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Document Title: Interface Control Document Between FFTF Transition Project and Solid Waste Disposal Division

Release Date: 11/04/94

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WHC Information Release Administration Specialist:

Niki L. Solis

11/04/94

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WHC-SD-WM-PICD-004

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Name: T. J. Venetz

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T. J. Venetz

Organization/Charge Code 87320/A9E40

7. Abstract

This interface control document between FFTF Transition Project and Solid Waste Disposal (SWD) establishes the functional responsibilities of each division where interfaces exist between the two divisions. The document includes waste volumes and timing for use in planning the proper waste mangement capabilities.

8. RELEASE STAMP

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BY WHC
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Document Title:

INTERFACE CONTROL DOCUMENT BETWEEN FFTF
TRANSITION PROJECT AND SOLID WASTE DISPOSAL

Approved by:

J.C. Midgett, Director
Fast Flux Test Facility Transition Project

Approved by:

W.H. Hamilton, Jr., Director
Solid Waste Disposal

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INTERFACE CONTROL DOCUMENT BETWEEN FFTF TRANSITION PROJECT AND SOLID WASTE DISPOSAL

1.0 PURPOSE

This interface control document (ICD) between FFTF Transition Project and Solid Waste Disposal (SWD) establishes a baseline description of those wastes that will require management as part of the interface between the two divisions. Since FFTF Transition Project and Solid Waste Disposal have distinct missions at the Hanford Site, it is important that each division has a clear understanding of the other divisions expectations regarding the interfaces. This ICD deals with the solid wastes generated by the FFTF that will require management by SWD and some radioactive sodium that may be transferred from SWD to FFTF Transition Project for stabilization. The baseline description of wastes includes waste volumes, characteristics and timing for use in planning the proper waste management capabilities. Figure 1 provides a graphic description of the interface between SWD and FFTF Transition Project.

This document satisfies the requirements of FFTF Transition Project providing an annual 30-year forecast for solid waste generation as stated in the Hanford Site Solid Waste Acceptance Criteria (WHC-EP-0063-4, section 1.3.2), and RLID 5820.2A (Radioactive Waste Management, 3.b.2 and 3.c.(1)). The information presented in this document will be reevaluated at least annually or when significant changes to the FFTF Transition Project occur.

This document is part of the baseline documentation for both programs and can be changed only by use of an engineering change notice (ECN) approved by representatives of both organizations.

It is noted for clarification that this ICD does not address the Fuels and Materials Examination Facility (FMEF) or any proposed future missions as the FMEF is a separate facility not part of the FFTF Transition Project.

2.0 SCOPE

This Interface Control Document combines the current plant standby activities with the following deactivation activities: reactor defueling, unirradiated or "green" fuel disposition, irradiated fuel washing and dry cask storage, sodium systems drain and disposition of sodium residuals, auxiliary systems shutdown, and bulk sodium conversion to a form suitable for disposition.

Figure 1. Interfaces Between FFTF Transition Programs and Solid Waste Disposal

3.0 SOLID WASTE GENERATED BY FFTF TRANSITION PROJECT REQUIRING MANAGEMENT BY SOLID WASTE DISPOSAL

The FFTF is initiating transition from standby mode to shutdown mode. This has resulted in a multitude of new activities that are in the initial planning phases and are not well defined and do not lend themselves to waste generation estimating at this time.

Solid Waste Disposal will manage the solid wastes generated by FFTF Transition Project as identified in Appendix A. Acceptance of unique waste will be handled on a case by case basis. Quantities of unique waste are expected to be minimal. Any changes to the information regarding these wastes will be updated in this document through formal revision requiring an ECN.

Solid wastes generated by FFTF Transition Project will be accepted by Solid Waste Disposal provided the waste meets the established criteria as provided in the Hanford Site Solid Waste Acceptance Criteria. Solid Waste Disposal will provide storage, treatment and disposal as necessary for the solid waste generated by FFTF Transition Project as described in Table 3-1 and Appendices A and B.

Appendix A describes the specific waste type and containers that will be generated and transferred to SWD based primarily on currently planned maintenance activities.

Appendix B contains the baseline waste projections for solid waste generated by FFTF Transition Project requiring storage, treatment, and/or disposal. This forecast was initially generated by FFTF Regulatory Compliance (letter 94:24) dated July 15, 1994, and is provided in its entirety. The waste volumes forecasted are for waste streams originating from the FFTF during shutdown and stabilization activities. It is noted that no quantities have been forecast for the anticipated shutdown activities listed below:

- FUEL DISPOSITION
- FUEL OFFLOAD
- BULK SODIUM DISPOSITION
 - Sodium drain
 - NaK loops
 - Passivation/inerting
- SODIUM STORAGE
- SODIUM REACTION FACILITY
- AUXILIARY SYSTEMS SHUTDOWN
- LONG TERM SURVEILLANCE AND MAINTENANCE

Table 3-1 Advanced Reactors Solid Waste Volume (ft³) Forecast

Material Source/Category	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
CH-LLW-I	507	507	507	507	507	507	507								
RH-LLW-III	561	561	561												
Hazardous	114	114	114	114	114	114	114								
Material Source/Category	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Appendix C discusses the anticipated activities listed above and attempts to identify potential future waste streams, but does not attempt to quantify them. As discussed in Appendix C, waste stream quantities cannot be estimated at this time and are considered TBD.

4.0 MATERIAL CURRENTLY STORED BY SOLID WASTE DISPOSAL THAT MAY REQUIRE TRANSFER TO FFTF TRANSITION PROJECT

There is a substantial inventory of slightly radioactive sodium currently stored by SWD in the 200 Area of the Hanford Site. This material includes approximately 42,000 gallons of Hallam Reactor sodium and approximately 6,700 gallons of Sodium Reactor Experiment (SRE) sodium. This material constitutes part of the Nuclear Energy Legacy Program.

The Hallam material stored in five tanks (each with a capacity of approximately 16,000 gallons) and the SRE sodium in 55 gallon drums may be transported at a later date directly to the Sodium Reaction Facility for conversion to a stable form for disposal. This interface is shown graphically in Figure 1.

Disposition of this sodium has not been determined at this time. Ongoing evaluations are considering the potential for reuse, recycle, and alternative treatment and disposal of these materials.

REFERENCES

1. WHC-EP-0063-4, "Hanford Site Solid Waste Acceptance Criteria", Westinghouse Hanford Company
2. DOE RLIP 5820.2A, "Radioactive Waste Management", DOE-RL, November 23, 1993
3. WHC-SD-FF-SSP-004, Rev. 0, "Fast Flux Test Facility Shutdown Program Plan", Westinghouse Hanford Company, March 1994
4. WHC-SD-FF-MP-001, Rev. 0, "Hanford Site Sodium Management Plan", Westinghouse Hanford Company, April 26, 1994

APPENDIX A - FFTF TRANSITION PROJECT

The FFTF is initiating transition from standby mode to shutdown mode. This has resulted in a multitude of new activities that are in the initial planning phases and are not well defined and do not lend themselves to waste generation estimating at this time.

This section provides the forecast for the FFTF Maintenance activities only. This forecast was initially generated by FFTF Regulatory Compliance (letter 94:24) dated July 15, 1994, and is provided in its entirety as Appendix B. The material has been reformatted by container type for this Interface Control Document.

It is noted that no quantities have been forecast for the anticipated shutdown activities listed below:

- FUEL DISPOSITION
- FUEL OFFLOAD
- BULK SODIUM DISPOSITION
 - Sodium drain
 - NaK loops
 - Passivation/inerting
- SODIUM STORAGE
- SODIUM REACTION FACILITY
- AUXILIARY SYSTEMS SHUTDOWN
- LONG TERM SURVEILLANCE AND MAINTENANCE

As discussed in Appendix C, waste stream quantities for the above activities cannot be estimated at this time and are considered TBD.

Table A.1 Drummed Contact-Handled Low-Level Waste Category I

STREAM DESCRIPTION

Waste Class:	Contact-Handled Low-Level Category I (CH-LLW-I)
Waste Stream Description:	Maintenance and decontamination solid compatible waste
Year(s) of Generation:	The stream will be active annually through 2001

CONTAINER DESCRIPTION

Container Type:	55 Gallon Drums
Container External Volume:	9.2 ft ³
Number of Containers Generated Annually:	24
Percent of Total Annual Volume:	44%

PHYSICAL FORM DESCRIPTION

Annual Volume Generated:	221 ft ³
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	100%-Combustible Debris Waste (5440)
Waste Form and Content:	See Appendix 3, Page 22

HAZARDOUS CONSTITUENTS DESCRIPTION:

Not applicable

RADIOLOGICAL DESCRIPTION:

See Appendix B, Page 26

Table A.2 Boxed Contact-Handled Low-Level Waste Category I

STREAM DESCRIPTION

Waste Class:	Contact-Handled Low-Level Category I (CH-LLW-I)
Waste Stream Description:	Maintenance and decontamination solid waste
Year(s) of Generation:	The stream will be active annually through 2001

CONTAINER DESCRIPTION

Container Type:	4' x 4' x 8' Box W/Skids
Container External Volume:	143 ft ³
Number of Containers Generated Annually:	2
Percent of Total Annual Volume:	56%

PHYSICAL FORM DESCRIPTION

Annual Volume Generated:	286 ft ³
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	20%-Heterogenous Debris Waste (5400), 30%- Combustible Debris Waste (5440), 50%-Metal Debris Waste (5420)
Waste Form and Content:	See Appendix B, Page 22 B

HAZARDOUS CONSTITUENTS DESCRIPTION:

Not applicable

RADIOLOGICAL DESCRIPTION:

See Appendix B, Page 26 B

Table A.3 DSWC Remote-Handled Low-Level Waste Category III

STREAM DESCRIPTION

Waste Class:	Remote-Handled Low-Level Mixed Category III (RH-LLMW-III)
Waste Stream Description:	Reactor core components
Year(s) of Generation:	The stream will be active annually through 1997

CONTAINER DESCRIPTION

Container Type:	Disposable Solid Waste Cask (DSWC)
Container External Volume:	561 ft ³
Number of Containers Generated Annually:	1
Percent of Total Annual Volume:	100%

PHYSICAL FORM DESCRIPTION

Annual Volume Generated:	561 ft ³
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	6%-Metal Debris Waste (5420), 94%-Shielding
Waste Form and Content:	See Appendix B, Page 22 C

HAZARDOUS CONSTITUENTS DESCRIPTION

Waste not applicable

RADIOLOGICAL DESCRIPTION

See Appendix B, Page 26 C

Table A.4 Drummed (55 Gallon) Hazardous Waste

STREAM DESCRIPTION

Waste Class:	Hazardous Waste
Waste Stream Description: solvent rags	PCBs and organic along with glycol, freon, and
Year(s) of Generation:	The stream will be active annually through 2001

CONTAINER DESCRIPTION

Container Type:	55 Gallon Drums
Container External Volume:	9.2 ft ³
Number of Containers Generated Annually:	8
Percent of Total Annual Volume:	64%

PHYSICAL FORM DESCRIPTION

Annual Volume Generated:	73.6 ft ³
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	14%-Heterogeneous organic debris waste, 14%- inorganic absorbed liq./sldg., 72%-other: glycol, freon, PCB, and solvent rags
Waste Form and Content:	See Appendix B, Page 23 A and 24 A

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B, Page 23 A and 24 A

RADIOLOGICAL DESCRIPTION

Not Applicable

Table A.5 Drummed (30 Gallon) Hazardous Waste

STREAM DESCRIPTION

Waste Class:	Hazardous
Waste Stream Description:	Non PCB Ballasts
Year(s) of Generation:	The stream will be active annually through 2001

CONTAINER DESCRIPTION

Container Type:	30 Gallon Drums
Container External Volume:	4.4 ft ³
Number of Containers Generated Annually:	1
Percent of Total Annual Volume:	4%

PHYSICAL FORM DESCRIPTION

Annual Volume Generated:	4.4 ft ³
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	100%-Non PCB fluorescent light ballasts (organic)
Waste Form and Content:	See Appendix B, Page 23 B and 24 B

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B, Page 23 B and 24 B

RADIOLOGICAL DESCRIPTION

Not Applicable

Table A.6 Drummed (15 Gallon) Hazardous Waste

STREAM DESCRIPTION

Waste Class:	Hazardous
Waste Stream Description:	Reactive Metals
Year(s) of Generation:	The stream will be active annually through 2001

CONTAINER DESCRIPTION

Container Type:	15 Gallon Drums
Container External Volume:	2.2 ft ³
Number of Containers Generated Annually:	1
Percent of Total Annual Volume:	TBD

PHYSICAL FORM DESCRIPTION

Annual Volume Generated:	2.2 ft ³
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	100%-Reactive Metals (D003)
Waste Form and Content:	See Appendix B, Page 23 C and 24 C

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B, Page 23 C and 24 C

RADIOLOGICAL DESCRIPTION

Not Applicable

Table A.7 Drummed (8 Gallon) Hazardous Waste

STREAM DESCRIPTION

Waste Class:	Hazardous
Waste Stream Description:	Organic absorbed liq./sldg., PCB > 50 ppm
Year(s) of Generation:	The stream will be active annually through 2001

CONTAINER DESCRIPTION

Container Type:	8 Gallon Drums
Container External Volume:	1.49 ft ³
Number of Containers Generated Annually:	2
Percent of Total Annual Volume:	TBD

PHYSICAL FORM DESCRIPTION

Annual Volume Generated:	3 ft ³
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	100%-Organic absorbed liq./sldg., PCB > 50 ppm
Waste Form and Content:	See Appendix B, Page 23 D and 24 D

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B, Page 23 D and 24 D

RADIOLOGICAL DESCRIPTION

Not Applicable

Table A.8 Boxed Hazardous Waste (4 x 4 x 2)

STREAM DESCRIPTION

Waste Class:	Hazardous
Waste Stream Description:	Lead Waste
Year(s) of Generation:	The stream will be active annually through 2001

CONTAINER DESCRIPTION

Container Type:	4 x 4 x 2 Box
Container External Volume:	32 ft ³
Number of Containers Generated Annually:	1
Percent of Total Annual Volume:	TBD

PHYSICAL FORM DESCRIPTION

Annual Volume Generated:	32 ft ³
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	100%-Elemental Lead
Waste Form and Content:	See Appendix B, Page 23 E and 24 E

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B, Page 23 E and 24 E

RADIOLOGICAL DESCRIPTION

Not Applicable

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APPENDIX B - 1994 SOLID WASTE FORECAST

GENERATOR - WHC FFTF TRANSITION PROJECT

COVER SHEET

1994 SOLID WASTE FORECAST REQUEST FORM

Generator (Project/Facility) WHC_FTFF_MAINT FTFF Transition

<u>Waste Class</u>	<u>Contact</u>	<u>Phone</u>
<u>LLW</u>	<u>R.A. Riggers/J.P. Newman</u>	<u>6-2674/4788</u>
<u>LLMW</u>	<u>N/A</u>	<u></u>
<u>HAZ</u>	<u>N/A</u>	<u></u>
<u>TRU</u>	<u>N/A</u>	<u></u>
<u>TRUM</u>	<u>N/A</u>	<u></u>
<u>LEVEL III APPROVAL</u>	<u>G.B.(Gerry) Griffin</u>	<u>6-0604</u>

(Fill out and/or correct above and keep this sheet with forecast)

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JUL 15 1994

K. L. HLADEK

B.2

COORDINATOR SHEET

Department: TRP/Fuel Fab Transition Project

1994 Coordinator: J.A.(Mickey) Seamans 6-0540

Project/Facility Number	1994 Contact	1994 Level III Approval
WHC FFTF MAINT FFTF/FMEF/MASF Maintenance	R.A. Riggers J.P. Newman	G.B. Griffin

(Fill out and/or correct above and keep this sheet with forecast)

Westinghouse
Hanford Company

Internal
Memo

From: FFTF REGULATORY COMPLIANCE
Phone: 376-0540 N2-04
Date: July 15, 1994
Subject: FISCAL YEAR 1994 HAZARDOUS AND RADIOACTIVE SOLID WASTE VOLUME
FORECAST REPORT FOR FFTF

94:28

To: O. J. Valero H5-33
cc: PCM:File\LB

This cover letter transmits the subject report, and also includes in the forecast additional information about our facility's shutdown activities and subsequent waste that may be generated.

The Fast Flux Test Facility (FFTF) changed from standby to shutdown condition effective December 15, 1993. The FFTF Shutdown Project Office has generated shutdown plans projecting a goal of completing shutdown activities in a seven year period. During this period, the reactor will be defueled, the 260,000 gallons of sodium coolant will be drained from the systems, and the plant will be turned over to Decontamination and Decommissioning (D&D).

At the current time, the sodium disposition plan is to drain and store the sodium in tanks obtained from the Clinch River Project. The Department of Energy (DOE) has not identified any use for this sodium. The fuel will be placed in concrete shielded casks for disposal sometime in the future. The large quantities of ethylene glycol and any unused diesel fuel will probably be sold as excess.

The enclosed forecast provides for waste types and quantities that will either be waste or recycled.

Please call me if you have any questions about this forecast information.

J. A. (Mickey) Seamans

mbw

Attachment

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JUL 15 1994

A. L. BLADEK

PROJECTED SOLID WASTE EXTERNAL VOLUMES (FT3)

TABLE 1 page 1 of 5

REPORT SHIELDED RH WASTE AS RH WASTE NOT CH WASTE

WASTE CLASS	ESTIMATE	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
CH-LLW-I	EST.(CuFt)	507	507	507	507	507	507	507								
	MIN. %	50	50	50	50	50	50	50								
	MAX. %	150	150	150	150	150	150	150								
CH-LLW-III	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-LLW-GTCIII	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-LLW-I	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-LLW-III	EST.(CuFt)	561	561	561												
	MIN. %	100	100	100												
	MAX. %	100	100	100												
RH-LLW-GTC III	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-LLMW-I	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-LLMW-III	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-LLMW-GTCIII	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-LLMW-I	EST.(CuFt)															
	MIN. %															
	MAX. %															

B.5

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PROJECTED SOLID WASTE EXTERNAL VOLUMES (FT3)

TABLE 1 page 2 of 5

REPORT SHIELDED RH WASTE AS RH WASTE NOT CH WASTE

WASTE CLASS	ESTIMATE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
CH-LLW-I	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-LLW-III	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-LLW-GTCIII	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-LLW-I	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-LLW-III	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-LLW-GTC III	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-LLMW-I	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-LLMW-III	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-LLMW-GTCIII	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-LLMW-I	EST.(CuFt)															
	MIN. %															
	MAX. %															

B.6

WMC-SD-WM-PICD-004, REV. 0

PROJECTED SOLID WASTE EXTERNAL VOLUMES (FT3)

TABLE 1 page 3 of 5

REPORT SHIELDED RH WASTE AS RH WASTE NOT CH WASTE

WASTE CLASS	ESTIMATE	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
RH-LLMW-III	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-LLMW-GTCIII	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-TRU	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-TRU	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-TRUM	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-TRUM	EST.(CuFt)															
	MIN. %															
	MAX. %															
HAZ.	EST.(CuFt)	114	114	114	114	114	114	114								
	MIN. %	100	100	100	100	100	100	100								
	MAX. %	200	200	200	200	200	200	200								

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PROJECTED SOLID WASTE EXTERNAL VOLUMES (FT3)

TABLE 1 page 4 of 5

REPORT SHIELDED RH WASTE AS RH WASTE NOT CH WASTE

WASTE CLASS	ESTIMATE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
RH-LLMW-III	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-LLMW-GTCIII	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-TRU	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-TRU	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-TRUM	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-TRUM	EST.(CuFt)															
	MIN. %															
	MAX. %															
HAZ.	EST.(CuFt)															
	MIN. %															
	MAX. %															

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HELD WASTE

TABLE 1 page 5 of 5

PROJECTED SOLID WASTE EXTERNAL VOLUMES (FT3)

REPORT SHIELDED RH WASTE AS RH WASTE NOT CH WASTE

WASTE CLASS	1994 ESTIMATE (CuFt)
CH-LLW-I	
CH-LLW-III	
CH-LLW-GTCIII	
RH-LLW-I	
RH-LLW-III	
RH-LLW-GTCIII	
CH-LLMW-I	
CH-LLMW-III	
CH-LLMW-GTCIII	
RH-LLMW-I	
RH-LLMW-III	
RH-LLMW-GTCIII	
CH-TRU	
RH-TRU	
CH-TRUM	
RH-TRUM	
HAZARDOUS	

NOTE: Report on this page any currently stored waste volumes that do not have a shipping schedule. Do not include volumes that are reported from 1995 through 2024.

STEP 1: CIRCLE ONE WASTE CLASS

CH-LLW-I

CH-LLW-III

CH-LLW-GTC-III

RH-LLW-I

RH-LLW-III

STEP 2: RH-LLW-GTC-III

Container Type and Volume %

TABLE 2 Page 1 of 4

COMPLETE A SEPARATE TABLE 2 FOR EACH WASTE CLASS IDENTIFIED IN TABLE 1

STEP 3: Indicate Volume % of Waste Class Packaged in Identified Containers

CONTAINERS	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	HELD
55 Gal Drum 9.2 CuFt	44	44	44	44	44	44	44																								
85 GAL DRUM 12.1 CuFt																															
4 X 4 X 8 Box W/Skids 143 CuFt	56	56	56	56	56	56	56																								
4 X 4 X 8 Box W/O Skids 128 CuFt																															
4 X 4 X 8 Metal 128 CuFt																															
B-25 103.2 CuFt																															
OTHER																															
* TOTAL (0 or 100%)	100	100	100	100	100	100	100																								

* Total for each year MUST equal 0 or 100%

Other - Indicate container type, external dimensions, and external volume (cuft, gal).

The containers listed above conform to the acceptance criteria in WHC-EP-0063-4 (Hanford Site Solid Waste Acceptance Criteria).
 "OTHER" containers may be accepted.

STEP1: CIRCLE ONE WASTE CLASS

CH-LLW-I
CH-LLW-III
CH-LLW-GTC-III
RH-LLW-I
RH-LLW-III
RH-LLW-GTC-III

STEP 2:

Container Type and Volume %

TABLE 2 Page 1 of 4

COMPLETE A SEPARATE TABLE 2 FOR EACH WASTE CLASS IDENTIFIED IN TABLE 1

STEP 3: Indicate Volume % of Waste Class Packaged in Identified Containers

CONTAINERS	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	HEI
55 Gal Drum 9.2 CuFt																															
85 GAL DRUM 12.1 CuFt																															
4 X 4 X 8 Box W/Skids 143 CuFt																															
4 X 4 X 8 Box W/O Skids 128 CuFt																															
4 X 4 X 8 Metal 128 CuFt																															
B-25 103.2 CuFt																															
OTHER	100	100	100																												
* TOTAL (0 or 100%)	100	100	100																												

* Total for each year MUST equal 0 or 100%

Other - Indicate container type, external dimensions, and external volume (cuft, gal).

Disposable Solid Waste Cask
(DSWC) 84 1/4" O x 173 3/4" H
(561 ft.³)

The containers listed above conform to the acceptance criteria in WHC-EP-0063-4 (Hanford Site Solid Waste Acceptance Criteria).
"OTHER" containers may be accepted.

STEP1: CIRCLE ONE WASTE CLASS

Container Type and Volume %

TABLE 2 Page 2 of 4

CH-LLMW-I
CH-LLMW-III
CH-LLMW-GTC-III
RH-LLMW-I
RH-LLMW-III
RH-LLMW-GTC-III

COMPLETE A SEPARATE TABLE 2 FOR EACH WASTE CLASS IDENTIFIED IN TABLE 1

STEP 2:

STEP 3: Indicate Volume % of Waste Class Packaged in Identified Containers

CONTAINERS	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	HELD
55 Gal Drum 9.2 CuFt																															
85 GAL DRUM 12.1 CuFt																															
4 X 4 X 8 Box W/Skids 143 CuFt																															
4 X 4 X 8 Box W/O Skids 128 CuFt																															
4 X 4 X 8 Metal 128 CuFt																															
B-25 103.2 CuFt																															
OTHER																															
* TOTAL (0 or 100%)																															

* Total for each year MUST equal 0 or

100%

Other - Indicate container type, external dimensions, and external volume (cuft, gal).

The containers listed above conform to the acceptance criteria in WHC-EP-0063-4 (Hanford Site Solid Waste Acceptance Criteria).

"OTHER" containers may be accepted.

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Container Type and Volume %

TABLE 2 Page 3 of 4

STEP 1: CIRCLE ONE WASTE CLASS

CH-TRU
CH-TRUM

RH-TRU
RH-TRUM

STEP 2:

COMPLETE A SEPARATE TABLE 2 FOR EACH WASTE CLASS IDENTIFIED IN TABLE 1

STEP 3: Indicate Volume % of Waste Class Packaged in Identified Containers

CONTAINERS	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	HELD
55 Gal Drum 9.2 CuFt																															
85 GAL DRUM 12.1 CuFt																															
4 X 4 X 8 Box W/Skids 143 CuFt																															
4 X 4 X 8 Box W/O Skids 128 CuFt																															
4 X 4 X 8 Metal 128 CuFt																															
SWB 73.4 CuFt																															
OTHER																															
* TOTAL (0 or 100%)																															

* Total for each year MUST equal 0 or

100%

Other - Indicate container type, external dimensions, and external volume (cuft, gal)._____

The containers listed above conform to the acceptance criteria in WHC-EP-0063-4 (Hanford Site Solid Waste Acceptance Criteria).

OTHER containers may be accepted.

WHC-SD-WM-PICD-004, REV. 0

STEP1: CIRCLE WASTE CLASS

Container Type and Volume %

TABLE 2 Page 4 of 4

HAZARDOUS

ONLY

STEP 2:

STEP 3: Indicate Volume % of Waste Class Packaged in Identified Containers

CONTAINERS	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	HELD
55 Gal Drum 9.2 CuFt	64	64	64	64	64	64	64																								
30 GAL DRUM 4.4 CuFt	4	4	4	4	4	4	4																								
4 X 4 X 8 Box W/Skids 143 CuFt																															
4 X 4 X 8 Box W/O Skids 128 CuFt																															
4 X 4 X 8 Metal 128 CuFt																															
OTHER	32	32	32	32	32	32	32																								
* TOTAL (0 or 100%)	100	100	100	100	100	100	100																								

* Total for each year MUST equal 0 or 100%

1) 15 g. drum (2.2 ft.3)
 2) 8 g. drum (1.1 ft.3)
 3) 4x4x2 box (32 ft.3)

Other - Indicate container type, external dimensions, and external volume (cuft, gal).

The containers listed above conform to the acceptance criteria in WHC-EP-0063-4 (Hanford Site Solid Waste Acceptance Criteria).
 "OTHER" containers may be accepted.

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STEP 1 CONTAINER TYPE <u>55 GALLON DRUMS</u>		Physical Waste Forms/LLW & TRU						TABLE 3 page 1 of 1		STEP 4 Are Waste Forms Segre- gated? Y/N
STEP 2 YEARS <u>1995</u> TO <u>2001</u> (INCLUDE HELD IF APPLICABLE)		A separate Table 3 must be completed for each container identified in Table 2								
WASTE FORMS		STEP 3 Indicate Volume % of each Waste Form present for each Waste Class								
		CH LLWI	CH LLWIII	CH LLW GTCIII	RH LLWI	RH LLWIII	RH LLW GTCIII	CH TRU	RH TRU	
SHIELDING										
STEEL										
LEAD										
CONCRETE										
SOLID PROCESS RESIDUES										
INORGANIC PARTICULATES										
INORGANIC ABSORBED LIQ/SLUDGE										
ORGANIC PARTICULATES										
ORGANIC ABSORBED LIQ/SLUDGE										
SOILS										
CONTAMINATED SOILS										
DEBRIS CONTAMINATED SOILS										
DEBRIS WASTE										
METAL										
INORGANIC NON-METAL										
COMBUSTIBLE		100								Y
HETEROGENEOUS										
SPECIAL WASTE										
LAB PACKS/CONTAINERIZED LIQUIDS										
UNKNOWN										
OTHER *										
TOTAL ¹ (0 OR 100%)		100								

¹ Total for Each Waste Class MUST Equal 0 or 100%

* OTHER WASTE DESCRIPTION :

STEP 1 CONTAINER TYPE 4x4x8 BOX
 STEP 2 YEARS 1995 TO 2001
 (INCLUDE HELD IF APPLICABLE)
 WASTE FORMS

Physical Waste Forms/LLW & TRU

TABLE 3 page 1 of 1

STEP 4
 Are
 Waste
 Forms
 Segre-
 gated?
 Y/N

A separate Table 3 must be completed for each container identified in Table 2

STEP 3 Indicate Volume % of each Waste Form present for each Waste Class

CH LLWI CH LLWIII CH LLW GTCIII RH LLWI RH LLWIII RH LLW GTCIII CH TRU RH TRU

SHIELDING

STEEL

LEAD

CONCRETE

SOLID PROCESS RESIDUES

INORGANIC PARTICULATES

INORGANIC ABSORBED LIQ/SLUDGE

ORGANIC PARTICULATES

ORGANIC ABSORBED LIQ/SLUDGE

SOILS

CONTAMINATED SOILS

DEBRIS CONTAMINATED SOILS

DEBRIS WASTE

METAL

INORGANIC NON-METAL

COMBUSTIBLE

HETEROGENEOUS

SPECIAL WASTE

LAB PACKS/CONTAINERIZED LIQUIDS

UNKNOWN

OTHER *

TOTAL¹ (0 OR 100%)

100

¹ Total for Each Waste Class MUST Equal 0 or 100%

* OTHER WASTE DESCRIPTION:

21 MAR 95

STEP 1 CONTAINER TYPE <u>OSWC</u>		Physical Waste Forms/LLW & TRU						TABLE 3 page 1 of 1		STEP 4
STEP 2 YEARS <u>1995</u> TO <u>2001</u> (INCLUDE HELD IF APPLICABLE)		A separate Table 3 must be completed for each container identified in Table 2								
WASTE FORMS		STEP 3 Indicate Volume % of each Waste Form present for each Waste Class								
		CH LLWI	CH LLWIII	CH LLW GTCIII	RH LLWI	RH LLWIII	RH LLW GTCIII	CH TRU	RH TRU	Are Waste Forms Segre- gated? Y/N
SHIELDING										
STEEL						3				
LEAD										
CONCRETE						91				
SOLID PROCESS RESIDUES										
INORGANIC PARTICULATES										
INORGANIC ABSORBED LIQ/SLUDGE										
ORGANIC PARTICULATES										
ORGANIC ABSORBED LIQ/SLUDGE										
SOILS										
CONTAMINATED SOILS										
DEBRIS CONTAMINATED SOILS										
DEBRIS WASTE										
METAL						6				Y
INORGANIC NON-METAL										
COMBUSTIBLE										
HETEROGENEOUS										
SPECIAL WASTE										
LAB PACKS/CONTAINERIZED LIQUIDS										
UNKNOWN										
OTHER *										
TOTAL ¹ (0 OR 100%)						100				

¹ Total for Each Waste Class MUST Equal 0 or 100%

* OTHER WASTE DESCRIPTION :

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Waste Forms & Hazardous Constituents Mixed/Hazardous Only

TABLE 4 page 1 of 2

STEP 1 WASTE CLASS HAZARDOUS

STEP 2 CONTAINER TYPE 55 GALLON DRUMS

A separate Table 4 must be completed for each waste class and container type identified in Table 2.

STEP 5 EPA/RCRA/WAC indicate percent present for each waste form

STEP 3 YEARS 1995 TO 2001
(INCLUDE HELD IF APPLICABLE)

STEP 4
INDICATE BELOW THE VOLUME % OF
WASTE FORM IN CONTAINER
IDENTIFIED IN STEP 2

EPA / RCRA						WAC			
A	B	C	D	E	F	G	H	J	
IGN. D001	CORR. D002	REAC. D003	* MET. (Metals)	MHG. (Mercury) D009 P065 P092 U151	* ORG.	WT WP WC	PCB W001	PCB W001	
* See Appendix A:									
MET - Tables A - 9 thru A - 11									
ORG - Tables A - 1 thru A - 8									

STEP 6
Are
Waste
Forms
Segre-
gated?
Y/N

%	SHIELDING	< 50 ppm > 50 ppm							
	STEEL								
	LEAD								
	CONCRETE								
SOLID PROCESS RESIDUES									
	INORGANIC PARTICULATES								
	INORGANIC ABSORBED LIQUID/SLUDGES								
	SALT WASTE								
	ORGANIC PARTICULATES								
14	ORGANIC ABSORBED LIQ/SLUDG							100	Y
SOILS									
	CONTAMINATED SOILS								
	DEBRIS CONTAMINATED SOILS								

NOTE: Waste Form % should be totaled on Table 4 Page 2 of 2 and MUST equal 100%

Waste Forms & Hazardous Constituents Mixed/Hazardous Only

TABLE 4 page 2 of 2

STEP 1 WASTE CLASS HAZARDOUS

A separate Table 4 must be completed for each waste class and container type identified in Table 2.

STEP 2 CONTAINER TYPE 55 GALLON DRUMS

STEP 5 EPA/RCRA/WAC indicate percent present for each waste form

STEP 3 YEARS 1995 TO 2001
(INCLUDE HELD IF APPLICABLE)

EPA / RCRA

WAC

STEP 4
INDICATE BELOW THE VOLUME % OF
WASTE FORM IN CONTAINER
IDENTIFIED IN STEP 2

A	B	C	D	E	F	G	H	J
IGN. D001	CORR. D002	REAC. D003	* MET. (Metals)	MHG. (Mercury) D009 P065 P092 U151	* ORG.	WT WP WC	PCB W001	PCB W001
• See Appendix A:				MET - Tables A - 9 thru A - 11				
				ORG - Tables A - 1 thru A - 8				

STEP 6
Are
Waste
Forms
Segre-
gated?
Y/N

WASTE FORMS

%	DEBRIS WASTES										
	METAL										
	INORGANIC NON-METAL										
	COMBUSTIBLE										
14	HETEROGENEOUS					100					
SPECIAL WASTES											
	LABPACKS/CONTAINERIZED LIQ.										
	REACTIVE METALS										
	EXPLOSIVES/PROPELLENTS										
INHERENTLY HAZARDOUS WASTE											
	ELEMENTAL MERCURY										
	ELEMENTAL LEAD										
	BERYLLIUM WASTE										
	BATTERIES										
UNKNOWN											
72	OTHER *					40		20	40	Y	
100%											

* OTHER WASTE DISCRIPTION: ORGANIC OTHER: 40% GLYCOL RAGS
20% FREON RAGS
40% PAINT SOLVENTS + SOLVENT-
CONTAMINATED RAGS

STEP 1 WASTE CLASS HAZARDOUS

STEP 2 CONTAINER TYPE 30 GALLON DRUMS

A separate Table 4 must be completed for each waste class and container type identified in Table 2.

STEP 5 EPA/RCRA/WAC indicate percent present for each waste form

STEP 3 YEARS 1995 TO 2001
(INCLUDE HELD IF APPLICABLE)

STEP 4
INDICATE BELOW THE VOLUME % OF
WASTE FORM IN CONTAINER
IDENTIFIED IN STEP 2

EPA / RCRA						WAC			
A	B	C	D	E	F	G	H	J	
IGN. D001	CORR. D002	REAC. D003	* MET. (Metals)	MHG. (Mercury) D009 P065 P092 U151	* ORG.	WT WP WC	PCB W001	PCB W001	
* See Appendix A: MET - Tables A - 9 thru A - 11 ORG - Tables A - 1 thru A - 8									

STEP 6
Are
Waste
Forms
Segre-
gated?
Y/N

↓
WASTE FORMS

%	SHIELDING									< 50 ppm	> 50 ppm
	STEEL										
	LEAD										
	CONCRETE										
SOLID PROCESS RESIDUES											
	INORGANIC PARTICULATES										
	INORGANIC ABSORBED LIQUID/SLUDGES										
	SALT WASTE										
	ORGANIC PARTICULATES										
	ORGANIC ABSORBED LIQ/SLUDG										
SOILS											
	CONTAMINATED SOILS										
	DEBRIS CONTAMINATED SOILS										

NOTE: Waste Form % should be totaled on Table 4 Page 2 of 2 and MUST equal 100%

STEP 1 WASTE CLASS HAZARDOUS

A separate Table 4 must be completed for each waste class and container type identified in Table 2.

STEP 2 CONTAINER TYPE 30 GALLON DRUMS

STEP 5 EPA/RCRA/WAC indicate percent present for each waste form

STEP 3 YEARS 1995 TO 2001
(INCLUDE HELD IF APPLICABLE)

EPA / RCRA

WAC

STEP 4
INDICATE BELOW THE VOLUME % OF
WASTE FORM IN CONTAINER
IDENTIFIED IN STEP 2

A	B	C	D	E	F	G	H	J
IGN. D001	CORR. D002	REAC. D003	* MET. (Metals)	MHG. (Mercury) D009 P065 P092 U151	* ORG.	WT WP WC	PCB W001	PCB W001
• See Appendix A: MET - Tables A - 9 thru A - 11 ORG - Tables A - 1 thru A - 8								

STEP 6
Are
Waste
Forms
Segre-
gated?
Y/N

↓
WASTE FORMS

%	DEBRIS WASTES										
	METAL										
	INORGANIC NON-METAL										
	COMBUSTIBLE										
	HETEROGENEOUS										
	SPECIAL WASTES										
	LABPACKS/CONTAINERIZED LIQ.										
	REACTIVE METALS										
	EXPLOSIVES/PROPELLENTS										
	INHERENTLY HAZARDOUS WASTE										
	ELEMENTAL MERCURY										
	ELEMENTAL LEAD										
	BERYLLIUM WASTE										
	BATTERIES										
	UNKNOWN										
100 100%	OTHER *					100					Y

* OTHER WASTE DISCRIPTION: OTHER ORGANICS: NON-PCB BALLASTS

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WMC-SD-WM-PICD-004, REV. 0

Waste Forms & Hazardous Constituents Mixed/Hazardous Only

TABLE 4 page 1 of 2

STEP 1 WASTE CLASS HAZARDOUS

STEP 2 CONTAINER TYPE 15 GALLON DRUMS

A separate Table 4 must be completed for each waste class and container type identified in Table 2.

STEP 5 EPA/RCRA/WAC indicate percent present for each waste form

STEP 3 YEARS 1995 TO 2001
(INCLUDE HELD IF APPLICABLE)

EPA / RCRA

WAC

STEP 4
INDICATE BELOW THE VOLUME % OF
WASTE FORM IN CONTAINER
IDENTIFIED IN STEP 2

A	B	C	D	E	F	G	H	J
IGN. D001	CORR. D002	REAC. D003	* MET. (Metals)	MHG. (Mercury) D009 P065 P092 U151	* ORG.	WT WP WC	PCB W001	PCB W001
* See Appendix A: MET - Tables A - 9 thru A - 11 ORG - Tables A - 1 thru A - 8								

STEP 6
Are
Waste
Forms
Segre-
gated?
Y/N

WASTE FORMS

% SHIELDING

< 50 ppm > 50 ppm

STEEL

LEAD

CONCRETE

SOLID PROCESS RESIDUES

INORGANIC PARTICULATES

INORGANIC ABSORBED
LIQUID/SLUDGES

SALT WASTE

ORGANIC PARTICULATES

ORGANIC ABSORBED LIQ/SLUDG

SOILS

CONTAMINATED SOILS

DEBRIS CONTAMINATED SOILS

WHC-SD-WM-PICD-004, REV. 0

NOTE: Waste Form % should be totaled on Table 4 Page 2 of 2 and MUST equal 100%

STEP 1 WASTE

CLASS HAZARDOUS

Waste Forms & Hazardous Constituents Mixed/Hazardous Only

TABLE 4 page 2 of 2

STEP 2 CONTAINER

TYPE 15 GALLON DRUMS

A separate Table 4 must be completed for each waste class and container type identified in Table 2.

STEP 5 EPA/RCRA/WAC indicate percent present for each waste form

EPA / RCRA

WAC

STEP 3 YEARS 1995 TO 2001

(INCLUDE HELD IF APPLICABLE)

STEP 4

INDICATE BELOW THE VOLUME % OF
WASTE FORM IN CONTAINER
IDENTIFIED IN STEP 2

A	B	C	D	E	F	G	H	J
IGN. D001	CORR. D002	REAC. D003	* MET. (Metals)	MHG. (Mercury) D009 P065 P092 U151	* ORG.	WT WP WC	PCB W001	PCB W001
* See Appendix A: MET - Tables A - 9 thru A - 11 ORG - Tables A - 1 thru A - 8								

STEP 6
Are
Waste
Forms
Segre-
gated?
Y/N

WASTE FORMS

%	DEBRIS WASTES										
	METAL										
	INORGANIC NON-METAL										
	COMBUSTIBLE										
	HETEROGENEOUS										
	SPECIAL WASTES										
	LABPACKS/CONTAINERIZED LIQ.										
100	REACTIVE METALS *			100							Y
	EXPLOSIVES/PROPELLENTS										
	INHERENTLY HAZARDOUS WASTE										
	ELEMENTAL MERCURY										
	ELEMENTAL LEAD										
	BERYLLIUM WASTE										
	BATTERIES										
	UNKNOWN										
	OTHER *										
100%	OTHER WASTE DISCRIPTION: _____										

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STEP 1 WASTE
CLASS HAZARDOUS

Waste Forms & Hazardous Constituents Mixed/Hazardous Only

TABLE 4 page 1 of 2

STEP 2 CONTAINER
TYPE 5 GALLON DRUMS

A separate Table 4 must be completed for each waste class and container type identified in Table 2.

STEP 5 EPA/RCRA/WAC indicate percent present for each waste form

STEP 3 YEARS 1995 TO 2001
(INCLUDE HELD IF APPLICABLE)

STEP 4
INDICATE BELOW THE VOLUME % OF
WASTE FORM IN CONTAINER
IDENTIFIED IN STEP 2

EPA / RCRA

WAC

A	B	C	D	E	F	G	H	J
IGN. D001	CORR. D002	REAC. D003	* MET. (Metals)	MHG. (Mercury) D009 P065 P092 U151	* ORG.	WT WP WC	PCB W001	PCB W001
• See Appendix A: MET - Tables A - 9 thru A - 11 ORG - Tables A - 1 thru A - 8								

STEP 6
Are
Waste
Forms
Segre-
gated?
Y/N

↓
WASTE FORMS

%	SHIELDING	< 50 ppm > 50 ppm							
	STEEL								
	LEAD								
	CONCRETE								
SOLID PROCESS RESIDUES									
	INORGANIC PARTICULATES								
	INORGANIC ABSORBED LIQUID/SLUDGES								
	SALT WASTE								
	ORGANIC PARTICULATES								
100	ORGANIC ABSORBED LIQ/SLUDG							100	Y
SOILS									
	CONTAMINATED SOILS								
	DEBRIS CONTAMINATED SOILS								

MHC-SD-WM-PICD-004, REV. 0

NOTE: Waste Form % should be totaled on Table 4 Page 2 of 2 and MUST equal 100%

Waste Forms & Hazardous Constituents Mixed/Hazardous Only

TABLE 4 page 2 of 2

STEP 1 WASTE

CLASS HAZARDOUS

A separate Table 4 must be completed for each waste class and container type identified in Table 2.

STEP 2 CONTAINER

TYPE 6 GALLON DRUMS

STEP 5 EPA/RCRA/WAC indicate percent present for each waste form

STEP 3 YEARS

1995 TO 2001

EPA / RCRA

WAC

(INCLUDE HELD IF APPLICABLE)

STEP 4

INDICATE BELOW THE VOLUME % OF
WASTE FORM IN CONTAINER
IDENTIFIED IN STEP 2

A	B	C	D	E	F	G	H	J
IGN. D001	CORR. D002	REAC. D003	* MET. (Metals)	MHG. (Mercury) D009 P065 P092 U151	* ORG.	WT WP WC	PCB W001	PCB W001
• See Appendix A: MET - Tables A - 9 thru A - 11 ORG - Tables A - 1 thru A - 8								

STEP 6
Are
Waste
Forms
Segre-
gated?
Y/N

WASTE FORMS

%	DEBRIS WASTES	< 50 ppm > 50 ppm							
	METAL								
	INORGANIC NON-METAL								
	COMBUSTIBLE								
	HETEROGENEOUS								
	SPECIAL WASTES								
	LABPACKS/CONTAINERIZED LIQ.								
	REACTIVE METALS								
	EXPLOSIVES/PROPELLENTS								
	INHERENTLY HAZARDOUS WASTE								
	ELEMENTAL MERCURY								
	ELEMENTAL LEAD								
	BERYLLIUM WASTE								
	BATTERIES								
	UNKNOWN								
	OTHER •								

100%

• OTHER WASTE DISCRIPTION: _____

STEP 1 WASTE CLASS HAZARDOUS

Waste Forms & Hazardous Constituents Mixed/Hazardous Only

TABLE 4 page 1 of 2

STEP 2 CONTAINER TYPE 4x4x2 BOX

A separate Table 4 must be completed for each waste class and container type identified in Table 2.

STEP 5 EPA/RCRA/WAC indicate percent present for each waste form

STEP 3 YEARS 1995 TO 2001

(INCLUDE HELD IF APPLICABLE)

STEP 4 INDICATE BELOW THE VOLUME % OF WASTE FORM IN CONTAINER IDENTIFIED IN STEP 2

EPA / RCRA						WAC			
A	B	C	D	E	F	G	H	J	
IGN. D001	CORR. D002	REAC. D003	* MET. (Metals)	MHG. (Mercury) D009 P065 P092 U151	* ORG.	WT WP WC	PCB W001	PCB W001	
• See Appendix A: MET - Tables A - 9 thru A - 11 ORG - Tables A - 1 thru A - 8									

STEP 6
Are
Waste
Forms
Segre-
gated?
Y/N

↓
WASTE FORMS

%	SHIELDING									
	STEEL									
	LEAD									
	CONCRETE									
	SOLID PROCESS RESIDUES									
	INORGANIC PARTICULATES									
	INORGANIC ABSORBED LIQUID/SLUDGES									
	SALT WASTE									
	ORGANIC PARTICULATES									
	ORGANIC ABSORBED LIQ/SLUDG									
	SOILS									
	CONTAMINATED SOILS									
	DEBRIS CONTAMINATED SOILS									

➤ NOTE: Waste Form % should be totaled on Table 4 Page 2 of 2 and MUST equal 100%

STEP 1 WASTE

CLASS HAZARDOUS

Waste Forms & Hazardous Constituents Mixed/Hazardous Only

TABLE 4 page 2 of 2

STEP 2 CONTAINER

TYPE 4x4x2 Box

A separate Table 4 must be completed for each waste class and container type identified in Table 2.

STEP 5 EPA/RCRA/WAC indicate percent present for each waste form

STEP 3 YEARS 1995 TO 2001

(INCLUDE HELD IF APPLICABLE)

STEP 4

INDICATE BELOW THE VOLUME % OF
WASTE FORM IN CONTAINER
IDENTIFIED IN STEP 2

EPA / RCRA

WAC

STEP 6

Are
Waste
Forms
Segre-
gated?
Y/N

A	B	C	D	E	F	G	H	J
IGN. D001	CORR. D002	REAC. D003	* MET. (Metals)	MHG. (Mercury) D009	* ORG.	WT WP WC	PCB W001	PCB W001
• See Appendix A:				P065				
MET - Tables A - 9 thru A - 11				P092				
ORG - Tables A - 1 thru A - 8				U151				

WASTE FORMS

%

DEBRIS WASTES

< 50 ppm > 50 ppm

METAL

INORGANIC NON-METAL

COMBUSTIBLE

HETEROGENEOUS

SPECIAL WASTES

LABPACKS/CONTAINERIZED LIQ.

REACTIVE METALS

EXPLOSIVES/PROPELLENTS

INHERENTLY HAZARDOUS WASTE

ELEMENTAL MERCURY

ELEMENTAL LEAD

BERYLLIUM WASTE

BATTERIES

UNKNOWN

OTHER *

100%

* OTHER WASTE DISCRIPTION:

WHC-SD-WM-PICD-004, REV. 0

WASTE CLASS: CH LLWICONTAINER TYPE: 55 GALLON DRUMS

Radiation Type

TABLE 5 page 1 of 2

YEARS 1995 TO 2001 (INCLUDE HELD IF APPLICABLE)

A SEPARATE TABLE 5 MUST BE COMPLETED FOR EACH APPLICABLE WASTE CLASS AND CONTAINER TYPE

RADIATION TYPE: Please indicate the Concentration and Total Activity for each Waste Form

WASTE FORMS	Fission Product BETA-GAMMA		Uranium/ Neptunium		Pu/Am		Volatile Radionuclide (¹⁴ C, ³ H, I, Rn, Kr, Xe)		Selenium		Technetium 99	
	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)
SHIELDING												
STEEL												
LEAD												
CONCRETE												
SOLID PROCESS RESIDUES												
INORGANIC PARTICULATES												
INORGANIC ABSORBED LIQUID/SLUDGES												
SALT WASTE												
ORGANIC PARTICULATES												
ORGANIC ABSORBED LIQ/SLUDGE												
SOILS												
CONTAMINATED SOILS												
DEBRIS CONTAMINATED SOILS												

B.28

MHC-SD-WM-PICD-004, REV. 0

WASTE CLASS: CH LLW I

TABLE 5 page 2 of 2

CONTAINER TYPE: 55 GALLON DRUMS

Radiation Type

YEAR 1995 TO 2001 (INCLUDE HELD IF APPLICABLE)A SEPARATE TABLE 5 MUST BE COMPLETED FOR EACH APPLICABLE WASTE CLASS AND CONTAINER TYPE
RADIATION TYPE: Please indicate the Concentration and Total Activity for each Waste Form

WASTE FORMS	Fission Product BETA-GAMMA		Uranium/ Neptunium		Pu/Am		Volatile Radionuclide (¹⁴ C, ³ H, I, Rn, Kr, Xe)		Selenium		Technetium 99	
	CONC.	TOTAL ACT.	CONC.	TOTAL ACT.	CONC.	TOTAL ACT.	CONC.	TOTAL ACT.	CONC.	TOTAL ACT.	CONC.	TOTAL ACT.
	Cl/m ³	(CURIES)	Cl/m ³	(CURIES)	Cl/m ³	(CURIES)	Cl/m ³	(CURIES)	Cl/m ³	(CURIES)	Cl/m ³	(CURIES)
DEBRIS WASTES												
METAL												
INORGANIC NON-METAL												
COMBUSTIBLE	7.5E ³	0.047										
HETEROGENEOUS												
SPECIAL WASTES												
LABPACKS/CONTAINERIZED LIQ.												
REACTIVE METALS												
EXPLOSIVES/PROPELLENTS												
INHERENTLY HAZARDOUS WASTE												
ELEMENTAL MERCURY												
ELEMENTAL LEAD												
BERYLLIUM WASTE												
BATTERIES												
UNKNOWN												
OTHER												

OTHER WASTE DESCRIPTION: _____

WASTE CLASS: CH LLWT

TABLE 5 page 1 of 2

CONTAINER TYPE: 4x4x8 Box

Radiation Type

YEARS 1995 TO 2001 (INCLUDE HELD IF APPLICABLE)

A SEPARATE TABLE 5 MUST BE COMPLETED FOR EACH APPLICABLE WASTE CLASS AND CONTAINER TYPE

RADIATION TYPE: Please indicate the Concentration and Total Activity for each Waste Form

WASTE FORMS	Fission Product BETA-GAMMA		Uranium/ Neptunium		Pu/Am		Volatile Radionuclide (¹⁴ C, ³ H, I, Rn, Kr, Xe)		Selenium		Technetium 99	
	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)
SHIELDING												
STEEL												
LEAD												
CONCRETE												
SOLID PROCESS RESIDUES												
INORGANIC PARTICULATES												
INORGANIC ABSORBED LIQUID/SLUDGES												
SALT WASTE												
ORGANIC PARTICULATES												
ORGANIC ABSORBED LIQ/SLUDGE												
SOILS												
CONTAMINATED SOILS												
DEBRIS CONTAMINATED SOILS												

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R 30

WASTE CLASS: CH LLWICONTAINER TYPE: 4x4x8 BoxYEAR 1995 TO 2001 (INCLUDE HELD IF APPLICABLE)

Radiation Type

TABLE 5 page 2 of 2

A SEPARATE TABLE 5 MUST BE COMPLETED FOR EACH APPLICABLE WASTE CLASS AND CONTAINER TYPE

RADIATION TYPE: Please indicate the Concentration and Total Activity for each Waste Form

WASTE FORMS	Fission Product BETA-GAMMA		Uranium/ Neptunium		Pu/Am		Volatile Radionuclide (¹⁴ C, ³ H, I, Rn, Kr, Xe)		Selenium		Technetium 99	
	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)
DEBRIS WASTES												
METAL	7.5E ³	0.030										
INORGANIC NON-METAL												
COMBUSTIBLE	7.5E ³	.018										
HETEROGENEOUS	7.5E ³	.012										
SPECIAL WASTES												
LABPACKS/CONTAINERIZED LIQ.												
REACTIVE METALS												
EXPLOSIVES/PROPELLENTS												
INHERENTLY HAZARDOUS WASTE												
ELEMENTAL MERCURY												
ELEMENTAL LEAD												
BERYLLIUM WASTE												
BATTERIES												
UNKNOWN												
OTHER												

OTHER WASTE DESCRIPTION: _____

WASTE CLASS: RH LLW IIICONTAINER TYPE: OSWC

Radiation Type

TABLE 5 page 1 of 2

YEARS 1995 TO 2001 (INCLUDE HELD IF APPLICABLE)

A SEPARATE TABLE 5 MUST BE COMPLETED FOR EACH APPLICABLE WASTE CLASS AND CONTAINER TYPE

RADIATION TYPE: Please indicate the Concentration and Total Activity for each Waste Form

WASTE FORMS	Fission Product BETA-GAMMA		Uranium/ Neptunium		Pu/Am		Volatile Radionuclide (¹⁴ C, ³ H, I, Rn, Kr, Xe)		Selenium		Technetium 99	
	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)	CONC. Ci/m ³	TOTAL ACT (CURIES)
SHIELDING												
STEEL												
LEAD												
CONCRETE												
SOLID PROCESS RESIDUES												
INORGANIC PARTICULATES												
INORGANIC ABSORBED LIQUID/SLUDGES												
SALT WASTE												
ORGANIC PARTICULATES												
ORGANIC ABSORBED LIQ/SLUDGE												
SOILS												
CONTAMINATED SOILS												
DEBRIS CONTAMINATED SOILS												

B.32

WHC-SD-WM-PICD-004, REV. 0

WASTE CLASS: RH LLW IIICONTAINER TYPE: DSWCYEAR 1995 TO 1997 (INCLUDE HELD IF APPLICABLE)

TABLE 5 page 2 of 2

Radiation Type

A SEPARATE TABLE 5 MUST BE COMPLETED FOR EACH APPLICABLE WASTE CLASS AND CONTAINER TYPE
RADIATION TYPE: Please indicate the Concentration and Total Activity for each Waste Form

WASTE FORMS	Fission Product BETA-GAMMA		Uranium/ Neptunium		Pu/Am		Volatile Radionuclide (¹⁴ C, ³ H, I, Rn, Kr, Xe)		Selenium		Technetium 99	
	CONC.	TOTAL ACT.	CONC.	TOTAL ACT.	CONC.	TOTAL ACT.	CONC.	TOTAL ACT.	CONC.	TOTAL ACT.	CONC.	TOTAL ACT.
	Cl/m ³	(CURIES)	Cl/m ³	(CURIES)	Cl/m ³	(CURIES)	Cl/m ³	(CURIES)	Cl/m ³	(CURIES)	Cl/m ³	(CURIES)
DEBRIS WASTES												
METAL	209.5	3327										
INORGANIC NON-METAL												
COMBUSTIBLE												
HETEROGENEOUS												
SPECIAL WASTES												
LABPACKS/CONTAINERIZED LIQ.												
REACTIVE METALS												
EXPLOSIVES/PROPELLENTS												
INHERENTLY HAZARDOUS WASTE												
ELEMENTAL MERCURY												
ELEMENTAL LEAD												
BERYLLIUM WASTE												
BATTERIES												
UNKNOWN												
OTHER												

OTHER WASTE DESCRIPTION: _____

1994 SOLID WASTE FORECAST QUESTIONNAIRE

- A. Please answer all questions. This information will help determine Hanford's treatment, storage, and disposal requirements.

Question 4 (for all waste classes) and Question 5 (for mixed and hazardous waste only) provide a basis for determining how your waste will be grouped. Be sure to answer these questions or your forms will be returned.

- B. Ensure that the contact name, Level 3 Manager, and budget personnel are identified in the sign-off area of the questionnaire. Names must be typed (or printed) as well as written.

1. Please circle the waste classes that will be generated.

<u>CH_LLW_I</u>	CH_LLW_III	CH_LLW_GTCIII
RH_LLW_I	<u>RH_LLW_III</u>	RH_LLW_GTC_III
CH_LLMW_I	CH_LLMW_III	CH_LLMW_GTCIII
RH_LLMW_I	RH_LLMW_III	RH_LLMW_GTCIII
CH_TRU	CH_TRUM	<u>HAZ</u>
RH_TRU	RH_TRUM	

2. Generally describe these wastes and how they will be generated.

Low level wastes include maintenance and decontamination solid, compactible waste (CH LLW I), and core component processing (RH LLW III). Hazardous wastes are generated during plant maintenance activities, routinely including light ballasts, lamps, clean-up waste

3. Have your waste volumes changed from your previous forecast? Yes No

Explain: Volumes remain the same. However, refer to COVER letter for shutdown schedule information.

1994 SOLID WASTE FORECAST QUESTIONNAIRE

- 4.) Will waste be separated into like waste forms prior to shipping? (If you generate contaminated soils, inorganic particulates and metal debris, will you ship these waste in separate containers or will the waste be combined and placed into one container?)

Please explain for each waste class:

For all 3 waste classes, there is
no mixing prior to shipment.

5. If you generate hazardous or mixed waste please answer the following question.

Will you place several hazardous constituents in one container or will you segregate the constituents prior to shipping? (If you generate toxic metals and ignitables will you ship these constituents in separate containers or will they be combined and placed into one container?)

If the hazardous constituents are segregated, make sure each waste class by waste form (reference Table 4) has been explained using the method in Attachment B. Please provide further explanation if needed.

The hazardous constituents
are segregated prior to ship-
ping.

6. Describe your quarterly expected shipping schedule for each applicable waste class during FY-1995 (e.g., 40% of waste shipped during the first quarter, 20% in the second quarter, etc.).

For each waste class reported
quarterly schedule is expected
to be 25% each quarter of
FY-1995.

1994 SOLID WASTE FORECAST QUESTIONNAIRE

7. Discuss the assumptions that were used to prepare this forecast. (Identify known dates for facility closure, decontamination and decommissioning [D&D], or any new programs that drive the forecast data provided in this request.)

Refer to report cover letter re:
plant shutdown overview. The
assumptions are:

- 7 year shutdown schedule
- No schedule revisions that
impact generation activities

8. What assumptions were used in estimating the minimum and maximum waste volumes identified in Table 1? (Minimum waste percentage is based upon the majority of the waste being sent to a commercial disposal site. Maximum waste percentage is based upon additional projects being initiated that will generate waste not accounted for in the best estimate volume.)

Minimum: Hazardous (RCRA) waste is
assumed to be generated at

same rate as previous rate

Maximum:

for 1994. It is assumed
that operational status change to
standby to shutdown will change the
amount and type of waste generated.
See cover sheet.

9. Indicate confidence level for the following waste characterization data: (The physical waste forms are based upon historical characterization information.)

Physical Waste Forms (Table 3): High Low Medium

Explain: Process Knowledge

Hazardous Constituents (Table 4): High Low Medium

Explain: Process Knowledge

Radiation Type (Table 5): High Low Medium

Explain: All isotopes, fission products
and activation products have
been analyzed many times
and are well documented.

1994 SOLID WASTE FORECAST QUESTIONNAIRE

10. What percentage of the waste forecasted is existing waste? 50%
 Of your existing waste, how confident are you in the current shipping schedule? HIGH LOW MEDIUM

Explain: Based on previous years' amount of waste generated.

What percentage of waste forecasted is future generated waste? 50%

Of your future generated waste, how confident are you in the volumes and shipping schedule? HIGH LOW MEDIUM

Explain: Based on previous years' amount of waste generated.

- 10a. Please indicate whether your forecasts include only operational waste, or if transitional waste, environmental restoration (ER) and/or D&D activities have also been included. If transitional waste, ER and D&D have been included, indicate when each of these activities will take place.

The forecast is for regular maintenance and transitional waste.

- 10b. If you have not included transitional waste, ER, or D&D waste, will this waste potentially be managed at Hanford? Please provide an estimate of the expected volumes and years that the waste would be shipped.

See cover letter.

11. Please supply contact personnel information for data verification. Names must be typed (or printed) as well as written:

LLW: N.R. Dahl Phone: 376-0540 ⁴⁷⁸⁸

LLMW: N/A Phone: _____

TRU: N/A Phone: _____

TRUM: N/A Phone: _____

HAZ: J.A. Seaman Phone: 376-0540

(Waste Contact)

Approved by: G.B. Griffin ^{for} J.E. Harvill Date: 7-15-94
 (Level 3 Manager Signature)

Approved by: R.L. Wolfe Roy L. Wolfe Date: 7/15/94
 (Budget Concurrence)

1994 SOLID WASTE FORECAST QUESTIONNAIRE

10. What percentage of the waste forecasted is existing waste? 50/10
 Of your existing waste, how confident are you in the current shipping schedule? HIGH LOW MEDIUM

Explain: Based on previous years' amount of waste generated.

What percentage of waste forecasted is future generated waste? 50/10

Of your future generated waste, how confident are you in the volumes and shipping schedule? HIGH LOW MEDIUM

Explain: Based on previous years' amount of waste generated.

- 10a. Please indicate whether your forecasts include only operational waste, or if transitional waste, environmental restoration (ER) and/or D&D activities have also been included. If transitional waste, ER and D&D have been included, indicate when each of these activities will take place.

The forecast is for regular maintenance and transmitted waste.

- 10b. If you have not included transitional waste, ER, or D&D waste, will this waste potentially be managed at Hanford? Please provide an estimate of the expected volumes and years that the waste would be shipped.

See cover letter.

11. Please supply contact personnel information for data verification. Names must be typed (or printed) as well as written:

LLW: N.R. Dahl Phone: 376-4788

LLMW: N/A Phone:

TRU: N/A Phone:

TRUM: N/A Phone:

HAZ: J.A. Seamans Phone: 376-0540

(Waste Contact)

Approved by: G.B. Griffin ^{For} E. Naville Date: 7-22-94
 (Level 3 Manager Signature)

Approved by: R.L. Wolfe Roy L. Wolfe Date: 7/15/94
 (Budget Concurrence)

APPENDIX C - FFTF SHUTDOWN PROGRAM PLAN (SUMMARY)

The FFTF is initiating transition from standby mode to shutdown mode. This has resulted in a multitude of new activities that are in the initial planning phases and are not well defined and do not lend themselves to waste generation estimating at this time. This section will discuss the anticipated activities, but simply attempts to identify potential future waste streams and does not attempt to quantify the waste streams. The following summary is extracted from the "FFTF Shutdown Program Plan" (WHC-SD-FF-SSP-004, Rev. 0). This discussion is congruent with the graphic interfaces depicted in figure 1.

The Shutdown Project combines the current plant standby activities with the following deactivation activities: reactor defueling, unirradiated or "green" fuel disposition, irradiated fuel washing and dry cask storage, sodium systems drain and disposition of sodium residuals, auxiliary systems shutdown, and bulk sodium conversion to a form suitable for disposition. The Shutdown Program Plan identifies the new work needed to complete the deactivation activities necessary to transition to a safe shutdown state.

Most of the existing plant surveillance and maintenance activities will continue as needed to maintain the FFTF in a safe condition and conform with the requirements that support environmental, worker health and safety and DOE Order compliance. These plant activities will eventually be phased-out as they are no longer required to support the Shutdown Project.

The Shutdown Project will be completed with the turnover of FFTF to the Hanford Surplus Facilities Program. The final shutdown configuration will be suitable for a long term surveillance and maintenance mode before final decommissioning. When the deactivation activities are complete, and the final shutdown state is achieved, present planning is that FFTF will be unoccupied and locked, with the exception of maintaining a minimal amount of lighting, fire protection equipment, and ventilation required to support periodic surveillance. However, the final specific criteria for turnover to the Hanford Surplus Facility Program have not been defined.

There is also approximately 44,000 gallons of slightly radioactive Hallam sodium currently stored by SWD in the 200 Area of the Hanford Site. This material is stored in five tanks (each with a capacity of approximately 16,000 gallons) which may be transported directly to the Sodium Reaction Facility at a later date.

Most of the process fluids and lubricating oils used in the plant are hazardous materials (e.g. ethylene-glycol [approx. 94,000 gal.], propylene-glycol [approx. 100 gal.], oils, etc.). These fluids will be drained with all heels removed to the maximum extent practical. Any hazardous fluids remaining must comply with environmental regulations. The Recycle Programs Office will be notified prior to draining in an attempt to find buyers both on and off the Hanford Site. If a buyer cannot be found, the material will be disposed of according

to applicable environmental regulations.

GENERAL PLANT SUPPORT/SYSTEM SHUTDOWN

The level of general plant support for the FFTF during the first four years of the transition to shutdown will be comparable to those required for hot standby. This is because approximately 90% of the plant systems are required to support hot sodium circulation preparatory to sodium draining. As systems become available for shutdown, there will be a corresponding reduction in the need for general maintenance and plant support. The required level of support will be minimal after sodium drain and cooldown to ambient temperature.

Waste Streams

Low level wastes include maintenance and decontamination solid, compactible waste (CH-LLW-I), and core component processing waste (RH-LLW-III). Hazardous wastes generated during plant maintenance activities routinely include light ballasts, lamps, and clean-up waste. These wastes are included in the forecast.

REACTOR DEFUELING

The defueling of the reactor to Interim Decay Storage and the Fuel Storage Facility will use standard FFTF refueling equipment and operating procedures. Fuel in the reactor vessel will be replaced with irradiated non-fuel core components (e.g., reflectors, control rods, etc.) and thirteen new non-fuel core components (Multipurpose Test Assemblies) and three Simulated Core Assemblies that would have been excessed. Use of the irradiated non-fuel core components results in significant cost and schedule advantages and achieves major waste minimization. This approach will reposition the fuel to Interim Decay Storage and the Fuel Storage Facility, and all irradiated non-fuel core components to the reactor vessel. The total time required to defuel the reactor vessel is 455 calendar days.

The final configuration of the In Vessel Handling Machines and Instrument Trees is to have them in their removal positions (centered under their respective reactor head plug). This is to facilitate removal of the machines at some future time without requiring any additional equipment moves. The Control Rod Drive Mechanisms will not be reconnected to the Control Rod Drive Disconnects, but will be lowered to remove the spring energy on the Control Rod Drive Mechanisms. The Control Rod Drive Mechanisms are removable from the reactor vessel head in this configuration.

Waste Streams

It is anticipated that the defueling operation will generate predominantly CH-LLW-I consisting of compactible rad-con waste (i.e., rubber gloves, tape, plastic, contaminated clothing, etc.). These wastes are included in the forecast.

FUEL DISPOSITION

Category IVE Irradiated Fuel

Disposition of the highly irradiated Category IVE fueled components (333) as defined per DOE order 5633.3A, *Control and Accountability of Nuclear Materials*, (DOE 1993) entails interim storage which could last for up to 50 years. The Interim Storage Area will be located in the northeast corner of the FFTF complex. The fueled components, that are currently stored in a sodium environment, will be washed in the Interim Examination and Maintenance Cell, placed in Interim Storage Casks, and then transferred to the Interim Storage Area. A single cask is expected to weigh approximately 60 tons and will contain six fueled components (assemblies or pin containers) that have been sealed in a Core Component Container. The Dry SNF Storage Facility will be initially operated by the FFTF Transition Project prior to turnover to the SNF organization. It is not anticipated that this SNF will be reclassified as RH-TRU waste.

Category IC/IIID Irradiated Fuel

There are 11 irradiated fuel components that by the year 2030 will be either Category IC or IIID Special Nuclear Material as defined per DOE Order 5633.3A, *Control and Accountability of Nuclear Materials*, (DOE 1993). The planned disposition of the Category IC/IIID slightly irradiated fueled components is to intermix one each of these type components with five highly irradiate Category IVE fueled components in a single Core Component Container/Interim Storage Cask. A vulnerability analysis concludes the risk is low using this approach. Based on this vulnerability analysis a deviation to the appropriate DOE Orders will be submitted for DOE approval. It will address storage of this material outside a Protected Area and the inventory requirements.

Category IC/IIID Unirradiated Fuel

Planned disposition of the Category IC unirradiated fueled assemblies (32) as defined per DOE Order 5633.3A, *Control and Accountability of Nuclear Materials*, (DOE 1993) entails sending the fuel to the Plutonium Finishing Plant for interim storage. These assemblies will be washed in the Interim Examination and Maintenance Cell and transported to the Plutonium Finishing Plant. The assemblies will either be stored on qualified racks or downloaded to pellets for container storage in an appropriate vault. A decision has not been made at this time regarding this disposition.

Sodium Bonded Test Assemblies

The current plans are to ship the six sodium bonded metal fuel assemblies plus sodium bonded pins from ACN-1 and two Indent 69 containers from previously disassembled assemblies MFF-1A and IFR-1 to Idaho for consolidation with the Experimental Breeder Reactor-II metal fuel inventory. Experimental Breeder Reactor-II has requested that this fuel be shipped to them in pin form. Therefore, the assemblies will be washed in the Interim Examination and Maintenance Cell, disassembled, the fuel loaded into new pin containers, and transported in licensed T-3 casks. These pin containers will require design and fabrication. Utilizing the T-3 casks under the present license would require approximately sixty shipments. It is planned to prepare an addendum to the DOE T-3 license to reduce this number.

Lithium Bonded Assemblies

FFTF has one assembly with lithium bonded pins. This assembly (FSP-1R) will be washed and disassembled in the Interim Examination and Maintenance Cell, and the pins sent to the 300 Area for lithium removal. The cleaned pins may be dispositioned in the 300 Area or returned to FFTF for storage in an Interim Storage Cask.

Interim Storage Casks

The Interim Storage Cask is a top loading shielded cask capable of receiving and storing a Core Component container containing six FFTF irradiated fuel core components or pin containers. The Core Component Container is a closed container that will provide the primary confinement boundary for the 50 year design life of the dry storage system. After each individual fuel assembly or pin container is washed in the Interim Examination and Maintenance Cell Sodium Removal system, it will be loaded in its assigned Core Component Container location. When six assemblies have been placed in a Core Component Container, the lid will be installed and a leak test will be performed on the metal seal.

Interim Storage Area

The Interim Storage Area consists of an existing concrete pad approximately 120 feet long by 90 feet wide that is located on the northeast corner of the FFTF complex. The pad will be surrounded by a fence with locked access to permit controlled loading, unloading and inspection of the Interim Storage Casks.

Waste Streams

It is anticipated that fuel handling, washing, and storage preparation will generate CH-LLW-I

waste consisting of compactible rad-con waste (i.e., rubber gloves, tape, plastic, contaminated clothing, etc.). Sodium Removal System (SRS) wash water will be treated by passage through a resin bed and recycled for further cleaning evolutions. At the completion of the fuel washing, 500 to 1,000 gallons of Low Level Liquid Waste will be generated for disposal through TWRS. The resin will be treated by incineration by the contractor providing the resin bed. The ash from the incineration process, approximately 50 cu. ft., will be returned to WHC for disposal as LLW. The Spent Nuclear Fuel(SNF) will be stored as nuclear material. Operation of the Independent Storage Area(ISA) should not generate waste as all materials are in sealed containers for 50 year storage.

BULK SODIUM AND SYSTEMS DISPOSITION

There is currently no facility available at Hanford for conversion of bulk alkali metal (sodium) to a suitable form for final disposition (e.g., burial). Three options will be evaluated for disposition of the FFTF bulk sodium, including: long term storage, reaction at a newly constructed sodium conversion facility at Hanford, or shipment to an existing sodium conversion facility at the Argonne National Laboratory-West site in Idaho.

It is expected that the radioactive nature of the major portion of the alkali metal inventory will preclude future beneficial commercial use. Therefore, a storage and/or reaction facility for conversion of the alkali metal to a stable form suitable for disposal (sodium carbonate) will be required.

The limitations of the present FFTF storage capability and the draining complexity leads to the decision that a Sodium Storage Facility is required, and the facility needs to be closely coupled with the FFTF plant to permit safe and efficient drain operations.

The Sodium Storage Facility to be operated by the FFTF Transition Project will be designed and constructed to meet appropriate Resource Conservation and Recovery Act storage requirements. Therefore, the sodium could be stored within the Sodium Storage Facility for an extended period prior to conversion to a stable material suitable for disposal on the Hanford Site. Pending completion of TPA negotiations, the sodium disposition process and product will not be known until 1998. At that time the decision will be made (based on a TWRS TPA Milestone) as to what product the sodium will be converted to. If TWRS can utilize the sodium as sodium hydroxide in tank waste treatment, the sodium will be reacted to form hydroxide. This activity would not take place until after the year 2000.

Two options were considered for conversion of the sodium for disposal: construction of a reaction facility at Hanford or utilization of the existing sodium reaction facility at the Argonne National Laboratory-West Site. Due largely to transportation issues, it is concluded that the Sodium Reaction Facility should be constructed at the Hanford Site.

There is also a substantial inventory of slightly radioactive sodium currently stored in the 200 Area of the Hanford Site. This material includes approximately 42,000 gallons of Hallam Reactor sodium and approximately 6,700 gallons of Sodium Reactor Experiment sodium. This material constitutes part of the Nuclear Energy Legacy Program. Disposition of this sodium has not been determined at this time. This sodium may be transported in its current configuration for conversion to a stable form for disposal in the Sodium Reaction Facility. Ongoing evaluations are considering the potential for reuse, recycle, and alternative treatment and disposal of this material.

Sodium Storage Facility

The Sodium Storage Facility will be designed and constructed between the south and west Dump Heat Exchangers adjacent to the FFTF Complex for sodium offload. This facility will house the FFTF primary, secondary, Interim Decay Storage and Fuel Storage Facility sodium and possibly relocated sodium from the 200W Area.

Waste Streams

It is anticipated that draining of reactor sodium to the sodium storage facility will not generate waste, although some rad-con waste and hazardous waste may be generated by personnel activities required to support the effort.

Sodium Reaction Facility

The final step of the Shutdown Project is the safe and environmentally compliant disposition of the FFTF sodium metal coolant. Sodium is classified as a hazardous substance and must be reacted to a stable, non-hazardous material for disposal or be converted to a chemical form that can be used as feedstock in some different process. Compounds of Sodium Hydroxide, Sodium Carbonate or Sodium Sulphate are being considered for the product material.

Waste Streams

Operation of the Sodium Reaction Facility will generate several waste streams. In addition to the product stream that worst case may be CH-LLMW-I (contaminated sodium carbonate-approx. 2000 tons), there would also be operational process waste streams of CH-LLMW-I in addition to compactible rad-con wastes.

SURVEILLANCE AND MAINTENANCE AFTER TURNOVER

A two phase turnover to the Hanford Surplus Facilities Program is anticipated. The first

phase will occur in approximately five years when the FFTF final deactivation state has been achieved. However, operation and subsequent shutdown of the Sodium Reaction Facility will continue for approximately two and one half years after this turnover. The second phase would constitute turnover of the sodium storage and reaction facilities after these facilities have been placed in an appropriate shutdown state.

Waste Streams

Minimal solid waste would be generated after shutdown and turnover, but some CH-LLW-I and some Hazardous waste would be anticipated from ongoing maintenance of required systems. This stream will continue beyond the 5-7 year shutdown activities. Additional streams may be generated when D&D activities are initiated.

SHUTDOWN CONSTRUCTION MODIFICATIONS

Significant plant modifications will be required for the transition to shutdown. These construction projects are Interim Storage Area, Sodium Storage Facility, PFP Modifications, and Sodium Reaction Facility.

Waste Streams

The construction activities may generate some hazardous solid waste (paint, solvent, and oil containers).

AUXILIARY SYSTEMS SHUTDOWN

Most of the process fluids and lubricating oils used in the plant are hazardous materials (e.g. ethylene-glycol [approx. 94,000 gal.], propylene-glycol [approx. 100 gal.], oils, etc.). These fluids will be drained with all heels removed to the maximum extent practical. Any hazardous fluids remaining must comply with environmental regulations. The Recycle Programs Office will be notified prior to draining in an attempt to find buyers both on and off the Hanford Site. If a buyer cannot be found, the material will be disposed of according to applicable environmental regulations.

Waste Streams

It is anticipated that most of these Hazardous materials can be sold rather than disposed of. Some Hazardous waste will be generated during draining and packaging of these materials.

MAINTENANCE AND STORAGE FACILITY

The Maintenance and Storage Facility is located in the 400 Area approximately 500 feet

north of the FFTF complex and west of the railroad track serving the FFTF Containment Building. It was designed as a multipurpose service center to support the specialized maintenance and storage requirements of the 400 Area facilities. It is also being used to support equipment modification and assembly, testing, and training for the 200 Area Tank Farms. The Maintenance and Storage Facility will also continue to provide maintenance services for the FFTF during the transition to shutdown.

Current plans for the Maintenance and Storage Facility include support of several long term commitments to the Tank Waste Remediation System organization. No other suitable facility at Hanford is available to provide this support. Operation of the Maintenance and Storage Facility will continue independent of the FFTF shutdown. Where appropriate, electrical transformer polychlorinated biphenyl cooling oils will be dispositioned, to the extent possible, during shutdown.

Waste Streams

Although plans for this facility extend beyond FFTF shutdown for clean testing activities for tank farms, this facility contains the decontamination area for the refueling equipment and has been used in the past. It should be anticipated that additional activities may need to be performed in this facility to support shutdown and eventual D&D resulting in CH-LLW-I, CH-LLMW-I and Hazardous waste streams.