Solid Waste Integrated Forecast Technical (SWIFT) Report, FY2003 - FY2046

2003.1, Volume II

Prepared for the U S Department of Energy
Assistant Secretary for Environmental Management

Fluor Hanford
P.O. Box 1000
Richland, Washington

Contractor for the U S Department of Energy
Richland Operations Office under Contract DE-AC06-96RL13200

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R.A. Barcot, Fluor Hanford, Inc.

December 2003

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Solid Waste Integrated Forecast Technical (SWIFT) Report 2003.1: FY2003 to FY2046

SWIFT 2003.1 Report Sections

Highlights

Annual Volumes

Forecast Accuracy

Comparison to Previous Baselines

Identified But Not Forecasted Activities

Forecast Background

Waste Class Data

Other Forecast Data

Additional information is available in specialty reports/sections, highlighted text identifies the hypertext locations.

The focus of this report is low-level waste (LLW), mixed low-level waste (MLLW), and transuranic waste, both non-mixed and mixed (TRU(M)). Some details on hazardous waste are also provided, however, this information is not considered comprehensive.

This report includes data requested in April, 2003 with updates through July, 2003. The data represent a life cycle forecast covering all reported activities from FY2003 through the end of each program's life cycle. The FY2003.1 request is a mid-year update for fiscal year 2003.

Useful information about the structure of this report is in the [SWIFT Report Web Site Overview](#).

Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- A total of 185,830 m³ of LLW, MLLW, and TRU(M) waste is forecast for shipment to Hanford Waste Management (WM) over the life cycle of the Environmental Management Program (2046).
- Based on ranges provided by the various programs the LLW, MLLW, and TRU(M) waste estimate could fluctuate between 124,160 m³ and 275,810 m³.
- As shown in the waste class distribution chart below, LLW_I will be the most common waste class representing 66% (122,860 m³) of the waste. Large volumes of CH_MLLW (33,780 m³), CH_TRU(M) waste (15,560 m³), LLW_III (7,400 m³), and (RH_MLLW (5,430 m³) are also forecast. Smaller amounts of other waste classes are also forecast, as shown below.
- The Company Subgroup chart below shows that the [CH2M Hill Hanford Group, Inc.](#) and [Fluor Hanford](#) are the largest generators of LLW, MLLW, and TRU(M) waste, forecasting 51% (94,120 m³) and 24% (45,220 m³) of the total waste volume respectively. Other companies forecasting waste are also shown in the chart.
- The LLW, MLLW, and TRU(M) waste forecast decreased 9% (18,400 m³) from the FY2003 0 forecast of 204,230 m³. This overall decrease results from decreases in the

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CH2M Hill Hanford Group, Inc., Bechtel-Washington Group, and Fluor Hanford forecasts countered by an increase in the Offsite forecast.

Forecast Total Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	122,860	120,280	94,100	89,740
LLW_III	7,400	10,780	10,720	7,870
LLW_GTCIII	30	--	--	--
CH_MLLW	33,780	26,780	28,450	29,690
RH_MLLW	5,430	28,910	28,330	30,990
CH_TRU(M)	15,560	15,770	16,790	15,900
RH_TRU(M)	770	1,700	1,300	920
Total	185,830	204,230	179,680	175,110

Waste Class Distribution

Forecast Total
Total (excl. HAZ) = 185,830 m³

Company Distribution

Total
Total (excl. HAZ) = 185,830 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Annual Waste Class Volumes

The annual baseline forecast volumes for the next 10 years are presented in the table below along with the total forecast volume from 2013 to 2046 and the actual receipts for FY2002 and FY2003 through August 15. The forecast volumes over the next 10 years are relatively constant, fluctuating from approximately 5,200 m³ to slightly less than 9,000 m³. The forecast volumes over this time span represent an increase from the actual volume of waste received over the last 2 years.

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Summary Waste Volumes (m3) Waste Class	Actual Receipts		FY2003.1 Forecast Volumes										
	2002	2003	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012 -2046	Total
LLW_I	3,293	2,166	3,340	5,450	5,370	5,390	4,440	3,990	4,070	4,320	4,550	86,500	122,860
LLW_III	347	254	580	720	320	320	300	190	190	230	210	4,550	7,400
CH_MLLW	497	403	810	1,150	1,220	1,000	1,000	1,080	1,080	1,500	1,560	24,930	33,780
RH_MLLW	--	20	9	140	140	9	120	240	170	460	350	4,140	5,430
CH_TRU(M)	240	250	360	390	1,900	1,980	70	40	40	30	30	10,750	15,560
RH_TRU(M)	--	7	90	100	10	8	6	6	6	100	130	430	770
GTC_III	--	--	--	--	--	--	--	--	--	--	--	6	6
Total	5,296	3,093	5,190	7,950	8,960	8,710	5,930	5,550	5,560	6,650	6,820	131,310	185,800

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

The annual minimum, baseline, and maximum forecast volumes are presented in the chart below. The volume of LLW, MLLW, and TRU(M) waste, in general, is expected to increase slightly through 2017 hitting a peak annual volume of 10,500 m³ and then gradually decrease throughout the remainder of the Hanford life-cycle. The 2017 peak can be attributed to activities associated with tank waste retrieval and treatment as well as the retrieval of the 618-10/11 Burial Grounds.

Annual Baseline Volumes by Waste Class

Annual forecast volumes by waste class are presented in the following charts. LLW volumes are expected to remain relatively constant through 2023 and then decrease gradually through 2035 at which time they reach a steady level of about 800 m³. The trends in the LLW forecast reflect the expected overall level of cleanup activities occurring at Hanford throughout the life-cycle of the site. The CH_MLLW forecast increases slightly through 2017 and then decreases at a relatively constant rate through 2035. The majority of RH_MLLW is forecast 2007 through 2028. No MLLW is forecast after 2035. The MLLW forecast reflects activities conducted by the Office of River Protection. The majority of TRU(M) waste is expected to be generated from 2003 to 2006 and from 2013 to 2017 corresponding to the cleanup schedule for the Plutonium Finishing Plant and the retrieval of the 618-10/11 Burial Grounds.

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Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

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Summary Table (LLW, MLLW, and TRU(M) waste volumes in m³)

Forecast Summary Volumes Company	LLW_I	LLW_M	LLW_GTCM	CR_MLLW	RR_MLLW	CR_TRU(M)	RR_TRU(M)	FY 2003.1 Forecast (m ³)	% of Total
CH2M Hill Hanford Group, Inc.	64,680	2,230	--	21,950	4,330	620	320	94,120	51%
Fluor Hanford	23,990	1,640	6	4,400	40	14,850	300	45,220	24%
Offsite	29,760	3,220	20	--	--	5	30	33,040	18%
Bechtel-Washington Group	4,090	60	--	7,280	1,060	10	70	12,580	7%
Pacific Northwest National Laboratory	330	260	--	140	4	70	60	860	< 1%
Bechtel Hanford, Inc.	3	--	--	4	--	--	--	6	< 1%
Total	122,860	7,400	90	33,780	5,430	15,560	770	185,830	100%
Percent	66%	4%	< 1%	18%	3%	8%	< 1%	100%	

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Forecast Accuracy

Comparisons of the volume of waste forecast vs. the volume of waste received over the last ten years are shown in the chart below.

- Waste from offsite generators has been excluded from the comparison because the forecasts are technical in nature and don't reflect the changing political environment typically affecting receipts from offsite.

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Comparison to Previous Baseline(s)

The FY2003 1 LLW, MLLW, and TRU(M) waste forecast decreased 9% (18,400 m³) from the FY2003 0 forecast of 204,230 m³. This overall decrease results from decreases in the CH2M Hill Hanford Group, Inc., Bechtel-Washington Group, and Fluor Hanford forecasts countered by an increase in the Offsite forecast. The decrease in the CH2M Hill Hanford Group, Inc. forecast results primarily from a consolidation and realignment of work scope by the tank farm contractor. Forecast changes by waste class can be seen in the table below.

The FY2003 LLW, MLLW, and TRU(M) waste forecast increased 14% (24,550 m³) from the FY2002 forecast of 179,680 m³. The largest percent changes for any waste classes occurred with RH_TRU(M) waste and LLW_I, which increased 31% (400 m³) and 28% (26,180 m³) respectively. The increase in RH_TRU(M) waste can be attributed almost entirely to Bechtel-Washington Group which added 420 m³. The increase in the LLW_I forecast resulted from increases in the forecast from SST/DST Tank Farm Operations primarily from a decision to stop compacting LLW prior to shipment for disposal.

As shown in the following table, the FY2002 0 LLW, MLLW, and TRU(M) waste forecast increased 3% (4,570 m³) from the FY2001 0 forecast of 175,110 m³.

Forecast Total Comparison to Previous Forecasts Waste Class	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
LLW_I	122,860	120,280	94,100	89,740
LLW_II	7,400	10,780	10,720	7,870
LLW_GTCIII	30	--	--	--
CH_MLLW	33,780	28,780	28,450	29,690
RH_MLLW	5,430	28,910	28,330	30,990
CH_TRU(M)	15,560	15,770	16,790	15,900
RH_TRU(M)	770	1,700	1,300	920
Total	185,830	204,230	179,680	175,110

Note. Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Summary of Forecast Changes by Generator and Waste Class

The following table shows highlights of forecast changes by Waste Class, Program, and Generator. Included in the table are generators whose forecasts have changed by more than 1,000 m³ for LLW or more than 100 m³ for MLLW and TRU(M) waste.

Further details are available in the report Comparison, FY2003 1 to FY2003 0 Forecast.

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Major increases (decreases) in Forecast Waste, by Waste Class, Company, and Generator						
Program	Generator	Waste Class	FY2003.1 Volume	FY2003.0 Volume	Increase (decrease)	% increase (decrease)
Low-Level Waste Forecast Differences > 1,000 m³						
CH2M Hill Hanford Group, Inc.	SST/DST Tank Farm Operations	LLW_I	-	58,916	(58,916)	(-100%)
CH2M Hill Hanford Group, Inc.	CHG Waste Feed Operations	LLW_I	56,911	-	56,911	(inf)
CH2M Hill Hanford Group, Inc.	Tank Closure	LLW_I	7,071	-	7,071	(inf)
CH2M Hill Hanford Group, Inc.	SST/DST Tank Farm Operations	LLW_III	-	6,327	(6,327)	(-100%)
Offsite	Brookhaven National Laboratory	LLW_I	16,714	14,048	2,666	19%
Bechtel-Washington Group	Waste Treatment Plant - Operations	LLW_I	4,094	6,020	(1,927)	(-32%)
CH2M Hill Hanford Group, Inc.	CHG Waste Feed Operations	LLW_III	1,460	-	1,460	(inf)
Offsite	Idaho Nat. Engineering and Environmental Lab.	LLW_III	1,398	391	1,007	258%
LLW Subtotal			87,647	85,702	1,945	2%
LLW Forecast Total			130,255	131,061	(805)	(-1%)
Mixed Low-Level Waste Forecast Differences > 100 m³						
CH2M Hill Hanford Group, Inc.	SST Long Length Equipment	RH_MLLW	-	22,518	(22,518)	(-100%)
CH2M Hill Hanford Group, Inc.	SST/DST Tank Farm Operations	CH_MLLW	-	12,797	(12,797)	(-100%)
CH2M Hill Hanford Group, Inc.	CHG Waste Feed Operations	CH_MLLW	12,039	-	12,039	(inf)
CH2M Hill Hanford Group, Inc.	Tank Closure	CH_MLLW	9,107	-	9,107	(inf)
CH2M Hill Hanford Group, Inc.	SST Retrieval (149 tanks)	CH_MLLW	-	918	(918)	(-100%)
Bechtel-Washington Group	Waste Treatment Plant - Operations	CH_MLLW	7,293	8,084	(802)	(-10%)
Bechtel-Washington Group	Waste Treatment Plant - Operations	RH_MLLW	1,057	1,695	(638)	(-38%)
Fluor Hanford	RH and Oversized MLLW/TPU(M) Facilities (M-91)	CH_MLLW	606	148	458	309%
CH2M Hill Hanford Group, Inc.	SST/DST Tank Farm Operations	RH_MLLW	-	387	(387)	(-100%)
CH2M Hill Hanford Group, Inc.	CHG Waste Feed Operations	RH_MLLW	132	-	132	(inf)
CH2M Hill Hanford Group, Inc.	SST/DST Tank Farm Operations	RH_MLLW	-	131	(131)	(-100%)
MLLW Subtotal			30,224	46,678	(16,454)	(-35%)
MLLW Forecast Total			39,210	55,697	(16,487)	(-36%)
Transuranic and Mixed Transuranic Waste Forecast Differences > 100 m³						
CH2M Hill Hanford Group, Inc.	Tank Closure	CH_TRU(M)	613	-	613	(inf)
CH2M Hill Hanford Group, Inc.	SST Long Length Equipment	CH_TRU(M)	-	492	(492)	(-100%)
CH2M Hill Hanford Group, Inc.	SST Long Length Equipment	RH_TRU(M)	-	492	(492)	(-100%)
Bechtel-Washington Group	Waste Treatment Plant - Operations	RH_TRU(M)	73	522	(448)	(-86%)
Fluor Hanford	RH and Oversized MLLW/TPU(M) Facilities (M-91)	CH_TRU(M)	21	251	(230)	(-92%)
TRU(M) Subtotal			707	1,756	(1,049)	(-60%)
TRU(M) Forecast Total			16,337	17,470	(1,133)	(-6%)
Life-Cycle Forecast Total			185,831	204,227	(18,396)	(-9%)

Identified But Not Forecasted Activities

Several Hanford Site activities have been identified that are not included in the forecasts of any of the reporting waste generators. This is often the case when a final decision has not yet been made for the closure of a facility. Perhaps the largest potential source of unforecasted waste is associated with the D&D of the canyon facilities and the tank farms. It is expected that as programmatic responsibilities and DOE Complex-wide issues are resolved, forecasts for these waste generating activities will be better defined and included in future baselines.

Forecast Background

Since 1989, a waste volume forecast has been collected annually from onsite and offsite generators planning to ship waste to the Hanford WM Project's storage and disposal facilities. The waste is generated from ongoing operations and maintenance, deactivation, decontamination and decommissioning (D&D), and environmental restoration (ER) activities.

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The generators provide details about

- the amount of waste to be generated or shipped each year,
- the containers that will be used to ship the waste, and
- the specific characteristics of the waste

The focus of this report is on low-level waste (LLW), mixed low-level waste (MLLW) and transuranic waste, both non-mixed and mixed (TRU(M)). However some details about hazardous (HAZ) waste are also included

This document is intended to be used as a reference for short- and long-term planning of Waste Management (WM) Hanford treatment, storage, and disposal (TSD) activities over the next several decades. Facility planners can use this document to

- determine the timing of key waste management activities
- evaluate alternative treatment strategies, and
- plan storage and disposal capacities

Waste Class Data

Information specific to each waste class, LLW, MLLW, and TRU(M) waste, is shown in the following graphs. CH2M Hill Hanford Group, Inc. is the largest generator of LLW and MLLW, accounting for 51% and 67% of the volume of each waste class respectively. Fluor Hanford is the largest generator of TRU(M) waste, representing 93% of the volume.

Debris is by far the most common waste form, representing 89% of the LLW, 83% of the MLLW, and 96% of the TRU(M) waste.

MLLW primarily contains organic characteristics alone or a combination of metal and organic characteristics. These characteristics account for 64% and 26% of the MLLW respectively. TRU(M) waste is expected to contain primarily metals (44%), and organics (44%).

LLW is expected to be shipped primarily in MB-V boxes (58%), small boxes (17%), and 208 liter drums (7%). MLLW will be shipped primarily in medium boxes (44%), long equipment containers (LECs) (19%), 208 liter drums (17%), and small boxes (12%). TRU(M) waste containers are forecast mainly as standard waste boxes (SWBs) (79%), 208 liter drums (15%), and LECs (6%).

Over three quarters of the MLLW is forecast for direct disposal as land disposal restrictions (LDR) compliant (MLLW-01). Organic carbonaceous debris waste [MLLW-04 (OC)] (14%) is the only other waste stream representing more than 5% of the MLLW forecast.

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LLW Data

Company Group Distribution

Total
LLW Total = 130,280 m³

Physical Waste Form Distribution

Total
LLW Total = 130,280 m³

Container Distribution

Total
LLW Total = 130,280 m³

MLLW Data

Company Group Distribution

Total
MLLW Total = 39,210 m³

Physical Waste Form Distribution

Total
MLLW Total = 39,210 m³

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Hazardous Characteristic Distribution

Container Distribution

LDR Waste Stream Identification Distribution

TRU(M) Data

Company Group Distribution

Physical Waste Form Distribution

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Hazardous Characteristic Distribution

Total
Total (TRUM only) = 1,940 m³

Container Distribution

Total
TRU(M) Total = 16,340 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Other Forecast Data

Hazardous Waste

- The total volume of HAZ waste included in the FY2003.1 forecast is 1,830 m³. Although HAZ waste is requested in the forecast, estimates are often not provided because the waste is shipped directly offsite for disposition. Therefore, it is expected that this is only a subset of the total HAZ waste that will be generated at the Hanford site.

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Waste Characteristic Data

Radionuclide Data

Other Forecast Data

Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- The life-cycle total of LLW, MLLW, and TRU(M) waste expected from the Onsite waste generators is 152,790 m³, or 82% of the FY2003.1 forecast total.
- The forecast life cycle for Onsite waste generators extends through 2046.
- LLW_I is the primary waste forecast, representing over half, (61% or 93,090 m³) of the waste volume, other wastes forecasted are shown in the chart below.
- The Department of Energy - Office of River Protection forecasts the majority (70%) of the Onsite waste with the Richland Operations Office forecasting the remainder.
- The FY2003.1 forecast for Onsite generators decreased 12% from the FY2003.0 forecast of 173,940 m³.

Waste Class Distribution

Onsite
Total (excl. HAZ) = 152,790 m³

Group Distributions

Onsite
Total (excl. HAZ) = 152,790 m³

Annual Waste Class Volumes

Onsite generators will be generating waste from 2003 to 2046. The forecasted volume peaks in 2008 and again in 2017. The early fluctuation can be attributed to the waste forecasted by the Plutonium Finishing Plant, the second from Waste Feed Operations.

Annual Baseline Volumes

Annual Baseline by Waste Class

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

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Annual TRU(M) Waste Baseline Volumes

Summary Table (Volumes in m³)

(in descending order by total volume)

Onsite Summary Volumes	LLW_I	LLW_IR	LLW_GTCM	CR_MLLW	RR_MLLW	CR_TRU(M)	RR_TRU(M)	FY 2003.1 Forecast (m³)	% of Total
Generators									
DOE- Office of River Protection	68,770	2,290	--	29,230	5,390	640	390	106,700	70%
DOE - Richland Operations Office	24,320	1,890	8	4,550	40	14,920	350	46,080	30%
Total	93,080	4,180	6	33,780	5,430	15,550	740	152,760	100%
Percent	61%	3%	< 1%	22%	4%	10%	< 1%	100%	

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast for Onsite generators decreased 12% from the FY2003.0 forecast of 173,940 m³ due primarily to changes in the Waste Feed Operations and the Waste Treatment Plant forecasts.

The FY2003.0 Onsite forecast showed a 14% increase from the FY2002.0 forecast of 151,940 m³ with a significant increase in LLW_I (24,420 m³). This increase was due in part to the increase in LLW volume forecasted by Tank Farm Operations as a result of not compacting their waste at ATG.

The FY2002.0 forecast showed a 5% increase from the FY2001.0 forecast of 145,020 m³. Much of the increase was LLW from CH2M Hill Hanford Group, Inc. generators, in particular the SST/DST Tank Farm Operations.

SWIFT Report -Onsite

Comparison to Previous Baseline(s) by Waste Class

Onsite Comparison to Previous Forecasts Waste Class	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
LLW_I	93,090	92,430	68,010	62,420
LLW_II	4,180	8,400	9,160	5,170
LLW_OTCIII	8	6	6	6
CH_MLLW	33,780	28,750	28,390	29,650
RH_MLLW	5,430	28,910	28,330	30,990
CH_TRU(M)	15,560	15,770	16,790	15,900
RH_TRU(M)	740	1,660	1,250	890
Total	152,790	173,940	151,940	145,020

Note. Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The Department of Energy (DOE) owns and operates the 586-square mile Hanford Site in southeastern Washington State. The DOE's Richland Operations Office (DOE-RL) and Office of River Protection (DOE-ORP) at Hanford are two of many offices nationwide that manage sites and programs within the DOE Complex.

At Hanford, DOE-RL and DOE-ORP rely on a team of contractors to carry out mission requirements for cleaning up the legacy of nearly five decades of support to the nation's defense. Contractors at Hanford are selected based on individual areas of expertise, primarily management of site operations, environmental restoration, research/development, and health services. DOE-RL and ORP provide policy and direction, the contractors conduct the work, and DOE-RL and ORP oversee their performance in meeting mission objectives.

While each contractor has specific areas of responsibility within the Hanford clean up program, they work together to ensure that programs, projects, and activities at Hanford are coordinated and accomplished efficiently with emphasis on safety of the workforce and the public and protection of the environment.

Forecast Assumptions and Comments

Assumptions used in the data collected for the Onsite forecast can be found on the individual generator pages.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of Onsite generators' forecasted wastes are described in the following charts.

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LLW Data

Physical Waste Form Distribution

Onsite
LLW Total = 97,280 m3

Container Distribution

Onsite
LLW Total = 97,280 m3

MLLW Data

Physical Waste Form Distribution

Onsite
MLLW Total = 39,210 m3

Hazardous Characteristic Distribution

Onsite
MLLW Total = 39,210 m3

Container Distribution

Onsite
MLLW Total = 39,210 m3

LDR Waste Stream Identification Distribution

Onsite
MLLW Total = 39,210 m3

SWIFT Report -Onsite

TRU(M) Data

Physical Waste Form Distribution

Onsite

TRU(M) Total = 16,300 m³

Hazardous Characteristic Distribution

Onsite

Total (TRUM only) = 1,930 m³

Container Distribution

Onsite

TRU(M) Total = 16,300 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

SWIFT Report -Onsite

Radionuclide Data

Onsite Summary Curies	LLV_I	LLV_III	LLV_GTCIII	CH_MLLV	RII_MLLV	CH_TRU(M)	RII_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide								
Tritium	2.2E+01	3.3E+00	--	4.8E+02	2.7E-03	--	1.7E-02	5.0E+02
Carbon 14	1.3E-01	1.0E-01	--	3.8E-02	8.0E-03	1.3E-05	5.2E-04	2.8E-01
Cobalt 60	3.1E-01	5.4E+01	--	5.0E+00	5.1E+02	7.3E-03	3.9E+00	5.7E+02
Selenium 79	5.9E-08	1.1E-04	--	6.0E-08	--	--	8.9E-02	8.9E-02
Strontium 90	7.0E+02	5.4E+02	8.4E-03	4.2E+02	5.2E+02	1.1E+04	8.6E+04	9.9E+04
Technetium 99	2.4E-01	1.3E+02	--	3.8E+00	2.7E+00	1.4E+02	2.8E+02	5.4E+02
Iodine 129	6.7E-02	7.7E-03	--	3.6E+00	2.0E-01	4.1E-04	1.9E-02	3.8E+00
Cesium 137	1.3E+02	4.1E+02	3.3E-02	2.4E+02	3.0E+03	7.5E+02	1.4E+05	1.5E+05
Radium 226	--	--	--	6.7E-06	--	--	--	6.7E-06
Uranium 233	3.7E-09	--	--	2.3E-10	--	--	--	3.9E-09
Uranium 234	2.0E-02	--	--	8.2E-04	2.5E-03	5.1E-06	1.0E-01	1.2E-01
Uranium 235	1.4E-02	--	--	2.2E-05	3.9E-05	8.2E-08	1.3E-03	1.6E-02
Uranium 238	2.1E-01	--	--	4.2E-01	3.6E-04	7.5E-07	3.0E-02	6.6E-01
Neptunium 237	6.6E-05	--	--	1.2E-02	5.6E-01	1.9E-03	7.6E-02	6.5E-01
Plutonium 238	1.1E-01	2.6E-02	--	3.0E-03	--	3.5E+04	2.9E+02	3.5E+04
Plutonium 239	1.4E+00	7.0E-02	--	3.8E-02	--	1.0E+05	3.4E+01	1.0E+05
Plutonium 240	3.3E-01	2.2E-02	--	9.0E-03	--	3.3E+04	5.6E+01	3.3E+04
Plutonium 241	8.4E+00	1.2E+02	--	5.3E-01	8.1E+03	3.9E+05	5.9E+03	4.1E+05
Plutonium 242	8.7E-04	1.1E-05	--	3.9E-05	--	1.8E+01	2.0E-01	1.8E+01
Plutonium 238, 239, 240	1.1E+00	1.8E+02	--	2.4E-01	8.2E+02	1.3E+03	6.8E+01	2.3E+03
Americium 241	2.1E-01	4.6E-01	--	6.7E-03	--	3.4E+04	6.4E+02	3.4E+04
Americium 243	--	--	--	--	--	2.5E-05	2.2E+00	2.2E+00
Americium 241, 243	2.7E-01	4.4E+00	--	2.2E-01	5.0E+00	1.2E+01	1.1E+02	1.4E+02
Other	1.1E+01	--	--	9.5E+00	--	5.0E-06	9.2E+02	9.4E+02
Total	8.7E+02	1.5E+03	4.1E-02	1.2E+03	1.3E+04	6.1E+05	2.4E+05	8.6E+05
Percent	< 1%	< 1%	< 1%	< 1%	2%	71%	27%	100%

Other Forecast Data

- **Hazardous Waste**
 - A life-cycle total of 1,830 m³ of hazardous waste has been reported by Onsite generators

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- The life-cycle total of LLW, MLLW, and TRU(M) waste forecasted by DOE - Office of River Protection is 106,700 m³, or 70% of the Onsite forecast total.
- The forecast life-cycle for DOE - Office of River Protection ends in 2032.
- The forecasted waste consists primarily of LLW_I (64%), CH_MLLW (27%), and RH_MLLW (5%).
- The majority of the forecasted waste within the DOE - Office of River Protection forecast is from CH2M Hill Hanford Group, Inc, in particular the CHG Waste Feed Operations, which contributes 66% of the total waste.
- The FY2003.1 forecast shows a 15% decrease from the FY2003.0 forecast of 125,890 m³.

Waste Class Distribution

DOE-Office of River Protection
Total (excl. HAZ) = 106,700 m³

Generator Distributions

DOE-Office of River Protection
Total (excl. HAZ) = 106,700 m³

Annual Waste Class Volumes

The DOE - Office of River Protection's generators will be generating waste from 2003 to 2032. The main sources of waste during this period are waste feed operations and the retrieval of the

high level tank waste (including removal of the long-length equipment). The drop in waste forecast in 2023 is due to the completion of the CHG Waste Feed Operations forecast.

Annual Baseline Volumes

Annual Baseline by Waste Class

Annual LLW Baseline Volumes

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Annual MLLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Summary Table (Volumes in m³)

(in descending order by total volume)

DOE-Office of River Protection Summary Volumes		LLW_I	LLW_III	CH_MLLW	RH_MLLW	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (m³)	% of Total
Generators									
CH2M Hill Hanford Group, Inc.		64,680	2,230	21,950	4,330	620	320	94,120	88%
Bechtel-Washington Group		4,090	60	7,280	1,060	10	70	12,580	12%
Total		68,770	2,290	29,230	5,390	630	390	106,700	100%
Percent		64%	2%	27%	5%	< 1%	< 1%	100%	

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 15% decrease from the FY2003.0 forecast of 125,890 m³. The majority of the decrease is from consolidations and realignment of generators within the CH2M Hill Hanford Group, Inc forecast.

The FY2003.0 forecast shows a 27% increase from the FY2002.0 forecast of 98,800 m³ primarily because tank farm operations will no longer compact LLW through ATG.

The FY2002.0 forecast shows a 7% increase from the FY2001.0 forecast of 92,470 m³.

Comparison to Previous Baseline(s) by Waste Class

DOE-Office of River Protection Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	68,770	66,210	40,740	34,240
LLW_III	2,290	6,370	5,510	1,220
CH_MLLW	29,230	22,600	23,010	23,970
RH_MLLW	5,390	28,870	28,170	30,880
CH_TRU(M)	640	520	500	1,480
RH_TRU(M)	390	1,330	880	570
Total	106,700	125,890	98,800	92,470

Note. Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³; numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The Office of River Protection was established at the Hanford Site in December 1998. As directed by Congress in Section 3139 of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999, the U.S. Department of Energy established the Office of River Protection to focus management responsibility and accountability.

The Office of River Protection oversees the Hanford Site's tank waste remediation system, which is a large and complex effort to remediate 60% (by volume) of the nation's and 90% (by radioactivity) of the Hanford Site's radioactive waste resulting from nuclear weapons development. It includes remediating approximately 190 million curies in 53 million gallons of liquid and solid waste that have been accumulating in underground storage tanks for more than 50 years.

Forecast Assumptions and Comments

Assumptions used in the data collected for the Office of River Protection Subgroup forecast can be found on the individual generator pages within the subgroup.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of the Office of River Protection's forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

DOE-Office of River Protection
LLW Total = 71,060 m3

Container Distribution

DOE-Office of River Protection
LLW Total = 71,060 m3

MLLW Data

Physical Waste Form Distribution

DOE-Office of River Protection
MLLW Total = 34,620 m3

Hazardous Characteristic Distribution

DOE-Office of River Protection
MLLW Total = 34,620 m3

Container Distribution

DOE-Office of River Protection
MLLW Total = 34,620 m3

LDR Waste Stream Identification Distribution

DOE-Office of River Protection
MLLW Total = 34,620 m3

TRU(M) Data

SWIFT Report – DOE Office of River Protection

Physical Waste Form Distribution

DOE-Office of River Protection
TRU(M) Total = 1,030 m³

Hazardous Characteristic Distribution

DOE-Office of River Protection
Total (TRUM only) = 990 m³

Container Distribution

DOE-Office of River Protection
TRU(M) Total = 1,030 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³; numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

DOE-Office of River Protection Summary Curies	LLW_I	LLW_III	CH_MLLW	RR_MLLW	CH_TRU(M)	RR_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide							
Tritium	6.3E-04	--	2.2E-03	--	--	--	2.8E-03
Carbon 14	--	--	--	6.1E-03	1.3E-05	5.2E-04	6.6E-03
Cobalt 60	--	--	--	5.1E+02	7.3E-03	2.8E-01	5.1E+02
Strontium 90	6.9E+02	5.5E+01	3.4E+02	5.2E+02	1.1E+04	1.3E+04	2.6E+04
Technetium 99	5.5E-02	1.3E+02	3.8E+00	2.7E+00	1.4E+02	2.8E+02	5.4E+02
Iodine 129	2.1E-15	--	7.4E-15	2.0E-01	4.1E-04	1.6E-02	2.1E-01
Cesium 137	1.2E+02	1.6E+02	2.1E+02	3.0E+03	5.9E+02	3.1E+04	3.5E+04
Uranium 234	--	--	--	2.5E-03	5.1E-06	2.0E-04	2.7E-03
Uranium 235	--	--	--	3.9E-05	8.2E-08	3.1E-06	4.2E-05
Uranium 238	--	--	4.2E-01	3.6E-04	7.5E-07	2.9E-05	4.2E-01
Neptunium 237	--	--	--	5.6E-01	1.2E-03	4.5E-02	6.1E-01
Plutonium 241	3.7E-02	--	1.1E-01	8.1E+03	1.8E+01	6.8E+02	8.8E+03
Plutonium 238, 239, 240	3.8E-04	1.8E-04	3.0E-02	8.2E+02	3.0E-04	9.7E-03	8.2E+02
Americium 241, 243	5.0E-02	3.0E-03	1.7E-01	5.0E+00	2.7E+00	1.1E+02	1.2E+02
Other	2.1E+00	--	7.4E+00	--	--	--	9.5E+00
Total	8.1E+02	3.5E+02	5.6E+02	1.3E+04	1.2E+04	4.5E+04	7.2E+04
Percent	1%	< 1%	< 1%	18%	17%	63%	100%

Other Forecast Data

- **Hazardous Waste**
 - A life-cycle total of 1,170 m³ of hazardous waste has been reported by generators within the Office of River Protection

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This group contributes 12,580 m³, or 12% of the total forecast.
- The forecast life cycle for Bechtel-Washington Group begins in 2010 and continues through 2028.
- The majority of the waste is expected to be CH_MLLW (58%). Other waste classes are forecasted as shown in the graph below.
- Waste Treatment Plant - Operations is the only generator in this group.
- The FY2003.1 total volume forecast has decreased by 23% compared to the FY2003.0 forecast with the waste now expected to be received beginning in 2010 compared to 2007 in the previous forecast.

Waste Class Distribution

Bechtel-Washington Group
Total (excl. HAZ) = 12,580 m³

Generator Distributions

Bechtel-Washington Group
Total (excl. HAZ) = 12,580 m³

Annual Waste Class Volumes

Bechtel-Washington Group forecasts waste from 2010 through 2028. The forecast is consistent with periodic spikes caused by waste generated in association with planned melter replacement for the Waste Treatment Plant.

Annual Baseline Volumes

Annual Baseline by Waste Class

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Summary Table (Volumes in m³)

(in descending order by total volume)

Bechtel-Washington Group Summary Volumes	LLW_I	LLW_III	CH_MLLW	RH_MLLW	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (m³)	% of Total
Generators								
Waste Treatment Plant - Operations	4,090	60	7,280	1,060	10	70	12,580	100%
Total	4,090	60	7,280	1,060	10	70	12,580	100%
Percent	33%	< 1%	58%	8%	< 1%	< 1%	100%	

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³

Comparison to Previous Baseline(s)

The FY2003.1 total volume forecast has decreased by 23% compared to the FY2003.0 forecast. The change is due to the better definition of waste stream input data as the design and construction progress. The forecasted waste is now expected to be received beginning in 2010 compared to 2007 in the previous forecast.

The FY2003.0 total volume forecast has increased by 13% compared to the FY2002.0 forecast and is extended through 2028 due to the incorporation of all phases of this group's only generator, the Waste Treatment Plant.

The FY2002.0 forecast for Bechtel-Washington Group generators shows a 3% decrease from the FY2001.0 forecast of 14,980 m³. This is the first year in which Bechtel-Washington Group has had the Department of Energy contract for the waste treatment plant.

Comparison to Previous Baseline(s) by Waste Class

Bechtel-Washington Group Comparison to Previous Forecasts	FY2003.1 Forecast (m³)	FY2003.0 Forecast (m³)	FY2002.0 Forecast (m³)	FY2001.0 Forecast (m³)
Waste Class				
LLW_I	4,090	6,020	5,500	5,500
LLW_III	60	40	1,220	1,220
CH_MLLW	7,280	8,080	6,740	7,270
RH_MLLW	1,060	1,690	920	920
CH_TRU(M)	10	--	--	--
RH_TRU(M)	70	520	70	70
Total	12,580	16,360	14,460	14,980

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³

Background

Bechtel-Washington Group is the team the U. S. Department of Energy's Office of River Protection chose to design, build and start up waste treatment facilities that will transform liquid radioactive waste into a stable glass form. The waste is currently stored in 177 huge underground tanks at the Hanford Site in southeastern Washington. It will be treated and converted to a glass waste form, in a process known as vitrification, in facilities that will be built on a 65-acre site on the central plateau of Hanford. Once immobilized, the high-level radioactive waste will be shipped to a federal geologic repository for permanent disposal. The low-level radioactive waste will be disposed at Hanford. The Bechtel-Washington team comprises Bechtel National, Inc. as the prime contractor with Washington Group International, Inc. as a subcontractor.

Forecast Assumptions and Comments

The forecast is based on historical data and FY planning activities.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of Bechtel-Washington Group's forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Bechtel-Washington Group
LLW Total = 4,150 m3

Container Distribution

Bechtel-Washington Group
LLW Total = 4,150 m3

SWIFT Report – Bechtel-Washington Group

MLLW Data

Physical Waste Form Distribution

Bechtel-Washington Group
MLLW Total = 8,340 m3

Hazardous Characteristic Distribution

Bechtel-Washington Group
MLLW Total = 8,340 m3

Container Distribution

Bechtel-Washington Group
MLLW Total = 8,340 m3

LDR Waste Stream Identification Distribution

Bechtel-Washington Group
MLLW Total = 8,340 m3

TRU(M) Data

Physical Waste Form Distribution

Bechtel-Washington Group
TRU(M) Total = 90 m3

Hazardous Characteristic Distribution

Bechtel-Washington Group
Total (TRUM only) = 50 m3

SWIFT Report – Bechtel-Washington Group

Container Distribution

208 Liter Drums
100% (90 m3)

Bechtel-Washington Group
TRU(M) Total = 90 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Bechtel-Washington Group Summary Curies	LLW_I	LLW_M	CH_MLLW	RH_MLLW	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide							
Strontium 90	5.0E+00	3.2E-01	1.5E+01	1.0E+00	1.1E+04	1.3E+04	2.4E+04
Technetium 99	5.5E-02	1.3E+02	1.6E-01	1.7E-01	1.4E+02	2.6E+02	5.3E+02
Cesium 137	2.6E-01	1.1E+02	5.2E+00	4.8E+02	5.6E+02	3.1E+04	3.2E+04
Plutonium 241	3.7E-02	--	1.1E-01	7.9E-03	8.5E-01	2.8E+01	2.9E+01
Americium 241,243	5.0E-02	2.9E-03	1.5E-01	1.0E-02	2.7E+00	1.1E+02	1.2E+02
Total	5.4E+00	2.4E+02	2.0E+01	4.8E+02	1.2E+04	4.4E+04	5.7E+04
Percent	< 1%	< 1%	< 1%	< 1%	21%	78%	100%

Other Forecast Data

- Hazardous Waste**

- No hazardous waste has been reported by this group.

SWIFT Report – Waste Treatment Plant - Contractor

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Waste Treatment Plant - Contractor

The Waste Treatment Plant Contractor is no longer a separate generator. All waste forecast by Waste Treatment Plant Contractor is now combined with Waste Treatment Plant Operations generator

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SWIFT Report – Waste Treatment Plant Operations

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Waste Treatment Plant Operations

Waste Treatment Plant Operations is the only generator within the Bechtel-Washington Group group. All waste information for this generator is found on the [Bechtel-Washington Group](#) page.

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- The life-cycle total of LLW, MLLW, and TRU(M) waste forecasted by CH2M Hill Hanford Group, Inc. is 94,120 m³, or 88% of the Office of River Protection total.
- The forecast life-cycle for CH2M Hill Hanford Group, Inc. ends in 2032.
- The forecasted waste consists primarily of LLW_I (69%) and CH_MLLW (23%).
- CHG Waste Feed Operations and Tank Closure are the major sources of waste within CH2M Hill together contributing 94% of the total waste.
- The FY2003.1 forecast shows a 14% decrease from the FY2003.0 forecast of 109,530 m³.

Waste Class Distribution

CH2M Hill Hanford Group, Inc.
Total (excl. HAZ) = 94,120 m³

Generator Distributions

CH2M Hill Hanford Group, Inc.
Total (excl. HAZ) = 94,120 m³

Annual Waste Class Volumes

CH2M Hill Hanford Group, Inc.'s generators will be generating waste from 2003 to 2032. The main sources of waste are general waste feed operations and tank closure activities. Waste from waste feed operations is generated through 2023, resulting in the drop of forecasted waste after this date.

Annual Baseline Volumes

Annual Baseline by Waste Class

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Summary Table (Volumes in m³)

(in descending order by total volume)

CH2M Hill Hanford Group, Inc.								
Summary Volumes								
Generators	LLW_I	LLW_III	CH_MLLW	RH_MLLW	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (m³)	% of Total
CHG Waste Feed Operations	56,910	1,460	12,040	130	--	--	70,540	75%
Tank Closure	7,070	770	9,110	70	610	--	17,630	19%
W-521 Waste Feed Delivery System (8 tanks)	250	--	70	2,280	8	320	2,920	3%
W-211 DST Retrieval Systems (10 tanks)	230	--	80	1,680	--	--	1,980	2%
W-314 Tank Farm Restoration	70	--	250	170	--	--	500	< 1%
Vadose Zone Well Drilling	--	--	400	--	--	--	400	< 1%
DST Compliance Upgrade - Project 525	140	--	2	--	--	--	150	< 1%
Total	64,680	2,230	21,950	4,330	620	320	94,720	100%
Percent	69%	2%	23%	5%	< 1%	< 1%	100%	

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 14% decrease from the FY2003.0 forecast of 109,530 m³. Three generators are no longer reporting, SST/DST Tank Farm Operations, SST Long Length Equipment, and SST Retrieval (149 tanks). Waste from these generators has been included in forecasts for two new generators, CHG Waste Feed Operations and Tank Closure. Total volumes have changed as work scope has been consolidated and realigned by the tank farm contractor.

The FY2003.0 forecast shows a 30% increase from the FY2002.0 forecast primarily due to the increase in forecasted LLW. This increase is the result, in large part, because LLW from SST/DST Tank Farm Operations will no longer be compacted prior to shipment for disposal.

The FY2002.0 forecast shows a 9% increase from the FY2001.0 forecast of 77,490 m³.

SWIFT Report – CH2M Hill Hanford Group, Inc.

Comparison to Previous Baseline(s) by Waste Class

CH2M Hill Hanford Group, Inc. Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	64,680	60,190	35,240	28,740
LLW_II	2,230	6,330	4,290	--
CH_MLLW	21,950	14,510	16,270	16,710
RH_MLLW	4,330	27,170	27,250	30,070
CH_TRU(M)	620	520	500	1,480
RH_TRU(M)	320	810	810	490
Total	94,120	109,530	84,350	77,490

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

CH2M HILL Hanford Group, Inc. is the U.S. Department of Energy Office of River Protection prime contractor with the responsibility for storing and retrieving approximately 53 million gallons of highly radioactive and hazardous waste. The waste, stored in 177 large underground tanks at the Hanford Site, will be vitrified into glass logs in a treatment plant to be built onsite. CH2M HILL also will be responsible for storage of the treated waste until permanent disposal facilities are available.

Forecast Assumptions and Comments

Assumptions used in the data collected for the CH2M Hill Hanford Group, Inc.'s forecast can be found on the individual generator pages within the subgroup.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of the CH2M Hill Hanford Group, Inc.'s forecasted wastes are described in the following charts:

LLW Data

Physical Waste Form Distribution

CH2M Hill Hanford Group, Inc.
LLW Total = 66,910 m3

Container Distribution

CH2M Hill Hanford Group, Inc.
LLW Total = 66,910 m3

MLLW Data

Physical Waste Form Distribution

CH2M Hill Hanford Group, Inc.
MLLW Total = 26,280 m3

Hazardous Characteristic Distribution

CH2M Hill Hanford Group, Inc.
MLLW Total = 26,280 m3

Container Distribution

CH2M Hill Hanford Group, Inc.
MLLW Total = 26,280 m3

LDR Waste Stream Identification Distribution

CH2M Hill Hanford Group, Inc.
MLLW Total = 26,280 m3

TRU(M) Data

Physical Waste Form Distribution

CH2M Hill Hanford Group, Inc.
TRU(M) Total = 940 m³

Hazardous Characteristic Distribution

CH2M Hill Hanford Group, Inc.
Total (TRUM only) = 940 m³

Container Distribution

CH2M Hill Hanford Group, Inc.
TRU(M) Total = 940 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

CH2M Hill Hanford Group, Inc. Summary Curies	LLV_I	LLV_III	CH_MLLV	RI_MLLV	CH_TRU(M)	RI_TRU(M)	FY 2003.1 Forecast {curies}
Radionuclide							
Tritium	6.3E-04	--	2.2E-03	--	--	--	2.6E-03
Carbon 14	--	--	--	6.1E-03	1.3E-05	5.2E-04	6.6E-03
Cobalt 60	--	--	--	5.1E+02	7.3E-03	2.8E-01	5.1E+02
Strontium 90	6.9E+02	5.4E+01	3.2E+02	5.2E+02	1.6E+01	4.4E+01	1.6E+03
Technetium 99	--	--	3.6E+00	2.5E+00	5.2E-03	2.0E-01	6.4E+00
Iodine 129	2.1E-15	--	7.4E-15	2.0E-01	4.1E-04	1.6E-02	2.1E-01
Cesium 137	1.2E+02	5.6E+01	2.0E+02	2.5E+03	2.1E+01	2.2E+02	3.1E+03
Uranium 234	--	--	--	2.5E-03	5.1E-06	2.0E-04	2.7E-03
Uranium 235	--	--	--	3.9E-05	8.2E-08	3.1E-06	4.2E-05
Uranium 238	--	--	4.2E-01	3.6E-04	7.5E-07	2.9E-05	4.2E-01
Neptunium 237	--	--	--	5.6E-01	1.2E-03	4.5E-02	6.1E-01
Plutonium 241	--	--	--	8.1E+03	1.7E+01	6.5E+02	8.8E+03
Plutonium 238, 239, 240	3.8E-04	1.8E-04	3.0E-02	8.2E+02	3.0E-04	9.7E-03	8.2E+02
Americium 241, 243	2.0E-04	9.3E-05	2.1E-02	5.0E+00	1.0E-02	3.9E-01	5.4E+00
Other	2.1E+00	--	7.4E+00	--	--	--	9.5E+00
Total	8.1E+02	1.1E+02	5.4E+02	1.2E+04	5.5E+01	9.1E+02	1.5E+04
Percent	5%	< 1%	4%	84%	< 1%	6%	100%

Other Forecast Data

- **Hazardous Waste**

- A life-cycle total of 1,170 m³ of hazardous waste has been reported by generators within this company

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CHG Waste Feed Operations

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 70,540 m³, or 75% of CH2M Hill Hanford Group, Inc.'s waste forecast.
- The forecast life cycle for CHG Waste Feed Operations generator begins in 2003 and ends in 2023.
- Most of the forecasted waste (81%) is LLW_I with the remainder shown below.
- The FY2003.1 forecast is new and primarily consists of SST/DST Tank Farm Operations, a waste generator in previous forecasts.

Waste Class Distribution

CHG Waste Feed Operations
Total (excl. HAZ) = 70,540 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

SWIFT Report – CHG Waste Feed Operations

Comparison to Previous Baseline(s)

The FY2003 1 forecast is new and primarily consists of SST/DST Tank Farm Operations, a waste generator in previous forecasts

Comparison to Previous Baseline(s) by Waste Class

CHG Waste Feed Operations Comparison to Previous Forecasts	FY2003 1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	56,910	--	--	--
LLW_III	1,460	--	--	--
CH_MLLW	12,040	--	--	--
RH_MLLW	130	--	--	--
Total	70,540	--	--	--

Note Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³

Background

CHG Waste Feed Operations' mission is to safely manage the waste contained in the single shell and double shell tanks and facilities located in the 200 Areas of the Hanford Site in a safe, compliant, and cost-effective manner. The waste generated from this project includes day-to-day operational and maintenance waste from the 200E and 200W tank farm facilities, and old tank farm excess equipment.

LLW_I will be generated from day to day operational work and old, tank farm excess equipment. CH_MLLW will mostly result from removing the long-length equipment and other components that have been exposed to tank waste.

Forecast Assumptions and Comments

Generating organizations include, DST & SST operations and maintenance, CPO, Interim Stabilization, and the Waste Management Services.

The forecast is based on FY01 & FY02 actual shipping volumes and current baseline schedule.

The physical description and radiological and chemical characterization of the forecasted waste class are described in the waste profile sheets and in the River Protection Solid Waste Hazardous Chemical Characterization Guide and River Protection Solid Waste Program Radionuclide Program Plan.

SWIFT Report – CHG Waste Feed Operations

Waste Characteristic Data

The physical waste forms, hazardous characteristics, container types, and LDR waste stream identification distribution forecast by CHG Waste Feed Operations are shown in the charts below.

LLW Data

Physical Waste Form Distribution

CHG Waste Feed Operations
LLW Total = 58,370 m3

Container Distribution

CHG Waste Feed Operations
LLW Total = 58,370 m3

MLLW Data

Physical Waste Form Distribution

CHG Waste Feed Operations
MLLV Total = 12,170 m3

Hazardous Characteristic Distribution

CHG Waste Feed Operations
MLLV Total = 12,170 m3

SWIFT Report – CHG Waste Feed Operations

Container Distribution

CHG Waste Feed Operations
MLLV Total = 12,170 m³

LDR Waste Stream Identification Distribution

CHG Waste Feed Operations
MLLV Total = 12,170 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

CHG Waste Feed Operations Summary Curies	LLW_I	LLW_III	CH_MLLW	RH_MLLW	FY 2003.1 Forecast (curies)
Radionuclide					
Strontium 90	6.1E+02	3.5E+01	1.3E+02	2.3E+00	7.8E+02
Cesium 137	1.0E+02	3.6E+01	2.5E+01	1.7E+00	1.7E+02
Plutonium 238, 239, 240	3.4E-04	1.1E-04	7.9E-05	5.4E-06	5.3E-04
Americium 241, 243	1.7E-04	6.0E-05	4.1E-05	2.8E-06	2.8E-04
Total	7.1E+02	7.2E+01	1.6E+02	4E+00	9.4E+02
Percent	76%	8%	16%	< 1%	100%

Other Forecast Data

- **Hazardous Waste**
 - 1,010 m³ of hazardous waste has been reported by CHG Waste Feed Operations.

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DST Compliance Upgrade - Project 525

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 150 m³, or <1% of CH2M Hill Hanford Group, Inc. forecast.
- The forecast life cycle for the DST Compliance Upgrade generator begins in 2004 and ends in 2005.
- Nearly all of the forecasted (140 m³) waste is LLW_I, with the remainder being CH_MLLW (2 m³).
- The FY2003.1 forecast shows no change from the FY2003.0 forecast.

Waste Class Distribution

DST Compliance Upgrade - Project 525
Total (excl. HAZ) = 150 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows no change from the FY2003 0 forecast.

The FY2003 0 forecast showed a decrease of 95% from the FY2002 0 forecast of 2,990 m³ because DST Compliance Upgrade no longer expected to discard of jumpers which equated to approximately 2,600 m³

FY2002 0 was the first year that DST Compliance Upgrade - Project 525 completed a forecast

Comparison to Previous Baseline(s) by Waste Class

DST Compliance Upgrade - Project 525 Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW	140	140	2,980	--
CH_MLLW	2	2	9	--
Total	150	150	2,990	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³

Background

The DST Compliance Upgrade - Project 525 has a mission to complete the compliance upgrades that are not part of any other project in order to meet TPA milestone M-43 "Upgrades Complete" Though not currently in the contract, the project also identifies those components that will be taken out-of-service by June 2005, and will then isolate them This portion of work is currently not funded, but it is assumed that it will become part of the project's work scope

Forecast Assumptions and Comments

The Upgrades portion of the project is all that is currently funded Project 525 assumes that the Isolation portion will also be funded in the future and become part of the W-525 workscope

Waste Characteristic Data

The following charts depict the physical waste forms, hazardous constituents, containers, and LDR waste stream identification distribution expected for each waste class

SWIFT Report – DST Compliance Upgrade – Project 525

LLW Data

Physical Waste Form Distribution

DST Compliance Upgrade - Project 525
LLW Total = 140 m3

Container Distribution

DST Compliance Upgrade - Project 525
LLW Total = 140 m3

MLLW Data

Physical Waste Form Distribution

DST Compliance Upgrade - Project 525
MLLW Total = 2 m3

Hazardous Characteristic Distribution

DST Compliance Upgrade - Project 525
MLLW Total = 2 m3

Container Distribution

DST Compliance Upgrade - Project 525
MLLW Total = 2 m3

LDR Waste Stream Identification Distribution

DST Compliance Upgrade - Project 525
MLLW Total = 2 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

DST Compliance Upgrade - Project 525 Summary Curies	LLW_I	CH_MLLW	FY 2003.1 Forecast (curies)
Radionuclide			
Strontium 90	1.9E-01	2.4E-03	2.0E-01
Cesium 137	3.3E-02	4.1E-04	3.4E-02
Plutonium 238, 239, 240	1.1E-07	1.3E-09	1.1E-07
Americium 241, 243	5.5E-08	6.9E-10	5.6E-08
Total	2.3E-01	2.8E-03	2.3E-01
Percent	99%	1%	100%

Other Forecast Data

- **Hazardous Waste**
 - This generator reports no hazardous waste

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SWIFT Report – SST Long Length Equipment

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SST Long Length Equipment

SST Long Length Equipment no longer submits a separate forecast. Workscope previously covered by this generator has been included into the **Tank Closure** forecast.

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SWIFT Report – SST Retrieval (149 tanks)

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SST Retrieval (149 tanks)

SST Retrieval (149 tanks) no longer submits a separate forecast. Workscope previously covered by this generator has been included into the **Tank Closure** forecast

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SWIFT Report – SST/DST Tank Farm Operations

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SST/DST Tank Farm Operations

SST/DST Tank Farm Operations no longer submits a separate forecast. Workscope previously covered by this generator has been included into the **CHG Waste Feed Operations** forecast.

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SWIFT Report – Tank Closure

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Tank Closure

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[Waste Generation Map](#)

Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 17,630 m³, or 19% of CH2M Hill Hanford Group, Inc. forecast.
- The forecast life cycle for the Tank Closure generator begins in 2003 and ends in 2032.
- CH_MLLW and LLW_I account for the majority of the waste at 52% (9,110 m³) and 40% (7,070 m³) respectively.
- The FY2003.1 forecast is the first forecast submitted by Tank Closure. Waste from previous generators including SST Long Length Equipment and SST Retrieval (149 tanks) is included in this forecast.

Waste Class Distribution

Tank Closure
Total (excl. HAZ) = 17,630 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

SWIFT Report – Tank Closure

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast is the first forecast submitted by Tank Closure. Waste from previous generators including SST Long Length Equipment and SST Retrieval (149 tanks) is included in this forecast.

Comparison to Previous Baseline(s) by Waste Class

Tank Closure Comparison to Previous Forecasts	FY2003.1 Forecast (m³)	FY2003.0 Forecast (m³)	FY2002.0 Forecast (m³)	FY2001.0 Forecast (m³)
Waste Class				
LLW_I	7,070	--	--	--
LLW_III	770	--	--	--
CH_MLLW	9,110	--	--	--
RH_MLLW	70	--	--	--
CH_TRU(M)	610	--	--	--
Total	17,630	--	--	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The River Protection Project (RPP) mission is to retrieve and close Single Shell Tanks, Double Shell Tanks and Tank Farm facilities by 2033. The DOE office of River Protection, CH2MHill Hanford Group (CHG) and Waste Treatment Plant contractor manage RPP. CHG is the Tank Farm contractor for the RPP. CHG manages and performs work to safely store and retrieve current and future tank waste, and store and dispose of waste following immobilization. This forecast is for the waste volumes generated from Double Shell Tank and Single Shell Tank Operations and maintenance, characterization and interim stabilization. The waste generated from the activities of these organizations will be managed in a safe and efficient manner and work will be conducted within the boundary of the authorization basis and in a manner that ensures compliance with federal, state and local regulations.

Forecast Assumptions and Comments

Generating organizations include DST & SST operations and maintenance, Characterization Project Operations, Interim Stabilization, and the Waste Management Services. The physical description and radiological and chemical characterization of the forecasted waste classes are described in the waste profile sheets and in the River Protection Solid Waste Hazardous Chemical Characterization Guide and River Protection Solid Waste Program Radionuclide Program Plan. Waste volume forecasts for the projects will be forecasted separately.

Waste Characteristic Data

The following charts depict the physical waste forms, hazardous constituents, containers, and LDR waste stream identification distribution expected for each waste class.

LLW Data

Physical Waste Form Distribution

Tank Closure
LLW Total = 7,840 m3

Container Distribution

Tank Closure
LLW Total = 7,840 m3

MLLW Data

Physical Waste Form Distribution

Tank Closure
MLLW Total = 9,180 m3

Hazardous Characteristic Distribution

Tank Closure
MLLW Total = 9,180 m3

SWIFT Report – Tank Closure

Container Distribution

LDR Waste Stream Identification Distribution

TRU(M) Waste Data

Physical Waste Form Distribution

Hazardous Characteristic Distribution

Container Distribution

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

SWIFT Report – Tank Closure

Radionuclide Data

Tank Closure Summary Curies	LLV_I	LLV_III	CH_MLLV	RII_MLLV	CH_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide						
Strontium 90	7.6E+01	1.9E+01	1.9E+02	1.1E+00	1.5E+01	3.0E+02
Cesium 137	1.3E+01	2.0E+01	1.8E+02	6.6E-01	1.6E+01	2.3E+02
Plutonium 238, 239, 240	4.2E-05	6.2E-05	5.5E-04	2.1E-06	4.9E-05	7.1E-04
Americium 241, 243	2.2E-05	3.3E-05	2.9E-04	1.1E-06	2.6E-05	3.7E-04
Total	8.9E+01	3.9E+01	3.7E+02	1.7E+00	3.1E+01	5.3E+02
Percent	17%	7%	70%	< 1%	6%	100%

Other Forecast Data

- **Hazardous Waste**
 - This generator reports 170 m³ of hazardous waste

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Vadose Zone Well Drilling

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Highlights

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Comparisons to Previous Baseline(s)

Background

Forecast Assumptions and Comments

Waste Characteristic Data

Radionuclide Data

Other Forecast Data

Waste Generation Map

Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 400 m³, or <1% of CH2M Hill Hanford Group, Inc.'s waste forecast.
- The forecast life cycle for the Vadose Zone Well Drilling generator ends in 2019.
- CH_MLLW is the only waste class forecast.
- The FY2003.1 forecast shows no volume change from the FY2003.0 forecast.

Waste Class Distribution

Vadose Zone Well Drilling
Total (excl. HAZ) = 400 m³

Annual Volumes

Annual Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows no change from the FY2003.0 forecast.

The FY2003.0 forecast showed a 8% decrease from the FY2002.0 forecast because waste volume forecast to be shipped in the year 2002 were not applicable to the FY2003.0 forecast.

The FY2002.0 forecast showed a 9% decrease from the FY2001.0 forecast due to the removal of the year 2001 volumes.

SWIFT Report – Vadose Zone Well Drilling

Comparison to Previous Baseline(s) by Waste Class

Vadose Zone Well Drilling Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
CH_MLLW	400	400	430	470
Total	400	400	430	470

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The mission of the Vadose Zone Well Drilling generator is to characterize the tank-farm subsurface in support of RCRA Compliance, waste retrieval, and tank farm closure. Items included in the forecast are various wastes from drilling and sampling activities.

Forecast Assumptions and Comments

This forecast is consistent with the Multi-Year Work Plan.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of Vadose Zone Well Drilling's forecasted wastes are described in the following charts.

MLLW Data

Physical Waste Form Distribution

Vadose Zone Well Drilling
MLLW Total = 400 m³

Hazardous Characteristic Distribution

Vadose Zone Well Drilling
MLLW Total = 400 m³

SWIFT Report – Vadose Zone Well Drilling

Container Distribution

Vadose Zone Well Drilling
MLLV Total = 400 m3

LDR Waste Stream Identification Distribution

Vadose Zone Well Drilling
MLLV Total = 400 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Vadose Zone Well Drilling Summary Curies	CH_MLLW	FY 2003.1 Forecast (curies)
Radionuclide		
Technetium 99	3.6E+00	3.6E+00
Cesium 137	2.2E+00	2.2E+00
Uranium 238	3.6E-01	3.6E-01
Total	6.2E+00	6.2E+00
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by Vadose Zone Well Drilling.

SWIFT Report – W-211 DST Retrieval Systems (10 tanks)

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2003.1

Data currency
7/2003

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W-211 DST Retrieval Systems (10 tanks)

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 1,980 m³, or 2% of CH2M Hill Hanford Group, Inc.'s waste forecast.
- The forecast life cycle for the W-211 DST Retrieval Systems ends in 2028.
- The majority (85%) of waste forecast is RH_MLLW, with the remainder being CH_MLLW and LLW_I.
- The FY2003.1 total volume forecast shows a 1% increase compared to the FY2003.0 total volume forecast of 1,960 m³.

Waste Class Distribution

W-211 DST Retrieval Systems (10 tanks)
Total (excl. HAZ) = 1,980 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003 1 total volume forecast increased 1% compared to the FY2003 0 forecast due to updated forecast estimates

The FY2003 0 total volume forecast is the same as the FY2002.0 total volume forecast, however, 200 m³ of the previously forecasted CH_MLLW is assumed to be LLW_I. The waste classification change is based on the assumption that the coverblocks can be decontaminated to meet LLW disposal criteria

The FY2002 0 forecast represents a 24% decrease from the FY2001 0 forecast of 2,590 m³ due to shifting in project scope and a decrease in the change out frequency of pumps

Comparison to Previous Baseline(s) by Waste Class

W-211 DST Retrieval Systems (10 tanks) Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	230	200	--	--
CH_MLLW	80	70	270	230
RH_MLLW	1,680	1,690	1,690	2,360
Total	1,980	1,960	1,960	2,590

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The W-211 mission is to retrieve DST waste for processing, management of existing storage capacity, and continued safe storage. Tanks in the project scope include AP-102, AP-104, AN-101, AN-102, AN-103, AN-104, AN-105, AN-107, AZ-101, and AZ-102, also included in the project scope is a transfer system from AP Farm to the Waste Treatment Plant.

Waste results from construction activities in existing tank farms and from replacement of items during the operating life cycle. CH_MLLW will be generated from excavation and demolition of non in-tank equipment/structures and from work in such areas as pits. RH_MLLW will result from removing components that have been exposed to tank waste.

Forecast Assumptions and Comments

This forecast is based on the current project schedule, which is consistent with the RPP Performance Measurement Baseline Schedule. Tanks in the project scope include AP-102, AP-104, AN-101, AN-102, AN-103, AN-104, AN-105, AN-107, AZ-101, and AZ-102. Also included in the project scope is a transfer system from AP Farm to the Waste Treatment Plant. Construction of the first retrieval system started in the 4th Quarter FY 2002 and is scheduled to be completed in the 2nd Quarter FY 2004. The last system is scheduled to be completed in the 4th Quarter FY 2015.

SWIFT Report – W-211 DST Retrieval Systems (10 tanks)

Volume assumptions for each retrieval system are as follows: Three RH_MLLW boxes per retrieval system, except none for AZ-101, AZ-102, and AN-101 because W-314 has already removed the jumpers from the pits. Eight CH_MLLW drums per retrieval system, except for AZ-101 because there is no equipment removal. Two LLW_I Shield Blocks (20x8x2 feet each) per retrieval system. Two RH_MLLW drums per retrieval system where equipment removal occurs. Two LLW_III drums per retrieval system for miscellaneous waste. One LLW_I box per retrieval system for waste generated during equipment removal (plastic), except three for AZ-102 because more in-tank equipment will be removed, and none for AZ-101 because no in-tank equipment will be removed.

Other Assumptions Include:

- Use of the high pressure spray wash system is assumed to decon removed tank components to within LLW_III limits.
- Cover blocks are assumed to be deconned to LLW disposal criteria.
- Other waste generated inside the tank farm boundary is assumed mixed waste.
- Life-cycle replacement of pumps assumes a ten year life instead of five years.

Waste Characteristic Data

The physical waste forms, hazardous characteristics, container types, and LDR waste stream identification distribution forecast by W-211 DST Retrieval Systems are shown in the charts below.

LLW Data

Physical Waste Form Distribution

W-211 DST Retrieval Systems (10 tanks)
LLW Total = 230 m3

Container Distribution

W-211 DST Retrieval Systems (10 tanks)
LLW Total = 230 m3

SWIFT Report – W-211 DST Retrieval Systems (10 tanks)

MLLW Data

Physical Waste Form Distribution

W-211 DST Retrieval Systems (10 tanks)
MLLV Total = 1,760 m³

Container Distribution

W-211 DST Retrieval Systems (10 tanks)
MLLV Total = 1,760 m³

Hazardous Characteristic Distribution

W-211 DST Retrieval Systems (10 tanks)
MLLV Total = 1,760 m³

LDR Waste Stream Identification Distribution

W-211 DST Retrieval Systems (10 tanks)
MLLV Total = 1,760 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

SWIFT Report – W-211 DST Retrieval Systems (10 tanks)

Radionuclide Data

W-211 DST Retrieval Systems (10 tanks)				
Summary Curies	LLW_I	CH_MLLW	RR_MLLW	FY 2003.1 Forecast (curies)
Radionuclide				
Carbon 14	--	--	2.8E-03	2.8E-03
Cobalt 60	--	--	1.5E+00	1.5E+00
Strontium 90	4.5E-01	1.8E-01	2.3E+02	2.3E+02
Technetium 99	--	--	1.1E+00	1.1E+00
Iodine 129	--	--	8.4E-02	8.4E-02
Cesium 137	4.5E-01	1.8E-01	1.1E+03	1.1E+03
Uranium 234	--	--	1.1E-03	1.1E-03
Uranium 235	--	--	1.7E-05	1.7E-05
Uranium 238	--	--	1.5E-04	1.5E-04
Neptunium 237	--	--	2.4E-01	2.4E-01
Plutonium 241	--	--	3.4E+03	3.4E+03
Plutonium 238, 239, 240	--	--	5.2E-02	5.2E-02
Americium 241, 243	--	--	2.1E+00	2.1E+00
Total	9.1E-01	3.6E-01	4.8E+03	4.8E+03
Percent	< 1%	< 1%	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by W-211 DST Retrieval Systems (10 tanks)

Site Rev. Date
11/2003

Data version
2003.1

Data currency
7/2003

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W-314 Tank Farm Restoration

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Waste Generation Map

Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 500 m³, or <1% of CH2M Hill Hanford Group, Inc.'s waste forecast.
- The forecast life cycle for the W-314 Tank Farm Restoration generator ends in 2005.
- CH_MLLW is the primary waste classes forecast, representing 51% (250 m³). RH_MLLW and LLW_I are also forecasted.
- The FY2003.1 forecast volume is the same as the FY2003.0 forecast.

Waste Class Distribution

W-314 Tank Farm Restoration
Total (excl. HAZ) = 500 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

SWIFT Report – W-314 Tank Farm Restoration

Comparison to Previous Baseline(s)

The FY2003 1 forecast is the same as the FY2003.0 forecast

The FY2003 0 forecast shows a 13% decrease from the FY2002 0 forecast of 570 m³ primarily due to the elimination of the year 2002 volumes

The FY2002 0 forecast shows a 17% decrease from the FY2001 0 forecast of 690 m³ primarily due to the elimination of the year 2001 volumes

Comparison to Previous Baseline(s) by Waste Class

W-314 Tank Farm Restoration Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW	70	70	80	100
CH_MLLW	250	250	300	370
RH_MLLW	170	170	190	220
Total	500	500	570	690

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³

Background

Project W-314 Tank Farm Restoration will perform upgrades (including demolition work) to the 200 Area tank farm facilities as described in the *Upgrade Scope Summary Report*, WHC-SD-W314-RPT-003, Rev 4. Waste volumes and schedules are based on the report.

Waste is related to construction materials, debris and jumpers left discarded in pits, cover blocks, existing jumpers changed out during construction, tank instrument trees, and soils and slurry from core drilling ports in the cover blocks.

Forecast Assumptions and Comments

It is assumed that approximately 2 m³ of existing debris will be removed and 5 core drills will be performed per pit. Also, all contaminated soils from excavation activities will be backfilled in place.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification distribution of W-314 Tank Farm Restoration's forecasted wastes are described in the following charts:

SWIFT Report – W-314 Tank Farm Restoration

LLW Data

Physical Waste Form Distribution

W-314 Tank Farm Restoration
LLW Total = 70 m3

Container Distribution

W-314 Tank Farm Restoration
LLW Total = 70 m3

MLLW Data

Physical Waste Form Distribution

W-314 Tank Farm Restoration
MLLW Total = 420 m3

Hazardous Characteristic Distribution

W-314 Tank Farm Restoration
MLLW Total = 420 m3

Container Distribution

W-314 Tank Farm Restoration
MLLW Total = 420 m3

LDR Waste Stream Identification Distribution

W-314 Tank Farm Restoration
MLLW Total = 420 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

SWIFT Report – W-314 Tank Farm Restoration

Radionuclide Data

W-314 Tank Farm Restoration Summary Curies				
Radionuclide	LLW_I	CH_MLLW	RI_MLLW	FY 2003.1 Forecast (curies)
Tritium	6.3E-04	2.2E-03	--	2.8E-03
Cobalt 60	--	--	5.0E+02	5.0E+02
Strontium 90	6.0E-03	2.1E-02	2.7E+00	2.7E+00
Iodine 129	2.1E-15	7.4E-15	--	9.5E-15
Cesium 137	9.5E-04	2.0E-02	9.3E-01	9.5E-01
Uranium 238	--	5.1E-02	--	5.1E-02
Plutonium 238, 239, 240	3.3E-09	2.9E-02	8.2E+02	8.2E+02
Americium 241, 243	1.6E-09	2.1E-02	3.6E-01	3.8E-01
Other	2.1E+00	7.4E+00	--	9.5E+00
Total	2.1E+00	7.5E+00	1.3E+03	1.3E+03
Percent	< 1%	< 1%	99%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by W-314 Tank Farm Restoration

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SWIFT Report – W-521 Waste Feed Delivery System (8 tanks)

Site Rev. Date
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Data version
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Data currency
7/2003

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W-521 Waste Feed Delivery System (8 tanks)

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 2,920 m³, or 3% of CH2M Hill Hanford Group, Inc.'s waste forecast.
- The forecast life cycle for the Waste Feed Delivery System generator begins in 2008 and ends in 2028.
- Most of the forecasted waste (78%) is RH_MLLW.
- The FY2003.1 total volume forecast is the same as the FY2003.0 total volume forecast.

Waste Class Distribution

W-521 Waste Feed Delivery System (8 tanks)
Total (excl. HAZ) = 2,920 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

SWIFT Report – W-521 Waste Feed Delivery System (8 tanks)

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 total volume forecast is the same as the FY2003.0 total volume forecast.

The FY2003.0 shows a reduction CH_MLLW and an increase in LLW_I. The total waste volume is the same as FY2002.0.

The FY2002.0 forecast shows a 29% decrease from the FY2001.0 forecast due to the removal of the AP Farm upgrades from the project scope.

Comparison to Previous Baseline(s) by Waste Class

W-521 Waste Feed Delivery System (8 tanks) Comparison to Previous Forecasts	FY2003.1 Forecast (m³)	FY2003.0 Forecast (m³)	FY2002.0 Forecast (m³)	FY2001.0 Forecast (m³)
Waste Class				
LLW_I	250	250	--	--
CH_MLLW	70	70	320	380
RH_MLLW	2,280	2,280	2,280	2,770
CH_TRU(M)	8	8	8	990
RH_TRU(M)	320	320	320	--
Total	2,920	2,920	2,920	4,130

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The Waste Feed Delivery System's mission is to install equipment to permit retrieval and transfer of DST waste for processing in the Waste Treatment Plant, management of existing storage capacity, and continued safe storage. Tanks within the scope of this project include: AW-101, AW-103, AW-104, AY-101, AY-102, SY-101, SY-102, and SY-103.

Forecast Assumptions and Comments

The scope and schedule reflects current plans to support waste feed staging/delivery to processing plants and is consistent with the River Protection Program Performance Measurement Baseline Schedule.

Waste Characteristic Data

The physical waste forms, hazardous characteristics, container types, and LDR waste stream identification distribution forecast by Waste Feed Delivery System are shown in the charts below.

LLW Data

Physical Waste Form Distribution

W-521 Waste Feed Delivery System (8 tanks)
LLW Total = 250 m3

Container Distribution

W-521 Waste Feed Delivery System (8 tanks)
LLW Total = 250 m3

MLLW Data

Physical Waste Form Distribution

W-521 Waste Feed Delivery System (8 tanks)
MLLW Total = 2,350 m3

Hazardous Characteristic Distribution

W-521 Waste Feed Delivery System (8 tanks)
MLLW Total = 2,350 m3

SWIFT Report – W-521 Waste Feed Delivery System (8 tanks)

Container Distribution

W-521 Waste Feed Delivery System (8 tanks)
MLLV Total = 2,350 m³

LDR Waste Stream Identification Distribution

W-521 Waste Feed Delivery System (8 tanks)
MLLV Total = 2,350 m³

TRU(M) Data

Physical Waste Form Distribution

W-521 Waste Feed Delivery System (8 tanks)
TRU(M) Total = 320 m³

Hazardous Characteristic Distribution

W-521 Waste Feed Delivery System (8 tanks)
Total (TRUM only) = 320 m³

Container Distribution

W-521 Waste Feed Delivery System (8 tanks)
TRU(M) Total = 320 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

SWIFT Report – W-521 Waste Feed Delivery System (8 tanks)

Radionuclide Data

W-521 Waste Feed Delivery System (8 tanks) Summary Curies						
Radionuclide	LLW_I	CH_MLLW	RH_MLLW	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (curies)
Carbon 14	--	--	3.3E-03	1.3E-05	5.2E-04	3.8E-03
Cobalt 60	--	--	2.0E+00	7.3E-03	2.8E-01	2.3E+00
Strontium 90	5.1E-01	3.1E-01	2.8E+02	1.1E+00	4.4E+01	3.3E+02
Technetium 99	--	--	1.4E+00	5.2E-03	2.0E-01	1.7E+00
Iodine 129	--	--	1.1E-01	4.1E-04	1.6E-02	1.3E-01
Cesium 137	5.1E-01	3.2E-01	1.4E+03	5.7E+00	2.2E+02	1.6E+03
Uranium 234	--	--	1.4E-03	5.1E-06	2.0E-04	1.6E-03
Uranium 235	--	--	2.3E-05	8.2E-08	3.1E-06	2.6E-05
Uranium 238	--	--	2.1E-04	7.5E-07	2.9E-05	2.4E-04
Neptunium 237	--	--	3.2E-01	1.2E-03	4.5E-02	3.7E-01
Plutonium 241	--	--	4.7E+03	1.7E+01	6.5E+02	5.3E+03
Plutonium 238, 239, 240	--	--	6.3E-02	2.5E-04	9.7E-03	7.3E-02
Americium 241, 243	--	--	2.5E+00	1.0E-02	3.9E-01	2.9E+00
Total	1.E+00	6.3E-01	6.3E+03	2.4E+01	9.1E+02	7.3E+03
Percent	< 1%	< 1%	87%	< 1%	13%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by the Waste Feed Delivery System (8 tanks)

Site Rev. Date
11/2003

Data version
2003.1

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- The life-cycle total of LLW, MLLW, and TRU(M) waste forecasted by DOE - Richland Operations Office is 46,080 m³, or 30% of the Onsite forecast total.
- The forecast life-cycle for DOE - Richland Operations Office (DOE-RL) ends in 2046.
- The forecasted waste consists primarily of LLW_I (53%) and CH_TRU(M) waste (32%).
- Fluor Hanford is the major source of waste within DOE-RL contributing 98% of the total waste.
- The FY2003.1 forecast shows a 4% decrease from the FY2003.0 forecast of 48,050 m³.

Waste Class Distribution

DOE-Richland Operations Office
Total (excl. HAZ) = 46,080 m³

Generator Distributions

DOE-Richland Operations Office
Total (excl. HAZ) = 46,090 m³

Annual Waste Class Volumes

DOE-RL generators will be generating waste from 2003 to 2046. Since Fluor Hanford generates 98% of the DOE-RL waste, the annual graphs are similar to Fluor Hanford's. A large volume of the waste is forecasted to be generated from 2003 through 2008, much of it coming from the Plutonium Finishing Plant. Another large volume is forecasted from 2013 through 2017, most of which is from 618-10/11 Burial Grounds. A drop in waste generation is seen in 2035, especially

in the MLLW due to the end of life-cycle for the 222-S Analytical Laboratory and the Liquid Waste Processing Facilities.

Annual Baseline Volumes

Annual Baseline by Waste Class

Annual LLW Baseline Volumes

SWIFT Report – DOE Richland Operations Office

Annual MLLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Summary Table (Volumes in m³)

(in descending order by total volume)

DOE-Richland Operations Office Summary Volumes		LLW_I	LLW_III	LLW_GTCIII	CH_MLLW	RH_MLLW	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (m³)	% of Total
Generators										
Fluor Hanford		23,990	1,640	6	4,400	40	14,850	300	45,220	98%
Pacific Northwest National Laboratory		330	260	--	140	4	70	60	860	2%
Bechtel Hanford, Inc.		3	0	--	4	0	--	--	6	<1%
Total		24,320	1,890	6	4,550	40	14,920	350	46,080	100%
Percent		53%	4%	<1%	10%	<1%	32%	<1%	100%	

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003 1 forecast shows a 4% decrease from the FY2003.0 forecast of 48,050 m³ due to minor changes in LLW_I and CH_TRU(M) waste forecasts for individual waste generators within Fluor Hanford

The FY2003 0 forecast shows a 10% decrease from the FY2002 0 forecast of 53,140 m³. Significant workscope was shifted from Bechtel Hanford, Inc. to Fluor Hanford which also resulted in a reduced forecast for that workscope. The Fluor Hanford forecast accounts for the remainder of the reduction with the Plutonium Finishing Plant, Equipment Disposition Project, and 300 Area Accelerated Deactivation all having significant decreases in volume.

The FY2002 0 forecast showed a 1% increase from the FY2001 0 forecast of 52,550 m³ and includes three generators new to the annual forecast: RH and Oversized MLLW/TRU(M) Facilities (M-91), T Plant Canyon Cleanout, and the Equipment Disposition Project.

Comparison to Previous Baseline(s) by Waste Class

DOE-Richland Operations Office Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	24,320	26,220	27,280	28,170
LLW_III	1,890	2,030	3,650	3,950
LLW_GTCIII	6	6	6	6
CH_MLLW	4,550	4,160	5,380	5,680
RH_MLLW	40	40	170	6
CH_TRU(M)	14,920	15,250	16,290	14,420
RH_TRU(M)	350	340	370	320
Total	46,080	48,050	53,140	52,550

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

DOE-RL manages the 560-square-mile Hanford Site located just north of the city of Richland, in the southeastern part of Washington State.

Hanford was established in secrecy during World War II to produce plutonium for an atomic bomb. Peak nuclear materials production was reached in the 1960s, when eight reactors were in operation. Altogether, Hanford supplied plutonium for the United States nuclear weapons defense for more than four decades. All weapons material production was halted in the late 1980s, and Hanford is now engaged in the world's largest environmental cleanup project.

Hanford is vigorously pursuing three cleanup outcomes: restoring the Columbia River Corridor, transitioning the central part of the Hanford Site for waste treatment and long-term storage, and putting DOE's assets, including the Pacific Northwest National Laboratory, to work solving regional and global environmental problems.

Forecast Assumptions and Comments

Assumptions used in the data collected for DOE-RL's forecast can be found on the individual generator pages within the subgroup.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types and LDR waste stream identification of DOE - Richland Operations Office's forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

DOE-Richland Operations Office
LLW Total = 26,220 m3

Container Distribution

DOE-Richland Operations Office
LLW Total = 26,220 m3

MLLW Data

Physical Waste Form Distribution

DOE-Richland Operations Office
MLLW Total = 4,590 m3

Hazardous Characteristic Distribution

DOE-Richland Operations Office
MLLW Total = 4,590 m3

Container Distribution

DOE-Richland Operations Office
MLLW Total = 4,590 m³

LDR Waste Stream Identification Distribution

DOE-Richland Operations Office
MLLW Total = 4,590 m³

TRU(M) Data

Physical Waste Form Distribution

DOE-Richland Operations Office
TRU(M) Total = 15,270 m³

Hazardous Characteristic Distribution

DOE-Richland Operations Office
Total (TRUM only) = 950 m³

Container Distribution

DOE-Richland Operations Office
TRU(M) Total = 15,270 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

DOE-Richland Operations Office Summary Curies	LLW_I	LLW_III	LLW_GTCIII	CH_MLLW	RR_MLLW	CH_TRU(M)	RR_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide								
Tritium	2.2E+01	3.3E+00	--	4.8E+02	2.7E-03	--	1.7E-02	5.0E+02
Carbon 14	1.3E-01	1.0E-01	--	3.8E-02	1.9E-03	--	--	2.7E-01
Cobalt 60	3.1E-01	5.4E+01	--	5.0E+00	--	4.9E-05	3.7E+00	6.3E+01
Selenium 79	5.9E-08	1.1E-04	--	6.0E-08	--	--	8.9E-02	8.9E-02
Strontium 90	6.4E+00	4.8E+02	8.4E-03	8.5E+01	5.1E+00	1.3E+01	7.2E+04	7.3E+04
Technetium 99	1.8E-01	2.8E-02	--	3.4E-02	7.8E-04	--	4.2E+00	4.5E+00
Iodine 129	6.7E-02	7.7E-03	--	3.6E+00	--	--	3.1E-03	3.6E+00
Cesium 137	1.2E+01	2.5E+02	3.3E-02	2.8E+01	1.5E+00	1.7E+02	1.1E+05	1.1E+05
Radium 226	--	--	--	6.7E-06	--	--	--	6.7E-06
Uranium 233	3.7E-09	--	--	2.3E-10	--	--	--	3.9E-09
Uranium 234	2.0E-02	--	--	8.2E-04	--	--	9.9E-02	1.2E-01
Uranium 235	1.4E-02	--	--	2.2E-05	--	--	1.3E-03	1.6E-02
Uranium 238	2.1E-01	--	--	2.0E-03	--	--	3.0E-02	2.4E-01
Neptunium 237	6.6E-05	--	--	1.2E-02	--	6.8E-04	3.1E-02	4.4E-02
Plutonium 238	1.1E-01	2.6E-02	--	3.0E-03	--	3.5E+04	2.9E+02	3.5E+04
Plutonium 239	1.4E+00	7.0E-02	--	3.8E-02	--	1.0E+05	3.4E+01	1.0E+05
Plutonium 240	3.3E-01	2.2E-02	--	9.0E-03	--	3.3E+04	5.6E+01	3.3E+04
Plutonium 241	8.3E+00	1.2E+02	--	4.3E-01	--	3.9E+05	5.2E+03	4.0E+05
Plutonium 242	8.7E-04	1.1E-05	--	3.9E-05	--	1.8E+01	2.0E-01	1.8E+01
Plutonium 238, 239, 240	1.1E+00	1.8E+02	--	2.1E-01	5.9E-03	1.3E+03	6.8E+01	1.5E+03
Americium 241	2.1E-01	4.6E-01	--	6.7E-03	--	3.4E+04	6.4E+02	3.4E+04
Americium 243	--	--	--	--	--	2.5E-05	2.2E+00	2.2E+00
Americium 241, 243	2.2E-01	4.4E+00	--	4.8E-02	1.2E-03	9.2E+00	1.9E-03	1.4E+01
Other	8.7E+00	--	--	2.1E+00	--	5.0E-06	9.2E+02	9.3E+02
Total	6.1E+01	1.1E+03	4.1E-02	6.0E+02	6.6E+00	6.0E+05	1.9E+05	7.9E+05
Percent	<1%	<1%	<1%	<1%	<1%	76%	24%	100%

Other Forecast Data

- **Hazardous Waste**
 - A life-cycle total of 640 m³ of hazardous waste has been reported by generators within this group

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- The life cycle total of LLW, MLLW, and TRU(M) waste expected from Bechtel Hanford, Inc. is 6 m³, or <1% of the DOE-RL forecast.
- The forecast life cycle for this group ends in 2003.
- CH_MLLW and LLW_I are the only wastes forecast, representing 58% and 42% respectively of the total waste volume.
- FY2003.1 forecast increased 3 m³ from the FY2003.0 forecast. The FY2003.0 forecast for this group showed an extremely large decrease from the FY2002.0 forecast of 11,600 m³ due to shift in work scope to several waste generators within Fluor Hanford.

Waste Class Distribution

Bechtel Hanford, Inc.
Total (excl. HAZ) = 6 m³

Generator Distributions

Bechtel Hanford, Inc.
Total (excl. HAZ) = 6 m³

Annual Waste Class Volumes

Bechtel Hanford, Inc. forecasts wastes in 2003 only.

Annual Baseline Volumes

Annual Baseline by Waste Class

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Summary Table (Volumes in m³)

(in descending order by total volume)

Bechtel Hanford, Inc. Summary Volumes	LLW_I	CH_MLLW	FY 2003.1 Forecast (m ³)	% of Total
Generators				
Environmental Restoration	3	4	6	100%
Total	3	4	6	100%
Percent	42%	58%	100%	

Note Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

Although the FY2003.1 forecast represents a 100% increase from the FY2003.0 forecast, the amount of waste is very small (3 m³).

The change from the FY2002.0 forecast to the FY2003.0, was very significant (11,600 m³). The change resulted from the majority of the work scope represented in previous forecasts being transferred to Fluor Hanford, most of which is currently represented in the 618-10/11 Burial Grounds generator.

The FY2002.0 forecast for this group showed a 1% decrease from the FY2001.0 forecast of 11,670 m³ due to revised forecast estimates. Although the waste volumes did not change significantly, the FY2002 showed an end date in 2026 (as opposed to 2042) and a large portion of the waste, generated from the 618-11 project was moved to FY2013-FY2017 (from FY2038-2042). This change was also reflected in the SWIFT FY2001.1 semi-annual update.

Comparison to Previous Baseline(s) by Waste Class

Bechtel Hanford, Inc. Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	3	1	150	180
CH_MLLW	4	1	40	50
CH_TRU(M)	--	--	11,310	11,340
RH_TRU(M)	--	--	100	100
Total	6	3	11,600	11,670

Note. Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Bechtel Hanford, Inc. is responsible for the deactivation of surplus reactors, demolition of inactive facilities, groundwater sampling, well construction, and demolition. The generator is also responsible for cleanup of contaminated soil sites and burial grounds.

Forecast Assumptions and Comments

The forecast is based on existing data and interviews with personnel responsible for waste generation.

CERCLA wastes and RCRA Past Practice wastes are not included in this forecast. Because of the high probability that solid waste from the decontamination and decommissioning of ERC contract facilities will be classified as CERCLA, this estimate does not include quantities for these facilities.

The volume and composition are based on existing waste inventories on hand. The ERC contract is operating under extension(s) pending transfer of work scope to the River Corridor contractor.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of Bechtel Hanford, Inc.'s forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Bechtel Hanford, Inc.
LLW Total = 3 m3

Container Distribution

Bechtel Hanford, Inc.
LLW Total = 3 m3

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MLLW Data

Physical Waste Form Distribution

Bechtel Hanford, Inc.
MLLW Total = 4 m3

Hazardous Characteristic Distribution

Bechtel Hanford, Inc.
MLLW Total = 4 m3

Container Distribution

Bechtel Hanford, Inc.
MLLW Total = 4 m3

LDR Waste Stream Identification Distribution

Bechtel Hanford, Inc.
MLLW Total = 4 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Bechtel Hanford, Inc. Summary Curies			
Radionuclide	LLW_1	CIL_MLLW	FY 2003.1 Forecast (curies)
Cobalt 60	1.8E-01	2.5E-01	4.3E-01
Strontium 90	1.0E-03	1.4E-03	2.5E-03
Cesium 137	1.5E-03	2.2E-03	3.7E-03
Total	1.8E-01	2.6E-01	4.4E-01
Percent	42%	58%	100%

Other Forecast Data

- **Hazardous Waste**
 - Six cubic meters of hazardous waste is forecast by this generator.

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Environmental Restoration

Environmental Restoration is the only generator within the Bechtel Hanford, Inc group. Waste information for this generator can be found on the [Bechtel Hanford, Inc](#) page.

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- The life-cycle total of LLW, MLLW, and TRU(M) waste forecasted by Fluor Hanford is 45,220 m³, or 98% of the DOE-RL forecast total.
- The forecast life-cycle for Fluor Hanford ends in 2046.
- The forecasted waste consists primarily of LLW_I (53%) and CH_TRU(M) waste (33%).
- The Central Plateau is the major source of waste within Fluor Hanford contributing 81% of the total waste.
- The FY2003.1 forecast shows a 4% decrease from the FY2003.0 forecast of 47,070 m³.

Waste Class Distribution

Fluor Hanford
Total (excl. HAZ) = 45,220 m³

Generator Distributions

Fluor Hanford
Total (excl. HAZ) = 45,220 m³

Annual Waste Class Volumes

Fluor Hanford generators will be generating waste from 2003 to 2046. A large volume of the waste is forecasted to be generated from 2003 through 2008, much of it coming from the Plutonium Finishing Plant. Another large volume is forecasted from 2013 through 2017, most of which is from 618-10/11 Burial Grounds. A drop in waste generation is seen in 2035, especially

in the MLLW due to the end of life-cycle for the 222-S Analytical Laboratory and the Liquid Waste Processing Facilities.

Annual Baseline Volumes

Annual Baseline by Waste Class

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Summary Table (Volumes in m³)

(in descending order by total volume)

Fluor Hanford Summary Volumes	LLW_I	LLW_HH	LLW_GTCBH	CH_MLLW	RH_MLLW	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (m³)	% of Total
Generators									
Central Plateau	15,650	1,450	6	4,320	40	14,830	140	36,440	81%
River Corridor	5,320	190	--	70	--	20	150	5,750	13%
Site Infrastructure	3,020	--	--	10	--	--	--	3,030	7%
Total	23,990	1,640	6	4,400	40	14,850	300	45,220	100%
Percent	53%	4%	< 1%	10%	< 1%	33%	< 1%	100%	

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 4% decrease from the FY2003.0 forecast of 47,070 m³ due to minor forecast changes for LLW_I and CH_TRU(M) waste

The FY2003.0 forecast increased 16% from the FY2002.0 forecast. Much of the increase was TRU(M) waste generated by the 618-10/11 Burial Grounds which included scope previously contained within the Bechtel Hanford, Inc. forecast. For LLW, significant decreases in the River Corridor group were offset somewhat by increases in the Central Plateau group.

The FY2002.0 forecast showed a 1% increase from the FY2001.0 forecast of 40,330 m³ and included three generators new to the annual forecast: RH and Oversized MLLW/TRU(M) Facilities (M-91), T Plant Canyon Cleanout, and the Equipment Disposition Project.

Comparison to Previous Baseline(s) by Waste Class

Fluor Hanford Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	23,990	25,820	26,900	27,750
LLW_III	1,840	1,760	3,420	3,860
LLW_GTCIII	6	6	6	6
CH_MLLW	4,400	4,000	5,180	5,460
RH_MLLW	40	40	160	6
CH_TRU(M)	14,850	15,160	4,890	3,050
RH_TRU(M)	300	280	170	200
Total	45,220	47,070	40,740	40,330

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

One of the world's largest international engineering, construction, maintenance and diversified services companies, Fluor has conducted numerous engineering and remediation projects throughout the world. Its partnering and alignment management approach has become internationally known for producing results in the form of accelerated schedules, improved safety and quality and reduced costs.

As the primary management contractor for Project Hanford, Fluor Hanford has the ultimate responsibility for the entire project with emphasis on safety, high quality of work and performing all functions on time. The prime contractor is responsible for conducting business in such a way as to be consistent with the following outcomes, which flow from the Hanford Strategic Plan: Restore the River Corridor for multiple uses, Transition the Central Plateau to support long-term waste management, and use assets to solve global problems.

Forecast Assumptions and Comments

Assumptions used in the data collected for Fluor Hanford's forecast can be found on the individual generator pages within the subgroup.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types and LDR waste stream identification of Fluor Hanford's forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Fluor Hanford
LLW Total = 25,630 m3

Container Distribution

Fluor Hanford
LLW Total = 25,630 m3

MLLW Data

Physical Waste Form Distribution

Fluor Hanford
MLLW Total = 4,440 m3

Hazardous Characteristic Distribution

Fluor Hanford
MLLW Total = 4,440 m3

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Container Distribution

Fluor Hanford
MLLW Total = 4,440 m³

LDR Waste Stream Identification Distribution

Fluor Hanford
MLLW Total = 4,440 m³

TRU(M) Data

Physical Waste Form Distribution

Fluor Hanford
TRU(M) Total = 15,150 m³

Hazardous Characteristic Distribution

Fluor Hanford
Total (TRUM only) = 900 m³

Container Distribution

Fluor Hanford
TRU(M) Total = 15,150 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

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Radionuclide Data

Fluor Hanford Summary Curies	LLW_I	LLW_III	LLW_GTCIII	CH_MLLW	RH_MLLW	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide								
Tritium	2.2E+01	3.2E+00	--	4.8E+02	6.4E-04	--	1.7E-02	5.0E+02
Carbon 14	--	--	--	2.1E-05	2.8E-04	--	--	3.0E-04
Cobalt 60	1.3E-01	5.4E+01	--	4.8E+00	--	4.9E-05	3.7E+00	6.3E+01
Selenium 79	5.9E-08	1.1E-04	--	6.0E-08	--	--	8.9E-02	8.9E-02
Strontium 90	6.4E+00	4.8E+02	8.4E-03	8.5E+01	5.1E+00	1.3E+01	7.2E+04	7.3E+04
Technetium 99	1.8E-01	2.8E-02	--	3.4E-02	7.8E-04	--	4.2E+00	4.5E+00
Iodine 129	5.7E-02	--	--	3.6E+00	--	--	3.1E-03	3.6E+00
Cesium 137	1.2E+01	2.5E+02	3.3E-02	2.8E+01	1.5E+00	1.7E+02	1.1E+05	1.1E+05
Radium 226	--	--	--	6.7E-06	--	--	--	6.7E-06
Uranium 233	3.7E-09	--	--	2.3E-10	--	--	--	3.9E-09
Uranium 234	2.0E-02	--	--	8.2E-04	--	--	9.9E-02	1.2E-01
Uranium 235	1.4E-02	--	--	2.2E-05	--	--	1.3E-03	1.6E-02
Uranium 238	2.1E-01	--	--	2.0E-03	--	--	3.0E-02	2.4E-01
Neptunium 237	6.6E-05	--	--	1.2E-02	--	6.8E-04	3.1E-02	4.4E-02
Plutonium 238	1.1E-01	2.6E-02	--	3.0E-03	--	3.5E+04	2.9E+02	3.5E+04
Plutonium 239	1.4E+00	7.0E-02	--	3.8E-02	--	1.0E+05	3.4E+01	1.0E+05
Plutonium 240	3.3E-01	2.2E-02	--	9.0E-03	--	3.3E+04	5.6E+01	3.3E+04
Plutonium 241	8.3E+00	1.2E+02	--	4.3E-01	--	3.9E+05	5.2E+03	4.0E+05
Plutonium 242	8.7E-04	1.1E-05	--	3.9E-05	--	1.8E+01	2.0E-01	1.8E+01
Plutonium 238, 239, 240	1.1E+00	1.8E+02	--	2.0E-01	5.8E-03	1.2E+03	1.1E+01	1.4E+03
Americium 241	2.1E-01	4.6E-01	--	6.7E-03	--	3.4E+04	6.4E+02	3.4E+04
Americium 243	--	--	--	--	--	2.5E-05	2.2E+00	2.2E+00
Americium 241, 243	2.2E-01	4.4E+00	--	4.8E-02	1.2E-03	9.2E+00	1.9E-03	1.4E+01
Other	8.7E+00	--	--	2.1E+00	--	5.0E-06	9.2E+02	9.3E+02
Total	6.1E+01	1.1E+03	4.1E-02	6.0E+02	6.6E+00	6.0E+05	1.9E+05	7.9E+05
Percent	< 1%	< 1%	< 1%	< 1%	< 1%	76%	24%	100%

Other Forecast Data

- **Hazardous Waste**

- A life-cycle total of 630 m³ of hazardous waste has been reported by generators within this company

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- The life-cycle total of LLW, MLLW, and TRU(M) waste expected from the Central Plateau Subgroup is 36,440 m³, or 81% of the Fluor Hanford forecast total.
- The forecast life-cycle for the Central Plateau Subgroup ends in 2046.
- LLW_I and CH_TRU(M) waste are the primary wastes forecasted, representing 43% (15,650 m³) and 41% (14,830 m³) of the waste volume respectively.
- The Plutonium Finishing Plant and the 618-10/11 Burial Grounds are the largest sources of waste, forecasting 29% (10,710 m³) and 28% (10,300 m³) of the Central Plateau volume total respectively.
- The FY2003.1 forecast for the Central Plateau shows a 2% decrease from the FY2003.0 forecast of 37,280 m³.

Waste Class Distribution

Central Plateau
Total (excl. HAZ) = 36,440 m³

Generator Distributions

Central Plateau
Total (excl. HAZ) = 36,440 m³

Annual Waste Class Volumes

The Central Plateau's generators will be generating waste from 2003 to 2046. Most of the waste expected to be generated from 2003 through 2008 corresponds to the Plutonium Finishing Plant. The peak of waste generation from 2013 through 2017 corresponds to the 618-10/11 Burial Grounds.

Annual Baseline Volumes

Annual Baseline by Waste Class

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

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Summary Table (Volumes in m³)

(in descending order by total volume)

Central Plateau Summary Volumes Generators	LLW_I	LLW_III	LLW_GTCIII	CH_MLLW	RH_MLLW	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (m ³)	% of Total
Plutonium Finishing Plant, 234-5 Z	5,780	270	--	160	--	4,500	--	10,710	29%
618-10M1 Burial Grounds	--	--	--	--	--	10,200	100	10,300	28%
222-S Analytical Laboratory	4,830	1,060	--	1,040	30	--	--	6,970	19%
Liquid Waste Processing Facilities, 200 Area	30	--	--	1,970	--	--	--	2,000	5%
T Plant Operations, 221-T/2706-T	1,660	--	--	200	--	--	--	1,860	5%
Waste Encapsulation & Storage Facility	1,100	30	6	10	6	--	--	1,140	3%
Waste Sampling & Characterization Facility, 6266	830	--	--	230	--	--	--	1,060	3%
RH and Oversized MLLWTRU(M) Facilities (M-91)	250	--	--	610	--	20	40	920	3%
Low Level Burial Grounds, 218 EMV	560	--	--	20	--	--	--	580	2%
Waste Receiving and Processing Facility, 2336-W	200	50	--	7	--	30	--	280	< 1%
T Plant Canyon Cleanout	130	50	--	60	--	--	--	240	< 1%
T Plant Transition	80	--	--	--	--	40	--	120	< 1%
U Plant	60	--	--	2	--	--	1	60	< 1%
PUREX	40	--	--	1	--	--	--	40	< 1%
B Plant	30	--	--	1	--	--	--	30	< 1%
233-S Plutonium Concentration Facility	--	--	--	--	--	30	--	30	< 1%
209-E Critical Mass Laboratory	20	--	--	1	--	--	--	20	< 1%
Central Plateau SM&T	20	--	--	1	--	--	--	20	< 1%
REDOX	20	--	--	1	--	--	--	20	< 1%
Waste Sites	20	--	--	--	--	--	--	20	< 1%
Ground Water Monitoring	--	--	--	8	--	5	--	10	< 1%
224-T Transuranic Storage and Assay Facility	--	--	--	--	--	3	--	3	< 1%
224-B Plutonium Concentration Facility	--	--	--	--	--	3	--	3	< 1%
231-Z Materials Engineering Laboratory	--	--	--	--	--	0.77	--	0.77	< 1%
Total	15,650	1,450	6	4,320	40	14,830	140	36,440	100%
Percent	43%	4%	< 1%	12%	< 1%	41%	< 1%	100%	

Note Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast for the Central Plateau shows a 2% decrease from the FY2003.0 forecast of 37,280 m³ primarily due to minor updates in various forecasts for LLW_I and CH_TRU(M) waste. The FY2003.1 forecast includes four new generators: 209-E Critical Mass Laboratory, 224-T Transuranic Storage and Assay Facility, 224-B Plutonium Concentration Facility, and 231-Z Materials Engineering Laboratory.

The FY2003.0 forecast for the Central Plateau increased 37% from the FY2002.0 forecast of 27,300 m³ primarily due to the addition of nine new waste generators. The new generators include 200 Area Surveillance, Maintenance and Transition, 233-S Facility, 618-10/11 Burial Grounds, B Plant, Ground Water Monitoring, PUREX, REDOX, U Plant, and Waste Sites. Much

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of the waste from these generators was previously reported as part of the Environmental Restoration program

The FY2002.0 forecast for the Central Plateau showed a 20% increase from the FY2001.0 forecast of 22,760 m³ with a significant increase in both LLW_I (1,990 m³) and CH_TRU(M) (2,620 m³). The FY2002.0 forecast includes two generators new to the annual update, the RH and Oversized MLLW/TRU(M) Facilities (M-91) and the T Plant Canyon Cleanout

Comparison to Previous Baseline(s) by Waste Class

Central Plateau Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	15,850	16,850	14,650	12,660
LLW_III	1,450	1,450	2,700	2,790
LLW_OTCIII	6	6	6	6
CH_MLLW	4,320	3,890	4,900	4,970
RH_MLLW	40	40	160	6
CH_TRU(M)	14,830	15,130	4,860	2,240
RH_TRU(M)	140	120	20	--
Total	36,440	37,280	27,300	22,670

Note. Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The Central Plateau is approximately 75 square miles near the middle of the Hanford Site and includes the 200 East and 200 West Areas. The 200 Areas are home to a large number of facilities formerly used for spent nuclear fuel processing and plutonium metal production.

DOE is transitioning the Central Plateau from primarily inactive storage to active waste characterization, treatment, storage, and disposal operations. New, state-of-the-art, environmentally compliant facilities will be used to support completion of the Hanford Site cleanup.

Forecast Assumptions and Comments

Assumptions used in the data collected for the Central Plateau Subgroup forecast can be found on the individual generator pages within the subgroup.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of the Central Plateau's forecasted wastes are described in the following charts.

SWIFT Report – Central Plateau Group

LLW Data

Physical Waste Form Distribution

Central Plateau
LLW Total = 17,110 m3

Container Distribution

Central Plateau
LLW Total = 17,110 m3

MLLW Data

Physical Waste Form Distribution

Central Plateau
MLLW Total = 4,360 m3

Hazardous Characteristic Distribution

Central Plateau
MLLW Total = 4,360 m3

Container Distribution

Central Plateau
MLLW Total = 4,360 m3

LDR Waste Stream Identification Distribution

Central Plateau
MLLW Total = 4,360 m3

SWIFT Report – Central Plateau Group

TRU(M) Data

Physical Waste Form Distribution

Central Plateau
TRU(M) Total = 14,970 m³

Hazardous Characteristic Distribution

Central Plateau
Total (TRUM only) = 760 m³

Container Distribution

Central Plateau
TRU(M) Total = 14,970 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

SWIFT Report – Central Plateau Group

Radionuclide Data

Central Plateau Summary Curies	LLV_I	LLV_III	LLV_GTCIII	CH_MLLV	RR_MLLV	CH_TRU(M)	RR_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide								
Tritium	2.2E+01	3.2E+00	--	4.8E+02	6.4E-04	--	--	5.0E+02
Carbon 14	--	--	--	2.1E-05	2.8E-04	--	--	3.0E-04
Cobalt 60	7.6E-02	--	--	4.7E+00	--	7.4E-06	1.6E+00	6.5E+00
Selenium 79	--	--	--	--	--	--	8.9E-02	8.9E-02
Strontium 90	5.9E+00	3.2E+02	8.4E-03	8.5E+01	5.1E+00	3.7E-01	6.8E+04	6.9E+04
Technetium 99	1.4E-01	2.4E-02	--	2.5E-02	7.8E-04	--	2.9E+00	3.1E+00
Iodine 129	5.7E-02	--	--	3.6E+00	--	--	--	3.6E+00
Cesium 137	1.1E+01	9.0E+01	3.3E-02	2.7E+01	1.5E+00	9.7E-02	1.0E+05	1.0E+05
Radium 226	--	--	--	6.7E-06	--	--	--	6.7E-06
Uranium 233	3.7E-09	--	--	2.3E-10	--	--	--	3.9E-09
Uranium 234	1.0E-05	--	--	1.2E-07	--	--	--	1.0E-05
Uranium 235	6.1E-05	--	--	3.7E-06	--	--	--	6.5E-05
Uranium 238	1.1E-03	--	--	6.7E-05	--	--	--	1.1E-03
Neptunium 237	6.6E-05	--	--	1.2E-02	--	6.8E-04	--	1.3E-02
Plutonium 238	1.1E-01	5.2E-03	--	3.0E-03	--	3.5E+04	2.3E+01	3.5E+04
Plutonium 239	1.4E+00	6.4E-02	--	3.8E-02	--	1.0E+05	4.5E+00	1.0E+05
Plutonium 240	3.3E-01	1.5E-02	--	9.0E-03	--	3.3E+04	4.4E+00	3.3E+04
Plutonium 241	8.1E+00	1.5E+00	--	3.6E-01	--	3.9E+05	2.2E+02	3.9E+05
Plutonium 242	1.8E-05	8.5E-07	--	4.9E-07	--	1.8E+01	6.9E-03	1.8E+01
Plutonium 238, 239, 240	1.1E+00	8.7E-01	--	2.0E-01	5.8E-03	1.2E+03	1.1E+01	1.2E+03
Americium 241	2.1E-01	9.8E-03	--	6.7E-03	--	3.4E+04	3.7E+02	3.4E+04
Americium 243	--	--	--	--	--	2.5E-05	--	2.5E-05
Americium 241, 243	2.1E-01	1.1E-01	--	4.5E-02	1.2E-03	9.2E+00	3.5E-05	9.6E+00
Other	8.6E+00	--	--	2.0E+00	--	5.0E-06	9.2E+02	9.3E+02
Total	5.9E+01	4.1E+02	4.1E-02	6.0E+02	6.6E+00	6.0E+05	1.7E+05	1.7E+05
Percent	< 1%	< 1%	< 1%	< 1%	< 1%	77%	22%	100%

Other Forecast Data

- **Hazardous Waste**
 - A life-cycle total of 300 m³ of hazardous waste has been reported by generators within this subgroup

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209-E Critical Mass Laboratory

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 20 m³, or <1% of the Central Plateau waste forecast.
- The forecast life cycle for the 209-E Critical Mass Laboratory generator ends in 2006.
- The majority of the waste (94%) forecast by this generator is LLW_I with the remainder (6%) being CH_MLLW.
- This is the first forecast in which this generator has reported waste.

Waste Class Distribution

209-E Critical Mass Laboratory
Total (excl. HAZ) = 20 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

The 2003 1 forecast is the first forecast in which the 209-E Critical Mass Laboratory has reported waste

Comparison to Previous Baseline(s) by Waste Class

209-E Critical Mass Laboratory Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	20	--	--	--
CH_MLLW	1	--	--	--
Total	20	--	--	--

Note. Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³

Background

The 209-E building is located in the 200 East Area of the Hanford Nuclear Reservation. The facility was constructed in 1960 and was designed such that quantities of plutonium or uranium in solution could be brought into critical configurations under carefully controlled and monitored conditions.

In the late 1980's, Pacific Northwest National Laboratories (PNNL) was directed by DOE to prepare the facility for unmanned status by December 31, 1988. This status was achieved, prior to facility turnover from PNNL to Westinghouse Hanford Company in 1989. Recent entries into the Critical Assembly Room and Mix room along with vapor sampling of the drain tank (TK-111) have provided confidence that activities and conditions described in the turnover status are accurate.

Forecast Assumptions and Comments

This forecast is consistent with historical generation rates and SM&T planned activities.

All waste characteristics are based on NDA data, inventory records, and historical data for radionuclides, physical waste forms, and WSRd. Hazardous constituents are determined by inventory records.

Waste Characteristic Data

The expected physical waste forms and container types of the 209-E Critical Mass Laboratory's forecasted wastes are described in the following charts:

SWIFT Report – 209-E Critical Mass Laboratory

LLW Data

Physical Waste Form Distribution

209-E Critical Mass Laboratory
LLW Total = 20 m³

Container Distribution

209-E Critical Mass Laboratory
LLW Total = 20 m³

MLLW Data

Physical Waste Form Distribution

209-E Critical Mass Laboratory
MLLW Total = 1 m³

Hazardous Characteristic Distribution

209-E Critical Mass Laboratory
MLLW Total = 1 m³

Container Distribution

209-E Critical Mass Laboratory
MLLW Total = 1 m³

LDR Waste Stream Identification Distribution

209-E Critical Mass Laboratory
MLLW Total = 1 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

SWIFT Report – 209-E Critical Mass Laboratory

Radionuclide Data

209-E Critical Mass Laboratory Summary Curies			
Radionuclide	LLW	CH_MLLW	FY 2009.1 Forecast (curies)
Plutonium 238, 239, 240	9.9E-03	6.3E-05	1.0E-02
Americium 241, 243	5.6E-03	3.5E-05	5.6E-03
Total	1.6E-02	9.8E-05	1.6E-02
Percent	99%	< 1%	100%

Other Forecast Data

- **Hazardous Waste**
 - The 209-E Critical Mass Laboratory forecast includes 1 m³ of hazardous waste

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222-S Analytical Laboratory

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 6,970 m³, or 19% of the Central Plateau waste forecast.
- The forecast life cycle for the 222-S Analytical Laboratory ends in 2035.
- The primary waste class forecasted is LLW_I (69%); LLW_III, CH_MLLW, and RH_MLLW are also forecasted as seen in the chart below.
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast showed an 8% increase from the FY2002.0 forecast of 6,420 m³ primarily because ATG is longer compacting LLW.

Waste Class Distribution

222-S Analytical Laboratory
Total (excl. HAZ) = 6,970 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003 1 forecast is identical to the FY2003 0 forecast. The FY2003 forecast showed an 8% increase from the FY2002.0 forecast primarily because ATG will no longer compact the LLW

The FY2002 0 forecast shows a decrease of less than one percent from the FY 2001 0 forecast primarily due to the elimination of the year 2001 forecast.

Comparison to Previous Baseline(s) by Waste Class

222-S Analytical Laboratory Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	4,830	4,830	2,190	2,150
LLW_III	1,060	1,060	1,990	2,110
CH_MLLW	1,040	1,040	2,090	2,190
RH_MLLW	30	30	160	--
Total	6,970	6,970	6,420	6,450

Note Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³

Background

The mission of 222-S Analytical Laboratory is to provide analytical services in support of DOE goals and objectives. The primary 222-S Labs customer is CHG, providing tank waste analysis. 222-S Analytical Laboratory does not have any milestone or project completion dates.

Forecast Assumptions and Comments

The 222-S Analytical Laboratory forecast is based on previous forecasts and an estimate of future waste generation from the lab. No reference documents were used.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification distribution of the 222-S Analytical Laboratory's forecasted wastes are described in the following charts:

SWIFT Report – 222-S Analytical Laboratory

LLW Data

Physical Waste Form Distribution

222-S Analytical Laboratory
LLW Total = 5,890 m³

Container Distribution

222-S Analytical Laboratory
LLW Total = 5,890 m³

MLLW Data

Physical Waste Form Distribution

222-S Analytical Laboratory
MLLW Total = 1,070 m³

Hazardous Characteristic Distribution

222-S Analytical Laboratory
MLLW Total = 1,070 m³

Container Distribution

222-S Analytical Laboratory
MLLW Total = 1,070 m³

LDR Waste Stream Identification Distribution

222-S Analytical Laboratory
MLLW Total = 1,070 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

222-S Analytical Laboratory Summary Curies	LLW_I	LLW_III	CR_MLLW	RR_MLLW	FY 2003.1 Forecast (curies)
Radionuclide					
Tritium	1.5E+01	3.2E+00	3.1E+00	6.4E-04	2.1E+01
Carbon 14	--	--	--	2.8E-04	2.8E-04
Strontium 90	1.1E+00	3.2E+02	5.1E+01	5.1E+00	3.7E+02
Technetium 99	1.1E-01	2.4E-02	2.4E-02	7.8E-04	1.6E-01
Cesium 137	3.6E+00	9.0E+01	1.6E+01	1.5E+00	1.1E+02
Plutonium 241	3.8E-01	--	7.6E-02	--	4.4E-01
Plutonium 238, 239, 240	8.2E-01	1.8E-01	1.8E-01	5.8E-03	1.2E+00
Americium 241, 243	1.7E-01	3.8E-02	3.7E-02	1.2E-03	2.5E-01
Total	2.1E+01	4.1E+02	7.1E+01	6.6E+00	5.1E+02
Percent	4%	81%	14%	1%	100%

Other Forecast Data

- **Hazardous Waste**
 - A life cycle total of 60 m³ of hazardous waste has been reported by 222-S Analytical Laboratory

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224-B Plutonium Concentration Facility

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 3 m³, or <1% of the Central Plateau waste forecast.
- Waste is forecasted by this generator in FY2004 only.
- The only waste forecasted by this generator is CH TRU(M).
- This is the first forecast in which the 224-B Plutonium Concentration Facility has forecasted waste.

Waste Class Distribution

224-B Plutonium Concentration Facility
Total (excl. HAZ) = 3 m³

Annual Volumes

Annual Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

The 2003.1 forecast is the first forecast in which the 224-B Plutonium Concentration Facility has reported waste.

Comparison to Previous Baseline(s) by Waste Class

SWIFT Report – 224-B Plutonium Concentration Facility

224-B Plutonium Concentration Facility Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
CH_TRL(M)	3	--	--	--
Total	3	--	--	--

Note. Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Located in the Hanford Site's 200 East Area, the 224 B Plutonium Concentration Facility was used in conjunction with B Plant from 1944 to 1952. The facility's main function was to further decontaminate recovered plutonium by replacing the bismuth phosphate carrier with more efficient lanthanum fluoride.

The Plutonium Concentration Facility was deactivated shortly after the B Plant bismuth phosphate process was terminated in 1952. Since then, the facility has been modified several times and used for temporary offices, shop use, lunchrooms, and storage. The facility is currently in the surveillance and maintenance (S&M) mode with scheduled inspections for visual inspections of the building structural confinement condition and general housekeeping activities.

Forecast Assumptions and Comments

This forecast is consistent with FY 2003 through FY 2006 funding levels and performance incentives.

All waste characteristics are based on NDA data, inventory records, and historical data for Radionuclides, physical waste forms, and WSRd. Hazardous constituents are determined by inventory records.

Waste Characteristic Data

The expected physical waste forms and container types of the 224-B Plutonium Concentration Facility's forecasted wastes are described in the following charts.

SWIFT Report – 224-B Plutonium Concentration Facility

TRU(M) Data

Physical Waste Form Distribution

224-B Plutonium Concentration Facility
TRU(M) Total = 3 m3

Hazardous Characteristic Distribution

224-B Plutonium Concentration Facility
Total (TRUM only) = 0.26 m3

Container Distribution

224-B Plutonium Concentration Facility
TRU(M) Total = 3 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

224-B Plutonium Concentration Facility Summary Curies		
Radionuclide	CH_TRU(M)	FY 2003.1 Forecast (curies)
Plutonium 238, 239, 240	1.7E-04	1.7E-04
Americium 241, 243	9.7E-05	9.7E-05
Total	2.7E-04	2.7E-04
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been forecasted by this generator.

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224-T Transuranic Storage and Assay Facility

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 3 m³, or <1% of the Central Plateau waste forecast.
- Waste is forecasted by this generator in FY2004 only.
- The only waste forecasted by this generator is CH TRU(M).
- This is the first forecast in which the 224-T Transuranic Storage and Assay Facility has forecasted waste.

Waste Class Distribution

224-T Transuranic Storage and Assay Facility
Total (excl. HAZ) = 3 m³

Annual Volumes

Annual Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

The 2003.1 forecast is the first forecast in which the 224-T Transuranic Storage and Assay Facility has reported waste.

Comparison to Previous Baseline(s) by Waste Class

224-T Transuranic Storage and Assay Facility Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
CH_TRU(M)	3	--	--	--
Total	3	--	--	--

Note Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³

Background

The operations of the 224-T previously have been described in terms of bismuth phosphate process. This three-story building contained 21 rooms and five reinforced concrete cells, with the large operating gallery located on the third floor. In 1950, equipment in F Cell was rearranged to allow parallel operation of two centrifuges, thus boosting production. In 1975, the 224-T Building, excluding the cells, was modified to become a storage facility for plutonium-bearing scrap and liquids. In 1985, it became known as the Transuranic Storage and Assay Facility (TRUSAF) Building and began storing drums containing wastes contaminated with transuranic substances.

200 Area Deactivation Project now performs S&M activities in this building. Actions will be taken to deactivate this building and turn it over for long term S&M prior to its decommissioning.

Forecast Assumptions and Comments

This forecast is consistent with FY 2003 through FY 2006 funding levels and performance incentives.

All waste characteristics are based on NDA data, inventory records, and historical data for Radionuclides, physical waste forms, and WSRd. Hazardous constituents are determined by inventory records.

Waste Characteristic Data

The expected physical waste forms and container types of the 224-T Transuranic Storage and Assay Facility's forecasted wastes are described in the following charts.

SWIFT Report – 224-T Transuranic Storage and Assay Facility

TRU(M) Data

Physical Waste Form Distribution

224-T Transuranic Storage and Assay Facility
TRU(M) Total = 3 m3

Hazardous Characteristic Distribution

224-T Transuranic Storage and Assay Facility
Total (TRUM only) = 0.26 m3

Container Distribution

224-T Transuranic Storage and Assay Facility
TRU(M) Total = 3 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

224-T Transuranic Storage and Assay Facility Summary Curies	CH_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide		
Strontium 90	1.1E-08	1.1E-08
Cesium 137	1.6E-08	1.6E-08
Plutonium 241	1.2E-03	1.2E-03
Plutonium 238, 239, 240	3.7E-04	3.7E-04
Americium 241, 243	4.2E-05	4.2E-05
Total	1.6E-03	1.6E-03
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been forecasted by this generator.

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231-Z Materials Engineering Laboratory

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes <1 m³, or <1% of the Central Plateau waste forecast.
- Waste is forecasted by this generator in FY2003 only.
- The only waste forecasted by this generator is CH TRU(M).
- This is the first forecast in which the 231-Z Materials Engineering Laboratory has forecasted waste.

Waste Class Distribution

231-Z Materials Engineering Laboratory
Total (excl. HAZ) = 0.77 m³

Annual Volumes

Annual Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

The 2003.1 forecast is the first forecast in which the 231-Z Materials Engineering Laboratory has reported waste.

Comparison to Previous Baseline(s) by Waste Class

231-Z Materials Engineering Laboratory Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
CH_TRU(M)	0.77	--	--	--
Total	0.77	--	--	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The 231-Z facility was previously used for process activities. The facility was used for metallurgical research on plutonium and it's alloys for fabrication development work on plutonium components. Large quantities of plutonium were routinely handled and stored in connection with these programs. Currently the facility is classified as an "isolated Facility", for criticality control.

Forecast Assumptions and Comments

This forecast is consistent with historical generation rates and surveillance, maintenance, and transition (SM&T) planned activities.

All waste characteristics are based on NDA data, inventory records, and historical data for Radionuclides, physical waste forms, and WSRd. Hazardous constituents are determined by inventory records.

Waste Characteristic Data

The expected physical waste forms and container types of the 231-Z Materials Engineering Laboratory's forecasted wastes are described in the following charts.

TRU(M) Data

Physical Waste Form Distribution

231-Z Materials Engineering Laboratory
TRU(M)Total = 0.77 m³

Hazardous Characteristic Distribution

231-Z Materials Engineering Laboratory
Total (TRUM only) = 0.51 m³

SWIFT Report – 231-Z Materials Engineering Laboratory

Container Distribution

208 Liter Drums
100% (0.77 m3)

231-Z Materials Engineering Laboratory
TRU(M) Total = 0.77 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

231-Z Materials Engineering Laboratory Summary Curies	CIL TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide		
Plutonium 238, 239, 240	4.7E-05	4.7E-05
Americium 241, 243	2.6E-05	2.6E-05
Total	7.4E-05	7.4E-05
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been forecasted by this generator.

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233-S Plutonium Concentration Facility

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 30 m³, or <1% of the Central Plateau waste forecast.
- Waste is forecasted by this generator in FY2003 only.
- The only waste forecasted by this generator is CH TRU(M) waste.
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast was the first forecast completed for the 233-S Plutonium Concentration Facility.

Waste Class Distribution

CH_TRU(M)
100% (30 m³)

233-S Plutonium Reclamation Facility
Total (excl. HAZ) = 30 m³

Annual Volumes

Annual Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast was the first forecast completed for the 233-S Plutonium Concentration Facility.

Comparison to Previous Baseline(s) by Waste Class

233-S Plutonium Reclamation Facility Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
CH_TRU(M)	30	30	--	--
Total	30	30	--	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The 233-S Facility consists of a number of buildings and structures inside a fenced area at the northwest end of the 202-S Building (also referred to as the Reduction Oxidation [REDOX] Facility), within the 200 West Area of the Hanford Site.

The 233-S Building is a reinforced concrete structure consisting of a process area and support rooms that were required for past operation. The process area is a four story high bay with thick concrete walls. Metal building additions were later added to provide better access to the viewing room levels and to provide additional storage.

Forecast Assumptions and Comments

The radionuclides are determined using NDA and NDAIA and the physical waste forms are determined using process knowledge.

Waste Characteristic Data

The expected physical waste forms and container types of the 233-S Plutonium Concentration Facility's forecasted wastes are described in the following charts.

TRU(M) Data

Physical Waste Form Distribution

233-S Plutonium Reclamation Facility
TRU(M) Total = 30 m³

Hazardous Characteristic Distribution

233-S Plutonium Reclamation Facility
Total (TRUM only) = 5 m³

SWIFT Report – 618-10/11 Burial Grounds

Container Distribution

233-S Plutonium Reclamation Facility
TRU(M) Total = 30 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

233-S Plutonium Reclamation Facility Summary Curies	CU, TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide		
Neptunium 237	6.1E-04	6.1E-04
Plutonium 241	1.4E+02	1.4E+02
Plutonium 238, 239, 240	3.0E+01	3.0E+01
Americium 241, 243	8.7E+00	8.7E+00
Total	1.8E+02	1.8E+02
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been forecasted by this generator.

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618-10/11 Burial Grounds

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 10,300 m³, or 28% of the Central Plateau forecast.
- The 618-10/11 Burial Grounds expects to ship waste from FY2013 to FY2018.
- CH_TRU(M) waste (99%) is the primary waste expected to be generated as seen in the chart below.
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast was the first forecast completed for the 618-10/11 Burial Grounds.

Waste Class Distribution

RH_TRU(M)
<1% (100 m³)

CH_TRU(M)
99% (10,200 m³)

618-10/11 Burial Grounds
Total (excl. HAZ) = 10,300 m³

Annual Volumes

Annual Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast was the first forecast completed for the 618-10/11 Burial Grounds.

SWIFT Report – 618-10/11 Burial Grounds

Comparison to Previous Baseline(s) by Waste Class

618-10/11 Burial Grounds Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
CH_TRU(M)	10,200	10,200	--	--
RH_TRU(M)	100	100	--	--
Total	10,300	10,300	--	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The mission of 618-10/11 Burial Grounds is the remediation of the 618-10 and 618-11 burial grounds to support completion of TPA Major Milestone M-016-00B which requires completion of all interim 300 Area remedial actions by 9/30/2018.

Forecast Assumptions and Comments

Forecast estimates are based on information presented in the 300-FF-2 Focused Feasibility Study (DOE/RL-99-40), Appendix I, which was the predecessor of the Record of Decision issued by the EPA.

Waste Characteristic Data

The expected physical waste forms and container types of the 618-10/11 Burial Ground's forecasted wastes are described in the following charts.

TRU(M) Data

Physical Waste Form Distribution

Hazardous Characteristic Distribution

None of the TRU(M) Waste is forecast as mixed waste; therefore, hazardous characteristics are not applicable.

618-10/11 Burial Grounds
TRU(M) Total = 10,300 m³

SWIFT Report – 618-10/11 Burial Grounds

Container Distribution

618-10/11 Burial Grounds
TRU(M) Total = 10,300 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

618-10/11 Burial Grounds Summary Curies	CH_TRU(M)	RR_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide			
Plutonium 238, 239, 240	1.1E+03	1.1E+01	1.1E+03
Total	1.1E+03	1.1E+01	1.1E+03
Percent	99%	< 1%	100%

Other Forecast Data

- **Hazardous Waste**
 - 618-10/11 Burial Ground's has not reported generation of hazardous waste.

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 30 m³, or <1% of the Central Plateau forecast.
- B Plant expects to generate waste through FY2006.
- LLW_I (97%) is the primary waste class expected to be generated as seen in the chart below.
- This forecast shows a 71% increase compared to the FY2003.0 forecast of 20 m³ due to the extension of the forecast life-cycle from FY2004 to FY2006.

Waste Class Distribution

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

This forecast shows a 71% increase compared to the FY2003 0 forecast of 20 m³ due to the extension of the forecast life-cycle to FY2006

Comparison to Previous Baseline(s) by Waste Class

B Plant Comparison to Previous Forecasts	FY2003.1 Forecast (m³)	FY2003.0 Forecast (m³)	FY2002.0 Forecast (m³)	FY2001.0 Forecast (m³)
Waste Class				
LLW_I	30	20	--	--
CH_MLLW	1	1	--	--
Total	30	20	--	--

Note. Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³

Background

B Plant was built in 1945 in the 200 East Area of the Hanford Site. The plant was designed to chemically process spent nuclear fuel using the bismuth phosphate process. After the original mission for the plant production was terminated in 1964, B Plant was thoroughly decontaminated and modified to separate and purify cesium and strontium from the fission product waste stream following plutonium and uranium recovery from irradiated reactor fuels.

The B Plant consists of about 30 buildings and structures. The main facilities include the 271-B Support Building, the 221-B Canyon Building, and 212-B Cask Station Building. B Plant has only surveillance and maintenance activities being performed.

Forecast Assumptions and Comments

This forecast is consistent with FY2003 funding levels.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification distribution of B Plant's forecasted wastes are described in the following charts.

SWIFT Report – B Plant

LLW Data

Physical Waste Form Distribution

B Plant
LLW Total = 30 m³

Container Distribution

B Plant
LLW Total = 30 m³

MLLW Data

Physical Waste Form Distribution

B Plant
MLLW Total = 1 m³

Hazardous Characteristic Distribution

B Plant
MLLW Total = 1 m³

Container Distribution

B Plant
MLLW Total = 1 m³

LDR Waste Stream Identification Distribution

B Plant
MLLW Total = 1 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

B Plant Summary Curies	LLW_I	CH_MLLW	FY 2003.1 Forecast (curies)
Radionuclide			
Strontium 90	1.4E-02	1.9E-04	1.5E-02
Cesium 137	3.7E-03	4.6E-05	3.7E-03
Total	1.8E-02	2.3E-04	1.8E-02
Percent	99%	1%	100%

Other Forecast Data

- **Hazardous Waste**
 - B Plant has reported 1 m³ of hazardous waste

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Central Plateau Surveillance, Maintenance, and Transition

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 20 m³, or <1% of the Central Plateau forecast.
- Central Plateau Surveillance, Maintenance, and Transition forecasts waste through FY2006.
- LLW_I is the primary waste class forecast representing 94% of the waste volume.
- This forecast shows a 70% increase compared to the FY2003.0 forecast of 10 m³ due to the extension of the forecast life-cycle from FY2003 to FY2006.

Waste Class Distribution

CH_MLLW
8% (1 m³)

LLW_I
94% (20 m³)

Central Plateau SM&T
Total (excl. HAZ) = 20 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

This forecast shows a 70% increase compared to the FY2003.0 forecast of 10 m³ due to the extension of the forecast life-cycle from FY2003 to FY2006. The FY2003.0 forecast was the first forecast for this generator.

Comparison to Previous Baseline(s) by Waste Class

Central Plateau SM&T Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	20	8	--	--
CH_MLLW	1	2	--	--
Total	20	10	--	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Central Plateau Surveillance, Maintenance, and Transition is responsible for surveillance and maintenance of a number of 200 Area facilities owned by DOE-RL.

Forecast Assumptions and Comments

This forecast is consistent with FY2003 funding levels.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of the Central Plateau Surveillance, Maintenance, and Transition's forecasted wastes are described in the following charts.

SWIFT Report – Central Plateau Surveillance, Maintenance, and Transition

LLW Data

Physical Waste Form Distribution

Central Plateau SM&T
LLW Total = 20 m³

Container Distribution

Central Plateau SM&T
LLW Total = 20 m³

MLLW Data

Physical Waste Form Distribution

Central Plateau SM&T
MLLW Total = 1 m³

Hazardous Characteristic Distribution

Central Plateau SM&T
MLLW Total = 1 m³

Container Distribution

Central Plateau SM&T
MLLW Total = 1 m³

LDR Waste Stream Identification Distribution

Central Plateau SM&T
MLLW Total = 1 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Central Plateau SM&T Summary Curies	LLV_I	CH_MLLV	FY 2003-1 Forecast (curies)
Radionuclide			
Strontium 90	5.8E-08	3.7E-09	6.2E-08
Cesium 137	9.7E-08	6.1E-09	1.0E-07
Plutonium 238, 239, 240	2.1E-03	1.3E-07	2.1E-03
Americium 241, 243	2.4E-04	1.5E-08	2.4E-04
Total	2.3E-03	1.6E-07	2.3E-03
Percent	100%	< 1%	100%

Other Forecast Data

- **Hazardous Waste**
 - Central Plateau Surveillance, Maintenance, and Transition forecasted 3 m³ of hazardous waste

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Central Waste Complex

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator is not expected to generate radioactive solid waste, however, hazardous waste is expected to be generated
- The forecast life cycle for the Central Waste Complex (CWC) ends in 2046
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003 1 forecast is identical to the FY2003 0 forecast. The FY2003 0 forecast decreased slightly from the FY2002 0 forecast because waste forecast to be shipped in the year 2002 is not applicable to the FY2003 0 forecast.

Annual Volumes

Because no radioactive waste is included in the baseline forecast for the Central Waste Complex, no annual volumes are presented here.

Comparison to Previous Baseline(s)

This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003 1 forecast is identical to the FY2003 0 forecast. The FY2003 0 forecast decreased slightly from the FY2002 0 forecast because waste forecast to be shipped in the year 2002 is not applicable to the FY2003 0 forecast.

Background

The Central Waste Complex's mission is the storage of mixed and transuranic waste for eventual treatment and disposal. Waste may be generated from spill response or operational activities which require the use of personal protective equipment.

Forecast Assumptions and Comments

Although spill response or operational activities may result in the generation of radioactive waste, the current forecast assumes all waste is hazardous and does not contain radionuclides. It is also assumed that waste operations in future years will be the same as current operations.

Waste Characteristic Data

Because no radioactive waste is included in the baseline forecast for the Central Waste Complex, no waste characteristics data are presented here.

Other Forecast Data

- **Hazardous Waste**
 - A life cycle total of 12 m³ of hazardous waste has been reported by the Central Waste Complex.

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 10 m³, or <1% of the Central Plateau forecast.
- Ground Water Monitoring expects to generate waste through FY2006.
- CH_MLLW is the primary waste class forecasted, representing 62% (8 m³) of the waste.
- The FY2003.1 forecast shows a 10 m³ increase from the FY2003.0 forecast of 2 m³ due the extension of the forecast life-cycle from FY2003 to FY2006.

Waste Class Distribution

Ground Water Monitoring
Total (excl. HAZ) = 10 m³

Annual Volumes

Annual Baseline Volumes

Annual MLLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

SWIFT Report – Ground Water Monitoring

Comparison to Previous Baseline(s)

The FY2003 1 forecast shows a 10 m³ increase from the FY2003 0 forecast of 2 m³ due the extension of the forecast life-cycle from FY2003 to FY2006

FY2003 0 was the first forecast for Ground Water Monitoring

Comparison to Previous Baseline(s) by Waste Class

Ground Water Monitoring Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
CH_MLLW	8	2	--	--
CH_TRU(M)	5	--	--	--
Total	10	2	--	--

Note Due to rounding, totals may not equal sum of individual values Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³

Background

Ground Water Monitoring's mission is to perform drilling of wells to determine the remediation of contaminated soil to protect the environment from groundwater contamination

Forecast Assumptions and Comments

Assumptions for Ground Water Monitoring include (1) The drill sites will continue to have a routine set of samples needed for characterization analysis. (2) The amount of samples needed and disposed remain part of the project (3) Funding levels are consistent with the forecast

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification distribution of the Ground Water Monitoring's forecasted wastes are described in the following charts

SWIFT Report – Ground Water Monitoring

MLLW Data

Physical Waste Form Distribution

Ground Water Monitoring
MLLV Total = 8 m3

Hazardous Characteristic Distribution

Ground Water Monitoring
MLLV Total = 8 m3

Container Distribution

Ground Water Monitoring
MLLV Total = 8 m3

LDR Waste Stream Identification Distribution

Ground Water Monitoring
MLLV Total = 8 m3

TRU(M) Data

Physical Waste Form Distribution

Ground Water Monitoring
TRU(M) Total = 5 m3

Hazardous Characteristic Distribution

Ground Water Monitoring
Total (TRUM only) = 5 m3

SWIFT Report – Ground Water Monitoring

Container Distribution

208 Liter Drums
100% (5 m3)

Ground Water Monitoring TRU(M) Total = 5 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Ground Water Monitoring Summary Curies	CH_MLLW	CH_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide			
Strontium 90	8.2E-10	--	8.2E-10
Cesium 137	8.2E-10	5.1E-05	5.1E-05
Plutonium 238	--	1.5E-01	1.5E-01
Plutonium 239	--	1.4E+00	1.4E+00
Plutonium 240	--	3.4E-01	3.4E-01
Plutonium 241	--	1.0E+01	1.0E+01
Plutonium 242	--	4.8E-05	4.8E-05
Americium 241	--	6.2E-01	6.2E-01
Total	1.6E-09	1.3E+01	1.3E+01
Percent	< 1%	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - Ground Water Monitoring has not reported the generation of hazardous waste.

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Liquid Waste Processing Facilities, 200 Area

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 2,000 m³, or 5% of the Central Plateau forecast.
- The forecast life cycle for the 200 Area Liquid Waste Processing Facilities ends in 2033.
- CH_MLLW is the primary waste class forecast, representing 98% of the waste volume.
- The FY2003.1 forecast shows an 11% decrease from the FY2003.0 forecast of 2,240 m³ due to currently revised forecast estimates.

Waste Class Distribution

Liquid Waste Processing Facilities, 200 Area
Total (excl. HAZ) = 2,000 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003 1 forecast shows a decrease of 11% from the FY2003 0 forecast of 2,240 m³ due to currently revised forecast estimates. The majority of the reduction occurred in the LLW_I forecast

The FY2003 0 forecast increased 8% from the FY2002.0 forecast due to currently revised forecast estimates related to the EC-1 Condenser and the forecast life-cycle has been extended one year from FY2032 to FY2033.

The FY2002.0 forecast showed an 8% decrease from the FY2001 0 forecast of 2,260 m³ due to currently revised forecast estimates

Comparison to Previous Baseline(s) by Waste Class

Liquid Waste Processing Facilities, 200 Area Comparison to Previous Forecasts		FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class					
LLW_I		30	200	70	100
CH_MLLW		1,970	2,040	2,010	2,160
Total		2,000	2,240	2,080	2,260

Note. Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The 200 Area Liquid Waste Processing Facility's mission is to treat liquid waste generated from RCRA and CERCLA cleanup activities. The 200 Area Liquid Waste Processing Facilities include the Liquid Waste Retention Facility (LERF), the Effluent Treatment Facility (ETF), the 200 Area Treated Effluent Disposal Facility (TEDF), and state-approved land disposal sites in the 200 Area. Solid wastes are generated during the processing of liquid wastes by the Effluent Treatment Facility.

Forecast Assumptions and Comments

The waste volumes provided in this forecast are based on expected feeds scheduled to be processed at the 200 Liquid Waste Processing Facility in the Multi-Year forecast.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of the 200 Area Liquid Waste Processing Facilities' forecasted wastes are described in the following charts.

SWIFT Report – Liquid Waste Processing Facilities, 200 Area

LLW Data

Physical Waste Form Distribution

Liquid Waste Processing Facilities, 200 Area
LLW Total = 30 m³

Container Distribution

Liquid Waste Processing Facilities, 200 Area
LLW Total = 30 m³

MLLW Data

Physical Waste Form Distribution

Liquid Waste Processing Facilities, 200 Area
MLLW Total = 1,970 m³

Hazardous Characteristic Distribution

Liquid Waste Processing Facilities, 200 Area
MLLW Total = 1,970 m³

Container Distribution

Liquid Waste Processing Facilities, 200 Area
MLLW Total = 1,970 m³

LDR Waste Stream Identification Distribution

Liquid Waste Processing Facilities, 200 Area
MLLW Total = 1,970 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Liquid Waste Processing Facilities, 200 Area Summary Curies			
Radionuclide	LLW_1	CH_MLLW	FY 2003.1 Forecast (curies)
Tritium	7.5E+00	4.7E+02	4.8E+02
Cobalt 60	7.5E-02	4.7E+00	4.8E+00
Strontium 90	5.0E-01	3.2E+01	3.2E+01
Iodine 129	5.6E-02	3.6E+00	3.6E+00
Cesium 137	1.7E-01	1.1E+01	1.1E+01
Neptunium 237	6.5E-05	4.1E-03	4.2E-03
Americium 241,243	4.4E-05	2.8E-03	2.8E-03
Total	8.3E+00	5.2E+02	5.3E+02
Percent	2%	98%	100%

Other Forecast Data

- **Hazardous Waste**
 - A life cycle total of 20 m³ of hazardous waste has been reported by 200 Area Liquid Waste Processing Facilities

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Low Level Burial Grounds, 218 E/W

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 580 m³, or 2% of the Central Plateau forecast.
- The forecast life cycle for the 218 E/W Low Level Burial Grounds (LLBGs) ends in 2046.
- LLW_I is the primary waste class forecast by the Low Level Burial Grounds, representing 97% of the waste volume.
- The FY2003.1 forecast shows an 8% decrease from the FY2003.0 forecast of 630 m³ due to currently revised estimates.

Waste Class Distribution

Low Level Burial Grounds, 218 E/W
Total (excl. HAZ) = 580 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003 1 forecast shows an 8% decrease from the FY2003 0 forecast of 630 m³ due to currently revised forecast estimates

The FY2003 0 forecast increased 5% from the FY2002 0 forecast of 600 m³ due to newly identified CH_MLLW expected from breached containers during TRU Retrieval

The FY2002.0 forecast showed a 94% increase from the FY2001 0 forecast of 310 m³ due to ongoing operations and newly identified waste sources

Comparison to Previous Baseline(s) by Waste Class

Low Level Burial Grounds, 218 E/W Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_	560	610	600	310
CH_MLLW	20	20	--	--
Total	580	630	600	310

Note. Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The current mission of the Low Level Burial Grounds is disposal of low level waste from the Hanford site and offsite generators and retrieval of suspect TRU waste. Six active burial grounds are located in the 200 West Area, and two in the 200 East Area.

Forecast Assumptions and Comments

It is assumed that Low Level Burial Grounds operations in future years will be similar to current operations with caisson HEPA filter change out occurring approximately every 15 years and dunnage disposal every three years.

Waste Characteristic Data

The expected physical waste forms, container types, hazardous characteristics, and LDR waste stream identification of the Low Level Burial Grounds' forecasted wastes are described in the following charts:

SWIFT Report – Low Level Burial Grounds, 218 E/W

LLW Data

Physical Waste Form Distribution

Low Level Burial Grounds, 218 E/W
LLW Total = 560 m³

Container Distribution

Low Level Burial Grounds, 218 E/W
LLW Total = 560 m³

MLLW Data

Physical Waste Form Distribution

Low Level Burial Grounds, 218 E/W
MLLW Total = 20 m³

Hazardous Characteristic Distribution

Low Level Burial Grounds, 218 E/W
MLLW Total = 20 m³

Container Distribution

Low Level Burial Grounds, 218 E/W
MLLW Total = 20 m³

LDR Waste Stream Identification Distribution

Low Level Burial Grounds, 218 E/W
MLLW Total = 20 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Low Level Burial Grounds, 218 E/W Summary Curies		LLW_I	CH_MLLW	FY 2003.1 Forecast (curies)
Radionuclide				
Strontium 90		2.4E-02	8.3E-04	2.5E-02
Technetium 99		3.1E-02	1.1E-03	3.3E-02
Cesium 137		3.5E-02	1.2E-03	3.7E-02
Total		9.1E-02	3.1E-03	9.4E-02
Percent		97%	3%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by the Low Level Burial Grounds.

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SWIFT Report – Mixed Waste Disposal Trench

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator is not expected to generate radioactive solid waste, however, hazardous waste is expected to be generated
- The forecast life cycle for the Mixed Waste Disposal Trench ends in 2046.
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003 1 forecast is identical to the FY2003 0 forecast. The FY2003 0 forecast decreased slightly from the FY2002 0 forecast because waste forecast to be shipped in the year 2002 is not applicable to the FY2003 0 forecast.

Annual Volumes

Because no radioactive waste is included in the baseline forecast for the Mixed Waste Disposal Trench, no annual volumes are presented here.

Comparison to Previous Baseline(s)

This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003 1 forecast is identical to the FY2003.0 forecast. The FY2003 0 forecast decreased slightly from the FY2002 0 forecast because waste forecast to be shipped in the year 2002 is not applicable to the FY2003 0 forecast.

Background

The Mixed Waste Disposal Trench disposes of MLLW in Hanford's 200 West Area.

Forecast Assumptions and Comments

All waste generated through the handling of hazardous leachate from the trench is assumed to be non-radioactive hazardous waste

Waste Characteristic Data

Because no radioactive waste is included in the baseline forecast for the Mixed Waste Disposal Trench, no waste characteristics data are presented here

Other Forecast Data

- **Hazardous Waste**
 - A life cycle total of 11 m³ of hazardous waste has been reported by the Mixed Waste Disposal Trench

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Plutonium Finishing Plant, 234-5 Z

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 10,710 m³, or 29% of the Central Plateau waste forecast.
- The forecast life cycle for the Plutonium Finishing Plant ends in 2009.
- LLW_I and CH_TRU(M) are the primary waste classes forecast, representing 54% (5,780 m³) and 42% (4,500 m³) of the Plutonium Finishing Plant waste volume, respectively. Additional waste classes are shown in the chart below.
- The FY2003.1 forecast shows a 1% increase from the FY2003.0 forecast of 10,650 m³ due to accelerated facility D&D to meet slab on grade by 2009.

Waste Class Distribution

Plutonium Finishing Plant, 234-5 Z
Total (excl. HAZ) = 10,710 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 1% increase from the FY2003.0 forecast of 10,650 m³ due to accelerated facility D&D to meet slab on grade by 2009.

The FY2003.0 forecast decreased 14% from the FY2002.0 forecast of 12,380 m³ primarily due to the life-cycle being shortened from FY2015 to FY2009.

The FY2002.0 forecast showed an increase of 27% from the FY2001.0 forecast of 9,750 m³ due to revised waste generation estimates.

Comparison to Previous Baseline(s) by Waste Class

Plutonium Finishing Plant, 234-5 Z Comparison to Previous Forecasts	FY2003.1 Forecast (m³)	FY2003.0 Forecast (m³)	FY2002.0 Forecast (m³)	FY2001.0 Forecast (m³)
Waste Class				
LLW_I	5,780	5,670	7,030	6,710
LLW_III	270	270	690	650
CH_MLLW	160	130	130	180
CH_TRU(M)	4,500	4,580	4,530	2,200
Total	10,710	10,650	12,380	9,750

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The Plutonium Finishing Plant's (PFP) mission is to provide for the safe stabilization, interim storage, repackaging and shipment of the PFP inventory of plutonium-bearing materials, clear fuel, and other nuclear material to other locations for reuse, long-term storage, and/or final disposition. The mission also requires deactivating and dismantling PFP Complex systems and

structures to the degree determined appropriate via the National Environmental Policy Act (NEPA)/ Comprehensive Environmental Response, Compensation Liability Act (CERCLA)/ Resource Conservation and Recovery Act (RCRA) process, thus eliminating significant hazard to workers, the public, and the environment and minimizing long-term surveillance and maintenance risks and costs

Forecast Assumptions and Comments

The forecast is consistent with the following documents

- Integrated Project Management Plan for the PFP Nuclear Material Stabilization Project (HNF-3617)
- The PFP MYWP funding levels
- Historical generation rates at the PFP facility

The forecast is also based on the following milestones

- Complete stabilization and repackaging of oxides/MOX > 30% wt Pu + U by November 30, 2003 (May 21, 2004 DNFSB 94-1/2000-1 Milestone)
- Complete stabilization and packaging of Pu-bearing residues by November 30, 2003 (April 30, 2004 DNFSB 94-1/2000-1 milestone)
- Complete stabilization and packaging of residues by 4/30/04 (DNFSB TRP-03-500)
- Complete repackaging of residues and shipment to CWC by 4/30/04 (TPA M-83-13)
- Complete stabilization and packaging of plutonium bearing materials by 5/31/04 in accordance with schedules in Implementation Plan for DNFSB Recommendation 2000-1 (DNFSB TRP-05-500)
- Complete 100% of the legacy Pu holdup removal by 9/30/06 as defined in the Legacy Pu Holdup Removal Plan for PFP required by MX-83-12-T01 (TPA M-83-14)
- Complete project to "slab on grade" by September 2009

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification distribution of the Plutonium Finishing Plant's forecasted wastes are described in the following charts

SWIFT Report – Plutonium Finishing Plant, 234-5 Z

LLW Data

Physical Waste Form Distribution

Plutonium Finishing Plant, 234-5 Z
LLW Total = 6,060 m3

Container Distribution

Plutonium Finishing Plant, 234-5 Z
LLW Total = 6,060 m3

MLLW Data

Physical Waste Form Distribution

Plutonium Finishing Plant, 234-5 Z
MLLW Total = 160 m3

Hazardous Characteristic Distribution

Plutonium Finishing Plant, 234-5 Z
MLLW Total = 160 m3

Container Distribution

Plutonium Finishing Plant, 234-5 Z
MLLW Total = 160 m3

LDR Waste Stream Identification Distribution

Plutonium Finishing Plant, 234-5 Z
MLLW Total = 160 m3

SWIFT Report – Plutonium Finishing Plant, 234-5 Z

TRU(M) Data

Physical Waste Form Distribution

Plutonium Finishing Plant, 234-5 Z
TRU(M) Total = 4,500 m³

Hazardous Characteristic Distribution

Plutonium Finishing Plant, 234-5 Z
Total (TRUM only) = 650 m³

Container Distribution

Plutonium Finishing Plant, 234-5 Z
TRU(M) Total = 4,500 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Plutonium Finishing Plant, 234-5 Z Summary Curies	LLW_I	LLW_III	CH_MLLW	CH_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide					
Plutonium 238	1.1E-01	5.2E-03	3.0E-03	3.5E+04	3.5E+04
Plutonium 239	1.4E+00	6.4E-02	3.7E-02	1.0E+05	1.0E+05
Plutonium 240	3.3E-01	1.5E-02	8.9E-03	3.3E+04	3.3E+04
Plutonium 241	7.5E+00	3.5E-01	2.0E-01	3.9E+05	3.9E+05
Plutonium 242	1.8E-05	8.5E-07	4.9E-07	1.8E+01	1.8E+01
Americium 241	2.1E-01	9.8E-03	5.6E-03	3.4E+04	3.4E+04
Total	9.5E+00	4.4E-01	2.6E-01	6.6E+05	6.0E+05
Percent	< 1%	< 1%	< 1%	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - A life cycle total of 10 m³ of hazardous waste has been reported by the Plutonium Finishing Plant, 234-5 Z.

SWIFT Report – PUREX

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PUREX

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 40 m³, or <1% of the Central Plateau forecast.
- PUREX expects to ship waste through FY2006.
- LLW_I is the primary waste class forecast, representing 98% (40 m³) of the waste volume.
- The FY2003.1 forecast shows a 26% increase compared to the FY2003.0 forecast of 30 m³ due the extension of the forecast life-cycle from FY2004 to FY2006.

Waste Class Distribution

PUREX
Total (excl. HAZ) = 40 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 26% increase compared to the FY2003.0 forecast of 30 m³ due to the extension of the forecast life-cycle from FY2004 to FY2006

FY2003.0 was the first forecast for PUREX

Comparison to Previous Baseline(s) by Waste Class

PUREX Comparison to Previous Forecasts Waste Class	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
LLW_I	40	30	--	--
CH_MLLW	1	0.51	--	--
Total	40	30	--	--

Note Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The Plutonium/Uranium Extraction [PUREX] facility was constructed from 1953 to 1955 as the third generation of chemical separations plants, or "canyon" facilities, to support plutonium production. The canyon contains process cells and a railroad tunnel exit/entrance section that is connected to the PUREX storage tunnels.

The PUREX facility was used for process operations until 1990, and deactivation of the facilities associated with the PUREX complex was completed on May 9, 1997. PUREX currently has only surveillance and maintenance activities being performed.

Forecast Assumptions and Comments

This forecast is consistent with FY2003 funding levels.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of PUREX's forecasted wastes are described in the following charts.

SWIFT Report – PUREX

LLW Data

Physical Waste Form Distribution

PUREX
LLW Total = 40 m3

Container Distribution

PUREX
LLW Total = 40 m3

MLLW Data

Physical Waste Form Distribution

PUREX
MLLW Total = 1 m3

Hazardous Characteristic Distribution

PUREX
MLLW Total = 1 m3

Container Distribution

PUREX
MLLW Total = 1 m3

LDR Waste Stream Identification Distribution

PUREX
MLLW Total = 1 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

PUREX Summary Curies	LLW_I	CH_MLLW	FY 2003.1 Forecast (curies)
Radionuclide			
Tritium	--	5.9E-10	5.9E-10
Carbon 14	--	2.0E-16	2.0E-16
Strontium 90	--	1.3E-07	1.3E-07
Cesium 137	1.3E-04	1.5E-07	1.3E-04
Plutonium 241	--	3.0E-08	3.0E-08
Other	1.2E-05	--	1.2E-05
Total	1.4E-04	3.1E-07	1.4E-04
Percent	100%	< 1%	100%

Other Forecast Data

- **Hazardous Waste**
 - PUREX has reported a life-cycle total of 1 m³ of hazardous waste to be generated.

SWIFT Report – PUREX

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REDOX

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 20 m³, or <1% of the Central Plateau forecast.
- REDOX expects to ship waste from FY2003 through FY2006.
- LLW_I is the primary waste class forecast, representing 94% (20 m³) of the waste volume.
- The FY2003.1 forecast shows a 300% increase compared to the FY2003.0 forecast due to the extension of the forecast life-cycle from FY2003 to FY2006.

Waste Class Distribution

REDOX
Total (excl. HAZ) = 20 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003 1 forecast shows a 300% increase compared to the FY2003 0 forecast due to the extension of the forecast life-cycle from FY2003 to FY2006

FY2003 0 was the first forecast submitted by REDOX

Comparison to Previous Baseline(s) by Waste Class

REDOX Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	20	4	--	--
CH_MLLW	1	0.26	--	--
Total	20	4	--	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The primary mission of the Reduction-Oxidation (REDOX) facility, was to perform dissolution, separation, and decontamination of uranium and plutonium. The REDOX facility is located in the 200 West Area of the Hanford Site.

The facility's operation and mission were terminated in 1966, in 1967, the REDOX facility underwent extensive deactivation procedures that included flushing of process equipment with acids, caustics, and steam sparging. In 1969, the facility received its final "layaway" order. Today, the REDOX facility is a surplus deactivated facility with operations limited to periodic surveillance and maintenance activities.

Forecast Assumptions and Comments

This forecast is consistent with FY2003 funding levels.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of REDOX's forecasted wastes are described in the following charts.

SWIFT Report – REDOX

LLW Data

Physical Waste Form Distribution

REDOX
LLW Total = 20 m3

Container Distribution

REDOX
LLW Total = 20 m3

MLLW Data

Physical Waste Form Distribution

REDOX
MLLW Total = 1 m3

Hazardous Characteristic Distribution

REDOX
MLLW Total = 1 m3

Container Distribution

REDOX
MLLW Total = 1 m3

LDR Waste Stream Identification Distribution

REDOX
MLLW Total = 1 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

REDOX Summary Curies			
Radionuclide	LLW_I	CH_MLLW	FY 2003.1 Forecast (curies)
Strontium 90	9.6E-03	6.1E-04	1.0E-02
Cesium 137	7.7E-03	4.9E-04	8.2E-03
Uranium 233	3.5E-09	2.2E-10	3.8E-09
Uranium 234	1.8E-06	1.1E-07	1.9E-06
Uranium 235	5.7E-05	3.6E-06	6.0E-05
Uranium 238	1.0E-03	6.5E-05	1.1E-03
Neptunium 237	1.8E-07	1.2E-08	2.0E-07
Plutonium 241	6.2E-03	3.9E-04	6.6E-03
Plutonium 238, 239, 240	1.8E-04	1.1E-05	1.9E-04
Americium 241, 243	5.7E-05	3.6E-06	6.1E-05
Other	4.9E-05	3.1E-06	5.2E-05
Total	2.5E-02	1.6E-03	2.6E-02
Percent	94%	6%	100%

Other Forecast Data

- **Hazardous Waste**
 - REDOX has reported a life-cycle total of 1 m³ of hazardous waste to be generated

SWIFT Report – REDOX

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RH and Oversized MLLW/TRU(M) (M-91) Facility

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 920 m³, or 3% of the Central Plateau waste forecast.
- The RH and Oversized MLLW/TRU(M) Facility expects to generate waste from 2015 through 2034.
- CH_MLLW is the primary waste class forecast with 610 m³ (66%), other waste types are shown in the chart below.
- The FY2003.1 forecast shows a 45% decrease compared to the FY2003.0 forecast of 1,660 m³. The assumptions used to estimate the volume of waste to be generated have been changed based on processing experience at the Waste Receiving and Processing Facility (WRAP).

Waste Class Distribution

RH and Oversized MLLW/TRU(M) Facilities (M-91)

Total (excl. HAZ) = 920 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 45% decrease compared to the FY2003.0 forecast of 1,660 m³. The assumptions used to estimate the volume of waste to be generated have been changed based on processing experience at the Waste Receiving and Processing Facility (WRAP).

The FY2003.0 forecast did not change from the FY2002.0 forecasts.

Comparison to Previous Baseline(s) by Waste Class

RH and Oversized MLLW/TRU(M) Facilities (M-91) Comparison to Previous Forecasts		FY2003.1 Forecast (m³)	FY2003.0 Forecast (m³)	FY2002.0 Forecast (m³)	FY2001.0 Forecast (m³)
Waste Class					
LLW_I		250	1,240	1,240	--
CH_MLLW		610	150	150	--
CH_TRU(M)		20	250	250	--
RH_TRU(M)		40	20	20	--
Total		920	1,660	1,660	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The M-91 Facility will treat RH and large container CH MLLW for onsite disposal. It will also process RH TRU(M) waste and CH TRU(M) waste in containers not acceptable at WRAP for shipment to WIPP. Waste will be generated as a result of general maintenance activities and contamination cleanup.

Forecast Assumptions and Comments

This forecast is based on the "Waste Management Program Strategic Plan", dated February 2001 and the "M-91 Transuranic Waste Project Management Plan", dated May 2001. Waste volumes have been extrapolated from WRAP operation information.

The waste classes will be generated by the various activities associated with the facilities mission. Some examples would be step-off pad waste, large equipment disposal, facility maintenance/upgrades, waste packaging, decontamination activities, and other related activities.

Waste Characteristic Data

The following charts describe the physical waste forms, hazardous constituents, containers, and LDR waste stream identification distribution expected for each M-91 waste class.

LLW Data

Physical Waste Form Distribution

RH and Oversized MLLW/TRU(M) Facilities (M-91)
LLW Total = 250 m3

Container Distribution

RH and Oversized MLLW/TRU(M) Facilities (M-91)
LLW Total = 250 m3

MLLW Data

Physical Waste Form Distribution

RH and Oversized MLLW/TRU(M) Facilities (M-91)
MLLW Total = 610 m3

Hazardous Characteristic Distribution

RH and Oversized MLLW/TRU(M) Facilities (M-91)
MLLW Total = 610 m3

SWIFT Report – RH and Oversized MLLW/TRU(M) (M-91) Facility

Container Distribution

RH and Oversized MLLW/TRU(M) Facilities (M-91)
MLLW Total = 610 m³

LDR Waste Stream Identification Distribution

RH and Oversized MLLW/TRU(M) Facilities (M-91)
MLLW Total = 610 m³

TRU(M) Data

Physical Waste Form Distribution

RH and Oversized MLLW/TRU(M) Facilities (M-91)
TRU(M) Total = 60 m³

Container Distribution

RH and Oversized MLLW/TRU(M) Facilities (M-91)
TRU(M) Total = 60 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

RH and Oversized MLLW/TRU(M) (M-91) Facility Summary Curies	LLW_I	CH_MLLW	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide					
Carbon 14	--	1.8E-06	--	--	1.8E-06
Cobalt 60	--	9.1E-04	--	1.6E+00	1.6E+00
Selenium 79	--	--	--	8.9E-02	8.9E-02
Strontium 90	1.1E-01	1.8E+00	--	8.8E+04	6.8E+04
Technetium 99	--	5.0E-05	--	2.9E+00	2.9E+00
Cesium 137	5.1E-02	3.8E-01	9.2E-06	1.0E+05	1.0E+05
Neptunium 237	--	8.2E-03	7.3E-05	--	8.3E-03
Plutonium 238	--	6.5E-06	8.5E+00	2.3E+01	3.2E+01
Plutonium 239	6.2E-08	9.1E-04	7.8E+01	4.5E+00	8.2E+01
Plutonium 240	--	1.8E-05	2.3E+01	4.4E+00	2.7E+01
Plutonium 241	5.8E-03	2.8E-03	5.4E+02	2.2E+02	7.5E+02
Plutonium 242	--	--	3.9E-03	6.9E-03	1.1E-02
Americium 241	6.5E-03	1.0E-03	2.4E+01	3.7E+02	3.9E+02
Americium 243	--	--	2.5E-05	--	2.5E-05
Other	2.2E-04	9.8E-01	5.0E-06	9.2E+02	9.2E+02
Total	1.8E-01	3.1E+00	6.7E+02	1.7E+05	1.7E+05
Percent	< 1%	< 1%	< 1%	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - M-91 has not reported the generation of hazardous waste.

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T Plant Canyon Cleanout

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 240 m³, or <1% of the Central Plateau waste forecast.
- The forecast life cycle for the T Plant Canyon Cleanout generator ends in 2006.
- LLW_I is the primary waste class forecast with 130 m³ (53%) along with CH_MLLW (60 m³ or 24%) and LLW_III (50 m³ or 22%).
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast showed a 15% decrease compared to the FY2002.0 forecast of 280 m³ due to work off of waste in FY2002 and new estimates based on the new performance incentive goals.

Waste Class Distribution

T Plant Canyon Cleanout
Total (excl. HAZ) = 240 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

SWIFT Report – T Plant Canyon Cleanout

Comparison to Previous Baseline(s)

This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast showed a 15% decrease compared to the FY2002.0 forecast of 280 m³ due to work off of waste in FY2002 and new estimates based on the new performance incentive goals.

The FY2002.0 forecast was the first forecast submitted by T Plant Canyon Cleanout.

Comparison to Previous Baseline(s) by Waste Class

T Plant Canyon Cleanout Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	130	130	180	--
LLW_II	50	50	--	--
CH_MLLW	60	60	100	--
CH_TRU(M)	--	--	4	--
Total	240	240	280	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The long term mission is canyon clean out/preparation for and interim storage of K Basins sludge. Canyon readiness for storage of the sludge is to be complete in FY2003. Furthermore, the FY2002-2006 Performance Incentive is successful clean out of 8 Canyon cells, which includes removal of excess equipment, debris and non-debris, and removal of all Shippingport fuel.

Forecast Assumptions and Comments

Forecast is based on the the current mission to clear the Canyon of waste to accomodate the storage of K Basin Sludge. The forecast is also based on FY2002 - 2006 Performance Incentive goals.

Waste Characteristic Data

The following charts depict the physical waste forms, hazardous characteristics, container types, and LDR waste stream identification distribution expected for T Plant Canyon Cleanout's waste.

SWIFT Report – T Plant Canyon Cleanout

LLW Data

Physical Waste Form Distribution

T Plant Canyon Cleanout
LLW Total = 180 m3

Container Distribution

T Plant Canyon Cleanout
LLW Total = 180 m3

MLLW Data

Physical Waste Form Distribution

T Plant Canyon Cleanout
MLLW Total = 60 m3

Hazardous Characteristic Distribution

T Plant Canyon Cleanout
MLLW Total = 60 m3

Container Distribution

T Plant Canyon Cleanout
MLLW Total = 60 m3

LDR Waste Stream Identification Distribution

T Plant Canyon Cleanout
MLLW Total = 60 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

SWIFT Report – T Plant Canyon Cleanout

Radionuclide Data

T Plant Canyon Cleanout Summary Curies	LLW_I	LLW_III	CR_MLLW	FY 2003.1 Forecast (curies)
Radionuclide				
Strontium 90	1.2E+00	5.0E-01	5.5E-01	2.3E+00
Cesium 137	2.5E-01	1.1E-01	1.1E-01	4.7E-01
Plutonium 241	1.8E-01	7.4E-02	8.1E-02	3.3E-01
Plutonium 238, 239,240	5.7E-03	2.4E-03	2.6E-03	1.1E-02
Americium 241,243	9.4E-03	3.9E-03	4.3E-03	1.8E-02
Total	1.7E+00	6.9E-01	7.5E-01	3.1E+00
Percent	53%	22%	24%	100%

Other Forecast Data

- **Hazardous Waste**
 - T Plant Canyon Cleanout reports no hazardous waste

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T Plant Operations, 221-T/2706-T

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 1,860 m³, or 5% of the Central Plateau forecast.
- The forecast life cycle for the T Plant Operations, 221-T/2706-T generator ends in 2035.
- LLW_I accounts for the majority of the forecasted waste, representing 89% (1,660 m³) of the total with the remainder being CH_MLLW.
- The FY2003.1 forecast shows a 3% decrease from the FY2003.0 forecast of 1,910 m³ due to currently revised forecast estimates.

Waste Class Distribution

T Plant Operations, 221-T/2706-T
Total (excl. HAZ) = 1,860 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 3% decrease from the FY2003.0 forecast of 1,910 m³ due to currently revised forecast estimates

The FY2003.0 forecast decreased 3% from the FY2002.0 forecast of 1,980 m³ primarily due to the elimination of the year 2002 forecast volumes.

The FY2002.0 forecast showed a 4% decrease from the FY2001.0 forecast of 2,060 m³ primarily due to the elimination of the year 2001 forecast volumes

Comparison to Previous Baseline(s) by Waste Class

T Plant Operations, 221-T/2706-T Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	1,860	1,710	1,760	1,830
CH_MLLW	200	200	220	230
Total	1,860	1,910	1,980	2,060

Note Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

T Plant's current mission is treatment, verification, repackaging, and decontamination. Waste classes are produced from existing streams at T Plant or generated from the above activities. T Plant generates waste (radioactive and hazardous) from a variety of activities including, but not limited to operations, maintenance, and construction.

Forecast Assumptions and Comments

Waste volumes and properties used in this forecast are based on previous experience and projected waste outputs.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification distribution of T Plant Operations' forecasted wastes are described in the following charts.

SWIFT Report – T Plant Operations, 221-T/2706-T

LLW Data

Physical Waste Form Distribution

T Plant Operations, 221-T/2706-T
LLW Total = 1,660 m³

Container Distribution

T Plant Operations, 221-T/2706-T
LLW Total = 1,660 m³

MLLW Data

Physical Waste Form Distribution

T Plant Operations, 221-T/2706-T
MLLW Total = 200 m³

Hazardous Characteristic Distribution

T Plant Operations, 221-T/2706-T
MLLW Total = 200 m³

Container Distribution

T Plant Operations, 221-T/2706-T
MLLW Total = 200 m³

LDR Waste Stream Identification Distribution

T Plant Operations, 221-T/2706-T
MLLW Total = 200 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

T Plant Operations, 221-T/2706-T Summary Curies	LLW_I	CH_MLLW	FY 2003.1 Forecast (curies)
Radionuclide			
Cobalt 60	1.2E-03	1.4E-04	1.3E-03
Strontium 90	6.8E-01	8.3E-02	7.6E-01
Cesium 137	8.5E-01	1.0E-01	9.5E-01
Plutonium 241	1.0E-02	1.3E-03	1.2E-02
Plutonium 238, 239, 240	5.7E-03	7.0E-04	6.4E-03
Americium 241, 243	5.6E-04	6.8E-05	6.3E-04
Other	8.6E+00	1.1E+00	9.6E+00
Total	1.1E+01	1.2E+00	1.1E+01
Percent	89%	11%	100%

Other Forecast Data

- **Hazardous Waste**
 - A life cycle total of 30 m³ of hazardous waste has been reported by T Plant Operations

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SWIFT Report – T Plant Transition

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T Plant Transition

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 120 m³, or <1% of the Central Plateau waste forecast.
- The forecast life cycle for the T Plant Transition starts in 2036 following the completion of T Plant Operations and ends in 2038.
- LLW_I and CH_TRU(M) are the only waste classes forecast, representing 67% (80 m³) and 33% (40 m³) of the T Plant Transition waste volume, respectively.
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast was identical to the FY2002.0 forecast of 120 m³.

Waste Class Distribution

T Plant Transition
Total (excl. HAZ) = 120 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

SWIFT Report – T Plant Transition

Comparison to Previous Baseline(s)

This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast was identical to the FY2002.0 and FY2001.0 forecasts.

Comparison to Previous Baseline(s) by Waste Class

T Plant Transition Comparison to Previous Forecasts	FY2003.1 Forecast (m³)	FY2003.0 Forecast (m³)	FY2002.0 Forecast (m³)	FY2001.0 Forecast (m³)
Waste Class				
LLW_L	80	80	80	80
CH_TRU(M)	40	40	40	40
Total	120	120	120	120

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

This waste generator represents T Plant deactivation activities expected to follow T Plant's operations from FY2036 through FY2038.

Forecast Assumptions and Comments

The volumes reported for this generator are from Baseline Environmental Management Report (BEMR) estimates from FY96. In particular, waste volumes and physical waste forms were estimated by BEMR through use of a modeling tool that projected future transitional waste volumes. In addition, hazardous characteristics and radionuclides information were assumed to be similar to that contained in the T Plant Operations forecast.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, and container types of T Plant Transition's forecasted wastes are described in the following charts:

SWIFT Report – T Plant Transition

LLW Data

Physical Waste Form Distribution

T Plant Transition
LLW Total = 80 m3

Container Distribution

T Plant Transition
LLW Total = 80 m3

TRU(M) Data

Physical Waste Form Distribution

T Plant Transition
TRU(M) Total = 40 m3

Hazardous Characteristic Distribution

T Plant Transition
Total (TRUM only) = 40 m3

Container Distribution

T Plant Transition
TRU(M) Total = 40 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³; numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

SWIFT Report – T Plant Transition

Radionuclide Data

T Plant Transition Summary Curies	LLW_I	CH_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide			
Strontium 90	7.4E-01	3.7E-01	1.1E+00
Cesium 137	1.6E-01	7.8E-02	2.3E-01
Plutonium 241	1.1E-01	5.5E-02	1.6E-01
Plutonium 238, 239, 240	3.5E-03	1.7E-03	5.2E-03
Americium 241, 243	5.8E-03	2.9E-03	8.7E-03
Total	1.1E+00	5.1E-01	1.5E+00
Percent	67%	33%	100%

Other Forecast Data

- **Hazardous Waste**
 - A life cycle total of 80 m³ of hazardous waste has been reported by T Plant Transition

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SWIFT Report – U Plant

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 60 m³, or <1% of the Central Plateau forecast.
- U Plant expects to ship waste from FY2003 through FY2006.
- LLW_I (95%) is the primary waste expected to be generated as seen in the chart below.
- The FY2003.1 forecast shows a 58 m³ increase compared to the FY2003.0 forecast due to the extension of the forecast life-cycle from FY2003 to FY2006.

Waste Class Distribution

U Plant
Total (excl. HAZ) = 60 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

SWIFT Report – U Plant

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 58 m³ increase compared to the FY2003.0 forecast due to the extension of the forecast life-cycle from FY2003 to FY2006.

FY2003.0 was the first forecast submitted by U Plant.

Comparison to Previous Baseline(s) by Waste Class

U Plant Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	60	4	--	--
CH_MLLW	2	0.26	--	--
RH_TRU(M)	1	--	--	--
Total	60	4	--	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Located in the Hanford Site's 200 West Area, U Plant was constructed in 1944 as one of the original chemical separations plants, or "canyon" facilities, to support plutonium production during World War II, but the facility was never used for that purpose. Instead, the facility was modified to support uranium recovery from the high level waste tank. The canyon contains 40 process cells and a railroad tunnel exit/entrance.

Until 1952, U Plant was used for training T Plant and B Plant operators. In 1952, the facility was converted to recover uranium from the bismuth phosphate waste generated by T and B Plants. From 1958 to 1964, U Plant was used to receive, decontaminate, and maintain various process

SWIFT Report – U Plant

equipment from other Hanford Site processing facilities. Much of this equipment remains in the canyon portion of U Plant, and it is expected that the equipment will remain at this location until final facility disposition. The facility is currently in the surveillance and maintenance mode.

Forecast Assumptions and Comments

This forecast is consistent with FY2003 funding levels.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of U Plant's forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

U Plant
LLW Total = 60 m3

Container Distribution

U Plant
LLW Total = 60 m3

MLLW Data

Physical Waste Form Distribution

U Plant
MLLW Total = 2 m3

Hazardous Characteristic Distribution

U Plant
MLLW Total = 2 m3

SWIFT Report – U Plant

Container Distribution

LDR Waste Stream Identification Distribution

TRU(M) Data

Physical Waste Form Distribution

Container Distribution

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

SWIFT Report – U Plant

Radionuclide Data

U Plant Summary Curies	LLW_L	CH_MLLW	RA_TBU(M)	FY 2003.1 Forecast (curies)
Radionuclide				
Cobalt 60	9.8E-06	1.0E-07	--	9.9E-06
Strontium 90	2.0E-04	6.9E-06	--	2.1E-04
Technetium 99	4.0E-06	1.4E-07	--	4.1E-06
Cesium 137	2.4E-04	8.6E-06	--	2.5E-04
Uranium 233	1.2E-10	4.3E-12	--	1.3E-10
Uranium 234	6.5E-08	2.3E-09	--	6.7E-08
Uranium 235	3.5E-06	1.2E-07	--	3.6E-06
Uranium 238	3.6E-05	1.3E-06	--	3.7E-05
Neptunium 237	2.3E-07	8.2E-09	--	2.4E-07
Plutonium 241	4.5E-03	1.6E-04	--	4.7E-03
Plutonium 238, 239, 240	4.4E-04	1.5E-05	6.3E-05	5.2E-04
Americium 241, 243	1.0E-04	3.5E-06	3.5E-05	1.4E-04
Other	2.3E-04	8.2E-06	--	2.4E-04
Total	5.8E-03	2.2E-04	9.8E-05	6.7E-03
Percent	95%	3%	2%	100%

Other Forecast Data

- **Hazardous Waste**
 - U Plant has reported 2 m³ of hazardous waste

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Waste Encapsulation & Storage Facility

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 1,140 m³, or 3% of the Central Plateau waste forecast.
- The forecast life cycle for the Waste Encapsulation and Storage Facility (WESF) ends in 2026.
- LLW_I is the primary waste class forecast, representing 96%, or 1,100 m³, of the waste volume.
- The FY2003.1 forecast shows a 2% increase from the FY2003.0 forecast of 1,130 m³ due to currently revised forecast estimates.

Waste Class Distribution

Waste Encapsulation & Storage Facility
Total (excl. HAZ) = 1,140 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 2% increase from the FY2003.0 forecast of 1,130 m³ due to currently revised forecast estimates.

The FY2003.0 forecast decreased 1% from the FY2002.0 forecast of 1,140 m³ due to the elimination of the year 2002 waste.

The FY2002.0 forecast showed a 13% increase from the FY2001.0 forecast due to an additional five years of waste generated caused by a five year slip in cesium and strontium capsule shipment from 2013 to 2018.

Comparison to Previous Baseline(s) by Waste Class

Waste Encapsulation & Storage Facility Comparison to Previous Forecasts Waste Class	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
LLW_I	1,100	1,080	1,090	960
LLW_III	30	30	30	30
LLW_GTCIII	6	6	6	6
CH_MLLW	10	10	10	10
RH_MLLW	6	6	6	6
Total	1,140	1,130	1,140	1,070

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The mission of the Waste Encapsulation and Storage Facility is the safe storage of cesium and strontium capsules. Capsules will be stored until 2018 when they will be either cut up or shipped to vitrification. Current plans are to cut up capsules at vitrification. If capsules are shipped and not cut up, long range forecast will change. Ramp up for capsule shipment is scheduled to begin in 2016.

Forecast Assumptions and Comments

WESF will maintain capsule storage until 2016 when it will begin preparation for capsule shipment. Capsule shipment is scheduled to begin in 2018 and end in 2021 with plant shutdown in 2026.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification distribution of the Waste Encapsulation and Storage Facility's forecasted wastes are described in the following charts.

SWIFT Report – Waste Encapsulation & Storage Facility

LLW Data

Physical Waste Form Distribution

Waste Encapsulation & Storage Facility
LLW Total = 1,130 m³

Container Distribution

Waste Encapsulation & Storage Facility
LLW Total = 1,130 m³

MLLW Data

Physical Waste Form Distribution

Waste Encapsulation & Storage Facility
MLLW Total = 20 m³

Hazardous Characteristic Distribution

Waste Encapsulation & Storage Facility
MLLW Total = 20 m³

Container Distribution

Waste Encapsulation & Storage Facility
MLLW Total = 20 m³

LDR Waste Stream Identification Distribution

Waste Encapsulation & Storage Facility
MLLW Total = 20 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

SWIFT Report – Waste Encapsulation & Storage Facility

Radionuclide Data

Waste Encapsulation & Storage Facility Summary Curies	LLW_I	LLW_III	LLW_GTCIII	CH_MLLW	RH_MLLW	FY 2003.1 Forecast (curies)
Radionuclide						
Strontium 90	1.5E+00	3.3E-02	8.4E-03	1.3E-02	8.4E-03	1.6E+00
Cesium 137	5.6E+00	1.3E-01	3.3E-02	5.1E-02	3.3E-02	5.8E+00
Total	7.1E+00	1.6E-01	4.1E-02	6.5E-02	4.1E-02	7.4E+00
Percent	96%	2%	< 1%	< 1%	< 1%	100%

Other Forecast Data

- **Hazardous Waste**
 - A life cycle total of 10 m³ of hazardous waste has been reported by the Waste Encapsulation & Storage Facility.

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Waste Receiving and Processing Facility, 2336-W

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 280 m³, or <1% of the Central Plateau forecast.
- The forecast life cycle for the Waste Receiving and Processing (WRAP) facility ends in 2032.
- LLW_I (70%) is the primary waste class forecast by WRAP.
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast showed an increase of 39% from the FY2002.0 forecast of 200 m³.

Waste Class Distribution

Waste Receiving and Processing Facility, 2336-W
Total (excl. HAZ) = 280 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003 forecast showed an increase of 39% from the FY2002.0 forecast of 200 m³. The increase was primarily caused by the addition of the LLW_III waste expected from maintenance and step off pad. Also, HVAC HEPA filters were assumed to be replaced every 7 years vs. 10 years as previously forecasted.

The FY2002.0 forecast showed a decrease of 9% from the FY2001.0 forecast of 220 m³ due to revised estimates using facility operation knowledge.

Comparison to Previous Baseline(s) by Waste Class

Waste Receiving and Processing Facility, 2336-W Comparison to Previous Forecasts	FY2003.1 Forecast (m³)	FY2003.0 Forecast (m³)	FY2002.0 Forecast (m³)	FY2001.0 Forecast (m³)
Waste Class				
LLW_I	200	200	160	220
LLW_III	50	50	--	--
CH_MLLW	7	7	8	8
CH_TRU(M)	30	30	30	--
Total	280	280	200	220

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The mission of the Waste Receiving and Processing Facility is to provide for characterization, processing, verification, and certification of Hanford's newly generated and retrieved waste. The forecast centers on waste generated from internal operation and maintenance activities.

Forecast Assumptions and Comments

Assumptions and differences from the previous year forecast include:

- Maintenance and step off pad waste generation rates will remain comparable with the rate generated in FY 2002 however, an estimated 80% may be determined as CH Cat III, instead of last years 100% CH Cat I.
- The compacted empty TRU drum waste stream will not be included in this report.
- Facility room waste volume figures are presented as compacted waste volume.
- Process HVAC HEPA filters are changed out on a 7 not a 10-year frequency.
- One trip drum fabrication will increase 290% between 2003 and 2005.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification distribution for the Waste Receiving and Processing Facility's forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Waste Receiving and Processing Facility, 2336-W
LLW Total = 240 m3

Container Distribution

Waste Receiving and Processing Facility, 2336-W
LLW Total = 240 m3

MLLW Data

Physical Waste Form Distribution

Waste Receiving and Processing Facility, 2336-W
MLLW Total = 7 m3

Hazardous Characteristic Distribution

Waste Receiving and Processing Facility, 2336-W
MLLW Total = 7 m3

Container Distribution

LDR Waste Stream Identification

SWIFT Report – Waste Receiving and Processing Facility, 2336-W

Distribution

Waste Receiving and Processing Facility, 2336-W
MLLV Total = 7 m3

Waste Receiving and Processing Facility, 2336-W
MLLV Total = 7 m3

TRU(M) Data

Physical Waste Form Distribution

Waste Receiving and Processing Facility, 2336-W
TRU(M) Total = 30 m3

Container Distribution

Waste Receiving and Processing Facility, 2336-W
TRU(M) Total = 30 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Waste Receiving and Processing Facility, 2336-W Summary Curies	LLW_I	LLW_III	CH_MLLW	CH_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide					
Cobalt 60	--	--	--	7.4E-06	7.4E-06
Strontium 90	4.1E-05	--	--	--	4.1E-05
Cesium 137	6.0E-05	--	6.1E-07	2.0E-02	2.0E-02
Uranium 234	8.5E-06	--	--	--	8.5E-06
Uranium 235	1.0E-06	--	--	--	1.0E-06
Uranium 238	8.5E-06	--	--	--	8.5E-06
Plutonium 241	--	1.0E+00	--	--	1.0E+00
Plutonium 238, 239, 240	2.5E-01	6.9E-01	1.9E-02	4.3E+01	4.4E+01
Americium 241, 243	1.0E-02	7.0E-02	7.8E-04	4.7E-01	5.5E-01
Total	2.6E-01	1.8E+00	2.E-02	4.4E+01	4.6E+01
Percent	< 1%	4%	< 1%	96%	100%

Other Forecast Data

- **Hazardous Waste**
 - A life cycle total of 9 m³ of hazardous waste has been reported by the Waste Receiving and Processing Facility.

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Waste Sampling & Characterization Facility, 6266

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 1,060 m³, or 3% of the Central Plateau waste forecast.
- The forecast life cycle for the Waste Sampling and Characterization Facility ends in 2046.
- As shown in the chart below, LLW_I (830 m³ or 79%) and CH_MLLW (230 m³ or 21%) are the only waste classes forecast.
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast showed a 144% increase from the FY2002.0 forecast of 430 m³ primarily because ATG will no longer compact the LLW_I.

Waste Class Distribution

Waste Sampling & Characterization Facility, 6266
Total (excl. HAZ) = 1,060 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast showed a 144% increase from the FY2002.0 forecast of 430 m³ primarily because ATG will no longer compact the LLW_I.

The FY2002.0 forecast showed a 12% decrease from the FY2001.0 forecast of 490 m³ due to revised estimates.

Comparison to Previous Baseline(s) by Waste Class

Waste Sampling & Characterization Facility, 6266 Comparison to Previous Forecasts	FY2003.1 Forecast (m³)	FY2003.0 Forecast (m³)	FY2002.0 Forecast (m³)	FY2001.0 Forecast (m³)
Waste Class				
LLW_I	830	830	250	300
CH_MLLW	230	230	190	190
Total	1,060	1,060	430	490

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The mission of the Waste Sampling and Characterization Facility, 6266 (WSCF) is to provide the Hanford site with analysis of environmental media and industrial hygiene samples. WSCF is projecting to be in operation until 2046.

Forecast Assumptions and Comments

The forecast is based on historical generation, current processes, and anticipated/expected volumes for the fiscal year.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification distribution of the Waste Sampling and Characterization Facility's forecasted wastes are described in the following charts.

SWIFT Report – Waste Sampling & Characterization Facility, 6266

LLW Data

Physical Waste Form Distribution

Waste Sampling & Characterization Facility, 6266
LLW Total = 830 m3

Container Distribution

Waste Sampling & Characterization Facility, 6266
LLW Total = 830 m3

MLLW Data

Physical Waste Form Distribution

Waste Sampling & Characterization Facility, 6266
MLLW Total = 230 m3

Hazardous Characteristic Distribution

Waste Sampling & Characterization Facility, 6266
MLLW Total = 230 m3

Container Distribution

Waste Sampling & Characterization Facility, 6266
MLLW Total = 230 m3

LDR Waste Stream Identification Distribution

Waste Sampling & Characterization Facility, 6266
MLLW Total = 230 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Waste Sampling & Characterization Facility, 6266 Summary Curies			
Radionuclide	LLW_I	CH_MLLW	FY 2003.1 Forecast (curies)
Tritium	5.6E-04	3.0E-04	8.5E-04
Carbon 14	--	1.9E-05	1.9E-05
Cobalt 60	--	1.1E-02	1.1E-02
Technetium 99	--	1.2E-04	1.2E-04
Iodine 129	7.2E-04	1.1E-04	8.3E-04
Radium 226	--	6.7E-06	6.7E-06
Plutonium 241	--	3.3E-08	3.3E-08
Americium 241,243	--	1.0E-05	1.0E-05
Other	6.5E-03	1.8E-05	6.5E-03
Total	7.7E-03	1.2E-02	2.0E-02
Percent	39%	61%	100%

Other Forecast Data

- Hazardous Waste**

- o A life cycle total of 40 m³ of hazardous waste has been forecasted by the Waste Sampling and Characterization Facility.

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Waste Sites

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 20 m³, or <1% of the Central Plateau forecast.
- Waste Sites expects to generate waste from FY2003 through FY2006.
- LLW_I is the only waste class expected to be generated.
- The FY2003.1 forecast shows a 12 m³ increase compared to the FY2003.0 forecast due to the extension of the forecast life-cycle from FY2003 to FY2006.

Waste Class Distribution

Waste Sites

Total (excl. HAZ) = 20 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 12 m³ increase compared to the FY2003.0 forecast due to the extension of the forecast life-cycle from FY2003 to FY2006.

FY2003.0 was the first forecast submitted by Waste Sites.

SWIFT Report – Waste Sites

Comparison to Previous Baseline(s) by Waste Class

Waste Sites Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	20	4	--	--
Total	20	4	--	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Waste Sites forecast comprises routine work that Radiation Area Remedial Action is performing at about 700 locations around the site.

Forecast Assumptions and Comments

This forecast is consistent with FY2003 funding levels.

Waste Characteristic Data

The expected physical waste forms and container types of Waste Site's forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Container Distribution

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Waste Sites Summary Curies	LLW_I	FY 2003.1 Forecast (curies)
Radionuclide		
Strontium 90	1.6E-05	1.6E-05
Cesium 137	1.6E-05	1.6E-05
Total	3.2E-05	3.2E-05
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - Waste Sites has not reported any generation of hazardous waste.

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- The life-cycle total of LLW, MLLW, and TRU(M) waste expected from the River Corridor group is 5,750 m³, or 13% of Fluor Hanford's total.
- The forecast life-cycle for the River Corridor ends in 2040, although the majority of the work scope will be completed earlier.
- LLW_I is the primary waste forecast, representing 92% (5,320 m³) of the waste volume, other wastes forecasted are shown below.
- The Liquid Effluent Facilities, 300 Area is the largest source of waste, forecasting 82% (4,740 m³) of the River Corridor total.
- The FY2003.1 forecast decreased 15% from the FY2003.0 forecast of 6,750 m³. Two generators within the River Corridor group, [K-Basin Transition](#) and [Equipment Disposition Project](#), are no longer expected to send waste to the Waste Management Project. K-Basin Transition is now included in the K-Basin Operations forecast.

Waste Class Distribution

River Corridor
Total (excl. HAZ) = 5,750 m³

Generator Distributions

River Corridor
Total (excl. HAZ) = 5,750 m³

Annual Waste Class Volumes

The River Corridor's generators will be generating waste from 2003 to 2040, although most of the waste is expected to be generated from 2003 through 2033. The Liquid Effluent Facilities, 300 Area expects to generate waste through 2033. The K-Basins Operations, 100-K expects waste to be generated by the Canister Storage Building through 2040.

Annual Baseline Volumes

Annual Baseline by Waste Class

Annual LLW Baseline Volumes

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Annual MLLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Summary Table (Volumes in m³)

(in descending order by total volume)

River Corridor Summary Volumes	LLW_I	LLW_III	CH_MLLW	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (m³)	% of Total
Generators							
Liquid Effluent Facilities, 300 Area	4,690	--	50	--	--	4,740	82%
K-Basin Operations, 100-K	360	--	10	--	130	500	9%
324 Building	130	90	7	--	20	240	4%
327 Building	80	100	7	20	--	210	4%
300 Area Accelerated Closure Project	50	--	--	--	--	50	< 1%
Fast Flux Test Facility	10	0.87	0.26	--	--	10	< 1%
Total	5,320	190	70	20	150	5,750	100%
Percent	92%	3%	1%	< 1%	3%	100%	

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast decreased 15% from the FY2003.0 forecast of 6,750 m³. Two generators within the River Corridor group, K-Basin Transition and Equipment Disposition Project, are no longer expected to send waste to the Waste Management Project.

The FY2003.0 forecast for the River Corridor showed a 35% decrease from the FY2002.0 forecast of 10,390 m³. The decrease resulted primarily from a reassignment of the responsibility for the scope of the 200 Area Accelerated Deactivation project to individual projects within the Central Plateau group and decreases in the forecasted volumes for the Equipment Disposition Project, the 300 Area Accelerated Closure Project, and the 324 Building. These decreases were offset slightly by increases in the Liquid Effluent Facilities, 300 Area and K-Basin Operations, 100-K forecasts

The FY2002.0 forecast for the River Corridor showed a 1% decrease from the FY2001.0 forecast of 10,510 m³. The FY2002.0 forecast included the addition of the Equipment Disposition Project which offset a large decrease in the 300 Area Accelerated Closure Project forecast and the deletion of two generators which no longer forecast waste, 309 PRTR Vault Waste and Fuel Fabrication Transition, 303/313.

Comparison to Previous Baseline(s) by Waste Class

River Corridor Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	5,320	6,150	9,210	7,940
LLW_III	190	310	720	1,070
CH_MLLW	70	100	270	480
CH_TRU(M)	20	30	30	810
RH_TRU(M)	150	160	150	200
Total	5,750	6,760	10,390	10,510

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Hanford's River Corridor consists of about 210 square miles beginning at the shores of the Columbia River and extending inland toward the Central Plateau in the middle of the Hanford Site. While one-quarter mile along the river is included in the Hanford Reach National Monument, the Monument is primarily composed of the Fitzner-Eberhardt Arid Lands Ecology Reserve and the North Slope.

Cleanup of the River Corridor will allow, in consultation with area Tribal Nations, regulators, and stakeholders, to make land available for other uses, conservation of ecological resources, and protection of historic cultural resources. The footprint for active Hanford cleanup operations can then be shrunk to approximately 75 square miles.

Forecast Assumptions and Comments

Assumptions used in the data collected for the River Corridor group forecast can be found on the individual generator pages within the subgroup.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of the River Corridor's forecasted wastes are described in the following charts. The 'Misc' TRU(M) containers are Large Diameter Sludge containers.

LLW Data

Physical Waste Form Distribution

River Corridor
LLW Total = 5,510 m3

Container Distribution

River Corridor
LLW Total = 5,510 m3

MLLW Data

Physical Waste Form Distribution

River Corridor
MLLW Total = 70 m3

Hazardous Characteristic Distribution

River Corridor
MLLW Total = 70 m3

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Container Distribution

River Corridor
MLLV Total = 70 m³

LDR Waste Stream Identification Distribution

River Corridor
MLLV Total = 70 m³

TRU(M) Data

Physical Waste Form Distribution

River Corridor
TRU(M) Total = 170 m³

Hazardous Characteristic Distribution

River Corridor
Total (TRUM only) = 140 m³

Container Distribution

River Corridor
TRU(M) Total = 170 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

River Corridor Summary Curies	LLW_I	LLW_III	CH_MLLW	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide						
Tritium	1.8E-02	--	2.7E-02	--	1.7E-02	6.2E-02
Cobalt 60	4.8E-02	5.4E+01	4.5E-03	4.1E-05	2.0E+00	5.6E+01
Selenium 79	5.9E-08	1.1E-04	6.0E-08	--	8.5E-05	1.9E-04
Strontium 90	3.2E-01	1.7E+02	1.1E-01	1.3E+01	4.3E+03	4.5E+03
Technetium 99	6.3E-06	3.5E-03	2.0E-06	--	1.3E+00	1.3E+00
Iodine 129	--	--	--	--	3.1E-03	3.1E-03
Cesium 137	7.8E-01	1.8E+02	2.0E-01	1.7E+02	6.6E+03	6.9E+03
Uranium 234	9.5E-03	--	8.0E-04	--	9.9E-02	1.1E-01
Uranium 235	1.4E-02	--	1.1E-06	--	1.3E-03	1.5E-02
Uranium 238	2.0E-01	--	6.9E-06	--	3.0E-02	2.3E-01
Neptunium 237	--	--	--	--	3.1E-02	3.1E-02
Plutonium 238	5.7E-05	2.0E-02	5.7E-05	--	2.7E+02	2.7E+02
Plutonium 239	1.7E-05	6.3E-03	1.7E-05	--	2.9E+01	2.9E+01
Plutonium 240	1.7E-05	6.2E-03	1.8E-05	--	5.1E+01	5.1E+01
Plutonium 241	2.0E-01	1.2E+02	6.3E-02	1.4E+01	5.0E+03	5.1E+03
Plutonium 242	8.5E-04	1.0E-05	3.9E-05	--	1.9E-01	2.0E-01
Plutonium 238, 239, 240	2.8E-02	1.8E+02	2.4E-03	1.6E-02	4.6E-03	1.8E+02
Americium 241	2.8E-08	4.5E-01	2.6E-05	--	2.7E+02	2.7E+02
Americium 243	--	--	--	--	2.2E+00	2.2E+00
Americium 241, 243	1.7E-02	4.3E+00	2.9E-03	2.7E-03	1.9E-03	4.3E+00
Other	1.5E-01	--	5.7E-02	--	--	2.1E-01
Total	1.8E+00	6.9E+02	4.7E-01	1.9E+02	1.6E+04	1.7E+04
Percent	< 1%	4%	< 1%	1%	95%	100%

Other Forecast Data

- **Hazardous Waste**
 - A life-cycle total of 90 m³ of hazardous waste has been reported by generators within the River Corridor group.

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200 Area Accelerated Deactivation

The 200 Area Accelerated Deactivation generator has no waste forecasted in this update. Forecasted waste volumes for 200 Area Accelerated Deactivation are now included in the following Central Plateau generators: 200 Area SM&T, 233-S Plutonium Reclamation Facility, B Plant, Ground Water Monitoring, PUREX, REDOX, U Plant, and Waste Sites.

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SWIFT Report – 300 Area Accelerated Closure Project

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 50 m³, or <1% of the River Corridor waste forecast.
- The forecast life cycle for the 300 Area Accelerated Closure Project generator ends in 2006.
- LLW_1 is the only waste class forecasted.
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast showed a 94% decrease from the the FY2002.0 forecast of 820 m³.

Waste Class Distribution

300 Area Accelerated Closure Project
Total (excl. HAZ) = 50 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The 300 Area Accelerated Closure Project reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast.

The FY2003.0 forecast showed a 94% decrease from the FY2002.0 forecast of 820 m³. The decrease occurs primarily because a large volume of LLW_I included in the baseline FY2002.0 forecast is now included only in the maximum forecast.

The FY2002.0 forecast showed a 59% decrease from the FY2001.0 forecast of 2,030 m³. LLW is currently the only waste forecasted; the FY2001.0 forecast contained estimates for LLW_III, CH_MLLW, and TRU(M) waste.

SWIFT Report – 300 Area Accelerated Closure Project

Comparison to Previous Baseline(s) by Waste Class

300 Area Accelerated Closure Project Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_J	50	50	820	910
Total	50	50	820	2,030

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The 300 Area Deactivation Projects mission is to stabilize and demolish facilities under the project. Disposition of the remaining 825 MT of uranium has been included in this project.

Forecast Assumptions and Comments

The waste forecast is based on current funding levels. Burial of the remaining 825 MT of uranium is assumed to occur in 2006. Waste generated from this activity is included in the maximum forecast case due to uncertainty in ultimate disposition. Waste characteristics are based on process knowledge, sample analysis, and radiation surveys.

Waste Characteristic Data

The expected physical waste forms and container types of the 300 Area Accelerated Closure Project's forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

300 Area Accelerated Closure Project
LLW Total = 50 m³

Container Distribution

300 Area Accelerated Closure Project
LLW Total = 50 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

300 Area Accelerated Closure Project Summary Curies		
Radionuclide	LLW_I	FY 2003.1 Forecast (series)
Technetium 99	4.3E-06	4.3E-06
Uranium 234	6.7E-05	6.7E-05
Uranium 235	6.8E-07	6.8E-07
Uranium 238	5.7E-06	5.7E-06
Other	5.7E-07	5.7E-07
Total	7.9E-05	7.9E-05
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No Hazardous waste has been forecast by this generator.

Site Rev. Date
11/2003

Data version
2003.1

Data currency
7/2003

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324 Building

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 240 m³, or 4% of the River Corridor waste forecast.
- The forecast life cycle for the 324 Building generator ends in 2006.
- LLW_I and LLW_III together represent 87% of the waste forecasted by this generator.
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast showed a 72% decrease from the the FY2002.0 forecast of 870 m³ due to a change in deactivation and stabilization methodologies.

Waste Class Distribution

324 Building
Total (excl. HAZ) = 240 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

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Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

The 324 Building reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast.

The FY2003.0 forecast showed a 72% decrease from the FY2002.0 forecast of 870 m³. The decrease results from changes in the deactivation and stabilization methodologies. The changes are expected to result in reduced waste generation. Shipment of waste during FY2002 also contributed to the reduction.

The FY2002.0 forecast decreased 23% from the FY2001.0 forecast of 1,135 m³ mostly due to the volume of waste worked off during FY2001.

Comparison to Previous Baseline(s) by Waste Class

324 Building Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	130	130	400	480
LLW_III	90	90	330	430
CH_MLLW	7	7	110	170
CH_TRU(M)	---	--	1	2
RH_TRU(M)	20	20	30	60
Total	240	240	870	1,130

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The 324 Building supported research operations and is now in transition. Wastes will be generated from routine operations and maintenance activities as well as deactivation of the

SWIFT Report – 324 Building

facility's hot cells, pipe trench, vaults, and laboratories. Major milestones include TPA M-89-00 (Complete Closure of Non-Permitted Mixed Waste Storage Units in the 324 Building REC and HLV due October 2005) and TPA M-92-16 (Complete removal and transfer of Phase III, Special Case Waste due September 2006).

The new River Corridor Project contractor is expected to re-baseline within first year of Project takeover.

Proposals for the demolition of the 324 building by 2012 are currently being developed, which may significantly effect this forecast as demolition waste has not been included in this forecast.

Forecast Assumptions and Comments

The duration of this forecast is based on DOE-RL directive to complete transition to D&D by 2007.

Physical waste forms are based on historical knowledge of materials existing in the hot cells, and types of wastes produced during routine operations. Radiological and chemical characterizations are based on historical knowledge as well as analytical data.

Waste Characteristic Data

The expected physical waste forms and container types of the 324 Building's forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

324 Building
LLW Total = 210 m3

Container Distribution

324 Building
LLW Total = 210 m3

SWIFT Report – 324 Building

MLLW Data

Physical Waste Form Distribution

324 Building
MLLW Total = 7 m3

Hazardous Characteristic Distribution

324 Building
MLLW Total = 7 m3

Container Distribution

324 Building
MLLW Total = 7 m3

LDR Waste Stream Identification Distribution

324 Building
MLLW Total = 7 m3

TRU(M) Data

Physical Waste Form Distribution

324 Building
TRU(M) Total = 20 m3

Hazardous Characteristic Distribution

324 Building
Total (TRUM only) = 10 m3

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Container Distribution

324 Building
TRU(M) Total = 20 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

324 Building Summary Curies	LLW_I	LLW_III	CK_MLLW	RL_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide					
Tritium	--	--	--	3.8E-06	3.8E-06
Cobalt 60	2.7E-05	1.1E-01	2.7E-05	2.0E+00	2.1E+00
Selenium 79	5.9E-08	1.1E-04	6.0E-08	8.5E-05	1.9E-04
Strontium 90	9.9E-02	1.1E+02	1.0E-01	4.3E+03	4.4E+03
Technetium 99	2.0E-06	3.5E-03	2.0E-06	1.3E+00	1.3E+00
Iodine 129	--	--	--	3.1E-03	3.1E-03
Cesium 137	4.6E-02	1.1E+02	1.8E-01	6.6E+03	6.7E+03
Uranium 234	--	--	--	9.9E-02	9.9E-02
Uranium 235	--	--	--	1.3E-03	1.3E-03
Uranium 238	--	--	--	3.0E-02	3.0E-02
Neptunium 237	--	--	--	3.1E-02	3.1E-02
Plutonium 238	5.7E-05	2.0E-02	5.7E-05	2.7E+02	2.7E+02
Plutonium 239	1.7E-05	6.3E-03	1.7E-05	2.9E+01	2.9E+01
Plutonium 240	1.7E-05	6.2E-03	1.8E-05	5.1E+01	5.1E+01
Plutonium 241	2.5E-04	3.1E-01	8.3E-04	5.0E+03	5.0E+03
Plutonium 242	8.5E-04	1.0E-05	3.9E-05	1.9E-01	2.0E-01
Americium 241	2.8E-08	4.5E-01	2.6E-05	2.7E+02	2.7E+02
Americium 243	--	--	--	2.2E+00	2.2E+00
Total	1.5E-01	2.2E+02	2.8E-01	1.6E+04	1.7E+04
Percent	< 1%	1%	< 1%	99%	100%

Other Forecast Data

- **Hazardous Waste**
 - The 324 Building forecast includes 3 m³ of hazardous waste.

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327 Building

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 210 m³, or 4% of the River Corridor waste forecast.
- The forecast life cycle for the 327 Building ends in 2007.
- LLW_III and LLW_I represent 48% and 40% respectively of the waste forecasted by this generator.
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast decreased 51% from the FY2002.0 forecast of 420 m³ due to additional process knowledge and the elimination of the year 2002 from the forecast.

Waste Class Distribution

327 Building
Total (excl. HAZ) = 210 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

SWIFT Report – 327 Building

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

The 327 Building reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast.

The FY2003.0 forecast decreased 51% from the the FY2002.0 forecast of 420 m³ due to additional process knowledge. Shipment of waste during FY2002 also contributed to the reduction.

The FY2002.0 forecast had an 11% decrease from the FY2001.0 forecast of 470 m³ due to revised near term estimates and waste worked off during FY2001.

Comparison to Previous Baseline(s) by Waste Class

327 Building Comparison to Previous Forecasts	FY2003.1 Forecast (m³)	FY2003.0 Forecast (m³)	FY2002.0 Forecast (m³)	FY2001.0 Forecast (m³)
Waste Class				
LLW_I	80	80	290	300
LLW_III	100	100	80	90
CH_MLLW	7	7	30	60
CH_TRU(M)	20	20	20	10
RH_TRU(M)	--	--	7	--
Total	210	210	420	470

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The 327 Building supported research operations and is now in transition. The current 327 building mission is deactivation of all processes and hotcells in the facility and is currently scheduled for completion in 2007. Wastes generated are contaminated equipment and

materials being removed, and those contamination control and PPE wastes generated during the work.

Forecast Assumptions and Comments

This forecast is based upon waste on hand, historical waste generation rates, and the deactivation completion date of 2007. The waste characteristics have been determined by inventory sheets from on hand waste containers, NDA data, and sample analysis data.

Waste Characteristic Data

The expected physical waste forms and container types of the 327 Building's forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

327 Building
LLW Total = 180 m3

Container Distribution

327 Building
LLW Total = 180 m3

MLLW Data

Physical Waste Form Distribution

327 Building
MLLW Total = 7 m3

Hazardous Characteristic Distribution

327 Building
MLLW Total = 7 m3

SWIFT Report – 327 Building

Container Distribution

327 Building
MLLV Total = 7 m³

LDR Waste Stream Identification Distribution

327 Building
MLLV Total = 7 m³

TRU(M) Data

Physical Waste Form Distribution

327 Building
TRU(M) Total = 20 m³

Hazardous Characteristic Distribution

327 Building
Total (TRUM only) = 0.77 m³

Container Distribution

327 Building
TRU(M) Total = 20 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

327 Building Summary Curies	LLW_I	LLW_III	CH_MLLW	CH_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide					
Cobalt 60	--	5.4E+01	8.5E-04	4.1E-05	5.4E+01
Strontium 90	2.5E-02	5.9E+01	6.4E-04	1.3E+01	7.1E+01
Cesium 137	2.5E-01	5.1E+01	1.7E-03	1.7E+02	2.2E+02
Plutonium 241	8.3E-02	1.2E+02	5.2E-02	1.4E+01	1.4E+02
Plutonium 238, 239,240	--	1.8E+02	--	1.8E-02	1.8E+02
Americium 241,243	--	4.3E+00	--	2.7E-03	4.3E+00
Total	3.6E-01	4.7E+02	5.5E-02	1.9E+02	6.6E+02
Percent	< 1%	71%	< 1%	29%	100%

Other Forecast Data

- **Hazardous Waste**
 - The 327 Building forecast includes 3 m³ of hazardous waste.

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Equipment Disposition Project

The Equipment Disposition Project has no waste forecasted in this update. Responsibility for the equipment included in previous forecasts has been transferred to another program. In addition, the equipment may no longer be sent to the Waste Management Project for disposition; therefore, the waste volumes previously forecasted are not included in the forecasts of any other Hanford generators.

SWIFT Report – Equipment Disposition Project

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Fast Flux Test Facility

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 10 m³, or <1% of the River Corridor waste forecast.
- The forecast life cycle for the Fast Flux Test Facility (FFTF) ends in 2013, although only hazardous waste is forecasted after 2010.
- Nearly all (90%) of the waste forecasted by the Fast Flux Test Facility is LLW_I.
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast decreased 86% from the FY2002.0 forecast of 80 m³ based on the assumption that FFTF will become a CERCLA site and will ship waste to the Environmental Restoration Disposal Facility.

Waste Class Distribution

Fast Flux Test Facility
Total (excl. HAZ) = 10 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

FFTF reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast.

The FY2003.0 forecast decreased 86% from the FY2002.0 forecast of 80 m³ based on the assumption that FFTF will become a CERCLA site and will ship waste to the Environmental Restoration Disposal Facility (ERDF).

The FY2002.0 forecast showed a 47% decrease from the FY2001.0 forecast of 150 m³ due to a decision to leave four of the five previously forecasted disposable solid waste casks in the facility rather than disposing of them in the Low Level Burial Grounds.

Comparison to Previous Baseline(s) by Waste Class

Fast Flux Test Facility Comparison to Previous Forecasts Waste Class	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
LLW_I	10	10	60	70
LLW_III	0.87	0.87	20	80
CH_MLLW	0.26	0.26	0.26	0.26
Total	10	10	80	150

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The Fast Flux Test Facility (FFTF) is a 400-megawatt (thermal) liquid-metal (sodium) cooled fast neutron flux nuclear test reactor owned by the U.S. Department of Energy (DOE). The FFTF has currently started closure activities with present plans for completion in 2013.

Forecast Assumptions and Comments

The FFTF forecast assumes no restart order is given and closure activities continue until completion in 2013. The forecast also assumes FFTF will become a CERCLA site and will begin shipping waste to ERDF for disposal.

Waste Characteristic Data

The expected physical waste forms and container types of the Fast Flux Test Facility's forecasted wastes are described in the following charts.

SWIFT Report – Fast Flux Test Facility

LLW Data

Physical Waste Form Distribution

Fast Flux Test Facility
LLW Total = 10 m³

Container Distribution

Fast Flux Test Facility
LLW Total = 10 m³

MLLW Data

Physical Waste Form Distribution

Fast Flux Test Facility
MLLW Total = 0.26 m³

Hazardous Characteristic Distribution

Fast Flux Test Facility
MLLW Total = 0.26 m³

Container Distribution

Fast Flux Test Facility
MLLW Total = 0.26 m³

LDR Waste Stream Identification Distribution

Fast Flux Test Facility
MLLW Total = 0.26 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Fast Flux Test Facility Summary Curies	LLW_I	LLW_III	CH_MLLW	FY 2003.1 Forecast (curies)
Radionuclide				
Tritium	--	--	2.6E-02	2.6E-02
Cobalt 60	1.5E-03	7.2E-02	--	7.4E-02
Cesium 137	2.9E-02	1.4E+00	2.6E-05	1.4E+00
Total	3.E-02	1.5E+00	2.6E-02	1.5E+00
Percent	2%	96%	2%	100%

Other Forecast Data

- **Hazardous Waste**
 - FFTF forecasts a total of 7 m³ of hazardous waste.

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K-Basin Operations, 100-K

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 500 m³, or 9% of the River Corridor waste forecast.
- The forecast life cycle for the K-Basins Operations, 100-K ends in 2040, although the majority of the waste is generated from 2003 through 2006.
- K-Basins Operations, 100-K forecast is primarily LLW_I (72%) and RH_TRU(M) waste (26%).
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast increased 48% from the FY2002.0 forecast of 340 m³ due to increased work scope and accelerated cleanup schedule.

Waste Class Distribution

K-Basin Operations, 100-K
Total (excl. HAZ) = 500 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

K-Basin Operations, 100-K reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast.

The FY2003.0 forecast increased 48% from the FY2002.0 forecast of 340 m³ due to increased work scope and accelerated cleanup schedule. The additional work scope includes upcoming projects at the CSB facility. The amount of RH_TRU(M) waste changed due to uncertainty in the amount of sludge in the K-West facility.

The FY2002.0 forecast showed a 64% decrease from the FY2001.0 forecast of 940 m³ due to better defined estimates of waste generated in the Cold Vacuum Drying Facility and the Canister Storage Building. CH_TRU(M) waste is no longer expected to be generated; this waste was identified in previous forecasts as used HEPA filters and miscellaneous operating waste.

Comparison to Previous Baseline(s) by Waste Class

K-Basin Operations, 100-K Comparison to Previous Forecasts	FY2003.1 Forecast (m³)	FY2003.0 Forecast (m³)	FY2002.0 Forecast (m³)	FY2001.0 Forecast (m³)
Waste Class				
LLW_I	360	360	210	500
CH_MLLW	10	10	10	40
RH_TRU(M)	130	130	120	120
Total	500	500	340	940

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The K-Basins Operations generator is responsible for all spent nuclear fuel, debris, and sludge from both the K-East and K-West Basins. Besides the K-Basins, this forecast also reflects waste

SWIFT Report – K-Basin Operations, 100-K

generated from the Cold Vacuum Drying (CVD) Facility and the Canister Storage Building (CSB) which were constructed in support of the Spent Nuclear Fuel Project. Both the K-Basins and the CVD will be in operation until 2006, while the CSB is scheduled to operate until 2040.

Forecast Assumptions and Comments

Forecast estimates were based on current operations and anticipated waste quantities. Zone entry debris is assumed to be primarily CH_LLW_I. Oil generated from normal operations at the CSB facility will be CH_MLLW while sludge from the K-East facility is assumed to be RH_TRU(M) waste.

Waste Characteristic Data

The expected physical waste forms and container types of the K-Basins Operations, 100-K's forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

K-Basin Operations, 100-K
LLW Total = 360 m3

Container Distribution

K-Basin Operations, 100-K
LLW Total = 360 m3

MLLW Data

Physical Waste Form Distribution

K-Basin Operations, 100-K
MLLW Total = 10 m3

Hazardous Characteristic Distribution

K-Basin Operations, 100-K
MLLW Total = 10 m3

SWIFT Report – K-Basin Operations, 100-K

Container Distribution

K-Basin Operations, 100-K
MLLV Total = 10 m³

LDR Waste Stream Identification Distribution

K-Basin Operations, 100-K
MLLV Total = 10 m³

TRU(M) Data

Physical Waste Form Distribution

K-Basin Operations, 100-K
TRU(M) Total = 130 m³

Hazardous Characteristic Distribution

K-Basin Operations, 100-K
Total (TRUM only) = 130 m³

Container Distribution

K-Basin Operations, 100-K
TRU(M) Total = 130 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

K-Basin Operations, 100-K Summary Curies	LLW_I	CH_MLLW	RR_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide				
Tritium	1.8E-02	8.1E-04	1.7E-02	3.7E-02
Cobalt 60	4.7E-02	3.6E-03	7.9E-03	5.8E-02
Strontium 90	1.5E-01	1.2E-02	2.5E-02	1.9E-01
Cesium 137	4.5E-01	1.9E-02	2.5E-01	7.1E-01
Uranium 234	9.4E-03	8.0E-04	1.7E-05	1.0E-02
Uranium 235	1.5E-05	1.1E-06	2.5E-06	1.8E-05
Uranium 238	8.9E-05	6.9E-06	1.5E-05	1.1E-04
Plutonium 241	1.1E-01	8.7E-03	1.9E-02	1.4E-01
Plutonium 238, 239, 240	2.8E-02	2.1E-03	4.6E-03	3.4E-02
Americium 241, 243	1.1E-02	8.8E-04	1.9E-03	1.4E-02
Total	8.3E-01	4.8E-02	3.2E-01	1.2E+00
Percent	69%	4%	27%	100%

Other Forecast Data

- **Hazardous Waste**
 - The K-Basins Operations, 100-K forecasts a total of 0.5 m³ of hazardous waste.

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K-Basin Transition

The K-Basin Transition generator has no waste forecasted in this update. Forecasted waste volumes for this generator are included in the [K-Basin Operations, 100-K](#) forecast.

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SWIFT Report – Liquid Effluent Facilities, 300 Area

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Liquid Effluent Facilities, 300 Area

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 4,740 m³, or 82% of the River Corridor waste forecast.
- The forecast life cycle for the Liquid Effluent Facilities, 300 Area ends in 2033.
- Nearly all (99%) of the waste forecasted by the Liquid Effluent Facilities, 300 Area is LLW_I.
- This generator reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast increased 7% from the FY2002.0 forecast of 4,430 m³.

Waste Class Distribution

Liquid Effluent Facilities, 300 Area
Total (excl. HAZ) = 4,740 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Comparison to Previous Baseline(s)

The Liquid Effluent Facilities, 300 Area reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast.

The FY2003.0 forecast increased 7% from the FY2002.0 forecast of 4,430 m³. This slight increase was caused by an extension of the life-cycle from 2030 to 2033. In addition, the small volume of CH_TRU(M) waste in the FY2002.0 forecast was included in the forecast for FY2002 which is not applicable for the FY2003.0 forecast.

The FY2002.0 forecast shows a 5% decrease from the FY2001.0 forecast of 4,640 m³, primarily due to waste worked off during FY2001.

Comparison to Previous Baseline(s) by Waste Class

Liquid Effluent Facilities, 300 Area Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	4,690	4,690	4,390	4,590
CH_MLLW	50	50	40	50
CH_TRU(M)	--	--	0.24	--
Total	4,740	4,740	4,430	4,640

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The mission of the 300 Area Liquid Effluent Facilities (LEF) is to treat and dispose of 300 Area Process Sewer effluent and to collect and transport 300 Area radioactive liquid waste system discharges to the double-shell tanks. The 300 Area Liquid Effluent Facilities include the 307 Basins, the 340 Waste Neutralization Facility, and the 300 Area Treated Effluent Disposal Facility (TEDF).

Wastewaters are received, sampled, treated, and discharged at the 300 Area Treated Effluent Disposal Facility (TEDF). The 340 Waste Neutralization Facility entered deactivation transition in FY99.

Wastes generated by the 300 Area Liquid Effluent Facilities will include miscellaneous debris, personal protective equipment, and cleanout wastes from the 340 Waste Neutralization Facility maintenance and shutdown. Bulk LLW will be generated during wastewater treatment processes at the Treated Effluent Disposal Facility.

Forecast Assumptions and Comments

The forecast is based on a Department of Energy goal to close the 340 Facility by 2005. The data in the forecast is either consistent with funding levels in the Multi-Year Work Plan or is based on historical generation rates and characterization with facility closure planned for 2015. It is assumed that the TEDF continues to operate at the present processing rate and that the 340 Facility surveillance activities will continue and heel removal will occur prior to turnover.

Waste Characteristic Data

The expected physical waste forms and container types of the Liquid Effluent Facilities, 300 Area's forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Liquid Effluent Facilities, 300 Area
LLW Total = 4,690 m³

Container Distribution

Liquid Effluent Facilities, 300 Area
LLW Total = 4,690 m³

MLLW Data

Physical Waste Form Distribution

Liquid Effluent Facilities, 300 Area
MLLW Total = 50 m³

Hazardous Characteristic Distribution

Liquid Effluent Facilities, 300 Area
MLLW Total = 50 m³

Container Distribution

Liquid Effluent Facilities, 300 Area
MLLW Total = 50 m³

LDR Waste Stream Identification Distribution

Liquid Effluent Facilities, 300 Area
MLLW Total = 50 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Liquid Effluent Facilities, 300 Area Summary Curies	LLW_I	CH_MLLW	FY 2003.1 Forecast (curies)
Radionuclide			
Strontium 90	4.8E-02	7.4E-04	4.9E-02
Cesium 137	1.1E-02	4.2E-03	1.5E-02
Uranium 235	1.4E-02	--	1.4E-02
Uranium 238	2.0E-01	--	2.0E-01
Plutonium 241	4.5E-03	1.7E-03	6.3E-03
Plutonium 238, 239, 240	5.2E-04	2.0E-04	7.2E-04
Americium 241, 243	5.2E-03	2.0E-03	7.3E-03
Other	1.5E-01	5.7E-02	2.1E-01
Total	4.3E-01	6.6E-02	5.0E-01
Percent	87%	13%	100%

Other Forecast Data

- **Hazardous Waste**
 - The Liquid Effluent Facilities, 300 Area forecasts a total of 70 m³ of hazardous waste.

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This group contributes 3,030 m³, and represents 7% of the Fluor Hanford forecast.
- The forecast life cycle for the Site Infrastructure group ends in 2046.
- LLW_I is the primary waste class forecast, representing nearly 100% (3,020 m³) of the forecasted waste volume. As shown below, a very small amount of CH_MLLW (10 m³) is also forecasted by this group.
- This generator group reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast shows a less than 1% decrease from the FY2002.0 forecast of 3,050 m³ mostly due to work-off waste in FY2002.

Waste Class Distribution

Generator Distributions

Annual Waste Class Volumes

The Site Infrastructure group will be generating waste through 2046. The forecasted amount of waste is assumed to be constant with slightly less waste forecast in 2003.

Annual Baseline Volumes

Annual Baseline by Waste Class

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Summary Table (Volumes in m³)

(in descending order by total volume)

Site Infrastructure Summary Volumes	LLW_I	CH_MLLW	FY 2003.1 Forecast (m ³)	% of Total
Generators				
Hanford Site Operations (Infrastructure)	3,020	10	3,030	100%
Total	3,020	10	3,030	100%
Percent	100%	< 1%	100%	

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

This generator group reported no significant changes during the mid-year forecast request. Therefore, the FY2003.1 forecast is identical to the FY2003.0 forecast. The FY2003.0 forecast shows a less than 1% decrease from the FY2002.0 forecast of 3,050 m³ mostly due to work-off waste in FY2002.

The FY2002.0 forecast shows a 57% decrease from the FY2001.0 forecast of 7,150 m³ due to a revised estimate of the volume of waste to be generated during tumble weed removal and its disposal.

Comparison to Previous Baseline(s) by Waste Class

Site Infrastructure Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	3,020	3,020	3,040	7,140
CH_MLLW	10	10	10	10
Total	3,030	3,030	3,050	7,150

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Site Infrastructure provides all essential infrastructure service in support of the Hanford Site. The waste generated is often not routine or planned for but usually a result of maintenance or shutdown activities

Forecast Assumptions and Comments

The forecast is based on historical data and FY planning activities.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of the Central Plateau's forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Site Infrastructure
LLW Total = 3,020 m³

Container Distribution

Site Infrastructure
LLW Total = 3,020 m³

MLLW Data

Physical Waste Form Distribution

Site Infrastructure
MLLW Total = 10 m³

Hazardous Characteristic Distribution

Site Infrastructure
MLLW Total = 10 m³

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Container Distribution

Site Infrastructure
MLLV Total = 10 m³

LDR Waste Stream Identification Distribution

Site Infrastructure
MLLV Total = 10 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Site Infrastructure Summary Curies	LLW-I	CH_MLLW	FY 2003.1 Forecast (curies)
Radionuclide			
Cobalt 60	7.3E-03	2.5E-04	7.5E-03
Strontium 90	1.3E-01	5.2E-05	1.3E-01
Technetium 99	3.8E-02	9.2E-03	4.7E-02
Cesium 137	7.8E-02	3.6E-04	7.8E-02
Uranium 234	1.0E-02	2.1E-05	1.0E-02
Uranium 235	4.0E-04	1.7E-05	4.1E-04
Uranium 238	1.2E-02	1.9E-03	1.3E-02
Other	7.7E-03	1.9E-03	9.7E-03
Total	2.8E-01	1.4E-02	3.0E-01
Percent	95%	5%	100%

Other Forecast Data

- Hazardous Waste**

- A life-cycle total of 250 m³ of hazardous waste has been reported by Site Infrastructure.

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Hanford Site Operations

Hanford Site Operations is the only generator within Fluor Hanford's Site Infrastructure group. Information for this generator is found on the [Site Infrastructure](#) page.

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- The life cycle total of LLW, MLLW, and TRU(M) waste expected from the Pacific Northwest National Laboratory is 860 m³, or 2% of the DOE-RL forecast total.
- The forecast life cycle for the Pacific Northwest National Laboratory ends in 2010.
- LLW_I and LLW_III are the primary waste classes forecast, representing 39% (330 m³) and 30% (260 m³) of the Pacific Northwest National Laboratory's waste volume, respectively. As shown in the waste class distribution chart below, CH_MLLW (16% or 140 m³), CH_TRU(M) (8% or 70 m³), and RH_TRU(M) (7% or 60 m³) also represent a significant fraction of the volume forecasted by this program.
- The Pacific Northwest National Laboratory is the only generator in this group.
- The FY2003.1 forecast decreased 12% from the FY2003.0 forecast of 970 m³. The decrease reflects a change in work scope and reduction in the Legacy Waste Program.

Waste Class Distribution

Pacific Northwest National Laboratory
Total (excl. HAZ) = 860 m³

Generator Distributions

Pacific Northwest National Laboratory
Total (excl. HAZ) = 860 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual MLLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Summary Table (Volumes in m³)

(in descending order by total volume)

Pacific Northwest National Laboratory Summary Volumes								
Generators	LLW_I	LLW_III	CH_MLLW	RH_MLLW	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (m³)	% of Total
Pacific Northwest National Laboratory (PNNL)	330	260	140	4	70	60	860	100%
Total	330	260	140	4	70	60	860	100%
Percent	39%	30%	16%	< 1%	8%	7%	100%	

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast decreased 12% from the FY2003.0 forecast of 970 m³. The decrease reflects a change in work scope and reduction in the Legacy Waste Program.

The FY2003.0 forecast showed a 20% increase from the FY2002.0 forecast. The decrease in volumes for mixed and transuranic waste were partially attributed to "work-off" waste in FY2002. Other changes reflect changes in work scope and better information about potential clean-out projects.

The FY2002.0 forecast showed a 50% increase from the FY2001.0 forecast of 540 m³ due to better information about potential clean-out projects. In addition the manner in which contact handled and remote handled waste is reported changed resulting in either new or increased volumes for remote handled waste streams.

Comparison to Previous Baseline(s) by Waste Class

Pacific Northwest National Laboratory Comparison to Previous Forecasts	FY2003.1 Forecast (m³)	FY2003.0 Forecast (m³)	FY2002.0 Forecast (m³)	FY2001.0 Forecast (m³)
Waste Class				
LLW_I	330	400	220	240
LLW_III	260	270	230	90
CH_MLLW	140	150	160	170
RH_MLLW	4	4	5	--
CH_TRU(M)	70	80	90	30
RH_TRU(M)	60	60	100	10
Total	860	970	810	540

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The Pacific Northwest National Laboratory (PNNL) is a national research laboratory that conducts research for the Department of Energy, other government agencies, and private industry to solve problems of national importance. Solid waste is generated on an ongoing basis during research and decontamination activities. Operational and clean-out waste generated prior to transitioning facilities from PNNL are included.

Forecast Assumptions and Comments

This forecast was based on historical generation rates including FY2002 shipping volumes and waste types, as well as projections from legacy waste clean up projects, and waste currently in storage areas being prepared for shipment. The waste types and volumes generated during this time period are fairly representative of PNNL's current projected generation rates.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification distribution of the Pacific Northwest National Laboratory's forecasted wastes are described in the following charts.

SWIFT Report – Pacific Northwest National Laboratory

LLW Data

Physical Waste Form Distribution

Pacific Northwest National Laboratory
LLW Total = 590 m3

Container Distribution

Pacific Northwest National Laboratory
LLW Total = 590 m3

MLLW Data

Physical Waste Form Distribution

Pacific Northwest National Laboratory
MLLW Total = 150 m3

Hazardous Characteristic Distribution

Pacific Northwest National Laboratory
MLLW Total = 150 m3

Container Distribution

Pacific Northwest National Laboratory
MLLW Total = 150 m3

LDR Waste Stream Identification Distribution

Pacific Northwest National Laboratory
MLLW Total = 150 m3

SWIFT Report – Pacific Northwest National Laboratory

TRU(M) Data

Physical Waste Form Distribution

Pacific Northwest National Laboratory
TRU(M) Total = 130 m3

Hazardous Characteristic Distribution

Pacific Northwest National Laboratory
Total (TRUM only) = 50 m3

Container Distribution

Pacific Northwest National Laboratory
TRU(M) Total = 130 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Pacific Northwest National Laboratory Summary Curies	LLV_I	LLV_III	CH_MLW	RI_MLW	CH_TRU(M)	RI_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide							
Tritium	1.7E-01	1.3E-01	4.7E-02	2.1E-03	--	--	3.4E-01
Carbon 14	1.3E-01	1.0E-01	3.8E-02	1.6E-03	--	--	2.7E-01
Strontium 90	1.3E-02	1.0E-02	3.8E-03	1.6E-04	--	--	2.7E-02
Iodine 129	9.9E-03	7.7E-03	1.6E-03	--	--	--	1.9E-02
Cesium 137	2.0E-02	1.5E-02	5.7E-03	2.5E-04	--	--	4.1E-02
Plutonium 238, 239, 240	1.3E-02	1.0E-02	3.8E-03	1.6E-04	7.1E+01	5.6E+01	1.3E+02
Americium 241, 243	--	7.1E-03	--	--	--	--	7.1E-03
Total	3.5E-01	2.8E-01	1.1E-01	4.3E-03	7.1E+01	5.6E+01	1.3E+02
Percent	< 1%	< 1%	< 1%	< 1%	55%	44%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by Pacific Northwest National Laboratory.

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Pacific Northwest National Laboratory

Pacific Northwest National Laboratory (PNNL) is the only generator within the Pacific Northwest National Laboratory group. Information for this generator is found on the [Pacific Northwest National Laboratory](#) group page.

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- The life-cycle total of LLW, MLLW, and TRU(M) waste expected from the Offsite waste generators is 33,060 m³, or 18% of the FY2003.1 forecast total.
- The forecast life cycle for Offsite waste generators extends through 2046.
- LLW_I is the primary waste forecast, representing 90% (29,760 m³) of the waste volume, other wastes forecasted are shown below.
- The Brookhaven National Laboratory and Argonne National Laboratory-East are the largest sources of waste, representing 51% (16,730 m³) and 28% (9,320 m³) respectively of the Offsite forecast total.
- The FY2003.1 forecast for Offsite generators increased 9% from the FY2003.0 forecast. One new generator is reporting within this group (Bettis Atomic Power Laboratory - Idaho) and one generator is no longer forecasting waste (Portsmouth Energy Systems).

Waste Class Distribution

Offsite
Total (excl. HAZ) = 33,060 m³

Generator Distributions

Offsite
Total (excl. HAZ) = 33,060 m³

Annual Waste Class Volumes

Offsite generators will be generating waste at a relatively constant rate through 2046. The slightly higher volumes forecast in the first few years result from site closure activities. After this, wastes result from ongoing research and operations.

Annual Baseline Volumes

Annual Baseline by Waste Class

Annual LLW Baseline Volumes

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Annual TRU(M) Waste Baseline Volumes

Summary Table (Volumes in m³)

(in descending order by total volume)

Offsite Summary Volumes Generators	LLW_I	LLW_III	LLW_GTCIII	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (m³)	% of Total
Brookhaven National Laboratory	16,710	20	--	--	--	16,730	51%
Argonne National Laboratory-East	8,530	790	--	--	--	9,320	28%
Fermi National Accelerator Laboratory	1,590	--	--	--	--	1,590	5%
Idaho Nat. Engineering and Environmental Lab.	--	1,400	--	--	--	1,400	4%
Princeton Plasma Physics Lab	1,250	--	--	--	--	1,250	4%
Stanford Linear Accelerator Center	1,010	--	--	--	--	1,010	3%
Knolls Atomic Power-Shipyards	420	230	--	--	--	640	2%
Knolls Atomic Power Laboratory - Tennessee	--	520	--	--	--	520	2%
Battelle Columbus Laboratories	10	130	--	20	30	190	< 1%
Bettis Atomic Power Laboratory - Idaho	--	130	20	--	--	150	< 1%
Ames Laboratory-Ames, Iowa	110	--	--	--	--	110	< 1%
Lawrence Berkeley Laboratory	80	1	1	--	--	80	< 1%
Energy Technology Engineering Center (ETEC)	60	--	--	3	2	60	< 1%
Bates Accelerator-Massachusetts	10	--	--	--	--	10	< 1%
Bettis Atomic Power-Laboratory	--	8	--	--	--	8	< 1%
Bettis Atomic Power-Shipyards	1	--	--	--	--	1	< 1%
Rocky Flats	--	--	--	--	--	--	--
Total	29,760	3,220	20	20	30	33,060	100%
Percent	90%	10%	< 1%	< 1%	< 1%	100%	

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast for Offsite generators increased 9% from the FY2003.0 forecast. The increase in LLW_I is due primarily to increases in the forecast for Brookhaven National Laboratory while the increase in LLW_III is primarily due to INEEL. No MLLW is forecast in the baseline for offsite generators. One new generator is reporting within this group (Bettis Atomic

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Power Laboratory - Idaho) and one generator is no longer forecasting waste (Portsmouth Energy Systems).

The FY2003.0 forecast for Offsite generators increased 9% from the FY2002.0 forecast of 27,740 m³. The increase is due primarily to increases in the forecasts for Brookhaven National Laboratory, INEEL, and KAPL Tennessee balanced by decreases in the forecasts for the Energy Technology and Engineering Center, Princeton Plasma Physics Laboratory, and Argonne National Laboratory East. In addition, Parks Township no longer expects to ship waste to the Hanford site.

The FY2002.0 forecast showed an 8% decrease from the FY2001.0 forecast of 30,090 m³ due primarily to the work off of waste during FY2001.

Comparison to Previous Baseline(s) by Waste Class

Offsite Comparison to Previous Forecasts Waste Class	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
LLW_I	29,760	27,850	26,080	27,320
LLW_III	3,220	2,370	1,550	2,700
LLW_GTCIII	20	--	--	--
CH_MLLW	--	30	60	40
CH_TRU(M)	20	5	7	5
RH_TRU(M)	30	30	50	40
Total	33,060	30,290	27,740	30,090

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The missions for Offsite waste generators include general maintenance and operations, environmental restoration, D&D, and research and development. Currently, there are 18 Offsite waste generators. Due to moratoriums placed on MLLW and TRU(M) waste, very little of this waste is included in the baseline forecast.

Forecast Assumptions and Comments

The most common assumptions among Offsite generators are that funding levels will remain as expected and the status for shipping waste to Hanford will not change. The majority of Offsite generators only include LLW in their forecast due to uncertainties surrounding acceptance of MLLW and TRU(M) waste at Hanford. As a result, some generators have included these wastes in their maximum estimates.

Waste Characteristic Data

The expected physical waste forms, hazardous characteristics, container types, and LDR waste stream identification of Offsite generators' forecasted wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Offsite
LLW Total = 33,000 m³

Container Distribution

Offsite
LLW Total = 33,000 m³

TRU(M) Data

Physical Waste Form Distribution

Offsite
TRU(M) Total = 60 m³

Hazardous Characteristic Distribution

Offsite
Total (TRUM only) = 6 m³

Container Distribution

Offsite
TRU(M) Total = 60 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Offsite Summary Curies	LLW_I	LLW_III	LLW_GTCIII	CH_TRU(M)	RH_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide						
Tritium	2.5E+05	4.2E+02	2.7E+02	--	--	2.5E+05
Carbon 14	2.8E+00	2.6E+02	2.4E+02	--	--	5.0E+02
Phosphorus 32	8.2E-01	--	--	--	--	8.2E-01
Sulfur 35	5.4E-01	--	--	--	--	5.4E-01
Cobalt 60	4.0E+04	2.4E+06	2.3E+06	--	4.3E+02	4.7E+06
Selenium 79	2.0E-05	7.3E-04	--	--	--	7.5E-04
Strontium 90	3.8E+01	3.9E+01	3.6E+00	8.3E-02	2.1E+00	8.2E+01
Technetium 99	4.0E-01	3.0E-01	1.0E-01	--	--	8.0E-01
Iodine 129	2.6E-05	5.5E-07	--	--	--	2.6E-05
Cesium 137	2.4E+01	4.2E+01	5.2E+00	1.2E-01	7.4E+01	1.5E+02
Radium 226	3.7E-01	2.6E-06	1.3E+00	--	--	1.7E+00
Uranium 233	3.9E-03	4.1E+00	--	--	--	4.1E+00
Uranium 234	1.6E-01	5.1E-01	1.2E-04	2.0E-04	4.0E-03	6.7E-01
Uranium 235	1.2E+01	4.7E-02	5.1E-07	8.6E-08	1.6E-04	1.2E+01
Uranium 238	2.9E-01	3.8E+00	3.1E-05	1.7E-05	2.9E-04	3.9E+00
Neptunium 237	9.5E-02	2.4E-06	--	--	--	9.5E-02
Plutonium 238	--	1.5E-01	1.0E-01	--	--	2.5E-01
Plutonium 239	--	3.5E-01	4.5E-02	--	--	4.0E-01
Plutonium 240	--	2.3E-01	4.2E-02	--	--	2.7E-01
Plutonium 241	7.8E+00	4.7E+01	3.8E+00	6.5E+00	9.4E-02	6.5E+01
Plutonium 238, 239, 240	2.2E+00	2.8E+01	--	1.3E+01	1.2E+02	1.6E+02
Americium 241	--	2.4E-01	2.2E-03	--	--	2.4E-01
Americium 241, 243	1.6E+00	6.5E+00	--	8.6E-01	1.3E+02	1.3E+02
Other	1.2E+03	2.6E+06	4.0E+06	--	--	6.6E+06
Total	2.9E+05	5.0E+06	6.3E+06	2.1E+01	7.5E+02	1.2E+07
Percent	3%	43%	55%	< 1%	< 1%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste is forecasted by Offsite generators.

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Ames Laboratory-Ames, Iowa

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 110 m³, or <1% of Offsite's waste forecast.
- The forecast life cycle for the Ames Laboratory ends in 2046.
- LLW_I is the only waste class forecast.
- The FY2003.1 forecast shows no change from the FY2003.0 forecast of 110 m³.

Waste Class Distribution

Ames Laboratory-Ames, Iowa
Total (excl. HAZ) = 110 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows no change from the FY2003.0 forecast.

The FY2003.0 forecast shows a 5% decrease from the FY2002.0 forecast due to the elimination of the year 2002 waste projections.

The FY2002.0 forecast showed a similar decrease from the FY2001.0 forecast for the same reason.

Comparison to Previous Baseline(s) by Waste Class

Ames Laboratory-Ames, Iowa Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	110	110	110	120
Total	110	110	110	120

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Ames Laboratory conducts fundamental research, which underlies energy resources, environmental technology development and other technical areas essential to national needs. Much of the LLW generated at the Lab is from legacy contamination.

Forecast Assumptions and Comments

Volumes are based on current activities at the Laboratory and the availability of funding for renovation activities in contaminated buildings.

Radionuclides within the 'Other' category include: Thorium-232, Thorium-228, Thorium-230, and Thorium-234.

Waste Class Data

The expected physical waste forms and container types for forecasted waste classes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Ames Laboratory-Ames, Iowa
LLW Total = 110 m³

Container Distribution

Ames Laboratory-Ames, Iowa
LLW Total = 110 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Ames Laboratory-Ames, Iowa Summary Curies	LLW_I	FY 2003.0 Forecast (curies)
Radionuclide		
Other	4.3E-03	4.3E-03
Total	4.3E-03	4.3E-03
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by this generator.

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Argonne National Laboratory-East

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- Argonne National Laboratory - East accounts for 28% of Offsite's waste forecast, contributing 9,320 m³.
- The forecast life cycle for the Argonne National Laboratory - East ends in 2046.
- LLW_I and LLW_III are the only waste classes forecast. LLW_I accounts for 92% (8,530 m³) of the total forecast.
- The FY2003.1 forecast shows a 1% decrease from the FY2003.0 forecast of 9,410 m³.

Waste Class Distribution

Argonne National Laboratory-East
Total (excl. HAZ) = 9,320 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 1% decrease from the FY2003.0 forecast due to updated forecast estimates.

The FY2003.0 forecast shows a 5% decrease from the FY2002.0 forecast due to the elimination of the year 2002 waste projections.

The FY2002.0 forecast showed a similar decrease from the FY2001.0 forecast for the same reason.

Comparison to Previous Baseline(s) by Waste Class

Argonne National Laboratory-East Comparison to Previous Forecasts	FY2003.1 Forecast (m³)	FY2003.0 Forecast (m³)	FY2002.0 Forecast (m³)	FY2001.0 Forecast (m³)
Waste Class				
LLW_I	8,530	8,600	9,060	9,420
LLW_III	790	810	850	860
Total	9,320	9,410	9,910	10,280

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Argonne National Laboratory - East is one of the U.S. Department of Energy's largest research centers. Argonne's research falls into four broad categories: (1) Basic Science, (2) Scientific Facilities, (3) Energy Resources, and (4) Environmental Management. Most of Argonne's waste is from bench-scale research.

Forecast Assumptions and Comments

This forecast is consistent with historical generation rates. Assumptions include that current and future funding will be available and that research and cleanup activities will continue in a manner similar to past practices.

Waste Class Data

The expected physical waste forms and container types for forecasted waste classes are described in the following charts.

SWIFT Report – Argonne National Laboratory-East

LLW Data

Physical Waste Form Distribution

Argonne National Laboratory-East
LLW Total = 9,320 m³

Container Distribution

Argonne National Laboratory-East
LLW Total = 9,320 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Argonne National Laboratory-East Summary Curies	LLW_I	LLW_III	FY 2003.1 Forecast (curies)
Radionuclide			
Tritium	3.5E-02	3.2E-03	3.9E-02
Carbon 14	2.3E+00	2.0E-01	2.5E+00
Cobalt 60	2.0E+00	--	2.0E+00
Selenium 79	3.5E-11	3.1E-12	3.8E-11
Strontium 90	8.5E-01	7.7E-02	9.3E-01
Technetium 99	3.6E-01	3.3E-02	4.0E-01
Cesium 137	4.1E+00	3.7E-01	4.5E+00
Radium 226	2.9E-05	2.6E-06	3.2E-05
Uranium 233	3.9E-03	--	3.9E-03
Uranium 234	1.5E-01	--	1.5E-01
Uranium 235	2.0E-03	--	2.0E-03
Uranium 238	2.4E-01	--	2.4E-01
Neptunium 237	9.5E-02	--	9.5E-02
Plutonium 241	7.8E+00	--	7.8E+00
Plutonium 238, 239, 240	1.4E+00	1.2E-01	1.5E+00
Americium 241, 243	1.2E-01	1.1E-02	1.3E-01
Other	1.0E-02	--	1.0E-02
Total	1.9E+01	8.2E-01	2.0E+01
Percent	96%	4%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by this generator.

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Bates Accelerator-Massachusetts

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 10 m³, or <1% of Offsite's waste forecast.
- The forecast life cycle for the Bates Accelerator-Massachusetts ends in 2045.
- LLW_I is the only waste class forecast.
- The FY2003.1 forecast shows no change from the FY2003.0 forecast.

Waste Class Distribution

Bates Accelerator-Massachusetts
Total (excl. HAZ) = 10 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows no volume change from the FY2003.0 forecast.

The FY2003.0 forecast shows little appreciable volume change from the FY2002.0 forecast. A 2% reduction is due to the elimination of the year 2002 waste projections.

The FY2002.0 forecast showed no volume change from the FY2001.0 forecast.

SWIFT Report – Bates Accelerator-Massachusetts

Comparison to Previous Baseline(s) by Waste Class

Bates Accelerator-Massachusetts Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	10	10	10	10
Total	10	10	10	10

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Bates Linear Accelerator is a high energy electron facility with a principle focus on electron scattering. The generated waste will be limited to class CH_LLW_I and consist of resin used in the cooling water purification system.

Forecast Assumptions and Comments

This forecast is based on waste generated from existing operations. It is assumed that the accelerator will continue to operate at existing levels.

Waste Class Data

The expected physical waste forms and container types for forecasted waste classes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Bates Accelerator-Massachusetts
LLW Total = 10 m³

Container Distribution

Bates Accelerator-Massachusetts
LLW Total = 10 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Bates Accelerator-Massachusetts Summary Curies			
Radionuclide		LLW_I	FY 2003.1 Forecast (curies)
Cobalt 60		1.1E-03	1.1E-03
Total		1.1E-03	1.1E-03
Percent		100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by this generator.

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Battelle Columbus Laboratories

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 190 m³, or <1% of Offsite's waste forecast.
- The forecast life cycle for Battelle Columbus Laboratories ends in 2006.
- LLW_III is the primary waste class forecasted, representing 67% of the total forecast. As shown below, RH_TRU(M) waste, CH_TRU(M), and LLW_I waste are also forecast.
- The FY2003.1 forecast shows a 4% decrease from the FY2003.0 forecast of 200 m³.

Waste Class Distribution

Battelle Columbus Laboratories
Total (excl. HAZ) = 190 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 4% decrease from the FY2003.0 forecast. Most of the change can be attributed to the moving of the forecasted MLLW from the baseline to the maximum case.

The FY2003.0 forecast shows a 26% decrease from the FY2002.0 forecast of 270 m³ due to continued re-baselining of the Battelle Columbus Remediation Project as well as work off of waste forecasted for shipment in FY2002.

The FY2002.0 forecast showed a 75% decrease from the FY2001.0 forecast of 1,110 m³ due to the re-baselining of the Battelle Columbus Remediation Project which greatly reduced the amount of LLW forecasted.

Comparison to Previous Baseline(s) by Waste Class

Battelle Columbus Laboratories Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	10	20	30	410
LLW_III	130	120	170	670
CH_MLLW	--	30	40	6
CH_TRU(M)	20	2	2	--
RH_TRU(M)	30	30	30	20
Total	190	200	270	1,110

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Battelle Columbus Laboratories is a nonprofit research and development corporation that began operations in 1929. Waste designated for Hanford originates from decontamination and decommissioning of facilities that were used to perform DOE and commercial nuclear research.

Forecast Assumptions and Comments

This forecast is consistent with the Draft Baseline for the BCLDP submitted to DOE on June 26, 2002. It is assumed that full funding will be provided by DOE to decontaminate and decommission the former nuclear sciences area at the West Jefferson, Ohio site with completion by 2006.

LLW_I will be generated from removal of material and equipment from baseline areas, removal of building structures and soil, and will include secondary waste generated from these activities such as plastic, HEPA filters, rubber gloves and herculite. LLW_III will be generated from the same activities as LLW_I but from areas with higher contamination levels as in the case of the

SWIFT Report – Battelle Columbus Laboratories

JN-1 Hot Cells. CH_TRU(M) and RH_TRU(M) waste will be generated from removal of waste from a hot cell facility.

Final characterization may change volumes/category of the CH_TRU waste stream.

RH_TRU(M) volumes are based on waste designations according to the drafted WIPP RH-TRU waste acceptance criteria, Ohio RCRA and WAC 173-303.

It is assumed that the September 6, 2002 amendment to the TRU Record of Decision will be honored to facilitate in-bound shipment of TRU waste for interim storage at Hanford.

Waste Class Data

The expected physical waste forms, hazardous characteristics, and container types of Battelle Columbus' forecast wastes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Battelle Columbus Laboratories
LLW Total = 140 m3

Container Distribution

Battelle Columbus Laboratories
LLW Total = 140 m3

TRU(M) Data

Physical Waste Form Distribution

Battelle Columbus Laboratories
TRU(M) Total = 50 m3

Hazardous Characteristic Distribution

Battelle Columbus Laboratories
Total (TRUM only) = 0.72 m3

SWIFT Report – Battelle Columbus Laboratories

Container Distribution

Battelle Columbus Laboratories
TRU(M) Total = 50 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Battelle Columbus Laboratories Summary Curies	LLW_I	LLW_III	CN_TRU(M)	RR_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide					
Cobalt 60	1.8E-07	1.4E-01	--	4.3E+02	4.3E+02
Strontium 90	--	2.3E+00	--	--	2.3E+00
Cesium 137	2.1E-07	4.9E+00	--	7.2E+01	7.7E+01
Plutonium 241	--	5.4E-05	--	--	5.4E-05
Plutonium 238, 239,240	--	3.8E-01	1.0E+02	1.2E+02	2.2E+02
Americium 241,243	2.0E-07	2.2E-02	--	1.3E+02	1.3E+02
Total	5.9E-07	7.8E+00	1.E+02	7.5E+02	8.6E+02
Percent	< 1%	< 1%	12%	87%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by this generator.

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Bettis Atomic Power Laboratory - Idaho

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 150 m³, or <1% of Offsite's waste forecast.
- Bettis Atomic Power Laboratory - Idaho expects to ship waste starting in 2007 through 2046.
- This generator forecasts both LLW_III and LLW_GTCIII waste.
- The FY2003.1 forecast is the first time this generator has forecasted waste.

Waste Class Distribution

Bettis Atomic Power Laboratory - Idaho
Total (excl. HAZ) = 150 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast is the first time this generator has forecasted waste.

Comparison to Previous Baseline(s) by Waste Class

Bettis Atomic Power Laboratory - Idaho Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_III	130	--	--	--
LLW_GTCIII	20	--	--	--
Total	150	--	--	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The mission of the Bettis Atomic Power Laboratory is to support submarine and surface ship reactor defueling operations. LLW is generated as a result of this mission.

Forecast Assumptions and Comments

Radionuclides within the 'Other' category include: Mn-54, Fe-55, Ni-63, Nb-94, U-236, and Cm244.

Waste Class Data

The expected physical waste forms and container types for forecasted waste classes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Bettis Atomic Power Laboratory - Idaho
LLW Total = 150 m3

Container Distribution

Bettis Atomic Power Laboratory - Idaho
LLW Total = 150 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Bettis Atomic Power Laboratory - Idaho			
Summary Curies	LLW_HH	LLW_GCHH	FY 2003.1 Forecast (curies)
Radionuclide			
Tritium	2.8E+02	2.7E+02	5.4E+02
Carbon 14	1.8E+02	2.4E+02	4.2E+02
Cobalt 60	2.1E+06	2.3E+06	4.4E+06
Strontium 90	8.3E+00	3.6E+00	1.2E+01
Technetium 99	1.2E-01	1.0E-01	2.2E-01
Cesium 137	1.6E+01	5.2E+00	2.1E+01
Uranium 234	2.4E-04	1.2E-04	3.6E-04
Uranium 235	6.9E-06	5.1E-07	7.4E-06
Uranium 238	2.6E-04	3.1E-05	2.9E-04
Plutonium 238	1.5E-01	1.0E-01	2.5E-01
Plutonium 239	3.5E-01	4.5E-02	4.0E-01
Plutonium 240	2.3E-01	4.2E-02	2.7E-01
Plutonium 241	1.9E+01	3.8E+00	2.2E+01
Americium 241	2.4E-01	2.2E-03	2.4E-01
Other	2.6E+06	4.0E+06	6.6E+06
Total	4.7E+06	6.3E+06	1.1E+07
Percent	42%	58%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by this generator.

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- Bettis Atomic Power-Laboratory accounts for <1% of Offsite's waste forecast, contributing 8 m³.
- The forecast life cycle for the Bettis Atomic Power-Laboratory ends in 2008.
- LLW_III is the only waste class forecast.
- The FY2003.1 forecast shows a 40% decrease from the FY2003.0 forecast.

Waste Class Distribution

Bettis Atomic Power-Laboratory
Total (excl. HAZ) = 10 m3

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 40% decrease from the FY2003.0 forecast due to the shipment of previously forecasted waste to an alternate disposal site that is closer to the Bettis site.

The FY2003.0 forecast shows a 36% decrease from the FY2002.0 forecast due to the elimination of the year 2002 waste projections and the use of an alternate disposal site in closer proximity to the Bettis site.

The FY2002.0 forecast showed a 98% decrease from the FY2001.0 forecast of 1,010m³ because most of the contaminated waste from the L-Building will be shipped to the alternate disposal site.

Comparison to Previous Baseline(s) by Waste Class

Bettis Atomic Power-Laboratory Comparison to Previous Forecasts	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class			
LLW_III	10	20	1,010
CH_MLLW	--	--	0.26
Total	10	20	1,010

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The Bettis Atomic Power-Laboratory is operated by the U.S. Department of Energy and is engaged solely in the design and development of naval nuclear propulsion plants. Wastes designated to Hanford are generated from decontamination and decommission of the L-Building.

Forecast Assumptions and Comments

Removal of the L-Building inactive fuel processing equipment is expected to be completed by 2008.

'Other' radionuclide explanation/description: Uranium 232 and daughters, Thorium 232 and daughters, Uranium 233 daughters.

Waste Class Data

The expected physical waste forms and container types for forecasted waste classes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Bettis Atomic Power-Laboratory
LLW Total = 10 m³

Container Distribution

Bettis Atomic Power-Laboratory
LLW Total = 10 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Bettis Atomic Power-Laboratory Summary Curies		
Radionuclide	LLW_III	FY 2003.1 Forecast (curies)
Uranium 233	6.9E+00	6.9E+00
Uranium 234	5.8E-02	5.8E-02
Uranium 235	3.3E-07	3.3E-07
Other	1.5E-01	1.5E-01
Total	7.1E+00	7.1E+00
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by this generator.

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Bettis Atomic Power-Shipyards

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 1 m³, or <1% of Offsite's waste forecast.
- Bettis Atomic Power-Shipyards expects to ship waste only in the year 2012.
- LLW_I is the only waste class forecast.
- The FY2003.1 forecast shows no change from the FY2003.0 forecast.

Waste Class Distribution

Bettis Atomic Power-Shipyards
Total (excl. HAZ) = 1 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

Waste forecasts since FY2001.0 have not changed.

SWIFT Report – Bettis Atomic Power - Shipyards

Comparison to Previous Baseline(s) by Waste Class

Bettis Atomic Power-Shipyards Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	1	1	1	1
Total	1	1	1	1

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The mission of the Bettis Atomic Power-Shipyards is to support submarine and surface ship reactor defueling operations. LLW is generated as a result of this mission.

Forecast Assumptions and Comments

It is assumed that reactor components removed during refueling/defueling/deactivation operations will generate LLW_I debris.

Waste Class Data

The expected physical waste forms and container types for forecasted waste classes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Bettis Atomic Power-Shipyards
LLW Total = 1 m3

Container Distribution

Bettis Atomic Power-Shipyards
LLW Total = 1 m3

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Bettis Atomic Power-Shipyards Summary Curies		
Radionuclide	LLW_I	FY 2003.1 Forecast (curies)
Tritium	3.3E-04	3.3E-04
Carbon 14	1.1E-04	1.1E-04
Selenium 79	1.6E-11	1.6E-11
Strontium 90	4.3E-06	4.3E-06
Technetium 99	1.1E-07	1.1E-07
Iodine 129	4.4E-10	4.4E-10
Cesium 137	4.3E-06	4.3E-06
Neptunium 237	3.3E-13	3.3E-13
Plutonium 238, 239, 240	1.1E-06	1.1E-06
Americium 241, 243	3.8E-08	3.8E-08
Total	4.5E-04	4.5E-04
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by this generator.

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Brookhaven National Laboratory

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- Brookhaven contributes 16,730 m³, or 50% of Offsite's waste forecast.
- The forecast life cycle for the Brookhaven National Laboratory ends in 2046.
- LLW_I and LLW_III are the only waste classes forecast, with almost the entire amount being LLW_I.
- The FY2003.1 forecast shows a 19% increase from the FY2003.0 forecast of 14,110 m³.

Waste Class Distribution

Brookhaven National Laboratory
Total (excl. HAZ) = 16,730 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 19% increase from the FY2003.0 forecast due to the solidification of liquids in drums instead of 15,000 gallons being shipped to a non-DOE facility. Shipment of self-packaged items to Hanford instead of being shipped to a non-DOE facility is also being considered

The increase in projections for the FY2003.0 and the FY2002.0 forecast are also due to the inclusion of solidified liquids and self-packaged items in the forecast.

Comparison to Previous Baseline(s) by Waste Class

Brookhaven National Laboratory Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	16,710	14,050	9,390	8,590
LLW_III	20	60	--	--
Total	16,730	14,110	9,390	8,590

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Brookhaven's current mission is to conceive, design, construct, and operate research facilities for fundamental scientific studies and to carry out both basic and applied research in the physical, biomedical, and environmental sciences. Wastes are generated from the construction, operation, and dismantling of these facilities.

Forecast Assumptions and Comments

Waste quantity projections assume that Brookhaven will continue to operate under its current mission and that proposed funding levels remain unchanged.

A new waste stream for Hanford is the Solidified Aqueous Waste which has been included in with the B-25 total volume.

Waste Class Data

The expected physical waste forms and container types for forecasted waste classes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Brookhaven National Laboratory
LLW Total = 16,730 m³

Container Distribution

Brookhaven National Laboratory
LLW Total = 16,730 m³

SWIFT Report – Brookhaven National Laboratory

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Brookhaven National Laboratory Summary Curies	LLW_I	LLW_III	FY 2003.1 Forecast (curies)
Radionuclide			
Tritium	4.5E+02	--	4.5E+02
Carbon 14	2.7E-01	--	2.7E-01
Phosphorus 32	8.2E-01	--	8.2E-01
Sulfur 35	5.4E-01	--	5.4E-01
Cobalt 60	4.0E+04	1.7E+01	4.0E+04
Strontium 90	3.7E+01	1.7E+01	5.4E+01
Technetium 99	3.3E-02	--	3.3E-02
Iodine 129	2.5E-05	--	2.5E-05
Cesium 137	2.0E+01	1.7E+01	3.7E+01
Radium 226	3.7E-01	--	3.7E-01
Uranium 234	9.1E-03	--	9.1E-03
Uranium 235	1.2E+01	--	1.2E+01
Uranium 238	4.5E-02	--	4.5E-02
Plutonium 238, 239, 240	8.2E-01	--	8.2E-01
Americium 241, 243	1.5E+00	--	1.5E+00
Other	2.5E+02	--	2.5E+02
Total	4.1E+04	5.1E+01	4.1E+04
Percent	100%	< 1%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by this generator.

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 60 m³, or <1% of the waste forecasted by offsite generators.
- The forecast life cycle for the Energy Technology Engineering Center (ETEC) ends in 2003; previous forecasts extended through 2006.
- LLW_I (92%) is the primary waste class forecast. Small amounts of CH_TRU(M) waste and RH_TRU(M) waste have also been forecasted by this generator.
- The FY2003.1 forecast shows an 80% decrease from the FY2003.0 forecast of 310 m³.

Waste Class Distribution

Energy Technology Engineering Center (ETEC)
Total [excl. HAZ] = 60 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Annual TRU(M) Waste Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows an 80% decrease from the FY2003.0 forecast of 310 m³ primarily due to the shortening of the life-cycle by three years.

The FY2003.0 forecast showed an 80% decrease from the FY2002.0 forecast of 1,530 m³.

The FY2002.0 forecast did not change from the FY2001.0 forecast.

Comparison to Previous Baseline(s) by Waste Class

Energy Technology Engineering Center (ETEC) Comparison to Previous Forecasts	FY2003.1 Forecast (m³)	FY2003.0 Forecast (m³)	FY2002.0 Forecast (m³)	FY2001.0 Forecast (m³)
Waste Class				
LLW_I	60	300	1,510	1,510
CH_TRU(M)	3	3	3	3
RH_TRU(M)	2	2	10	10
Total	60	310	1,530	1,530

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The Energy Technology Engineering Center was used for manufacturing, research and development, engineering, and testing in a broad range of technical fields, particularly nuclear reactor technology for the U.S. Department of Energy. This work ended in 1987 and subsequent efforts have been directed toward decontamination and decommissioning of the former nuclear facilities.

Forecast Assumptions and Comments

ETEC's forecast is based on the current estimate for waste generation for the schedule provided in the "ETEC - 2006 Plan - Final Closure" submitted to DOE for approval.

Waste Class Data

The expected physical waste forms, hazardous characteristic distribution, and container types for forecasted waste classes are described in the following charts.

SWIFT Report – Energy Technology Engineering Center (ETEC)

LLW Data

Physical Waste Form Distribution

Energy Technology Engineering Center (ETEC)
LLW Total = 60 m³

Container Distribution

Energy Technology Engineering Center (ETEC)
LLW Total = 60 m³

TRU(M) Data

Physical Waste Form Distribution

Energy Technology Engineering Center (ETEC)
TRU(M) Total = 5 m³

Hazardous Characteristic Distribution

Energy Technology Engineering Center (ETEC)
Total (TRUM only) = 5 m³

Container Distribution

Energy Technology Engineering Center (ETEC)
TRU(M) Total = 5 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³; numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Energy Technology Engineering Center (ETEC) Summary Curies	LLW_I	CH_TRU(M)	HL_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide				
Tritium	2.8E-06	--	--	2.8E-06
Cobalt 60	7.5E-06	--	2.2E-01	2.2E-01
Strontium 90	--	8.3E-02	2.1E+00	2.2E+00
Cesium 137	--	1.2E-01	2.1E+00	2.3E+00
Uranium 234	--	2.0E-04	4.0E-03	4.2E-03
Uranium 235	--	8.6E-08	1.6E-04	1.6E-04
Uranium 238	--	1.7E-05	2.9E-04	3.1E-04
Plutonium 241	--	6.5E+00	9.4E-02	6.6E+00
Plutonium 238, 239, 240	--	1.1E+00	1.3E-01	1.3E+00
Americium 241, 243	--	8.6E-01	1.5E-02	8.8E-01
Other	3.1E-05	--	--	3.1E-05
Total	4.1E-05	8.7E+00	4.7E+00	1.3E+01
Percent	< 1%	65%	35%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been forecasted by this generator.

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Fermi National Accelerator Laboratory

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 1,590 m³, or 5% of Offsite's waste forecast.
- The forecast life cycle for the Fermi National Accelerator Laboratory ends in 2027.
- LLW_I is the only waste class forecast.
- The FY2003.1 forecast shows no change from the FY2003.0 forecast.

Waste Class Distribution

Fermi National Accelerator Laboratory
Total (excl. HAZ) = 1,590 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows no change from the FY2003.0 forecast.

The projected waste volume for FY2003.0 was increased by approximately 39 cubic meters to include material declared waste that was previously held for future use. Shipment of previously forecasted waste more than offset this increase, leading to a 1% overall decrease in the forecast.

The FY2002.0 forecast showed a 6% decrease from the FY2001.0 forecast of 1,700 m³ due to the use of new, more efficient container that reduced the annual forecasted volume by 1 m³ per year.

Comparison to Previous Baseline(s) by Waste Class

Fermi National Accelerator Laboratory Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	1,590	1,590	1,600	1,700
Total	1,590	1,590	1,600	1,700

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The Fermi National Accelerator Laboratory is a national laboratory managed by the Universities Research Association, Inc. for the U.S. Department of Energy. Fermi's mission is to provide resources to conduct basic research in high-energy physics and related disciplines.

The facility consists of a series of proton accelerators which became operational in 1972, producing higher energy protons than any other accelerator in the world. Beam losses from normal operations of the accelerator activate accelerator components and equipment. These components become low-level waste (LLW) when they fail and are removed from service or are no longer needed. Small volumes of cooling water and vacuum pump oil may also be generated from maintenance operations.

Forecast Assumptions and Comments

Fermi will continue to generate and ship for disposal the volumes and forms of waste as has been historically generated. It is also assumed that the Department of Energy will continue to provide the funding necessary to manage and dispose of radioactive waste as it is generated.

'Other' radionuclide explanation/description: The primary radionuclides included in the other category are Na-22, Mn-54, and Zn-65.

Waste Class Data

The expected physical waste forms and container types for forecasted waste classes are described in the following charts.

SWIFT Report – Fermi National Accelerator Laboratory

LLW Data

Physical Waste Form Distribution

Fermi National Accelerator Laboratory
LLW Total = 1,590 m³

Container Distribution

Fermi National Accelerator Laboratory
LLW Total = 1,590 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Fermi National Accelerator Laboratory Summary Curies	LLW_1	FY 2003.1 Forecast (curies)
Radionuclide		
Tritium	1.6E-02	1.6E-02
Cobalt 60	9.1E+01	9.1E+01
Other	6.6E+01	6.6E+01
Total	1.6E+02	1.6E+02
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by this generator.

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Idaho National Engineering and Environmental Laboratory

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 1,400 m³, or 4% of Offsite's waste forecast.
- The forecast life cycle for the Idaho National Engineering and Environmental Laboratory ends in 2046.
- LLW_III is the only waste classes forecast.
- The FY2003.1 forecast shows a large increase from the FY2003.0 forecast of 510 m³ due to the extension of the life-cycle end date from FY2020 to FY2046.

Waste Class Distribution

Idaho Nat. Engineering and Environmental Lab.
Total (excl. HAZ) = 1,400 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a large increase from the FY2003 forecast of 510 m³ due to the extension of the life-cycle end date from FY2020 to FY2046.

The FY2003.0 forecast shows a large increase from the FY2002.0 forecast of 6 m³ to 510 m³ as a result of identifying additional containers.

The FY2002.0 forecast was the first forecast submitted by INEEL.

Comparison to Previous Baseline(s) by Waste Class

Idaho Nat. Engineering and Environmental Lab. Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	--	120	--	--
LLW_III	1,400	390	6	--
Total	1,400	510	6	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The Idaho National Engineering and Environmental Laboratory (INEEL) is a part of the U.S. Department of Energy national laboratory complex. The disposal of waste at Hanford, however, will be funded by SMC (Specific Manufacturing Capabilities). The current mission of SMC is to support military defense systems. In the manufacture of these items, depleted uranium category III waste is generated.

Forecast Assumptions and Comments

LLW_III is generated as depleted uranium. Lazer cutting is used to manufacture the items and oxidized DU fines are a waste product.

After shipment of original containers of DU lazer fines there will be a generation rate of one to two drums per year. Other contact handled waste streams will be added in 2004. In 2007 INEEL will begin to ship remote handled low-level waste.

It is assumed that the INEEL will begin to ship TRA resins in a CNS-3-55 shipping container (cask), which will contain (3) 208 L Drums. After 2009 100% INEEL remote-handled low-level waste is assumed to be sent to Hanford. In this forecast NRF waste is not included but may be included in future forecasts.

Waste Class Data

The expected physical waste forms and container types for forecasted waste classes are described in the following charts.

SWIFT Report – Idaho National Engineering and Environmental Laboratory

LLW Data

Physical Waste Form Distribution

Idaho Nat. Engineering and Environmental Lab.
LLW Total = 1,400 m³

Container Distribution

Idaho Nat. Engineering and Environmental Lab.
LLW Total = 1,400 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Idaho Nat. Engineering and Environmental Lab. Summary Curies	LLW III	FY 2003.1 Forecast (curies)
Radionuclide		
Tritium	6.3E+01	6.3E+01
Carbon 14	1.9E+00	1.9E+00
Cobalt 60	2.4E+05	2.4E+05
Strontium 90	7.9E+00	7.9E+00
Technetium 99	7.8E-03	7.8E-03
Iodine 129	3.6E-08	3.6E-08
Cesium 137	4.5E-02	4.5E-02
Uranium 234	4.7E-01	4.7E-01
Uranium 235	4.6E-02	4.6E-02
Uranium 238	3.6E+00	3.6E+00
Total	2.4E+05	2.4E+05
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by this generator.

SWIFT Report – Knolls Atomic Power - Tennessee

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Knolls Atomic Power-Tennessee

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 2%, or 520 m³, of Offsite's waste forecast.
- The forecast life cycle for the Knolls Atomic Power Laboratory - Tennessee ends in 2004.
- LLW_III is the only waste class forecast. The LLW_III is expected to meet the disposal requirements in HNF-EP-0063, Rev. 8 and will not require stabilization in HICs.
- The FY2003.1 forecast shows a 39% volume decrease from the FY2003.0 forecast.

Waste Class Distribution

Knolls Atomic Power Laboratory - Tennessee
Total (excl. HAZ) = 520 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 39% decrease in volume compared to the FY2003.0 forecast reflecting the most recent volume projections and shipping schedules based on current decommissioning data. The projection also has been revised to reflect the currently intended shipping containers for the Shear Baler.

The FY2003.0 forecast shows a 122% increase in volume over the previous forecast. Waste previously forecast to be shipped to Hanford in FY2002 slipped to FY2003, and the forecast has been adjusted to reflect the most recent volume projections based on current decommissioning data.

The FY2002.0 forecast was the first forecast submitted by Knolls Atomic Power Laboratory - Tennessee.

SWIFT Report – Knolls Atomic Power - Tennessee

Comparison to Previous Baseline(s) by Waste Class

Knolls Atomic Power Laboratory - Tennessee Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_III	520	860	390	--
Total	520	860	390	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Knolls Atomic Power Laboratory - Tennessee is primarily a nuclear fuel processing facility under contract to Naval Reactors. Knolls Atomic Power Laboratory - Tennessee is currently engaged in several decontamination and decommissioning projects remediating inactive historical facilities. The waste planned for shipment is the result of this activity and is expected to continue into FY2004.

Forecast Assumptions and Comments

Only LLW is forecast for disposal at Hanford. This forecast is based on a Naval Reactors Goal for on site Decommissioning activities and on the Near Term Management Decommissioning Plan prepared to support that goal. The LLW_III is expected to meet the disposal requirements in HNF-EP-0063, Rev. 8 and will not require stabilization in HICs.

Waste Class Data

The expected physical waste forms and container types for forecasted waste classes are described in the following charts. The large volume of 'Misc' containers is comprised of NUHIC-55's.

LLW Data

Physical Waste Form Distribution

Knolls Atomic Power Laboratory - Tennessee
LLW Total = 520 m³

Container Distribution

Knolls Atomic Power Laboratory - Tennessee
LLW Total = 520 m³

SWIFT Report – Knolls Atomic Power - Tennessee

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Knolls Atomic Power Laboratory - Tennessee Summary Curies		
Radionuclide	LLW_III	FY 2003.1 Forecast (curies)
Technetium 99	5.1E-02	5.1E-02
Uranium 233	1.0E-04	1.0E-04
Uranium 234	1.0E-02	1.0E-02
Uranium 235	9.9E-04	9.9E-04
Uranium 238	4.2E-04	4.2E-04
Plutonium 241	7.7E+00	7.7E+00
Plutonium 238, 239, 240	2.7E+01	2.7E+01
Americium 241, 243	6.3E+00	6.3E+00
Other	8.9E-04	8.9E-04
Total	4.2E+01	4.2E+01
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by this generator.

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Knolls Atomic Power-Shipyards

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 640 m³, or 2% of Offsite's waste forecast.
- The forecast life cycle for the Knolls Atomic Power-Shipyards ends in 2007.
- LLW_I and LLW_III are the only waste types forecasted.
- The FY2003.1 forecast shows a 34% increase from the FY2003.0 forecast of 480 m³.

Waste Class Distribution

Knolls Atomic Power-Shipyards
Total (excl. HAZ) = 640 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 34% increase from the FY2003 forecast. Some waste forecast for FY02 shifted into FY03 and FY04. Forecast was updated to reflect current maintenance schedules.

The FY2003.0 forecast shows a small decrease to 480 m³ from the FY2002.0 forecast of 500 m³, reflecting the elimination of year 2002 waste projections. Additionally, some waste forecast for FY2002 was shifted into FY2003 and FY2004, and the forecast was also updated to reflect current maintenance schedules.

The FY2002.0 forecast showed a increase of 61% from the FY2001.0 forecast due to revised estimates based on current maintenance schedules.

SWIFT Report – Knolls Atomic Power - Shipyards

Comparison to Previous Baseline(s) by Waste Class

Knolls Atomic Power-Shipyards Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	420	370	390	250
LLW_III	230	110	110	60
Total	640	480	500	310

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Waste designated for Hanford from Knolls Atomic Power-Shipyards is generated from support to reactor refueling operations and main coolant pump replacements.

Forecast Assumptions and Comments

Removed components from reactor refuelings result in the generation of both CH_LLW_I and CH_LLW_III waste. Category III waste is expected to meet the disposal requirements in HNF-EP-0063, Rev. 8 and will not require placement in HICs.

The forecast is based on existing schedules for performance of this work.

Waste Class Data

The expected physical waste forms and container types for forecasted waste classes are described in the following charts. Containers in 'Misc' category below are Core Barrels

LLW Data

Physical Waste Form Distribution

Knolls Atomic Power-Shipyards
LLW Total = 640 m³

Container Distribution

Knolls Atomic Power-Shipyards
LLW Total = 640 m³

SWIFT Report – Knolls Atomic Power - Shipyards

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Knolls Atomic Power-Shipyards Summary Curies	LLW_I	LLW_III	FY 2003.1 Forecast (curies)
Radionuclide			
Tritium	1.4E-05	8.0E+01	8.0E+01
Carbon 14	2.7E-01	8.0E+01	8.0E+01
Cobalt 60	2.7E+01	5.8E+04	5.8E+04
Selenium 79	2.0E-05	7.3E-04	7.5E-04
Strontium 90	1.1E-02	3.1E+00	3.1E+00
Technetium 99	2.4E-03	8.5E-02	8.7E-02
Iodine 129	1.1E-06	5.1E-07	1.6E-06
Cesium 137	1.1E-02	3.0E+00	3.1E+00
Uranium 234	--	1.6E-06	1.6E-06
Uranium 235	--	1.2E-07	1.2E-07
Neptunium 237	4.0E-07	2.4E-06	2.8E-06
Plutonium 241	2.7E-03	2.0E+01	2.0E+01
Plutonium 238, 239,240	8.6E-05	3.0E-01	3.0E-01
Americium 241,243	9.3E-05	2.1E-01	2.1E-01
Total	2.7E+01	5.9E+04	5.9E+04
Percent	< 1%	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by this generator.

Site Rev. Date
11/2003

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Lawrence Berkeley Laboratory

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 80 m³, or <1% of Offsite's waste forecast.
- The forecast life cycle for the Lawrence Berkeley Laboratory ends in 2007.
- Nearly all (97%) waste forecast by this generator is LLW_I with the remainder being LLW_III and LLW_GTCIII.
- The FY2003.1 forecast shows a 29% decrease from the FY2003.0 forecast.

Waste Class Distribution

Lawrence Berkeley Laboratory
Total (excl. HAZ) = 80 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 29% decrease from the FY2003.0 forecast.

The FY2003.0 forecast, showing a 2% increase in volume, is nearly consistent with the FY2002.0 forecast.

The FY2002.0 forecast showed a 56% decrease from the FY2001.0 forecast of 250 m³ due to the shut-down of the National Tritium Labeling Facility (NTLF); thus, eliminating routine waste previously forecasted waste generated from this facility.

Comparison to Previous Baseline(s) by Waste Class

Lawrence Berkeley Laboratory Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW_I	80	110	110	250
LLW_III	1	--	--	--
LLW_GTCIII	1	--	--	--
Total	80	110	110	250

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

Lawrence Berkeley Laboratory (LBNL) is a multidisciplinary research laboratory doing unclassified research. Wastes are a byproduct of research or research support activities. Research areas include life sciences, materials sciences, earth sciences, physics and environmental energy research. LBNL has included the National Tritium Labeling Facility (NTLF) which has been shut down and is undergoing decommissioning and demolition (D&D).

Forecast Assumptions and Comments

This forecast is based primarily on the closure and D&D of the NTLF. After disposal of the NTLF wastes (including D&D wastes), only occasional shipments of high-activity wastes such as sealed sources which cannot be shipped to commercial disposal facilities will be made to Hanford.

Tritium wastes will be generated as a result of the shutdown, decommissioning and decontamination of the NTLF in the next two to three years. Most of these wastes will be generated and shipped to Hanford in FY2003 and FY2004.

Wastes from the D&D of the Bevatron will be sent to the Nevada Test Site as a primary disposal site. Hanford would remain as a backup disposal site.

LBNL will ship only low-level radioactive waste to Hanford. LBNL will not ship any mixed waste to Hanford as per its Site Treatment Plan. It is assumed that TRU-LLW and TRU-MW will be shipped to WIPP, not Hanford. Only LLW which is not amenable to volume reduction will be shipped to Hanford. LBNL will use commercial treatment options for LLW when commercial options are cost-competitive and/or significant volume reductions result. Hanford will be used for burial of residuals from commercial treatment when practicable.

Waste Characteristic Data

The expected physical waste forms and container types for forecasted waste classes are described in the following charts.

SWIFT Report – Lawrence Berkeley Laboratory

LLW Data

Physical Waste Form Distribution

Lawrence Berkeley Laboratory
LLW Total = 80 m³

Container Distribution

Lawrence Berkeley Laboratory
LLW Total = 80 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Lawrence Berkeley Laboratory Summary Curies	LLW_I	LLW_III	LLW_STCH	FY 2003.1 Forecast (curies)
Radionuclide				
Tritium	6.0E+03	--	--	6.0E+03
Strontium 90	--	1.2E-02	--	1.2E-02
Cesium 137	--	1.2E+00	--	1.2E+00
Radium 226	--	--	1.3E+00	1.3E+00
Uranium 235	2.4E-11	--	--	2.4E-11
Uranium 238	2.5E-07	--	--	2.5E-07
Other	1.4E+00	--	1.7E+00	3.2E+00
Total	6.0E+03	1.2E+00	3.0E+00	6.0E+03
Percent	100%	< 1%	< 1%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by this generator.

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Portsmouth Energy Systems

Portsmouth Energy Systems has no waste forecasted in this update.

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2003.1

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Princeton Plasma Physics Lab

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 1,250 m³, or 4% of Offsite's waste forecast.
- The forecast life cycle for the Princeton Plasma Physics Lab ends in 2046.
- LLW_I is the only waste class forecasted.
- The FY2003.1 forecast shows no volume change from the FY2003.0 forecast.

Waste Class Distribution

Princeton Plasma Physics Lab
Total (excl. HAZ) = 1,250 m³

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows no volume change compared to the FY2003.0 forecast.

The FY2003.0 forecast showed a 38% decrease from that of FY2002.0. These numbers reflect the latest information regarding the decontamination and decommissioning of the Tokamak Fusion Test Reactor (TFTR).

The FY2002.0 forecast showed a 15% decrease from the FY2001.0 forecast of 2,370 m³ due to more precise waste volume information for the D&D of the TFTR.

Comparison to Previous Baseline(s) by Waste Class

Princeton Plasma Physics Lab Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW	1,250	1,250	2,020	2,370
Total	1,250	1,250	2,020	2,370

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The U.S. Department of Energy's Princeton Plasma Physics Laboratory is a collaborative national center for plasma and fusion science. In the course of this research, atoms of hydrogen are fused to form helium. As a result of this reaction, radioactive by-products are produced and must be disposed of in an approved manner. At this time the Tokamak Fusion Test Reactor is being dismantled.

Forecast Assumptions and Comments

The forecast assumes that decontamination and decommissioning of Tokamak Fusion Test Reactor will continue through 2003.

Waste Class Data

The expected physical waste forms and container types for forecasted waste classes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Princeton Plasma Physics Lab
LLW Total = 1,250 m³

Container Distribution

Princeton Plasma Physics Lab
LLW Total = 1,250 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Princeton Plasma Physics Lab Summary Curies	LLW_I	FY 2003.1 Forecast (curies)
Radionuclide		
Tritium	2.4E+05	2.4E+05
Cobalt 60	8.0E-01	8.0E-01
Total	2.4E+05	2.4E+05
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been reported by this generator.

Site Rev. Date
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2003.1

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7/2003

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Rocky Flats

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Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- No waste is included in the baseline forecast for Rocky Flats. The maximum forecast estimate includes 720 m³ of CH_MLLW.
- The forecast life cycle for the Rocky Flats Closure Project ends in 2005; previous forecasts ended in 2003..
- All of the waste included in the maximum forecast estimate is CH_MLLW.
- The FY2003.1 baseline forecast shows no volume change from forecasts since FY2001.0. The maximum forecast life-cycle has been extended from 2003 to 2005.

Annual Volumes

Annual Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 baseline forecast shows no change from FY2003.0 forecast except for the life-cycle extension from 2003 to 2005.

The FY2003.0 baseline forecast shows no change from the FY2002.0 and FY2001.0 baseline forecasts. The FY2003.0 maximum forecast decreased significantly (72%) from the maximum FY2002.0 forecast of 2,490 m³ because waste disposal at Envirocare in Utah is now being considered. The life-cycle end of the waste forecast also changed from 2006 to 2003.

Background

Until December 1989, the Rocky Flats Plant made components for nuclear weapons using various radioactive and hazardous materials, including plutonium, uranium and beryllium. The site is currently known as the Rocky Flats Cleanup Project and is undergoing a massive cleanup effort. Wastes are generated through environmental restoration, decontamination and decommissioning of facilities, and residue stabilization of special nuclear materials in support of accelerated closure.

Forecast Assumptions and Comments

The forecast is based on fiscal year 2003 funding levels and a goal to close the facility by 2005/2006. Due to uncertainties in waste acceptance at Hanford, waste is only included in the maximum forecast estimate.

Waste Class Data

Because no waste is included in the baseline forecast for Rocky Flats, no waste class data are presented here.

Radionuclide Data

Because no waste is included in the baseline forecast for Rocky Flats, no waste class data are presented here.

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been forecasted by this generator.

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11/2003

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2003.1

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7/2003

Offsite >

Stanford Linear Accelerator Center

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Other Forecast Data

Highlights of LLW, MLLW, and TRU(M) Waste Forecast

- This generator contributes 1,010 m³, or 3% of the waste forecasted by offsite generators.
- The forecast life cycle for the Stanford Linear Accelerator Center (SLAC) ends in 2046.
- LLW_I is the only waste class forecast.
- The FY2003.1 forecast remains unchanged from the FY2003.0 forecast.

Waste Class Distribution

Stanford Linear Accelerator Center
Total (excl. HAZ) = 1,010 m3

Annual Volumes

Annual Baseline Volumes

Annual LLW Baseline Volumes

Comparison to Previous Baseline(s)

The FY2003.1 forecast remains unchanged from the FY2003.0 forecast.

The FY2003.0 forecast shows a 23% increase from the FY2002.0 forecast of 820 m³. The volume increase results primarily from a change in the containers used to ship waste to meet Hanford's waste acceptance criteria. The new containers have a smaller internal capacity which will require additional containers for the same amount of waste.

The FY2002.0 forecast showed a 2% decrease from the FY2001.0 forecast of 840 m³ due to the work off of waste during FY2001. However, not all the previously forecast FY2001 waste was shipped and was included in the estimate for shipment in FY2002.

Comparison to Previous Baseline(s) by Waste Class

Stanford Linear Accelerator Center Comparison to Previous Forecasts	FY2003.1 Forecast (m ³)	FY2003.0 Forecast (m ³)	FY2002.0 Forecast (m ³)	FY2001.0 Forecast (m ³)
Waste Class				
LLW	1,010	1,010	820	840
Total	1,010	1,010	820	840

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Background

The Stanford Linear Accelerator Center (SLAC) is a national laboratory operated by Stanford University for the U.S. Department of Energy. SLAC research facilities study the effects of electron-positron collisions to better understand the nature of the atomic nucleus and the relationship of subatomic particles. LLW is generated during normal operation of the accelerator in which some electrons may strike beam line components. When electrons strike the pipe and components, radioactive nuclei can be produced in the material. Radioactive waste is generated when activated and/or contaminated components undergo maintenance, repair, and/or replacement. This waste is produced on an irregular basis due to the nature of operations, and as such the production of LLW is not a planned activity.

Forecast Assumptions and Comments

The Stanford Linear Accelerator Center assumes that waste generation and disposal will remain consistent with past rates due to no major changes in SLAC's mission, no scheduled facility closure, and DOE funding supports SLAC's waste disposal program at its present capabilities.

Waste Characteristic Data

The expected physical waste forms and container types for forecasted waste classes are described in the following charts.

LLW Data

Physical Waste Form Distribution

Stanford Linear Accelerator Center
LLW Total = 1,010 m³

Container Distribution

Stanford Linear Accelerator Center
LLW Total = 1,010 m³

SWIFT Report – Stanford Linear Accelerator Center

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

Stanford Linear Accelerator Center Summary Curies	LLW_I	FY 2003.1 Forecast (curies)
Radionuclide		
Tritium	2.3E-02	2.3E-02
Cobalt 60	4.4E+00	4.4E+00
Strontium 90	4.8E-01	4.8E-01
Other	8.6E+02	8.6E+02
Total	8.7E+02	8.7E+02
Percent	100%	100%

Other Forecast Data

- **Hazardous Waste**
 - No hazardous waste has been forecasted by this generator.

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Offsite >

University of California, Davis (LEHR)

The University of California, Davis (LEHR) has no waste forecasted in this update.

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FY2003.1 Forecast of LLW_I

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Waste Characteristic Data
LLW_I Definition

Highlights of LLW_I Forecast

- A total of 122,860 m³ of LLW_I is forecast for shipment to Fluor Hanford Waste Management Project by onsite and offsite generators.
- The LLW_I forecast life cycle ends in 2046.
- This forecast shows a 2% increase from the FY2003.0 forecast of 120,280 m³. The change largely results from an increase in the forecast of CH2M Hill Hanford Group, Inc.
- LLW_I is generated by all generator groups, with CH2M Hill Hanford Group, Inc. contributing over one-half of the total.

Company Distribution

Low-Level Waste Category I
Total = 122,860 m³

Annual LLW_I Volumes

The forecasted volume of LLW_I is fairly stable with a gradual ramp-down in the late 2020's. The waste peaks in 2006 primarily due to waste from the Plutonium Finishing Plant and peaks again in 2017 due to waste generated by CHG Waste Feed Operations. The high volumes in the maximum case are also largely the result in high uncertainty in the CHG Waste Feed Operations forecast.

LLW_I Annual Minimum, Baseline, and Maximum Volumes

Summary Table (volumes in m³)

Forecast by Company

(in descending order by company volume)

Low-Level Waste Category I Summary Volumes		
Functional Groups	FY 2003.1 Forecast (m³)	% of Total
CH2M Hill Hanford Group, Inc.	64,680	53%
Fluor Hanford	23,990	20%
Offsite	29,760	24%
Bechtel-Washington Group	4,090	3%
Pacific Northwest National Laboratory	330	< 1%
Bechtel Hanford, Inc.	3	< 1%
Total	122,860	100%

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 2% increase due to slight modifications (increases and decreases) in all groups.

The 2003.0 forecast showed a large (28% or 26,180 m³) increase in the LLW_I from the FY2002.0 forecast. Nearly all of the increase (24,950 m³) was due to an increase in the CH2M Hill Hanford Group, Inc. forecast, most notably the SST/DST Tank Farm Operations.

The 2002.0 forecast showed a 5% increase (4,360 m³) from the FY2001.0 forecast of 89,740 m³. The change largely resulted from an increase in the forecast of CH2M Hill Hanford Group, Inc.

Comparison to Previous Baseline(s) by Company

Low-Level Waste Category I Summary Volumes	FY 2003.1 Forecast (m ³)	FY 2003.0 Forecast (m ³)	FY 2002.0 Forecast (m ³)	FY 2001.0 Forecast (m ³)
Functional Groups				
Bechtel Hanford, Inc.	3	1	150	180
Bechtel-Washington Group	4,090	6,020	5,500	5,500
CH2M Hill Hanford Group, Inc.	64,680	60,190	35,240	28,740
Fluor Hanford	23,990	25,820	26,900	27,750
Offsite	29,760	27,850	26,080	27,320
Pacific Northwest National Laboratory	330	400	220	240
Total	122,860	120,280	94,700	89,740

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

More detail as to the reasons for the volume changes is included in each of the group and individual waste generator pages.

Waste Characteristic Data

The physical waste forms and container distributions for LLW_I are shown in the charts below. The majority of the waste (89%) is expected to be debris. LLW_I will be shipped in a number of different containers with the majority being MB-V boxes (59%) and small boxes (17%).

Physical Waste Form Distribution

Low-Level Waste Category I
Total = 122,860 m³

Container Distribution

Low-Level Waste Category I
Total = 122,860 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

LLW_I Summary Curies	LLW_I	FY 2003.1 Forecast (curies)
Radionuclide		
Tritium	2.5E+05	2.5E+05
Carbon 14	2.9E+00	2.9E+00
Phosphorus 32	8.2E-01	8.2E-01
Sulfur 35	5.4E-01	5.4E-01
Cobalt 60	4.0E+04	4.0E+04
Selenium 79	2.0E-05	2.0E-05
Strontium 90	7.4E+02	7.4E+02
Technetium 99	6.3E-01	6.3E-01
Iodine 129	6.7E-02	6.7E-02
Cesium 137	1.6E+02	1.6E+02
Radium 226	3.7E-01	3.7E-01
Uranium 233	3.9E-03	3.9E-03
Uranium 234	1.8E-01	1.8E-01
Uranium 235	1.2E+01	1.2E+01
Uranium 238	5.0E-01	5.0E-01
Neptunium 237	9.5E-02	9.5E-02
Plutonium 238	1.1E-01	1.1E-01
Plutonium 239	1.4E+00	1.4E+00
Plutonium 240	3.3E-01	3.3E-01
Plutonium 241	1.6E+01	1.6E+01
Plutonium 242	8.7E-04	8.7E-04
Plutonium 238, 239, 240	3.3E+00	3.3E+00
Americium 241	2.1E-01	2.1E-01
Americium 241, 243	1.9E+00	1.9E+00
Other	1.2E+03	1.2E+03
Total	2.9E+05	2.9E+05
Percent	100%	100%

Definition

LLW_I contains radioactivity not classified as high-level waste, spent nuclear fuel, or transuranic waste (concentrations of transuranic radionuclides less than or equal to 100nCi/g of the waste matrix). The waste also meets the radionuclide limits for category I waste defined in the Hanford Site Solid Waste Acceptance Criteria.

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FY2003.1 Forecast of LLW_III

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LLW_III Definition

Highlights of LLW_III Forecast

- A total of 7,400 m³ of LLW_III is forecast for shipment to Fluor Hanford Waste Management Project by onsite and offsite generators.
- The LLW_III forecast life cycle ends in 2046.
- This forecast shows a 46% decrease from the FY2003.0 forecast of 10,780 m³ due to re-classification of previously forecasted LLW_III waste to LLW_I within the CH2M Hill Hanford Group, Inc.
- Offsite and CH2M Hill Hanford Group, Inc. generators contribute the majority (43% and 30% respectively) of the forecasted LLW_III.

Company Distribution

Annual LLW_III Volumes

The amount of forecasted LLW_III for the most part ramps down steadily throughout its life-cycle. The high volumes in the initial years (2003 and 2004) are primarily due to Knolls Atomic Power Laboratory - Tennessee.

LLW_III Annual Minimum, Baseline, and Maximum Volumes

Summary Table (volumes in m³)

Forecast by Company

(in descending order by company volume)

Low-Level Waste Category III Summary Volumes		
Functional Groups	FY 2003.1 Forecast (m³)	% of Total
CH2M Hill Hanford Group, Inc.	2,230	30%
Fluor Hanford	1,640	22%
Offsite	3,220	43%
Bechtel-Washington Group	60	< 1%
Pacific Northwest National Laboratory	260	3%
Total	7,400	100%

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 46% decrease from the FY2003.0 forecast of 10,780 m³ due to re-classification of previously forecasted LLW_III waste to LLW_I within the CH2M Hill Hanford Group, Inc. forecast.

The 2003.0 forecast showed a slight increase of 60 m³ (<1%) from the FY2002.0 forecast of 10,720 m³. However, several individual generators had significant changes. Large increases from CH2M Hill Hanford Group, Inc. (most notably SST/DST Tank Farm Operations) and Offsite (most notably Knolls Atomic Power Laboratory - Tennessee) were offset by large decreases in Fluor Hanford (most notably 222-S Analytical Laboratory) and Bechtel Washington Group.

SWIFT Report – LLW_III

The 2002.0 forecast showed a 36% increase (2,850 m³) from the FY2001.0 forecast of 7,870 m³. The change results primarily from the addition of a large volume (4,290 m³) forecasted by CH2M Hill Hanford Group, Inc.

Comparison to Previous Baseline(s) by Company

Low-Level Waste Category III Summary Volumes	FY 2003.1 Forecast (m ³)	FY 2003.0 Forecast (m ³)	FY 2002.0 Forecast (m ³)	FY 2001.0 Forecast (m ³)
Functional Groups				
Bechtel-Washington Group	60	40	1,220	1,220
CH2M Hill Hanford Group, Inc.	2,230	6,330	4,290	--
Fluor Hanford	1,640	1,770	3,430	3,860
Offsite	3,220	2,370	1,550	2,700
Pacific Northwest National Laboratory	260	270	230	90
Total	7,400	10,780	10,720	7,870

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

More detail as to the reasons for the volume changes is included in each of the group and individual waste generator pages.

Waste Characteristic Data

The physical waste forms and container distributions for LLW_III are shown in the charts below. Almost all of the waste is expected to be debris and the majority will be shipped in MB-V boxes and miscellaneous containers, the majority of which are CNS-3-55 cask inserts.

Physical Waste Form Distribution

Low-Level Waste Category III
Total = 7,400 m³

Container Distribution

Low-Level Waste Category III
Total = 7,400 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

LLW_III Summary Curies		
Radionuclide	LLW_III	FY 2003.1 Forecast (curies)
Tritium	4.2E+02	4.2E+02
Carbon 14	2.6E+02	2.6E+02
Cobalt 60	2.4E+06	2.4E+06
Selenium 79	8.4E-04	8.4E-04
Strontium 90	5.8E+02	5.8E+02
Technetium 99	1.3E+02	1.3E+02
Iodine 129	7.7E-03	7.7E-03
Cesium 137	4.6E+02	4.6E+02
Radium 226	2.6E-06	2.6E-06
Uranium 233	4.1E+00	4.1E+00
Uranium 234	5.1E-01	5.1E-01
Uranium 235	4.7E-02	4.7E-02
Uranium 238	3.6E+00	3.6E+00
Neptunium 237	2.4E-06	2.4E-06
Plutonium 238	1.8E-01	1.8E-01
Plutonium 239	4.2E-01	4.2E-01
Plutonium 240	2.5E-01	2.5E-01
Plutonium 241	1.7E+02	1.7E+02
Plutonium 242	1.1E-05	1.1E-05
Plutonium 238, 239, 240	2.1E+02	2.1E+02
Americium 241	7.0E-01	7.0E-01
Americium 241, 243	1.1E+01	1.1E+01
Other	2.6E+06	2.6E+06
Total	5.0E+06	5.0E+06
Percent	100%	100%

Definition

LLW_III contains radioactivity not classified as high-level waste, spent nuclear fuel, or transuranic waste (concentrations of transuranic radionuclides less than or equal to 100nCi/g of the waste matrix). The waste also exceeds the radionuclide limits for category I waste and meets the category III limits defined in the Hanford Site Solid Waste Acceptance Criteria.

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7/2003

FY2003.1 Forecast of LLW_GTC_III Waste

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GTC_III Waste Definition

Highlights of LLW_GTC_III Waste Forecast

- A total of 30 m³ of LLW_GTC_III waste is forecast for shipment to Fluor Hanford Waste Management Project by onsite and offsite generators.
- LLW_GTC_III waste is forecasted from 2004 to 2046.
- The FY2003.1 forecast shows an increase of 20 m³ of LLW_GTC_III waste compared to the FY2003.0 forecast.
- Three waste generators expect to generate GTC III waste: the Waste Encapsulation and Storage Facility from Fluor Hanford, Bettis Atomic Power Laboratory-Idaho and Lawrence Berkeley Laboratory, both Offsite generators.

Functional Group Distribution

Annual GTC III Waste Volumes

GTC III waste is forecast from 2004 to 2046. The peak from 2007 through 2012 corresponds to waste expected from Bettis Atomic Power Laboratory-Idaho. The peak in 2017 through 2021 corresponds to the terminal cleanout and stabilization of the Waste Encapsulation and Storage Facility.

GTC III Waste Annual Minimum, Baseline, and Maximum Volumes

Summary Table (volumes in m³)

Forecast by Company

(in descending order by company volume)

Low-Level Waste Greater Than Category III Summary Volumes	FY 2003.1 Forecast (m3)	% of Total
Functional Groups		
Offsite	20	77%
Fluor Hanford	6	33%
Total	30	100%

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The 20 m³ increase for the FY2003.1 forecast is due to the expected waste from Offsite, including waste from two generators that have not previously forecasted LLW_GTC_III, Bettis Atomic Power Laboratory - Idaho and Lawrence Berkeley Laboratory.

The FY2003.0, FY2002.0, and FY2001.0 forecasts were all the same.

Comparison to Previous Baseline(s) by Company

(in descending order by company volume)

Low-Level Waste Greater Than Category III Summary Volumes	FY 2003.1 Forecast (m ³)	FY 2003.0 Forecast (m ³)	FY 2002.0 Forecast (m ³)	FY 2001.0 Forecast (m ³)
Functional Groups				
Offsite	20	--	--	--
Fluor Hanford	6	6	6	6
Total	30	--	--	--

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

The reasons for the volume changes are explained in each of the functional group and waste generator pages.

Waste Characteristic Data

The physical waste forms and container distributions for LLW_GTC_III are shown in the charts below. All of the waste is expected to be debris and will be shipped in miscellaneous containers and 208 liter drums. None of the waste is expected to be mixed; therefore, hazardous characteristics are not applicable.

Physical Waste Form Distribution

Container Distribution

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

LLW_GTCIII Summary Curies	LLW_GTCIII	FY 2003.1 Forecast (curies)
Radionuclide		
Tritium	2.7E+02	2.7E+02
Carbon 14	2.4E+02	2.4E+02
Cobalt 60	2.3E+06	2.3E+06
Strontium 90	3.6E+00	3.6E+00
Technetium 99	1.0E-01	1.0E-01
Cesium 137	5.3E+00	5.3E+00
Radium 226	1.3E+00	1.3E+00
Uranium 234	1.2E-04	1.2E-04
Uranium 235	5.1E-07	5.1E-07
Uranium 238	3.1E-05	3.1E-05
Plutonium 238	1.0E-01	1.0E-01
Plutonium 239	4.5E-02	4.5E-02
Plutonium 240	4.2E-02	4.2E-02
Plutonium 241	3.8E+00	3.8E+00
Americium 241	2.2E-03	2.2E-03
Other	4.0E+06	4.0E+06
Total	6.3E+06	6.3E+06
Percent	100%	100%

Definition

LLW greater-than-class III (LLW_GTC_III) meets the definition for LLW and is determined to be GTCIII when the sum of the fractions of the radionuclides' Class III concentration limits are greater than one, as defined in the Hanford Site Solid Waste Acceptance Criteria, WHC-EP-0063 Rev. 8, May 2003.

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FY2003.1 Forecast of CH_MLLW

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CH_MLLW Definition

Highlights of CH_MLLW Forecast

- A total of 33,780 m³ of CH_MLLW is forecast for shipment to Fluor Hanford Waste Management Project by onsite and offsite generators.
- The CH_MLLW forecast life cycle ends in 2046.
- This forecast shows a 20% increase from the FY2003.0 forecast of 26,780 m³ due to primarily to an increase in the CH2M Hill Hanford Group forecast.
- CH2M Hill Hanford Group is the main source of CH_MLLW, forecasting 21,950 m³ or 65% of the total waste for this category.

Company Distribution

Contact Handled Mixed Low-Level Waste
Total = 33,780 m³

Annual CH_MLLW Volumes

The annual volumes for CH_MLLW ramp up slowly to a peak in 2017 and 2018 mostly due to the increase in waste generated by CHG Waste Feed Operations and Tank Closure. A large amount of waste in the maximum case in 2004 is primarily due to Rocky Flats which has a large volume of waste forecasted. This waste is carried in the maximum due to uncertainty in shipment schedule and selection of disposition site.

CH_MLLW Annual Minimum, Baseline, and Maximum Volumes

Summary Table (volumes in m³)

Forecast by Company

(in descending order by company volume)

Contact Handled Mixed Low-Level Waste Summary Volumes		
Functional Groups	FY 2003.1 Forecast (m ³)	% of Total
CH2M Hill Hanford Group, Inc.	21,950	65%
Fluor Hanford	4,400	13%
Bechtel-Washington Group	7,280	22%
Pacific Northwest National Laboratory	140	< 1%
Bechtel Hanford, Inc.	4	< 1%
Total	33,780	100%

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 20% increase from the FY2002.0 forecast primarily due to the addition of a new waste generator, Tank Closure (9,110 m³).

The FY2003.0 forecast showed a 6% decrease from the FY2002.0 forecast. Two generators had significant decreases in forecasted CH_MLLW, SST/DST Tank Farm Operations (1,250 m³) and 222-S Analytical Laboratories (1,040 m³). These decreases, along with others, offset a substantial increase in the CH_MLLW forecasted by the Waste Treatment Plant (1,340 m³).

The 2002.0 forecast showed a 4% decrease from the FY2001.0 forecast of 29,690 m³ with a large increase (1,027 m³) from the Tank Farm Operations countered by a large decrease (1,352 m³) in the DST Retrieval Phase II forecast. The decrease can also be partially attributed to work off of waste volumes during FY2001.

Comparison to Previous Baseline(s) by Company

Contact Handled Mixed Low-Level Waste Summary Volumes	FY 2003.1 Forecast (m ³)	FY 2003.0 Forecast (m ³)	FY 2002.0 Forecast (m ³)	FY 2001.0 Forecast (m ³)
Functional Groups				
Bechtel Hanford, Inc.	4	1	40	50
Bechtel-Washington Group	7,280	8,080	6,740	7,270
CH2M Hill Hanford Group, Inc.	21,950	14,510	16,270	16,710
Fluor Hanford	4,400	4,000	5,180	5,460
Offsite	--	30	60	40
Pacific Northwest National Laboratory	140	150	160	170
Total	33,780	26,780	28,450	29,690

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

More detail as to the reasons for the volume changes is included in each of the group and individual waste generator pages.

Waste Characteristic Data

The physical waste forms, hazardous characteristics, container distributions and LDR waste stream identification distribution for CH_MLLW are shown in the charts below. The majority of the waste (92% or 30,930 m³) is expected to be debris. The primary hazardous characteristic is expected to be organics. Most of the CH_MLLW will be shipped in medium boxes and LECs while most of the waste is classified as LDR Compliant.

Physical Waste Form Distribution

Contact Handled Mixed Low-Level Waste
Total = 33,780 m³

Hazardous Characteristic Distribution

Contact Handled Mixed Low-Level Waste
Total = 33,780 m³

SWIFT Report – CH_MLLW

Container Distribution

Contact Handled Mixed Low-Level Waste
Total = 33,780 m³

LDR Waste Stream Identification Distribution

Contact Handled Mixed Low-Level Waste
Total = 33,780 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

CH_MLLW Summary Curies	CH_MLLW	FY 2003.1 Forecast (curies)
Radionuclide		
Tritium	4.8E+02	4.8E+02
Carbon 14	3.8E-02	3.8E-02
Cobalt 60	5.0E+00	5.0E+00
Selenium 79	6.0E-08	6.0E-08
Strontium 90	4.2E+02	4.2E+02
Technetium 99	3.8E+00	3.8E+00
Iodine 129	3.6E+00	3.6E+00
Cesium 137	2.4E+02	2.4E+02
Radium 226	6.7E-06	6.7E-06
Uranium 233	2.3E-10	2.3E-10
Uranium 234	8.2E-04	8.2E-04
Uranium 235	2.2E-05	2.2E-05
Uranium 238	4.2E-01	4.2E-01
Neptunium 237	1.2E-02	1.2E-02
Plutonium 238	3.0E-03	3.0E-03
Plutonium 239	3.8E-02	3.8E-02
Plutonium 240	9.0E-03	9.0E-03
Plutonium 241	5.3E-01	5.3E-01
Plutonium 242	3.9E-05	3.9E-05
Plutonium 238, 239, 240	2.4E-01	2.4E-01
Americium 241	6.7E-03	6.7E-03
Americium 241, 243	2.2E-01	2.2E-01
Other	9.5E+00	9.5E+00
Total	1.2E+03	1.2E+03
Percent	100%	100%

Definition

Contact-handled mixed-low-level waste (CH_MLLW) has a dose rate equal to or less than 200 mrem/h and contains radioactivity not classified as spent nuclear fuel or transuranic waste (concentrations of transuranic radionuclides less than or equal to 100nCi/g of the waste matrix.) The waste is also defined as dangerous (hazardous) waste in the Washington Administrative Code (WAC) 173-303.

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FY2003.1 Forecast of RH_MLLW

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Waste Characteristic Data
RH_MLLW Definition

Highlights of RH_MLLW Forecast

- A total of 5,430 m³ of RH_MLLW is forecast for shipment to Fluor Hanford Waste Management Project by onsite generators.
- The RH_MLLW forecast life cycle ends in 2035.
- This forecast shows a 23,480 m³ decrease (81%) from the FY2003.0 forecast of 28,910 m³ due to (1) reclassification of previously forecast RH_MLLW to CH_MLLW and (2) revised long-length equipment forecast estimates by the CH2M Hill Hanford Group, Inc.
- Most of the RH_MLLW (80%) is forecast by CH2M Hill Hanford Group, Inc.

Company Distribution

Remote Handled Mixed Low-Level Waste
Total = 5,430 m³

Annual RH_MLLW Volumes

The majority of the RH_MLLW is forecast starting in 2003 through 2028 corresponding to the life-cycle of CH2M Hill Hanford Group, Inc. The peak in 2010 and 2011 largely results from the Waste Feed Delivery System schedule and the start-up of the Waste Treatment Operations.

RH_MLLW Annual Minimum, Baseline, and Maximum Volumes

Summary Table (volumes in m³)

Forecast by Company

Remote Handled Mixed Low-Level Waste Summary Volumes		
Functional Groups	FY 2003.1 Forecast (m³)	% of Total
CH2M Hill Hanford Group, Inc.	4,330	80%
Fluor Hanford	40	< 1%
Bechtel-Washington Group	1,060	19%
Pacific Northwest National Laboratory	4	< 1%
Total	5,430	100%

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 23,480 m³ decrease (81%) from the FY2003.0 forecast of 28,910 m³ due to (1) reclassification of previously forecast RH_MLLW to CH_MLLW and (2) revised long-length equipment forecast estimates by the CH2M Hill Hanford Group, Inc.

The FY2003.0 forecast showed a small increase (2% or 580 m³) from the FY2002.0 forecast of 28,330 m³ due primarily to changes in the Waste Treatment Plant forecast. The reduction in the Fluor Hanford RH_MLLW forecast is primarily due to a reduction in the 222-S Laboratory forecast.

The 2002.0 forecast showed a 9% decrease from the FY2001.0 forecast of 30,990 m³; due primarily to decreases in the CH2M Hill Hanford Group, Inc. forecast, particularly in the W-211 DST Retrieval Systems, Waste Feed Delivery System, and the DST Retrieval Phase II forecasts.

Comparison to Previous Baseline(s) by Company

Remote Handled Mixed Low-Level Waste Summary Volumes	FY 2003.1 Forecast (m ³)	FY 2003.0 Forecast (m ³)	FY 2002.0 Forecast (m ³)	FY 2001.0 Forecast (m ³)
Functional Groups				
Bechtel-Washington Group	1,060	1,690	920	920
CH2M Hill Hanford Group, Inc.	4,330	27,170	27,250	30,070
Fluor Hanford	40	40	160	6
Pacific Northwest National Laboratory	4	4	5	--
Total	5,430	28,910	28,330	30,990

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

More detail as to the reasons for the volume changes is included in each of the group and individual waste generator pages.

Waste Characteristic Data

The physical waste forms, hazardous characteristics, container distributions, and LDR waste stream identification for RH_MLLW are shown in the charts below. The majority of RH_MLLW is expected to be shielding (49%) and debris (30%). The primary hazardous characteristics are expected to be metals combined with organics. Most of the RH_MLLW will be shipped in long equipment containers (LECs) and is MLLW-01 (LDR compliant).

Physical Waste Form Distribution

Remote Handled Mixed Low-Level Waste
Total = 5,430 m³

Hazardous Characteristic Distribution

Remote Handled Mixed Low-Level Waste
Total = 5,430 m³

SWIFT Report – RH_MLLW

Container Distribution

Remote Handled Mixed Low-Level Waste
Total = 5,430 m³

LDR Waste Stream Identification Distribution

Remote Handled Mixed Low-Level Waste
Total = 5,430 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

RH_MLLW Summary Curies	RH_MLLW	FY 2003.1 Forecast (curies)
Radionuclide		
Tritium	2.7E-03	2.7E-03
Carbon 14	8.0E-03	8.0E-03
Cobalt 60	5.1E+02	5.1E+02
Strontium 90	5.2E+02	5.2E+02
Technetium 99	2.7E+00	2.7E+00
Iodine 129	2.0E-01	2.0E-01
Cesium 137	3.0E+03	3.0E+03
Uranium 234	2.5E-03	2.5E-03
Uranium 235	3.9E-05	3.9E-05
Uranium 238	3.6E-04	3.6E-04
Neptunium 237	5.6E-01	5.6E-01
Plutonium 241	8.1E+03	8.1E+03
Plutonium 238, 239, 240	8.2E+02	8.2E+02
Americium 241, 243	5.0E+00	5.0E+00
Total	1.3E+04	1.3E+04
Percent	100%	100%

Definition

Remote-handled mixed low-level waste (RH_MLLW) has a dose rate greater than 200 mrem/h and contains radioactivity not classified as high-level waste, spent nuclear fuel, or transuranic waste (concentrations of transuranic radionuclides less than or equal to 100nCi/g of the waste matrix). The waste is also defined as dangerous (hazardous) waste in the Washington Administrative Code (WAC) 173-303.

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FY2003.1 Forecast of CH_TRU(M) Waste

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CH_TRU(M) Waste Definition

Highlights of CH_TRU(M) Waste Forecast

- A total of 15,560 m³ of CH_TRU(M) waste is forecast for shipment to Fluor Hanford Waste Management Project by onsite and offsite generators.
- The CH_TRU(M) waste forecast life cycle ends in 2038.
- This forecast shows a 1% decrease from the FY2003.0 forecast of 15,770 m³.
- Fluor Hanford is by far the largest contributor to this waste class with 95% of the forecasted waste.

Company Distribution

Contact Handled Transuranic & Transuranic Mixed Waste
Total = 15,560 m³

Annual CH_TRU(M) Waste Volumes

Most of the forecasted CH_TRU(M) waste occurs in two distinct periods. The first, from 2003 to 2006 is due to work occurring at the Plutonium Finishing Plant which also accounts for the large volume in the maximum case due to high uncertainty in expected waste generation. The second period with a large volume of CH_TRU(M) is from 2013 to 2017, which is a result of waste generated from the 618-10/11 Burial Grounds.

CH_TRU(M) Waste Annual Minimum, Baseline, and Maximum Volumes

Summary Table (volumes in m³)

Forecast by Company

Contact Handled Transuranic & Transuranic Mixed Waste Summary Volumes		
Functional Groups	FY 2003.1 Forecast (m³)	% of Total
Fluor Hanford	14,850	95%
CH2M Hill Hanford Group, Inc.	620	4%
Pacific Northwest National Laboratory	70	< 1%
Bechtel-Washington Group	10	< 1%
Offsite	5	< 1%
Total	15,560	100%

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 1% decrease from the FY2003.0 forecast due to slight modifications in the Fluor Hanford forecast.

The FY2003.0 forecast shows a 6% decrease in volumes of CH_TRU(M) waste to be shipped when compared to that of FY2001.0 forecast. A major change in this forecast is the assignment of scope for the 618-10/11 Burial Grounds and the 233-S Plutonium Reclamation Facility being shifted from Bechtel Hanford to Fluor Hanford. A reevaluation of the expected waste generation during this scope transfer also resulted in a slightly lower forecast which is the cause for the majority of the decrease in forecasted volume.

SWIFT Report – CH_TRU(M) Waste

The 2002.0 forecast shows a 5% increase from the FY2001.0 forecast of 15,900 m³ due mainly to increases in Fluor Hanford's forecast. The Plutonium Finishing Plant accounts for the majority (2,334 m³) of the Fluor Hanford increase.

Comparison to Previous Baseline(s) by Company

Contact Handled Transuranic & Transuranic Mixed Waste Summary Volumes	FY 2003.1 Forecast (m ³)	FY 2003.0 Forecast (m ³)	FY 2002.0 Forecast (m ³)	FY 2001.0 Forecast (m ³)
Functional Groups				
Fluor Hanford	14,850	--	11,310	11,340
CH2M Hill Hanford Group, Inc.	620	--	--	--
Pacific Northwest National Laboratory	70	520	500	1,480
Bechtel-Washington Group	10	15,160	4,890	3,050
Offsite	5	5	7	5
Bechtel Hanford, Inc.	--	80	90	30
Total	15,560	15,770	16,790	15,900

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

More detail as to the reasons for the volume changes is included in each of the group and individual waste generator pages.

Waste Characteristic Data

The physical waste forms, hazardous characteristics, and container distributions for CH_TRU(M) waste are shown in the charts below. The majority of the waste (98% or 15,240 m³) is expected to be debris. The primary hazardous characteristics are expected to be metals and organics. Most of the CH_TRU(M) will be shipped in standard waste boxes (SWBs) and 208 liter drums.

Physical Waste Form Distribution

Contact Handled Transuranic & Transuranic Mixed Waste
Total = 15,560 m³

Hazardous Characteristic Distribution

Contact Handled Transuranic & Transuranic Mixed Waste
Total (CH_TRUM only) = 1,360 m³

SWIFT Report – CH_TRU(M) Waste

Container Distribution

Contact Handled Transuranic & Transuranic Mixed Waste
Total = 15,560 m³

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

CH_TRU(M) Waste Summary Curies	CH_TRU(M)	FY 2003.1 Forecast (curies)
Radionuclide		
Carbon 14	1.3E-05	1.3E-05
Cobalt 60	7.3E-03	7.3E-03
Strontium 90	1.1E+04	1.1E+04
Technetium 99	1.4E+02	1.4E+02
Iodine 129	4.1E-04	4.1E-04
Cesium 137	7.5E+02	7.5E+02
Uranium 234	2.1E-04	2.1E-04
Uranium 235	1.7E-07	1.7E-07
Uranium 238	1.8E-05	1.8E-05
Neptunium 237	1.9E-03	1.9E-03
Plutonium 238	3.5E+04	3.5E+04
Plutonium 239	1.0E+05	1.0E+05
Plutonium 240	3.3E+04	3.3E+04
Plutonium 241	3.9E+05	3.9E+05
Plutonium 242	1.8E+01	1.8E+01
Plutonium 238, 239, 240	1.3E+03	1.3E+03
Americium 241	3.4E+04	3.4E+04
Americium 243	2.5E-05	2.5E-05
Americium 241, 243	1.3E+01	1.3E+01
Other	5.0E-06	5.0E-06
Total	6.1E+05	6.1E+05
Percent	100%	100%

Definition

Contact-handled transuranic and transuranic mixed (CH_TRU(M)) waste has a dose rate equal to or less than 200 mrem/h at contact with the waste container. At the time of assay, this waste contains more than 100nCi/g of alpha-emitting isotopes with atomic numbers greater than 92 and half-lives greater than 20 years. TRU(M) waste is TRU waste that is also dangerous (hazardous) waste as defined in the Washington Administrative Code (WAC) 173-303.

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FY2003.1 Forecast of RH_TRU(M) Waste

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RH_TRU(M) Waste Definition

Highlights of RH_TRU(M) Waste Forecast

- A total of 770 m³ of RH_TRU(M) waste is forecast for shipment to Fluor Hanford Waste Management Project by onsite and offsite generators.
- Offsite generators forecast 30 m³ of RH_TRU(M) waste to Fluor Hanford Waste Management Project.
- The RH_TRU(M) waste forecast life cycle ends in 2034.
- This forecast shows a 54% decrease from the FY2003.0 forecast of 1,700 m³.
- CH2M Hill Hanford Group, Inc. and Fluor Hanford group account for the majority of the forecasted RH_TRU(M) waste.

Company Distribution

Remote Handled Transuranic & Transuranic Mixed Waste
Total = 770 m³

Annual RH_TRU(M) Waste Volumes

The annual amount of RH_TRU(M) forecast fluctuates from 2003 through 2034. The high volumes near term (2003-2004) is primarily due to K-Basin Operations activities. The peak from 2010 to 2012 is due to waste generated by W-521 Waste Feed Delivery Systems.

RH_TRU(M) Waste Annual Minimum, Baseline, and Maximum Volumes

Summary Table (volumes in m³)

Forecast by Company

Remote Handled Transuranic & Transuranic Mixed Waste Summary Volumes	FY 2003.1 Forecast (m³)	% of Total
Functional Groups		
CH2M Hill Hanford Group, Inc.	320	41%
Fluor Hanford	300	38%
Bechtel-Washington Group	70	9%
Pacific Northwest National Laboratory	60	7%
Offsite	30	4%
Total	770	100%

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 54% decrease from the FY2003.0 forecast of 1,700 m³ primarily due to forecast changes for CH2M Hill Hanford Group, Inc. and Bechtel-Washington Group.

The FY2003.0 forecast showed a 31% increase in forecast volume for RH_TRU(M) from the FY2002.0 forecast. Most of the increase was in the Bechtel-Washington Group forecast. The decrease in the Bechtel-Hanford, Inc. and the increase in Fluor Hanford were attributed to the change in scope of the 618-10/11 Burial Grounds.

The FY2002.0 forecast showed a 41% increase in forecast volumes for this waste type from the FY2001.0 forecast. CH2M Hill Hanford Group, Inc.'s forecast increased 320 m³ as a result of the Waste Feed Delivery generator.

SWIFT Report – RH_TRU(M) Waste

Comparison to Previous Baseline(s) by Company

Remote Handled Transuranic & Transuranic Mixed Waste Summary Volumes	FY 2003.1 Forecast (m ³)	FY 2003.0 Forecast (m ³)	FY 2002.0 Forecast (m ³)	FY 2001.0 Forecast (m ³)
Functional Groups				
Bechtel Hanford, Inc.	--	--	100	100
Bechtel-Washington Group	70	520	70	70
CH2M Hill Hanford Group, Inc.	320	810	810	490
Fluor Hanford	300	280	170	200
Offsite	30	30	50	40
Pacific Northwest National Laboratory	60	60	100	10
Total	770	1,700	1,300	920

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

More detail as to the reasons for the volume changes is included in each of the group and individual waste generator pages.

Waste Characteristic Data

The physical waste forms, hazardous characteristics, and container distributions for RH_TRU(M) waste are shown in the charts below. The majority of the waste (49%) is expected to be debris waste and 32% is expected to be shielding. The primary hazardous characteristics are expected to be metals and organics. RH_TRU(M) waste will primarily be shipped in long equipment containers (LECs) and 208 liter drums. The 'Misc' containers are Large Diameter Sludge Containers.

Physical Waste Form Distribution

Remote Handled Transuranic & Transuranic Mixed Waste
Total = 770 m³

Hazardous Characteristic Distribution

Remote Handled Transuranic & Transuranic Mixed Waste
Total (RH_TRUM only) = 570 m³

SWIFT Report – RH_TRU(M) Waste

Container Distribution

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Radionuclide Data

RH_TRU(M) Waste Summary Curies		
Radionuclide	RH_TRU(M)	FY 2003.1 Forecast (curies)
Tritium	1.7E-02	1.7E-02
Carbon 14	5.2E-04	5.2E-04
Cobalt 60	4.3E+02	4.3E+02
Selenium 79	8.9E-02	8.9E-02
Strontium 90	8.6E+04	8.6E+04
Technetium 99	2.6E+02	2.6E+02
Iodine 129	1.9E-02	1.9E-02
Cesium 137	1.4E+05	1.4E+05
Uranium 234	1.0E-01	1.0E-01
Uranium 235	1.4E-03	1.4E-03
Uranium 238	3.0E-02	3.0E-02
Neptunium 237	7.6E-02	7.6E-02
Plutonium 238	2.9E+02	2.9E+02
Plutonium 239	3.4E+01	3.4E+01
Plutonium 240	5.6E+01	5.6E+01
Plutonium 241	5.9E+03	5.9E+03
Plutonium 242	2.0E-01	2.0E-01
Plutonium 238, 239, 240	1.9E+02	1.9E+02
Americium 241	6.4E+02	6.4E+02
Americium 243	2.2E+00	2.2E+00
Americium 241, 243	2.4E+02	2.4E+02
Other	9.2E+02	9.2E+02
Total	2.4E+05	2.4E+05
Percent	100%	100%

Definition

Remote-handled transuranic and transuranic mixed (RH_TRU(M)) waste has a dose rate greater than 200 mrem/h at contact with the waste container. At the time of assay, this waste contains more than 100nCi/g of alpha-emitting isotopes with atomic numbers greater than 92 half-lives greater than 20 years. TRU(M) waste is TRU waste that is also dangerous (hazardous) waste as defined in the Washington Administrative Code (WAC) 173-303.

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FY2003.1 Forecast of Hazardous Waste

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Hazardous Waste Definition

Highlights of Hazardous Waste Forecast

- A total of 1,830 m³ of Hazardous waste is forecast to be generated at the Hanford site.
- The Hazardous waste forecast life cycle ends in 2046.
- This forecast shows a 10 m³ increase from the FY2003.0 forecast.
- CH2M Hill Hanford forecasts the majority of the Hazardous waste.

Company Distribution

Annual Hazardous Volumes

The amount of hazardous waste forecasted grows gradually to 2017 and then slowly decreases. This coincides with the work scope for CHG Waste Feed Operations which by itself accounts for the majority (~65%) of forecasted hazardous waste. The small spike in the outyears (2036-2038) is from the T Plant Transition activities.

Hazardous Waste Annual Minimum, Baseline, and Maximum Volumes

Summary Table (volumes in m³)

Forecast by Company

(in descending order by company volume)

Hazardous Waste Summary Volumes	FY 2003.1 Forecast (m³)	% of Total
Functional Groups		
CH2M Hill Hanford Group, Inc.	1,190	65%
Fluor Hanford	630	35%
Bechtel Hanford, Inc.	6	< 1%
Total	1,830	100%

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Comparison to Previous Baseline(s)

The FY2003.1 forecast shows a 10 m³ increase from the FY2003.0 forecast due to slight modifications (increases and decreases) in all group forecasts.

The FY2003.0 forecast increased 17% from the FY2002.0 forecast of 1,560 m³. The increase is mostly due to a large increase (740 m³) in the SST/DST Tank Farm Operations forecast. This increase is offset somewhat with a significant decrease (380 m³) from the Hanford Site Infrastructure hazardous waste forecast.

The FY2002.0 forecast showed a 13% decrease from the FY2001.0 forecast of 1,760 m³. The decrease can largely be accounted for by the decrease of volume forecast by Fluor Hanford.

SWIFT Report – Hazardous Waste

Comparison to Previous Baseline(s) by Company

Hazardous Waste Summary Volumes	FY 2003.1 Forecast (m3)	FY 2003.0 Forecast (m3)	FY 2002.0 Forecast (m3)	FY 2001.0 Forecast (m3)
Functional Groups				
CH2M Hill Hanford Group, Inc.	1,190	0.77	--	--
Fluor Hanford	630	--	--	--
Bechtel Hanford, Inc.	6	1,170	440	440
Pacific Northwest National Laboratory	--	640	1,130	1,320
Total	1,830	1,820	1,560	1,760

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Waste Characteristic Data

The physical waste forms, hazardous characteristics, and container distributions for Hazardous waste are shown in the charts below. The majority of the waste is expected to be debris (31%) and lab packs (30%). The primary hazardous characteristics are expected to be organics and metals. Hazardous waste will be shipped primarily in 208 liter drums.

Physical Waste Form Distribution

Container Distribution

Note: Due to rounding, totals may not equal sum of individual values. Numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, and numbers less than 1 are rounded to nearest 0.01 m³.

Definition

Hazardous waste is dangerous (hazardous) waste as defined in the Washington Administrative Code (WAC) 173-303.

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Report - Forecast Comparison, FY2003.1 to FY2003.0 Forecast

Forecast Comparison, FY2003.0 to FY2003.1 Forecast (FY2003.1 - FY2003.0)													
Company	Forecast Generator	Total	LLW Subtotal	LLW I	LLW III	LLW GTCIII	MLLW Waste Subtotal	CH MLLW	RH MLLW	MLLW Subtotal	CH TRUM	RH TRUM	TRUM Subtotal
Forecast Total													
Bechtel Hanford, Inc.		(18,336.4)	(777.0)	25733	(3,378.8)	284	(17,619.4)	(8,563.4)	(34,346.7)	(16,488.6)	(209.2)	(322.5)	(1,132.8)
Environmental Restoration		3.6	1.3	13			2.3	(4.9)		2.3			
Bechtel-Washington Group		(3,781.3)	(1,908.2)	(1,326.7)	18.5		(1,873.1)	(5,967.1)	(2,752.0)	(1,439.3)	14.6	(44.5)	(433.8)
Waste Treatment Plant - Operations		(3,781.3)	(1,908.2)	(1,326.7)	18.5		(1,873.1)	(5,967.1)	(2,752.0)	(1,439.3)	14.6	(44.5)	(433.8)
CH2M Hill Hanford Group, Inc.		(15,496.8)	389.4	4,430	(4,600.6)		(15,736.2)	(56,461.2)	(31,502.8)	(15,405.6)	101.1	(391.7)	(390.6)
CHG Waste Feed Operations		70,541.7	58,371.2	56,911	1,460.2		12,170.5	(12,938.0)	(1,516)	12,170.5			
DST Compliance Upgrade - Project 525		(23,501.3)					(23,501.3)	(3.6)	(22,518.0)	(22,518.0)	(431.7)	(431.7)	(983.3)
SST Long Length Equipment		(1,928.9)	(603.3)	(603.3)			(1,325.6)	(917.9)	(387.2)	(1,305.2)	(20.5)		(20.5)
SST Retrieval (149 tanks)		(1,928.9)	(603.3)	(603.3)			(1,325.6)	(917.9)	(387.2)	(1,305.2)	(20.5)		(20.5)
SST/DST Tank Farm Operations		(78,170.7)	(55,243.1)	(53,916.0)	(8,327.1)		(12,927.6)	(12,737.0)	(100.8)	(12,927.6)			
Tank Closure		17,629.6	7,836.8	7,070.5	768.3		9,732.8	(3,107.3)	(72.3)	9,179.6	613.2		613.2
Vadose Zone Well Drilling								(738.4)					
W-21/DST Retrieval Systems (10 tanks)		22.8	27.8	27.8			(5.0)	(48.4)	(3,370.1)	(5.0)			
W-314 Tank Farm Restoration								(503.7)	(338.6)				
W-521 Waste Feed Delivery System (8 tanks)								(133.8)	(4,553.4)				
Fluor Hanford													
209-E Critical Mass Laboratory		(1,249.7)	(1,955.7)	(1,834.0)	(128.1)	6.4	106	(8,403.1)	(30.3)	401	(313.0)	17.9	(295.1)
222-S Analytical Laboratory		17.2	16.2	16.2			1	(1.0)		1			
224-B Plutonium Concentration Facility		2.8					2.8	(2,081.9)	(67.8)				
224-T Transuranic Storage and Assay Facility		2.8					2.8				2.8		2.8
231-Z Materials Engineering Laboratory		.8					.8				.8		.8
233-S Plutonium Concentration Facility													
300 Area Accelerated Closure Project													
324 Building													
327 Building													
618-10/11 Burial Grounds								(12.4)					
B Plant		12.2	12.2	12.2				(13.1)					
Central Plateau SM&T		7.1	8.1	8.1				(2.1)					
Equipment Disposition Project		(124.5)	(124.5)		(124.6)		(1.0)	(3.1)		(1.0)			
Fast Flux Test Facility													
Ground Water Monitoring		11.3					11.3	(0.5)					
Hanford Site Operations (Infrastructure)								(10.3)		6.2	5.1		5.1

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Report - Solid Waste Generators by Company and Generator

Sum of totals may not add due to rounding; numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, non-zero numbers less than 1 are rounded to 1.

FY2003.1 Forecast Volumes by Company and Generator (m3)

Company	Forecast Generator	Total	LLW Subtotal	LLW I	LLW III	LLW GTCIII	MLW + TRU(M) Waste Subtotal	CH MLW	RH MLW	MLW Subtotal	CH TRUM	RH TRUM	TRU(M) Subtotal
	Forecast Total	185,831	130,283	122,857	7,386	28	55,547	33,779	5,431	39,210	15,563	774	16,337
Bechtel Hanford, Inc.	Environmental Restoration	6	3	3			4	4		4			
	Waste Treatment Plant - Operations	6	3	3			4	4		4			
	W-211 DST Retrieval Systems (10 tanks)	12,580	4,152	4,094	59		8,428	7,283	1,057	8,340	15	73	88
CH2M Hill Hanford Group, Inc.	CHG Waste Feed Operations	94,123	66,907	64,681	2,226		27,216	21,960	4,329	26,279	621	316	937
	DST Compliance Upgrade - Project 525	70,542	58,371	56,911	1,460		12,171	12,039	132	12,171			
	Tank Closure	146	144	144			2	2		2			
	Vadose Zone Well Drilling	17,630	7,837	7,071	766		9,793	9,107	72	9,180	613		613
	W-211 DST Retrieval Systems (10 tanks)	399					399	399		399			
	W-314 Tank Farm Restoration	1,984	227	227			1,757	78	1,679	1,757			
	W-521 Waste Feed Delivery System (8 tanks)	493	74	74			425	255	170	425			
		2,924	254	254			2,671	70	2,277	2,347	8	316	324
		45,220	25,632	23,986	1,640	6	19,588	4,402	40	4,442	14,850	295	15,145
		17	16	16			1	1		1			
Fluor Hanford	209-E Critical Mass Laboratory	6,966	5,891	4,836	1,056		1,075	1,041	34	1,075			
	222-S Analytical Laboratory	3					3				3		3
	224-B Plutonium Concentration Facility	3					3				3		3
	224-T Transuranic Storage and Assay Facility	1					1				1		1
	231-Z Materials Engineering Laboratory	29					29						
	233-S Plutonium Concentration Facility	50	50	50							29		29
	300 Area Accelerated Closure Project	243	213	126	86		31	7		7		24	24
	324 Building	208	182	83	99		25	7		7	19		19
	618-10/11 Burial Grounds	10,302					10,302				10,200	102	10,302
	B Plant	29	28	28			1	1		1			
Central Plateau SM&T	Fast Flux Test Facility	17	16	16			1	1		1			
	Ground Water Monitoring	11	11	10	1								
		13					13	8		8	5		5

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Report - Solid Waste Generators by Total Volume

Sum of totals may not add due to rounding: numbers over 10 m³ are rounded to the nearest 10 m³, numbers less than 10 m³ are rounded to integers, non-zero numbers less than 1 are rounded to 1.

FY2003.1 Forecast Ranked by Waste Generator Volume (m³)

Functional Group	Generator	Total	% of Total	LLV I	LLV III	LLV GTCIII	CH MLLV	RH MLLV	CH TRUM	RH TRUM	End of Life Cycle
Forecast Total		185,831	100%	122,857	7,386	28	33,779	5,431	15,583	774	2046
CH2M Hill Hanford Group, Inc.	CHG Waste Feed Operations	70,542	38.0%	56,911	1,460		12,039	132			2023
CH2M Hill Hanford Group, Inc.	Tank Closure	17,630	9.5%	7,071	786		9,107	72	613		2032
Offsite	Brookhaven National Laboratory	16,731	9.0%	16,714	17						2046
Bechtel-Washington Group	Waste Treatment Plant - Operations	12,580	6.8%	4,094	59		7,283	1,057	15	73	2028
Fluor Hanford	Plutonium Finishing Plant, 234-5 Z	10,712	5.8%	5,785	272		157		4,500		2009
Fluor Hanford	618-10/11 Burial Grounds	10,302	5.5%						10,200	102	2018
Offsite	Argonne National Laboratory-East	9,317	5.0%	8,528	789						2046
Fluor Hanford	222-S Analytical Laboratory	6,966	3.7%	4,835	1,056		1,041	34			2035
Fluor Hanford	Liquid Effluent Facilities, 300 Area	4,737	2.5%	4,689			48				2033
Fluor Hanford	Hanford Site Operations (Infrastructure)	3,030	1.6%	3,019			11				2046
CH2M Hill Hanford Group, Inc.	W-521 Waste Feed Delivery System (8 tanks)	2,924	1.6%	254			70	2,277	8	316	2028
Fluor Hanford	Liquid Waste Processing Facilities, 200 Area	2,004	1.1%	31			1,973				2033
CH2M Hill Hanford Group, Inc.	W-211 DST Retrieval Systems (10 tanks)	1,984	1.1%	227			78	1,679			2028
Fluor Hanford	T Plant Operations, 221-T12706-T	1,861	1.0%	1,657			204				2035
Offsite	Fermi National Accelerator Laboratory	1,587	<1	1,587							2027
Offsite	Idaho Nat. Engineering and Environmental Lab.	1,398	<1		1,398						2046
Offsite	Princeton Plasma Physics Lab	1,248	<1	1,248							2046
Fluor Hanford	Waste Encapsulation & Storage Facility	1,144	<1	1,096	26	6	10	6			2026
Fluor Hanford	Waste Sampling & Characterization Facility, 6266	1,057	<1	831			226				2046
Offsite	Stanford Linear Accelerator Center	1,006	<1	1,006							2046
Fluor Hanford	RH and Oversized MLLW/TRU(M) Facilities (M-31)	917	<1	251			606		21	39	2034

Pacific Northwest National Offsite	Pacific Northwest National Laboratory Knolls Atomic Power-Shipyards	858	<1	330	255	141	4	71	56	2010
Fluor Hanford	Low Level Burial Grounds, 218 E/W	645	<1	418	227	19				2007
Offsite	Knolls Atomic Power Laboratory - Tennessee	582	<1	562						2046
Fluor Hanford	K-Basin Operations, 100-K	522	<1	361	522	11			129	2004
CH2M Hill Hanford Group, Inc.	W-314 Tank Farm Restoration	501	<1	74		255	170			2005
Offsite		499	<1			399				2019
CH2M Hill Hanford Group, Inc.	Vadose Zone Well Drilling	399	<1			7		31		2032
Fluor Hanford	Waste Receiving and Processing Facility, 2336-W	283	<1	199	46				24	2006
Fluor Hanford	324 Building	243	<1	126	86	7				2006
Fluor Hanford	T Plant Canyon Cleanup	243	<1	130	54	59				2006
Fluor Hanford	327 Building	208	<1	83	98	7		19		2007
Offsite	Battelle Columbus Laboratories	176	<1	12	130			2	32	2008
Offsite	Bettis Atomic Power Laboratory - Idaho	146	<1		125	21				2046
CH2M Hill Hanford Group, Inc.	DST Compliance Upgrade - Project 525	146	<1	144		2				2005
Fluor Hanford	T Plant Transition	120	<1	80				40		2038
Offsite	Ames Laboratory-Ames, Iowa	107	<1	107						2046
Offsite	Lawrence Berkeley Laboratory	79	<1	76	1	1				2007
Offsite	Energy Technology Engineering Center (ETEC)	62	<1	58				3	2	2003
Fluor Hanford	U Plant	62	<1	58		2			1	2006
Fluor Hanford	300 Area Accelerated Closure Project	50	<1	50						2006
Fluor Hanford	PUREX	42	<1	41		1				2006
Fluor Hanford	B Plant	29	<1	28		1				2006
Fluor Hanford	233-S Plutonium Concentration Facility	29	<1					29		2003
Fluor Hanford	Central Plateau SM&T	17	<1	18		1				2006
Fluor Hanford	209-E Critical Mass Laboratory	17	<1	16		1				2006
Fluor Hanford	REDOX	17	<1	16		1				2006
Fluor Hanford	Waste Sites	16	<1	16						2006
Fluor Hanford	Ground Water Monitoring	13	<1			8		5		2006
Fluor Hanford	Fast Flux Test Facility	11	<1	10	1					2013
Offsite	Bates Accelerator-Massachusetts	11	<1	11						2045
Offsite	Bettis Atomic Power Laboratory	8	<1		8					2008
Bechtel Hanford, Inc.	Environmental Restoration	6	<1	3		4				2003
Fluor Hanford	224-T Plutonium Storage and Assay Facility	3	<1					3		2004
Fluor Hanford	224-B Plutonium Concentration Facility	3	<1					3		2004
Offsite	Bettis Atomic Power-Shipyards	1	<1	1						2012
Fluor Hanford	231-Z Materials Engineering Laboratory	1	<1					1		2003
Offsite	Rocky Flats		<1							2005

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Report - FY2003.1 MLLW Forecast Waste Specification Record Volumes (m³) by Waste Generator

FY2003.1 MLLW Forecast Waste Specification Record Volumes (m ³) by Waste Generator				
Company / Waste Generator	Waste Class Group	LDR Waste Stream Code	Waste Specification Record (WSRd)	Volume
Bechtel Hanford, Inc.	CH MLLW	MLLV-04 (Non-OC)	647-03 Other inorganic debris	0.9
	CH MLLW	MLLV-04 (OC)	627-04 Other organic debris	2.7
Bechtel Washington Group	CH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	7282.8
	RH MLLW	MLLV-07	550-00 Remote handled homogeneous solids shielded to contact handled levels	1057.2
CH2M Hill Hanford Group, Inc.	CH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	617.7
	CH MLLW	MLLV-01	931-03 Federal and state LDR compliant waste that requires stabilization	5693.2
CHG Waste Feed Operations	CH MLLW	MLLV-03	505-03 Other solids (thermal treatment)	11
CHG Waste Feed Operations	CH MLLW	MLLV-04 (Non-OC)	647-03 Other inorganic debris	332
CHG Waste Feed Operations	CH MLLW	MLLV-04 (OC)	627-04 Other organic debris	183.8
CHG Waste Feed Operations	RH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	1316
CHG Waste Feed Operations	CH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	18
DST Compliance Upgrade - Project 525	CH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	8867.3
Tank Closure	CH MLLW	MLLV-03	505-03 Other solids (thermal treatment)	265.3
Tank Closure	CH MLLW	MLLV-04 (Non-OC)	647-03 Other inorganic debris	27.6
Tank Closure	CH MLLW	MLLV-04 (OC)	627-04 Other organic debris	147.1
Tank Closure	RH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	72.3
Vadose Zone Well Drilling	CH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	395.2
W-211 DST Retrieval Systems (10 tanks)	CH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	77.7
W-211 DST Retrieval Systems (10 tanks)	RH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	1679.1
W-314 Tank Farm Restoration	CH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	254.9
W-314 Tank Farm Restoration	RH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	168.1
W-314 Tank Farm Restoration	CH MLLW	MLLV-07	550-00 Remote handled debris shielded to contact handled levels	1.7
W-521 Waste Feed Delivery System (8 tanks)	CH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	69.9
W-521 Waste Feed Delivery System (8 tanks)	RH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	2276.7

Fluor Hanford	CH	MLLW	MLLV-05	800-02 Radioactive lead solids LDR subcategory	1.0
209-E Critical Mass Laboratory	CH	MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	18.3
222-S Analytical Laboratory	CH	MLLW	MLLV-03	400-05 Liquids with flashpoint less than 100 degrees F (38 degrees c)	6.1
222-S Analytical Laboratory	CH	MLLW	MLLV-03	400-02 Caustic liquids (thermal treatment)	6.1
222-S Analytical Laboratory	CH	MLLW	MLLV-03	404-02 Other liquids (thermal treatment)	6.1
222-S Analytical Laboratory	CH	MLLW	MLLV-03	505-03 Other solids (thermal treatment)	6.1
222-S Analytical Laboratory	CH	MLLW	MLLV-03	923-00 State only organic solid waste	18.3
222-S Analytical Laboratory	CH	MLLW	MLLV-04 (OC)	627-04 Other organic debris	888.3
222-S Analytical Laboratory	CH	MLLW	MLLV-05	800-02 Radioactive lead solids LDR subcategory	36.6
222-S Analytical Laboratory	CH	MLLW	MLLV-07	630-00 Remote handled debris shielded to contact handled levels	33.9
222-S Analytical Laboratory	CH	MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	0.5
324 Building	CH	MLLW	MLLV-03	400-05 Liquids with flashpoint less than 100 degrees F (38 degrees c)	0.3
324 Building	CH	MLLW	MLLV-03	402-02 Acidic liquids (thermal treatment)	0.3
324 Building	CH	MLLW	MLLV-03	403-02 Caustic liquids (thermal treatment)	0.3
324 Building	CH	MLLW	MLLV-03	404-02 Other liquids (thermal treatment)	0.9
324 Building	CH	MLLW	MLLV-04 (Non-OC)	647-03 Other inorganic debris	0.2
324 Building	CH	MLLW	MLLV-04 (OC)	627-04 Other organic debris	4.3
327 Building	CH	MLLW	MLLV-02	902-03 State only inorganic solid acid waste	0.3
327 Building	CH	MLLW	MLLV-03	400-05 Liquids with flashpoint less than 100 degrees F (38 degrees c)	0.3
327 Building	CH	MLLW	MLLV-03	404-02 Other liquids (thermal treatment)	0.3
327 Building	CH	MLLW	MLLV-03	923-00 State only organic solid waste	1.0
327 Building	CH	MLLW	MLLV-04 (Non-OC)	647-03 Other inorganic debris	0.2
327 Building	CH	MLLW	MLLV-05	800-02 Radioactive lead solids LDR subcategory	4.8
B Plant	CH	MLLW	MLLV-05	800-02 Radioactive lead solids LDR subcategory	1.0
Fast Flux Test Facility	CH	MLLW	MLLV-10	820-01 Water reactive metal and compounds	0.3
Central Plateau SM&T	CH	MLLW	MLLV-04 (OC)	627-04 Other organic debris	8.2
Ground Water Monitoring	CH	MLLW	MLLV-02	525-00 Other solids (non-thermal treatment)	11.3
Hanford Site Operations (Infrastructure)	CH	MLLW	MLLV-03	401-04 Liquids with flashpoint between 100 to less than 140 degrees F (38-60 degrees c)	11.4
K-Basin Operations, 100-K	CH	MLLW	MLLV-02	525-00 Other solids (non-thermal treatment)	8.2
Liquid Effluent Facilities, 300 Area	CH	MLLW	MLLV-03	505-03 Other solids (thermal treatment)	7.2
Liquid Effluent Facilities, 300 Area	CH	MLLW	MLLV-04 (OC)	627-04 Other organic debris	32.9
Liquid Effluent Facilities, 300 Area	CH	MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	1809.2
Liquid Waste Processing Facilities, 200 Area	CH	MLLW	MLLV-04 (OC)	627-04 Other organic debris	163.6
Liquid Waste Processing Facilities, 200 Area	CH	MLLW	MLLV-04 (OC)	627-04 Other organic debris	19.4
Low Level Burial Grounds, 218 E/W	CH	MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	3.1
Plutonium Finishing Plant, 234-5 Z	CH	MLLW	MLLV-02	420-02 Acidic liquids (non-thermal treatment)	15.7
Plutonium Finishing Plant, 234-5 Z	CH	MLLW	MLLV-02	421-02 Caustic liquids (non-thermal treatment)	15.7
Plutonium Finishing Plant, 234-5 Z	CH	MLLW	MLLV-02	428-02 Oxidizer liquids (non-thermal treatment)	15.7
Plutonium Finishing Plant, 234-5 Z	CH	MLLW	MLLV-02	521-00 Oxidizer solids (non-thermal treatment)	3.1
Plutonium Finishing Plant, 234-5 Z	CH	MLLW	MLLV-02	902-03 State only inorganic solid acid waste	3.1
Plutonium Finishing Plant, 234-5 Z	CH	MLLW	MLLV-03	400-05 Liquids with flashpoint less than 100 degrees F (38 degrees c)	15.7
Plutonium Finishing Plant, 234-5 Z	CH	MLLW	MLLV-03	402-02 Acidic liquids (thermal treatment)	7.8
Plutonium Finishing Plant, 234-5 Z	CH	MLLW	MLLV-03	403-02 Caustic liquids (thermal treatment)	3.1
Plutonium Finishing Plant, 234-5 Z	CH	MLLW	MLLV-03	404-02 Other liquids (thermal treatment)	15.7
Plutonium Finishing Plant, 234-5 Z	CH	MLLW	MLLV-03	405-02 Oxidizer liquids (thermal treatment)	3.1

Plutonium Finishing Plant, 234-5 Z	CH MLLW	MLLV-03	500-02 Ignitable solids	3.1
Plutonium Finishing Plant, 234-5 Z	CH MLLW	MLLV-03	501-02 Oxidizer solids (thermal treatment)	3.1
Plutonium Finishing Plant, 234-5 Z	CH MLLW	MLLV-03	504-02 Caustic solids (thermal treatment)	3.1
Plutonium Finishing Plant, 234-5 Z	CH MLLW	MLLV-03	505-03 Other solids (thermal treatment)	15.7
Plutonium Finishing Plant, 234-5 Z	CH MLLW	MLLV-03	505-03 Other solids (thermal treatment)	3.1
Plutonium Finishing Plant, 234-5 Z	CH MLLW	MLLV-03	922-02 State only organic solid acid waste	16
Plutonium Finishing Plant, 234-5 Z	CH MLLW	MLLV-03	922-02 State only organic solid caustic waste	3.1
Plutonium Finishing Plant, 234-5 Z	CH MLLW	MLLV-04 (Non-OC)	847-03 Other inorganic debris	12.5
Plutonium Finishing Plant, 234-5 Z	CH MLLW	MLLV-04 (OC)	847-03 Other inorganic debris	3.1
Plutonium Finishing Plant, 234-5 Z	CH MLLW	MLLV-05	800-02 Radioactive lead solids LDR subcategory	3.1
Plutonium Finishing Plant, 234-5 Z	CH MLLW	MLLV-06	800-01 Elemental mercury LDR subcategory	3.1
Plutonium Finishing Plant, 234-5 Z	CH MLLW	MLLV-09	802-02 Lead acid batteries LDR subcategory	3.1
Plutonium Finishing Plant, 234-5 Z	CH MLLW	MLLV-05	800-02 Radioactive lead solids LDR subcategory	10
PUREX	CH MLLW	MLLV-05	800-02 Radioactive lead solids LDR subcategory	10
REDOX	CH MLLW	MLLV-05	800-02 Radioactive lead solids LDR subcategory	79.0
RH and Oversized MLLW/TRU(M) Facilities (M-91)	CH MLLW	MLLV-02	525-00 Other solids (non-thermal treatment)	16.9
RH and Oversized MLLW/TRU(M) Facilities (M-91)	CH MLLW	MLLV-02	525-00 Other solids (non-thermal treatment)	33.9
RH and Oversized MLLW/TRU(M) Facilities (M-91)	CH MLLW	MLLV-03	400-05 Liquids with flashpoint less than 100 degrees F (38 degrees c)	16.9
RH and Oversized MLLW/TRU(M) Facilities (M-91)	CH MLLW	MLLV-03	403-02 Caustic liquids (thermal treatment)	33.9
RH and Oversized MLLW/TRU(M) Facilities (M-91)	CH MLLW	MLLV-03	404-02 Other liquids (thermal treatment)	50.8
RH and Oversized MLLW/TRU(M) Facilities (M-91)	CH MLLW	MLLV-03	505-03 Other solids (thermal treatment)	16.9
RH and Oversized MLLW/TRU(M) Facilities (M-91)	CH MLLW	MLLV-03	921-02 State only organic solid acid waste	16.9
RH and Oversized MLLW/TRU(M) Facilities (M-91)	CH MLLW	MLLV-04 (OC)	923-00 State only organic solid waste	340.9
RH and Oversized MLLW/TRU(M) Facilities (M-91)	CH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	17.0
T Plant Canyon Cleanup	CH MLLW	MLLV-03	505-03 Other solids (thermal treatment)	5.9
T Plant Canyon Cleanup	CH MLLW	MLLV-03	505-03 Other solids (thermal treatment)	36.0
T Plant Operations, 221-T72706-T	CH MLLW	MLLV-04 (Non-OC)	525-00 Other solids (non-thermal treatment)	14
T Plant Operations, 221-T72706-T	CH MLLW	MLLV-02	525-00 Other solids (non-thermal treatment)	7.8
T Plant Operations, 221-T72706-T	CH MLLW	MLLV-03	847-03 Other inorganic debris	89.4
T Plant Operations, 221-T72706-T	CH MLLW	MLLV-04 (OC)	847-03 Other inorganic debris	104.9
U Plant	CH MLLW	MLLV-05	800-02 Radioactive lead solids LDR subcategory	2.1
Waste Encapsulation & Storage Facility	CH MLLW	MLLV-05	800-02 Radioactive lead solids LDR subcategory	10.0
Waste Encapsulation & Storage Facility	CH MLLW	MLLV-07	850-00 Remote handled debris shielded to contact handled levels	6.4
Waste Receiving and Processing Facility, 2336-W	CH MLLW	MLLV-03	923-00 State only organic solid waste	7.5
Waste Sampling & Characterization Facility, 6266	CH MLLW	MLLV-03	400-05 Liquids with flashpoint less than 100 degrees F (38 degrees c)	10.8
Waste Sampling & Characterization Facility, 6266	CH MLLW	MLLV-03	402-02 Acidic liquids (thermal treatment)	11.8
Waste Sampling & Characterization Facility, 6266	CH MLLW	MLLV-03	404-02 Other liquids (thermal treatment)	181.4
Waste Sampling & Characterization Facility, 6266	CH MLLW	MLLV-03	505-03 Other solids (thermal treatment)	10.8
Waste Sampling & Characterization Facility, 6266	CH MLLW	MLLV-03	921-02 State only organic solid acid waste	11.8
Offsite	CH MLLW	MLLV-02	525-00 Other solids (non-thermal treatment)	0.0
Battelle Columbus Laboratories	CH MLLW	MLLV-05	800-01 Elemental mercury LDR subcategory	0.0
Battelle Columbus Laboratories	CH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	0.0
Rocky Flats	CH MLLW	MLLV-01	930-04 Federal and state LDR compliant waste that does not require stabilization	97.0
Pacific Northwest National Laboratory	CH MLLW	MLLV-01	931-03 Federal and state LDR compliant waste that requires stabilization	17.3
Pacific Northwest National Laboratory	CH MLLW	MLLV-03	501-02 Oxidizer solids (thermal treatment)	1.7
Pacific Northwest National Laboratory	CH MLLW	MLLV-03	505-03 Other solids (thermal treatment)	16.8
Pacific Northwest National Laboratory	CH MLLW	MLLV-05	800-02 Radioactive lead solids LDR subcategory	8.1
Pacific Northwest National Laboratory	CH MLLW	MLLV-07	850-00 Remote handled debris shielded to contact handled levels	4.1

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SWIFT Report Web Site Overview

This site has 3 levels of information about forecasted LLW, MLLW and TRU(M) solid waste to be managed by Hanford's Waste Management Program. The first level addresses data from a "summarization" and generator perspective, the second level addresses data from the perspective of the different waste classes represented, the third level provides generalized report options. The "summarization" perspective includes aggregating generator perspectives into groups. For example, by oversight company, Department of Energy office affiliation, location (e.g., Offsite/Onsite, Central Plateau, River Corridor, etc), and an overall total forecast summary. A complete list of all the perspectives as well as tools and help pages can be found by accessing the [Table of Contents](#) page.

With respect to the generator and summary data level pages, the general format applied to each page and section is:

- Header (Logo and data time stamp)
- Contents
- Highlights
- Annual volumes
- Comparison to previous baseline(s)
- Background
- Forecast assumptions and comments
- Waste characteristic data
- Radionuclide Data
- Other forecast data
- Footer

The **Header** has three pieces of useful information:

- The site revision date
- the data version
- the date of the data collection and analysis

The **Report contents section** provides 1) a list of the sections contained in the current page and 2) links to specific information in the current page or to related information contained elsewhere on the site.

The **Highlights section** is a brief, bulleted, overview of key LLW, MLLW and TRU(M) waste issues and typically includes the forecast life cycle, the total forecast volumes, and a comparison to previous baseline.

SWIFT Report – Web Site Overview

The **Annual Waste Class Volume** contains bar charts showing the minimum, baseline, and maximum volumes each year for the total LLW, MLLW, and TRU(M) waste forecast. This section also contains annual baseline forecasts for each waste type.

The **Comparison to previous baseline(s)** section provides expanded discussion of changes from previous forecasts of LLW, MLLW and TRU(M) waste.

The **Background** section describes the mission of the generator and may also provide details about how wastes are generated by completing that mission.

The **Forecast assumptions and comments** section describes the key programmatic assumptions on which the forecast is based. These may include the life cycle end date, assumptions about budgets, treatment, or other issues that affect the amount and types of expected wastes.

The **Waste characteristic data** section contains information about the container types, physical waste forms, hazardous characteristics, waste specification records, and radionuclides associated with the forecasted wastes.

The **Radionuclide data** section contains radionuclides data reported by waste type. The total activity of each radionuclide is reported in Curies.

The **Other forecast data** section discusses any hazardous waste included in the forecast.

Reports of forecast data that represents an aggregation of generator data include a **Summary Table** of the totals for LLW, MLLW and TRU(M) waste reported by each of the generators in the grouping.

Web Site Map

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Forecasting Process

The forecasting process can be partitioned into the following steps:

- *Determine programmatic assumptions* – The waste generator needs to understand budgetary, regulatory, and technical factors that affect current and future waste generation trends at their facility. Developing clear assumptions based on this information will ensure consistent accurate forecasts.
- *Collect forecast data* – Once the assumptions are clear, the waste generator collects data using those assumptions.
- *Set up a forecast file* – At this step, the waste generator begins to enter information into *SWIFT FY2003*, the electronic collection tool. Basic information on the generator(s) are reported, such as specifying the life cycle, specifying the waste classes, and defining any nonstandard containers or "combined" hazardous characteristics that will be forecast.
- *Enter data* – Once the generator(s) and waste classes have been specified, the waste generator specifies:
 - (1) the containers in which the waste will be stored and the projected volume of waste,
 - (2) the waste specification records of the waste class / container combinations,
 - (2) the physical form of the waste,
 - (3) the hazardous characteristics in the waste (if applicable), and
 - (4) the radionuclides in the waste (if applicable).

Notes can also be added by the waste generator to document information necessary to understand the forecast data.

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Waste Class Naming Conventions

Radioactive solid waste can be characterized into seven classes in this report. These classes are briefly described in Table 1. These definitions are applicable specifically to radioactive solid waste at the Hanford site and are based on HNF-EP-0063, Rev 8.

Table 1: Waste Category Definitions

	LLW_I	LLW_III	CH_MLLW	RH_MLLW	CH_TRU(M)	RH_TRU(M)	GTCIII
Dose rate	Varies	Varies	<= 200 mrem/h	> 200 mrem/h	<= 200 mrem/h	> 200 mrem/h	Varies
Dangerous per WAC 173-303	No	No	Yes	Yes	Yes (TRUM) No (TRU)	Yes (TRUM) No (TRU)	Yes (MLLW_GTCIII) No (LLW_GTCIII)
> 100 nCi/g alpha-emitting isotopes (atomic numbers > 92 & half-lives > 20 years)	No	No	No	No	Yes	Yes	No

Low-level waste category I (LLW_I)

This waste may be comprised of either contact- or remote-handled waste considered low-activity waste with low concentrations of long-lived radionuclides. The radionuclide concentration limits for LLW_I are defined in HNF-EP-0063, Rev. 9, September 2003.

Low-level waste category III (LLW_III)

This waste may be comprised of either contact- or remote-handled waste considered moderate- to high-activity waste with low concentrations of long-lived radionuclides. The radionuclide concentration limits for LLW_III are defined in HNF-EP-0063, Rev. 9, September 2003. This waste typically requires stabilization during disposal to minimize subsistence.

SWIFT Report – Waste Class Naming Conventions

Contact-handled mixed low-level waste (CH_MLLW)

This waste has a dose rate equal to or less than 200 mrem/h and contains radioactivity not classified as spent nuclear fuel or transuranic waste (concentrations of transuranic radionuclides less than or equal to 100 nCi/g of the waste matrix). The waste is also defined as dangerous (hazardous) waste in the Washington Administrative Code (WAC) 173-303.

Remote-handled mixed low-level waste (RH_MLLW)

This waste has a dose rate greater than 200 mrem/h and meets the definition for LLW. This waste is also defined as dangerous (hazardous) waste in WAC 173-303.

Contact-handled transuranic or transuranic mixed waste (CH_TRU(M))

This radioactive waste has a dose rate equal to or less than 200 mrem/h at contact with the waste container. At the time of assay, this waste contains more than 100 nCi/g of alpha-emitting isotopes with atomic numbers greater than 92 and half-lives greater than 20 years. TRUM waste is TRU waste that is also dangerous (hazardous) waste as defined in WAC 173-303.

Remote-handled transuranic or transuranic mixed waste (RH_TRU(M))

This waste has a dose rate greater than 200 mrem/h at contact with the waste container. At the time of assay, this waste contains more than 100 nCi/g of alpha-emitting isotopes with atomic numbers greater than 92 and half-lives greater than 20 years. TRUM waste is TRU waste that is also dangerous (hazardous) waste as defined in WAC 173-303.

Greater than Category III (GTCIII) Waste

This waste meets the definition for LLW and may also be defined as dangerous (hazardous) waste in WAC 173-303. Greater-than-Category III (GTCIII) designation is determined when the sum of the fractions of the radionuclides' Class III concentration limits are greater than one, as defined in the *Hanford Site Solid Waste Acceptance Criteria*, HNF-EP-0063 Rev. 9, September 2003.

Hazardous waste (HAZ)

Non-radioactive waste defined as dangerous (hazardous) under the Washington Administrative Code 173-303.

Contact-handled (CH) and **remote-handled (RH)** waste are considered distinct categories, based on the inherent characteristics of the waste. However, in a few instances, generators have reported RH waste that is shielded to CH levels as CH waste.

In addition to the above waste categories, another key definition concerns **Held waste**. Held waste is waste forecasted to be shipped to Hanford Waste Management for which a shipping schedule cannot be estimated, typically due to uncertainties associated with waste acceptance.

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Waste Categories

As shown in Table 1, LLW and MLLW can be categorized as Category I, Category III, or greater-than-Category III, depending on the radionuclides it contains.

1. If the waste includes only one radionuclide, then use Table 2 to determine its category. (Note the values listed in Table 2 are a subset of the radionuclide limits contained in HNF-EP-0063, Rev. 8, May 2003.)
2. If the waste contains a mixture of radionuclides, then use the sum of fractions rule to determine the category:
 - o Divide each radionuclide's concentration by the Category I limits.
 - o Add the resulting values.
 - o Divide each radionuclide's concentration by the Category III limits.
 - o Add the resulting values.
 - o Use Table 1 to determine the category:

Table 1:

Category I sum	Category III sum	waste category
<1	—	Category I
>1	<1	Category III
—	>1	greater-than-Category III

SWIFT Report – Waste Categories

Table 2:

Symbol	Radionuclide	Category I limit (Ci/m ³)	Category III limit (Ci/m ³)
³ H	Tritium	9.9 E4	n/a
¹⁴ C	Carbon14	9.1 E-2	2.1 E1
³² P	Phosphorus32	n/a*	n/a*
³⁵ S	Sulfur35	n/a*	n/a*
³⁶ Cl	Chlorine36	6.4 E-5	1.4 E-1
⁶⁰ Co	Cobalt60	7.5 E1	n/a
⁷⁹ Se	Selenium79	5.1 E-1	1.1 E2
⁹⁰ Sr	Strontium90	1.6 E-2	5.4 E4
⁹⁹ Tc	Technetium99	2.3 E-2	5.0 E0
¹²⁹ I	Iodine129	8.5 E-3	1.8 E0
¹³⁷ Cs	Cesium137	5.5 E-3	1.2 E4
²¹⁰ Pb	Lead210	3.7 E-2	2.1 E6
²²⁶ Ra	Radium226	1.7 E-4	4.3 E-2
²³³ U	Uranium233	7.4 E-3	9.7 E-1
²³⁴ U	Uranium234	8.9 E-3	1.9 E0
²³⁵ U	Uranium235	2.8 E-3	5.0 E-1
²³⁷ Np	Neptunium237	6.8 E-4	lower of 1.5 E-1 or 100 nCi/gm
²³⁸ Pu	Plutonium238	4.7 E-3	lower of 2.4 E1 or 100 nCi/gm
²³⁸ U	Uranium238	5.7 E-3	1.2 E0
²³⁹ Pu	Plutonium239	1.9 E-3	lower of 4.2 E-1 or 100 nCi/gm
²⁴⁰ Pu	Plutonium240	1.9 E-3	lower of 4.3 E-1 or 100 nCi/gm
²⁴¹ Pu	Plutonium241	6.1 E-2	2.5 E1
²⁴¹ Am	Americium241	2.1 E-3	lower of 8.5 E-1 or 100 nCi/gm
²⁴³ Am	Americium243	1.0 E-3	lower of 2.3 E-1 or 100 nCi/gm

* half-life is less than five years

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Container Specifications

For the 2003 forecast, 13 different container types have been reported for solid waste shipment to Waste Management during its life cycle. The following is a brief description of these containers:

Drums

114 liter drum: This is a small standard drum equivalent to 30 U.S. gallons with external volumes ranging from 0.137 m³ to 0.145 m³ (4.8-5.1 ft³).

208 liter drum: This is a standard-size drum equal to 55 U.S. gallons with external volumes ranging from 0.242 m³ to 0.257 m³ (8.5-9.1 ft³).

322 liter drum: Often used as an overpack for 208 liter drums this is a large standard-size drum equivalent to 85 U.S. gallons. It has an external volume of 0.382 m³ (13.5 ft³).

Other drums: This category represents various container sizes used less often than the standard drums. Examples are 57 liter drums, 76 liter drums, and 416 liter drums.

Boxes

Extra-large box: This shipping container is defined by an external volume greater than or equal to 28.3 m³ (1,000 ft³). Boxes of this size are too big to be accepted under the Site Treatment Plan (STP) or Commercial Thermal Treatment (CTT) contracts.

Large box: The size of this container is defined as greater or equal to 15 m³ and less than 28.3 m³ in external volume (530-1,000 ft³). This size is too large to be accepted under the Site Treatment Plan (STP) or Commercial Thermal Treatment (CTT) contracts.

MB-V: Made of either metal or plywood, this box is also referred to as a 4x4x8. Its external dimensions are 1.22 m wide by 1.33 m high by 2.43 m long (4 x 4 x 8 ft).

Medium box: Any size box with an external volume greater than or equal to 3.95 m³ and less than 15 m³ (139-530 ft³) classifies as a medium box. All medium

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boxes can be handled under the Site Treatment Plan (STP) or Commercial Thermal Treatment (CTT) contracts.

Small box: A small box has an external volume less than 3.95 m³ (128 ft³). This group now includes MB-IV boxes.

Standard waste box (SWB): This container is used only for TRU(M) waste and is constructed of carbon steel for the Waste Isolation Pilot Plant (WIPP).

Miscellaneous

Long-length equipment container (LEC): These containers vary in size but are used only for equipment retrieved from the Hanford Tank Farms. The waste in these containers will be almost all RH_MLLW.

Bulk: Bulk is non-containerized waste that can be disposed of directly.

Other: This category is for miscellaneous containers, it includes HICs, ion exchange columns, etc.

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Waste Specification Records

The following categories and definitions were provided to the waste generators for determining the proper assignments of waste specification records (WSRds) to waste class/container combinations. The primary use of WSRds is in assigning treatment pathways for MLLW. Therefore, WSRd information is included only for MLLW in this report. In addition, the specific WSRds specified by the generators were grouped into LDR Waste Stream IDs. For more information on the LDR Waste Stream IDs and a cross reference between them and the WSRds see the LDR Waste Stream IDs section below.

100 Series - Low-level waste disposal (not hazardous, dangerous or TSCA PCB waste). This series is used for low-level waste that can be disposed in the unlined portions of the Low-Level Burial Grounds. The distinguishing factor between the WSRds in this series is whether the waste requires additional stabilization to meet the Category 3 and/or mobile radionuclide requirements of HNF-EP-0063 Section 3.4.1.

- 100-03 Direct disposable low-level waste
- 120-04 Low-level waste requiring stabilization

200 Series - Transuranic and transuranic mixed waste. This series is used for transuranic waste that will be certified for and disposed at the Waste Isolation Pilot Plant.

- 220-01 Non-mixed CH TRU that meets HNF-EP-0063
- 230-01 Mixed CH TRU that meets HNF-EP-0063
- 240-00 Non-mixed CH_TRU: Requires treatment
- 250-00 Mixed CH_TRUM: Requires treatment
- 260-00 Non-mixed RH TRU
- 270-00 Mixed RH TRU

400 Series - Mixed waste overpacked and lab packed liquids. This series is used for liquid mixed waste packaged as overpacked liquids or in lab pack form.

- 400-05 Liquids with flashpoint less than 100 degrees F (38 degrees C)
- 401-04 Liquids with flashpoint between 100 to less than 140 degrees F (38-<60 degrees C)
- 402-02 Acidic liquids (thermal treatment)
- 403-02 Caustic liquids (thermal treatment)
- 404-02 Other liquids (thermal treatment)
- 405-02 Oxidizer liquids (thermal treatment)
- 409-02 Liquids with flashpoint between 140-200 degrees F (60-93.3 degrees C)
- 420-02 Acidic liquids (non-thermal treatment)

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- 421-02 Caustic liquids (non-thermal treatment)
- 422-02 Other liquids (non-thermal treatment)
- 428-02 Oxidizer liquids (non-thermal treatment)
- 450-00 Remote handled liquids shielded to contact handled levels

500 Series - Mixed waste solids, sorbed liquids and soils. This series is used for non-debris solid mixed waste, including sorbed liquids and soil.

- 500-02 Ignitable solids
- 501-02 Oxidizer solids (thermal treatment)
- 503-03 Acidic solids (thermal treatment)
- 504-02 Caustic solids (thermal treatment)
- 505-03 Other solids (thermal treatment)
- 521-00 Oxidizer solids (non-thermal treatment)
- 523-03 Acidic solids (non-thermal treatment)
- 524-02 Caustic solids (non-thermal treatment)
- 525-00 Other solids (non-thermal treatment)
- 550-00 Remote handled homogeneous solids shielded to contact handled levels

600 Series - Mixed debris waste. This series is used for hazardous debris as defined in 40 CFR Part 268.

- 625-03 Acidic organic debris
- 626-03 Caustic organic debris
- 627-04 Other organic debris
- 645-03 Acidic inorganic debris
- 646-03 Caustic inorganic debris
- 647-03 Other inorganic debris
- 650-00 Remote handled debris shielded to contact handled levels

800 Series - Mixed waste with specific treatment standards. This series identifies mixed waste streams that have specified technology requirements for treatment under 40 CFR 268.40.

- 800-02 Radioactive lead solids LDR subcategory
- 802-02 Lead acid batteries LDR subcategory
- 810-01 Elemental mercury LDR subcategory
- 812-02 Mercury compounds
- 820-01 Water reactive metal and compounds
- 821-01 Beryllium powder
- 822-00 Other reactive compounds
- 823-00 Osmium tetroxide (P087 waste code)
- 830-03 Cadmium containing batteries LDR subcategory

900 Series - Washington State only mixed waste and mixed waste that meets applicable treatment standards. This series identifies mixed waste streams that do not require treatment to meet the LDR treatment standards of 40 CFR 268. These WSRs include Washington State-only mixed wastes that could require treatment to meet WAC 173-303-140 and mixed waste that meets all applicable treatment standards of 40 CFR 268 and/or WAC 173-303-140.

- 902-03 State only inorganic solid acid waste

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- 921-02 State only organic solid acid waste
- 922-02 State only organic solid caustic waste
- 923-00 State only organic solid waste
- 930-05 Federal and state LDR compliant waste that does not require stabilization
- 931-04 Federal and state LDR compliant waste that requires stabilization

The following terms define the meaning of principal decision points in the WSRd Assignment Matrix. Where a regulation is cited, the regulation itself identifies the precise criteria used for making the decision.

Acid: an aqueous liquid that is designated with waste code D002 because it has a pH less than or equal to 2 (WAC-173-303-090(6)); and a non-aqueous liquid that has strong acid properties.

Aerosol: small, household type compressed gas container containing unused chemical products (e.g. spray paints, oven cleaners etc.)

Beryllium dust: waste that is assigned waste code P015 as specified by WAC 173-303-081.

Cadmium battery: waste that meets the definition of the "cadmium containing batteries subcategory" of 40 CFR 268.40.

Caustic: an aqueous liquid that is designated with waste code D002 because it has a pH greater than or equal to 12.5 (WAC-173-303-090(6)); and a non-aqueous liquid that has strong caustic (basic) properties.

Contact handled: waste that has a package surface dose rate that does not exceed 200 millirem per hour and a 30 cm dose rate that does not exceed 100 millirem per hour.

Combustible liquid: a liquid that has a flash point between 38 degrees C and 60 degrees C when tested as specified by WAC 173-303-090(5).

Elemental mercury: waste that meets the definition of the "elemental mercury contaminated with radioactive materials subcategory" of 40 CFR 268.40.

Extremely hazardous waste: extremely hazardous waste as defined by WAC 173-303-040.

Flammable liquid: a liquid that has a flash point less than 38 degrees C when tested as specified by WAC 173-303-090 (5).

Hazardous debris: waste that meets the definition of debris of 40 CFR 268.2(g).

Ignitable non-liquid: non-liquid waste that is designated with waste code D001 in accordance with WAC 173-303-090(5)(a)(ii).

Ignitable oxidizer: waste that is designated with waste code D001 because it is an oxidizer as defined in WAC 173-303-090(5).

LDR compliant: waste that complies with all land disposal restrictions of 40 CFR 268 and WAC 173-303-140.

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Lead acid battery: waste that meets the definition of the "lead acid batteries subcategory" of 40 CFR 268.40.

Mercury greater than 260 ppm: - waste designated with waste codes P065, P092, U151 and D009 waste that meets the definition of "high mercury - organic subcategory" or "high mercury - inorganic subcategory" of 40 CFR 268.40.

Organic/carbonaceous: waste that contains combined concentrations of greater than 10 weight percent organic/carbonaceous constituents as defined by WAC 173-303-140(3)(c).

Radioactive lead solids: waste that meets the definition of the "radioactive lead solids subcategory" of 40 CFR 268.40.

Reactive (cyanide and sulfide): waste that is designated with waste code D003 because of cyanide or sulfide content (WAC 173-303-090(7)).

Regulated: any of the following:

- waste that is designated as a dangerous or extremely hazardous waste (WAC 173-303-070 through 100);
- waste that has been treated to remove waste codes D001 through D043 but requires additional treatment for underlying hazardous constituents; and
- waste that contains PCBs regulated by 40 CFR 761.

Solid acid: a solid that is designated with waste code WSC2 due to a pH less than or equal to 2 when tested as specified in WAC 173-303-090(6).

Solid caustic: a solid that is designated with waste code WSC2 due to a pH greater than or equal to 12.5 when tested as specified in WAC 173-303-090(6).

Stabilization required: waste that must be placed in a high integrity container or processed to a stable waste form to meet the Category 3 waste and mobile radionuclide requirements of HNF-EP-0063, Section 3.4.1.

Thermal treatment required: waste that must be treated by a thermal treatment process. This includes the following: waste designated with a P or U waste code (organic U and P constituents only), F waste code (WAC 173-303-081 and 082); waste that is designated with waste codes D012 through D043 (WAC 173-303-090); waste that must be treated for organic underlying hazardous constituents (40 CFR 268.48); PCB waste that is regulated under 40 CFR 761 or WAC-173-303; liquid waste that contains greater than 1% total organic carbon; and waste that contains combined concentrations of greater than 10 weight percent organic/carbonaceous constituents as defined by WAC 173-303-140(3)(c).

Toxicity characteristic (TC): waste that is designated with waste codes D004 through D043 (WAC 173-303-090).

TRU: waste that exceeds 100 nCi/g TRU radionuclides (HNF-EP-0063 definitions).

SWIFT Report – Waste Specification Records

Water reactive: waste that is designated with waste code D003 because it reacts violently with water (WAC 173-303-090(7)).

LDR Waste Stream IDs

LDR Waste Stream IDs can generally be thought of as groupings of Waste Specification Records (WSRds) which are used to specify the treatment and disposition path forward for a given container of waste. Although WSRds can be assigned for all wastes, they are most useful in regards to MLLW. For this report, the individual WSRds have been grouped into the following LDR Waste Stream IDs.

MLLW-01: waste that complies with all land disposal restrictions of 40 CFR 268 and WAC 173-303-140. This waste is expected to be received ready for direct disposal.

MLLW-02: inorganic solids requiring non-thermal treatment prior to disposal.

MLLW-03: organic solids requiring thermal treatment prior to disposal.

MLLW-04 (Non-OC): debris waste that is primarily inorganic or non-carbonaceous and will require non-thermal treatment.

MLLW-04 (OC): debris waste that contains combined concentrations of greater than 10 weight percent organic/carbonaceous constituents as defined by WAC 173-303-140.that will require thermal treatment. This waste will require thermal treatment prior to disposal.

MLLW-05: elemental lead wastes requiring non-thermal treatment.

MLLW-06: wastes requiring treatment for mercury. This may be elemental mercury or concentrations of mercury over 260 parts per million

MLLW-07: remote-handled waste requiring treatment prior to disposal.

MLLW-08: unique waste that requires special processing not typically employed for the other MLLW waste streams.

MLLW-09: lead-acid and cadmium batteries from various onsite locations and from offsite generators.

MLLW-10: water-reactive metals and compounds, typically including sodium metal; also could consist of water-reactive cyanides.

The table below provides a crosswalk between the LDR Waste Stream IDs and the individual WSRds. The LDR Waste Stream titles are also identified in this table.

SWIFT Report – Waste Specification Records

MLLV-01	930-04	Federal and state LDR compliant waste that does not require stabilization
	931-03	Federal and state LDR compliant waste that requires stabilization.
MLLV-02	405-02	Oxidizer liquids (thermal treatment)
	420-02	Acidic liquids (non-thermal treatment)
	421-02	Caustic liquids (non-thermal treatment)
	422-02	Other liquids (non-thermal treatment)
	428-02	Oxidizer liquids (non-thermal treatment)
	521-00	Oxidizer solids (non-thermal treatment)
	523-03	Acidic solids (non-thermal treatment)
	524-02	Caustic solids (non-thermal treatment)
	525-00	Other solids (non-thermal treatment)
MLLV-03	900-03	Inorganic EH/V State only waste
	902-03	State only inorganic solid acid waste
	400-05	Liquids with flashpoint less than 100 degrees F (38 degrees C)
	401-04	Liquids with flashpoint between 100 to less than 140 degrees F (38-60 degrees C)
	402-02	Acidic liquids (thermal treatment)
	403-02	Caustic liquids (thermal treatment)
	404-02	Other liquids (thermal treatment)
	409-02	Liquids with flashpoint between 140-200 degrees F (60-93.3 degrees C)
	500-02	Ignitable solids
	501-02	Oxidizer solids (thermal treatment)
	503-03	Acidic solids (thermal treatment)
	504-02	Caustic solids (thermal treatment)
	505-03	Other solids (thermal treatment)
	921-02	State only organic solid acid waste
	922-02	State only organic solid caustic waste
	923-00	State only organic solid waste
MLLV-04 (Non-OC)	645-03	Acidic inorganic debris
	646-03	Caustic inorganic debris
	647-03	Other inorganic debris
MLLV-04 (OC)	625-03	Acidic organic debris
	626-03	Caustic organic debris
	627-04	Other organic debris
MLLV-05	800-02	Radioactive lead solids LDR subcategory
MLLV-06	810-01	Elemental mercury LDR subcategory
	812-02	Mercury compounds
MLLV-07	450-00	Remote handled liquids shielded to contact handled levels
	550-00	Remote handled homogeneous solids shielded to contact handled levels
	650-00	Remote handled debris shielded to contact handled levels
MLLV-08	821-01	Beryllium powder
	823-00	Osmium tetroxide (P087 waste code)
MLLV-09	802-02	Lead acid batteries LDR subcategory
	830-03	Cadmium containing batteries LDR subcategory
MLLV-10	820-01	Water reactive metals and compounds
	822-00	Other water reactive compounds

For additional information go to the Solid Waste Acceptance Program website: URL:
<http://www.hanford.gov/wastemgt/wac/>

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Physical Waste Forms

The primary physical waste forms of most waste volumes can be delineated in the following categories, based on the DOE Waste Treatability Group Guidance Document (DOE/LLW-217 Revision 0):

Debris Wastes: Wastes that meet the U.S. Environmental Protection Agency (EPA) criteria for "debris." Debris materials are divided into four groups as either metal (inorganic), inorganic non-metal, combustible (organic), or mixtures of materials (heterogeneous). If the waste is dominated by one type of material it should be classified as that material; otherwise it is classified as heterogeneous.

Inorganic Solids: Material that has an inorganic matrix or content and does not meet the criteria for debris.

Organic Solids: Material that has an organic matrix or content (i.e. material that includes chemical compounds based on carbon, hydrogen, and oxygen), and does not meet the criteria for debris.

Shielding: Three types of shielding include steel, lead, and concrete. It is assumed that, if shielding is required, the shielding material is handled as solid waste. A fourth type of shielding is also included: void space, which is space within a container that is not occupied by waste.

Soils/Gravel: Soil or gravel contaminated with hazardous and/or radioactive materials.

Labpacks: Various quantities of compatible waste within the same Department of Transportation hazard class, packaged in vessels such as cans or bottles.

Special Wastes: waste containing one or more of the following: elemental mercury, elemental lead, beryllium waste, batteries, reactive metals, explosives/propellants, and aerosols/compressed gases.

Final Form: waste that has been treated and/or stabilized for direct disposal.

The specific physical waste forms included in the waste forecasts have been grouped into the general categories described above according to the following:

SWIFT Report – Physical Waste Forms

PWF Group	PWF	PWF Name
Shielding	Shld: Concrete	Shielding: Concrete
	Shld: Lead	Shielding: Lead
	Shld: Steel	Shielding: Steel
	Shld: Void	Void Space
Inorganic Homogeneous Solids	In Particulate	Inorganic Particulates
	In Abs Liq/Slg	Inorganic Absorbed Liq/Sludge
	In Paint Waste	Inorganic Paint Waste
	In Salt Waste	Inorganic Salt Waste
Organic Homogeneous Solids	Org Particulat	Organic Particulates
	Org Abs Liq/Sl	Organic Absorbed Liq/Sludge
	Org Absorbents	Organic Absorbents
Soil/Gravel	Soil Soil/Grav	Soil Soil/Gravel

SWIFT Report – Physical Waste Forms

Debris Wastes	D: Inorganic	Debris: Inorganic
	D: Metal-Activ	Debris: Metal Activated
	D: Concrete	Debris: Concrete
	D: Metal-Cont	Debris: Metal Contaminated
	D: Inorg N-Mtl	Debris: Inorganic NonMetal
	D: Organic	Debris: Organic
	D: Plastic/Rub	Debris: Plastic/Rubber
	D: Heterogen	Debris: Heterogeneous
Lab Packs	LabPacks-Organ	Lab Packs-Organic
	LabPacks-Aqu	Lab Packs-Aqueous
Special Wastes	Mercury	Elemental Mercury
	Lead	Elemental Lead
	Beryllium	Beryllium Waste
	Batteries	Batteries
	Reactive Metal	Reactive Metals
	Expl/Prop	Explosives/Propellants
	Aero/CompGas	Aerosols/Compressed Gas
Final Form	Final Form	Final Form (Disposal Ready)

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Hazardous Characteristics

Hazardous characteristics as defined by the Resource Conservation and Recovery Act (RCRA) are an important characteristic of the waste that will be generated. These hazardous characteristics can be grouped into eight main categories that may be individual or mixed. Several hazardous characteristics might be present in a particular waste form and require definition by waste volume percentages as mixed hazardous characteristics (e.g., if a 208 liter drum contains both ignitables and corrosives then the package is 100% ignitables and corrosives). The relevant hazardous characteristics groups are:

Ignitables (RCRA code: D001): Waste that can cause a fire through friction, absorption of moisture, or spontaneous chemical action.

Corrosives (RCRA code: D002): Any liquid or solid that causes destruction of human skin tissue or that has a severe corrosion rate on steel.

Reactive (RCRA code: D003): Typically sodium metal or alkali metal alloys, but can also be particulate fines of aluminum, uranium, zirconium, or other pyrophoric materials, and may be mixed with stabilizing materials.

Toxic Metals (RCRA codes: D004-D011): Toxic metals that exceed RCRA concentrations.

Mercury (RCRA codes: D009, P065, P092, and U151): Mercury contamination in excess of 260 parts per million.

Toxic Organics (RCRA codes: D018-D043): Toxic organic compounds.

WA State regulated (Washington State codes: WT, WP, WSC2): Waste that is defined as hazardous only under Washington State regulations.

PCBs: Polychlorinated biphenyl-contaminated materials (designated in 40 CFR 761 or WAC 173-303-071) where PCB concentration is further divided into two categories: less than 50 parts per million (ppm), and greater than or equal to 50 ppm.

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Rounding Criteria

Generators provide a great deal of highly detailed data, which are then rolled into summary data that can be meaningful for planning and performing comparisons. The following formula was used for rounding:

Detailed Data / Annual Totals

Data > 1 m³ Detailed generator data are rounded to the nearest cubic meter of waste, except where data <1 m³ was forecast.

Data > 0 and < 1 m³ Data between 0 and 1 are shown as <1 m³; totals are calculated by summing the actual values and then rounding.

Summary Data

Summary data are always calculated by summing the detailed values and then rounding. Comparison numbers (i.e., percent increases, percent decreases, minimum ranges, maximum ranges) are always made on the unrounded numbers. Summary values between 0 and 1 are shown to the nearest 0.01 m³; summary values between 1 and 9 are shown rounded to the nearest integer; and summary values greater than 10 m³ are rounded to the nearest 10 m³.

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Minimum/Maximum Definitions

Because of the uncertainties inherent in long-term forecasts, the SWIFT FY2002 forecast tool requires the waste generator to specify a range for the volume estimate by providing minimum and maximum percents. In the released volume reports these percentages will be converted to their cubic meter equivalent. The table below shows how these percents are calculated by the waste generator.. Ranges apply only to the total volume for a forecast year.

Range calculation examples

If you think you will ship...		then enter...	because...
min	18 m ³	90%	18 is 90% of 20
best estimate	20 m ³	20 m ³	
max	25 m ³	125%	25 is 125% of 20
min	20 m ³	100%	20 is 100% of 20
best estimate	20 m ³	20 m ³	
max	25 m ³	125%	25 is 125% of 20

The use of waste reduction techniques prior to shipping waste to Hanford's Treatment, Storage, and Disposal (TSD) Facility is highly recommended. The volumes reported in the SWIFT FY2003 forecast should reflect the projected shipment volumes after these reduction techniques are used.

Many generators provided different minimum and maximum ranges for each waste class in the forecast. The minimum and maximum ranges reported in this forecast are actually weighted averages for LLW, MLLW and TRU(M) waste, using the following formulas:

Minimum % = $100 * (\text{Sum of minimum LLW, MLLW and TRU(M) volumes}) / (\text{Sum of LLW, MLLW and TRU(M) volumes})$

Maximum % = $100 * (\text{Sum of maximum LLW, MLLW and TRU(M) volumes}) / (\text{Sum of LLW, MLLW and TRU(M) volumes})$

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Acronyms and Abbreviations

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W
| X | Y | Z |

- B -

BEMR Baseline Environmental Management Report
BHI Bechtel Hanford, Inc.

- C -

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
CDR Conceptual Design Report
CH Contact-Handled
CHG CH2M HILL Hanford Group, Inc.
CTT Commercial Thermal Treatment
CWC Central Waste Complex

- D -

D&D Decontamination and Decommissioning
DOE U.S. Department of Energy
DOE-ORP DOE Office of River Protection
DOE-RL DOE Richland Operations Office
DST Double-Shell Tank

- E -

EM DOE Office of Environmental Management
EM-40 Environmental Restoration Program
ER Environmental Restoration (also refers to the Environmental Restoration program)
ERC Environmental Restoration Contractor
ERDF Environmental Restoration Disposal Facility
ETEC Energy Technology Engineering Center
ETF Effluent Treatment Facility

- F -

FFTF Fast Flux Test Facility
FH Fluor Hanford
FMEF Fuels Material and Examination Facility
FY Fiscal Year

SWIFT Report – Acronyms and Abbreviations

- G -

GTCIII Greater than Category III

- H -

HAZ Hazardous Waste

HC Hazardous Characteristic

HELD Waste forecasted to be shipped to Hanford Waste Management for which a shipping schedule cannot be estimated

HEPA High Efficiency Particulate Air (filter)

Hg Mercury

HLVP High-Level Vitrification Project

HLW High-Level Waste

- I -

IX Ion Exchange

- L -

LBL Lawrence Berkeley Laboratory

LEC Long-Length Equipment Container

LEHR Laboratory for Energy-Related Health Research

LERF Liquid Effluent Retention Facility

LLBG Low-Level Burial Ground

LLE Long-Length Contaminated Equipment

LLVP Low-Level Vitrification Project

LLW Low-Level Waste

LWPF Liquid Waste Processing Facilities

- M -

M&I Management and Integration

MB Metal Box

MLLW Mixed Low-Level Waste

mrem Millirem

MUSTs Miscellaneous Underground Storage Tanks

MYPP Multi-Year Program Plan

MYWP Multi-Year Work Plan

- N -

nCi Nanocurie

NA Not Available

- O -

ORP (DOE) Office of River Protection

- P -

PCB Polychlorinated Biphenyl

SWIFT Report – Acronyms and Abbreviations

PFP	Plutonium Finishing Plant
PHMC	Project Hanford Management Contract
PNNL	Pacific Northwest National Laboratory
PPE	Personal Protective Equipment
PUREX	Plutonium Uranium Extraction Facility
PWF	Physical Waste Form
- R -	
R&D	Research and Development
RCRA	Resource Conservation and Recovery Act
REDOX	Reduction Oxidation Facility
RH	Remote-Handled
RL	(DOE) Richland Operations Office
RPP	River Protection Program
- S -	
SNF	Spent Nuclear Fuel (also refers to the Spent Nuclear Fuel program)
SST	Single-Shell Tank
STP	Site Treatment Plan; Stabilization Treatment Program
SWB	Standard Waste Box
SWF	Solid Waste Forecast
SWIFT	Solid Waste Integrated Forecast Technical Report
SWITS	Solid Waste Information and Tracking System
- T -	
TC&S	Terminal Cleanout and Stabilization
TEDF	Treated Effluent Disposal Facility
TFTR	Tokamak Fusion Test Reactor
TRU(M)	Transuranic Waste (both non-mixed and mixed)
TRUSAF	TRU Storage and Assay Facility
TSD	Treatment, Storage, and Disposal
TWRS	Tank Waste Remediation System
- W -	
WAC	Washington Administrative Code; Waste Acceptance Criteria
WATS	Waste Acid Treatment System
WESF	Waste Encapsulation and Storage Facility
WHC	Westinghouse Hanford Company
WIPP	Waste Isolation Pilot Plant
WMP	Waste Management Project
WRAP	Waste Receiving and Processing Facility
WSCF	Waste Sampling and Characterization Facility
WT-WP-	Washington State Regulated Hazardous Constituents
WSC2	
WTP	Waste Treatment Plant

SWIFT Report – Acronyms and Abbreviations

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