-09	3.50E-09	8.91E-17	5.30E-07	1.34E-05	9.60E-09	6.81E-08	6.22E-14
SR	SR-W027-321M-HOM	1.89	5.03E+00	--	--	--	9.02E-05	1.78E+00	--	--	--	--	--	--	1.65E-11	8.59E-08	--	1.05E-08	3.30E-04	--	--	--
SR	SR-W027-773A-HET	414.45	1.02E+02	6.29E-01	1.92E+01	2.50E-01	1.33E-01	4.65E+03	2.03E+02	4.70E+01	2.58E+02	9.64E-03	--	2.39E-01	5.77E-05	3.18E-04	3.16E-04	2.35E-02	1.43E+00	5.74E-04	3.90E-05	6.14E-03
SR	SR-W027-773A-HOM	1.89	5.56E-02	--	--	--	4.35E-07	5.91E+01	9.62E-02	3.96E-02	3.50E-01	3.73E-05	--	--	2.33E-14	1.28E-06	3.97E-17	2.65E-11	7.16E-03	3.51E-09	4.35E-08	2.14E-13
SR	SR-W027-776A-HET	71.79	1.89E-02	--	--	8.89E-01	1.79E-07	1.24E+01	4.12E-02	1.34E-02	8.47E-02	9.01E-06	--	5.90E-01	1.34E-14	3.73E-07	1.82E-17	1.29E-11	1.78E-03	1.75E-09	1.71E-08	6.01E-14
SR	SR-W027-FB-Pre86-C	86.50	9.78E+01	1.25E-04	5.43E-02	1.45E-04	5.56E-03	2.47E+01	2.37E+02	6.78E+01	1.07E+02	1.25E-02	--	1.36E-04	4.78E-06	3.35E-06	6.86E-06	1.16E-03	9.62E-03	2.75E-05	9.46E-05	7.43E-05
SR	SR-W027-HBL-Box	1077.18	5.21E+00	2.19E-07	2.52E-02	2.34E-04	5.15E-02	1.76E+03	1.14E+01	3.57E+00	7.68E+00	5.17E-03	--	2.19E-04	1.81E-08	2.22E-04	4.84E-15	9.61E-06	6.81E-01	6.29E-06	4.56E-06	3.45E-11
SR	WP-SR-AGNS-HET	58.54	4.46E+00	2.19E-05	--	1.19E-04	2.23E-03	1.08E+01	3.04E+00	1.89E+00	1.25E+01	8.91E-04	--	1.15E-04	9.38E-07	6.23E-07	1.02E-06	4.11E-04	3.03E-03	2.37E-05	1.46E-06	4.86E-04
SR	WP-SR-LA-PAD1	96.56	5.70E+01	2.72E-05	--	7.09E-05	2.28E-03	1.74E+04	1.49E+02	1.69E+01	1.71E+02	5.47E-02	--	9.20E-05	2.46E-05	8.68E-04	5.97E-15	1.27E-02	4.86E+00	5.05E-05	1.10E-05	1.87E-10
SR	WP-SR-MD-HET	47.90	7.24E+00	1.50E-05	3.13E-04	7.34E-04	1.37E-03	8.41E+02	1.65E+01	1.26E+00	2.13E+01	1.36E-03	--	7.06E-04	6.48E-04	4.95E-05	3.99E-02	2.95E-01	2.47E-01	9.62E-05	9.31E-07	1.75E-03
SR	WP-SR-MD-HOM-A	5.64	7.85E-01	--	--	3.48E-08	4.87E-04	1.39E+02	3.05E-01	1.27E-02	1.81E+00	5.22E-05	--	3.35E-08	2.60E-06	8.08E-06	5.81E-18	1.18E-03	4.04E-02	1.61E-06	9.42E-09	4.47E-04
SR	WP-SR-MD-PAD1	236.75	1.66E+02	4.95E-04	1.98E-01	5.53E-01	1.28E-02	5.99E+04	7.70E+01	4.77E+01	4.31E+02	1.57E-01	--	5.34E-01	1.22E-09	3.19E-03	1.84E-14	1.22E-06	1.72E+01	2.11E-04	3.25E-05	2.21E-04
SR	WP-SR-MD-SOIL	15.49	1.14E-01	--	--	1.58E-05	1.46E-05	6.36E+00	1.82E-01	2.77E-02	1.25E-01	3.69E-05	--	1.52E-05	1.42E-12	3.10E-07	1.07E-17	1.42E-09	1.69E-03	4.13E-09	1.89E-08	1.32E-13
SR	WP-SR-SWMF-HET-A	174.72	1.86E+01	1.53E-03	1.99E-01	7.23E-03	1.59E-02	1.24E+03	3.52E+01	9.43E+00	5.40E+01	2.68E-02	--	6.97E-03	3.90E-06	4.89E-05	5.03E-07	1.85E-03	2.66E-01	4.11E-05	6.70E-06	1.46E-03
SR	WP-SR-W026-221F-HEPA	392.92	1.33E+02	2.01E-11	--	4.07E-05	1.62E-03	2.53E+01	4.08E+02	1.07E+02	4.12E+02	1.27E-02	--	3.92E-05	2.37E-04	3.13E-06	4.50E-14	1.12E-01	1.51E-02	2.96E-04	7.60E-05	2.26E-05
SR	WP-SR-W026-221F-HET	726.83	4.25E+02	5.63E-05	2.94E-02	5.75E-04	8.91E-03	2.80E+02	1.32E+03	3.70E+02	1.63E+03	1.97E-01	--	5.62E-04	9.79E-10	4.42E-05	4.37E-05	8.64E-07	1.84E-01	2.01E-03	3.07E-04	1.31E-02

Table 5-1. CH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2033
(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-W026-772F-HET	1664.16	2.80E+02	2.26E-03	1.04E+00	4.31E-01	2.40E-01	7.34E+03	4.07E+02	1.05E+02	5.86E+02	4.54E-02	--	4.11E-01	2.00E-04	4.78E-04	5.53E-04	7.93E-02	2.17E+00	1.65E-03	8.68E-05	1.10E-03
SR	WP-SR-W027-221F-HET-A	16.92	4.75E+00	--	--	3.15E-06	6.11E-05	8.17E-01	1.29E+01	3.62E+00	1.38E+01	3.67E-04	--	3.05E-06	5.60E-06	1.34E-06	1.40E-15	2.77E-03	6.37E-03	2.13E-06	2.47E-06	9.65E-05
SR	WP-SR-W027-221F-HETA	2227.79	1.07E+03	1.07E-04	2.20E-03	3.97E-04	1.90E-02	2.51E+02	2.53E+03	7.85E+02	3.95E+03	1.27E-01	--	3.57E-04	4.13E-04	7.25E-05	1.25E-04	1.57E-01	2.74E-01	2.16E-04	6.98E-04	2.26E-03
SR	WP-SR-W027-221H-HEPA	195.74	2.67E+00	3.60E-05	--	2.50E-01	9.30E-03	7.61E+02	9.41E+00	2.35E+00	1.30E+01	3.81E-03	--	2.41E-01	1.03E-09	4.05E-05	9.90E-16	9.71E-07	2.11E-01	1.83E-05	1.67E-06	1.42E-11
SR	WP-SR-W027-221H-HET	3385.76	5.70E+02	2.60E-02	1.83E+00	1.52E-02	2.81E+00	1.22E+05	5.11E+02	1.46E+02	3.83E+03	3.10E-01	--	1.46E-02	1.83E-03	8.29E-03	5.23E-03	7.45E-01	3.74E+01	4.64E-03	1.22E-04	5.08E-03
SR	WP-SR-W027-221H-HET-C	12.16	2.71E+00	--	--	2.77E-04	3.01E-02	7.75E+00	6.95E+00	1.98E+00	5.13E+00	8.10E-04	--	2.68E-04	3.33E-09	1.32E-06	8.32E-16	3.14E-06	6.25E-03	1.10E-04	1.41E-06	2.96E-05
SR	WP-SR-W027-221H-HET-D	8.81	3.15E-01	--	--	1.23E-06	5.62E-03	2.13E+00	6.03E-01	1.71E-01	5.67E-01	7.19E-05	--	1.19E-06	6.22E-10	7.74E-06	7.20E-17	5.88E-07	3.52E-02	4.73E-03	1.22E-07	1.09E-04
SR	WP-SR-W027-235F-HEPA	69.56	1.01E+00	--	--	3.22E-06	1.46E-02	5.11E+01	5.60E-01	2.60E-01	1.30E+00	4.41E-04	--	3.11E-06	1.61E-09	4.86E-06	1.09E-16	1.52E-06	2.38E-02	2.16E-04	1.85E-07	1.64E-12
SR	WP-SR-W027-235F-HET	772.62	1.95E+02	8.67E-04	7.08E-02	7.86E-04	2.37E+00	5.57E+04	9.20E+01	3.99E+01	9.38E+02	7.36E-02	--	7.55E-04	3.58E-04	4.67E-03	8.74E-04	1.51E-01	2.11E+01	1.82E-03	3.19E-05	8.63E-04
SR	WP-SR-W027-773A-HET	663.20	9.38E+01	5.73E-01	1.64E+01	2.02E-01	2.17E-01	4.27E+03	1.83E+02	4.42E+01	2.57E+02	4.72E-01	--	1.94E-01	6.03E-05	2.77E-04	3.01E-04	2.54E-02	1.29E+00	5.14E-04	3.54E-05	5.68E-03
SR	WP-SR-W027-FB-PRE86-C	3066.60	1.91E+03	2.50E-03	2.28E+00	4.26E-03	9.84E-02	5.69E+02	4.58E+03	1.33E+03	5.16E+03	2.38E-01	--	4.06E-03	6.16E-05	4.79E-05	1.33E-04	2.42E-02	2.05E-01	4.54E-04	1.14E-03	1.46E-03
SR	WP-SR-W027-HBL-BOX	535.40	2.31E+00	1.31E-07	2.98E-02	1.90E-04	2.45E-02	8.79E+02	5.75E+00	1.53E+00	9.76E+00	5.12E-01	--	1.78E-04	2.26E-09	4.27E-05	5.42E-16	2.34E-06	2.40E-01	3.08E-06	9.99E-07	1.75E-09
SR	WP-SR2001.001.00	61.74	1.38E+00	--	--	2.75E-06	1.09E-05	8.73E-01	9.65E+00	1.91E+00	7.73E+00	1.94E-04	--	--	5.58E-13	1.38E-08	1.43E-15	6.54E-10	8.97E-05	3.04E-07	1.82E-06	9.61E-13
SR	WP-SR2002.002.00	70.56	4.78E+00	--	--	9.39E-06	4.10E-05	3.80E-01	1.13E+01	2.62E+00	1.84E+01	3.57E-04	--	7.60E-07	2.41E-04	5.58E-09	1.84E-15	8.86E-02	3.76E-05	3.46E-07	2.40E-06	1.72E-12
Grand Total		**1.68E+05**	**6.97E+05**	**2.18E+01**	**5.24E+03**	**2.31E+03**	**2.04E+01**	**5.95E+05**	**5.67E+05**	**1.67E+05**	**6.48E+05**	**1.66E+03**	**1.01E-02**	**2.31E+03**	**4.19E-01**	**4.13E+00**	**1.48E+00**	**9.82E+01**	**2.10E+02**	**8.66E+00**	**5.08E+00**	**3.51E+01**

Table 5-2. RH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2033

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	85.91	4.01E+02	6.89E+00	1.68E+02	4.26E+03	1.31E-02	2.70E+02	2.08E+02	1.34E+02	1.04E+03	1.62E-01	2.87E-15	3.12E+03	1.20E-02	4.69E-05	4.71E-10	1.22E-02	3.61E-02	8.76E-03	1.69E-04	1.52E-01
AE	WP-AERHDM	39.04	3.09E+02	--	4.44E+02	2.94E+03	2.02E-03	4.63E+02	5.53E+01	6.56E+01	1.54E+03	2.29E-01	--	1.67E+03	1.12E-05	5.30E-05	2.50E-14	5.52E-03	2.66E-01	4.67E-03	4.42E-05	1.34E-02
AW	AW-5410N	0.11	4.92E-02	1.96E-04	7.98E-07	1.66E-01	5.25E-06	1.85E-02	6.01E-03	9.03E-03	1.16E-01	2.45E-05	--	3.39E-01	5.54E-13	5.26E-10	3.80E-18	5.29E-10	3.05E-06	3.10E-07	6.42E-09	6.15E-06
AW	AW-5882N	0.62	1.21E-01	--	--	1.33E-01	1.16E-06	--	--	--	--	--	--	1.27E-01	6.29E-14	--	--	7.37E-11	--	6.60E+01	--	--
AW	AW-T031.1322	309.50	7.73E+02	3.68E-08	3.66E-06	6.06E+04	3.54E-01	1.05E+01	2.98E+03	1.31E+03	2.00E+01	3.58E-02	--	9.02E+04	6.18E-08	8.02E-03	7.04E-12	4.63E-05	2.91E+01	1.58E+00	5.34E-03	2.90E+01
AW	AW-W020.13	51.69	6.27E+00	--	--	3.51E+03	1.00E-02	1.91E+01	8.89E+01	2.78E+01	1.92E+01	1.23E-03	--	2.40E+03	8.02E-08	2.46E-05	3.84E-12	3.85E-05	1.12E-01	6.31E-03	3.25E-03	1.25E-02
BT	BT-T001	18.34	3.79E-01	1.42E-03	6.55E-04	4.66E+02	2.03E-03	1.38E+01	1.36E-02	1.44E-03	9.86E-01	2.31E-04	--	4.51E+02	4.31E-04	4.49E-06	7.79E-06	8.45E-02	6.52E-03	4.45E-05	5.18E-04	2.62E-07
BT	WP-BT-T001	3.15	9.40E-02	--	2.16E-02	7.78E+00	6.93E-07	1.01E+00	1.10E-02	1.55E-02	9.82E-02	6.56E-03	--	1.10E+01	1.49E-05	4.90E-07	5.98E-18	7.38E-03	2.35E-03	5.08E-05	1.05E-08	6.45E-06
IN	IN-AE-AGHC-02	156.00	--	--	--	9.41E+03	--	--	4.25E+02	2.11E+02	--	--	--	1.40E+04	--	1.10E-09	8.82E-06	--	6.49E-06	4.47E-02	2.32E-04	6.23E-02
IN	IN-AE-AGHC-02T	1.25	--	--	--	9.80E+01	--	--	4.43E+00	2.20E+00	--	--	--	1.46E+02	--	1.15E-11	9.19E-08	--	6.76E-08	4.66E-04	2.42E-06	6.49E-04
IN	IN-ID-BTO-030	1.25	5.15E-03	6.88E-04	--	2.52E+01	7.26E-04	4.71E+00	6.18E-03	6.22E-03	--	6.02E-05	--	2.32E+01	5.62E-04	1.57E-07	1.48E-05	1.42E-01	7.19E-04	7.97E-05	8.30E-09	4.20E-13
IN	IN-ID-EBR-S5000	4.37	--	--	--	1.26E-01	--	--	1.11E+00	--	--	--	--	1.31E-01	--	3.62E-05	--	--	1.07E-01	4.95E-03	--	1.07E-01
IN	IN-ID-INL-152	0.62	--	--	--	9.95E+00	8.39E-07	--	2.30E-01	8.90E-02	--	--	--	8.81E+00	9.30E-06	6.16E-13	1.45E-06	2.35E-03	2.98E-09	9.30E-05	1.19E-07	2.35E-05
IN	IN-ID-INL-152M	16.85	3.42E+00	1.80E-11	7.36E-01	1.03E+03	9.12E-04	4.89E+00	1.38E+01	4.35E+00	5.11E+00	1.66E-01	4.61E-23	9.85E+02	5.01E-05	2.82E-05	2.16E-05	1.54E-02	8.32E-02	6.14E-03	6.33E-04	7.07E-02
IN	IN-ID-MFC-SOLID	1.25	--	--	--	2.59E+01	--	--	2.93E-01	1.76E-01	--	--	--	2.62E+01	--	2.00E-12	1.76E-16	--	1.18E-08	5.44E-04	1.93E-07	1.13E-04
IN	IN-NRF-SPC	20.59	2.39E-01	--	--	1.43E+02	1.84E-06	1.29E+01	4.17E-02	1.81E-02	5.28E-01	5.44E-05	--	1.30E+02	1.11E-04	4.41E-06	8.29E-18	5.03E-02	1.97E-02	2.94E-05	1.34E-08	2.84E-06
IN	IN-NRF-SPC-103	27.46	1.22E+01	--	--	7.30E+03	9.37E-05	6.56E+02	2.13E+00	9.25E-01	2.69E+01	2.77E-03	--	6.62E+03	5.64E-03	2.25E-04	4.23E-16	2.57E+00	1.00E+00	1.50E-03	6.86E-07	1.45E-04
IN	WP-ID-ANLE-S5000	88.50	4.13E+01	--	--	3.28E+02	3.16E-04	1.37E+01	6.02E+01	3.17E+01	1.40E+02	1.32E-02	--	2.37E+02	3.63E-04	4.66E-05	1.57E-14	1.59E-01	1.95E-01	6.89E-03	2.45E-05	1.17E-03
IN	WP-ID-HFEF-S5400-RH	27.30	6.69E+00	--	--	2.63E+02	4.44E-05	3.89E+00	1.22E+01	4.82E+00	3.04E+01	1.98E-03	--	2.15E+02	6.24E-05	8.31E-06	1.86E-15	3.09E-02	3.94E-02	3.95E-03	3.29E-06	5.19E-04

Table 5-2. RH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2033
(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-INTEC-RH	0.42	1.20E+00	--	--	1.65E+00	8.87E-06	6.63E-01	1.32E-01	2.12E-01	2.83E+00	1.08E-03	--	9.28E-01	3.13E-13	1.41E-07	8.93E-17	4.51E-10	6.61E-04	7.40E-06	1.51E-07	1.66E-04
IN	WP-ID-MFC-S5400-RH	1.68	1.46E-01	--	--	4.60E+00	9.88E-07	1.98E-02	5.40E-01	1.57E-01	7.18E-01	2.53E-05	--	3.45E+00	1.46E-05	2.33E-07	6.63E-17	6.92E-03	1.06E-03	4.02E-05	1.12E-07	1.48E-05
IN	WP-ID-RTC-S3000	0.84	3.98E-02	--	--	1.05E+00	2.90E-07	1.23E-02	9.82E-03	7.13E-03	5.74E-02	1.08E-05	--	4.35E-01	2.50E-07	7.48E-08	2.76E-18	1.24E-04	3.54E-04	2.23E-05	4.86E-09	4.84E-05
IN	WP-IN-ID-NRF-153	3.36	2.59E-03	--	--	4.16E+00	1.92E-08	1.22E-01	4.60E-04	2.23E-04	5.82E-03	6.58E-07	--	1.03E+00	1.42E-06	4.19E-08	9.39E-20	6.74E-04	1.94E-04	6.56E-06	1.58E-10	4.38E-08
KA	KA-T001	45.85	5.51E-02	6.11E-06	1.08E-02	6.52E+01	3.15E-04	1.52E+00	2.80E-03	2.29E-03	2.50E-01	1.42E-05	1.99E-13	6.31E+01	2.22E-10	5.87E-07	5.25E-12	7.47E-08	2.18E-03	4.37E-05	4.23E-04	1.68E-07
KA	KA-W016	2.29	9.31E-04	3.03E-06	1.84E-04	1.10E+00	5.33E-06	2.58E-02	4.74E-05	3.88E-05	4.23E-03	2.41E-07	9.86E-14	1.07E+00	9.64E-11	8.47E-08	2.38E-12	2.27E-08	3.70E-05	7.39E-07	7.13E-06	2.85E-09
LA	LA-TA-00-03	1.78	--	--	--	--	--	--	1.26E+01	--	--	--	--	--	--	--	--	--	--	6.56E-07	--	--
LA	LA-TA-03-27	77.43	4.96E+00	--	--	4.96E+02	6.92E-05	1.06E+00	8.11E+01	2.52E+00	8.18E+00	1.52E-03	--	3.24E+02	9.49E-12	9.28E-07	2.50E-14	6.88E-09	2.11E-03	8.37E-03	1.20E-05	4.12E-05
LA	WP-LA-MHD03.002	14.24	4.03E+01	--	--	3.13E+02	3.14E-04	1.72E+01	4.88E+01	2.84E+01	1.15E+02	1.75E-02	--	2.08E+02	2.54E-04	2.92E-05	1.40E-14	1.11E-01	1.23E-01	4.34E-03	2.19E-05	4.96E-04
OR	OR-GENR-RH-HET	3.12	2.28E-02	1.72E-01	1.44E-01	--	6.91E-03	--	1.05E+00	3.15E-03	2.18E-04	5.29E-02	5.37E-11	--	4.21E-03	6.08E-12	3.51E-18	1.00E+00	2.73E-08	4.95E-08	3.43E-09	2.01E-04
OR	OR-ISTP-RH-HET	20.59	1.07E+02	2.00E-02	1.03E+02	--	1.75E-02	2.66E+02	9.16E+00	1.57E+01	2.37E+01	1.61E-02	5.31E-09	--	5.57E-04	1.03E-05	1.05E-03	1.32E-01	4.38E-02	5.58E-05	2.17E-05	1.71E-05
OR	OR-RADP-RH-HET	1.25	4.19E-03	6.74E-01	1.30E+00	--	1.41E-04	--	5.19E-01	2.56E-02	--	--	1.56E-14	--	3.98E-08	--	2.69E-17	9.46E-06	--	1.73E-05	2.70E-08	--
OR	OR-REDC-RH-HET	795.23	7.15E+00	4.11E-01	1.52E+02	7.80E+00	1.73E-03	2.92E+00	1.47E+00	5.09E+00	5.00E+00	3.46E-02	5.02E-09	4.86E+01	1.06E-05	1.81E-07	1.01E-14	2.52E-03	6.35E-04	5.42E-07	7.56E-06	1.25E-04
OR	OR-RF-RH-HET	96.59	6.75E+00	8.52E-03	5.78E-01	1.41E+02	5.75E-04	1.02E+00	1.06E+01	4.81E+00	1.21E+00	1.86E-04	7.35E-14	1.86E+01	1.32E-01	3.39E-06	4.43E-04	3.14E+01	7.75E-03	4.76E-04	3.40E-04	7.63E-04
OR	OR-TBD-RH-HET	100.53	6.37E+01	6.28E-09	2.77E+00	1.67E+03	1.17E-03	6.17E+01	1.02E+01	5.65E+00	2.59E+00	2.46E-05	5.05E-06	9.94E+02	1.23E-02	1.15E-05	3.47E-05	2.91E+00	3.07E-02	8.39E-04	8.03E-06	1.80E-04
OR	OR-W213-RH-SOILS	10.61	1.13E+00	3.45E-04	1.25E-03	6.39E+00	1.16E-03	1.71E-01	5.49E-01	5.23E-03	7.09E-01	3.03E-04	--	5.08E-02	8.10E-01	1.38E-03	1.30E-02	1.05E+00	6.00E-02	8.93E-04	9.45E-04	1.13E-02
OR	WP-OR-REDC-RH-HET	45.99	1.76E+02	8.30E+00	3.15E+03	1.30E+01	1.28E-03	5.29E+01	5.76E+01	1.08E+02	2.86E+02	1.74E-01	--	2.37E+02	2.88E-09	8.48E-06	3.88E-14	1.47E-06	4.19E-02	5.68E-04	6.97E-05	8.79E-03
RL	RL105-08	160.99	1.80E+01	6.20E-06	6.94E-02	1.60E+02	2.76E-04	3.35E+00	1.25E+01	6.78E+00	5.66E+01	2.79E-04	--	7.11E+01	4.34E-11	1.36E-06	7.97E-06	3.12E-08	5.41E-03	2.60E-04	9.10E-04	6.27E-03
RL	RL105-09	2293.94	2.36E+02	--	--	3.45E+02	3.33E-02	2.04E+01	1.21E+02	6.63E+01	9.67E+02	3.20E-02	--	1.25E+02	4.45E-09	5.30E-05	4.32E-10	3.78E-06	2.14E-01	8.02E-03	3.24E-01	1.73E-01
RL	RL209E-08	0.62	2.76E+00	--	--	--	5.76E-05	3.79E-01	3.49E+00	1.22E+00	1.71E+00	1.52E-04	--	--	1.20E-11	1.27E-08	1.81E-15	7.35E-09	5.78E-05	1.55E-07	1.63E-06	1.06E-12
RL	RL221U-09	35.57	2.92E+01	3.23E-06	3.15E-01	3.15E+02	6.31E-02	5.52E+00	4.86E+01	1.38E+01	2.32E+02	1.40E-03	--	2.34E+02	8.64E-09	5.56E-05	9.46E-06	7.38E-06	2.52E-01	2.65E-04	9.81E-06	4.94E-03
RL	RL222S-08	2.50	5.97E-01	2.53E-02	--	1.63E-01	2.79E-03	4.87E-02	6.28E+00	1.61E-01	5.30E+00	5.60E-04	2.33E-06	2.60E-01	1.04E-03	5.35E-10	8.56E-17	4.38E-01	4.16E-06	1.07E-05	1.28E-07	3.92E-04
RL	RL300-08	295.78	1.19E+03	3.79E+00	3.15E+02	1.29E+05	3.43E-02	2.53E+02	7.52E+01	8.72E+01	2.62E+03	2.95E-01	3.31E-11	7.40E+04	3.98E-04	1.84E-05	1.98E-11	1.97E-01	9.59E-02	1.60E-03	1.75E-02	4.97E-02
RL	RL308-08	0.62	1.40E-03	--	--	7.41E-02	1.11E-08	1.58E-03	2.67E-04	4.49E-04	--	--	--	3.74E+00	4.09E-16	1.34E-11	1.89E-19	5.79E-13	1.18E-07	6.31E-12	3.19E-10	--
RL	RL325-08	377.34	2.07E+02	2.07E-01	2.06E+01	2.58E+02	1.47E-01	2.06E+02	3.63E+01	3.65E+01	1.04E+03	4.71E-02	--	1.73E+03	5.93E-08	5.32E-06	6.34E-05	2.70E-05	3.31E-02	1.17E-03	2.41E-05	1.82E-03
RL	RL618-08	643.34	2.45E+03	--	--	8.38E+03	2.15E-02	1.04E+03	5.34E+02	5.07E+03	1.22E+03	6.43E+03	--	7.34E+03	9.96E-10	1.13E-05	2.70E-12	1.26E-06	8.82E-02	1.42E-05	4.06E-03	2.69E-05
RL	RLBART-08	0.62	4.31E-01	--	--	--	7.57E-06	3.59E-07	3.38E-06	1.63E-06	1.52E-06	4.72E-10	--	--	1.33E-12	1.67E-14	3.23E-21	8.67E-10	6.52E-11	1.73E-13	2.52E-12	3.81E-18
RL	RLBAT-08	6.86	5.26E+00	2.86E-02	9.52E-01	3.78E+01	4.79E-05	2.92E+00	4.79E-01	7.85E-01	1.41E+01	2.09E-03	--	2.36E+01	3.74E-11	1.59E-07	1.21E-13	1.58E-08	6.98E-04	1.89E-05	7.97E-05	3.67E-04
RL	RLBET-08	0.62	6.40E-03	--	--	5.73E-05	4.26E-08	1.75E-03	9.82E-03	5.53E-03	2.04E-02	2.20E-07	--	5.03E-05	1.25E-15	3.26E-08	1.96E-18	1.97E-12	1.61E-04	5.91E-06	3.60E-09	6.25E-08
RL	RLBW-08	1.25	1.22E+00	--	--	--	9.18E-06	1.63E-01	7.59E-01	4.28E-01	4.71E+00	1.73E-05	--	--	3.63E-13	1.64E-09	2.12E-16	4.91E-10	1.33E-05	1.94E-08	3.30E-07	6.98E-14
RL	RLESG-08	23.71	6.00E+00	--	--	1.17E+00	3.91E-05	7.59E-01	3.83E+00	2.08E+00	2.35E+01	8.01E-05	--	3.48E-01	1.13E-12	5.35E-09	7.35E-16	1.79E-09	5.14E-05	8.31E-08	1.35E-06	2.73E-13
RL	RLFFTF-08	0.62	3.32E-03	5.41E-11	--	3.20E-01	2.34E-08	6.54E-04	2.35E-03	2.01E-03	1.30E-02	--	--	3.33E-04	7.96E-16	5.55E-12	8.49E-19	1.16E-12	4.88E-08	5.55E-11	1.43E-09	--
RL	RLGEV-08	6.86	1.15E+01	--	--	5.66E+00	1.93E-04	4.17E-01	6.29E+02	6.53E+01	4.77E-01	2.65E+00	--	4.12E+00	3.12E-11	1.77E-08	1.20E-13	2.12E-08	7.21E-05	3.10E-05	9.70E-05	2.06E-08
RL	RLHAN-08	23.71	7.27E+00	6.30E-05	--	9.39E-01	1.20E-04	3.50E-01	4.20E+00	6.76E-01	8.95E+00	2.71E-05	--	6.93E-01	3.87E-06	2.47E-09	2.39E-16	2.00E-03	2.37E-05	9.10E-08	4.41E-07	9.26E-14
RL	RLMLB-08	0.62	8.78E-02	--	5.69E+00	--	1.33E-06	9.16E-03	5.20E-02	1.24E-01	9.64E-02	1.19E-06	--	--	2.02E-13	4.06E-10	1.45E-16	1.40E-10	1.62E-06	2.61E-09	1.38E-07	9.38E-15
RL	RLPFP-08	703.38	1.39E+03	--	--	2.32E-03	1.56E-02	2.52E+02	1.66E+03	6.06E+02	4.55E+03	1.14E-01	--	2.04E-03	8.59E-10	3.03E-06	2.15E-13	1.04E-06	2.33E-02	2.44E-04	3.96E-04	4.11E-04
RL	RLPURX-08	31.82	2.38E+00	--	--	--	3.05E-05	7.66E-02	2.90E-01	6.90E-02	5.76E+00	3.77E-06	--	--	3.90E-12	4.04E-09	1.53E-16	2.90E-09	1.49E-05	1.57E-08	1.13E-07	3.22E-14
RL	RLWTP-08	275.12	1.13E+00	--	--	2.20E+02	1.24E-03	7.07E-01	4.10E-01	8.73E-02	7.43E-02	--	--	2.39E+02	2.73E-05	4.90E-07	5.11E-14	1.15E-02	2.00E-03	7.66E-05	3.84E-05	1.72E-03
SA	SA-W135	2.50	9.50E-01	6.71E-05	--	1.91E+01	9.95E-06	2.90E-01	5.96E-01	4.20E-02	1.40E+00	3.60E-05	--	6.69E+00	2.37E-11	4.61E-08	5.86E-16	1.26E-08	2.38E-04	1.22E-05	5.53E-07	3.04E-06
SA	WP-SNL-HCF-S5400-RH	0.63	1.19E-01	--	--	7.32E+00	8.16E-07	1.71E-01	1.27E-02	1.53E-02	2.70E-01	1.13E-03	--	4.22E+00	6.95E-08	2.90E-06	5.41E-18	3.60E-05	1.43E-02	4.70E-04	9.97E-09	6.28E-05
SR	SR-RH-221H.01	8.11	8.12E-01	--	--	--	2.05E+00	9.09E+02	1.00E+00	5.17E-01	3.46E+00	5.99E-04	--	--	7.24E-07	3.32E-05	3.06E-14	3.84E-04	1.46E-01	5.11E-05	1.48E-05	4.48E-08
SR	SR-RH-221H.02	4.37	3.68E-01	--	--	1.70E+00	2.51E-03	2.28E+02	5.83E-01	4.02E-01	9.69E-01	1.49E-04	--	--	1.48E-05	8.12E-06	4.67E-13	3.66E-03	3.60E-02	1.18E-05	2.06E-04	1.03E-05
SR	SR-RH-235F.01	1.87	3.01E+02	--	--	--	4.63E-02	3.18E+02	3.59E+00	9.46E-01	6.36E+02	3.46E-04	--	--	2.07E-08	1.35E-05	1.73E-15	9.58E-06	5.50E-02	1.77E-07	1.40E-06	2.68E-12
SR	SR-RH-772F.01	0.62	7.93E-04	--	--	3.62E-02	3.36E-07	2.40E-03	2.23E-03	6.79E-04	1.63E-03	1.11E-07	--	3.45E-02	6.07E-14	8.55E-11	2.12E-17	4.47E-11	4.14E-07	1.58E-09	1.42E-08	5.35E-16
SR	SR-RH-773A.01	48.76	2.73E+01	8.86E+00	3.51E+02	1.03E+02	8.27E-04	4.01E+02	1.26E+01	8.13E+00	3.72E+01	3.53E-03	1.21E-11	7.33E+01	9.76E-05	1.23E-05	7.08E-12	3.83E-02	6.40E-02	3.94E-04	4.95E-03	1.57E-05
SR	SR-RH-FBL.01	4.99	3.23E+00	--	--	1.26E+01	2.34E-03	5.67E+00	1.26E+01	2.97E+00	3.36E+01	5.00E-04	--	1.14E+00	3.47E-10	8.32E-07	1.28E-13	2.82E-07	3.47E-03	1.04E-04	9.39E-05	3.19E-03
SR	SR-RH-MNDPAD1.01	0.62	9.04E-02	--	--	--	4.02E-07	1.67E+02	1.38E-01	7.56E-02	1.37E+00	9.02E-05	--	--	7.75E-15	1.29E-06	2.93E-17	1.46E-11	1.19E-02	3.14E-09	5.15E-08	3.22E-13
SR	SR-RH-SDD.01	0.34	6.39E+00	--	--	--	5.10E-05	7.75E+01	1.42E+00	8.56E-01	1.40E+01	1.43E-03	--	--	2.11E-12	7.80E-07	4.23E-16	2.81E-09	6.31E-03	3.64E-08	6.59E-07	5.77E-12
SR	SR-RH-SWD.01	1.25	1.97E-01	9.21E-02	2.15E+00	1.12E-02	6.71E-04	2.83E-01	4.31E-01	1.52E-01	7.55E-01	4.70E-05	8.49E-15	7.49E-03	1.85E-10	6.48E-09	1.50E-16	1.11E-07	3.53E-05	1.61E-08	1.63E-07	2.77E-13
SR	WP-SR-BCLDP.001.001	1.05	6.73E-01	--	8.02E-02	4.41E+00	5.14E-06	2.88E-01	5.57E-02	9.02E-02	1.63E+00	3.31E-04	--	2.89E+00	1.74E-06	6.71E-08	4.11E-17	7.92E-04	3.03E-04	4.20E-06	6.67E-08	5.68E-05

Table 5-2. RH Volume (m^3) and Activity (Ci) By Waste Stream and Radionuclide Decayed thru 2033
(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-BCLDP.001.002	0.84	3.97E-01	--	9.75E-02	3.26E-01	3.00E-06	1.09E-01	1.60E-02	2.64E-02	1.10E+00	2.11E-04	--	2.12E+00	1.37E-06	4.68E-08	1.20E-17	6.25E-04	2.08E-04	3.01E-06	1.94E-08	4.10E-05
SR	WP-SR-BCLDP.002	0.21	3.70E+00	--	4.41E-01	2.43E+01	2.83E-05	1.58E+00	3.07E-01	4.96E-01	8.97E+00	1.82E-03	--	1.58E+01	9.58E-06	3.69E-07	2.26E-16	4.36E-03	1.67E-03	2.31E-05	3.67E-07	3.12E-04
SR	WP-SR-BCLDP.003	1.47	9.95E-02	--	1.19E-02	6.53E-01	7.61E-07	4.26E-02	8.25E-03	1.34E-02	2.41E-01	4.89E-05	--	4.26E-01	2.58E-07	9.94E-09	6.10E-18	1.17E-04	4.48E-05	6.22E-07	9.90E-09	8.40E-06
SR	WP-SR-BCLDP.004.002	1.05	8.86E-02	--	2.21E-02	7.26E-02	6.69E-07	2.42E-02	3.58E-03	5.90E-03	2.49E-01	4.71E-05	--	4.72E-01	3.07E-07	1.04E-08	2.67E-18	1.40E-04	4.62E-05	6.71E-07	4.34E-09	9.14E-06
SR	WP-SR-BCLDP.004.003	0.42	1.31E-01	--	1.76E-02	3.10E-01	9.88E-07	6.48E-02	1.36E-02	2.12E-02	3.77E-01	7.28E-05	--	7.21E-01	4.09E-07	1.66E-08	9.67E-18	1.86E-04	7.45E-05	1.06E-06	1.57E-08	1.41E-05
SR	WP-SR-RL-BCLDP.001	18.42	6.30E+01	--	7.43E+00	4.24E+02	4.81E-04	2.70E+01	5.27E+00	8.54E+00	1.54E+02	4.91E-01	--	2.77E+02	1.59E-04	6.27E-06	3.90E-15	7.22E-02	2.83E-02	3.90E-04	6.32E-06	5.37E-03
SR	WP-SR-RL-BCLDP.002	0.21	6.90E+01	--	2.39E+00	3.65E+02	7.10E-04	6.30E-02	1.89E-02	4.41E-02	3.07E-01	8.89E-05	--	2.41E+02	4.78E-11	1.16E-08	2.51E-17	4.96E-08	4.37E-05	8.20E-07	3.50E-08	3.79E-05
VN	WP-GEVNC.01	19.74	6.97E+01	--	--	3.70E+01	5.51E-04	6.17E-01	5.29E+00	2.45E+00	8.80E+00	1.44E-03	--	1.10E+01	9.47E-08	2.28E-06	1.03E-15	4.49E-05	1.04E-02	3.74E-04	1.74E-06	1.89E-04
Grand Total		**7.08E+03**	**8.06E+03**	**2.95E+01**	**4.73E+03**	**2.33E+05**	**2.84E+00**	**5.80E+03**	**7.27E+03**	**7.94E+03**	**1.49E+04**	**6.44E+03**	**7.38E-06**	**2.07E+05**	**9.81E-01**	**1.02E-02**	**1.46E-02**	**4.04E+01**	**3.23E+01**	**6.77E+01**	**3.65E-01**	**2.97E+01**

SNL WIPP Inventory Data Needs Letter Request #2

2. *Total CH- and RH-TRU inventories of all radionuclides (scaled to a full repository), supplied in Curies and decayed to the years; 2033, 2133, 2383, 3033, 7033, and 12033.*

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

Radionuclide	2033	2133	2383	3033	7033	12033
Ac-225	4.19E-01	1.28E+00	3.38E+00	8.65E+00	3.54E+01	5.84E+01
Ac-227	2.41E+00	6.75E-01	6.49E-01	7.63E-01	1.53E+00	2.63E+00
Ac-228	1.45E+00	1.48E+00	1.48E+00	1.48E+00	1.48E+00	1.48E+00
Ag-108	1.76E-04	1.02E-04	2.60E-05	7.48E-07	2.47E-16	3.47E-28
Ag-108m	2.02E-03	1.17E-03	2.99E-04	8.60E-06	2.84E-15	3.99E-27
Ag-109m	2.86E-02	--	--	--	--	--
Ag-110	4.22E-12	--	--	--	--	--
Ag-110m	3.10E-10	--	--	--	--	--
Am-241	6.97E+05	6.12E+05	4.10E+05	1.45E+05	2.39E+02	6.71E-01
Am-242	2.00E+01	1.22E+01	3.58E+00	1.47E-01	4.23E-10	8.94E-21
Am-242m	2.01E+01	1.23E+01	3.59E+00	1.47E-01	4.25E-10	8.98E-21
Am-243	2.18E+01	2.16E+01	2.11E+01	1.98E+01	1.36E+01	8.50E+00
Am-245	7.97E-12	--	--	--	--	--
At-217	4.19E-01	1.28E+00	3.38E+00	8.65E+00	3.54E+01	5.84E+01
Ba-133	1.95E-03	2.68E-06	1.88E-13	4.71E-32	--	--
Ba-137m	2.18E+03	2.17E+02	6.71E-01	2.01E-07	--	--
Bi-210	4.53E-01	7.18E-01	1.19E+00	2.50E+00	1.46E+01	3.21E+01
Bi-211	2.41E+00	6.75E-01	6.49E-01	7.63E-01	1.53E+00	2.63E+00
Bi-212	1.19E+01	5.37E+00	1.81E+00	1.49E+00	1.48E+00	1.48E+00
Bi-213	4.19E-01	1.28E+00	3.38E+00	8.65E+00	3.54E+01	5.84E+01
Bi-214	6.19E-01	7.73E-01	1.19E+00	2.50E+00	1.46E+01	3.21E+01
Bk-249	5.50E-07	--	--	--	--	--
Bk-250	8.28E-04	8.24E-04	8.16E-04	7.95E-04	6.78E-04	5.56E-04
C-14	1.04E-02	1.03E-02	1.00E-02	9.25E-03	5.70E-03	3.11E-03
Ca-45	9.02E-21	--	--	--	--	--
Cd-109	2.86E-02	--	--	--	--	--
Cd-113	1.51E-03	1.51E-03	1.51E-03	1.51E-03	1.51E-03	1.51E-03
Cd-113m	2.84E-04	2.08E-06	9.57E-12	1.27E-25	--	--
Ce-139	2.12E-22	--	--	--	--	--
Ce-144	8.76E-07	--	--	--	--	--
Cf-249	2.25E+01	1.84E+01	1.12E+01	3.11E+00	1.14E-03	5.77E-08
Cf-250	1.25E-01	1.45E-03	8.16E-04	7.95E-04	6.78E-04	5.56E-04
Cf-251	8.20E-03	7.59E-03	6.26E-03	3.79E-03	1.73E-04	3.64E-06
Cf-252	7.62E-01	3.16E-12	--	--	--	--
Cl-36	4.07E-03	4.07E-03	4.07E-03	4.06E-03	4.02E-03	3.98E-03
Cm-242	1.65E+01	1.01E+01	2.96E+00	1.21E-01	3.51E-10	7.42E-21
Cm-243	2.16E+02	1.90E+01	4.34E-02	5.91E-09	--	--
Cm-244	5.24E+03	1.14E+02	7.91E-03	1.22E-13	--	--
Cm-245	3.70E-01	5.32E-01	8.15E-01	1.10E+00	8.88E-01	5.91E-01
Cm-246	6.73E+00	6.63E+00	6.39E+00	5.81E+00	3.23E+00	1.56E+00
Cm-247	1.12E-02	1.12E-02	1.12E-02	1.12E-02	1.12E-02	1.12E-02
Cm-248	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.02E-01	1.01E-01
Cm-250	5.91E-03	5.89E-03	5.83E-03	5.68E-03	4.84E-03	3.97E-03

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

Radionuclide	2033	2133	2383	3033	7033	12033
Co-60	3.98E-02	7.72E-08	4.03E-22	--	--	--
Cs-134	4.62E-03	1.16E-17	--	--	--	--
Cs-135	3.45E-07	3.45E-07	3.45E-07	3.45E-07	3.45E-07	3.44E-07
Cs-137	2.31E+03	2.29E+02	7.11E-01	2.13E-07	--	--
Es-254	7.50E-13	--	--	--	--	--
Eu-152	6.33E-01	3.49E-03	7.86E-09	1.63E-23	--	--
Eu-154	1.54E+00	4.82E-04	8.36E-13	--	--	--
Eu-155	1.15E-01	4.27E-08	3.54E-24	--	--	--
Fe-55	1.82E-04	1.70E-15	--	--	--	--
Fr-221	4.19E-01	1.28E+00	3.38E+00	8.65E+00	3.54E+01	5.84E+01
Fr-223	3.32E-02	9.32E-03	8.95E-03	1.05E-02	2.12E-02	3.63E-02
Gd-152	4.87E-14	7.04E-14	7.05E-14	7.05E-14	7.05E-14	7.05E-14
H-3	5.53E+03	2.00E+01	1.57E-05	2.12E-21	--	--
Ho-166m	1.82E-05	1.72E-05	1.49E-05	1.02E-05	1.01E-06	5.64E-08
I-129	3.94E-03	3.94E-03	3.94E-03	3.94E-03	3.94E-03	3.94E-03
K-40	6.05E-03	6.05E-03	6.05E-03	6.05E-03	6.05E-03	6.05E-03
Kr-85	8.13E-01	1.26E-03	1.20E-10	6.71E-29	--	--
Mn-54	2.15E-11	--	--	--	--	--
Na-22	6.36E-03	1.71E-14	--	--	--	--
Nb-93m	2.14E-03	5.34E-05	2.46E-05	2.46E-05	2.45E-05	2.45E-05
Nb-94	1.23E-03	1.22E-03	1.21E-03	1.18E-03	1.03E-03	8.71E-04
Nd-144	7.28E-16	7.28E-16	7.28E-16	7.28E-16	7.28E-16	7.28E-16
Ni-59	1.32E-05	1.31E-05	1.31E-05	1.30E-05	1.26E-05	1.20E-05
Ni-63	2.58E-01	1.29E-01	2.29E-02	2.54E-04	2.37E-16	2.17E-31
Np-237	2.04E+01	4.17E+01	8.26E+01	1.36E+02	1.65E+02	1.65E+02
Np-238	9.04E-02	5.53E-02	1.62E-02	6.62E-04	1.91E-12	4.04E-23
Np-239	2.18E+01	2.16E+01	2.11E+01	1.98E+01	1.36E+01	8.50E+00
Np-240	1.22E-05	1.22E-05	1.22E-05	1.22E-05	1.22E-05	1.22E-05
Np-240m	1.01E-02	1.01E-02	1.01E-02	1.01E-02	1.01E-02	1.01E-02
Pa-231	5.88E-01	6.05E-01	6.48E-01	7.63E-01	1.53E+00	2.63E+00
Pa-233	2.04E+01	4.17E+01	8.26E+01	1.36E+02	1.65E+02	1.65E+02
Pa-234	4.56E-02	4.56E-02	4.56E-02	4.56E-02	4.56E-02	4.56E-02
Pa-234m	3.51E+01	3.51E+01	3.51E+01	3.51E+01	3.51E+01	3.51E+01
Pb-209	4.19E-01	1.28E+00	3.38E+00	8.65E+00	3.54E+01	5.84E+01
Pb-210	4.53E-01	7.18E-01	1.19E+00	2.50E+00	1.46E+01	3.21E+01
Pb-211	2.41E+00	6.75E-01	6.49E-01	7.63E-01	1.53E+00	2.63E+00
Pb-212	1.19E+01	5.37E+00	1.81E+00	1.49E+00	1.48E+00	1.48E+00
Pb-214	6.19E-01	7.73E-01	1.19E+00	2.50E+00	1.46E+01	3.21E+01
Pd-107	2.22E-05	2.22E-05	2.22E-05	2.22E-05	2.22E-05	2.22E-05
Pm-146	4.92E-07	1.77E-12	4.34E-26	--	--	--
Pm-147	1.00E-01	3.35E-13	--	--	--	--
Po-210	4.53E-01	7.18E-01	1.19E+00	2.50E+00	1.46E+01	3.21E+01
Po-211	6.63E-03	1.86E-03	1.78E-03	2.10E-03	4.22E-03	7.23E-03
Po-212	7.65E+00	3.44E+00	1.16E+00	9.51E-01	9.51E-01	9.51E-01
Po-213	4.10E-01	1.25E+00	3.31E+00	8.47E+00	3.46E+01	5.72E+01
Po-214	6.19E-01	7.73E-01	1.19E+00	2.50E+00	1.46E+01	3.21E+01
Po-215	2.41E+00	6.75E-01	6.49E-01	7.63E-01	1.53E+00	2.63E+00
Po-216	1.19E+01	5.37E+00	1.81E+00	1.49E+00	1.48E+00	1.48E+00
Po-218	6.19E-01	7.73E-01	1.19E+00	2.50E+00	1.46E+01	3.21E+01
Pr-144	8.77E-07	--	--	--	--	--

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

Radionuclide	2033	2133	2383	3033	7033	12033
Pr-144m	1.23E-08	--	--	--	--	--
Pu-236	4.22E-08	1.76E-18	--	--	--	--
Pu-238	5.95E+05	2.70E+05	3.74E+04	2.20E+02	9.37E-10	1.97E-20
Pu-239	5.67E+05	5.65E+05	5.61E+05	5.51E+05	4.91E+05	4.25E+05
Pu-240	1.67E+05	1.66E+05	1.61E+05	1.51E+05	9.87E+04	5.82E+04
Pu-241	6.48E+05	5.17E+03	8.45E-01	1.10E+00	8.90E-01	5.92E-01
Pu-242	1.66E+03	1.66E+03	1.66E+03	1.65E+03	1.64E+03	1.63E+03
Pu-243	1.12E-02	1.12E-02	1.12E-02	1.12E-02	1.12E-02	1.12E-02
Pu-244	1.01E-02	1.01E-02	1.01E-02	1.01E-02	1.01E-02	1.01E-02
Ra-223	2.41E+00	6.75E-01	6.49E-01	7.63E-01	1.53E+00	2.63E+00
Ra-224	1.19E+01	5.37E+00	1.81E+00	1.49E+00	1.48E+00	1.48E+00
Ra-225	4.19E-01	1.28E+00	3.38E+00	8.65E+00	3.54E+01	5.84E+01
Ra-226	6.19E-01	7.73E-01	1.19E+00	2.50E+00	1.46E+01	3.21E+01
Ra-228	1.45E+00	1.48E+00	1.48E+00	1.48E+00	1.48E+00	1.48E+00
Rb-87	1.24E-10	1.24E-10	1.24E-10	1.24E-10	1.24E-10	1.24E-10
Rh-106	1.59E-04	--	--	--	--	--
Rn-219	2.41E+00	6.75E-01	6.49E-01	7.63E-01	1.53E+00	2.63E+00
Rn-220	1.19E+01	5.37E+00	1.81E+00	1.49E+00	1.48E+00	1.48E+00
Rn-222	6.19E-01	7.73E-01	1.19E+00	2.50E+00	1.46E+01	3.21E+01
Ru-106	1.59E-04	--	--	--	--	--
Sb-125	1.58E-02	1.49E-13	--	--	--	--
Sb-126	2.00E-01	2.00E-01	2.00E-01	1.99E-01	1.93E-01	1.87E-01
Sb-126m	1.43E+00	1.43E+00	1.43E+00	1.42E+00	1.38E+00	1.33E+00
Se-75	1.74E-34	--	--	--	--	--
Se-79	2.45E-05	2.45E-05	2.45E-05	2.45E-05	2.42E-05	2.39E-05
Sm-146	1.73E-13	1.81E-13	1.81E-13	1.81E-13	1.81E-13	1.81E-13
Sm-147	1.31E-09	1.31E-09	1.31E-09	1.31E-09	1.31E-09	1.31E-09
Sm-148	6.09E-29	6.41E-28	2.18E-27	6.19E-27	3.09E-26	6.17E-26
Sm-151	6.64E+00	3.07E+00	4.48E-01	3.00E-03	1.25E-16	2.34E-33
Sn-121	6.62E-04	1.88E-04	8.04E-06	2.23E-09	--	--
Sn-121m	8.53E-04	2.42E-04	1.04E-05	2.87E-09	--	--
Sn-126	1.43E+00	1.43E+00	1.43E+00	1.42E+00	1.38E+00	1.33E+00
Sr-90	2.31E+03	1.97E+02	4.17E-01	4.66E-08	--	--
Tc-99	6.69E+01	6.69E+01	6.68E+01	6.67E+01	6.58E+01	6.47E+01
Te-123	1.26E-03	1.26E-03	1.26E-03	1.26E-03	1.26E-03	1.26E-03
Te-123m	4.19E-24	--	--	--	--	--
Te-125m	3.87E-03	3.63E-14	--	--	--	--
Th-227	2.38E+00	6.66E-01	6.40E-01	7.53E-01	1.51E+00	2.59E+00
Th-228	1.19E+01	5.37E+00	1.81E+00	1.49E+00	1.48E+00	1.48E+00
Th-229	4.19E-01	1.28E+00	3.38E+00	8.65E+00	3.54E+01	5.84E+01
Th-230	4.13E+00	4.38E+00	5.24E+00	7.70E+00	2.26E+01	4.02E+01
Th-231	8.66E+00	8.71E+00	8.85E+00	9.21E+00	1.13E+01	1.35E+01
Th-232	1.48E+00	1.48E+00	1.48E+00	1.48E+00	1.48E+00	1.48E+00
Th-234	3.51E+01	3.51E+01	3.51E+01	3.51E+01	3.51E+01	3.51E+01
Tl-204	2.52E-06	2.74E-14	3.38E-34	--	--	--
Tl-207	2.40E+00	6.74E-01	6.47E-01	7.61E-01	1.53E+00	2.62E+00
Tl-208	4.29E+00	1.93E+00	6.50E-01	5.34E-01	5.34E-01	5.34E-01
Tl-209	8.80E-03	2.68E-02	7.10E-02	1.82E-01	7.43E-01	1.23E+00
Tm-171	3.45E-07	7.26E-23	--	--	--	--
U-232	1.02E+01	3.78E+00	3.15E-01	4.96E-04	2.79E-21	--

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

Radionuclide	2033	2133	2383	3033	7033	12033
U-233	9.82E+01	9.82E+01	9.82E+01	9.82E+01	9.93E+01	1.01E+02
U-234	2.10E+02	3.26E+02	4.09E+02	4.21E+02	4.17E+02	4.12E+02
U-235	8.66E+00	8.71E+00	8.85E+00	9.21E+00	1.13E+01	1.35E+01
U-236	5.08E+00	5.57E+00	6.78E+00	9.78E+00	2.43E+01	3.57E+01
U-237	1.55E+01	1.24E-01	2.02E-05	2.63E-05	2.13E-05	1.41E-05
U-238	3.51E+01	3.51E+01	3.51E+01	3.51E+01	3.51E+01	3.51E+01
U-240	1.01E-02	1.01E-02	1.01E-02	1.01E-02	1.01E-02	1.01E-02
Y-90	2.31E+03	1.97E+02	4.18E-01	4.66E-08	--	--
Zn-65	3.76E-16	--	--	--	--	--
Zr-93	2.46E-05	2.46E-05	2.46E-05	2.46E-05	2.45E-05	2.45E-05
Grand Total	**2.70E+06**	**1.62E+06**	**1.17E+06**	**8.49E+05**	**5.93E+05**	**4.87E+05**

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

Radionuclide	2033	2133	2383	3033	7033	12033
Ac-225	9.81E-01	1.33E+00	2.18E+00	4.30E+00	1.49E+01	2.35E+01
Ac-227	2.91E-01	1.59E-01	5.49E-01	1.47E+00	6.84E+00	1.30E+01
Ac-228	1.76E-02	1.46E-02	1.46E-02	1.46E-02	1.46E-02	1.46E-02
Ag-108	2.21E-03	1.28E-03	3.27E-04	9.40E-06	3.10E-15	4.36E-27
Ag-108m	2.54E-02	1.47E-02	3.75E-03	1.08E-04	3.57E-14	5.01E-26
Ag-109m	2.11E-06	--	--	--	--	--
Ag-110	7.40E-14	--	--	--	--	--
Ag-110m	5.44E-12	--	--	--	--	--
Am-241	8.06E+03	7.30E+03	4.89E+03	1.73E+03	3.49E+00	4.12E-01
Am-242	2.39E+00	1.46E+00	4.28E-01	1.75E-02	5.06E-11	1.07E-21
Am-242m	2.40E+00	1.47E+00	4.30E-01	1.76E-02	5.08E-11	1.07E-21
Am-243	2.95E+01	2.92E+01	2.85E+01	2.68E+01	1.84E+01	1.15E+01
Am-245	3.85E-20	--	--	--	--	--
Ar-39	1.89E-02	1.46E-02	7.65E-03	1.43E-03	4.78E-08	1.21E-13
Ar-42	3.22E-02	3.91E-03	2.02E-05	2.27E-11	--	--
At-217	9.81E-01	1.33E+00	2.18E+00	4.30E+00	1.49E+01	2.35E+01
Ba-133	9.11E-01	1.25E-03	8.79E-11	2.20E-29	--	--
Ba-137m	2.20E+05	2.18E+04	6.76E+01	2.03E-05	--	--
Bi-210	1.38E+01	1.59E+01	1.42E+01	1.08E+01	2.82E+00	2.57E+00
Bi-211	2.91E-01	1.59E-01	5.49E-01	1.47E+00	6.84E+00	1.30E+01
Bi-212	4.47E+00	1.66E+00	1.52E-01	1.49E-02	1.46E-02	1.46E-02
Bi-213	9.81E-01	1.33E+00	2.18E+00	4.30E+00	1.49E+01	2.35E+01
Bi-214	1.65E+01	1.58E+01	1.42E+01	1.08E+01	2.82E+00	2.57E+00
Bk-249	2.66E-15	--	--	--	--	--
Bk-250	7.59E-09	7.56E-09	7.48E-09	7.29E-09	6.22E-09	5.09E-09
C-14	2.17E+02	2.15E+02	2.08E+02	1.93E+02	1.19E+02	6.49E+01
Ca-45	9.21E-19	--	--	--	--	--
Cd-109	2.11E-06	--	--	--	--	--
Cd-113	6.02E-18	8.56E-18	8.58E-18	8.58E-18	8.58E-18	8.58E-18
Cd-113m	1.21E+00	8.83E-03	4.06E-08	5.37E-22	--	--
Ce-139	4.75E-21	--	--	--	--	--
Ce-144	3.31E-07	--	--	--	--	--
Cf-249	1.68E+00	1.38E+00	8.42E-01	2.33E-01	8.53E-05	4.33E-09

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

Radionuclide	2033	2133	2383	3033	7033	12033
Cf-250	2.83E-01	1.41E-03	9.97E-09	7.29E-09	6.22E-09	5.09E-09
Cf-251	4.04E-02	3.74E-02	3.08E-02	1.87E-02	8.51E-04	1.79E-05
Cf-252	9.26E-04	3.84E-15	--	--	--	--
Cm-242	1.98E+00	1.21E+00	3.54E-01	1.45E-02	4.20E-11	8.87E-22
Cm-243	1.81E+01	1.59E+00	3.63E-03	4.94E-10	--	--
Cm-244	4.73E+03	1.03E+02	7.13E-03	1.10E-13	--	--
Cm-245	8.55E-01	8.61E-01	8.65E-01	8.45E-01	6.17E-01	4.10E-01
Cm-246	6.79E+01	6.69E+01	6.45E+01	5.86E+01	3.26E+01	1.57E+01
Cm-247	4.10E-07	5.79E-07	9.47E-07	1.63E-06	2.63E-06	2.67E-06
Cm-248	1.62E-02	1.62E-02	1.62E-02	1.62E-02	1.61E-02	1.59E-02
Cm-250	5.42E-08	5.40E-08	5.34E-08	5.21E-08	4.44E-08	3.64E-08
Co-60	7.72E+03	1.50E-02	7.81E-17	--	--	--
Cs-134	8.76E-01	2.20E-15	--	--	--	--
Cs-135	6.05E+01	6.05E+01	6.05E+01	6.05E+01	6.04E+01	6.03E+01
Cs-137	2.33E+05	2.31E+04	7.16E+01	2.15E-05	--	--
Dy-159	5.10E-21	--	--	--	--	--
Es-254	7.22E-23	--	--	--	--	--
Eu-152	3.29E+01	1.81E-01	4.09E-07	8.49E-22	--	--
Eu-154	2.26E+02	7.07E-02	1.23E-10	--	--	--
Eu-155	3.07E+01	1.13E-05	9.41E-22	--	--	--
Fe-55	1.49E+02	1.40E-09	--	--	--	--
Fr-221	9.81E-01	1.33E+00	2.18E+00	4.30E+00	1.49E+01	2.35E+01
Fr-223	4.01E-03	2.20E-03	7.57E-03	2.02E-02	9.44E-02	1.79E-01
Gd-152	4.64E-12	5.77E-12	5.78E-12	5.78E-12	5.78E-12	5.78E-12
Gd-153	9.89E-13	--	--	--	--	--
H-3	3.76E+02	1.36E+00	1.07E-06	1.44E-22	--	--
Ho-166m	5.19E-10	4.90E-10	4.24E-10	2.91E-10	2.89E-11	1.61E-12
I-129	3.73E-01	3.73E-01	3.73E-01	3.73E-01	3.73E-01	3.73E-01
In-113m	6.36E-26	--	--	--	--	--
In-115	6.05E-17	6.05E-17	6.05E-17	6.05E-17	6.05E-17	6.05E-17
Ir-194	1.46E-03	1.39E-08	3.96E-21	--	--	--
K-42	3.22E-02	3.91E-03	2.02E-05	2.27E-11	--	--
Kr-85	1.94E+02	3.02E-01	2.88E-08	1.60E-26	--	--
Lu-177m	8.05E-21	--	--	--	--	--
Mn-54	2.17E-04	--	--	--	--	--
Mo-93	2.12E-02	2.07E-02	1.97E-02	1.73E-02	7.85E-03	2.92E-03
Na-22	8.19E-05	2.20E-16	--	--	--	--
Nb-91	3.20E-02	2.89E-02	2.24E-02	1.16E-02	1.96E-04	1.20E-06
Nb-93m	4.21E-01	6.44E-02	5.86E-02	5.67E-02	4.88E-02	4.46E-02
Nb-94	2.08E+00	2.07E+00	2.06E+00	2.01E+00	1.76E+00	1.48E+00
Nd-144	3.68E-11	3.68E-11	3.68E-11	3.68E-11	3.68E-11	3.68E-11
Ni-59	2.13E+03	2.13E+03	2.12E+03	2.11E+03	2.03E+03	1.94E+03
Ni-63	2.45E+03	1.22E+03	2.17E+02	2.40E+00	2.25E-12	2.06E-27
Np-235	1.96E-07	--	--	--	--	--
Np-237	2.84E+00	3.10E+00	3.58E+00	4.22E+00	4.57E+00	4.56E+00
Np-238	1.08E-02	6.61E-03	1.94E-03	7.92E-05	2.29E-13	4.84E-24
Np-239	2.95E+01	2.92E+01	2.85E+01	2.68E+01	1.84E+01	1.15E+01
Np-240	8.85E-09	8.87E-09	8.90E-09	9.00E-09	9.62E-09	1.04E-08
Np-240m	7.37E-06	7.39E-06	7.42E-06	7.50E-06	8.02E-06	8.65E-06
Os-194	1.45E-03	1.39E-08	3.95E-21	--	--	--

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

Radionuclide	2033	2133	2383	3033	7033	12033
Pa-231	4.92E-02	1.92E-01	5.48E-01	1.47E+00	6.84E+00	1.30E+01
Pa-233	2.84E+00	3.10E+00	3.58E+00	4.22E+00	4.57E+00	4.56E+00
Pa-234	3.86E-02	3.86E-02	3.86E-02	3.86E-02	3.86E-02	3.86E-02
Pa-234m	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01
Pb-209	9.81E-01	1.33E+00	2.18E+00	4.30E+00	1.49E+01	2.35E+01
Pb-210	1.38E+01	1.59E+01	1.42E+01	1.08E+01	2.82E+00	2.57E+00
Pb-211	2.91E-01	1.59E-01	5.49E-01	1.47E+00	6.84E+00	1.30E+01
Pb-212	4.47E+00	1.66E+00	1.52E-01	1.49E-02	1.46E-02	1.46E-02
Pb-214	1.65E+01	1.58E+01	1.42E+01	1.08E+01	2.82E+00	2.57E+00
Pd-107	9.53E-05	9.53E-05	9.53E-05	9.53E-05	9.53E-05	9.52E-05
Pm-145	4.95E-01	9.86E-03	5.52E-07	4.86E-18	--	--
Pm-146	6.78E-02	2.44E-07	5.99E-21	--	--	--
Pm-147	4.53E-01	1.52E-12	--	--	--	--
Po-210	1.38E+01	1.59E+01	1.42E+01	1.08E+01	2.82E+00	2.57E+00
Po-211	8.01E-04	4.38E-04	1.51E-03	4.03E-03	1.88E-02	3.56E-02
Po-212	2.86E+00	1.07E+00	9.76E-02	9.52E-03	9.38E-03	9.38E-03
Po-213	9.60E-01	1.30E+00	2.13E+00	4.21E+00	1.46E+01	2.31E+01
Po-214	1.65E+01	1.58E+01	1.42E+01	1.08E+01	2.82E+00	2.57E+00
Po-215	2.91E-01	1.59E-01	5.49E-01	1.47E+00	6.84E+00	1.30E+01
Po-216	4.47E+00	1.66E+00	1.52E-01	1.49E-02	1.46E-02	1.46E-02
Po-218	1.65E+01	1.58E+01	1.42E+01	1.08E+01	2.82E+00	2.57E+00
Pr-144	3.31E-07	--	--	--	--	--
Pr-144m	4.64E-09	--	--	--	--	--
Pu-236	2.69E-03	1.12E-13	--	--	--	--
Pu-238	5.80E+03	2.63E+03	3.65E+02	2.18E+00	1.12E-10	2.36E-21
Pu-239	7.27E+03	7.25E+03	7.19E+03	7.06E+03	6.30E+03	5.46E+03
Pu-240	7.94E+03	7.87E+03	7.67E+03	7.16E+03	4.69E+03	2.77E+03
Pu-241	1.49E+04	1.20E+02	8.68E-01	8.46E-01	6.18E-01	4.11E-01
Pu-242	6.44E+03	6.44E+03	6.43E+03	6.43E+03	6.38E+03	6.32E+03
Pu-243	4.10E-07	5.79E-07	9.47E-07	1.63E-06	2.63E-06	2.67E-06
Pu-244	7.38E-06	7.40E-06	7.43E-06	7.51E-06	8.03E-06	8.66E-06
Ra-223	2.91E-01	1.59E-01	5.49E-01	1.47E+00	6.84E+00	1.30E+01
Ra-224	4.47E+00	1.66E+00	1.52E-01	1.49E-02	1.46E-02	1.46E-02
Ra-225	9.81E-01	1.33E+00	2.18E+00	4.30E+00	1.49E+01	2.35E+01
Ra-226	1.65E+01	1.58E+01	1.42E+01	1.08E+01	2.82E+00	2.57E+00
Ra-228	1.76E-02	1.46E-02	1.46E-02	1.46E-02	1.46E-02	1.46E-02
Rb-87	2.49E-09	2.49E-09	2.49E-09	2.49E-09	2.49E-09	2.49E-09
Rh-102	2.91E-14	--	--	--	--	--
Rh-106	1.06E-05	--	--	--	--	--
Rn-219	2.91E-01	1.59E-01	5.49E-01	1.47E+00	6.84E+00	1.30E+01
Rn-220	4.47E+00	1.66E+00	1.52E-01	1.49E-02	1.46E-02	1.46E-02
Rn-222	1.65E+01	1.58E+01	1.42E+01	1.08E+01	2.82E+00	2.57E+00
Ru-106	1.06E-05	--	--	--	--	--
Sb-125	1.28E+00	1.20E-11	--	--	--	--
Sb-126	1.34E-01	1.34E-01	1.34E-01	1.33E-01	1.30E-01	1.25E-01
Sb-126m	9.58E-01	9.57E-01	9.56E-01	9.52E-01	9.25E-01	8.94E-01
Se-75	3.16E-25	--	--	--	--	--
Se-79	1.40E-01	1.40E-01	1.40E-01	1.40E-01	1.38E-01	1.37E-01
Sm-145	2.87E-09	--	--	--	--	--
Sm-146	3.09E-08	3.21E-08	3.21E-08	3.21E-08	3.21E-08	3.21E-08

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

Radionuclide	2033	2133	2383	3033	7033	12033
Sm-147	1.61E-08	1.61E-08	1.61E-08	1.61E-08	1.61E-08	1.61E-08
Sm-148	2.29E-19	2.29E-19	2.29E-19	2.29E-19	2.29E-19	2.29E-19
Sm-151	4.60E+01	2.13E+01	3.11E+00	2.08E-02	8.64E-16	1.62E-32
Sn-113	6.36E-26	--	--	--	--	--
Sn-119m	4.39E-10	--	--	--	--	--
Sn-121	9.78E-01	2.77E-01	1.19E-02	3.29E-06	--	--
Sn-121m	1.26E+00	3.57E-01	1.53E-02	4.24E-06	--	--
Sn-123	1.92E-22	--	--	--	--	--
Sn-126	9.58E-01	9.57E-01	9.56E-01	9.52E-01	9.25E-01	8.94E-01
Sr-90	2.07E+05	1.76E+04	3.73E+01	4.17E-06	--	--
Ta-182	1.13E-22	--	--	--	--	--
Tb-157	8.00E-02	5.04E-02	1.59E-02	7.88E-04	7.39E-12	6.83E-22
Tc-99	1.32E+01	1.32E+01	1.32E+01	1.32E+01	1.30E+01	1.28E+01
Te-121	1.33E-19	--	--	--	--	--
Te-121m	1.34E-19	--	--	--	--	--
Te-123	1.55E-14	1.55E-14	1.55E-14	1.55E-14	1.55E-14	1.55E-14
Te-123m	7.58E-25	--	--	--	--	--
Te-125m	3.12E-01	2.93E-12	--	--	--	--
Th-227	2.87E-01	1.57E-01	5.41E-01	1.45E+00	6.75E+00	1.28E+01
Th-228	4.47E+00	1.66E+00	1.52E-01	1.49E-02	1.46E-02	1.46E-02
Th-229	9.81E-01	1.33E+00	2.18E+00	4.30E+00	1.49E+01	2.35E+01
Th-230	1.02E-02	4.05E-02	1.18E-01	3.23E-01	1.55E+00	3.02E+00
Th-231	6.77E+01	6.77E+01	6.77E+01	6.77E+01	6.77E+01	6.78E+01
Th-232	1.46E-02	1.46E-02	1.46E-02	1.46E-02	1.46E-02	1.46E-02
Th-234	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01
Tl-207	2.91E-01	1.59E-01	5.47E-01	1.46E+00	6.82E+00	1.29E+01
Tl-208	1.61E+00	5.98E-01	5.48E-02	5.34E-03	5.26E-03	5.26E-03
Tl-209	2.06E-02	2.79E-02	4.57E-02	9.02E-02	3.12E-01	4.94E-01
Tm-170	5.09E-24	--	--	--	--	--
Tm-171	9.06E-05	1.90E-20	--	--	--	--
U-232	4.33E+00	1.60E+00	1.34E-01	2.11E-04	1.19E-21	--
U-233	4.04E+01	4.04E+01	4.04E+01	4.03E+01	3.97E+01	3.89E+01
U-234	3.23E+01	3.35E+01	3.43E+01	3.44E+01	3.44E+01	3.43E+01
U-235	6.77E+01	6.77E+01	6.77E+01	6.77E+01	6.77E+01	6.78E+01
U-236	3.65E-01	3.88E-01	4.46E-01	5.88E-01	1.28E+00	1.82E+00
U-237	3.57E-01	2.87E-03	2.07E-05	2.02E-05	1.48E-05	9.83E-06
U-238	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01	2.97E+01
U-240	7.37E-06	7.39E-06	7.42E-06	7.50E-06	8.02E-06	8.65E-06
V-49	3.19E-08	--	--	--	--	--
W-181	6.80E-26	--	--	--	--	--
Y-90	2.07E+05	1.76E+04	3.73E+01	4.17E-06	--	--
Zn-65	1.61E-12	--	--	--	--	--
Zr-93	4.24E-02	4.24E-02	4.24E-02	4.24E-02	4.23E-02	4.22E-02
Grand Total	**9.36E+05**	**1.16E+05**	**3.00E+04**	**2.53E+04**	**2.02E+04**	**1.73E+04**

5.2 Waste, Packaging, and Emplacement Materials

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

3. *Total inventory (scaled to a full repository) of all nonradiological waste material parameters reported in masses (kg) for the 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, supplied in masses (kg) for both CH- and RH-TRU waste. These materials may contribute to gas generation.*

Table 5-5. Waste and Packaging Materials

Waste Materials	CH Mass (kg)	RH Mass (kg)
Iron-based Metal/Alloys	1.09E+07	1.35E+06
Aluminum-based Metal/Alloys	4.37E+05	2.01E+04
Other Metal/Alloys	7.62E+05	4.71E+05
Other Inorganic Materials	6.34E+06	1.03E+06
Cellulosics	3.55E+06	1.18E+05
Rubber	1.09E+06	8.80E+04
Plastics	5.20E+06	2.93E+05
Cement*	2.71E+06	1.32E+06
Solidified Inorganic Material	1.11E+07	2.08E+04
Solidified Organic Material	4.01E+06	2.69E+03
Soils	5.80E+06	1.39E+05
Vitrified	--	--
Packaging Materials		
Cellulosics	7.23E+05	--
Plastic	2.47E+06	3.01E+05
Rubber	6.91E+04	4.18E+03
Steel	3.00E+07	6.86E+06
Lead	--	8.28E+03
Grand Total	**8.52E+07**	**1.20E+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.*

Table 5-6. Cements

Type	CH Mass (kg)	RH Mass (kg)
Reacted Only	2.90E+06	1.32E+06
Combination Reacted / Unreacted	6.55E+06	--
Grand Total	**9.45E+06**	**1.32E+06**

NOTE: These estimates taken from LANL 2012b. 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 Data Needs Letter Request #5

5. *Total inventory (scaled to a full repository) of CPR materials and other biodegradable materials used to facilitate emplacement of waste and MgO in the WIPP, supplied in masses (kg) for both CH- and RH-TRU waste. Waste and MgO emplacement in the WIPP is facilitated by the use of plastic shrink-wrap, cardboard stabilizers, and other materials.*

Inventory estimates for these materials should be included. These materials may contribute to gas generation.

Table 5-7. Emplacement Materials

Material	Mass (kg)
Cellulosics	2.60E+05
Plastic	1.25E+06
Grand Total	**1.51E+06**

NOTE: These estimates taken from LANL 2012c. For more information, see section 4.3.

5.3 Other Chemical Constituents

SNL WIPP Inventory Data 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 EDTA) and oxyanions (sulfates, nitrates and phosphates), supplied in masses (kg). These components may affect actinide solubility or gas generation rates.*

Table 5-8. Oxyanions

Oxyanion	Total Mass (kg)
Nitrate	1.70E+06
Phosphate	2.07E+05
Sulfate	4.72E+05

NOTE: These estimates taken from LANL 2012b. For more information, see section 4.3.

Table 5-9. Organic Ligands

Organic Ligand	Total Mass (kg)
Acetate	9.96E+03
Acetic Acid	1.41E+04
Citrate	2.55E+03
Citric Acid	5.23E+03
EDTA	3.76E+02
Oxalate	6.50E+02
Oxalic Acid	1.78E+04

NOTE: These estimates taken from LANL 2012b. For more information, see section 4.3.

6.0 COMPARISON WITH THE PAIR-2008

This section presents the delta between values presented in section 5.0 of this report and their counterparts from the *Performance Assessment Inventory Report – 2008* (PAIR-2008; LANL 2009). These deltas are provided simply to demonstrate the differences between the two reports. It should be noted that although the same scaling methodology applied for this report was also used for the PAIR-2008, the two reports are based on different underlying inventories (12/31/2007 for PAIR-2008, and 12/31/2011 for PAIR-2012), and thus use distinct scaling factors in order to scale to a full repository.

Table 6-1. Comparing Activity (Ci) By Radionuclide Decayed to 2033

Radionuclide	PAIR-2008		PAIR-2012		Net Change	
	CH	RH	CH	RH	CH	RH
Am-241	4.68E+05	4.48E+03	6.97E+05	8.06E+03	2.29E+05	3.59E+03
Am-243	7.17E+01	7.80E+00	2.18E+01	2.95E+01	-5.00E+01	2.17E+01
Cm-244	2.61E+03	4.36E+02	5.24E+03	4.73E+03	2.63E+03	4.29E+03
Cs-137	5.48E+02	8.89E+04	2.31E+03	2.33E+05	1.77E+03	1.44E+05
Np-237	3.65E+01	2.49E+00	2.04E+01	2.84E+00	-1.61E+01	3.52E-01
Pu-238	1.47E+06	5.11E+03	5.95E+05	5.80E+03	-8.73E+05	6.91E+02
Pu-239	5.10E+05	2.92E+03	5.67E+05	7.27E+03	5.73E+04	4.35E+03
Pu-240	1.44E+05	9.89E+02	1.67E+05	7.94E+03	2.35E+04	6.95E+03
Pu-241	5.06E+05	3.94E+03	6.48E+05	1.49E+04	1.43E+05	1.10E+04
Pu-242	7.46E+01	1.25E+00	1.66E+03	6.44E+03	1.58E+03	6.44E+03
Pu-244	3.48E-04	2.34E-06	1.01E-02	7.38E-06	9.79E-03	5.05E-06
Sr-90	5.03E+02	7.99E+04	2.31E+03	2.07E+05	1.81E+03	1.27E+05
Th-229	8.81E+00	4.19E+00	4.19E-01	9.81E-01	-8.39E+00	-3.21E+00
Th-230	5.87E-01	9.20E-03	4.13E+00	1.02E-02	3.54E+00	9.62E-04
Th-232	2.75E-01	6.86E-02	1.48E+00	1.46E-02	1.21E+00	-5.40E-02
U-233	1.56E+02	5.09E+01	9.82E+01	4.04E+01	-5.78E+01	-1.05E+01
U-234	3.04E+02	5.18E+00	2.10E+02	3.23E+01	-9.43E+01	2.72E+01
U-235	4.42E+00	7.04E-02	8.66E+00	6.77E+01	4.24E+00	6.76E+01
U-236	1.35E+00	2.48E-01	5.08E+00	3.65E-01	3.73E+00	1.17E-01
U-238	2.71E+01	2.96E-01	3.51E+01	2.97E+01	8.05E+00	2.94E+01

Table 6-2. Comparing Total Activity (Ci) By Year

Year	PAIR-2008		PAIR-2012		Net Change	
	CH	RH	CH	RH	CH	RH
2033	3.10E+06	3.50E+05	2.70E+06	9.36E+05	-4.06E+05	5.85E+05
2133	1.74E+06	4.24E+04	1.62E+06	1.16E+05	-1.14E+05	7.37E+04
2383	1.01E+06	7.19E+03	1.17E+06	3.00E+04	1.59E+05	2.28E+04
3033	7.25E+05	4.93E+03	8.49E+05	2.53E+04	1.25E+05	2.04E+04
7033	5.28E+05	3.40E+03	5.93E+05	2.02E+04	6.47E+04	1.68E+04
12033	4.35E+05	2.88E+03	4.87E+05	1.73E+04	5.22E+04	1.44E+04

Table 6-3. Comparing Waste and Packaging Materials (kg)

	PAIR-2008*		PAIR-2012		Net Change	
	CH	RH	CH	RH	CH	RH
Waste Materials						
Iron-based Metal/Alloys	1.37E+07	1.21E+06	1.09E+07	1.35E+06	-2.82E+06	1.40E+05
Aluminum-based Metal/Alloys	2.55E+05	7.30E+04	4.37E+05	2.01E+04	1.82E+05	-5.29E+04
Other Metal/Alloys	8.60E+05	2.00E+05	7.62E+05	4.71E+05	-9.81E+04	2.72E+05
Other Inorganic Materials	6.07E+06	2.80E+05	6.34E+06	1.03E+06	2.63E+05	7.48E+05
Cellulosics	6.67E+06	1.54E+05	3.55E+06	1.18E+05	-3.12E+06	-3.63E+04
Rubber	9.45E+05	4.65E+04	1.09E+06	8.80E+04	1.44E+05	4.15E+04
Plastics	6.43E+06	1.97E+05	5.20E+06	2.93E+05	-1.23E+06	9.52E+04
Cement**	2.94E+06	2.87E+04	2.71E+06	1.32E+06	-2.30E+05	1.29E+06
Solidified Inorganic Material	1.81E+07	7.62E+05	1.11E+07	2.08E+04	-6.95E+06	-7.41E+05
Solidified Organic Material	6.33E+06	2.38E+04	4.01E+06	2.69E+03	-2.32E+06	-2.11E+04
Soils	1.78E+06	1.77E+05	5.80E+06	1.39E+05	4.01E+06	-3.73E+04
Vitrified	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Packaging Materials						
Cellulosics	8.67E+05	0.00E+00	7.23E+05	0.00E+00	-1.45E+05	0.00E+00
Plastics	2.63E+06	1.00E+05	2.47E+06	3.01E+05	-1.61E+05	2.01E+05
Rubber***	NA	NA	6.91E+04	4.18E+03	NA	NA
Steel	3.14E+07	4.46E+06	3.00E+07	6.86E+06	-1.36E+06	2.41E+06
Lead	0.00E+00	2.51E+04	0.00E+00	8.28E+03	0.00E+00	-1.68E+04
Grand Total	**9.89E+07**	**7.73E+06**	**8.52E+07**	**1.20E+07**	**-1.38E+07**	**4.30E+06**

** For comparison purposes, the PAIR-2008 values were converted from average density (kg/m^3) to mass (kg) by multiplying each density by the respective legislated WIPP volume capacity (CH - 168,485 m^3, RH - 7,079 m^3).*
*** 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.*
**** Rubber packaging material was not estimated in the PAIR-2008*

Table 6-4. Comparing Emplacement Materials (kg)

Material	PAIR-2008	PAIR-2012	Net Change
Cellulose	2.26E+05	2.60E+05	3.41E+04
Plastic	1.11E+06	1.25E+06	1.34E+05
Grand Total	**1.34E+06**	**1.51E+06**	**1.68E+05**

Table 6-5. Comparing Oxyanions (kg)

	PAIR-2008	PAIR-2012	Net Change
Nitrate	1.73E+06	1.70E+06	-2.65E+04
Phosphate	1.99E+05	2.07E+05	7.56E+03
Sulfate	5.91E+05	4.72E+05	-1.18E+05

Table 6-6. Comparing Organic Ligands (kg)

	PAIR-2008	PAIR-2012	Net Change
Acetate	9.70E+03	9.96E+03	2.56E+02
Acetic Acid	1.32E+04	1.41E+04	9.60E+02
Citrate	2.55E+03	2.55E+03	6.11E+00
Citric Acid	5.68E+03	5.23E+03	-4.54E+02
EDTA	3.54E+02	3.76E+02	2.18E+01
Oxalate	6.46E+02	6.50E+02	4.02E+00
Oxalic Acid	2.66E+04	1.78E+04	-8.74E+03

7.0 ATTACHMENTS

Attachment 1: SNL WIPP Inventory Data Needs Letter (6/5/2009)

ATTACHMENT 1. SNL WIPP INVENTORY DATA NEEDS LETTER (6/5/2009)

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June 5, 2009

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Subject: Sandia's WIPP Inventory Data Needs for Performance Assessment, Rev. 2.

This letter details Sandia's WIPP inventory data needs for Performance Assessment. The data needs are largely the same as Dunagan (2008). This revision clarifies the information needed for performance assessment and removes extraneous information that was asked for in the previous version of the memo but was not used to conduct performance assessment.

In order to conduct performance assessments of the WIPP that accounts for revisions to the inventory and accounts for both currently emplaced waste and to-be-emplaced waste, we will need the 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 2033 ,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 to the years; 2033, 2133, 2383, 3033, 7033, and 12033.

3. Total inventory (scaled to a full repository) of all nonradiological waste material parameters reported in masses (kg) for the 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 un-

reacted (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, supplied in masses (kg) for both CH- and RH-TRU waste. These materials may contribute to gas generation.

5. Total inventory (scaled to a full repository) of CPR materials and other biodegradable materials used to facilitate emplacement of waste and MgO in the WIPP, supplied in masses (kg) for both CH- and RH-TRU waste. Waste and MgO emplacement in the WIPP is facilitated by the use of plastic shrink-wrap, cardboard stabilizers, and other materials. Inventory estimates for these materials should be included. These materials may contribute to gas generation.

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), supplied in masses (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,

Sean Dunagan

References:

Dunagan, S.C. 2008. "Sandia's WIPP Inventory Data Needs for Performance Assessment, Rev 1." Correspondence March 10, 2008. Carlsbad, NM: Sandia National Laboratories. ERMS 548317.

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