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Page 1 of 1

1. EDT 603825

2. To: (Receiving Organization) Distribution		3. From: (Originating Organization) 87320		4. Related EDT No.: N/A							
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1	WHC-SD-WM-PICD-001		0	Liquid Effluent Services and Solid Waste Disposal Interface Control Document	N/A	1					
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Interface Control Document

Release Date: October 27, 1994

**This document was reviewed following the
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WHC Information Release Administration Specialist:

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Name: Alan B Carlson

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7. Abstract

This interface control document between Liquid Effluent Services (LES) 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 management capabilities. The interface control document also facilitates integration of existing or planned waste management capabilities of the Liquid Effluent Services and Solid Waste Disposal divisions.

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Document Title: LIQUID EFFLUENT SERVICES AND SOLID WASTE DISPOSAL
INTERFACE CONTROL DOCUMENT

Approved by:

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Approved by:

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

**LIQUID EFFLUENT SERVICES AND SOLID WASTE DISPOSAL
INTERFACE CONTROL DOCUMENT**

1.0 PURPOSE

This interface control document (ICD) between Liquid Effluent Services (LES) 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 Liquid Effluent Services and Solid Waste Disposal have distinct missions at the Hanford Site, it is important that each division has a clear understanding of the other division's expectations regarding the interfaces. This ICD deals with liquid wastes generated by the SWD and solid wastes generated by the LES. The baseline description of wastes includes waste volumes, characteristics and timing for use in planning the proper waste management capabilities.

This document satisfies the requirement for LES 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 either program 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 Liquid Effluent Services and Solid Waste Disposal.

**2.0 LIQUID EFFLUENTS GENERATED BY SOLID WASTE DISPOSAL REQUIRING MANAGEMENT
BY LIQUID EFFLUENT SERVICES**

Liquid Effluent Services will manage the liquid wastes generated by Solid Waste Disposal as identified in this section. Acceptance of unique or unusual wastes will be handled on a case by case basis. Quantities of unique or unusual wastes 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.

Liquid Effluent Services will not provide for the collection of any liquid waste generated by Solid Waste Disposal requiring treatment other than normal lag storage at Liquid Effluent Services operated treatment facilities. SWD will be responsible for collection of liquids at its facilities. Solid Waste will provide treatment systems to condition the waste as needed to make the waste compatible for treatment in Liquid Effluent Services facilities. Solid Waste Disposal will arrange for transportation of liquid waste to Liquid Effluent Services facilities. Liquid Effluent Services will provide treatment capacity to treat the quantity of liquid waste generated by Solid Waste Disposal as described in Appendix A providing that all permit conditions are met. Liquid Effluent Services will provide for the discharge of liquid effluents that have been treated.

Appendix A contains the baseline waste projections for liquid waste generated by Solid Waste Disposal requiring treatment and subsequent disposal. The waste forecasted is only for treated active liquid waste from WRAP Module 2A. The estimated annual volume generated is summarized in Table 1. This stream is the estimated annual maximum value. Any changes to this projection will be entered into this document through formal revision requiring an ECN. Figure 1 provides a graphic description of the liquid effluent stream generated by Solid Waste Disposal that will require management by Liquid Effluent Services.

3.0 SOLID WASTE GENERATED BY LIQUID EFFLUENT SERVICES REQUIRING MANAGEMENT BY SOLID WASTE DISPOSAL

Solid Waste Disposal will manage the solid wastes generated by Liquid Effluents Services as identified in Appendix B. Acceptance of unique waste will be handled on a case by case basis. These quantities (unique wastes) are expected to be minimal. Annual solid waste forecasts will continue to be performed as required under DOE Order 5820.2A/RLID 5820.2A to update the information provided in this interface control document. Any changes to the information regarding these wastes will be updated in this document through formal revision requiring an ECN.

Solid wastes generated by Liquid Effluent Services will be accepted by Solid Waste Disposal provided the waste meets the established criteria as provided in the Hanford Site Solid Waste Acceptance Criteria (Reference 1). Solid Waste Disposal will provide storage, treatment and disposal as necessary for the solid waste generated by Liquid Effluent Services described in Appendix B.

Appendix B contains the baseline waste projections for solid waste generated by Liquid Effluent Services requiring storage, treatment, and/or disposal. The waste volumes forecasted are for streams originating from the 200 Area Effluent Treatment Facility, 300 Area Treated Effluent Disposal Facility, and 340 Facility. The estimated annual volumes generated are summarized in Table 2. Figure 1 provides a graphic description of the solid waste streams generated by Liquid Effluent Services that will be managed by Solid Waste Disposal.

REFERENCES

1. WHC-EP-0063-4, Hanford Site Solid Waste Acceptance Criteria, November, 1993.

Figure 1. Interfaces Between Liquid Effluent Services and Solid Waste Disposal

Table 1. Waste Volume (In 1,000s of liters) Forecast of Liquid Waste Generated by Solid Waste Disposal Requiring Treatment and Subsequent Disposal for Fiscal Years 1995-2024

Material Source/Category	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
WRAP Module 2A										
Treated Active Liquid Waste	0	0	0	0	200	200	200	200	200	200
Material Source/Category	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
WRAP Module 2A										
Treated Active Liquid Waste	200	200	200	200	200	200	200	200	200	200
Material Source/Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
WRAP Module 2A										
Treated Active Liquid Waste	200	200	200	200	200	200	200	200	200	200

Table 2. Waste Volume (In m³) Forecast of Solid Waste Generated by Liquid Effluent Services Requiring Treatment, Storage and Disposal for Fiscal Years 1995-2024

Waste Source/Category	HELD	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
200 Area ETF																
Hazardous	0	0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
CH Low Level Mixed	0	0	81	81	81	81	81	81	81	81	81	81	81	81	81	81
300 Area TEDF																
CH Low Level	0	280	370	370	370	370	370	370	370	370	370	370	370	370	370	370
CH Low Level Mixed	0	0	8.5	0	8.5	0	8.5	0	8.5	0	8.5	0	8.5	0	8.5	0
340 Facility																
CH Low Level	13.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	220.5	20.5	20.5	20.5	20.5	20.5	20.5
CH Low Level Mixed	0	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Waste Source/Category																
200 Area ETF																
Hazardous	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	8.7
CH Low Level Mixed	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	2639
300 Area TEDF																
CH Low Level	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	11010
CH Low Level Mixed	8.5	0	8.5	0	8.5	0	8.5	0	8.5	0	8.5	0	8.5	0	8.5	128
340 Facility																
CH Low Level	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	628
CH Low Level Mixed	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	39

CH = Contact-Handled

WHC-SD-WM-PICD-001, REV 0

APPENDIX A

LIQUID EFFLUENTS GENERATED BY SOLID WASTE DISPOSAL

Solid Waste Disposal is chartered to manage current and future Hanford Site radioactive, hazardous and mixed solid waste. Solid Waste Disposal provides the technical, managerial, and programmatic functions to ensure safe and proper disposition of solid waste at the Hanford site. Only one project, Waste Receiving and Processing (WRAP) Module 2A, has been identified that generates liquid waste requiring management by Liquid Effluent Services.

WRAP Module 2A is an approved project that will be generating liquid waste in the future. WRAP Module 2A provides treatment to stored and projected contact-handled low-level mixed waste through immobilization and other processes. The planned start of operations for WRAP Module 2A is September 1999. The facility will support the Hanford cleanup mission and is expected to operate a minimum of 30 years. Liquid waste generation would coincide with operation of WRAP Module 2A.

WRAP Module 2A shall collect radioactively contaminated liquid wastes which shall be recycled for use in the WRAP Module 2A treatment processes to the maximum extent possible. However, a backup capability to transport radioactively contaminated liquid to the 200 Area Effluent Treatment Facility (ETF), located in the 200 East Area, for treatment also shall be provided. The backup liquid waste disposition capability will consist of a system capable of loading liquid waste onto trucks for treatment at the 200 Area ETF. The liquid waste disposition system shall include the following:

- Capability of loading treated radiologically contaminated liquid into truck tankers
- Bulk storage capability sized to provide 3 months of surge capacity located at WRAP Module 2A. The minimum storage capability shall be 7,000 gal.

The maximum amount of active liquid waste expected to be generated by WRAP Module 2A is 200,000 liters in any one-year period. Details and specific information regarding the active liquid waste stream have not been identified. Specific information necessary to adequately describe the stream for planning purposes will be incorporated into this document at a later date.

APPENDIX B

SOLID WASTE GENERATED BY LIQUID EFFLUENT SERVICES

SOLID WASTE GENERATED BY LIQUID EFFLUENT SERVICES

B.1 Introduction

Liquid Effluent Services is chartered to manage current and future Hanford Site low-level dilute liquid effluent streams. Liquid Effluent Services provides the technical, managerial, and programmatic functions to ensure safe and proper disposition of liquid effluents.

Liquid Effluent Services provides liquid effluent collection systems for liquid effluents, treatment for liquid effluents, and liquid effluent disposal systems. Liquid Effluent Services facilities and projects that are and/or will be generating solid waste in the future are:

- 200 Area Effluent Treatment Facility
- 300 Area Treated Effluent Disposal Facility
- Waste Retention Facility (340 Facility)

B.2 200 Area Effluent Treatment Facility

The 200 Area Effluent Treatment Facility (200 Area ETF) will provide treatment and disposal for the 242A Evaporator Condensate and may also be permitted in the future for other miscellaneous liquid effluents generated around the 200 Areas of the Hanford site. The planned start of operations for the 200 Area ETF is July 1995. The facility will operate continuously 24-hours per day.

The 200 Area ETF generates two primary contact-handled low-level mixed solid waste streams, ammonium sulfate dried powder and spent ion exchange resins. The 200 Area ETF also generates miscellaneous contact-handled low-level mixed waste streams and miscellaneous hazardous waste streams. Details and specific information regarding the ammonium sulfate powder waste can be found in Table B.2.1. Details and specific information regarding the ion exchange resin waste can be found in Table B.2.2. The miscellaneous streams consist of other infrequently-generated, small-amount secondary wastes. Details and specific information regarding the miscellaneous solid waste streams can be found in Tables B.2.3 through B.2.5.

B.3 300 Area Treated Effluent Disposal Facility

The 300 Area Treated Effluent Disposal Facility (TEDF) will provide treatment and disposal for the 300 Area process sewer effluent and other miscellaneous liquid effluents generated around the Hanford site. The planned start of operations for the 300 Area TEDF is December 1994. The facility will operate continuously 24-hours per day.

The 300 Area TEDF generates two primary solid waste streams, metal hydroxide sludge and spent ion exchange resins, and a miscellaneous stream. The metal hydroxide sludge is filter press "solids" from a ferric chloride/sodium hydroxide coprecipitation. Details and specific information regarding the metal hydroxide sludge waste can be found in Table B.3.1. The spent ion exchange resins results from a metals removal polishing step using a mercury specific resin. Details and specific information regarding the ion

exchange resin waste can be found in Table B.3.2. The miscellaneous stream consists of other infrequently-generated, small-amount secondary wastes such as filter press membranes, maintenance and operations waste, etc. Details and specific information regarding the miscellaneous solid waste can be found in Table B.3.3.

B.4 Waste Retention Facility (340 Facility)

The 340 Facility consists of four buildings: 340, 340-A, and 340-B Buildings, and the 340 Facility office trailer (MO-036). 340 Building contains a decontamination room, truck lock, control room, mechanical room, vault valve pit, and a vault containing two 56,781-L (15,000-gal) liquid waste storage tanks. 340-A Building contains six 30,283-L (8,000-gal) aboveground storage tanks used for auxiliary liquid waste storage. 340-B Building contains a storage area and railcar loadout station. Piping associated with the aboveground storage tanks is located in this facility. MO-036 houses the 340 Facilities administrative offices.

The purpose of the 340 Facility is to collect radioactive liquid waste for shipment via railcar to storage in the 200 Area double-shell tanks. Sources of the waste handled in the 340 Facility are listed below:

- Drains from laboratories operated by Pacific Northwest Laboratories in the 324, 325, 326, 327, and 329 buildings
- Additions from barrels or tank trucks
- Waste from the Retention Process Sewer in the event it is diverted from its normal path because of radiation.

The radioactive liquid wastes accumulated in the 340 Facility vary in composition due to the variability of laboratory activities and other waste sources.

Solid waste is generated through operation and maintenance of the liquid waste collection and transfer systems in the 340 Facility. Low-level wastes are generated when materials are used in radiation zones. Low-level mixed waste is generated when materials come in contact with the liquid waste handled by the facility. The low-level operation/maintenance waste stream is described in tables B.4.1 through B.4.3. The low-level mixed operation/maintenance waste stream is described in Tables B.4.4. Held (not scheduled for shipment) low-level waste is described in tables B.4.5 through B.4.7.

A proposed fiscal year 1997 line-item project to upgrade the facility may impact waste generation rates. Additional low-level mixed, TRU and/or TRU mixed waste would be generated during decontamination and decommissioning of the existing tank system.

Table B.2.1 Dry Particulate Solid Generated at the
200 Area Effluent Treatment Facility

STREAM DESCRIPTION

Waste Class: Contact-Handled Low-Level Mixed Category 3 (CH-LLMW-3)

Waste Stream Description: Dry particulate solid produced from a thin-film dryer, used to dry liquid wastes from reverse osmosis (up to 99% by weight) and mixed bed ion exchange regeneration (1% by weight). Liquid from filter blowdown contributes a negligible amount.

Year(s) of Generation: The stream will first be generated in July 1995 but in very small quantities. The waste will not be shipped until FY 1996. The stream will continue to be generated for at least 30 years.

CONTAINER DESCRIPTION

Container Type: 55-gallon drum

Container Dimensions: 9.2 ft³

Container External Volume: 9.2 ft³

Container Internal Volume: 9.2 ft³

Percentage of Internal Volume Containing Waste: 91%

Number of Containers Generated Annually: 250 drums for Fiscal Years 1996-2024

PHYSICAL FORM DESCRIPTION

Annual Volume Generated: 48 m³ for Fiscal Years 1996-2024

Annual Weight Generated: 48,000 kg for Fiscal Years 1996-2024

Density: 993 kg/m³

Physical Form: Solid Process Residues - Salt Waste

Physical Composition¹:

Ammonium Sulfate	830 kg/m ³
Sodium Sulfate	70 kg/m ³
Remainder	100 kg/m ³

(May consist of NH₄NO₃, (NH₄)₂CO₃, NH₄Cl, NH₄F, NaNO₃, Na₂CO₃, NaCl, NaF, K₂SO₄, KNO₃, K₂CO₃, KCl, KF, CaSO₄, Ca(NO₃)₂, CaCO₃, CaCl₂, CaF₂, and minor components - Al, Ba, B, Cr, Cu, Fe, Mg, Mn, Ni, V)

Physical Characteristics

Description:

The waste stream is dry powdered solids expected to be less than 200 Mesh (Tyler). Some particle agglomeration may occur due to the likely hygroscopic nature of the solids.

¹ The physical composition of the waste stream will depend upon the ammonia concentration of the influent to the 200 Area ETF. Without any ammonia in the influent the physical composition would be: 0 Ammonium Sulfate; 417 kg/m³ Sodium Sulfate, 34 kg/m³ Potassium Sulfate, and remainder of previously named salts)

Table B.2.1 Dry Particulate Solid Generated at the
200 Area Effluent Treatment Facility (Continued)

HAZARDOUS CONSTITUENTS DESCRIPTION

Hazardous Constituents and Content:

Waste codes associated with the 242-A Evaporator Condensate -

F001	1,1,1 Trichloroethane
F002	Methylene chloride
F003	Acetone, butyl alcohol, methyl isobutyl ketone
F004	Cresylic acid
F005	Methylethyl ketone; pyridine
D007	Chromium
D009	Mercury
WT02	Toxicity - Ammonia

Hazardous Characteristics Description:

Concentrations of toxic metals such as barium, cadmium, and mercury have not yet been verified or designated. Listed codes (F codes) are by the derived-from rule. Actual concentrations of the F code constituents is expected to be nondetectable.

RADIOLOGICAL DESCRIPTION

Radiological Constituents and Content¹:

Beta	2.0 E-03 Ci/m ³
Alpha	1.5 E-04 Ci/m ³
⁷⁹ Se	1.3 E-02 Ci/m ³
⁹⁰ Sr	3.4 E-03 Ci/m ³
⁹⁰ Y	3.4 E-03 Ci/m ³
¹⁰³ Ru	7.9 E-03 Ci/m ³
^{103m} Rh	7.9 E-03 Ci/m ³
¹⁰⁶ Ru	4.9 E-03 Ci/m ³
¹⁰⁶ Rh	4.9 E-03 Ci/m ³
¹¹³ Sn	3.4 E-04 Ci/m ³
^{113m} In	3.4 E-04 Ci/m ³
¹³⁷ Cs	2.4 E-03 Ci/m ³
^{137m} Ba	2.4 E-03 Ci/m ³
¹⁴⁷ Pm	7.1 E-04 Ci/m ³
²³⁷ Np	5.4 E-05 Ci/m ³
Uranium (gross)	1.5 E-05 Ci/m ³
²³⁹ Pu	3.0 E-10 Ci/m ³

Radiological Characteristics

Description:

Concentration of ⁹⁰Sr and ¹³⁷Cs makes the waste Category 3.

Radiological constituent concentrations will depend on the ammonia concentration of the influent to the 200 Area ETF. Without any ammonia in the influent the radiological constituent concentrations will be roughly six times greater.

REFERENCES: 1994 Solid Waste Forecast Request Form for 200 Area ETF; 1993
Solid Waste Forecast Request Form for 200 Area ETF;
WHC-SD-W100-RD-001, WRAP 2A Feed Specification Data Sheets.

Table B.2.2 Spent Ion Exchange Resin Generated at the
200 Area Effluent Treatment Facility

STREAM DESCRIPTION

Waste Class: Contact-Handled Low-Level Category 1 Mixed Waste (CH-LLMW-1)

Waste Stream Description: The spent ion exchange resins results from cation and anion removal polishing step. The ion exchange resin is regenerated until the end of its useful life and will not be regenerated after final use.

Year(s) of Generation: The stream will first be generated in 1996. The stream will continue to be generated for at least 30 years.

CONTAINER DESCRIPTION

Container Type: High Integrity Container

Container Dimensions: To be determined.

Container External Volume: To be determined.

Container Internal Volume: 85 ft³

Percentage of Internal Volume Containing Waste: To be determined.

Number of Containers Generated Annually: To be determined.

PHYSICAL FORM DESCRIPTION

Annual Volume Generated: 6 m³ for Fiscal Years 1996-2024

Annual Weight Generated: To be determined.

Density: New Resin Density-

Ionac C-250	865 kg/m ³
Ionac ASB-1P	689 kg/m ³

Physical Form: Solid Process Residues - Organic Particulate

Physical Composition:

Physical Characteristics

Description:

Ion exchange resins are Ionac C-250, a bead form strong acid gel polystyrene-sulfonated cation exchange resin, and Ionac ASB-1P, a strong base anion exchange resin with a gel structure of polystyrene cross-linked with divinyl benzene. Particle size ranges from 0.3 to 1.2 mm. The spent ion exchange resin is drained of as much liquid as possible. Dewatered resins will be shipped in their existing containers.

Table B.2.2 Spent Ion Exchange Resin Generated at the
200 Area Effluent Treatment Facility (Continued)

HAZARDOUS CONSTITUENTS DESCRIPTION

Hazardous Constituents and Content:

Waste codes associated with the 242-A Evaporator Condensate -

F001 1,1,1 Trichloroethane
F002 Methylene chloride
F003 Acetone, butyl alcohol, methyl isobutyl ketone
F004 Cresylic acid
F005 Methyleneethyl ketone; pyridine
WT02 Toxicity - Ammonia

Hazardous Characteristics Description:

Concentrations of toxic metals such as barium, cadmium, and mercury have not yet been verified or designated. Verification of these metal concentrations will occur during initial operation of the 200 Area ETF. Listed codes (F codes) are by the derived-from rule. Actual concentrations of the F code constituents is expected to be nondetectable.

RADIOLOGICAL DESCRIPTION

Radiological Constituents and Content (based on m³ of resin):

Beta	3.6 E-05 Ci/m ³
Alpha	2.7 E-06 Ci/m ³
³ H	6.3 E-03 Ci/m ³
⁹⁰ Sr	5.7 E-05 Ci/m ³
⁹⁰ Y	5.7 E-05 Ci/m ³
¹⁰³ Ru	1.4 E-04 Ci/m ³
^{103m} Rh	1.4 E-04 Ci/m ³
¹⁰⁶ Ru	8.6 E-05 Ci/m ³
¹⁰⁶ Rh	8.6 E-05 Ci/m ³
¹¹³ Sn	5.7 E-05 Ci/m ³
^{113m} In	5.7 E-05 Ci/m ³
¹³⁷ Cs	4.1 E-05 Ci/m ³
^{137m} Ba	4.1 E-05 Ci/m ³
¹⁴⁷ Pm	1.2 E-05 Ci/m ³
Uranium (gross)	2.5 E-07 Ci/m ³
²³⁹ Pu	5.2 E-12 Ci/m ³

Radiological Characteristics

Description:

Actual concentrations of the radiological constituents on the resins will be dependent on the characteristics of the influent to the 200 Area ETF. Concentrations could conceivably be 20 times greater or more.

REFERENCES: 1994 Solid Waste Forecast Request Form for 200 Area ETF; 1993
Solid Waste Forecast Request Form for 200 Area ETF;
WHC-SD-W100-RD-001, WRAP 2A Feed Specification Data Sheets.

Table B.2.3 Drummed Miscellaneous Low-Level Mixed Waste
Generated at the 200 Area Effluent Treatment Facility

STREAM DESCRIPTION

Waste Class: Contact-Handled Low-Level Mixed Category 1 (CH-LLMW-1)

Waste Stream Description: Miscellaneous low-level waste is generated from infrequently-generated, small-amount secondary wastes such as filters, failed equipment, maintenance and operations waste, etc.

Year(s) of Generation: The stream will first be generated in Fiscal Year 1996. The stream will continue to be generated for at least 30 years.

CONTAINER DESCRIPTION

Container Type: 55-gallon drum

Container Dimensions: 9.2 ft³

Container External Volume: 9.2 ft³

Container Internal Volume: 9.2 ft³

Percentage of Internal Volume Containing Waste: 100%

Number of Containers Generated Annually: 100 drums for Fiscal Years 1996-2024

PHYSICAL FORM DESCRIPTION

Annual Volume Generated: 20 m³ for Fiscal Years 1996-2024

Annual Weight Generated: To be determined.

Density: To be determined.

Physical Form: Debris Waste

Physical Composition: 54% Debris Waste - Combustible
43% Debris Waste - Heterogeneous
3% Solid Process Residues - Organic Particulate

Physical Characteristics
Description:

Miscellaneous wastes will be packaged in accordance with requirements. The degree of segregation of physical forms will be based on regulatory compliance and cost benefit tradeoffs. Drummed waste may be completely segregated by waste form or completely mixed together. Physical composition relative percentages above do not imply the composition of any one drum will contain waste in these percentages.

Table B.2.3 Drummed Miscellaneous Low-Level Mixed Waste
Generated at the 200 Area Effluent Treatment Facility (Continued)

HAZARDOUS CONSTITUENTS DESCRIPTION

Hazardous Constituents and Content:

Waste codes associated with the 242-A Evaporator Condensate -

F001 1,1,1 Trichloroethane

F002 Methylene chloride

F003 Acetone, butyl alcohol, methyl isobutyl ketone

F004 Cresylic acid

F005 Methyleneethyl ketone; pyridine

WT02 Toxicity - Ammonia

Hazardous Characteristics Description:

Concentrations of toxic metals such as barium, cadmium, and mercury have not yet been verified or designated. Verification of these metal concentrations will occur during initial operation of the 200 Area ETF.

Listed codes (F codes) are by the derived-from rule. Actual concentrations of the F code constituents is expected to be nondetectable.

RADIOLOGICAL DESCRIPTION

Radiological Constituents and Content:

Fission Products	trace
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Uranium	trace
---------	-------

Plutonium/Americium	trace
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Radiological Characteristics

Description:

REFERENCES: 1994 Solid Waste Forecast Request Form for 200 Area ETF.

Table B.2.4 Boxed Miscellaneous Low-Level Mixed Waste
Generated at the 200 Area Effluent Treatment Facility

STREAM DESCRIPTION

Waste Class: Contact-Handled Low-Level Mixed Category 1 (CH-LLMW-1)

Waste Stream Description: Miscellaneous low-level waste is generated from infrequently-generated, small-amount secondary wastes such as filters, failed equipment, maintenance and operations waste, etc.

Year(s) of Generation: The stream will first be generated in Fiscal Year 1996. The stream will continue to be generated for at least 30 years.

CONTAINER DESCRIPTION

Container Type: 4x4x8 Box without skids

Container Dimensions: 4' x 4' x 8'

Container External Volume: 128 ft³ (3.6 m³)

Container Internal Volume:

Percentage of Internal Volume Containing Waste: 100%

Number of Containers Generated Annually: 2 boxes for Fiscal Years 1996-2024

PHYSICAL FORM DESCRIPTION

Annual Volume Generated: 7 m³ for Fiscal Years 1996-2024

Annual Weight Generated: To be determined.

Density: To be determined.

Physical Form: Debris Waste

Physical Composition: 100% Debris Waste - Combustible

Physical Characteristics

Description:
To be determined.

Table B.2.4 Boxed Miscellaneous Low-Level Mixed Waste
Generated at the 200 Area Effluent Treatment Facility (Continued)

HAZARDOUS CONSTITUENTS DESCRIPTION

Hazardous Constituents and Content:

Waste codes associated with the 242-A Evaporator Condensate -

F001 1,1,1 Trichloroethane

F002 Methylene chloride

F003 Acetone, butyl alcohol, methyl isobutyl ketone

F004 Cresylic acid

F005 Methyleneethyl ketone; pyridine

WT02 Toxicity - Ammonia

Hazardous Characteristics Description:

Concentrations of toxic metals such as barium, cadmium, and mercury have not yet been verified or designated. Verification of these metal concentrations will occur during initial operation of the 200 Area ETF.

Listed codes (F codes) are by the derived-from rule. Actual concentrations of the F code constituents is expected to be nondetectable.

RADIOLOGICAL DESCRIPTION

Radiological Constituents and Content:

Fission Products trace

Uranium trace

Plutonium/Americium trace

Radiological Characteristics

Description:

REFERENCES: 1994 Solid Waste Forecast Request Form for 200 Area ETF.

Table B.2.5 Drummed Miscellaneous Hazardous Waste
Generated at the 200 Area Effluent Treatment Facility

STREAM DESCRIPTION

Waste Class: Nonradioactive Hazardous Waste
Waste Stream Description: Miscellaneous hazardous waste is generated from maintenance and operations activities.
Year(s) of Generation: The stream will first be generated in Fiscal Year 1996. The stream will continue to be generated for at least 30 years.

CONTAINER DESCRIPTION

Container Type: 55-gallon drum
Container Dimensions:
Container External Volume: 9.2 ft³
Container Internal Volume:
Percentage of Internal Volume Containing Waste: 75%
Number of Containers Generated Annually: 2 drums for Fiscal Years 1996-2024

PHYSICAL FORM DESCRIPTION

Annual Volume Generated: .3 m³ for Fiscal Years 1996-2024
Annual Weight Generated: To be determined.
Density: To be determined.
Physical Form: Debris Waste
Physical Composition: 100% Debris Waste - Inorganic NonMetal

Physical Characteristics

Description:
To be determined.

HAZARDOUS CONSTITUENTS DESCRIPTION

Hazardous Constituents and Content:
Waste contaminated with Toxic Metals

Hazardous Characteristics Description:

Concentrations of toxic metals have not yet been verified or designated. Verification of these metal concentrations will occur during initial operation of the 200 Area ETF.

RADIOLOGICAL DESCRIPTION

Not Applicable.

REFERENCES: 1994 Solid Waste Forecast Request Form for 200 Area ETF.

Table B.3.1 Metal Hydroxide Sludge Generated at the 300 Area
Treated Effluent Disposal Facility

STREAM DESCRIPTION

Waste Class: Contact-Handled Low-Level Category 1 (CH-LLW-1)
Waste Stream Description: The metal hydroxide sludge are filter press "solids" from a ferric chloride/sodium hydroxide coprecipitation.
Year(s) of Generation: The stream will first be generated in December 1994. The stream will continue to be generated for at least 30 years.

CONTAINER DESCRIPTION

Container Type: 55-gallon drum
Container Dimensions:
Container External Volume: 9.2 ft³
Container Internal Volume:
Percentage of Internal Volume Containing Waste: 70%
Number of Containers Generated Annually: 1,720 drums for Fiscal Year 1995
2,270 drums for Fiscal Years 1996-2024

PHYSICAL FORM DESCRIPTION

Annual Volume Generated: 250 m³ for Fiscal Year 1995
330 m³ for Fiscal Years 1996-2024
Annual Weight Generated: 562,000 kg for Fiscal Year 1995
742,000 kg for Fiscal Years 1996-2024
Density: 2,250 kg/m³
Physical Form: Solid Process Residues - Inorganic Absorbed Liquid/Sludge
Physical Composition: Ferric Hydroxide 1,500 kg/m³
Water 300 kg/m³
Physical Characteristics Description:

Table B.3.1 Metal Hydroxide Sludge Generated at the 300 Area
Treated Effluent Disposal Facility (Continued)

HAZARDOUS CONSTITUENTS DESCRIPTION

Hazardous Constituents and Content: None Present

Hazardous Characteristics

Description: None

RADIOLOGICAL DESCRIPTION

Radiological Constituents and Content:

³ H	2.9 E-07 Ci/m ³
⁶⁰ Co	1.5 E-06 Ci/m ³
⁹⁰ Sr	4.0 E-07 Ci/m ³
¹⁰⁶ Ru	1.7 E-06 Ci/m ³
¹³⁷ Cs	7.8 E-07 Ci/m ³
¹⁴⁷ Pm	1.6 E-07 Ci/m ³
Radium Compounds	8.2 E-08 Ci/m ³
Uranium Compounds	1.5 E-05 Ci/m ³
²³⁸ Pu	9.3 E-08 Ci/m ³
²³⁹ Pu & ²⁴⁰ Pu	3.8 E-07 Ci/m ³
²⁴¹ Pu	7.5 E-05 Ci/m ³
²⁴¹ Am	1.1 E-06 Ci/m ³

Radiological Characteristics

Description:

REFERENCES: 1994 Solid Waste Forecast Request Form for WHC-L045H, 300 Area
TEDF; 1993 Solid Waste Forecast Request Form for WHC-L045H, 300
Area TEDF.

Table B.3.2 Spent Ion Exchange Resin Generated at the 300 Area
Treated Effluent Disposal Facility

STREAM DESCRIPTION

Waste Class: Contact-Handled Low-Level Category 1 Mixed (CH-LLMW-1)

Waste Stream Description: The spent ion exchange resins results from a metals removal polishing step using a mercury specific resin. The ion exchange resin is "generated" at the end of its two-year expected service life.

Year(s) of Generation: The stream will first be generated in December 1994. The stream will continue to be generated for at least 30 years.

CONTAINER DESCRIPTION

Container Type: 55-gallon drum

Container Dimensions: 9.2 ft³

Container External Volume: 9.2 ft³

Container Internal Volume: 9.2 ft³

Percentage of Internal Volume Containing Waste: 70%

Number of Containers Generated Annually: 60 drums for Fiscal Year 1997 and every other Fiscal Year after through 2024

PHYSICAL FORM DESCRIPTION

Annual Volume Generated: 8.5 m³ for Fiscal Year 1997 and every other year after through Fiscal Year 2024

Annual Weight Generated: 7,200 kg for Fiscal Year 1997 and every other year after through Fiscal Year 2024

Density: 850 kg/m³

Physical Form: Solid Process Residues - Organic Particulate

Physical Composition:

Styrene-divinyl benzene polymer	800 kg/m ³
Mercury	TBD
Water	50 kg/m ³

Physical Characteristics

Description:

Ion exchange resin is PUROLITE S-920, a cross-linked styrene-divinyl benzene polymer. Particle size ranges from 0.3 to 1.2 mm. The spent ion exchange resin is sluiced from the ion exchange column, drained, and packaged in 55-gallon drums.

Table B.3.2 Spent Ion Exchange Resin Generated at the 300 Area
Treated Effluent Disposal Facility (Continued)

HAZARDOUS CONSTITUENTS DESCRIPTION

Hazardous Constituents and Content:

Mercury	To be determined
Other Toxic Metals	To be determined
Other Toxic Constituents	To be determined

Hazardous Characteristics

Description:

Waste is contaminated with toxic metals including mercury (D009) and other Washington State regulated toxic waste (WT) constituents.

RADIOLOGICAL DESCRIPTION

Radiological Constituents and Content:

³ H	2.6 E-07 Ci/m ³
Fission Products	2.5 E-08 Ci/m ³
Uranium Compounds	2.6 E-10 Ci/m ³
Plutonium Compounds	1.3 E-09 Ci/m ³

Radiological Characteristics

Description:

REFERENCES: 1994 Solid Waste Forecast Request Form for WHC-L045H, 300 Area TEDF; 1993 Solid Waste Forecast Request Form for WHC-L045H, 300 Area TEDF; WHC-SD-W100-RD-001, WRAP 2A Feed Specification Data Sheets.

Table B.3.3 Miscellaneous Low-Level Waste Generated at the 300 Area
Treated Effluent Disposal Facility

STREAM DESCRIPTION

Waste Class:	Contact-Handled Low-Level Category 1 (CH-LLW-1)
Waste Stream Description:	Miscellaneous low-level waste is generated from infrequently-generated, small-amount secondary wastes such as filter press membranes, maintenance and operations waste, etc.
Year(s) of Generation:	The stream will first be generated in December 1994. The stream will continue to be generated for at least 30 years.

CONTAINER DESCRIPTION

Container Type:	55-gallon drum
Container Dimensions:	
Container External Volume:	9.2 ft ³
Container Internal Volume:	
Percentage of Internal Volume Containing Waste:	80%
Number of Containers Generated Annually:	170 drums for Fiscal Year 1995 220 drums for Fiscal Years 1996-2024

PHYSICAL FORM DESCRIPTION

Annual Volume Generated:	30 m ³ for Fiscal Year 1995 40 m ³ for Fiscal Years 1996-2024
Annual Weight Generated:	To be determined.
Density:	To be determined.
Physical Form:	Debris Waste - Combustible
Physical Composition:	To be determined.
Physical Characteristics Description:	To be determined.

Table B.3.3 Miscellaneous Low-Level Waste Generated at the 300 Area
Treated Effluent Disposal Facility (Continued)

HAZARDOUS CONSTITUENTS DESCRIPTION

Hazardous Constituents and Content: None present.

Hazardous Characteristics

Description: None

RADIOLOGICAL DESCRIPTION

Radiological Constituents and Content:

³ H	2.9 E-08 Ci/m ³
⁶⁰ Co	To be determined.
⁹⁰ Sr	To be determined.
¹⁰⁶ Ru	To be determined.
¹³⁷ Cs	To be determined.
¹⁴⁷ Pm	To be determined.
Uranium Compounds	1.5 E-06 Ci/m ³
Plutonium Compounds	7.7 E-06 Ci/m ³

Radiological Characteristics

Description:

REFERENCES: 1994 Solid Waste Forecast Request Form for WHC-L045H, 300 Area
TEDF; 1993 Solid Waste Forecast Request Form for WHC-L045H, 300
Area TEDF.

Table B.4.1 Drummed Operation/Maintenance Category 1 Low-Level Waste
Generated at the 340 Waste Retention Facility

STREAM DESCRIPTION

Waste Class: Contact-Handled Low-Level Category 1 (CH-LLW-1)
Waste Stream Description: Waste is generated through operation and maintenance of the liquid waste collection and transfer systems in the 340 Facility. Low-level wastes are generated when materials are used in radiation zones.
Year(s) of Generation: The stream will be generated in Fiscal Year 1995 and will continue to be generated for at least 30 years.

CONTAINER DESCRIPTION

Container Type: 55-gallon drum
Container Dimensions:
Container External Volume: 9.2 ft³
Container Internal Volume:
Percentage of Internal Volume Containing Waste: 100%
Number of Containers Generated Annually: 20 drums for Fiscal Years 1995-2024

PHYSICAL FORM DESCRIPTION

Annual Volume Generated: 5 m³ for Fiscal Years 1995-2024
Annual Weight Generated: To be determined.
Density: To be determined.
Physical Form: Debris Waste
Physical Composition: 98% Debris Waste - Combustible
2% Debris Waste - Metal

Physical Characteristics Description:

HAZARDOUS CONSTITUENTS DESCRIPTION

Not Applicable

RADIOLOGICAL DESCRIPTION

Radiological Constituents and Content:
Fission Products 5.0 E-04 Ci/m³
Plutonium/Americium 1.65E-05 Ci/m³

Radiological Characteristics Description:

REFERENCES: 1994 Solid Waste Forecast Request Form for 340 Facility.

Table B.4.2 Boxed Operation/Maintenance Category 1 Low-Level Waste
Generated at the 340 Waste Retention Facility

STREAM DESCRIPTION

Waste Class: Contact-Handled Low-Level Category 1 (CH-LLW-1)
Waste Stream Description: Waste is generated through operation and maintenance of the liquid waste collection and transfer systems in the 340 Facility. Low-level wastes are generated when materials are used in radiation zones.
Year(s) of Generation: The stream will be generated in Fiscal Year 1995 and will continue to be generated for at least 30 years.

CONTAINER DESCRIPTION

Container Type: 4x4x8 Box Without Skids
Container Dimensions:
Container External Volume: 128 ft³
Container Internal Volume:
Percentage of Internal Volume Containing Waste: 100%
Number of Containers Generated Annually: 4 boxes for Fiscal Years 1995-2024

PHYSICAL FORM DESCRIPTION

Annual Volume Generated: 15 m³ for Fiscal Years 1995-2024
Annual Weight Generated: To be determined.
Density: To be determined.
Physical Form: Debris Waste
Physical Composition: 90% Debris Waste - Combustible
10% Debris Waste - Metal

Physical Characteristics
Description:

HAZARDOUS CONSTITUENTS DESCRIPTION

Not Applicable

RADIOLOGICAL DESCRIPTION

Radiological Constituents and Content:
Fission Products 3.5 E-04 Ci/m³
Plutonium/Americium 1.2 E-05 Ci/m³

Radiological Characteristics
Description:

REFERENCES: 1994 Solid Waste Forecast Request Form for 340 Facility.

Table B.4.3 Drummed Operation/Maintenance Category 3 Low-Level Waste
Generated at the 340 Waste Retention Facility

STREAM DESCRIPTION

Waste Class: Contact-Handled Low-Level Category 3 (CH-LLW-1)
Waste Stream Description: Waste is generated through operation and maintenance of the liquid waste collection and transfer systems in the 340 Facility. Low-level wastes are generated when materials are used in radiation zones.
Year(s) of Generation: The stream will be generated in Fiscal Year 1995 and will continue to be generated for at least 30 years.

CONTAINER DESCRIPTION

Container Type: 55-gallon drum
Container Dimensions:
Container External Volume: 9.2 ft³
Container Internal Volume:
Percentage of Internal Volume Containing Waste: 100%
Number of Containers Generated Annually: 2 drums for Fiscal Years 1995-2024

PHYSICAL FORM DESCRIPTION

Annual Volume Generated: 0.5 m³ for Fiscal Years 1995-2024
Annual Weight Generated: To be determined.
Density: To be determined.
Physical Form: Debris Waste
Physical Composition: 90% Debris Waste - Combustible
10% Debris Waste - Metal

Physical Characteristics
Description:

HAZARDOUS CONSTITUENTS DESCRIPTION

Not Applicable

RADIOLOGICAL DESCRIPTION

Radiological Constituents and Content:
Fission Products 1.2 E+03 Ci/m³
Plutonium/Americium 2.9 E-01 Ci/m³

Radiological Characteristics
Description:

REFERENCES: 1994 Solid Waste Forecast Request Form for 340 Facility.

Table B.4.4 Drummed Operation/Maintenance Category 1 Low-Level Mixed Waste
Generated at the 340 Waste Retention Facility

STREAM DESCRIPTION

Waste Class:	Contact-Handled Low-Level Category 1 (CH-LLW-1)
Waste Stream Description:	Waste is generated through operation and maintenance of the liquid waste collection and transfer systems in the 340 Facility. Low-level mixed waste is generated when materials come in contact with the liquid waste handled by the facility.
Year(s) of Generation:	The stream will be generated in Fiscal Year 1995 and will continue to be generated for at least 30 years.

CONTAINER DESCRIPTION

Container Type:	55-gallon drum
Container Dimensions:	
Container External Volume:	9.2 ft ³
Container Internal Volume:	
Percentage of Internal Volume Containing Waste:	100%
Number of Containers Generated Annually:	5 drums for Fiscal Years 1995-2024

PHYSICAL FORM DESCRIPTION

Annual Volume Generated:	1.3 m ³ for Fiscal Years 1995-2024
Annual Weight Generated:	To be determined.
Density:	To be determined.
Physical Form:	Debris Waste
Physical Composition:	90% Debris Waste - Combustible 10% Debris Waste - Metal
Physical Characteristics Description:	

Table B.4.4 Drummed Operation/Maintenance Category 1 Low-Level Mixed Waste
Generated at the 340 Waste Retention Facility (Continued)

HAZARDOUS CONSTITUENTS DESCRIPTION

Hazardous Constituents and Content:

To be determined.

Hazardous Characteristics Description:

The hazardous codes D008 (Lead), D009 (Mercury), F001, F002, F003, F004, F005 (Spent Solvents) are applied to the waste. The waste is contaminated with double-shell tank waste that has come in contact with materials. Waste codes are based on the double-shell tank waste codes, no separation of waste by waste code is done.

RADIOLOGICAL DESCRIPTION

Radiological Constituents and Content:

Fission Products	5.0 E-04 Ci/m ³
Plutonium/Americium	1.65E-05 Ci/m ³

Radiological Characteristics

Description:

REFERENCES: 1994 Solid Waste Forecast Request Form for 340 Facility.

Table B.4.5 Drummed Solid Process Residue Category 1 Low-Level Waste
Currently Held at the 340 Waste Retention Facility

STREAM DESCRIPTION

Waste Class:	Contact-Handled Low-Level Category 1 (CH-LLW-1)
Waste Stream Description:	Waste was generated through operation and maintenance of the liquid waste collection and transfer systems in the 340 Facility. Low-level wastes are generated when materials are used in radiation zones.
Year(s) of Generation:	The stream has been generated but currently has no schedule for shipment to Solid Waste Disposal.

CONTAINER DESCRIPTION

Container Type:	55-gallon drum
Container Dimensions:	
Container External Volume:	9.2 ft ³
Container Internal Volume:	
Percentage of Internal Volume Containing Waste:	100%
Number of Containers Generated Annually:	N/A, 1 drum exists

PHYSICAL FORM DESCRIPTION

Annual Volume Generated:	N/A, 0.2 m ³ exists
Annual Weight Generated:	To be determined.
Density:	To be determined.
Physical Form:	Solid Process Residue
Physical Composition:	100% Solid Process Residue - Inorganic Absorbed Liquid/Sludge

Physical Characteristics Description:

HAZARDOUS CONSTITUENTS DESCRIPTION

Not Applicable

RADIOLOGICAL DESCRIPTION

Radiological Constituents and Content:	
Fission Products	5.0 E-04 Ci/m ³
Plutonium/Americium	1.65E-05 Ci/m ³

Radiological Characteristics Description:

REFERENCES: 1994 Solid Waste Forecast Request Form for 340 Facility.

Table B.4.6 Drummed Debris Category 1 Low-Level Waste
Currently Held at the 340 Waste Retention Facility

STREAM DESCRIPTION

Waste Class:	Contact-Handled Low-Level Category 1 (CH-LLW-1)
Waste Stream Description:	Waste was generated through operation and maintenance of the liquid waste collection and transfer systems in the 340 Facility. Low-level wastes are generated when materials are used in radiation zones.
Year(s) of Generation:	The stream has been generated but currently has no schedule for shipment to Solid Waste Disposal.

CONTAINER DESCRIPTION

Container Type:	55-gallon drum
Container Dimensions:	
Container External Volume:	9.2 ft ³
Container Internal Volume:	
Percentage of Internal Volume Containing Waste:	100%
Number of Containers Generated Annually:	N/A, 9 drums exist

PHYSICAL FORM DESCRIPTION

Annual Volume Generated:	N/A, 2.3 m ³ exists
Annual Weight Generated:	To be determined.
Density:	To be determined.
Physical Form:	Debris Waste
Physical Composition:	90% Debris Waste - Combustible 10% Debris Waste - Metal

Physical Characteristics
Description:

HAZARDOUS CONSTITUENTS DESCRIPTION

Not Applicable

RADIOLOGICAL DESCRIPTION

Radiological Constituents and Content:	
Fission Products	5.0 E-04 Ci/m ³
Plutonium/Americium	1.65E-05 Ci/m ³

Radiological Characteristics
Description:

REFERENCES: 1994 Solid Waste Forecast Request Form for 340 Facility.

Table B.4.7 Boxed Debris Category 1 Low-Level Waste
Currently Held at the 340 Waste Retention Facility

STREAM DESCRIPTION

Waste Class:	Contact-Handled Low-Level Category 1 (CH-LLW-1)
Waste Stream Description:	Waste was generated through operation and maintenance of the liquid waste collection and transfer systems in the 340 Facility. Low-level wastes are generated when materials are used in radiation zones.
Year(s) of Generation:	The stream has been generated but currently has no schedule for shipment to Solid Waste Disposal.

CONTAINER DESCRIPTION

Container Type:	4x4x8 Box Without Skids
Container Dimensions:	
Container External Volume:	128, ft ³
Container Internal Volume:	
Percentage of Internal Volume Containing Waste:	100%
Number of Containers Generated Annually:	N/A, 3 boxes exist

PHYSICAL FORM DESCRIPTION

Annual Volume Generated:	N/A, 11 m ³ exists
Annual Weight Generated:	To be determined.
Density:	To be determined.
Physical Form:	Debris Waste
Physical Composition:	90% Debris Waste - Combustible 10% Debris Waste - Metal

Physical Characteristics
Description:

HAZARDOUS CONSTITUENTS DESCRIPTION
Not Applicable

RADIOLOGICAL DESCRIPTION

Radiological Constituents and Content:	
Fission Products	3.5 E-04 Ci/m ³
Plutonium/Americium	1.2 E-05 Ci/m ³

Radiological Characteristics
Description:

REFERENCES: 1994 Solid Waste Forecast Request Form for 340 Facility.

APPENDIX C

30-YEAR FORECASTS FROM LIQUID EFFLUENT SERVICES

APPENDIX C.1

30-YEAR FORECAST FROM 200 AREA EFFLUENT TREATMENT FACILITY

COVER SHEET

1994 SOLID WASTE FORECAST REQUEST FORM

Generator (Project/Facility) WHC PX C018H Purex ECTF

<u>Waste Class</u>	<u>Contact</u>	<u>Phone</u>
<u>LLW</u>	<u>N/A</u>	<u></u>
<u>LLMW</u>	<u>M.R.(Margaret) Vasquez</u>	<u>3-6958</u>
<u>HAZ</u>	<u>M.R.(Margaret) Vasquez</u>	<u>3-6958</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>B.F.(Bill) Weaver</u>	<u>2-0968</u>

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

RECEIVED

1

JUL 14 1994

KIA 24 11 94

COORDINATOR SHEET

Department: WAE\Liquid Effluent Service

1994 Coordinator: M.R.(Margaret) Vasquez 3-6958

**Project/Facility
Number****1994 Contact****1994 Level III
Approval**WHC PX C018H
242-A Evaporator-Condensate
Treatment Facility

M.R. Vasquez

B.F. Weaver

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

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)															
	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)	Ø	1200													
	MIN. %		50													
	MAX. %		150													
CH-LLMW-III	EST.(CuFt)	Ø	1700													
	MIN. %		50													
	MAX. %		150													
CH-LLMW-GTCIII	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-LLMW-I	EST.(CuFt)															
	MIN. %															
	MAX. %															

WHC-SD-NM-PCID-001, REV 0

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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. %															

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WHC-SD-WM-PICD-001, 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)	0	11													
	MIN. %		50													
	MAX. %		150													

WHC-SD-WM-PICD-001, REV 0

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)															7
	MIN. %															7
	MAX. %															7

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WHC-SD-WM-PICD-001, REV 0

HELD WASTE

PROJECTED SOLID WASTE EXTERNAL VOLUMES (FT³)

REPORT SHIELDED RH WASTE AS RH WASTE NOT CH WASTE

TABLE 1 page 5 of 5

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.

DONE

STEP 1: CIRCLE ONE WASTE CLASS

CH-LLMW-I

CH-LLMW-III

CH-LLMW-GTC-III

RH-LLMW-I

RH-LLMW-III

RH-LLMW-GTC-III

STEP 2:

Container Type and Volume %

TABLE 2 Page 2 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	Ø	62																													
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	Ø	21																													
4 X 4 X 8 Metal 120 CuFt																															
B-25 103.2 CuFt																															
OTHER	Ø	17																													
* TOTAL (0 or 100%)		100																													

* Total for each year MUST equal 0 or 100%

Other - Indicate container type, external dimensions, and external volume (cuft, gal) *Resin dewatering Containers will be used as package also. Dimensions not yet available.*

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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WHC-SD-WM-PICD-001, REV 0

STEP1: CIRCLE ONE WASTE CLASS

CH-LLMW-I

CH-LLMW-III

CH-LLMW-GTC-III

RH-LLMW-I

RH-LLMW-III

RH-LLMW-GTC-III

STEP 2:

Container Type and Volume %

TABLE 2 Page 2 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	0	100																													1
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%)	0	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-PIGD-001, REV 0

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Container Type and Volume %

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

STEP 2:

ONLY

HAZARDOUS

CONTAINERS

55 Gal Drum
9.2 Cu Ft

30 GAL DRUM
1.4 CuFt

4 X 4 X 8 Box
W/Sklds
143 CuFt.

1 X 4 X 8 Box
W/O Skids
28 Cu Ft

1 X 4 X 8
Metal
28 CuFl

OTHER

• TOTAL
(0 or 100%)

* Total for each year MUST equal 0 or 100%

Other - Indicate container type, external dimensions, and external volume (cult, 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-001 REV 0

STEP 1 WASTE CLASS CHLLMWI

Waste Forms & Hazardous Constituents Mixed/Hazardous Only

TABLE 4 page 1 of 2

STEP 2 CONTAINER TYPE 55 gal drum

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 1996 TO 2004

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 Segregated? Y/N

↓
WASTE FORMS

%	SHIELDING									
	STEEL									
	LEAD									
	CONCRETE									
SOLID PROCESS RESIDUES										
	INORGANIC PARTICULATES									
	INORGANIC ABSORBED LIQUID/SLUDGES									
	SALT WASTE									
.03	ORGANIC PARTICULATES					100				Y
	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%

MHC-SD-WM-PICD-001 REV 0

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STEP 1 WASTE CLASS CH44mw I

STEP 2 CONTAINER TYPE 55 gal drum

STEP 3 YEARS 1996 TO 2024
(INCLUDE HELD IF APPLICABLE)

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

↓
WASTE FORMS

Waste Forms & Hazardous Constituents Mixed/Hazardous Only

TABLE 4 page 2 of 2

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

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
Segro-
gated?
Y/N

%	DEBRIS WASTES										
	METAL										
	INORGANIC NON-METAL										
.54	COMBUSTIBLE					100					4
.43	HETEROGENEOUS				100	100					4
	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 CHLLMWI

STEP 2 CONTAINER TYPE 4x4x8 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 1996 TO 2024
(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%

Waste Forms & Hazardous Constituents Mixed/Hazardous Only **TABLE 4** page 2 of 2

STEP 1 WASTE CLASS CHL MW T

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

STEP 2 CONTAINER TYPE 4x4x8 Box

STEP 5 EPA/RCRAWAC indicate percent present for each waste form

STEP 3 YEARS 1996 TO 2024
(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 Segregated? Y/N

↓
WASTE FORMS

%	DEBRIS WASTES									
	METAL									
	INORGANIC NON-METAL									
<u>100</u>	COMBUSTIBLE			<u>90</u>		<u>10</u>				<u>Y</u>
	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: _____

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WHC-SD-WM-PICD-001, REV 0

STEP 1 WASTE CLASS CHLLMWI

Waste Forms & Hazardous Constituents Mixed/Hazardous Only

TABLE 4 page 1 of 2

STEP 2 CONTAINER TYPE OTHER

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 1996 TO 2024
(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									
	STEEL									
	LEAD									
	CONCRETE									
SOLID PROCESS RESIDUES										
	INORGANIC PARTICULATES									
	INORGANIC ABSORBED LIQUID/SLUDGES									
	SALT WASTE									
100	ORGANIC PARTICULATES				90		10			g
	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 3 YEARS 1996 TO 2024

(INCLUDE HELD IF APPLICABLE)

STEP 4

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

↓

WASTE FORMS

EPA / RCRA

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

Aro Waste Forms Segregated? 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									
	OTHER *								
100%									

OTHER WASTE DISCRIPTION:

STEP 2 CONTAINER TYPE 55gal drum

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 1996 TO 2004
(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								
100	SALT WASTE			90		10			
	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 CHLLmw III

Waste Forms & Hazardous Constituents Mixed/Hazardous Only

TABLE 4 page 2 of 2

STEP 2 CONTAINER

TYPE 55 gal drum

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 1996 TO 2004

(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 DESCRIPTION:

Waste Forms & Hazardous Constituents Mixed/Hazardous Only **TABLE 4** page 1 of 2

STEP 1 WASTE CLASS HAZARDOUS ONLY

STEP 2 CONTAINER TYPE 55 gal. drum

STEP 3 YEARS 1996 TO 2024
(INCLUDE HELD IF APPLICABLE)

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

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

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%

WHC-SD-WM-PCID-001, REV 0

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STEP 1 WASTE CLASS HAZARDOUS ONLY

Waste Forms & Hazardous Constituents Mixed/Hazardous Only

TABLE 4 page 2 of 2

STEP 2 CONTAINER TYPE 55 gal drum

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 1990 TO 2024
(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									
100	INORGANIC NON-METAL			100						y
	COMBUSTIBLE									
	HETEROGENEOUS									
	SPECIAL WASTES									
	LABPACKS/CONTAINERIZED LIQ.									
	REACTIVE METALS									
	EXPLOSIVES/PROPELLENTS									
	INHERENTLY HAZARDOUS WASTE									
	ELEMENTAL MERCURY									
	ELEMENTAL LEAD									
	BERYLLIUM WASTE									
	BATTERIES									
	UNKNOWN									
	OTHER *									

< 50 ppm > 50 ppm

* OTHER WASTE DISCRIPTION: _____

WASTE CLASS: CHLL mw I

TABLE 5 page 1 of 2

Radiation Type

CONTAINER TYPE: 55 gal. drumYEARS 1996 TO 2024 (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												

* Concentrations will be a trace amount of these.

WAC-SD-WM-PCID-001, REV. 0

C-23

WASTE CLASS: CHLLMWI

TABLE 5 page 2 of 2

CONTAINER TYPE: 55gal drum

Radiation Type

YEAR 1996 TO 2024 (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. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)
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												
OTHER												

OTHER WASTE DESCRIPTION: _____

* Concentrations will be a trace amount of these.

C-24

WMC-SD-MM-PICD-001 REV 0

WASTE CLASS: CHLL MWTCONTAINER TYPE: 4X4X8 Box

Radiation Type

TABLE 5 page 1 of 2

YEARS 1996 TO 2024 (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
	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(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												

WMC-SD-WM-PICD-001, REV 0

C-25

WASTE CLASS: CHLL MW ICONTAINER TYPE: 4x4x8 BoxYEAR 1996 TO 2024 (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 Radionuclides (¹⁴ C, ³ H, I, Rn, Kr, Xe)		Selenium		Technetium 99	
	CONC. g/m ³	TOTAL ACT. (CURIES)	CONC. g/m ³	TOTAL ACT. (CURIES)	CONC. g/m ³	TOTAL ACT. (CURIES)	CONC. g/m ³	TOTAL ACT. (CURIES)	CONC. g/m ³	TOTAL ACT. (CURIES)	CONC. g/m ³	TOTAL ACT. (CURIES)
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												
OTHER												

OTHER WASTE DESCRIPTION: _____

* Concentration will be a trace amount of these.

C-26

MHC-SD-WM-PLCD-001 REV 0

WASTE CLASS: CHLLMW ICONTAINER TYPE: OTHERYEARS 1996 TO 2024 (INCLUDE HELD IF APPLICABLE)

TABLE 5 page 1 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. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/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												

* Concentration will be a trace amount of these.

WMC SD WM PICO-001, REV 0

C-27

WASTE CLASS: CHLMTCONTAINER TYPE: OTHERYEAR 1996 TO 2024 (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. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)
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												
OTHER												

OTHER WASTE DESCRIPTION: Spent resin bead in specially designed container, from mixed bed ion exchange polishing

C-28

WHC-SD-WM-PCID-001, REV 0

WASTE CLASS: CHLL MW IIICONTAINER TYPE: 55 gal. drumYEARS 1996 TO 2024 (INCLUDE HELD IF APPLICABLE)

TABLE 5 page 1 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 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	2.0 ^{E-3}	9.5 ^{E-2}	1.5 ^{E-5}	7.12 ^{E-4}	3.0 ^{E-10}	1.4 ^{E-8}						
ORGANIC PARTICULATES												
ORGANIC ABSORBED LIQ/SLUDGE												
SOILS												
CONTAMINATED SOILS												
DEBRIS CONTAMINATED SOILS												

WMC-SD-WM-PCID-001, REV 0

C-29

WASTE CLASS: CHLLMW IIICONTAINER TYPE: 55 gal. drumYEAR 1996 TO 2024 (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												
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: _____

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WHC-SD-WM-PICD-001, REV 0

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.

CH_LLW_I	CH_LLW_III	CH_LLW_GTCIII
RH_LLW_I	RH_LLW_III	RH_LLW_GTC_III
<u>CH_LLMW_I</u>	<u>CH_LLMW_III</u>	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.

C-018H Effluent Treatment Facility (ETF) will be used to remove all impurities from water. CHLLMW I wastes are secondary wastes generated by maintenance or by contact with the water in the plant. CHLLMW III waste is the primary waste, a Form 1 powder, and generated by the process.

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

Explain: *Start up date for the facility has been delayed and process amounts were reduced. This has reduced the amount of waste expected.*

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:

All wastes (regulated) will be packaged in accordance to
CFR-49 and WAC codes. Like waste forms will be
segregated in each container category per requirements.

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.

Waste will be segregated according to regulations
and cost benefits for disposal.

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.).

C-018H expects to ship 0 (zero) waste in 1995
due to start up delays.

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.)

C-018H ETF is expected to start HOT OPERATIONS on
July 1, 1995. Minimal waste will be generated while fine
tuning the plant and any generated waste is planned for
shipment in FY1996. Only known feed to the plant
is based on 242-A process condensate.

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: Calculations are based on Design Base 3 from Japan
Gas Corp. H-2-88973 and Low production capabilities.

Maximum: Calculations are based on Design Base 3 from Japan
Gas Corp. H-2-88973 and median production capabilities

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: Plant is not operating yet

Hazardous Constituents (Table 4): High Low Medium

Explain: Same as above

Radiation Type (Table 5) High Low Medium

Explain: Same as above

1994 SOLID WASTE FORECAST QUESTIONNAIRE

10. What percentage of the waste forecasted is existing waste? 0
 Of your existing waste, how confident are you in the current shipping schedule? HIGH LOW MEDIUM

Explain: NA

What percentage of waste forecasted is future generated waste? 100%
 Of your future generated waste, how confident are you in the volumes and shipping schedule? HIGH LOW MEDIUM

Explain: Plant will be operational.

- 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.

Only operational 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.

NA

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

LLW: _____ Phone: _____

LLMW: MARGARET VASQUEZ Phone: 372-3142
Don Ffekt

TRU: _____ Phone: _____

TRUM: _____ Phone: _____

HAZ: Margaret Vasquez MARGARET VASQUEZ Phone: Not Assigned
B.F. Wedick (Waste Contact)

Approved by: DLF B.F. Wedick 7-13-94 Date: _____
 (Level 3 Manager Signature)

Approved by: B.W. Wyrick Date: 7-14-94
 (Budget Concurrence)

APPENDIX C.2

30-YEAR FORECAST FROM 300 AREA TREATED EFFLUENT DISPOSAL FACILITY

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COVER SHEET

1994 SOLID WASTE FORECAST REQUEST FORM

Generator (Project/Facility) WHC L045H 300 Area TEDF

<u>Waste Class</u>	<u>Contact</u>	<u>Phone</u>
<u>LLW</u>	<u>L.D.(Lisa) Berneski</u>	<u>6-4427</u>
<u>LLMW</u>	<u>L.D.(Lisa) Berneski</u>	<u>6-4427</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>D.W.(Dale) Lindsey</u>	 <u>2-3087</u>

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

K.L.HLADEK

JUN 21 1994

RECEIVED

RECEIVED

JUN 21 1994

K. L. HLADEK

COORDINATOR SHEET

Department: WAE/Liquid Effluent Service

1994 Coordinator: L.D.(Lisa) Berneski 6-4427

**Project/Facility
Number****1994 Contact****1994 Level III
Approval**

WHC_L045H
300 Area TEDF
Treated Effluent
Disposal Facility

L.D. Berneski

D.W. Lindsey

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

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)	13000														→
	MIN. %	50%														→
	MAX. %	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)															
	MIN. %															
	MAX. %															
RH-LLW-GTC III	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-LLMW-I	EST.(CuFt)	0	0	300	0	300	0	300	0	300	0	300	0	300	0	300
	MIN. %	100														→
	MAX. %	200														→
CH-LLMW-III	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-LLMW-GTCIII	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-LLMW-I	EST.(CuFt)															
	MIN. %															
	MAX. %															

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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)	13000														
	MIN. %	50%														
	MAX. %	1500%														
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)	0	300	0	300	0	300	0	300	0	200	0	500	0	300	0
	MIN. %	100														
	MAX. %	200														
CH-LLMW-III	EST.(CuFt)															
	MIN. %															
	MAX. %															
CH-LLMW-GTCIII	EST.(CuFt)															
	MIN. %															
	MAX. %															
RH-LLMW-I	EST.(CuFt)															
	MIN. %															
	MAX. %															

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WMC-SD-WM-PICD-001, 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)															
	MIN. %															
	MAX. %															

WMC-SD-WM-PICD-001, REV 0

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[illegible]

HELD WASTE

PROJECTED SOLID WASTE EXTERNAL VOLUMES (FT3)

REPORT SHIELDED RH WASTE AS RH WASTE NOT CH WASTE

TABLE 1 page 5 of 5

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.

W/A

WMC-SD-WM-PICD-001, REV 0

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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	100																														
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%)	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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WHC-SD-WM-PICD-001, REV 0

STEP1: CIRCLE ONE WASTE CLASS

CH-LLMW-I

CH-LLMW-III

CH-LLMW-GTC-III

RH-LLMW-I

RH-LLMW-III

RH-LLMW-GTC-III

STEP 2:

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

Container Type and Volume %

TABLE 2 Page 2 of 4

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

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	100																														
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%)	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 (Hanford Site Solid Waste Acceptance Criteria).

"OTHER" containers may be accepted.

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STEP 1 CONTAINER TYPE <u>55 gal drum</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>2024</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		90								Y
ORGANIC PARTICULATES										
ORGANIC ABSORBED LIQ/SLUDGE										
SOILS										
CONTAMINATED SOILS										
DEBRIS CONTAMINATED SOILS										
DEBRIS WASTE										
METAL										
INORGANIC NON-METAL										
COMBUSTIBLE		10								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 : _____

Waste Forms & Hazardous Constituents Mixed/Hazardous Only **TABLE 4** page 1 of 2

STEP 1 WASTE
CLASS CH-LLMW-1

STEP 2 CONTAINER
TYPE 55 gal drum

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

STEP 3 YEARS 1995 TO 2024
(INCLUDE HELD IF APPLICABLE)

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

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				100	100		100		N
	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%

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STEP 1 WASTE CLASS _____

Waste Forms & Hazardous Constituents Mixed/Hazardous Only

TABLE 4 page 2 of 2

STEP 2 CONTAINER TYPE _____

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

STEP 3 YEARS _____ TO _____
(INCLUDE HELD IF APPLICABLE)

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

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 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								

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%	OTHER • Ion-Exchange resin				400	100-	100			20
100%										

* OTHER WASTE DISCRIPTION: Ion-Exchange resin

WASTE CLASS: CH-LLW-1CONTAINER TYPE: 55 gal drum

Radiation Type

TABLE 5 page 1 of 2

YEARS 1995 TO 2024 (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, ¹²⁹ I, Rn, Kr, Xe)		Selenium		Technetium 99	
	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)
SHIELDING												
STEEL												
LEAD												
CONCRETE												
SOLID PROCESS RESIDUES												
INORGANIC PARTICULATES												
INORGANIC ABSORBED LIQUID/SLUDGES	8.26×10^{-7}	1.7×10^{-7}	1.5×10^{-5}	3×10^{-4}	7.7×10^{-5}	1.6×10^{-5}	2.9×10^{-7}	6×10^{-8}				
SALT WASTE												
ORGANIC PARTICULATES												
ORGANIC ABSORBED LIQ/SLUDGE												
SOILS												
CONTAMINATED SOILS												
DEBRIS CONTAMINATED SOILS												

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WASTE CLASS: CH-LLW-1CONTAINER TYPE: 55 gal drumYEAR 1995 TO 2024 (INCLUDE HELD IF APPLICABLE)

Radiation Type

TABLE 5 page 2 of 2

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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												
INORGANIC NON-METAL												
COMBUSTIBLE	8.26×10^{-8}	1.7×10^{-8}	1.5×10^{-4}	3×10^{-3}	7.7×10^{-4}	1.6×10^{-6}	24×10^{-8}	6×10^{-9}				
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:

C-SD-WM-PICD-00

EV 0

WASTE CLASS: CH-LLMW-1

TABLE 5 page 1 of 2

CONTAINER TYPE: 55 gal drum

Radiation Type

YEARS 1995 TO 2024 (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. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)	CONC. C/m ³	TOTAL ACT (CURIES)
SHIELDING												
STEEL												
LEAD												
CONCRETE												
SOLID PROCESS RESIDUES												
INORGANIC PARTICULATES	2.5×10^{-8}	5×10^{-9}	2.6×10^{-6}	5.6×10^{-11}	1.3×10^{-9}	3×10^{-10}	2.6×10^{-7}	6.5×10^{-8}				
INORGANIC ABSORBED LIQUID/SLUDGES												
SALT WASTE												
ORGANIC PARTICULATES												
ORGANIC ABSORBED LIQ/SLUDGE												
SOILS												
CONTAMINATED SOILS												
DEBRIS CONTAMINATED SOILS												

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WASTE CLASS: _____

CONTAINER TYPE: _____

YEAR _____ TO _____ (INCLUDE HELD IF APPLICABLE)

Radiation Type

TABLE 5 page 2 of 2

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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 (¹⁴⁰ La, ¹³⁷ La, ¹³⁷ Xe) (¹⁴⁰La, ¹³⁷La, ¹³⁷Xe)		Selenium		Technetium 99	
	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)
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												
OTHER (e.g. resin) <i>see Page 1 Inventory Part 1</i>	2.5×10^{-8}	5×10^{-6}	2.1×10^{-10}	5.5×10^{-9}	1.3×10^{-9}	3×10^{-10}	2.6×10^{-9}	5.5×10^{-8}				

OTHER WASTE DESCRIPTION: *top-exchange resin*

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

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

Ion Exchange resin used to remove mercury from 300 Area Process Sewer wastes

Filter press sludge generated in the chemical precipitation process

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

Explain: Original data was from the preliminary safety document. This data is from the final flowsheet.

To date ~~we~~ we have not generate any waste so this information is based on design 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 LCLW - we will generate sludge & miscellaneous solids
they will be separated

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.

we have only one mixed waste stream

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.).

25 - 25 - 25 - 25

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.)

Plant startup in Dec 1994

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: we may be able to optimize FeCl₃ addition & reduce some of the sludge or purchase a sludge dryer

Maximum: Filter press may not be as efficient as advertised

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: press makes sludge - columns use resin

Hazardous Constituents (Table 4): High Low Medium

Explain: until we have waste to sample we can't be sure

Radiation Type (Table 5) High Low Medium

Explain: this is based on historical data of the process sewer. Programs are in place to more closely monitor & may have an affect on discharges

1994 SOLID WASTE FORECAST QUESTIONNAIRE

10. What percentage of the waste forecasted is existing waste? none
 Of your existing waste, how confident are you in the current shipping schedule? HIGH LOW MEDIUM

Explain: _____

What percentage of waste forecasted is future generated waste? 100

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

Explain: Until the facility has a permit & operates we can't be sure

- 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.

operational only

- 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.

All waste will be managed at Hanford - see forecasts for volumes

& years

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

LLW: L.D. Bernicki Lisa Bernicki Phone: 376-4467

LLMW: L.D. Bernicki Lisa Bernicki Phone: " "

TRU: _____ Phone: _____

TRUM: _____ Phone: _____

HAZ: _____ Phone: _____

(Waste Contact)

Approved by: P.W. Lindsey [Signature]
 (Level 3 Manager Signature)

Date: 6/20/94

Approved by: O.W. Bradt [Signature]
 (Budget Concurrence)

Date: 6/20/94

APPENDIX C.3

30-YEAR FORECAST FROM 340 FACILITY

COVER SHEET

1994 SOLID WASTE FORECAST REQUEST FORM

Generator (Project/Facility) WHC 340 Liquid Waste Facility

<u>Waste Class</u>	<u>Contact</u>	<u>Phone</u>
<u>LLW</u>	<u>H.R.(Hans) Vogel/L.D.(Lisa) Berneski</u>	<u>6-0992/4427</u>
<u>LLMW</u>	<u>H.R.(Hans) Vogel/L.D.(Lisa) Berneski</u>	<u>6-0992/4427</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>D.W.(Dale) Lindsey</u>	<u>2-3087</u>

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

RECEIVED

1

JUN 29 1994

K.L. BLACK

COORDINATOR SHEET

Department: RR/LWD Liquid Waste Disposal

1994 Coordinator: L.D.(Lisa) Berneski 6-4427

Project/Facility Number	1994 Contact	1994 Level III Approval
WHC 340 Waste Retention Facility	H.R. Vogel L.D. Berneski	D.W. Lindsey
WHC 4843 Alkali Storage Facility (This facility shipped all of its waste in 1994 and therefore does not require a forecast.)	H.R. Vogel	D.W. Lindsey

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

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)	696	—	—	—	—	—	—	—	—	—	—	—	—	—	→
	MIN. %	50														
	MAX. %	200														
CH-LLW-III	EST.(CuFt)	18.4	—	—	—	—	—	—	—	—	—	—	—	—	—	→
	MIN. %	0														
	MAX. %	200														
CH-LLW-GTCIII	EST.(CuFt)	0	—	—	—	—	—	—	—	—	—	—	—	—	—	→
	MIN. %															
	MAX. %															
RH-LLW-I	EST.(CuFt)	0	—	—	—	—	—	—	—	—	—	—	—	—	—	→
	MIN. %															
	MAX. %															
RH-LLW-III	EST.(CuFt)	0	—	—	—	—	—	—	—	—	—	—	—	—	—	→
	MIN. %															
	MAX. %															
RH-LLW-GTC III	EST.(CuFt)	0	—	—	—	—	—	—	—	—	—	—	—	—	—	→
	MIN. %															
	MAX. %															
CH-LLMW-I	EST.(CuFt)	46	—	—	—	—	—	—	—	—	—	—	—	—	—	→
	MIN. %	50														
	MAX. %	200														
CH-LLMW-III	EST.(CuFt)	0	—	—	—	—	—	—	—	—	—	—	—	—	—	→
	MIN. %															
	MAX. %															
CH-LLMW-GTCIII	EST.(CuFt)	0	—	—	—	—	—	—	—	—	—	—	—	—	—	→
	MIN. %															
	MAX. %															
RH-LLMW-I	EST.(CuFt)	0	—	—	—	—	—	—	—	—	—	—	—	—	—	→
	MIN. %															
	MAX. %															

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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

See Sheet 1

WASTE CLASS	ESTIMATE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
CH-LLW-I	EST.(CuFt)	696														7
	MIN. %	50														
	MAX. %	200														
CH-LLW-III	EST.(CuFt)	18.4														>
	MIN. %	0														
	MAX. %	200														
CH-LLW-GTCIII	EST.(CuFt)	0														>
	MIN. %															
	MAX. %															
RH-LLW-I	EST.(CuFt)	0														>
	MIN. %															
	MAX. %															
RH-LLW-III	EST.(CuFt)	0														>
	MIN. %															
	MAX. %															
RH-LLW-GTC III	EST.(CuFt)	0														>
	MIN. %															
	MAX. %															
CH-LLMW-I	EST.(CuFt)	46														>
	MIN. %	50														
	MAX. %	200														
CH-LLMW-III	EST.(CuFt)	0														>
	MIN. %															
	MAX. %															
CH-LLMW-GTCIII	EST.(CuFt)	0														>
	MIN. %															
	MAX. %															
RH-LLMW-I	EST.(CuFt)	0														>
	MIN. %															
	MAX. %															

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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.(CuFi)	0														✓
	MIN. %															
	MAX. %															
RH-LLMW-GTCIII	EST.(CuFi)	0														✓
	MIN. %															
	MAX. %															
CH-TRU	EST.(CuFi)	0														✓
	MIN. %															
	MAX. %															
RH-TRU	EST.(CuFi)	0														✓
	MIN. %															
	MAX. %															
CH-TRUM	EST.(CuFi)	0														→
	MIN. %															
	MAX. %															
RH-TRUM	EST.(CuFi)	0														→
	MIN. %															
	MAX. %															
HAZ.	EST.(CuFi)	0														→
	MIN. %															
	MAX. %															

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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

See Sheet 3

WASTE CLASS	ESTIMATE	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
RH-LLMW-III	EST.(CuFt)	0														→
	MIN. %															
	MAX. %															
RH-LLMW-GTCIII	EST.(CuFt)	0														→
	MIN. %															
	MAX. %															
CH-TRU	EST.(CuFt)	0														→
	MIN. %															
	MAX. %															
RH-TRU	EST.(CuFt)	0														→
	MIN. %															
	MAX. %															
CH-TRUM	EST.(CuFt)	0														→
	MIN. %															
	MAX. %															
RH-TRUM	EST.(CuFt)	0														→
	MIN. %															
	MAX. %															
HAZ.	EST.(CuFt)	0														→
	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	476
CH-LLW-III	—
CH-LLW-GTCIII	—
RH-LLW-I	1
RH-LLW-III	—
RH-LLW-GTCIII	—
CH-LLMW-I	1
CH-LLMW-III	1
CH-LLMW-GTCIII	1
RH-LLMW-I	1
RH-LLMW-III	1
RH-LLMW-GTCIII	1
CH-TRU	1
RH-TRU	1
CH-TRUM	1
RH-TRUM	1
HAZARDOUS	1

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.

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STEP 1: CIRCLE ONE WASTE CLASS

Container Type and Volume %

TABLE 2 Page 1 of 4

CH-LLW-I

CH-LLW-III

CH-LLW-GTC-III

RH-LLW-I

RH-LLW-III

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

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

STEP 2:

RH-LLW-GTC-III

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	HELP
55 Gal Drum 9.2 CuFt	76																													>	17
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	74																													>	81
4 X 4 X 8 Metal 128 CuFt																															
B-25 103.2 CuFt																															
OTHER																															
* TOTAL (0 or 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.

WHC-SD-WM-PICD-001, REV 0

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Container Type and Volume %

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

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

STEP 1: CIRCLE ONE WASTE CLASS		1996	1998	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
CH-LLW-I																																
CH-LLW-III																																
CH-LLW-GTC-III																																
RH-LLW-I																																
RH-LLW-III																																
RH-LLW-GTC-III																																
STEP 2:																																
CONTAINERS																																
55 Gal Drum 9.2 CuFt		100																														
65 GAL DRUM 12.1 CuFt																																
4 X 4 X 8 Box W/Skide 143 CuFt																																
4 X 4 X 8 Box W/O Skide 128 CuFt																																
4 X 4 X 8 Metal 128 CuFt																																
B-25 103.2 CuFt																																
OTHER																																
* TOTAL (0 or 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

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	100																														
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%)	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-PCID-001, REV 0

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STEP 1 CONTAINER TYPE <u>55 gal drum</u>	Physical Waste Forms/LLW & TRU						TABLE 3 page 1 of 1		STEP 4 Are Waste Forms Segregated? Y/N
STEP 2 YEARS <u>95</u> TO <u>2024</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	2	10							2
INORGANIC NON-METAL									
COMBUSTIBLE	98	90							2
HETEROGENEOUS									
SPECIAL WASTE									
LAB PACKS/CONTAINERIZED LIQUIDS									
UNKNOWN									
OTHER *									
TOTAL ¹ (0 OR 100%)	100	100	—	—	—	—	—	—	—

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

* OTHER WASTE DESCRIPTION: _____

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WMC-SD-WM-PICD-001, REV 0

STEP 1 CONTAINER TYPE <u>55 gal drum</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>94</u> TO <u>—</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		8								Y
ORGANIC PARTICULATES										
ORGANIC ABSORBED LIQ/SLUDGE										
SOILS										
CONTAMINATED SOILS										
DEBRIS CONTAMINATED SOILS										
DEBRIS WASTE										
METAL		4								Y/N
INORGANIC NON-METAL										
COMBUSTIBLE		88								N
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 <u>11x4x8 Box</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>94</u> TO <u>2024</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		10								N	
INORGANIC NON-METAL											
COMBUSTIBLE		90								N	
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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WMC-SD-WM-PICD-001, REV 0

STEP 1 WASTE CLASS CII-LUMVJ-1

STEP 2 CONTAINER TYPE 55 gal drum

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 95 TO 2024
(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 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								

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-NM-PCID-001, REV 0

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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 Oil - ULMW-1

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

STEP 2 CONTAINER TYPE 55 gal drum

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

STEP 3 YEARS 94 TO 2024
(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 Segregated? Y/N

%	DEBRIS WASTES								< 50 ppm	> 50 ppm	
10	METAL				D008	D009	F001, F002, F003, F004, F005				N
0	INORGANIC NON-METAL										
90	COMBUSTIBLE						F001, F002, F003, F004, F005, F007				N
0	HETEROGENEOUS										
SPECIAL WASTES											
0	LABPACKS/CONTAINERIZED LIQ.										
0	REACTIVE METALS										
0	EXPLOSIVES/PROPELLENTS										
INHERENTLY HAZARDOUS WASTE											
0	ELEMENTAL MERCURY										
0	ELEMENTAL LEAD										
0	BERYLLIUM WASTE										
0	BATTERIES										
UNKNOWN											
0	OTHER *										

* OTHER WASTE DISCRIPTION: F001 - F005 and assorted D0XX codes from

DST waste code list. Waste is solid material contaminated from contact with the ULMW transferred from PNL labs.

information incorporated in volume table.

WASTE CLASS: CH-UW-1CONTAINER TYPE: 55 gal drum

Radiation Type

TABLE 5 page 1 of 2

YEARS 94 TO 2024 (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
	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(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												

WHC SD-WM-PICD-001, REV. 0

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WASTE CLASS: CH-LW-1

TABLE 5 page 2 of 2

CONTAINER TYPE: 55 gal drum

Radiation Type

YEAR 94 TO 2024 (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. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)
DEBRIS WASTES												
METAL	5×10^{-5}	1.36×10^{-3}	—		1.65×10^{-6}	8.6×10^{-6}	—		—		—	
INORGANIC NON-METAL			—				—		—		—	
COMBUSTIBLE	4.5×10^{-4}	2.34×10^{-2}	—		1.48×10^{-5}	7.7×10^{-5}	—		—		—	
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: Based on 250 lb of waste @ 0.5 mR/hr surface dose rate for C/m³
 Total curies is CONC. multiplied by 184 ft³ (5.207 m³)

C-74

WHC-SD-NM-PICD-001, REV 0

WASTE CLASS: CH-LW-111

TABLE 5 page 1 of 2

Radiation Type

CONTAINER TYPE: 55 gal drumYEARS 95 TO 2024 (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
	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(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												

MHC-SD-WM-PICD-001, REV. 0

C-75

WASTE CLASS: CH-LWS-111

TABLE 5 page 2 of 2

CONTAINER TYPE: 55 gal drum

Radiation Type

YEAR 95 TO 2024 (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)
DEBRIS WASTES												
METAL	1.16×10^2	10.04×10^1			2.92×10^2	1.52×10^1						
INORGANIC NON-METAL												
COMBUSTIBLE	1.04×10^3	5.4×10^2			2.63×10^1	1.37×10^1						
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: Based on 250 lb of waste and limits for Sr 90, Cs 137 and Pu 241
All other isotopes are in Cat 1 Curies is CONC multiplied by 18.46

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WHC-SD-MM-PTCD-001 REV 0

WASTE CLASS: CH-UW-1

TABLE 5 page 1 of 2

CONTAINER TYPE: 4x4x8 box

Radiation Type

YEARS 95 TO 2024 (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
	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(CURIES)	ci/m ³	(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												

MHC SD WM PIGD 001, REV 0

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WASTE CLASS: CH-LLW-1

TABLE 5 page 2 of 2

CONTAINER TYPE: 4x4x8 box

Radiation Type

YEAR 95 TO 2024 (INCLUDE HELD IF APPLICABLE)

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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	3.5×10^{-4}	5.9×10^{-4}			1.16×10^{-6}	1.68×10^{-5}						
INORGANIC NON-METAL												
COMBUSTIBLE	3.15×10^{-4}	1.56×10^{-3}			1.04×10^{-5}	1.51×10^{-4}						
HETEROGENEOUS												
SPECIAL WASTES												
LABPACKS/CONTAINERIZED LIQ.												
REACTIVE METALS												
EXPLOSIVES/PROPELLENTS												
INHERENTLY HAZARDOUS WASTE												
ELEMENTAL MERCURY												
ELEMENTAL LEAD												
BERYLLIUM WASTE												
BATTERIES												
UNKNOWN												
OTHER												

WHC-SD-WM-PICD-001, REV 0

OTHER WASTE DESCRIPTION: Based on 15 lb/lit of waste with surface dose rate of 0.5 mR/hr.

WASTE CLASS: CH-UMW-1CONTAINER TYPE: 55 gal drumYEARS 95 TO 2024 (INCLUDE HELD IF APPLICABLE)

TABLE 5 page 1 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. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/m ³	TOTAL ACT. (CURIES)	CONC. C/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												

WMC SD-MM-PICD-001, REV 0

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WASTE CLASS: CH-LLMW-1CONTAINER TYPE: 55 gal drumYEAR 95 TO 2024 (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. 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	5×10^{-5}	6.5×10^{-5}			1.65×10^{-6}	2.14×10^{-6}						
INORGANIC NON-METAL												
COMBUSTIBLE	4.5×10^{-4}	5.85×10^{-4}			1.48×10^{-5}	1.92×10^{-5}						
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: Based on 10 lb/ft³ of waste and a surface dose rate of 0.5 mR/hr.
 Total curies is CONC multiplied by 46 ft³ (1.30 m³)

C-80

WHC-SD-WM-PICD-001 REV 0

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

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

Waste is generated through operations and maintenance of a LLMW - Liquid Waste Transfer Facility. Waste is designated as LLW when materials are utilized in radiation zones. LLMW is generated when contact with the liquid waste is suspected or known to have occurred. The LLMW is contaminated with DST waste that has been analyzed in the 300 Area Labs. This waste carries the F001 - F005 codes as well as several DOXX code

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

Explain: In the 1993 forecast an annual generation rate of one drum of TRU waste was represented. This TRU waste generation was not seen in the last 12 months and has been deleted from this forecast.

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:

Waste forms will not be segregated on a regular basis. Most waste generated is Metal and Combustible Debris, which is packaged together.

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.

Mixed waste generated is from contact with liquid DST waste analyzed in the 300A labs. Waste codes are of the DST waste code group. No separation of waste by waste code is done.

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.).

25/25/25/25

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.)

Waste generation rates are based on 1992 and 1993 generation and shipping data. Radioactive material characterization is based on 1991 data from Radiological Support.

A proposed 1997 line-item project to upgrade the facility may impact generation rates of both mixed and TRU (TRUM) waste during D&D of the existing tank system.

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: 1992 + 1993 generation data and known projects in the facility.

Maximum: Estimated by extrapolating generation rates currently seen. Known projects and unknown maintenance issues are inputted.

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: Based on past history.

Hazardous Constituents (Table 4): High Low Medium

Explain: DOT waste codes handled at the facility.

Radiation Type (Table 5) High Low Medium

Explain: Based on 1991 characterization.

1994 SOLID WASTE FORECAST QUESTIONNAIRE

10. What percentage of the waste forecasted is existing waste? ~476 cu ft
 Of your existing waste, how confident are you in the current shipping schedule? HIGH LOW MEDIUM

Explain: See sheet (page) 5 of table 1

What percentage of waste forecasted is future generated waste? All
 Of your future generated waste, how confident are you in the volumes and shipping schedule? HIGH LOW MEDIUM

Explain: Waste is generated during maintenance and operations.

- 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.

Operational and maintenance 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.

Unknown volumes of waste may be generated during planned upgrades of the facility.

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

LLW: LD Bernski

Phone: 6-4427

LLMW: L.D. Bernski

Phone: 6-4427

TRU: _____

Phone: _____

TRUM: _____

Phone: _____

HAZ: _____

Phone: _____

(Waste Contact)

Approved by: [Signature] D.W. Lindsey
 (Level 3 Manager Signature)

Date: 6/24/94

Approved by: D.H. Brandt [Signature]
 (Budget Concurrence)

Date: 6/24/94