CORRESPONDENCE DISTRIBUTION COVERSHEET

Author	Addressee	Correspondence No.
S. H. Wisness, RL R. H. Gurske, FH Roby D. Enge, PNNL	L. E. Ruud, Ecology	Incoming: 0002004 Xref: FDH-0001489

Subject: CONTRACT NO. DE-AC06-96RL13200, QUARTERLY NOTIFICATION OF CLASS 1 MODIFICATIONS TO THE HANFORD FACILITY RESOURCE CONSERVATION AND RECOVERY ACT PERMIT, DANGEROUS WASTE PORTION (QUARTER ENDING MARCH 31, 2000–CONDITION I.C.3) (ATTACHMENT 4, PUREX, LERF/ETF, 242-A EVAPORATOR, 305-B STORAGE FACILITY, AND 325 HWTUS)

DISTRIBUTION

Approval	Date	Name	Location	w/att
		Correspondence Control	A3-01	X
		Fluor Hanford		
		Presidents' Office	H5-20	
		E. S. Aromi	H6-10	
		N. C. Boyter	L5-66	
		R. C. Brunke	G1-37	
		G. A. Carpenter	A3-05	X
		S. B. Cherry	B3-15	
		L. P. Diediker	G1-29	
		R. H. Engelmann	G1-30	X
		G. B. Griffin	A3-05	X
		C. K. Girres	T3-01	
		J. G. Granger	G1-27	
		R. H. Gurske	H8-73	
		J. W. Hales	A4-14	
		J. S. Hertzel	A4-14	
		G. J. LeBaron	S4-49	X
		J. O. Perkins	G1-31	
		L. L. Powers	G1-37	
		S. M. Price	A0-22	
		T. L. Moore	G1-32	
		R. W. Szelmeczka	S6-72	X
		S. A. Thompson	G1-30	
		R. T. Wilde	G1-36	
		J. D. Williams	H8-67	
		L. F. Willis	H8-73	
		Env. Services LB	G1-30	
		Permitting Documentaton	G1-26	
		RCRA Permit Scan (D Jensen)	G1-29	

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

Incoming: 0002004

APR 10 2000

00-OSS-289

Ms. L. E. Ruud, Permit Specialist
Nuclear Waste Program
State of Washington
Department of Ecology
1315 West Fourth Avenue
Kennewick, Washington 99336

Dear Ms. Ruud:

QUARTERLY NOTIFICATION OF CLASS 1 MODIFICATIONS TO THE HANFORD FACILITY RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) PERMIT, DANGEROUS WASTE PORTION (DW PORTION) (QUARTER ENDING MARCH 31, 2000 CONDITION I.C.3)

In accordance with Condition I.C.3. of the Hanford Facility RCRA Permit, enclosed for your notification are the Class 1 modifications to the Hanford Facility RCRA Permit, DW Portion. Modifications this quarter included updating information in the List of Attachments and in Part III (Enclosure). The List of Attachments Class 1 modifications pertain to Attachment 4, Hanford Emergency Management Plan. The Part III Class 1 modifications pertain to the Plutonium-Uranium Extraction Storage Tunnels, Liquid Effluent Retention Facility and Effluent Treatment Facility, 242-A Evaporator, 305-B Storage Facility, and the 325 Hazardous Waste Treatment Units. The Class 1 modifications are being made to ensure that all activities conducted are in compliance with the RCRA Permit, DW Portion.

APR 10 2000

Should you have any questions regarding this information, please contact Ellen M. Mattlin, U.S. Department of Energy, Richland Operations Office, on (509) 376-2385; Richard H. Engelmann, Fluor Hanford, on (509) 376-7485; or Alice K. Ikenberry, Pacific Northwest National Laboratory, on (509) 373-5638.

Steven H. Wisness, Director
Office of Site Services
DOE Richland Operations Office

Richard H. Gurske, Project Manager
Environmental Services
Fluor Project Hanford

Alice Ikenberry for Roby Enge

Roby D. Enge, Director
Environment, Safety, and Health
Pacific Northwest National Laboratory

OSS:EMM

Enclosure:
Quarterly Notification of Class 1
Modifications to the Hanford Facility
RCRA Permit, DW Portion

cc w/encl:
Administrative Record H6-08
HF Operating Record H6-08
Ecology NWP Kennewick Library
R. J. Landon, BHI
J. R. Wilkinson, CTUIR
M. A. Wilson, Ecology
S. A. Thompson, FH
Environmental Portal, LMSI
P. Sobotta, NPT
A. K. Ikenberry, PNNL
R. Jim, YN

cc w/o encl:
L. J. Cusack, Ecology
S. Moore, Ecology
J. Wallace, Ecology
A. B. Stone, Ecology
D. R. Sherwood, EPA
E. S. Aromi, FH
R. H. Gurske, FH
R. D. Enge, PNNL

RECEIPT

Ms. Laura Ruud
Permit Specialist
Nuclear Waste Program
State of Washington
Department of Ecology
1315 West Fourth Avenue
Kennewick, Washington 99336

I received the following document:

00-OSS-289

QUARTERLY NOTIFICATION OF CLASS 1 MODIFICATIONS TO THE HANFORD FACILITY RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) PERMIT, DANGEROUS WASTE PORTION (DW PORTION) (QUARTER ENDING MARCH 31, 2000 CONDITION I.C.3)

Jennifer Cantu	4-10-00
Ms. Laura Ruud	Date

Hanford Facility RCRA Permit Modification Notification Forms

List of Attachments
Attachment 4, Hanford Emergency Management Plan

Index

Page 2 of 10:	Section 3, Subsection .3.4.1.1
Page 3 of 10:	Section 3, Table 3-1, page 11 of 14
Page 4 of 10:	Section 3, Table 3-1, page 12 of 14
Page 5 of 10:	Section 3, Table 3-1, page 13 of 14
Page 6 of 10:	Section 4, Subsection 4.2
Page 7 of 10:	Section 11, Subsection 11.2
Page 8 of 10:	Section 14, Subsection 14.3.1.1
Page 9 of 10:	Appendix A, page 4 of 6
Page 10 of 10:	Appendix A, page 6 of 6

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Hanford Emergency Management Plan	**List of Attachments, Attachment 4**

Description of Modification:

Section 3, Subsection .3.4.1.1:

3.4.1.1 Law Enforcement. RL ~~SAS~~ SES interfaces with local law enforcement agencies for support to the Hanford Site during emergencies. Via a contractual agreement, the Benton County Sheriff's Office provides law enforcement on the Hanford Site (i.e., traffic enforcement and criminal investigation), and assists in access control; and, as such, coordinates activities with RL ~~SAS~~ SES and the Hanford Patrol.

RL ~~SAS~~ SES maintains memorandums of understanding with the law enforcement agencies of Kennewick, Richland, West Richland, Benton County, Franklin County, and the state of Washington.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
G. B. Griffin	Date 3/23/00	J. L. Spracklen, Jr.	Date 3/23/00	S. Moore	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: **Hanford Emergency Management Plan**	Permit Part & Chapter: **List of Attachments, Attachment 4**

Description of Modification:

Section 3, Table 3-1, page 11 of 14: **Table 3-1. Memorandums of Understanding**

PARTIES	SERVICES/AREAS OF COOPERATION	POINTS OF CONTACT	CONSTRAINTS	DATE	EXPIRATION DATE	WHERE ON FILE
State of Washington	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Washington Emergency Management Division	None	09/10/96	Continue until canceled by either party upon 30 days written notice to the other.	RL ~~QSH~~ SES
State of Oregon	Document areas of cooperation between the state of Oregon and RL in the planning for and providing notification and interface in the event of an incident on the Hanford Site.	Oregon Department of Energy	None	12/02/86	Continue until canceled by either party by written notice to the other Amendments or modifications to this Agreement my be made upon written agreement by both parities to the Amendment.	RL ~~QSH~~ SES
Benton ~~and Franklin Counties~~ ~~Counties~~	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Benton County Emergency Management ~~Franklin County Emergency Management~~	None	~~03/11/93~~ 03/16/00	Continue until canceled by either party by written notice to the other.	RL ~~QSH~~ SES
~~Franklin County~~	~~Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.~~	~~Franklin County Emergency Management~~	~~None~~	~~01/20/00~~	~~Continue until canceled by either party by written notice to the other.~~	~~RL SES~~
Grant County	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Grant County Emergency Management	None	10/04/94	Continue until canceled by either party by written notice to the other.	RL ~~QSH~~ SES
Energy Northwest (formerly Washington Public Power Supply System)	Document areas of cooperation between the parties in the planning for and response to emergencies at the Hanford Site.	Energy Northwest (formerly Washington Public Power Supply System) Emergency Preparedness	The specific areas of assistance will be provided based upon availability, and are limited to those emergency actions necessary to protect onsite personnel, the public health and safety, and the environment in the event of a major emergency at the Hanford Site or WNP-2.	~~10/30/95~~ 12/10/97	Continue until canceled by either of the parties upon 30 days written notice to the other party.	RL ~~QSH~~ SES
Energy Northwest (formerly Washington Public Power Supply System) and HEHF	Treatment of a significantly contaminated and injured person.	Energy Northwest (formerly Washington Public Power Supply System) Emergency Preparedness and HEHF	None	~~11/02/95~~ 12/10/97	Continue until canceled by one or more of the parties upon 30 days written notice to the other(s).	~~HEHF~~ SES

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
G. B. Griffin	Date	J. L. Spracklen, Jr.	Date 4/4/00	S. Moore	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: **Hanford Emergency Management Plan**	Permit Part & Chapter: **List of Attachments, Attachment 4**

Description of Modification:

Section 3, Table 3-1, page 12 of 14: **Table 3-1. Memorandums of Understanding**

PARTIES	SERVICES/AREAS OF COOPERATION	POINTS OF CONTACT	CONSTRAINTS	DATE	EXPIRATION DATE	WHERE ON FILE
Siemens Power Corporation (SPC)	Establishes means by which RL can provide consequence assessment and meteorological information to ~~Siemens Power Corporation~~ SPC during an emergency at the ~~Siemens~~ SPC plant in Richland, Washington	~~Siemens Power Corporation~~ SPC	Emergencies affecting the Hanford Site or Hanford facilities takes precedence over all other uses of the UDAC facilities and/or staff.	~~01/19/95~~ 01/19/00	Remain in effect for five years from effective date, at which time it shall be reviewed and renegotiated, reissued, or terminated. Either party may withdraw upon 30 days written notice.	RL ~~QSH~~ [redacted]
Siemens Power Corporation (SPC) and HEHF	Treatment of a significantly contaminated and slightly injured person.	~~Siemens~~ SPC and HEHF	~~Siemens Power Corporation~~ SPC agrees to undertake all costs and expenses incurred that directly result from this agreement.	~~02/25/96~~ 02/03/00	Continue until canceled by one or more of the parties by written notice to the other(s).	~~HEHF~~ [redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
National Weather Service	Sharing Meteorological Information.	NWS Western Regional Headquarters.	None	10/05/94	Agreement may be terminated by either party upon thirty days written notice to the other party.	RL ~~QSH~~ [redacted]
Our Lady of Lourdes Hospital (OLOL) Pasco, Washington	Significantly injured, contaminated persons will be admitted to facility for appropriate medical care.	~~Our Lady of Lourdes~~ OLOL Administrator	The responsibilities of ~~Our Lady of Lourdes~~ OLOL will be limited to activities performed at the hospital.	08/17/98	Arrangements may be terminated by ~~Our Lady of Lourdes~~ OLOL or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof.	RL ~~QSH~~ [redacted]
Kadlec Medical Center (KMC) Richland, Washington	Significantly injured, contaminated persons will be admitted to facility for appropriate medical care.	~~Kadlec~~ KMC Administrator	~~Kadlec Medical Center~~ KMC will be limited to activities performed at the hospital and at the Emergency Decontamination Facility.	08/17/98	Arrangements may be terminated by ~~Kadlec Medical Center~~ KMC or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof.	RL ~~QSH~~ [redacted]
Kennewick General Hospital (KGH) Kennewick, Washington	Significantly injured, contaminated persons will be admitted to facility for appropriate medical care.	~~Kennewick General~~ KGH Administrator	~~Kennewick General~~ KGH will be limited to activities performed at the hospital.	08/17/98	Arrangements may be terminated by ~~Kennewick General~~ KGH or by RL upon written notice to the other, which notice shall not become effective for at least 30 days after the date thereof.	RL ~~QSH~~ [redacted]

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

[redacted]

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

[redacted]

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
G. B. Griffin	Date 4/4/00	J. L. Spracklen, Jr.	Date 4/4/00	S. Moore	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: **Hanford Emergency Management Plan**	Permit Part & Chapter: **List of Attachments, Attachment 4**

Description of Modification:

Section 3, Table 3-1, page 13 of 14: **Table 3-1. Memorandums of Understanding**

PARTIES	SERVICES/AREAS OF COOPERATION	POINTS OF CONTACT	CONSTRAINTS	DATE	EXPIRATION DATE	WHERE ON FILE
Tri-County Mutual Aid Agreement	Provide mutual aid to parties hereto desire to augment the fire and emergency medical protection available in their establishments, districts, agencies, and municipalities in the event of large fires or conflagrations or other disaster.	Hanford Fire Department	Assistance under the agreement is not mandatory.	02/05/98	Remain in full force and effect until canceled by mutual agreement of the parties hereto or by written notice by one party to the other party giving ten (10) days notice of said cancellation.	Hanford Fire Department
Richland Police Department	Mutual law enforcement assistance.	Richland Police Department	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	07/18/84	Indefinite duration.	RL ~~SAS~~ ~~SES~~
West Richland Police Department	Mutual law enforcement assistance.	West Richland Police Department	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	03/27/86	Indefinite duration.	RL ~~SAS~~ ~~SES~~
Kennewick Police Department	Mutual law enforcement assistance.	Kennewick Police Department	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	09/26/85	Indefinite duration.	RL ~~SAS~~ ~~SES~~
Benton County Sheriff	Mutual law enforcement assistance.	Benton County Sheriff	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	07/10/87	Indefinite duration.	RL ~~SAS~~ ~~SES~~
Franklin County Sheriff	Mutual law enforcement assistance.	Franklin County Sheriff	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	12/22/92	Indefinite duration.	RL ~~SAS~~ ~~SES~~
Washington State Patrol	Mutual law enforcement assistance.	Washington State Patrol	Assistance will be provided subject to the provision of the agreement and any other conditions as the parties may agree.	07/25/89	Indefinite duration.	RL ~~SAS~~ ~~SES~~

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
G. B. Griffin	Date	J. L. Spracklen, Jr.	Date 4/4/00	S. Moore	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Hanford Emergency Management Plan	**List of Attachments, Attachment 4**

Description of Modification:

Section 4, Subsection 4.2:

4.2 RESOURCE CONSERVATION AND RECOVERY ACT EMERGENCY

A RCRA emergency is defined as a release, fire, or explosion that could threaten human health or the environment. ~~Based upon an evaluation and assessment,~~ [redacted] the BED/BW/IC, in consultation with the respective site contractor environmental single point-of-contact, shall determine whether the incident is a RCRA emergency [redacted]. It is the responsibility of the BED/BW/IC to make this determination even though ~~they~~ [redacted] consult[redacted] with the site contractor environmental single point-of-contact. When this [redacted] occurs, notifications delineated in subsection 5.1.2.1 shall be performed. Notifications described in subsection 5.1.1 may also be required for a RCRA emergency and are determined on a case-by-case basis by the BED/BW/IC.

The BED/BW/IC ensures that trained personnel identify the character, source, amount, and areal extent of the release, fire, or explosion to the extent possible. Identification of waste can be made by activities that can include, but are not limited to, visual inspection of involved containers, sampling activities in the field, reference to inventory records, or by consulting with facility personnel. Samples of materials involved in an emergency might be taken by qualified personnel and analyzed as appropriate. These activities must be performed with a sense of immediacy and shall include available information.

After gathering appropriate event information, the hazards posed by the event to human health and the environment must be assessed. The assessment must take into consideration the direct, indirect, immediate, and long-term effects of the incident. The assessment should include sources such as Material Safety Data Sheet toxicity and health information and results from any personnel monitoring examinations conducted at medical facilities. These are the types of tools, which will aid in ascertaining the extent in which human health and the environment were threatened.

If assessment of all available information does not yield a definitive assessment of the danger posed by the incident, a worst-case condition will be presumed and appropriate protective actions and notifications will be initiated. The BED/BW/IC is responsible to initiate any protective actions based on their best judgement of the incident.

[redacted]

Modification Class: [1 2 3]	Class 1	Class[1] 1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
G. B. Griffin	Date 3/22/00	J. L. Spracklen, Jr.	Date 3/23/00	S. Moore	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Hanford Emergency Management Plan	**List of Attachments, Attachment 4**

Description of Modification:

Section 11, Subsection 11.2:

11.2 EMERGENCY EQUIPMENT

Adequate personal protective equipment and other equipment and supplies shall be available and operable to meet the needs determined by the results of the hazards assessment and/or other applicable documentation, and for emergency response personnel to carry out their respective duties and responsibilities.

Emergency and backup equipment (including monitoring devices) shall be located in readily accessible areas away from the scene of the potential accident. Equipment shall be available, as appropriate, to provide functions for the potential, credible emergencies such as:

- emergency dosimetry;
- personnel protection;
- radiation control monitoring instrumentation;
- monitoring of personnel, facilities, and the environment onsite and offsite;
- emergency medical treatment onsite;
- meteorological evaluation;
- handling of personnel contaminated with radioactive or toxic materials, and fatalities;
- supplying emergency power, water, and sanitation;
- emergency transportation for personnel evacuation;
- movement of earth or heavy loads; and
- emergency communications, including portable and secure communications equipment, as required.

To ensure equipment reliability, emergency equipment should, to the extent practical, be the same equipment used for routine operations. RL/ORP and the site contractors maintain a variety of light and heavy equipment and supplies that could be diverted from routine use to emergency use, if needed.

All equipment that could be used in an emergency response is listed in the RL Property System database, which can be quickly accessed to determine the current status of each piece of equipment. This system is maintained and operated by the Resource Allocation and Management group of the operating contractor.

As applicable, the BED/BW/IC and/or the Onsite Recovery Manager and staff shall ensure that all equipment is cleaned and fit for its intended use before operations are resumed. This may include actions to ensure that depleted stocks of neutralizing and absorbing materials are replenished, self-contained breathing apparatus are cleaned and refilled, fire extinguishers are recharged or replaced, and protective clothing is cleaned (or disposed of) and restocked.

Modification Class: [1,2,3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
G. B. Griffin	Date 3/22/00	J. L. Spracklen, Jr.	Date 3/23/00	S. Moore	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: **Hanford Emergency Management Plan**	Permit Part & Chapter: **List of Attachments, Attachment 4**

Description of Modification:

Section 14, Subsection 14.3.1.1:

14.3.1.1 Review and Update Based on WAC 173-303

Portions of this plan, together with Hanford Site location/activity-specific documentation established to meet contingency plan requirements, must be reviewed and immediately amended, if necessary, whenever:

- applicable regulations of the Hanford Facility RCRA Permit are revised;
- the building emergency plan/procedure fails in an emergency;
- a TSD unit or 90-day accumulation area changes (e.g., design, operation, maintenance, etc.) in a way that materially increases the potential for fires, explosions, or releases of dangerous waste or dangerous waste constituents, or in a way that changes the response necessary in an emergency; or
- the list of emergency equipment changes.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
G. B. Griffin	Date 3/23/00	J. L. Spracklen, Jr.	Date 3/23/00	S. Moore	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: **Hanford Emergency Management Plan**	Permit Part & Chapter: **List of Attachments, Attachment 4**

Description of Modification:

Appendix A, page 4 of 6:

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	HOW DOES REQUIREMENT APPLY TO HANFORD?	WHERE IS REQUIREMENT MET IN DOCUMENTATION?
WAC 173-303-350(4) (Permit requirement)	Copies of contingency plan. A copy of the contingency plan and all revisions to the plan shall be: (a) Maintained at the facility; and (b) Submitted to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.	Copies of DOE/RL-94-02 are maintained throughout the Hanford Site and with offsite agencies. Copies of location-specific documentation are not being provided to offsite agencies because no agency requested them when asked in 1994.	Site-level: DOE/RL-94-02, section 14.3.7.
WAC 173-303-350(5) (Permit requirement)	Amendment. The owner or operator shall review and immediately amend the contingency plan, if necessary, whenever: (a) Applicable regulations or the facility permit are revised; (b) The plan fails in an emergency; (c) The facility changes (in its design, construction, operation, maintenance, or other circumstances) in a way that materially increases the potential for fires, explosions, or releases of dangerous waste or dangerous waste constituents, or in a way that changes the response necessary in an emergency; (d) The list of emergency coordinators changes; or (e) The list of emergency equipment changes.	DOE/RL-94-02 and location-specific documentation is revised according to these criteria. Making changes to these documents must also be accomplished in accordance with WAC 173-303-830, when applicable.	Site-level: DOE/RL-94-02, section 14.4.1 [redacted]
WAC 173-303-350(1) (Permit requirement)	Owners or operators must coordinate preparedness and prevention planning and contingency planning efforts, conducted under WAC 173-3-3.340 and -350 with local emergency planning committees established pursuant to Title III of the 1986 Superfund Amendments and Reauthorization Act.	RL coordinates planning actions with three LEPCs: Benton County, Franklin County, and Grant County.	Site-level: DOE/RL-94-02, sections 3.1, 3.1.1, and 3.4.
WAC 173-303-355(2)	Appropriate and generally accepted computer models should be utilized to determine the impact of a potential catastrophic air release due to fire, explosion, or other accidental release of hazardous constituents. Evacuation plans prepared pursuant to WAC 173-303-350(3)(d) must include those efficient pathways and areas identified through these modeling efforts.	The DOE Hanford EOC contains modeling capabilities to predict impacts of air releases.	Site-level: DOE/RL-94-02, sections 2.2.2.3.3 and 1.3.3.2.
WAC 173-303-360(1) (Permit requirement)	Emergency coordinator. At all times, there must be at least one employee either on the facility premises or on call with the responsibility for coordinating all emergency response measures. The emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, required by WAC 173-303-350(2), all operations and activities at the facility, the location and properties of all wastes handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.	Duty met by the Hanford Incident Command Structure and staff with supporting on-call personnel	Site-level: DOE/RL-94-02, section 1.3.4 and 2.2.
WAC 173-303-360(2)(a) (Permit requirement)	Emergency procedures. The following procedures must be implemented in the event of an emergency: (a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately: (i) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and (ii) Notify appropriate state or local agencies with designated response roles if their help is needed.	Alarm activation can be accomplished by the discoverer of the event (dial 911), or the Hanford Incident Command System and staff with supporting on-call personnel Notification made to non-Hanford agencies with designated response roles agencies are accomplished via 911 telephone to request assistance (fire, ambulance, law enforcement).	Site-level: DOE/RL-94-02, sections 1.3.4 and 5.2.1.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
G. B. Griffin	3/23/00 Date	J. L. Spracklen, Jr.	3/23/00 Date	S. Moore	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: **Hanford Emergency Management Plan**	Permit Part & Chapter: **List of Attachments, Attachment 4**

Description of Modification:

Appendix A, page 6 of 6:

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	HOW DOES REQUIREMENT APPLY TO HANFORD?	WHERE IS REQUIREMENT MET IN OCUMENTATION?
WAC 173-303-360(2)(i) (Permit requirement)	Emergency procedures. (i) The emergency coordinator must ensure that, in the affected area(s) of the facility: (i) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and (ii) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.	Onsite Recovery Manager with supporting on-call personnel.	Site-level: (i) DOE/RL-94-02, section 9.2.3. Site-level: (ii) DOE/RL-94-02, section 11.2
WAC 173-303-360(2)(j) (Permit requirement)	Emergency procedures. (j) The owner or operator must notify the department, and appropriate local authorities, that the facility is in compliance with (i) of this subsection before operations are resumed in the affected area(s) of the facility.	Site contractor environmental single point-of-contact personnel perform this notification, when applicable, on behalf of the Onsite Recovery Manager.	Site-level: DOE/RL-94-02, section 5.1.2.3.
WAC 173-303-360(2)(k) (Permit requirement)	Emergency procedures. (k) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within fifteen days after the incident, he must submit a written report on the incident to the department. The report must include: (i) Name, address, and telephone number of the owner or operator; (ii) Name, address, and telephone number of the facility; (iii) Date, time, and type of incident (e.g., fire, explosion); (iv) Name and quantity of material(s) involved; (v) The extent of injuries, if any; (vi) An assessment of actual or potential hazards to human health or the environment, where this is applicable; (vii) Estimated quantity and disposition of recovered material that resulted from the incident; (viii) Cause of incident; and (ix) Description of corrective action taken to prevent reoccurrence of the incident.	Site contractor management through RL ensures the note in the operating record is performed and prepares the 15-day report to Ecology.	Site-level: DOE/RL-94-02, section 5.1.2.2.
40 CFR 761.65(c)(1)(iv) and (c)(7)(ii) SPCC Plans for PCBs	Temporary Storage Areas (less than 30-days). (c)(1)(iv): PCB containers containing liquid PCBs at a concentration between 50 and 500 ppm may be stored temporarily for up to 30 days provided a Spill Prevention Control and Countermeasure (SPCC) plan has been prepared in accordance with 40 CFR Part 112 [illegible] (c)(7)(ii): Liquid PCBs at a concentration larger than those specified in (c)(6). The owner or operator of any facility owning equipment described in (c)(6)(i) of this section shall prepare and implement a Spill Prevention Control and Countermeasure (SPCC) plan as described in Part 112 of this Title. The owner shall [illegible]	When SPCC plans apply to Hanford Site activities, the information not covered in site-wide documentation must be addressed in location-specific documentation.	Site-level: DOE/RL-94-02, sections 1.1 (fourth paragraph), 1.2 (first bullet, sixth dash and second bullet, fourth dash), and 2.2.1.1.2 (first paragraph). Unit-level: appropriate location-specific documentation.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
[signature]	3/22/00	[signature]	3/23/00				
G. B. Griffin	Date	J. L. Spracklen, Jr.	Date	S. Moore	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification

List of Attachments
Attachment 4, Hanford Emergency Management Plan

Replacement Sections

Index

Section 3

Section 4

Section 11

Section 14

Appendix A

3.0 OFFSITE RESPONSE INTERFACES

3.1 OVERVIEW

Interfaces and coordination with offsite agencies are important in the planning, preparedness, response, and recovery elements of the Hanford emergency management program. As such, RL shall interface with Federal, tribal, state, local, and private organizations and/or agencies:

- that have a responsibility to protect the public and environment within the EPZs of the Hanford Site;
- with which RL supports as the Regional Coordinating Office for Region 8 (Oregon, Washington, and Alaska); and
- with which RL has entered into special agreements for assistance.

Where appropriate, RL shall develop and maintain agreements to formalize areas of understanding, cooperation, and support with offsite agencies.

3.1.1 Planning and Preparedness

The modes of interface for planning and preparedness activities, as is determined beneficial by the parties, may include:

- coordination of emergency plans and procedures;
- periodic meetings to share information and coordinate activities;
- training opportunities related to offsite responsibilities;
- development of agreements for support to and from offsite agencies;
- participation in annual exercises; and
- development of public information programs.

3.1.2 Response and Recovery

In the event of an emergency on or affecting the Hanford Site, RL shall interface with offsite agencies to ensure coordination and support of response and recovery activities. These interfaces include:

- notification and periodic updates to local jurisdictions within the plume EPZ, states that contain portions of the ingestion EPZ, and other agencies that may be requested to provide assistance (see respective subsections in section 5.0);

Index

Page 2 of 12:	Appendix 7A, Section 1.0
Page 3 of 12:	Appendix 7A, Section 1.4
Page 4 of 12:	Appendix 7A, Section 2.0
Page 5 of 12:	Appendix 7A, Figure 2-1
Page 6 of 12:	Appendix 7A, Section 3.0
Page 7 of 12:	Appendix 7A, Section 4.2
Page 8 of 12:	Appendix 7A, Section 4.4
Page 9 of 12:	Appendix 7A, Section 4.5
Page 10 of 12:	Appendix 7A, Section 4.6
Page 11 of 12:	Appendix 7A, Section 7.0
Page 12 of 12:	Appendix 7A, Section 8.0

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 1.0:

1.0 GENERAL INFORMATION

The Plutonium-Uranium Extraction 218-E-14 and 218-E-15 (PUREX Storage Tunnels) are located in the 200 East Area of the 1,450-square kilometer U.S. Department of Energy, Richland Operations Office (DOE-RL) operated Hanford Site in southeastern Washington State. The Hanford Site Emergency Preparedness Program is based upon the incident command system which allows a graded approach for responses to emergency events. This plan contains a description of facility specific planning and response. It is used in conjunction with DOE/RL-94-02, *Hanford Emergency* [redacted] *Plan*. Response to events is performed using facility specific and/or Site level emergency procedures.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
3.22.00		4/10/00					
N. C. Boyter	Date	D. T. Evans	Date	A. B. Stone	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 1.4:

1.4 Facility Manager

[redacted]~~B&W~~ Hanford ~~Company~~
P.O. Box [redacted]~~1200~~
Richland, Washington 99352-[redacted]~~1200~~

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
   1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
3.22.00		4/10/00					
N. C. Boyter	Date	D. T. Evans	Date	A. B. Stone	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: PUREX Storage Tunnels	Permit Part & Chapter: Part III, Chapter 3 and Attachment 28

Description of Modification:

Appendix 7A, Section 2.0:

2.0 EMERGENCY COORDINATORS/BUILDING EMERGENCY DIRECTOR

Table 2-1. Emergency Coordinator/Building Emergency Director [a]

Designation	Job title	Work location	Work phone
Primary	~~PUREX~~ [redacted] [redacted] Project Director	MO-414	373-4999
Alternate	Manager	MO-~~273~~[redacted]	373-[redacted]~~4134~~
Alternate	Manager	MO-~~273~~[redacted]	373-[redacted]~~1781~~
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

[b]The names and home phone numbers of all Emergency Coordinators/Building Emergency Director (EC/BED) are maintained at the single point-of-contact (the Hanford Patrol Operations Center) telephone number 373-3800 in accordance with the Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.

[a]Emergency response will be directed by the EC/BED until the Incident Commander arrives. The incident command structure and staff with supporting on-call personnel fulfill the responsibilities of the EC/BED as discussed in WAC 173-303-360.

During events, facility personnel perform response duties under the direction of the EC/BED. The Incident Command Post (ICP) is managed by either the senior Hanford Fire Department member present on the scene or senior Hanford Patrol member present on the scene (security events only). These individuals are designated as the Incident Commander (IC) and as such have the authority to request and obtain any resources necessary for protecting people and the environment. The EC/BED becomes a member of the ICP and functions under the direction of the IC. In this role, the EC/BED continues to manage and direct facility operations.

A listing of the primary and alternate EC/BEDs by title, work location and work telephone numbers is identified in the table above. The EC/BED is on the premises or is available through an "on-call" list 24 hours a day.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
3-22-02	4/10/02		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

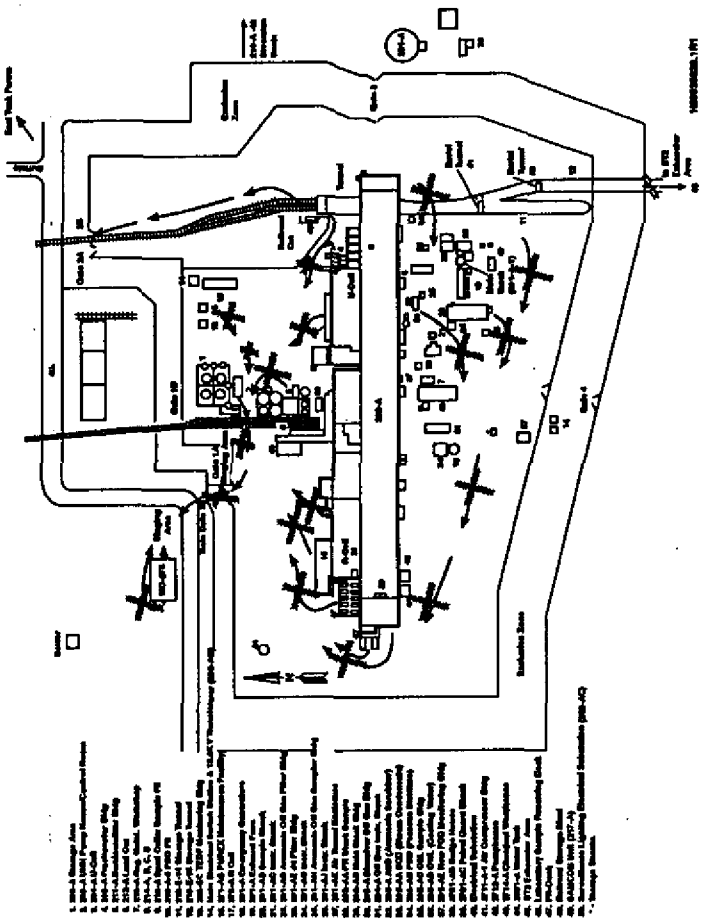
[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] *If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I,* then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: PUREX Storage Tunnels	Permit Part & Chapter: Part III, Chapter 3 and Attachment 28

Description of Modification:
Appendix 7A, Figure 2-1:
Deleted arrows marked with o'xo'



Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation
A. General Permit Provisions
1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
7.22.00	8/10/00		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 3.0:

3.0 IMPLEMENTATION OF THE PLAN

To meet the requirements of the WAC, this plan will be considered implemented when the EC/BED has determined that a release, fire, or explosion involving dangerous waste, mixed waste or dangerous waste constituents that could threaten human health or the environment (WAC 173-303 Emergency) has occurred at the facility. ~~An incident requiring evacuation of personnel or the summoning of emergency response units will not necessarily indicate that the plan has been implemented.~~ This plan will be used in conjunction with DOE/RL-94-02, Section 4.2, for event recognition and response.

Under DOE guidance, this plan will be considered implemented whenever the EC/BED determines that one of the incidents listed in Section 3.1 has or will occur and that the severity is or will be such that there is a potential to endanger human health or the environment (DOE Unusual Occurrence or Emergency). Incidents listed in Section 3.1 could also be considered DOE emergencies that cause activation of the ~~RL~~ Hanford Emergency Operations Center and offsite emergency response organizations.

The EC/BED must assess each incident to determine the response necessary to protect the personnel, facility, and the environment. If assistance from Patrol, Fire, or ambulance units is required, the Hanford Emergency Response Number (911) must be used to contact the Patrol Operations Center and request the desired assistance. To request other resources or assistance from outside the facility, the Patrol Operations Center business number is used (373-3800).

Modification Class: [1,2,3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
3.22.00	4/10/00		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 4.2:

4.2 Identification of Released/Spilled Materials

Methods for identifying the character, source, amount, and areal extent of any materials when there has been a release or spill to the environment, a fire, or an explosion are outlined in DOE/RL-94-02, Section 4.2.1.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
3 22 00	4/10/00		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 4.4:

4.4 Termination of Event

For events where the ~~RL~~ [redacted] Emergency Operations Center (~~RL~~ [redacted]-EOC) is activated, the RL Emergency Manager has the authority to declare event termination. This decision is based on input from the EC/BED, Incident Commander, and other emergency response organization members. For events where the ~~RL~~ [redacted]-EOC is not activated, the Incident Command structure and staff will declare event termination.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
3.2.00	4/10/00		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 4.5:

4.5 Incident Recovery and Restart of Operations

A recovery plan is developed when necessary. A recovery plan is needed following an event where further risk could be introduced to personnel, the facility, or the environment through recovery action and/or to maximize the preservation of evidence. Depending on the magnitude of the event and the effort required to recover from it, recovery planning may involve personnel from RL and other contractors. If a recovery plan is required, it is reviewed by appropriate personnel and approved by a Recovery Manager before restart. Restart of operations is performed in accordance with the approved plan.

If this plan was implemented for a WAC emergency (see Section [redacted]4.0), the Washington State Department of Ecology must be notified before operations can resume. DOE/RL-94-02, Section [redacted]6.1, discusses different reports to outside agencies. This notification is in addition to other required reports and must include information documenting the following conditions:

There are no incompatibility issues with the waste and released materials from the incident.

All the equipment has been clean, fit for its intended use, and placed back into service.

Additional information that Ecology requests regarding these restart conditions may be included in the required 15-day report identified in WAC 173-303-360(2)(k).

For emergencies not involving activation of the RL[redacted]-EOC, the EC/BED ensures that conditions are restored to normal before operations are resumed. An onsite Recovery Manager could be appointed at the discretion of RL to restore conditions to normal. This process is detailed in DOE/RL-94-02, Section [redacted]8.0. The makeup of this organization depends on the extent of the damage and its effects. The onsite recovery organization will be appointed by the appropriate contractor's management.

Modification Class: [1,2,3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
3.22.00	4/10/00		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	**Part III, Chapter 3 and Attachment 28**

Description of Modification:

Appendix 7A, Section 4.6:

4.6 Incompatible Waste

After an event, the EC/BED or the onsite recovery organization ensures that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed. Cleanup actions are taken by facility personnel or other assigned personnel. DOE/RL-94-02, Section [redacted]8.3, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. A field check for compatibility before storage is performed, as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in storage areas appropriate for their compatibility class.

If incompatibility of waste was a factor in the incident, the EC/BED or the onsite recovery organization ensures that the cause is corrected. Examples include modification of an incompatibility chart of increased scrutiny of waste from a generating unit when incorrectly designated waste caused or contributed to an incident.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
3-22-00	4/10/00		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: PUREX Storage Tunnels	Permit Part & Chapter: Part III, Chapter 3 and Attachment 28

Description of Modification:

Appendix 7A, Section 7.0:

7.0 REQUIRED REPORTS

Post incident written reports are required for certain incidents on the Hanford Site in accordance with DOE/RL-94-02, Section [redacted]~~6.1~~.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
3.22.00	4/10/00		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: PUREX Storage Tunnels	Permit Part & Chapter: Part III, Chapter 3 and Attachment 28

Description of Modification:

Appendix 7A, Section 8.0:

8.0 REFERENCES

DOE/RL-94-02, Hanford Emergency [redacted] ~~Response~~ Plan, as amended.

Hanford Facility RCRA Permit, Dangerous Waste Portion, Washington State Department of Ecology, Olympia, Washington, as amended.

DOE-0223, Emergency Plan Implementing Procedures, as amended.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
3.22.10	4/16/00		
N. C. Boyter Date	D. T. Evans Date	A. B. Stone Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification

Part III, Chapter 3 and Attachment 28
PUREX Storage Tunnels

Replacement Section

Index

Appendix 7A

This plan covers the following buildings and structures: 218-E-14 (Tunnel Number 1), 218-E-15 (Tunnel Number 2).

Approved by:	Building Emergency Director	3/20/00 Date
Approved by:	Emergency Preparedness	3-21-00 Date
Approved by:	Hanford Fire Department	3/21/00 Date
Approved by:	Environmental Compliance Officer	20 Mar '00 Date

This document will be reviewed annually and updated if necessary by the Building Emergency Director unless Hanford Facility RCRA Permit coordination requirements provides otherwise.

Contents

1.0 GENERAL INFORMATION 1
- 1.1 Facility Name 1
- 1.2 Facility Location 1
- 1.3 Owner 1
- 1.4 Facility Manager 1
- 1.5 Description of Facility and Operations 1
- 1.6 Building Evacution Route 2

2.0 EMERGENCY COORDINATORS/BUILDING EMERGENCY DIRECTOR 2

3.0 IMPLEMENTATION OF THE PLAN 4
- 3.1 Dangerous and/or Mixed Waste 4
- 3.2 Fire or Explosion 4
- 3.3 Seismic Event/Tornado 5
- 3.4 Aircraft Crash 5
- 3.5 Bomb Threat/Explosive Device 5
- 3.6 Damaged Dangerous and/or Mixed Waste Shipment 5

4.0 UNIT/BUILDING EMERGENCY RESPONSE PROCEDURES 6
- 4.1 Notification 6
- 4.2 Identification of Released/Spilled Materials 6
- 4.3 Prevention of Recurrence or Spread of Fires, Explosions, Releases 6
- 4.4 Termination of Event 7
- 4.5 Incident Recovery and Restart of Operations 7
- 4.6 Incompatible Waste 7
- 4.7 Post Emergency Equipment Maintenance and Decontamination 8

5.0 EMERGENCY EQUIPMENT 8

6.0 COORDINATION AGREEMENTS 8

7.0 REQUIRED REPORTS 8

8.0 REFERENCES 8

Figure

Figure 2-1 . PUREX Storage Tunnels Evacuation Route 3

Table

Table 2-1. Emergency Coordinator/Building Emergency Director [a] 2

1.0 GENERAL INFORMATION

The Plutonium-Uranium Extraction 218-E-14 and 218-E-15 (PUREX Storage Tunnels) are located in the 200 East Area of the 1,450-square kilometer U.S. Department of Energy, Richland Operations Office (DOE-RL) operated Hanford Site in southeastern Washington State. The Hanford Site Emergency Preparedness Program is based upon the incident command system which allows a graded approach for responses to emergency events. This plan contains a description of facility specific planning and response. It is used in conjunction with DOE/RL-94-02, *Hanford Emergency ManagementPlan*. Response to events is performed using facility specific and/or Site level emergency procedures.

1.1 Facility Name

U.S. Department of Energy Hanford Site PUREX Storage Tunnels.

1.2 Facility Location

Benton County, Washington; within the 200 East Area. Structures covered by this plan are:

218-E-14 Tunnel Number 1
218-E-15 Tunnel Number 2

1.3 Owner

U.S. Department of Energy
Richland Operations Office
825 Jadwin Avenue
Richland, Washington 99352

1.4 Facility Manager

Fluor Hanford
P.O. Box 1000
Richland, Washington 99352-1000

1.5 Description of Facility and Operations

The PUREX Storage Tunnels consist of two structures, 218-E-14 (Tunnel Number 1) and 218-E-15 (Tunnel Number 2). The tunnels are used for the storage of material from the PUREX Plant and from other onsite sources. The material stored in the tunnels contains dangerous waste and varying amounts of radioactive contamination; therefore, the stored material is managed as mixed waste. Tunnel Number 1 is filled to capacity. Tunnel Number 2 currently has storage positions available and may continue to receive mixed waste from the PUREX Plant and other onsite sources until the tunnel is either filled to capacity or a determination is made that waste will no longer be received.

Mixed waste is stored in the PUREX Storage Tunnels on railcars that are modified to serve as both transporter and storage platforms. Each railcar is retrievable. However, because the railcars are stored on a single, dead-end railroad spur inside each storage tunnel, the railcars can be removed only in reverse order (i.e., last in, first out).

1.6 Building Evacuation Route

The PUREX Storage Tunnels evacuation route is shown in Figure 1. During an emergency, personnel that enter the storage tunnels during material placement operations will evacuate via the north end of the railroad tunnel.

2.0 EMERGENCY COORDINATORS/BUILDING EMERGENCY DIRECTOR

Table 2-1. Emergency Coordinator/Building Emergency Director [a]

Designation	Job title	Work location	Work phone
Primary	Accelerated Deactivation Project Director	MO-414	373-4999
Alternate	Manager	MO-414	373-4160
Alternate	Manager	MO-414	373-4134
Alternate	Manager	MO-408	376-4098
Alternate	Manager	MO-414	376-7678

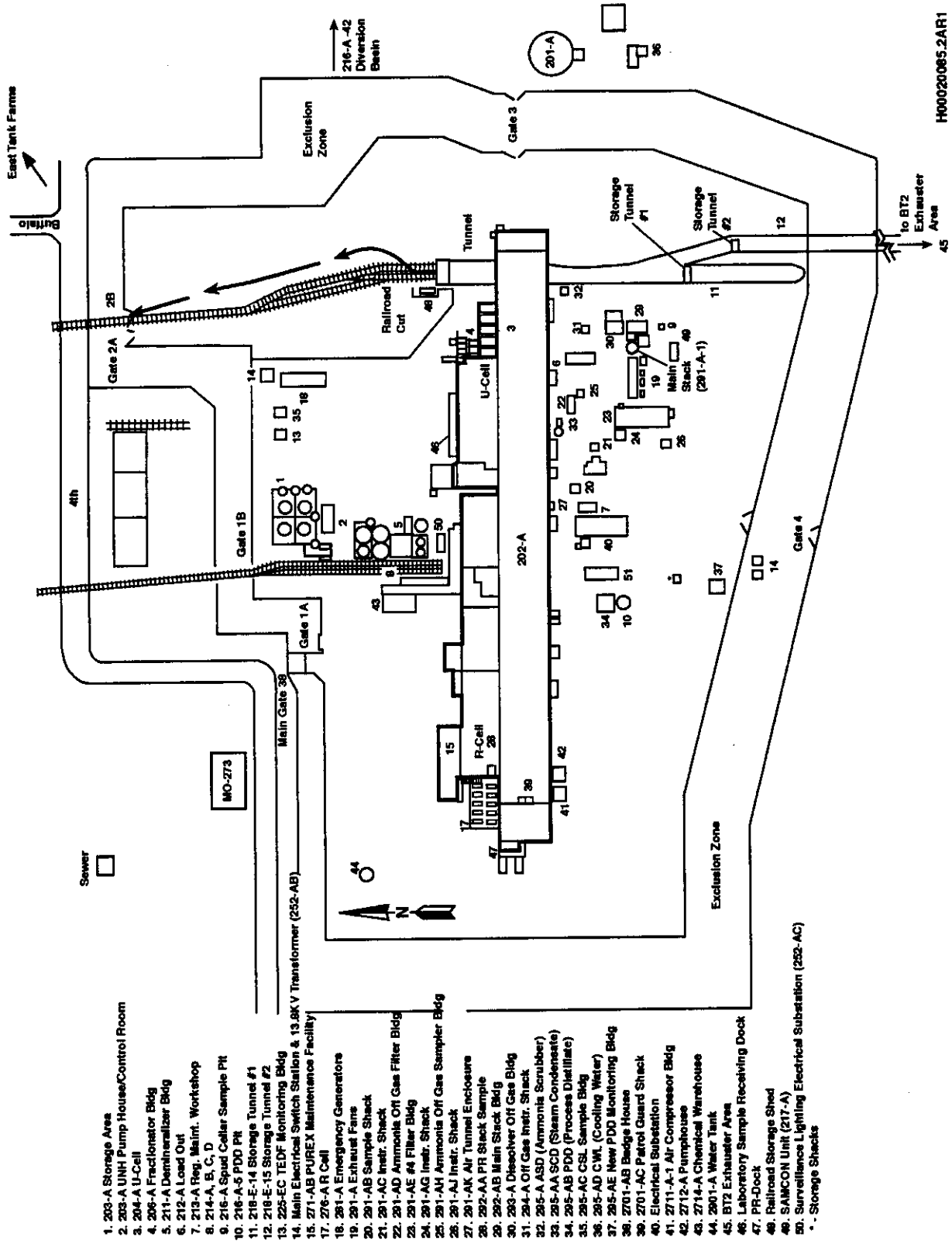
[a]The names and home phone numbers of all Emergency Coordinators/Building Emergency Director (EC/BED) are maintained at the single point-of-contact (the Hanford Patrol Operations Center) telephone number 373-3800 in accordance with the Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.

[a]Emergency response will be directed by the EC/BED until the Incident Commander arrives. The incident command structure and staff with supporting on-call personnel fulfill the responsibilities of the EC/BED as discussed in WAC 173-303-360.

During events, facility personnel perform response duties under the direction of the EC/BED. The Incident Command Post (ICP) is managed by either the senior Hanford Fire Department member present on the scene or senior Hanford Patrol member present on the scene (security events only). These individuals are designated as the Incident Commander (IC) and as such have the authority to request and obtain any resources necessary for protecting people and the environment. The EC/BED becomes a member of the ICP and functions under the direction of the IC. In this role, the EC/BED continues to manage and direct facility operations.

A listing of the primary and alternate EC/BEDs by title, work location and work telephone numbers is identified in the table above. The EC/BED is on the premises or is available through an "on-call" list 24 hours a day.

Figure 2-1 . PUREX Storage Tunnels Evacuation Route



3.0 IMPLEMENTATION OF THE PLAN

To meet the requirements of the WAC, this plan will be considered implemented when the EC/BED has determined that a release, fire, or explosion involving dangerous waste, mixed waste or dangerous waste constituents that could threaten human health or the environment (WAC 173-303 Emergency) has occurred at the facility. This plan will be used in conjunction with DOE/RL-94-02, Section 4.2, for event recognition and response.

Under DOE guidance, this plan will be considered implemented whenever the EC/BED determines that one of the incidents listed in Section 3.1 has or will occur and that the severity is or will be such that there is a potential to endanger human health or the environment (DOE Unusual Occurrence or Emergency). Incidents listed in Section 3.1 could also be considered DOE emergencies that cause activation of the Hanford-Emergency Operations Center and offsite emergency response organizations.

The EC/BED must assess each incident to determine the response necessary to protect the personnel, facility, and the environment. If assistance from Patrol, Fire, or ambulance units is required, the Hanford Emergency Response Number (911) must be used to contact the Patrol Operations Center and request the desired assistance. To request other resources or assistance from outside the facility, the Patrol Operations Center business number is used (373-3800).

3.1 Dangerous and/or Mixed Waste

A seismic event, explosion, tornado, or an aircraft crash could cause damage to the storage tunnels and could involve environmental exposure to mixed waste. These events are considered the only credible sources of a release as the PUREX Storage Tunnels are unoccupied structures and there are no continuous processes associated with waste storage.

Emergency responses for credible dangerous and/or mixed waste releases can be found in the following sections.

3.2 Fire or Explosion

The fire or explosion hazard associated with the PUREX Storage Tunnels is considered to be very low because of the minimal amount of combustibles stored within the tunnels and the lack of an ignition source.

Because of the potential for mixed waste to leach, water is not the preferred choice for fire control. Reduction of the air supply to the storage area by isolation of the tunnel exhaust system, if operating, should permit a fire to self-extinguish. Should the fire continue to spread, heavy equipment and cranes will be called to the scene to cover areas of the tunnels that might collapse. In addition, the following actions are taken in the event of a fire or explosion:

- If present in the Tunnels, personnel leave by the nearest safe exit and proceed to the designated staging area for accounting
- The single point-of-contact (911) is notified immediately, who in turn initiates notifications to the EC/BED (or alternate) if necessary
- The EC/BED proceeds directly to the scene (if not already there)
- The EC/BED obtains all necessary information pertaining to the incident

- Depending on the severity of the event, the EC/BED or his/her designee may be required to provide notifications to the site contractor environmental single point of contact, which in turn notifies offsite agencies and/or the occurrence notification center informing them as to the extent of the emergency (including estimates of mixed waste quantities released to the environment) and any actions necessary to protect nearby buildings and/or structures
- Depending on the severity, the EC/BED requests activation of the affected area ICP to establish organizations to provide assistance from DOE-RL, other Hanford site contractors, and outside agencies (if 911 is called, the ICP will automatically be activated)
- The Hanford Patrol establishes roadblocks within the area to route traffic away from the emergency scene
- If necessary, Hanford Fire Department medical personnel remove injured personnel to a safe location, apply first aid, and prepare the injured for transport to medical aid stations or to local hospitals.

Depending on the magnitude of a natural phenomena event, fire, or an explosion, damage to the storage tunnels is possible. The hazards could involve personnel and environmental exposure to mixed waste. In the event of such an occurrence, a recovery plan will be developed. The recovery plan will take into consideration methods, if any, for retrieval of the waste stored within the tunnels.

3.3 Seismic Event/Tornado

Depending on the magnitude of the seismic event or tornado, damage to the storage tunnels is possible. The hazards could involve personnel and environmental exposure to mixed waste.

Emergency responses for seismic events and tornadoes would be the same as those for a fire or explosion. Refer to Section 3.2 of this plan.

3.4 Aircraft Crash

In addition to the potential for serious injuries or fatalities involved with an aircraft crash, damage to the storage tunnels is possible, which would result in a fire, explosion, or a mixed waste release. The hazards could involve personnel and environmental exposure to mixed waste.

Refer to Section 3.2 of this plan for emergency responses for fires and explosions.

3.5 Bomb Threat/Explosive Device

Depending on the magnitude of an explosion, damage to the storage tunnels is possible. The hazards could involve personnel and environmental exposure to mixed waste. For emergency responses, refer to Section 3.2 of this plan for explosions.

3.6 Damaged Dangerous and/or Mixed Waste Shipment

The PUREX Storage Tunnels do not accept shipments from offsite; therefore, the following response procedures only apply to the receipt of a damaged mixed waste shipment from onsite.

If the damaged shipment of hazardous substance, or dangerous waste/mixed waste arrives at the PUREX Storage Tunnels and the shipment is unacceptable for receipt, the damaged shipment should not be moved. The TSD unit personnel instead need to determine if there has been a release. If there has been a release, TSD unit personnel perform the following actions.

- Notify the supervisor or manager to advise of the situation. The supervisor or manager contacts the Emergency Coordinator in order to respond and assist in the evaluation of, and response to, the release (response to spills or releases may result in implementation of the contingency plan if the Emergency Coordinator makes this determination).
- Notify the shipper or generating unit of the damaged shipment and request that they provide any chemical information necessary to assist in responding to the release.
- Actions are taken to contain and/or to stop the spill if all of the following are true:
  - The identity of the substance(s) involved is known
  - Appropriate protective equipment and control/cleanup supplies are readily available
  - Personnel present have received the appropriate training and can safely perform the action(s) without assistance, or assistance is readily available from other trained TSD unit personnel.

If any of the above conditions are not met, or there is any doubt, personnel evacuate the area and remain outside, upwind of the TSD unit, pending the arrival of the Emergency Coordinator. Personnel remain available for consultation with the Emergency Coordinator, Hanford Fire Department, or other emergency response personnel, as appropriate.

4.0 UNIT/BUILDING EMERGENCY RESPONSE PROCEDURES

The initial response to any emergency is to immediately protect the health and safety of persons in the area. Identification of released material is essential to determine appropriate protective actions. Containment, treatment, and disposal assessment are secondary responses.

Emergency action levels associated with event classifications applicable to the PUREX Storage Tunnels include the following. A Site Area Emergency can be declared for a radioactive material release resulting from an explosion, natural hazards (i.e., seismic event and/or tornado), and aircraft crash. An Alert Emergency can be declared for a fire, explosion, or high winds. Additional detail concerning emergency action levels is identified in *Emergency Plan Implementing Procedures*, DOE-0223, Appendix 1-2.G. The preceding sections describe the process for implementing basic protective actions as well as descriptions of response actions for events.

4.1 Notification

Notification will be made in accordance with the requirements of WAC 173-303-145 and WAC 173-303-360.

4.2 Identification of Released/Spilled Materials

Methods for identifying the character, source, amount, and areal extent of any materials when there has been a release or spill to the environment, a fire, or an explosion are outlined in DOE/RL-94-02, Section 4.2.

4.3 Prevention of Recurrence or Spread of Fires, Explosions, Releases

The EC/BED, as part of the incident command structure, takes the steps necessary to ensure that a secondary release, fire, or explosion does not occur. The following actions are taken:

- Isolate the area of the initial incident by shutting off power, closing off ventilation systems, if still operating, etc., to minimize the spread of a release and/or the potential for a fire or explosion

- Inspect surface of the tunnels for leaks, cracks, or other damage
- Contain and isolate residual mixed waste material
- Cover or otherwise stabilize areas where residual released mixed waste remains to prevent migration or spread from wind or precipitation run-off
- Install new structures, systems, or equipment to enable better management of mixed waste
- Reactivate adjacent operations in affected areas only after cleanup of residual mixed waste is achieved.

4.4 Termination of Event

For events where the Hanford Emergency Operations Center (Hanford-EOC) is activated, the RL Emergency Manager has the authority to declare event termination. This decision is based on input from the EC/BED, Incident Commander, and other emergency response organization members. For events where the Hanford-EOC is not activated, the Incident Command structure and staff will declare event termination.

4.5 Incident Recovery and Restart of Operations

A recovery plan is developed when necessary. A recovery plan is needed following an event where further risk could be introduced to personnel, the facility, or the environment through recovery action and/or to maximize the preservation of evidence. Depending on the magnitude of the event and the effort required to recover from it, recovery planning may involve personnel from RL and other contractors. If a recovery plan is required, it is reviewed by appropriate personnel and approved by a Recovery Manager before restart. Restart of operations is performed in accordance with the approved plan.

If this plan was implemented for a WAC emergency (see Section 3.0 of this plan), the Washington State Department of Ecology must be notified before operations can resume. DOE/RL-94-02, Section 5.1, discusses different reports to outside agencies. This notification is in addition to other required reports and must include information documenting the following conditions:

1. There are no incompatibility issues with the waste and released materials from the incident.
2. All the equipment has been clean, fit for its intended use, and placed back into service.

Additional information that Ecology requests regarding these restart conditions may be included in the required 15-day report identified in WAC 173-303-360(2)(k).

For emergencies not involving activation of the Hanford-EOC, the EC/BED ensures that conditions are restored to normal before operations are resumed. An onsite Recovery Manager could be appointed at the discretion of RL to restore conditions to normal. This process is detailed in DOE/RL-94-02, Section 9.0. The makeup of this organization depends on the extent of the damage and its effects. The onsite recovery organization will be appointed by the appropriate contractor's management.

4.6 Incompatible Waste

After an event, the EC/BED or the onsite recovery organization ensures that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed. Cleanup actions are taken by facility personnel or other assigned personnel. DOE/RL-94-02, Section 9.2.3, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. A field check for compatibility before storage is performed, as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in storage areas appropriate for their compatibility class.

If incompatibility of waste was a factor in the incident, the EC/BED or the onsite recovery organization ensures that the cause is corrected. Examples include modification of an incompatibility chart of increased scrutiny of waste from a generating unit when incorrectly designated waste caused or contributed to an incident.

4.7 Post Emergency Equipment Maintenance and Decontamination

All equipment used during an incident is decontaminated (if practicable) or disposed of as spill debris. Decontaminated equipment is checked for proper operation before storage for subsequent use. Consumables and disposed materials are restocked. Fire extinguishers are recharged or replaced.

The EC/BED ensures that all equipment is cleaned and fit for its intended use before operations are resumed. Depleted stocks of neutralizing and absorbing materials are replenished, self-contained breathing apparatus are cleaned and refilled, protective clothing is cleaned or disposed of and restocked, etc.

5.0 EMERGENCY EQUIPMENT

Because personnel only enter the storage tunnels during material placement operations, no permanent emergency equipment, communications equipment, warning systems, personal protective equipment, or spill control and containment supplies are located in the tunnels.

During storage tunnel operations or an emergency response event, personnel use portable emergency equipment, which could include heavy equipment and cranes (Section 3.2). Also, for such operations, work plans are followed and pre-job safety meetings take place.

6.0 COORDINATION AGREEMENTS

The DOE-RL has established a number of coordination agreements, or memoranda of understanding (MOU) with various agencies to ensure proper response resource availability for incidents involving the Hanford Site. A description of the agreements is contained in DOE/RL-94-02, Table 3-1.

7.0 REQUIRED REPORTS

Post incident written reports are required for certain incidents on the Hanford Site in accordance with DOE/RL-94-02, Section 5.1.

8.0 REFERENCES

DOE/RL-94-02, Hanford Emergency Management Plan, as amended.

Hanford Facility RCRA Permit, Dangerous Waste Portion, Washington State Department of Ecology, Olympia, Washington, as amended.

DOE-0223, Emergency Plan Implementing Procedures, as amended.

Index

Page 2 of 25: Appendix 4A, Table 4A-2
Page 3 of 25: Appendix 4B, Table 4B-1
Page 4 of 25: Appendix 4B, Table 4B-2
Page 5 of 25: Appendix 7A, Section 3.1
Page 6 of 25: Appendix 7A, Section 4.0
Page 7 of 25: Appendix 7A, Section 7.1.1
Page 8 of 25: Appendix 7A, Section 7.1.2
Page 9 of 25: Appendix 7A, Section 7.2
Page 10 of 25: Appendix 7A, Section 7.2.1
Page 11 of 25: Appendix 7A, Section 7.2.2
Page 12 of 25: Appendix 7A, Section 7.2.3
Page 13 of 25: Appendix 7A, Section 7.2.4
Page 14 of 25: Appendix 7A, Section 7.2.5
Page 15 of 25: Appendix 7A, Section 7.2.7
Page 16 of 25: Appendix 7A, Section 7.3
Page 17 of 25: Appendix 7A, Section 8.1
Page 18 of 25: Appendix 7A, Section 8.2
Page 19 of 25: Appendix 7A, Section 8.3
Page 20 of 25: Appendix 7A, Section 9.0
Page 21 of 25: Appendix 7A, Section 9.3
Page 22 of 25: Appendix 7A, Section 9.4
Page 23 of 25: Appendix 7A, Section 9.6
Page 24 of 25: Appendix 7A, Section 11.0
Page 25 of 25: Appendix 7A, Section 13.0

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 4A, Table 4A-2:

The drawings identified in Table 4A-2 illustrate the piping and instrumentation configuration within LERF, and of the transfer piping systems between the LERF and the 242-A Evaporator. These drawings are provided for general information and to demonstrate the adequacy of the design of the LERF as a surface impoundment. An update to these drawings and drawings identified in Table 4A-1 will be provided annually to the Washington State Department of Ecology.

Table 4A-2. Liquid Effluent Retention Facility Piping and Instrumentation.

LERF System	Drawing Number	Outstanding ECNs	Drawing Title
Transfer Piping to 242-A Evaporator	H-2-79604, Sh 1,Rev. 3	None	Piping Plot and Key Plans; 242-A Evaporator Condensate Stream (Sheet 1)
LERF Piping and Instrumentation	H-2-88766, Sh 1, Rev. 2	ECN-647888	P&ID; LERF Basin and ETF Influent (Sheet 1)
LERF Piping and Instrumentation	H-2-88766, Sh 2, Rev. 4	ECN-647209L	P&ID; LERF Basin and ETF Influent (Sheet 2)
LERF Piping and Instrumentation	H-2-88766, Sh 3, Rev. 5	None	P&ID; LERF Basin and ETF Influent (Sheet 3)
LERF Piping and Instrumentation	H-2-88766, Sh 4, Rev. 5	None	P&ID; LERF Basin and ETF Influent (Sheet 4)
	H-2-89351, Sh 1, Rev. ~~5~~ 4	None~~ECN-649101~~	Piping & Instrumentation Diagram - Legend

Modification Class: [1 2 3]	Class 1	Class[1] 1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date 3/22/00	R. F. Guercia	Date APR 0 6 2000	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 4B, Table 4B-1:

Drawings of the secondary containment systems for the ETF containers, and tanks and process units, and for the Load-In Tanks are summarized in Table 4B-1. Because the failure of the secondary containment systems could lead to the release of dangerous waste into the environment, Engineering Change Notices (ECNs) which affect the secondary containment systems will be submitted to the Washington State Department of Ecology, as a Class 1, 2, or 3 permit modification, as required by WAC 173-303-830.

Table 4B-1. Drawing of Effluent Treatment Facility and Load-In Station Secondary Containment Systems

ETF Process Unit	Drawing Number	Outstanding ECNs	Drawing Title
Surge Tank, Process/Container Storage Areas and Trenches - Foundation and Containment	H-2-89063, Sh. 1, Rev. 3	ECN-647892	STRUCT – Foundation and Grade Beam Plan (Sheet 1)
Sump Tank Containment	H-2-89065, Sh. 1, Rev. 3	None	STRUCT – Foundation, Sections and Detail (Sheet 1)
Verification Tank Foundation and Containment	H-2-89068, Sh. 1, Rev. 3	ECN-647892	STRUCT – Verification Tank Foundation (Sheet 1)
Load-In Facility Foundation and Containment	H-2-817970, Sh. 1, Rev. 1	ECN-641703 ECN-647247 ECN-649104	Structural – ETF Truck Load-in Facility Plans and Sections (Sheet 1)
Load-In Facility Foundation and Containment	H-2-817970, Sh. 2, Rev. 1	ECN-641703 ECN-649104	Structural – ETF Truck Load-in Facility Sections and Details (Sheet 2)

Modification Class: [1 2 3]	Class 1	Class[1] 1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	3/22/00 Date	R. F. Guercia	APR 0 6 2000 Date	J. J. Wallace	Date	L.E. Ruud	Date

[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1] 1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] *If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1] 1, if appropriate*

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 4B, Table 4B-2:

The drawings identified in Table 4B-2 provide an illustration of the piping and instrumentation configuration for the major process units and tanks at the ETF, and the Load-In Tanks. Drawings of the transfer piping systems between the LERF and ETF, and between the Load-In Station and the ETF also are presented in this table. These drawings are provided for general information and to demonstrate the adequacy of the design of the tank systems. An update to these drawings and drawings identified in Table 4B-1 will be provided annually to the Washington State Department of Ecology.

Table 4B-2. Drawings of Major Process Units and Tanks at the Effluent Treatment Facility and Load-In Station.

ETF Process Unit	Drawing Number	Outstanding ECNs	Drawing Title
Load-In Facility	H-2-817974, Sh. 1, Rev. ~~129~~	None ~~ECN-647201L ECN-642820L ECN-647247~~	P&ID – ETF Truck Load-In Facility (Sheet 1)
Load-In Facility	H-2-817974, Sh. 2, Rev. 0	None	P&ID – ETF Truck Load-In Facility (Sheet 2)
Surge Tank	H-2-89337, Sh. 1, Rev. 11~~10~~	ECN-644244 ~~ECN-649101~~	P&ID – Surge Tank System (Sheet 1)
UV/Oxidation	H-2-88976, Sh. 1, Rev. ~~86~~	~~ECN-646667L~~ECN-647245	P&ID – UV Oxidizer Part 1 (Sheet 1)
UV/Oxidation	H-2-89342, Sh. 1, Rev. 6	ECN-647245	P&ID – UV Oxidizer Part 2 (Sheet 1)
Reverse Osmosis	H-2-88980, Sh. 1, Rev. ~~98~~	None	P&ID – 1st RO Stage (Sheet 1)
Reverse Osmosis	H-2-88982, Sh. 1, Rev. 11~~10~~	None	P&ID – 2nd RO Stage (Sheet 1)
IX/Polishers	H-2-88983, Sh. 1, Rev. ~~108~~	ECN-642800	P&ID – Polisher (Sheet 1)
Verification Tanks	H-2-88985, Sh. 1, Rev. 8	None	P&ID – Verification Tank System (Sheet 1)
ETF Evaporator	H-2-89335, Sh. 1, Rev. 12~~11~~	~~ECN-646658L~~ ECN-641719 ECN-653080L ECN-641564 ECN-651583	P&ID – Evaporator (Sheet 1)
Thin Film Dryer	H-2-88989, Sh. 1, Rev. 16~~13~~	ECN-648765 ~~ECN-646670~~ ~~ECN-646672~~ ECN-642797	P&ID – Thin Film Dryer (Sheet 1)
Transfer Piping from LERF to ETF	H-2-88768, Sh. 1, Rev. 1	None	Piping Plan/Profile 4"– 60M-002-M17 and 3"-60M-001-M17 (Sheet 1)
Transfer Piping from Load-In Facility to ETF	H-2-817969, Sh. 1, Rev. 1	W291-015 ECN-641703 ~~ECN-649104~~	Civil – ETF Truck Load-In Facility Site Plan (Sheet 1)

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
ES Aromi	3/22/00	APR 0 6 2000					
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 3.1:

3.1 Building Emergency Director

Emergency response is directed by the Building Emergency Director (BED) until the Incident Commander arrives. The incident command ~~structure~~ system and staff with supporting on-call personnel fulfill the responsibilities of the Emergency Coordinator as discussed in WAC 173-303.

During events, facility personnel perform response duties under the direction of the BED. The Incident Command Post (ICP) is managed by either the senior Hanford Fire Department member present on the scene or senior Hanford Patrol member present on the scene (security events only). These individuals are designated as the Incident Commander (IC) and as such have the authority to request and obtain any resources necessary for protecting people and the environment. The BED becomes a member of the ICP and functions under the direction of the IC. In this role the BED continues to manage and direct facility operations.

A listing of the primary and alternate BEDs by title, work location, and work telephone numbers is contained in Section 13 of this plan. The BED is on the premises or is available through an "on-call" list 24 hours a day. Emergency Preparedness maintains a listing of BED names and work and home telephone numbers at the Patrol Operations Center (POC) in accordance with *Hanford Facility RCRA Permit*, Dangerous Waste Portion, General Condition II.A.4.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	3/22/00 Date	R. F. Guercia	APR 0 6 2000 Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 4.0:

4.0 IMPLEMENTATION OF THE PLAN

To meet the requirements of WAC 173-303, this plan will be implemented when the BED has determined that a release, fire, or explosion ~~involving dangerous waste, mixed waste or hazardous materials or dangerous waste constituents that~~ which could threaten human health or the environment ~~(WAC 173-303-360, Emergencies~~ (RCRA Emergency) has occurred at the facility. ~~An incident requiring evacuation of personnel or the summoning of emergency response units will not necessarily indicate that the plan will be implemented.~~ The RCRA Emergency determination ~~incident classification~~ process is described in DOE/RL-94-02, Section 4.2~~02~~.

~~Under DOE guidance, this plan will be implemented whenever the BED determines that one of the incidents listed in Section 6.0 of this plan has or will occur and that the severity is or will be such that there is a potential to endanger human health or the environment (DOE Unusual Occurrence or Emergency).~~

~~DOE Declared Emergencies are assigned one of three classifications which, in the order of increasing severity, are: 1) Alert Emergency, 2) Site Area Emergency, and 3) General Emergency. The ETF/LERF implements responses to these DOE emergencies through this plan and criteria identified in DOE 0223, RLEP 1.1, Appendix 1-2.K, and other documents listed in Attachment A of this plan.~~

The BED assesses each incident to determine the response necessary to protect personnel, the facility, and the environment. If emergency assistance from Hanford Patrol, Hanford Fire Department, or ambulance units is required, the Hanford Emergency Response Number (911) ~~is~~ must be used to contact the POC and request the desired assistance. To request other resources or assistance from outside the facility, the POC business number is used (373-3800).

Modification Class: [1 2 3]	Class 1	Class[1] 1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date 3/29/00	R. F. Guercia	Date APR 06 2000	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.1.1:

7.1.1 Evacuation

The objective of a facility evacuation order is to limit personnel exposure to hazardous materials or radioactive/dangerous/mixed waste by increasing the distance between personnel and the hazard. The scope of the evacuation includes evacuation of the facility because of an event at the facility as well as evacuation of the facility in response to a site evacuation order. Evacuation will be directed by the BED when conditions warrant and will apply to all personnel not actively involved in the event response or emergency plan-related activities.

The BED will initiate the evacuation by directing an announcement be made to evacuate along with the evacuation location over a public address system, facility radios, and, as conditions warrant, by activating the 200 Area site evacuation ~~/take cover~~ alarms by calling the POC using 911 ~~(preferred)~~ or 373-3800 (if using a cellular phone). Personnel proceed to a predetermined staging area (shown in Figure 2), or other safe upwind location, as determined by the BED. The BED will determine the operating configuration of the facility and identify any additional protective actions to limit personnel exposure to the hazard.

Emergency organization personnel or assigned operations personnel will conduct a sweep of occupied buildings to ensure that all non-essential personnel and visitors have evacuated. For an immediate evacuation, accountability will be performed at the staging area. The BED will assign personnel as accountability aides and staging managers with the responsibility to ensure that evacuation actions are taken at all occupied buildings at the ETF or LERF complexes. All implementing actions executed by the aides/managers are directed by the emergency response procedures identified in Attachment A. When evacuation actions are complete, the aides/managers will provide a status report to the BED. The BED will provide status to the Incident Commander.

Modification Class: [1 2 3]	Class 1	Class[1] 1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
   1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	3/22/00 Date	R. F. Guercia	APR 0 6 2000 Date	J. J. Wallace	Date	L.E. Ruud	Date

[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1], 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] *If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed* modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1], *if appropriate*

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.1.2:

7.1.2 Take Cover

The objective of the take cover order is to limit personnel exposure to hazardous materials, or radioactive/dangerous/mixed waste when evacuation is inappropriate or not practical. Evacuation might not be practical or appropriate because of extreme weather conditions or the material release might limit the ability to safely evacuate personnel.

The BED will initiate the take cover by directing an announcement be made over the public address system, facility radios, and, as conditions warrant, by activating the 200 Area site take cover alarms by calling the POC using 911 ~~(preferred)~~ or 373-3800 (if using a cellular phone). Actions to complete a facility take-cover will be directed by the emergency response procedure in Attachment A. Protective actions associated with operations include configuring, or shutting down, the ventilation systems. Determination of additional take cover response is based on plant operating configuration, weather conditions, amount and duration of release, and other conditions, as applicable to the event and associated hazard. As a minimum, personnel exposure to the hazard will be minimized. The BED will assign personnel as accountability aides with responsibility to ensure that take-cover actions are taken at all occupied buildings at the ETF complex. All implementing actions executed by the aides/managers are directed by the emergency response procedure in attachment A. When take cover actions are complete the aides/manager will provide the BED with a status report.

	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	3/22/00 Date	R. F. Guercia	APR 0 6 2000 Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.2:

7.2 Response to Operations~~al~~ Emergencies

If there is a potential for categorization of an Occurrence or classification into an Alert, Site Area or General Emergency, in the following facility operations emergency sections, reference shall be made to the site facility occurrence reporting procedure or the event recognition and classification procedure using the following statement, "Depending on the severity of the following events, the BED reviews the site wide procedures and facility-specific procedure(s) and, as required, categorizes or classifies the event. If necessary, the BED initiates area protective actions and site emergency response organization activation The steps identified in the following description of actions do not have to be performed in sequence because of the unanticipated sequence of incident events."~~Operations activities to isolate, contain, and mitigate an event can be performed in parallel with classification and protective action implementation. The response procedures are structured to allow parallel activity with clearly established priorities. The division of actions and workload between various personnel is such that coordinated team response will result in the successful implementation of both emergency operating actions and emergency planning requirements. Specific event mitigation strategy for each type of accident is provided in the following sections.~~

Please check one of the Classes:	Class 1	Class[1] 1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
D Moore	3/29/00	APR 0 6 2000					
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] *If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed* modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, *if appropriate*

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.2.1:

7.2.1 Loss of Utilities

The hazards assessment has determined that this occurrence does not pose significant risk to human health or the environment. This event is not classified as a WAC 173-303 or DOE ~~Order defined~~ emergency. ~~No emergency planning is required~~.

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.2.2:

7.2.2 Major Process Disruption/Loss of Plant Control

The hazards assessment has determined that this occurrence does not pose significant risk to human health or the environment. This event is not classified as a WAC 173-303 or DOE ~~Order defined~~ emergency. ~~No emergency planning is required.~~

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
ESAromi	3/22/06	APR 0 6 2000					
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.2.3:

7.2.3 Pressure Release

The hazards assessment has determined that a pressure release does not pose significant risk to human health or the environment. *This event is not classified as a WAC 173-303 or DOE* ~~Order defined~~ *emergency.* ~~No emergency planning is required.~~ Hazardous material release and radioactive/dangerous/mixed waste releases are addressed in Section 7.2.5.

	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	3/22/00 Date	R. F. Guercia	APR 06 2000 Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 *modifications requiring prior Agency approval.*

[2] *This is only an advanced notification of an intended Class* [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.2.4:

7.2.4 Fire and/or Explosion

On becoming aware of a fire and/or explosion, the discoverer notifies personnel (if any) in the immediate area and directs them to a safe location. The discoverer then activates the nearest fire alarm pull station, contacts 911 to request fire fighting assistance, and contacts the ETF control room to report the fire. As soon as non-essential personnel are notified of a fire (verbally or by fire alarm activation), they immediately exit the facility to a safe upwind location, account for their personnel, and follow the instructions of responding personnel. If personnel are reported as missing, and might be within the facility, the Hanford Fire Department conducts a search.

The BED is notified and initiates activation of the incident ~~event~~ command post and resources.

Operations personnel initiate a plant shutdown with the method (controlled or emergency) depending on the location and severity of the fire and the location and type of hazards in the affected area. A controlled shutdown is performed unless it is unsafe to remain in the control room. An emergency shutdown is performed if the control room must be evacuated. The ~~Shift Operations Manager~~ BED interfaces with the Incident Commander ~~Hanford Fire Department~~ and provides the following:

a. Location and health of personnel, including missing personnel and possible locations for fire fighters to search.
b. Location and severity of fire.
c. Known hazardous (radiological and nonradiological) conditions.
d. Facility operating status.
e. Utility systems status.
f. Support by radiological control personnel (i.e., monitoring, surveys, sampling, decontamination).
g. Facility layout, and facility known hazardous conditions, (i.e., electrical, thermal, flammable materials, pressurized cylinders, toxic gas, pressure systems, batteries, radiation areas, etc.).
h. Support for fire fighter activities as required.

Once the fire is extinguished, the Shift Operations Manager/BED ensures administrative restrictions are implemented to protect the facility, the workers, and the environment. The Shift Operations Manager/BED makes notifications as required and assists with recovery actions.

An incident requiring evacuation of personnel or the summoning of emergency response units does not necessarily indicate that the contingency plan has been implemented.

~~A fire or explosion involving 92% sulfuric acid will be classified as a Site Emergency. Actions described in Section 7.2.5.2 will be performed for this event.~~

	Class 1	Class[1] 1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
3/22/00		APR 06 2000					
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1], 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1], if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.2.5:

7.2.5 Hazardous Material, Radioactive/Dangerous/Mixed Waste Spills or Releases

The ETF and LERF have engineering controls to contain or minimize spills. These controls include, containment berms, dedicated spill control sumps, remote gauges and level indicators as well as spray shields on chemical pipe flanges. LWPF procedures provide alarm response and maintenance actions for leak detection equipment, surveillance of possible leak locations, and response actions for detected spills.

Spills can result from many sources including process leaks, container spills or leaks, damaged packages or shipments, or personnel error. Spills of mixed waste are complicated by the need to deal with the extra hazard induced by the presence of radioactive materials.

If a spill or release is discovered, the discoverer performs the following actions:

- Notifies the ETF control room - BED and initiates SWIMS response.
- Stops work.
- Warns others in the vicinity
- Isolates the area
- Minimizes the spill if possible, and
- Requests the BED Secure unfiltered ventilation.
- The BED determines whether to activate the Incident Command System (ICS) based on classification of the spill and injured personnel, and evaluates need to perform additional protective actions.
- If the ICS is not activated, the spill is mitigated with resources identified by the BED and proper notifications are made.
- If the ICS requires activation, the BED calls 911 or 373-3800 if using a cellular phone.
- The BED sends out a representative to meet the Hanford Fire Department.
- The BED provides formal turnover to the IC when the IC arrives at the ICP.
- The BED informs the Hanford Site Emergency Response Organization as to the extent of the emergency (including estimates of dangerous waste, mixed waste, or radioactive material quantities released to the environment.
- If operations are stopped, the BED ensures that the plant is put in safe shutdown configuration.
- Hanford Fire Department stabilizes spill as needed.

~~1. Notifies the ETF control room and evacuates to a safe area~~
~~2. Remains available for consultation with the BED, Hanford Fire Department, or other emergency response personnel.~~
~~The control room operator performs the following actions:~~
~~1. Uses the public address system to notify the facility occupants of the event~~
~~2. Notifies the BED/HFD and relays information received from the event scene~~
~~3. Places the facility in a safe condition~~
~~4. Remains available to support further notification and response activities~~
~~The BED performs or arranges for personnel to perform the following actions:~~
~~1. Coordinates response activity and establishes an command post at a safe location~~
~~2. Obtains all available information pertaining to the incident and determines if the spill or release warrants implementation of the contingency plan in accordance with Sections 4.0, 6.1.5, and 6.1.9~~
~~3. Determines need for assistance from outside agencies and arranges for their mobilization and response~~
~~4. Initiates the appropriate announcements, if building or area evacuations are necessary~~
~~5. Arranges for care of any injured persons~~
~~6. Requests activation of the affected area emergency sirens/crash alarm system if a threat to surrounding facilities~~
~~7. Provides for event notification~~
~~8. Maintains access control at the incident site by keeping unauthorized personnel and vehicles away from the area. Security personnel can be used to assist in site control if control of the boundary is difficult. In determining controlled access areas, considers environmental factors such as wind speed and direction~~
~~9. Arranges for proper remediation of the incident after evaluation~~
~~10. Remains available for HFD, Hanford Patrol, and other authorities on the scene and provide all required information~~
~~11. Enlists the assistance of alternate BED(s), if around the clock work is anticipated~~
~~12. Refers media inquiries to the Media Relations/Communications offices of the contractors or DOE-RL.~~
~~13. Ensures the use of proper protective equipment, remedial techniques (including ignition source control for flammable spills), and decontamination procedures by all involved personnel, if remediation is performed by ETF personnel~~
~~14. Remains at the command post to oversee activities and to provide information, if remediation is performed by the HFD Hazardous Materials Response Team or other response teams~~
~~15. d spill materials and overpack containers~~
~~16. Ensures decontamination (or restocking) and restoration of emergency equipment used in the spill remediation before resuming operations~~
~~17. Provides required reports after the incident.~~

Please check one of the Classes:	Class 1	Class[1]	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	3/22/00 Date	R. E. Guercia	APR 0 6 2000 Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.2.7:

7.2.7 Criticality

The hazards assessment has determined that a criticality is not credible for ETF or LERF. ~~No emergency planning is required.~~

Please check one of the Classes:	Class 1	Class[1] 1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	8/22/06 Date	R. F. Guercia	APR 0 6 2006 Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 7.3:

7.3 Prevention of Recurrence or Spread of Fires, Explosions, or Releases

The BED, as part of the incident command system, takes the steps necessary to ensure that a secondary release, fire, or explosion does not occur. The BED will take measures, where applicable, to stop processes and operations, collect and contain released waste, and remove or isolate containers. The BED also monitors for leaks, pressure buildups, gas generation, or ruptures in valves, pipes, or other equipment, whenever this is appropriate. ~~The BED, in coordination with emergency response organizations, takes the steps necessary to ensure that a secondary release, fire, or explosion does not occur. The area of the initial incident is isolated by shutting off power, closing off ventilation systems, etc. The affected area containment is inspected for leaks, cracks, or other damage and for toxic vapor generation. Released material and waste remaining inside of containment structures are removed as soon as possible, and residual waste material is contained and isolated using dikes and adsorbents. Areas where residual released materials remain are covered or otherwise stabilized to prevent migration or spread from wind or precipitation run-off.~~

~~New structures, systems, or equipment are installed as required to enable better management of hazardous materials or dangerous waste. Adjacent operations in affected areas are reactivated only after cleanup of residual waste materials is achieved.~~

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	3/23/00 Date	R. F. Guercia	APR 0 6 2000 Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 8.1:

8.1 Termination of Event

For events where the Hanford ~~DOE-RL~~ Emergency Operations Center (Hanford~~RL~~-EOC) is activated, the ~~DOE-~~RL/ORP Emergency Manager has the authority to declare event termination. This decision is based on input from the BED, Incident Commander, and other emergency response organization members. For events where the Hanford~~RL~~-EOC is not activated, the incident command system and staff declare event termination.

Please check one of the Classes:	Class 1	Class[1]1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Officer		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date 5/23/00	R. F. Guercia	Date APR 06 2000	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 8.2:

8.2 Incident Recovery and Restart of Operations

A recovery plan is developed when necessary. A recovery plan is needed following an event where further risk could be introduced to personnel, the facility, or the environment through recovery action and/or to maximize the preservation of evidence. Depending on the magnitude of the event and the effort required to recover from the event, recovery planning may involve personnel from DOE-RL and other contractors. If a recovery plan is required, it is reviewed by appropriate personnel and approved by a Recovery Manager before restart. Restart of operations is performed in accordance with the approved plan.

If this plan is to be implemented for a RCRA~~WAC~~ emergency (see Section 4.0), the Washington State Department of Ecology is notified before operations can resume. The DOE/RL-94-02, *Hanford Emergency Management ~~Response~~ Plan*, Section 5.1~~6.1~~ discusses different reports to outside agencies. This notification is in addition to other required reports and includes information documenting the following conditions:

1. There are no incompatibility issues with the waste and released materials from the incident.
2. All the equipment has been cleaned, fit for its intended use, and placed back into service. The notification may be made via telephone conference. Additional information that Ecology requests regarding these restart conditions will be included in the required 15-day report identified in WAC 173-303-360(2)(k).

For emergencies not involving activation of the Hanford~~RL~~-EOC, the BED ensures that conditions are restored to normal before operations are resumed. If the Hanford Site Emergency Response Organization was activated and the emergency phase is complete, a special recovery organization could be appointed at the discretion of DOE-RL to restore conditions to normal. This process is detailed in DOE-RL and contractor emergency procedures. The makeup of this organization depends on the extent of the damage and its effects. The onsite recovery organization is appointed by the appropriate contractor's management.

Please check one of the Classes:	Class 1	Class[1] 1	Class 2	Class 3
	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
   1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
ESAromi	3/22/00	RFGuercia APR 0 6 2000					
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1], 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1], if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 8.3:

8.3 Incompatible Waste

After an event, the BED or the onsite recovery organization ensures that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed. Cleanup actions are taken by facility personnel or other assigned personnel. DOE/RL-94-02, Section 9.2.3~~8.3~~, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. A field check for compatibility before storage is performed as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in storage areas appropriate for their compatibility class.

If incompatibility of wastes was a factor in the incident, the BED or the onsite recovery organization ensures that the cause is corrected.

	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
   1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 9.0:

9.0 EMERGENCY EQUIPMENT

Hanford Site emergency resources and equipment are described and listed in DOE/RL-94-02, Appendix ~~A~~C.

9.1 Fixed Emergency Equipment

FIXED EMERGENCY EQUIPMENT		
Safety shower/eye wash stations (ETF only)	1 – 2025E Rm 122 Decon Station 1 – 2025E South Wall of Process Area 1 –2025Erm 134 1 –Outside south 2025E near acid/ caustic tanks 1 –Outside at Load-in station 1 – 2025E Rm 112 Laboratory	Assist in flushing chemicals/materials from the body and/or eyes and face of personnel.
Wet pipe sprinkler (ETF only)	Throughout the ETF except those areas protected by pre-active sprinklers.	Assist in the control of a fire.
Preactive sprinkler (ETF only)	Control room, communications room, electrical equipment room	Assist in the control of a fire. Maintained dry to prevent accidental damage to equipment.
Fire alarm pull boxes (ETF only)	All high traffic areas in operations administration and support areas, truck bay, and process area	Activate the local fire alarm
E-lights	Throughout ETF	1 hour temporary lighting

Modification Class: [1 2 3]	Class 1	Class[1] 1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
ES Aromi	3/22/00	RF Guercia	APR 0 6 2000				
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1] 1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1] 1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 9.3:

9.3 Communications Equipment/Warning Systems

COMMUNICATIONS EQUIPMENT

TYPE	LOCATION	CAPABILITY
Fire alarms (ETF only)	Corridors, locker rooms, process area, drum storage, and truck bay	Audible throughout ETF
Take cover/evacuation	*Site Emergency Alarm System*	*Audible outside buildings and inside* administrative buildings
Public address system (ETF Only)	Throughout the ETF	Audible throughout ETF
Portable radios	Operations and maintenance personnel	Communication to control room
Telephone	ETF - control room, 2025E, 2025EA offices, MO-269, 2025EC71. LERF - MO-727 and 242AL71 instrument building LERF Garage 242AL11 TEDF - 225E(pump house 1), 225W (pump house 2), 6653 (sample building), 6653A (pump house 3)	Internal and external communications. Allows notification off outside resources (POC, HFD, Hanford Patrol, etc,.)
Crash alarms (ETF only)	Control room, 2025EA Rm 101	Audible in ETF control room
Area Radiation Monitors, Continuous Air Monitors ~~Process alarm~~ ~~(ETF only)~~	Evaporator skid and drum loadout area ~~ETF beacon near IX columns~~	~~Visible from ETF control room~~ Equipment only activated during potentially higher radiological campaigns

Modification Class: [1 2 3]	Class 1	Class[1] 1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
   1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E S Aromi	2/22/00	R F Guercia	APR 0 6 2000				
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed *modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down* graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 9.4:

9.4 PERSONAL PROTECTIVE EQUIPMENT

PERSONAL PROTECTIVE EQUIPMENT

TYPE	LOCATION	CAPABILITY
Self contained breathing apparatus (SCBA)	4 ~~5~~ -2025E Rm ~~122~~ 116 ~~2 2025E Control room area~~ ~~2 Outside southeast 2025E.~~	Breathable air for initial response to emergency, and recovery activities when required for radiological protection
Acid suits	3 each included in the spill response cabinets in 2025E.	Chemical protection for personnel during containment and isolation.
Respirators	2025E Rm ~~203~~107A	Filtered air for recovery of known hazards.

Modification Class: [1 2 3]	Class 1	Class[1] 1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: B.6.b.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

B. General Facility Standards
   6. Contingency Plan
      b. Replacement with functionally equivalent equipment, upgrade, or relocate emergency equipment listed

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date	R. F. Guercia	Date APR 0 6 2000	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 9.6:

9.6 Incident Command Post ~~Emergency Response Center~~

For emergencies not requiring evacuation, the BED and support personnel will assemble in the ETF control room~~, ETF control room,~~ or other location as identified by the BED.

	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
ESAromi	3/22/00	APR 0 6 2000					
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 11.0:

11.0 REQUIRED REPORTS

Post incident, written reports are required for certain incidents on the Hanford Site. The reports are described in DOE/RL-94-02, Section 5.~~16.1~~.

	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	3/22/00 Date	R. F. Guercia	APR 0 6 2000 Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility	**Part III, Chapter 4 and Attachment 34**

Description of Modification:

Appendix 7A, Section 13.0:

13.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

~~BED~~	TITLE	WORK LOCATION	WORK PHONE
~~PRIMARY~~	Shift Operation Manager (SOM)	2025E Building - ETF control room or 242-A Evaporator control room	373-9000 373-2737
~~ALTERNATE~~	Operations Manager	~~2025EA Building, room 101~~	~~373-4565~~ 373-5533

~~The complete building emergency organization listing of positions, names, work locations and telephone numbers for essential LWPF personnel is maintained the organization administrative procedures. Copies are distributed to appropriate facility locations and to Emergency Preparedness. In addition, work~~ Names and home telephone numbers of the BEDs ~~and alternates~~ are available from the POC (373-3800) in accordance with Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.

Modification Class: [1 2 3]	Class 1	Class[1] 1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
   1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
[signature]	3/29/00	[signature]	APR 06 2000				
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate

Hanford Facility RCRA Permit Modifications

Part III, Chapter 4 and Attachment 34
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Replacement Sections

Index

Appendix 4A

Appendix 4B

Appendix 7A

APPENDIX 4A

DETAILED DRAWINGS FOR THE LIQUID EFFLUENT RETENTION FACILITY

Drawings of the containment systems at the LERF are summarized in Table 4A-1. Because the failure of these containment systems at LERF could lead to the release of dangerous waste into the environment, Engineering Change Notices (ECNs) which affect these containment systems will be submitted to the Washington State Department of Ecology, as a Class 1, 2, or 3 permit modification, as required by WAC 173-303-830.

Table 4A-1. Liquid Effluent Retention Facility Containment System.

LERF System	Drawing Number	Outstanding ECNs	Drawing Title
Bottom Liner	H-2-79590, Sh 1, Rev. 3	None	Civil Plan, Sections and Details; Cell Basin Bottom Liner (Sheet 1)
Top Liner	H-2-79591, Sh 1, Rev. 3	None	Civil Plan, Sections and Details; Cell Basin Bottom Liner (Sheet 1)
Catch Basin	H-2-79593, Sh 1, Rev. 4	None	Civil Plan, Section and Details; Catch Basin (Sheet 1)

P&ID - piping and instrumentation diagram.

The drawings identified in Table 4A-2 illustrate the piping and instrumentation configuration within LERF, and of the transfer piping systems between the LERF and the 242-A Evaporator. These drawings are provided for general information and to demonstrate the adequacy of the design of the LERF as a surface impoundment. An update to these drawings and drawings identified in Table 4A-1 will be provided annually to the Washington State Department of Ecology.

Table 4A-2. Liquid Effluent Retention Facility Piping and Instrumentation.

LERF System	Drawing Number	Outstanding ECNs	Drawing Title
Transfer Piping to 242-A Evaporator	H-2-79604, Sh 1,Rev. 3	None	Piping Plot and Key Plans; 242-A Evaporator Condensate Stream (Sheet 1)
LERF Piping and Instrumentation	H-2-88766, Sh 1, Rev. 2	ECN-647888	P&ID; LERF Basin and ETF Influent (Sheet 1)
LERF Piping and Instrumentation	H-2-88766, Sh 2, Rev. 4	ECN-647209L	P&ID; LERF Basin and ETF Influent (Sheet 2)
LERF Piping and Instrumentation	H-2-88766, Sh 3, Rev. 5	None	P&ID; LERF Basin and ETF Influent (Sheet 3)
LERF Piping and Instrumentation	H-2-88766, Sh 4, Rev. 5	None	P&ID; LERF Basin and ETF Influent (Sheet 4)
	H-2-89351, Sh 1, Rev. 5	None	Piping & Instrumentation Diagram - Legend

P&ID - piping and instrumentation diagram.

Hanford Facility RCRA Permit Modifications

Part III, Chapter 4 and Attachment 34
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Outstanding ECNs

Appendix 4A
Table 4A-2

ESSENTIAL

IPF# 1, 7, 9
CPF# 13A, 13B

ENGINEERING CHANGE NOTICE

1. ECN 647888
Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [X] Cancel/Void []	TM GALIOTO, 32230, S6-72, 373-4894	[X] Yes [] No LW-98-027	07-31-98
	6. Project Title/No./Work Order No. Instrument Air Purge of LERF Transfer Line Encasement	7. Bldg./Sys./Fac. No. 242A/200E	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 13A	10. Related ECN No(s). 645601	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-98-00280	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change — 13b. Design Baseline Document? [X] Yes [] No

THIS ECN SUPERCEDES ECN 645601 IN ITS ENTIRETY.

H-2-99001 SH1 Rev13
SEE PAGE 3 THIS ECN

H-2-88766 SH1 REV1
SEE PAGE 4 THIS ECN

Piping, fittings, and jointing methods to meet the requirements of 242-A piping specification M-7. Install, inspect and test the new piping installation in accordance with ASME B31.1.

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

This ECN supercedes ECN 645601. A bypass line and two isolation valves were added to the system as described. The 1/2" IA-704-M7 line that leads to the HVAC PAD at the 242A Evaporator will be tied into before it leaves the building. This tie in will allow Instrument Air to be routed through the encasement line of the LERF transfer line. This line is currently saturated with condensate and requires drying out so that we no longer receive spurious leak alarms.

15. Distribution (include name, MSIN, and no. of copies)

TM GALIOTO	S6-72	*
NJ SULLIVAN	S6-72	
JM ISDELL	G3-17	
MA BOWMAN	S6-72	
DL FLYCKT	S6-71	
WCC PLANNING	S6-72	*
JE GEARY	S6-71	

*=advanced copy

RELEASE STAMP

AUG 03 1998
DATE
STA: 16
HANFORD RELEASE
ID: 4

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 647888

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $NA	Savings	[] $NA	Delay	[] NA

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[X]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[X]
Equipment Spec.	[]	Maintenance Procedure	[X]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[X]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]	~~None~~ See above JMJ 7-31-98	[X]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
TO-640-020	7-GN-031	CI-7-008
EE-01691		

21. Approvals

	Signature	Date		Signature	Date
Design Authority	TM GALIOTO JM Galioto	7-31-98	Design Agent	JM Galioto	7-31-98
Cog. Eng.	JM Galioto	7-31-98	PE		
Cog. Mgr.	[illegible]	7-31-98	QA		
QA			Safety		
Safety			Design		
Environ.			Environ.		
Informal Review	[illegible]	7-31-98	Other		

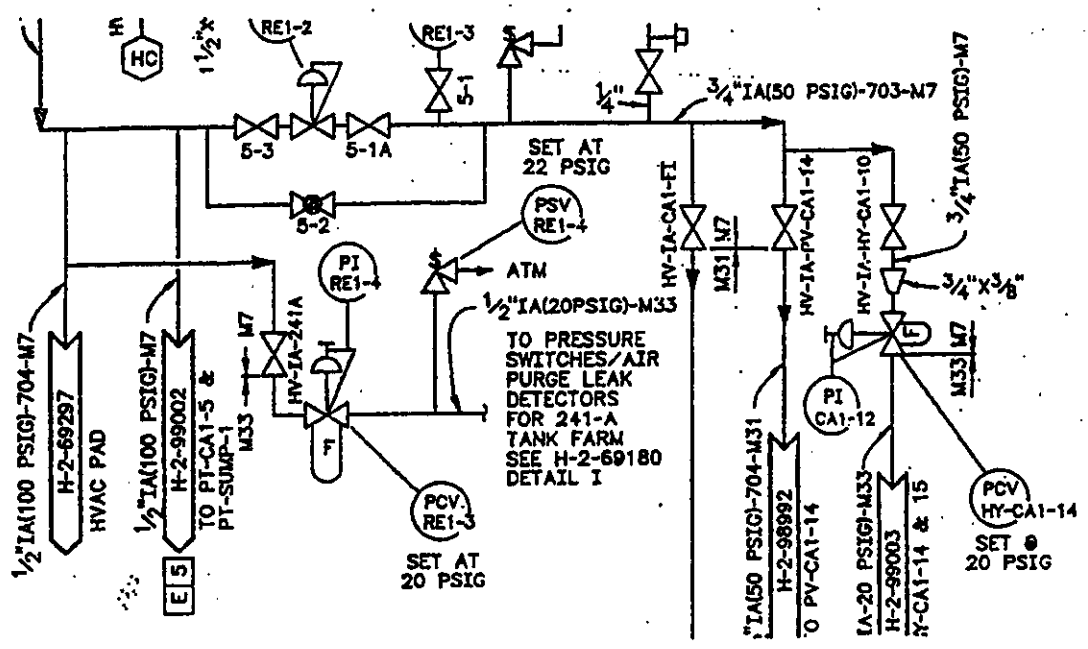
DEPARTMENT OF ENERGY

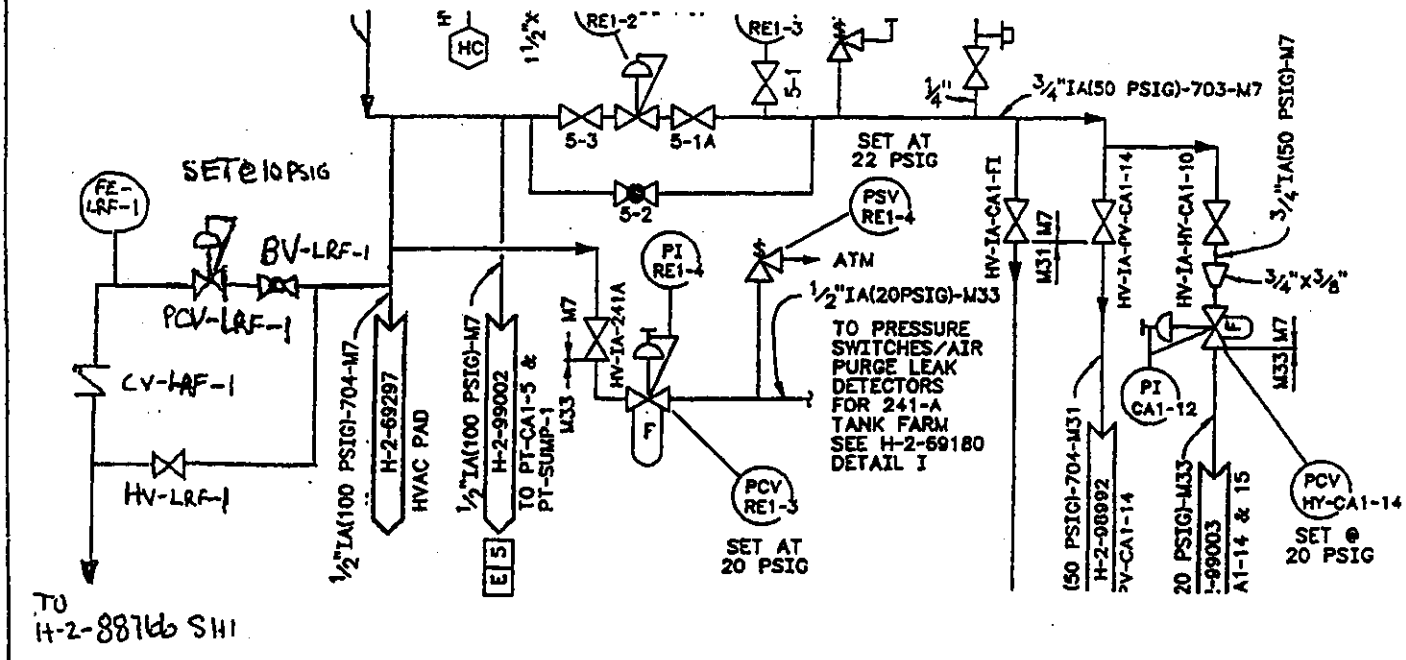
Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

ECN 647888
Date 7-31-98

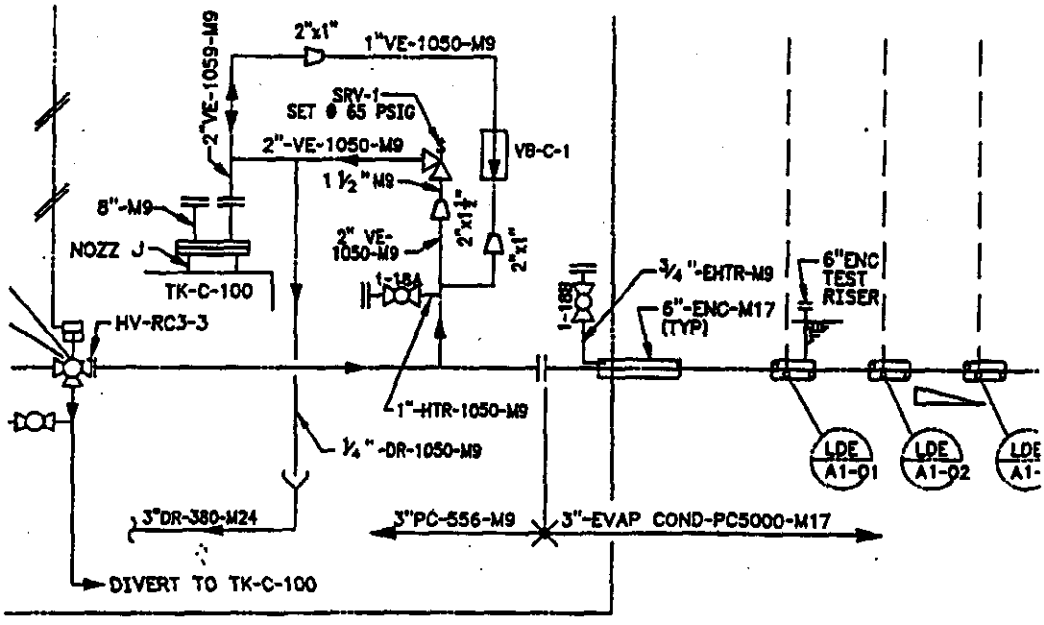
H-2-99001 SH 1

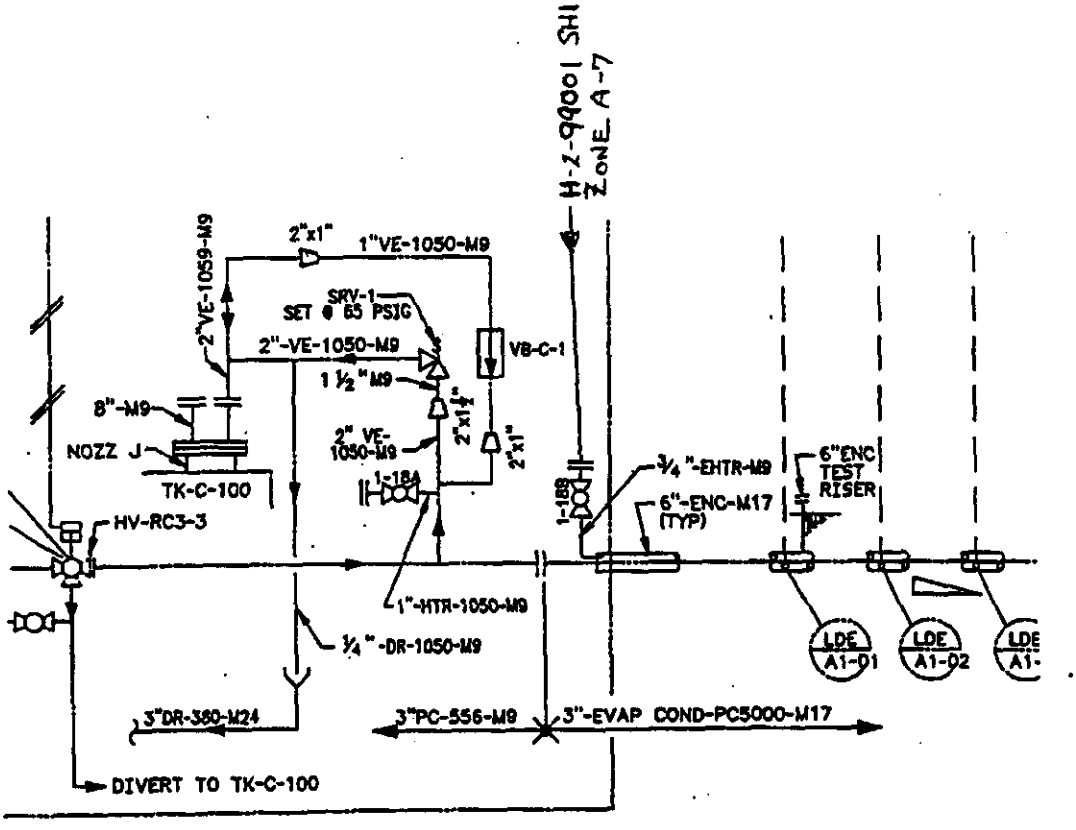




ECN 647888
Date 7-31-98

H-2-88766 SH1





CPF 18
CPF 13A
CPF 13B

ENGINEERING CHANGE NOTICE ESSENTIAL

Page 1 of 3

1. ECN 647209L

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [] Direct Revision [] Change ECN [] Temporary [x] Standby [] Supersedure [] Cancel/Void []	LL Lin/32910/S6-72/372-2759	[] Yes [X] No	December 1, 1998
	6. Project Title/No./Work Order No. Install Hose Adaptors on Basin 42 Sample Ports/Charge # 101697, COA AJ60	7. Bldg./Sys./Fac. No. LERF/60M	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) H-2-88766 Sh.2, Rev. 4	10. Related ECN No(s). NA	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-98-00840/L	Design Authority/Cog. Engineer Signature & Date	~~NA~~ 12/1/98 Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? [x] Yes [] No

Install temporary adaptors per Detail I shown on page 3 of this ECN. The adaptors will be installed on Riser 3 and Riser 7 for LERF Basin 42. Install 2" line off the sample ports. Valves 60M-TEMP-1 and 60M-TEMP-2 shall be 2" gate valves or engineering approved equal. Install 1-1/2" pipe nipple down stream of the 2"x 1-1/2" reducer.

Material of construction shall be compatible with rain water at a maximum pressure of 100 psig. Use EPDM gasket or engineering approved equal. Perform in-service leak test on the new installation.

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[]	Environmental	[x]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

Temporary adaptors are needed to expedite the pumping of the standing water on LERF Basin 42 cover. This water contains radioactivity which is above the limits for discharging to the ground. The adaptors will allow the transfer of the water, using the basin float pump, back to the basin.

15. Distribution (include name, MSIN, and no. of copies)

N. J. Sullivan	S6-72	1	J. M. Petty	S6-74	1
J. M. Isdell	G3-17	1	A. K. Yoakum	S6-72	1
L. L. Lin*	S6-72	1	M. W. Bowman	S6-72	1
WCC Planning*	S6-71	1	B. S. Darling	T4-05	1
C. D. Skogley	T4-05	1	A. F. Crane	S6-72	1
D. L. Flyckt	S6-71	1			

(* = 1 Advance Copy)

RELEASE STAMP

DATE: DEC 02 1998

STA. 16 HANFORD RELEASE ID: 18

A-7900-013-1

ENGINEERING CHANGE NOTICE	Page 2 of 3	1. ECN 647209L

16. Design Verification Required	17. Cost Impact ——> NA <—— ENGINEERING		CONSTRUCTION		18. Schedule Impact (days) ——> NA <——	
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[NA]	Seismic/Stress Analysis	[NA]	Tank Calibration Manual	[NA]
Functional Design Criteria	[NA]	Stress/Design Report	[NA]	Health Physics Procedure	[NA]
Operating Specification	[NA]	Interface Control Drawing	[NA]	Spares Multiple Unit Listing	[NA]
Criticality Specification	[NA]	Calibration Procedure	[NA]	Test Procedures/Specification	[NA]
Conceptual Design Report	[NA]	Installation Procedure	[NA]	Component Index	[NA]
Equipment Spec.	[NA]	Maintenance Procedure	[NA]	ASME Coded Item	[NA]
Const. Spec.	[NA]	Engineering Procedure	[NA]	Human Factor Consideration	[NA]
Procurement Spec.	[NA]	Operating Instruction	[NA]	Computer Software	[NA]
Vendor Information	[NA]	Operating Procedure	[NA]	Electric Circuit Schedule	[NA]
OM Manual	[NA]	Operational Safety Requirement	[NA]	ICRS Procedure	[NA]
FSAR/SAR	[NA]	IEFD Drawing	[X]	Process Control Manual/Plan	[NA]
Safety Equipment List	[NA]	Cell Arrangement Drawing	[NA]	Process Flow Chart	[NA]
Radiation Work Permit	[NA]	Essential Material Specification	[NA]	Purchase Requisition	[NA]
Environmental Impact Statement	[NA]	Fac. Proc. Samp. Schedule	[NA]	Tickler File	[NA]
Environmental Report	[NA]	Inspection Plan	[NA]		[]
Environmental Permit	[NA]	Inventory Adjustment Request	[NA]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
No other documents affected by this ECN.		

21. Approvals

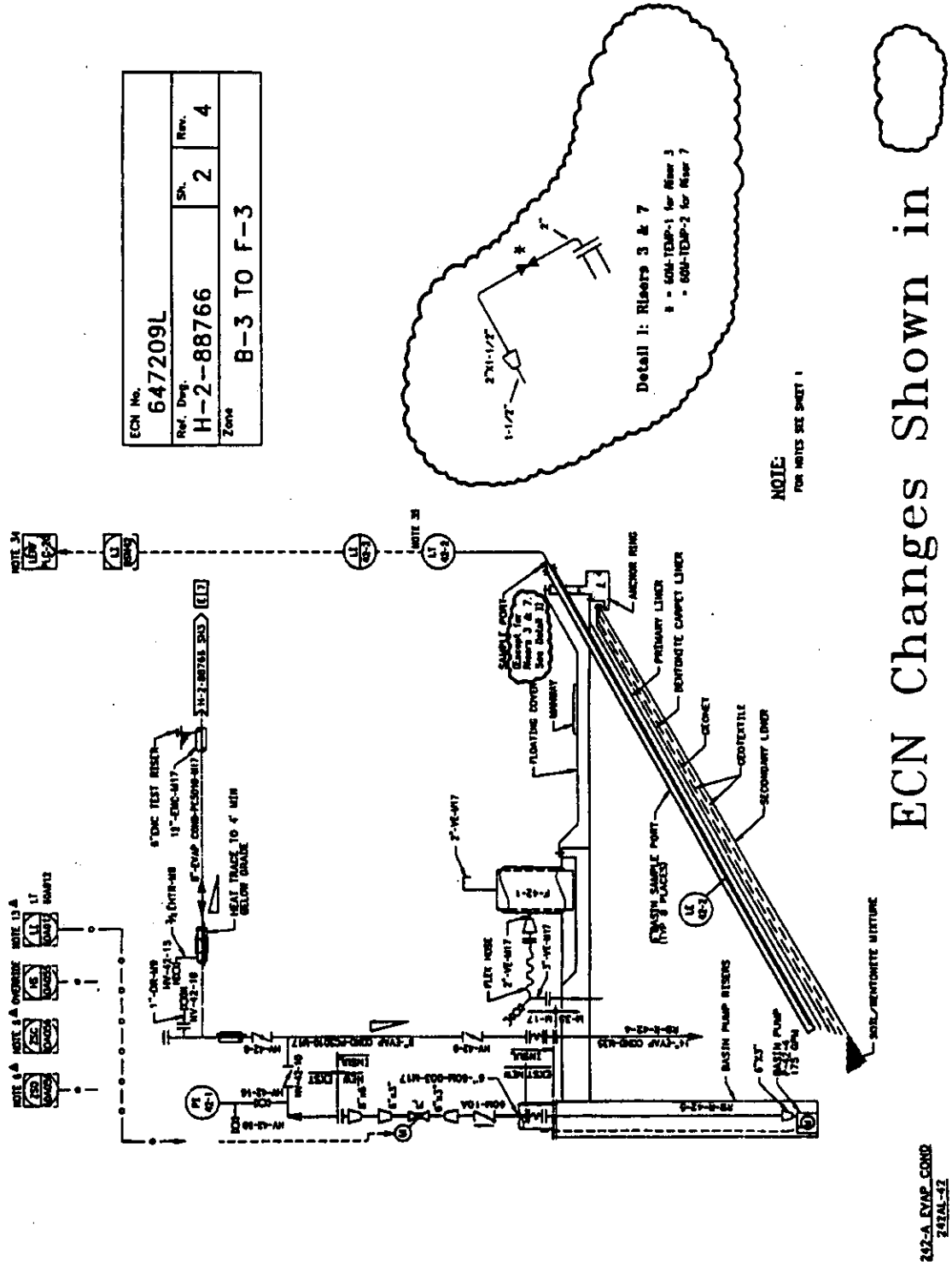
	Signature	Date		Signature	Date
Design Authority - L. L. Lin		12/2/98	Design Agent - L. L. Lin		12/2/98
Cog. Eng. - L. L. Lin		12/2/98	PE		
Cog. Mgr. - N. J. Sullivan		12-2-98	QA		
QA			Safety		
Safety			Design		
Environ.			Environ.		
Other - R. J. Huth (Informal Design Review)		12-2-98	Other		
Operations					

DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

ENGINEERING CHANGE NOTICE CONTINUATION SHEET	Page 3 of 3	1. ECN (use no. from pg. 1) 647209L



APPENDIX 4B

DETAILED DRAWINGS FOR THE 200 AREA EFFLUENT TREATMENT FACILITY CONTAINER STORAGE AREA AND TANK SYSTEMS

Drawings of the secondary containment systems for the ETF containers, and tanks and process units, and for the Load-In Tanks are summarized in Table 4B-1. Because the failure of the secondary containment systems could lead to the release of dangerous waste into the environment, Engineering Change Notices (ECNs) which affect the secondary containment systems will be submitted to the Washington State Department of Ecology, as a Class 1, 2, or 3 permit modification, as required by WAC 173-303-830.

Table 4B-1. Drawing of Effluent Treatment Facility and Load-In Station Secondary Containment Systems

ETF Process Unit	Drawing Number	Outstanding ECNs	Drawing Title
Surge Tank, Process/Container Storage Areas and Trenches - Foundation and Containment	H-2-89063, Sh. 1, Rev. 3	ECN-647892	STRUCT – Foundation and Grade Beam Plan (Sheet 1)
Sump Tank Containment	H-2-89065, Sh. 1, Rev. 3	None	STRUCT – Foundation, Sections and Detail (Sheet 1)
Verification Tank Foundation and Containment	H-2-89068, Sh. 1, Rev. 3	ECN-647892	STRUCT – Verification Tank Foundation (Sheet 1)
Load-In Facility Foundation and Containment	H-2-817970, Sh. 1, Rev. 1	ECN-641703 ECN-647247 ECN-649104	Structural – ETF Truck Load-in Facility Plans and Sections (Sheet 1)
Load-In Facility Foundation and Containment	H-2-817970, Sh. 2, Rev. 1	ECN-641703 ECN-649104	Structural – ETF Truck Load-in Facility Sections and Details (Sheet 2)

P&ID - piping and instrumentation diagram.
STRUCT - architectural/structural diagram.

The drawings identified in Table 4B-2 provide an illustration of the piping and instrumentation configuration for the major process units and tanks at the ETF, and the Load-In Tanks. Drawings of the transfer piping systems between the LERF and ETF, and between the Load-In Station and the ETF also are presented in this table. These drawings are provided for general information and to demonstrate the adequacy of the design of the tank systems. An update to these drawings and drawings identified in Table 4B-1 will be provided annually to the Washington State Department of Ecology.

Table 4B-2. Drawings of Major Process Units and Tanks at the Effluent Treatment Facility and Load-In Station.

ETF Process Unit	Drawing Number	Outstanding ECNs	Drawing Title
Load-In Facility	H-2-817974, Sh. 1, Rev. 12	None	P&ID – ETF Truck Load-In Facility (Sheet 1)
Load-In Facility	H-2-817974, Sh. 2, Rev. 0	None	P&ID – ETF Truck Load-In Facility (Sheet 2)
Surge Tank	H-2-89337, Sh. 1, Rev. 11	ECN-644244	P&ID – Surge Tank System (Sheet 1)
UV/Oxidation	H-2-88976, Sh. 1, Rev. 8	ECN-647245	P&ID – UV Oxidizer Part 1 (Sheet 1)
UV/Oxidation	H-2-89342, Sh. 1, Rev. 6	ECN-647245	P&ID – UV Oxidizer Part 2 (Sheet 1)
Reverse Osmosis	H-2-88980, Sh. 1, Rev. 9	None	P&ID – 1st RO Stage (Sheet 1)
Reverse Osmosis	H-2-88982, Sh. 1, Rev. 11	None	P&ID – 2nd RO Stage (Sheet 1)
IX/Polishers	H-2-88983, Sh. 1, Rev. 10	ECN-642800	P&ID – Polisher (Sheet 1)
Verification Tanks	H-2-88985, Sh. 1, Rev. 8	None	P&ID – Verification Tank System (Sheet 1)
ETF Evaporator	H-2-89335, Sh. 1, Rev. 12	ECN-641719 ECN-653080L ECN-641564 ECN-651583	P&ID – Evaporator (Sheet 1)
Thin Film Dryer	H-2-88989, Sh. 1, Rev. 16	ECN-648765 ECN-642797	P&ID – Thin Film Dryer (Sheet 1)
Transfer Piping from LERF to ETF	H-2-88768, Sh. 1, Rev. 1	None	Piping Plan/Profile 4"– 60M-002-M17 and 3"-60M-001-M17 (Sheet 1)
Transfer Piping from Load-In Facility to ETF	H-2-817969, Sh. 1, Rev. 1	W291-015 ECN-641703 ECN-649104	Civil – ETF Truck Load-In Facility Site Plan (Sheet 1)

P&ID - piping and instrumentation diagram.
STRUCT - architectural/structural diagram.

This page intentionally left blank.

Hanford Facility RCRA Permit Modifications

Part III, Chapter 4 and Attachment 34
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Outstanding ECNs

Appendix 4B
Table 4B-1

ENGINEERING CHANGE NOTICE

Page 1 of 27

1. ECN 647892

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	AF Crane, 32230, S6-72, 372-3152	[] Yes [X] No	09/21/98
	6. Project Title/No./Work Order No. Access Stairs/A4055	7. Bldg./Sys./Fac. No. 2025E	8. Approval Designator N/A
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Blk. 13a	10. Related ECN No(s). N/A	11. Related PO No. N/A

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-98-00588/M CAC 9/23/98	Design Authority/Cog. Engineer Signature & Date	N/A Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

H-2-89033, Sh 1, Rev 2
H-2-89036, Sh 1, Rev 2
H-2-89039, Sh 1, Rev 4
H-2-89040, Sh 1, Rev 2
H-2-89044, Sh 1, Rev 4

13b. Design Baseline Document? [X] Yes [] No

H-2-89063, Sh 1, Rev 3
H-2-89068, Sh 1, Rev 3
H-2-89069, Sh 1, Rev 3
H-2-89078, Sh 1, Rev 4

See Continuation Sheet

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

Installation of stairways is required to provide safe access when carrying equipment into the surge and verification containments.

Informal design review performed by RJ Huth.

15. Distribution (include name, MSIN, and no. of copies)

MW Bowman	S6-72	(1)	RJ Huth	S6-72	(1)
AF Crane	S6-72	(1)*	JM Isdell	G3-17	(1)*
BS Darling	T4-61	(1)	NJ Sullivan	S6-72	(1)
DL Flyckt	S6-71	(1)	AK Yoakum	S6-71	(1)
JE Geary	S6-71	(1)	WCC Planning	S6-71	(1)*

*Advance Copy

RELEASE STAMP

SEP 23 1998

DATE: HANFORD RELEASE ID:

STA: 30 25

--7900-013-2 (05/96) GEF095

Located In RMIS by Document Number

FILE COPY

ESSENTIAL

ENGINEERING CHANGE NOTICE

CPF 18

Page 1 of 24

1. ECN 641703

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	RN Wagner/32200/S6-71/376-4460	[] Yes [X] No	May 13, 1997
	6. Project Title/No./Work Order No. Misc. Mods and As-Builts for ETF Load-In Station	7. Bldg./Sys./Fac. No. 2025E/59A,60M/ 200 Area ETF	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Block 13A	10. Related ECN No(s). N/A	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-96-00208, EL-97-00343	JUN 12 1997 25 6/10/97 Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change 13b. Design Baseline Document? [X] Yes [] No

This ECN implements the following changes:

- Remove flow orifice in System 60M transfer line from Load-In Station.
- As-build sample valve and tanker vent valving.
- Add drain lines and valves to Load-In Station pump cases.
- Add bell-reducer funnels and valving to suction of Load-In Station pumps.
- Replace "Facility" with "Station" in all Load-In drawing titles.
- Identify status of Load-In Station drawings to Essential or Support.

Piping, fittings and jointing methods to meet the requirements of Hanford Site piping specification Class M-9. Install, inspect and test the new piping installation in accordance with ASME B31.3 and Addenda for Category D fluid service.

(Block 13a continued on Page 3)

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[X]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

- Remove flow orifice in transfer line from Load-In Station to increase flow rate.
- As-build sample valve and tanker vent valving for configuration control.
- Add drain lines and valves to Load-In Station pump cases for improved contamination control.
- Add bell-reducer funnels and valving to allow priming of Load-In Station pumps.
- Replace "Facility" with "Station" in drawing titles to reflect the status of the Load-In Station as part of the 200 Area ETF, rather than a stand-alone facility.
- Identify status of Load-In Station drawings to Essential or Support, as appropriate.

15. Distribution (include name, MSIN, and no. of copies)

N. J. Sullivan	S6-72	1	R. J. Nicklas	S6-72	1
J. E. Geary	S6-71	2	A. K. Yoakum	S6-71	1
R. N. Wagner*	S6-71	2	S. P. Biglin*	S6-74	1
C. M. Towne	S6-74	1	E. A. McNamar*	S6-74	1
J. L. Vigue	S6-74	1	B. S. Darling	S6-72	1
J. F. Berger	S6-74	1	D. P. Nelsen	S6-71	1
T. W. Dallas	S6-71	1	Stations 3/4/5/15/16/30		

(* Advance Copies)

RELEASE STAMP

MAY 27 1997

DATE: HANFORD RELEASE

STA: 30 ID: 25

A-7900-013-2 (05/96) GEF095

Located In RMIS by Document Number

ESSENTIAL

ENGINEERING CHANGE NOTICE

1. ECN 647247

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	RN Wagner/32230/S6-72/376-4460	[] Yes [X] No	August 27, 1998
	6. Project Title/No./Work Order No. Install Tent Over ETF Load-In Station/A4055	7. Bldg./Sys./Fac. No. 2025EC/59A/ 200 Area ETF	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Block 13	10. Related ECN No(s). NA	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-97-00853	JAN 15 1999 STA-30 (18) 1/13/99 Design Authority/Cog. Engineer Signature & Date	N/A Design Authority/Cog. Engineer Signature & Date

13a. Description of Change — 13b. Design Baseline Document? [X] Yes [] No

This ECN installs a tent over the ETF Load-In Station to provide shelter during inclement weather. Mechanical modifications to the Load-In Station necessary to accommodate the tent placement are covered in this ECN.

Drawings affected are:

- H-2-817970 Sheet 1, Rev. 1
- H-2-817972 Sheet 1, Rev. 1
- H-2-817975 Sheet 1, Rev. 5
- H-2-817976 Sheet 1, Rev. 1

Concrete anchor bolts for relocation of the Load-In transfer line support frame shall be Hilti P/N 0045407, Description Code KB II SS 58-812 Ext Trd, or Engineering approved equivalent. Piping, fittings, and jointing methods shall meet the requirements of Piping Specification Class M-9. Install, inspect, and test the new piping installation in accordance with ASME B31.3 and Addenda for Category D fluid service.

(Block 13a continued on Page 3)

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

The tent will provide shelter to ensure operator safety and allow continuity of operations during inclement weather.

15. Distribution (include name, MSIN, and no. of copies)

N. J. Sullivan	S6-72	1	J. E. Geary	S6-71	1
A. K. Yoakum	S6-71	1	E. A. McNamar	S6-72	1
R. N. Wagner*	S6-72	2	M. W. Bowman	S6-72	1
WCC Planning	S6-71*	1	T. W. Dallas	S6-74	1
L. L. Lin	S6-72	1	D. L. Tubbs	S6-74	1
D. L. Flyckt	S6-71	1	C. M. Towne	S6-74	1

(* = 1 Advance Copy)

IPF 7 - S6-72 1

IPF 4 - H6-26 1

RELEASE STAMP

DATE: SEP 08 1998 HANFORD RELEASE STA: 4 ID: 2

A-7900-013-2 (05/96) GEF095

Located In RMIS by Document Number

ENGINEERING CHANGE NOTICE

Page 1 of 8

1. ECN 649104

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [x] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	AF Crane, 32910, S6-72, 372-3152	[] Yes [x] No	2/16/99
	6. Project Title/No./Work Order No. Truck Load-in Filter/CACN 106883 COA EK00	7. Bldg./Sys./Fac. No. 2025E/59A/ETF	8. Approval Designator N/A
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Block 13a	10. Related ECN No(s). 647275 648786	11. Related PO No. N/A

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[x] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-99-00071/M	Design Authority/Cog. Engineer Signature & Date	N/A Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? [x] Yes [] No

Affected Drawings

H-2-817969, Sh 1, Rev 1
H-2-817969, Sh 2 Rev 1
H-2-817969, Sh 3 Rev 1
H-2-817970, Sh 1, Rev 1
H-2-817970, Sh 2, Rev 1

See attached continuation sheet for description of changes.

DAVID STEPHEN McSHANE
STATE OF WASHINGTON
0027710
REGISTERED
PROFESSIONAL ENGINEER
2-18-99

EXPIRES 10/06/00

Construction to be in accordance with the requirements of construction specification W-291H-C2.

14a. Justification (mark one)

Criteria Change	[x]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

Supplemental offload and filtration capability is required to simultaneously accept liquid wastes containing solids while receiving existing waste generator shipments.

Informal design review performed by EA McNamar

15. Distribution (include name, MSIN, and no. of copies)

MW Bowman	S6-72 (1)	EA McNamar	S6-72 (1)	WCC Planning	S6-71 (1)*
BS Darling	T4-05 (1)	DB Powell	T3-07 (1)	(* = 1 Advance Copy)	
AF Crane	S6-72 (1)*	CD Skogley	T4-05 (1)		
DL Flyckt	S6-72 (1)	DK Smith	S6-71 (1)		
JM Isdell	B4-39 (1)*	NJ Sullivan	S6-72 (1)		

RELEASE STAMP
FEB 18 1999
DATE: HANFORD RELEASE
STA: 30
ID: 18

CN By ECN-649104

A-7900-013-2 (05/96) GEF095

Located In RMIS by Document Number

FILE COPY

ESSENTIAL

ENGINEERING CHANGE NOTICE

CPF 18

1. ECN 641703

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	RN Wagner/32200/S6-71/376-4460	[] Yes [X] No	May 13, 1997
	6. Project Title/No./Work Order No. Misc. Mods and As-Builts for ETF Load-In Station	7. Bldg./Sys./Fac. No. 2025E/59A,60M/ 200 Area ETF	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Block 13A	10. Related ECN No(s). N/A	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-96-00208. EL-97-00343	JUN 12 1997 25 6/10/97 Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change — 13b. Design Baseline Document? [X] Yes [] No

This ECN implements the following changes:

- Remove flow orifice in System 60M transfer line from Load-In Station.
- As-build sample valve and tanker vent valving.
- Add drain lines and valves to Load-In Station pump cases.
- Add bell-reducer funnels and valving to suction of Load-In Station pumps.
- Replace "Facility" with "Station" in all Load-In drawing titles.
- Identify status of Load-In Station drawings to Essential or Support.

Piping, fittings and jointing methods to meet the requirements of Hanford Site piping specification Class M-9. Install, inspect and test the new piping installation in accordance with ASME B31.3 and Addenda for Category D fluid service.

(Block 13a continued on Page 3)

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[X]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

- Remove flow orifice in transfer line from Load-In Station to increase flow rate.
- As-build sample valve and tanker vent valving for configuration control.
- Add drain lines and valves to Load-In Station pump cases for improved contamination control.
- Add bell-reducer funnels and valving to allow priming of Load-In Station pumps.
- Replace "Facility" with "Station" in drawing titles to reflect the status of the Load-In Station as part of the 200 Area ETF, rather than a stand-alone facility.
- Identify status of Load-In Station drawings to Essential or Support, as appropriate.

15. Distribution (include name, MSIN, and no. of copies)

N. J. Sullivan	S6-72	1	R. J. Nicklas	S6-72	1
J. E. Geary	S6-71	2	A. K. Yoakum	S6-71	1
R. N. Wagner*	S6-71	2	S. P. Biglin*	S6-74	1
C. M. Towne	S6-74	1	E. A. McNamar*	S6-74	1
J. L. Vigue	S6-74	1	B. S. Darling	S6-72	1
J. F. Berger	S6-74	1	D. P. Nelsen	S6-71	1
T. W. Dallas	S6-71	1	Stations 3/4/5/15/16/30		

(* Advance Copies)

RELEASE STAMP

MAY 27 1997

HANFORD RELEASE

DATE: STA: 30 IS: 25

4-7900-013-2 (05/96) GEF095

Located In RMIS by Document Number

ENGINEERING CHANGE NOTICE

1. ECN 649104

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [x] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	AF Crane, 32910, S6-72, 372-3152	[] Yes [x] No	2/16/99
	6. Project Title/No./Work Order No. Truck Load-in Filter/CACN 106883 COA EK00	7. Bldg./Sys./Fac. No. 2025E/59A/ETF	8. Approval Designator N/A
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Block 13a	10. Related ECN No(s). 647275 648786	11. Related PO No. N/A

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[x] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-99-00071/M	Design Authority/Cog. Engineer Signature & Date	N/A Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? [x] Yes [] No

Affected Drawings

H-2-817969, Sh 1, Rev 1
H-2-817969, Sh 2 Rev 1
H-2-817969, Sh 3 Rev 1
H-2-817970, Sh 1, Rev 1
H-2-817970, Sh 2, Rev 1

See attached continuation sheet for description of changes.

DAVID STEPHEN McSWAIN STATE OF WASHINGTON 0027710 REGISTERED PROFESSIONAL ENGINEER 2-18-99

EXPIRES 10/06/00

Construction to be in accordance with the requirements of construction specification W-291H-C2.

14a. Justification (mark one)

Criteria Change	[x]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

Supplemental offload and filtration capability is required to simultaneously accept liquid wastes containing solids while receiving existing waste generator shipments.

Informal design review performed by EA McNamar

15. Distribution (include name, MSIN, and no. of copies)

MW Bowman	S6-72 (1)	EA McNamar	S6-72 (1)	WCC Planning S6-71 (1)*
BS Darling	T4-05 (1)	DB Powell	T3-07 (1)	(* = 1 Advance Copy)
AF Crane	S6-72 (1)*	CD Skogley	T4-05 (1)	
DL Flyckt	S6-72 (1)	DK Smith	S6-71 (1)	
JM Isdell	B4-39 (1)*	NJ Sullivan	S6-72 (1)	

RELEASE STAMP

FEB 18 1999

DATE: STA: 30 RELEASED ID: 18

A-7900-013-2 (05/96) GEF095

Located In RMIS by Document Number

Hanford Facility RCRA Permit Modifications

Part III, Chapter 4 and Attachment 34
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Outstanding ECNs

Appendix 4B
Table 4B-2

PF 18
PF 7
PF 4

ENGINEERING CHANGE NOTICE

ESSENTIAL

Page 1 of 18

1. ECN 644244

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [X] Change ECN [ ] TAM 12/14/98 Temporary [ ] Standby [ ] Supersedure [ ] Cancel/Void [ ]	E.A. McNAMAR, 32200, S6-72, 373-3465	[ ] Yes [ ] No	11-20-98
	6. Project Title/No./Work Order No. CHEMICAL FEED PUMP RELOCATION	7. Bldg./Sys./Fac. No. 2025E	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 13a	10. Related ECN No(s). 627754 644243	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [ ] No (NA Blks. 12b, 12c, 12d)	EL- 97-00622	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

H-2-88992 SH1, REV 9
H-2-89337 SH1, REV 10
H-2-89181 SH1, REV 5
H-2-89211 SH1, REV 1
H-2-89200 SH1, REV 3
H-2-89047 SH1, REV 6
H-2-89047 SH2, REV 0
H-2-89162 SH1, REV 4
~~H-2-89351 SH1, REV 4~~ TAM 3/22/99

13b. Design Baseline Document? [X] Yes [ ] No

Install, inspect and test new piping installation in accordance with ASME B31.3 Normal Fluid Service.

FILE COPY

SEE PAGE 3 FOR DESCRIPTION OF CHANGES

14a. Justification (mark one)

Criteria Change	[ ]	Design Improvement	[X]	Environmental	[ ]	Facility Deactivation	[ ]
As-Found	[ ]	Facilitate Const	[ ]	Const. Error/Omission	[ ]	Design Error/Omission	[ ]

14b. Justification Details

RELOCATE EXISTING CHEMICAL FEED PUMPS 2025E-65C-P-5, -6, -7 FROM THE TOP OF SURGE TANK 2025E-60A-TK-1 TO INSIDE THE EFFLUENT TREATMENT FACILITY.

15. Distribution (include name, MSIN, and no. of copies)

E. A. McNAMAR	S6-72 *	A.K. Yoakum	S6-71
K. D. JUNT	G3-17	T.W. Dallas	S6-74
WCC Planning	S6-71 *	M.W. Bowman	S6-72
L.L. Lin	S6-72 *	B.S. Darling	T4-05
N.J. Sullivan	S6-72	J.M. Petty	S6-74

* = 1 Advance Copy

RELEASE STAMP

DATE: MAR 22 1999
STA: 30
HANFORD RELEASE
ID: 18

A-7900-013-2 (05/96) GEF095

Located In RMIS by Document Number

S

CPF 18

ENGINEERING CHANGE NOTICE ESSENTIAL

1. ECN 647245

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [x] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	RN Wagner/32200/S6-72/376-4460	[] Yes [x] No	June 22, 1998
	6. Project Title/No./Work Order No. A4066 Install Pressure Bleed Valves in Peroxide Feed Lines/Correct Hand Switch Number	7. Bldg./Sys./Fac. No. 2025E/60D/ 200 Area ETF	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Block 13	10. Related ECN No(s). NA	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[x] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-98-00463	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change — 13b. Design Baseline Document? [x] Yes [] No

This ECN adds needle valves to the UV/OX hydrogen peroxide injection system for the purpose of bleeding system pressure in a controlled manner prior to maintenance, and corrects the number of a hand switch for one of the peroxide injection feed pumps as shown on the drawing. The new pressure bleed valves will be Whitey part number SS-1VS4 316 or engineering approved equivalent, consistent with the system pipe code and temperature/pressure rating.

Drawings affected are:

- H-2-88976, Sheet 1, Rev. 6
- H-2-89342, Sheet 1, Rev. 6
- H-2-89350, Sheet 1, Rev. 8

Piping, fittings, and jointing methods shall meet the requirements of ETF Piping Specification Class 153T, "Type 316 Stainless Steel Tubing." Install, inspect, and test the new piping installation in accordance with ASME B31.3 and Addenda for Category D fluid service.

(Block 13a continued on Page 3)

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[x]	Environmental	[]	Facility Deactivation	[]
As-Found	[x]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

Provides a safe and controlled means of bleeding system pressure prior to maintenance, and corrects a drawing error (hand switch number).

15. Distribution (include name, MSIN, and no. of copies)

N. J. Sullivan	S6-72	1	R. J. Nicklas	T3-07	1
J. E. Geary	S6-71	1	A. K. Yoakum	S6-71	1
R. N. Wagner*	S6-72	2	M. W. Bowman	S6-72	1
E. A. McNamar	S6-72	1	C. D. Skogley	T4-05	1
D. L. Tubbs	S6-74	1	WCC Planning	S6-71*	1
D. P. Nelsen	S6-71	1	T. W. Dallas	S6-74	1
J. M. Petty	S6-74	1	D. L. Flyckt	S6-71	1
J. M. Isdell	G3-17	1*	L. L. Lin	S6-72	1

(* = 1 Advance Copy)

RELEASE STAMP
JUN 29 1998
DATE: HANFORD RELEASE ID:
STA: 30
25

Located In RMIS by Document Number

CPF 18

ENGINEERING CHANGE NOTICE ESSENTIAL

Page 1 of 4

1. ECN 642800

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [ ] Change ECN [ ] Temporary [ ] Standby [ ] Supersedure [X] Cancel/Void [ ]	LL Lin, 32230, S6-72, 372-2759	[] Yes [X] No	10/01/97
	6. Project Title/No./Work Order No. Provide Sample Point on Polisher Skid Drain Header/A4055	7. Bldg./Sys./Fac. No. 2025E/60G	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) H-2-88983, Rev ~~6~~ 7, Sh 1	10. Related ECN No(s). ECN-192548	11. Related PO No. None

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-95-000233	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change — 13b. Design Baseline Document? [X] Yes [] No

This ECN supersedes ECN 192548 in its entirety.

Description of Changes:

Affected documents:

ECN-192548
H-2-88983 Rev 6 P&ID, Polisher

See pages 3 and 4 of this ECN for details.

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[X]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

A sample valve is needed at the polisher drain header to allow sampling and determination of the adequacy of the SLOW RINSE and FAST RINSE steps of the polisher regeneration.

This ECN also corrects drawing errors.

15. Distribution (include name, MSIN, and no. of copies)

L. L. Lin, S6-72, 1
N. J. Sullivan, S6-72, 1
D. P. Nelsen, S6-71, 1
D. L. Tubbs, S6-74, 1
~~ETF Tech Library, S6-72~~
~~Stations 4,30,5,3,15,16~~ 10/8/97
J. E. Geary, S6-71, 1
E. A. McNamar, S6-72, 1
R. N. Wagner, S6-72, 1

RELEASE STAMP
OCT 08 1997
DATE: HANFORD RELEASE ID:
STA: 30 25

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE	Page 2 of 4	1. ECN (use no. from pg. 1) 642800

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[na]	Seismic/Stress Analysis	[na]	Tank Calibration Manual	[na]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[X]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[N/A]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[X]	Operating Procedure	[X]	Electric Circuit Schedule	[]
OM Manual	[N/A]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[X]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[N/A]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
POP 60G-002, POP 60-006		

21. Approvals

	Signature	Date		Signature	Date
Design Authority	L. L. Lin	10-1-97	Design Agent		10-1-97
Cog. Eng.	L. L. Lin	10-1-97	PE		
Cog. Mgr.	N. J. Sullivan	10-1-97	QA		
QA	(informal review)		Safety		
Safety			Design		
Environ.			Environ.		
Other			Other		

DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

ADDITIONAL

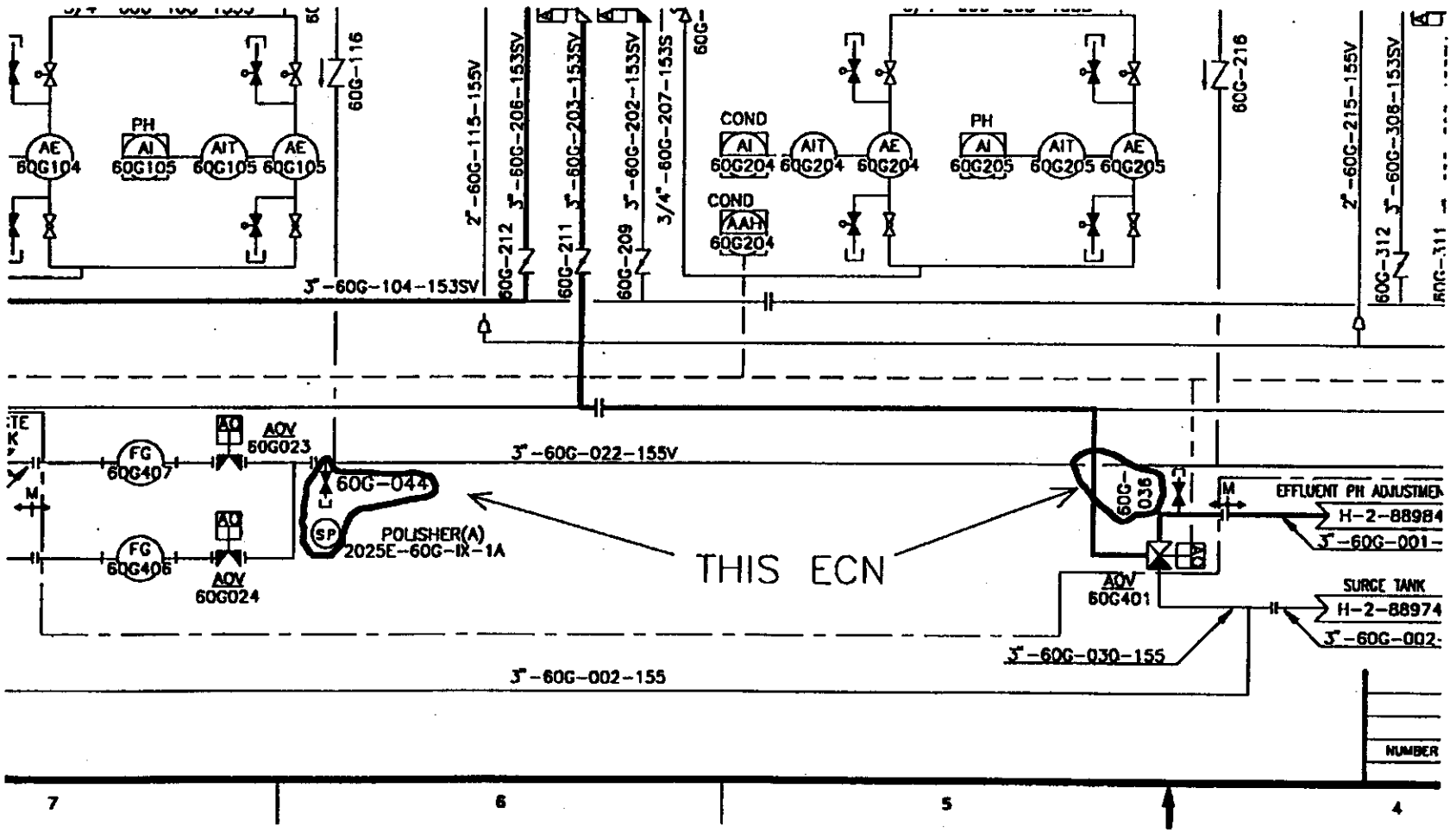
A-7000-013-3 (05/96) GEF096

1. Install a 1/2 inch sample valve, 60G-044, at the polisher drain header (3"-60G-022-155V). Material type and pressure rating for the installation shall be compatible with ETF pipe class 155V for INDECK.

2. Correct drawing error for valve number call out. Change 60G-407 to 60G-036.

3. Correct drawing error on polisher waste drain header 3"-60G-022-155V.

4. Piping, fittings and jointing methods are to meet the requirements of ETF piping spec class 155V. Install, inspect and test the new piping installation in accordance with ASME B31.3-1993 edition and addenda for Normal Fluid Service.



ECN 642800
Page 4 of 4
H-2-88983

ESSENTIAL

ENGINEERING CHANGE NOTICE

Page 1 of 2

1. ECN 641719

Proj. ECN

CPF 18

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [ ] Change ECN [ ] Temporary [ ] Standby [ ] Supersedure [ ] Cancel/Void [ ]	DE SCULLY/32230/S6-72/372-3592	[] Yes [X] No	6/2/97
	6. Project Title/No./Work Order No. Provide Window Washer for ETF Evaporator	7. Bldg./Sys./Fac. No. 2025E/60I	8. Approval Designator n/a
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) H-2-89335, rev 7, sht 1	10. Related ECN No(s). none	11. Related PO No.

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-97-00425	Design Authority/Cog. Engineer Signature & Date	Design Authority/Cog. Engineer Signature & Date

13a. Description of Change — 13b. Design Baseline Document? [X] Yes [] No

Install a SS 316 bleed ring, drilled and tapped to 1/8" NPT, behind the evaporator vapor body observation window. Route distillate to this ring via 1/4 SS tubing. Provide ball valve for operator use in cleaning window.

System Lead has provided design verification (informal review).

Provide "normally closed" status for valve 60I-246.

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

This window occaisonally becomes fogged or obscured with brine/suspended solids that are sloshed up into the window during normal evaporator operation. This window is extremely useful, if not at times critical, for monitoring evaporator operation. It therefore needs to be kept clean for clear observation of the evaporating brine. This washer will allow the operator to clean the window at will by temporarily opening the ball valve located near the window.

STA 3, 4, 5, 16, 30

15. Distribution (include name, MSIN, and no. of copies)

DE SCULLY, S6-72, 1
DP NELSEN, S6-71, 1
JE GEARY, S6-71, 1
NJ SULLIVAN, S6-72, 1
JL VIGUE, S6-74, 1
RJ HUTH, S6-72, 1
RS WEBER, S6-71, 1
BS DARLING, S6-71, 1
AK YOAKUM, S6-71, 1

RELEASE STAMP

JUN 03 1997

DATE: HANFORD RELEASE ID:

STA: 30 23

A-7900-013-2 (05/96) GEF095

1 of 4
1 of 7
1 of 4
1 of 1

ENGINEERING CHANGE NOTICE

1. ECN 641564

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental ◉ Direct Revision ○ Change ECN ○ Temporary ○ Standby ○ Supersedure ○ Cancel/Void ○	S.D. Ellingson FDNW 373-1151	○ Yes ◉ No	8/18/99
	6. Project Title/No./Work Order No. Evaporator Drain Addition	7. Bldg./Sys./Fac. No. 2025E	8. Approval Designator QR
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See block 13a	10. Related ECN No(s). n/a	11. Related PO No. n/a

12a. Modification Work	12b. Work Package No.	12c. Modification Work Completed	12d. Restored to Original Condition (Temp. or Standby ECNs only)
◉ Yes (fill out Blk. 12b) ○ No (NA Blks. 12b, 12c, 12d)	EL-98-00120	Design Authority/Cog. Engineer Signature & Date	n/a Design Authority/Cog. Engineer Signature & Date

13a. Description of Change — 13b. Design Baseline Document? ○ Yes ○ No

1. H-2-89335, Sht 1, Rev 11
   Revise evaporator drain piping and add new water piping as shown on Page 3 this ECN.

2. H-2-88991, Sht 1, Rev 13
   Add new drain piping as shown on Page 4 this ECN.

FILE COPY

3. H-2-89183, Sht 1, Rev 4
   Add field reference note to field of drawing as shown on Page 5 this ECN.
   Add "Detail 2" and related details to field of drawing, or subsequent sheets, as shown on Page 6 and 7 this ECN.

Review and approval of this ECN by the OSE manager constitutes design review.

14a. Justification (mark one)	14b. Justification Details
Criteria Change ○ Design Improvement ◉ Environmental ○ Facility Deactivation ○ As-Found ○ Facilitate Const. ○ Const. Error/Omission ○ Design Error/Omission ○	The existing drain piping on the ETF evaporator skid is too small and plugs due to the properties of the contained material. This ECN depicts replacement of the drain with a larger drain and relocation of the shutoff valve closer to the recirculation piping.

15. Distribution (include name, MSIN, and no. of copies)

M.W. Bowman	S6-72	S.D. Ellingson	S6-72
T.H. Calihan	S6-71	R.E. Palmer	E6-14
*D.E. Scully	S6-72	J.M. Isdell	B4-39
N.J. Sullivan	S6-72	*B.A. Messinger	B4-39
D.K. Smith	S6-71		
R.M. Szelmeczka	S6-72		
C.D. Skogley	S6-72	*WCC Planning	

* Advanced Copy

RELEASE STAMP

DATE: AUG 26 1999
STA: 30
HANFORD RELEASE
ID: 18

Located In RMIS by Document Number

S

cpf 18
tpf 1
1pf 4

ENGINEERING CHANGE NOTICE ESSENTIAL

Page 1 of 2

1. ECN 653080I

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [] Direct Revisio [] Change ECN [] Temporary [X] Standby [] Supersedure [] Cancel/Void []	DE SCULLY/32900/S6-72/372-3592	[] Yes [X] No	09/24/99
	6. Project Title/No./Work Order No. EVAPORATOR pH PROBE REMOVED	7. Bldg./Sys./Fac. No. 2025E/60I	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) H-2-89335, REV 11 SH 1	10. Related ECN No(s). 646658L 651583	11. Related PO No. NONE

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) ~~[X]~~ No (NA Blks. 12b, 12c, 12d) DES 9/27/99	~~none~~ EL-99-00314 DES 9/27/99	DE Scully 9/27/99 Design Authority/Cog. Engineer Signature & Date	Design Authority/Cog. Engineer Signature & Date

13a. Description of Change — 13b. Design Baseline Document? [X] Yes [] No

Evaporator brine pH probe AE-60I135 has been removed from the recirculation line. A stainless steel pipe plug has been installed in its place.

AIT-60I135, the pH meter transmitter, has been left electrically ~~isolated.~~ active DES 9/24/99

The MCS graphic for the evaporator brine pH, AI-60I135, has been altered to indicate "out of service."

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[X]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

Enivronmental conditions at the probe location in the brine (high solids content, high temperature) are such that probe life was unacceptably short.

Temporary ECN 646658L was erroneously superceded via ECN 651583. This temporary ECN has been written to cover the temporary installation until the permanent modification in ECN 651583 is "work complete."

15. Distribution (include name, MSIN, and no. of copies)

TH Calihan	S6-71	1	DE Scully	S6-72	1*
NJ Sullivan	S6-72	1	DK Smith	S6-71	1
Mark Bowman	S6-72	1	CD Skogley	S6-72	1

*adv cy

RELEASE STAMP

DATE: SEP 27 1999

STA: 30

HANFORD RELEASE

ID: 18

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE	Page 2 of 2	1. ECN (use no. from pg. 1) 653080 L

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING	N/A	CONSTRUCTION		N/A	
[] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[X] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]	N/A	[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision

21. Approvals

	Signature	Date		Signature	Date
Design Authority	DE Scully DE Scully	9/24/99	Design Agent	DE Scully DE Scully	9/24/99
Cog. Eng.	DE Scully DE Scully	9/24/99	PE		
Cog. Mgr.	MJ Sullivan (OSE Mgr) MJ Sullivan	9-24-99	QA		
QA			Safety		
Safety			Design		
Environ.			Environ.		
Other			Other		
OSE Lead					

Notes:
1) Review and approval of this ECN by the OSE Mgr will constitute design review.

DEPARTMENT OF ENERGY

ADDITIONAL

A-7900-013-3 (05/96) GEF096

ENGINEERING CHANGE NOTICE

1. ECN 651583

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental ○ Direct Revision ○ Change ECN ○ Temporary ○ Standby ○ Supersedure ◉ Cancel/Void ○	S.D. Ellingson FDNW 373-1151	○ Yes ◉ No	8/10/99
	6. Project Title/No./Work Order No. Distillate pH Monitor Installation on Evaporator Skid	7. Bldg./Sys./Fac. No. 2025E	8. Approval Designator Q
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See block 13a	10. Related ECN No(s). 646658L	11. Related PO No. n/a

12a. Modification Work	12b. Work Package No.	12c. Modification Work Completed	12d. Restored to Original Condition (Temp. or Standby ECNs only)
◉ Yes (fill out Blk. 12b) ○ No (NA Blks. 12b, 12c, 12d)	EL-99-00314	Design Authority/Cog. Engineer Signature & Date	n/a Design Authority/Cog. Engineer Signature & Date

13a. Description of Change — 13b. Design Baseline Document? ◉ Yes ○ No

This ECN Supersedes ECN-646658L In Its Entirety!

1. H-2-89335, Sht 1, Rev 11
   Remove pH monitor "AE-60I-135" and instrumentation from line 1"-60I-155-166H as shown on Page 3 this ECN.

2. H-2-88987, Sht 1, Rev 16
   Add pH monitor "AE-60I-135", instrumentation and orifice FO-60I-111 to line EP-103-SS6-1" as shown on Page 4 this ECN.

3. H-2-89183, Sht 1, Rev 4
   Add field reference note to field of drawing as shown on Page 5 this ECN.
   Add "Detail 1" to field of drawing as shown on Page 6 this ECN.

FILE COPY

Review and approval of this ECN by the OSE manager constitutes design review.

See EDT 601865 for Orifice Sizing Design Analysis, HNF-4940.

14a. Justification (mark one)	14b. Justification Details
Criteria Change ○ Design Improvement ◉ Environmental ○ Facility Deactivation ○ As-Found ○ Facilitate Const. ○ Const. Error/Omission ○ Design Error/Omission ○	Monitoring of the evaporator distillate pH is required to prevent corrosion of vapor compressor internals. This design package depicts the installation of a pH monitor electrode assembly into line EP-103-SS6-1" of the evaporator skid piping system. Coordinate with: Set-Values Basis Document ECN-653078 Software ECN-647197

15. Distribution (include name, MSIN, and no. of copies)

M.W. Bowman	S6-72	S.D. Ellingson	S6-72
T.H. Calihan	S6-71	R.E. Palmer	E6-14
*D.E. Scully	S6-72	J.M. Isdell	B4-39
N.J. Sullivan	S6-72	*B.A. Messinger	B4-39
.K. Smith	S6-71		
R.M. Szelmeczka	S6-72		
C.D. Skogley	S6-72	*WCC Planning	

* Advanced Copy

RELEASE STAMP

DATE: AUG 10 1999 HANFORD RELEASE ID: 18 STA: 30

Located In RMIS by Document Number

S

ENGINEERING CHANGE NOTICE ESSENTIAL

1. ECN 648765

Proj. ECN

CPF 18

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	CARMICHAEL,SL, 32730, S6-74, 372-2272	[] Yes [X] No	08/17/98
	6. Project Title/No./Work Order No. REMOVE INSTRUMENTS FROM THIN FILM DRYER ROOM	7. Bldg./Sys./Fac. No. 2025E/60J	8. Approval Designator N/A
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 13A	10. Related ECN No(s). N/A	11. Related PO No. N/A

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-96-00561/M	Design Authority/Cog. Engineer Signature & Date	N/A Design Authority/Cog. Engineer Signature & Date

13a. Description of Change 13b. Design Baseline Document? [X] Yes [] No

H-2-89364 SH.1 REV.3 & H-2-89364 SH.4 REV.1:
REMOVE TEMPERATURE TRANSMITTERS, TT-60J-011, TT-60J-018, TT-60J-020 AND TT-60J038 FROM THE THIN FILM DRYER ROOM AND INSTALL THEM ON THE UPPER DECK OF THE THIN FILM DRYER. THE TEMPERATURE ELEMENTS FOR THESE TRANSMITTERS WILL REMAIN IN THE THIN FILM DRYER ROOM AT THEIR PRESENT LOCATIONS.
H-2-89364 SH.1 REV.3 & H-2-89319 SH.1 REV.1:
THE HVAC ROOM TEMPERATURE TRANSMITTER WILL BE MOVED TO THE OUTSIDE WALL BY THE STAIRS WITH THE SENSOR REMAINING IN THE THIN FILM DRYER ROOM.
H-2-88989 SH.1 REV.12 & H-2-89364 SH.2 REV.1:
REMOVE FLOW TRANSMITTER FT-60J-035 FROM THE THIN FILM DRYER ROOM AND LOCATE IT ON THE UPPER DECK OF THE THIN FILM DRYER ON THE POLISHER SIDE. THIS REQUIRES CUTTING THE CONDENSATER DISCHARGE LINE TO THE SURGE (1"-60J-145-153S) AND WELDING IN FLANGES FOR THE TRANSMITTER ORFICE PLATE. THE EXISTING ORFICE WILL BE REMOVED AND A SPACER OR SPOOL PIECE INSTALLED.

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

CHANGES MADE TO ALLOW EASIER CALIBRATION OF INSTRUMENTS AND LIMIT THE REQUIRED ENTERIES INTO A RADIOLOGICALLY CONTROLLED AREA.

15. Distribution (include name, MSIN, and no. of copies)

N.J.SULLIVAN	S6-72	1	J.E.GEARY	S6-71	1
A.K.YOAKUM	S6-71	1	J.M.ISDELL	G3-17	1*
D.L.FLYCKT	S6-72	1	D.E.SCULLY	S6-72	1
S.L.CARMICHAEL	S6-74	1 *	WCC PLANNING	S6-72	1*
M.W.BOWMAN	S6-72	1	R.J.HUTH	S6-72	1

* ADVANCED COPY

RELEASE STAMP

AUG 18 1998
DATE: HANFORD RELEASE ID:
STA: 30 25

A-7900-013-2 (05/96) GEF095

Located In RMIS by Document Number

ESSENTIAL

CPF18

ENGINEERING CHANGE NOTICE

1. ECN 642797

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	DE SCULLY/32230/S6-72/373-3592	[] Yes [X] No	01/27/99
	6. Project Title/No./Work Order No.	7. Bldg./Sys./Fac. No.	8. Approval Designator
	INSTALL ISOLATION VALVES ON 5 DRYER SKID PRESSURE INDICATORS/TRANSMITTERS	2025E/60J	NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) 13	10. Related ECN No(s).	11. Related PO No.
	mw 2/4/99 H-2-88989, REV 8, Sht 1	NONE	NONE

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-98-00865/W	Design Authority/Cog. Engineer Signature & Date	Design Authority/Cog. Engineer Signature & Date

13a. Description of Change — 13b. Design Baseline Document? [X] Yes [] No

Install screwed carbon steel isolation gate valves just below the isolation diaphragms for the 4 steam pressure indicators/transmitter [PI(T)-60J-201, -202, -004, -032] as shown on p. 3 of this ECN .

Install a screwed 316 stainless steel isolation ball valve just below the isolation diaphragm for the brine pressure transmitter PT-60J-005 as shown on p. 3 of this ECN.

Install, inspect, and test the new piping installation in accordance with ASME B31.3 and addenda for ~~normal fluid service for valve 60J-262, and~~ category D fluid service. ~~for the remaining valves.~~ 1/27/99

Review and approval by the OSE lead will constitute design review.

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

These isolation valves will allow the pressure indicators/transmitters to be calibrated in place.

15. Distribution (include name, MSIN, and no. of copies)

DK Smith	S6-72	1	DE Scully	S6-72	1*
NJ Sullivan	S6-72	1	WCC Planning	S6-71	1*
MW Bowman	S6-72	1			
CD Skogley	S6-71	1	JL Vigue	S6-72	1

RELEASE STAMP

DATE FEB 4 1999 HANFORD RELEASE STA 4 ID: 58

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE	Page 2 of 3	1. ECN (use no. from pg. 1) 647297

16. Design Verification Required	17. Cost Impact				18. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[X] Yes	Additional	[] $	Additional	[] $	Improvement	[]
[] No	Savings	[] $	Savings	[] $	Delay	[]

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[X]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[X]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
POP-60J-001/R-6		

21. Approvals

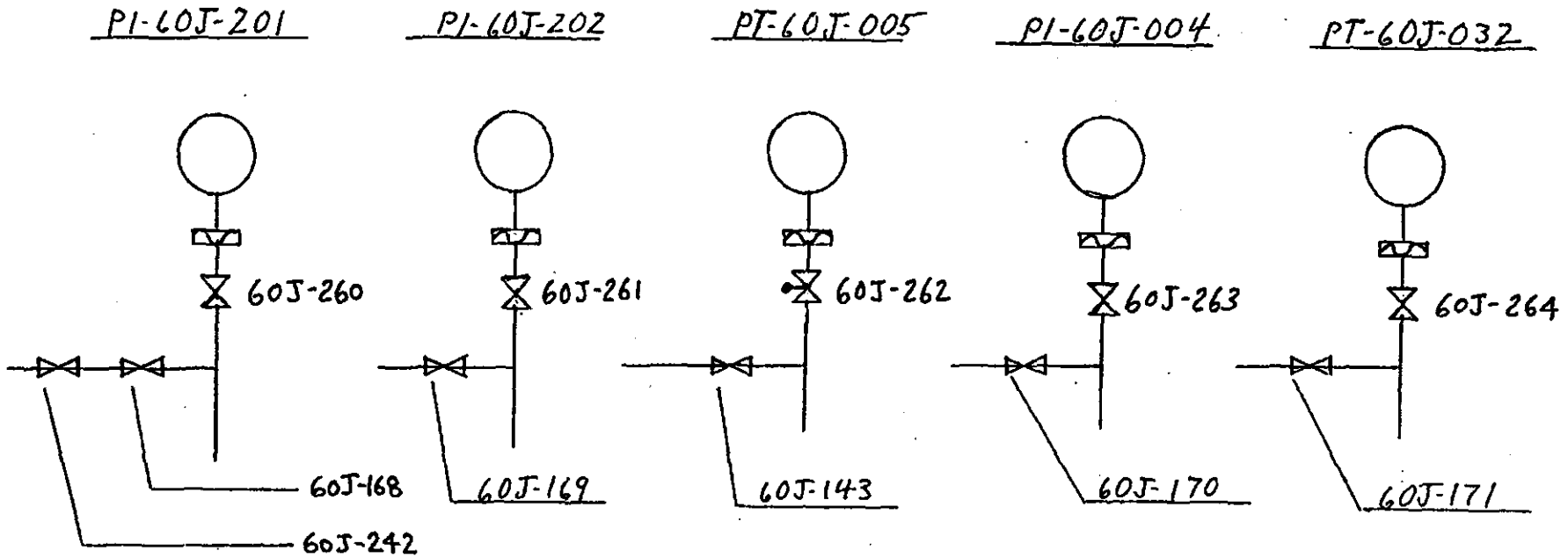
	Signature	Date		Signature	Date
Design Authority DE Scully	DE Scully	1/27/99	Design Agent DE Scully	DE Scully	1/27/99
Cog. Eng. DE Scully	DE Scully	1/27/99	PE		
Cog. Mgr. ML Sullivan for RJ Nicklas	MLSull	1-27-99	QA		
QA			Safety		
Safety			Design		
Environ.			Environ.		
Other			Other		
Systems Lead					

Notes:
1) The Systems Lead will provide design verification.

DEPARTMENT OF ENERGY

ADDITIONAL

A-7900-013-3 (05/96) GEF096



The above values 60J-260, -261, -262, -263, and -264 are to be incorporated schematically on the P+ID, H-2-88989, rev. ~~6~~. 13.

ECN 642797
p. 3/3

ENGINEERING CHANGE NOTICE

Page 1 of 10

FILE COPY

1. ECN ~~614443~~

Proj. ECN W-291H-~~C~~-15

DSM/SJC 9/27/94

M

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.		4. Date
Supplemental [X] Direct Revision [ ] Change ECN [ ] Temporary [ ] Standby [ ] Supersedure [ ] Cancel/Void [ ]	Joe Murphy, ICF KH, ER & SW, G3-17, 373-0867		9-19-94
	5. Project Title/No./Work Order No. W-291H 200 AREA BAT/AKART IMPLEMENTATION	6. Bldg./Sys./Fac. No. ETF TRUCK LOAD IN FACILITY	7. Approval Designator N/A
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) H-2-817969 SHT 1,2,3,4,5 H-2-817975 SHT 1 Construction Spec. W-291H-C2 DSM/SJC 9/27/94 ALL REV 0	9. Related ECN No(s). W291H-~~C~~-10 DSM/SJC 9/27/94	10. Related PO No. N/A/SC/3

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[] Yes (fill out Blk. 11b) [] No (NA Blks. 11b, unknown 11c, 11d)	UNKNOWN	N/A Cog. Engineer Signature & Date	N/A Cog. Engineer Signature & Date

12. Description of Change SC/3

ITEM 1: DWG H-2-817969 SHT 1

a. ZONE C-4; Change alignment of line and add line as shown in sketch on page 5.

ITEM 2: DWG H-2-817969 SHT 2

a. Zone DE-3,4; Change alignment of line L-1 and add 4" line as shown in sketch on page 6.

b. Zone AB-7; Change and add line to profile as shown in sketch on page 7.

c. Zone D-7; Change notes as shown in sketch on page 8.

d. Zone B-6; Change detail as shown in sketch on page 8. Related ECN: W291H-~~C~~-10 DSM/SJC 9/27/94

e. Zone B-1; Change note 3 to read as follows:

3. The 4" PVC pipe for line L-1 shall be IAW pipe code A or B of section 02650 of the spec.

SEE CONTINUATION SHEET PAGE 3.

13a. Justification (mark one)							
		Criteria Change	[]	Design Improvement	[X]	Environmental	[]
As-Found	[X]	Facilitate Const.	[X]	Const. Error/Omission	[]	Design Error/Omission	[X]

13b. Justification Details

See Continuation Sheet Page 4.

14. Distribution (include name, MSIN, and no. of copies)

ICF KH DISTRIBUTION		J. D. Fulcher	S2-32
Const Doc Cntl	S2-53	O. M. Jaka	R3-08
		E. A. McNarma	K6-90
WHC DISTRIBUTION		K. S. Pedersen (COG)	R3-35
Project Files	R1-28	J. H. Rasmussen	T6-20
M. C. Arntzen Jr.	L4-93	B. T. Tabayoyon	R3-35
J. K. Epperley	R1-29	R. L. Veilleux	T3-28

RELEASE STAMP

OFFICIAL RELEASE BY WHC (5)

DATE SEP 27 1994

Sta. 4

-7900-013-2 (06/94) GEF095

Located In RMIS by Document Number

013-1 (04/94)

CPF 18

ENGINEERING CHANGE NOTICE

ESSENTIAL

1. ECN 641703

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	RN Wagner/32200/S6-71/376-4460	[] Yes [X] No	May 13, 1997
	6. Project Title/No./Work Order No. Misc. Mods and As-Builts for ETF Load-In Station	7. Bldg./Sys./Fac. No. 2025E/59A,60M/ 200 Area ETF	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Block 13A	10. Related ECN No(s). N/A	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-96-00208, EL-97-00343	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change — 13b. Design Baseline Document? [X] Yes [] No

This ECN implements the following changes:

- Remove flow orifice in System 60M transfer line from Load-In Station.
- As-build sample valve and tanker vent valving.
- Add drain lines and valves to Load-In Station pump cases.
- Add bell-reducer funnels and valving to suction of Load-In Station pumps.
- Replace "Facility" with "Station" in all Load-In drawing titles.
- Identify status of Load-In Station drawings to Essential or Support.

Piping, fittings and jointing methods to meet the requirements of Hanford Site piping specification Class M-9. Install, inspect and test the new piping installation in accordance with ASME B31.3 and Addenda for Category D fluid service.

(Block 13a continued on Page 3)

14a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[X]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

- Remove flow orifice in transfer line from Load-In Station to increase flow rate.
- As-build sample valve and tanker vent valving for configuration control.
- Add drain lines and valves to Load-In Station pump cases for improved contamination control.
- Add bell-reducer funnels and valving to allow priming of Load-In Station pumps.
- Replace "Facility" with "Station" in drawing titles to reflect the status of the Load-In Station as part of the 200 Area ETF, rather than a stand-alone facility.
- Identify status of Load-In Station drawings to Essential or Support, as appropriate.

15. Distribution (include name, MSIN, and no. of copies)

N. J. Sullivan	S6-72	1	R. J. Nicklas	S6-72	1
J. E. Geary	S6-71	2	A. K. Yoakum	S6-71	1
R. N. Wagner*	S6-71	2	S. P. Biglin*	S6-74	1
C. M. Towne	S6-74	1	E. A. McNamar*	S6-74	1
J. L. Vigue	S6-74	1	B. S. Darling	S6-72	1
J. F. Berger	S6-74	1	D. P. Nelsen	S6-71	1
T. W. Dallas	S6-71	1	Stations 3/4/5/15/16/30		

(* Advance Copies)

RELEASE STAMP

DATE: MAY 27 1997 HANFORD RELEASE

TOTAL: 30 TOTAL: 25

A-7900-013-2 (05/96) GEF095

Located In RMIS by Document Number

ENGINEERING CHANGE NOTICE

1. ECN 649104

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [x] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	AF Crane, 32910, S6-72, 372-3152	[] Yes [x] No	2/16/99
	6. Project Title/No./Work Order No. Truck Load-in Filter/CACN 106883 COA EK00	7. Bldg./Sys./Fac. No. 2025E/59A/ETF	8. Approval Designator N/A
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See Block 13a	10. Related ECN No(s). 647275 648786	11. Related PO No. N/A

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[x] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-99-00071/M	Design Authority/Cog. Engineer Signature & Date	N/A Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? [x] Yes [] No

Affected Drawings

H-2-817969, Sh 1, Rev 1
H-2-817969, Sh 2 Rev 1
H-2-817969, Sh 3 Rev 1
H-2-817970, Sh 1, Rev 1
H-2-817970, Sh 2, Rev 1

See attached continuation sheet for description of changes.

DAVID STEPHEN McNAMAR STATE OF WASHINGTON 0027710 REGISTERED PROFESSIONAL ENGINEER 2-18-99

EXPIRES 10/06/00

Construction to be in accordance with the requirements of construction specification W-291H-C2.

14a. Justification (mark one)

Criteria Change	[x]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

Supplemental offload and filtration capability is required to simultaneously accept liquid wastes containing solids while receiving existing waste generator shipments.

Informal design review performed by EA McNamar

15. Distribution (include name, MSIN, and no. of copies)

MW Bowman	S6-72 (1)	EA McNamar	S6-72 (1)	WCC Planning S6-71 (1)*
BS Darling	T4-05 (1)	DB Powell	T3-07 (1)	(* = 1 Advance Copy)
AF Crane	S6-72 (1)*	CD Skogley	T4-05 (1)	
DL Flyckt	S6-72 (1)	DK Smith	S6-71 (1)	
JM Isdell	B4-39 (1)*	NJ Sullivan	S6-72 (1)	

RELEASE STAMP

FEB 18 1999

DATE: STA: 30 RECEIVED ID: 18

Located In RMIS by Document Number

This plan covers the following buildings and structures:

200 Area Effluent Treatment Facility (ETF),
Liquid Effluent Retention Facility (LERF),
200 Area Treated Effluent Disposal Facility (TEDF), and
200 Area Effluent Treatment Facility Groundwater Transfer System (GTS).

Approved:

Facility Management	3/29/00 Date
Environmental Compliance Officer	3/29/00 Date
Emergency Preparedness	3/29/00 Date
Hanford Fire Department	3/29/00 Date

This document will be reviewed annually and updated if necessary by the Facility Management unless Hanford Facility RCRA Permit coordination requirements provides otherwise. The document will be approved by Facility Management and approved by the Manager of Emergency Preparedness (or delegate) and the Hanford Fire Department.

TABLE OF CONTENTS

1.0 GENERAL INFORMATION . . . 1
- 1.1 Facility Names . . . 1
- 1.2 Facility Locations . . . 1
- 1.3 Owner . . . 2
- 1.4 Description of the Facility and Operations . . . 2
  - 1.4.1 Effluent Treatment Facility . . . 2
  - 1.4.2 Liquid Effluent Retention Facility . . . 2
  - 1.4.3 200 Area Treated Effluent Disposal Facility and Groundwater Transfer System . . . 3
- 1.5 Building Evacuation Routing . . . 3
  - 1.5.1 Effluent Treatment Facility . . . 3
  - 1.5.2 Liquid Effluent Retention Facility . . . 3
  - 1.5.3 Treated Effluent Disposal Facility . . . 3
  - 1.5.4 Groundwater Transfer System . . . 3

2.0 PURPOSE . . . 7

3.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION . . . 7
- 3.1 Building Emergency Director . . . 7
- 3.2 Other Members . . . 8

4.0 IMPLEMENTATION OF THE PLAN . . . 8

5.0 FACILITY HAZARDS . . . 8
- 5.1 ETF Hazards . . . 9
  - 5.1.1 Hazardous Materials . . . 9
  - 5.1.2 Industrial Hazards . . . 9
  - 5.1.3 Radioactive/Dangerous/Mixed Waste . . . 9
  - 5.1.4 Criticality . . . 11
- 5.2 LERF Hazards . . . 11
  - 5.2.1 Hazardous Materials . . . 11
  - 5.2.2 Industrial Hazards . . . 11
  - 5.2.3 Radioactive/Dangerous/Mixed Waste . . . 11
  - 5.2.4 Criticality . . . 12
- 5.3 TEDF and Ground Water Transfer System Hazards . . . 12
  - 5.3.1 Hazardous Materials . . . 12
  - 5.3.2 Industrial Hazards . . . 12
  - 5.3.3 Radioactive/Dangerous/Mixed Waste . . . 12
  - 5.3.4 Criticality . . . 12

6.0 POTENTIAL EMERGENCY CONDITIONS . . . 13
- 6.1 Facility Operations Emergencies . . . 13
  - 6.1.1 ETF Operations Emergencies . . . 13
  - 6.1.2 LERF Operations Emergencies . . . 15
  - 6.1.3 TEDF and GTS Operations Emergencies . . . 16
- 6.2 Natural Phenomena . . . 17

6.2.1 Seismic Event . . . 17
6.2.2 Ashfall/Snow Fall Roof Overloading . . . 17
6.2.3 High Winds/Tornados . . . 17
6.2.4 Flood . . . 17
6.2.5 Range Fire . . . 17
6.2.6 Aircraft Crash . . . 17
6.3 Security Contingencies . . . 17
6.3.1 Bomb Threat/Explosive Device . . . 18
6.3.2 Hostage Situation/Armed Intruder . . . 18
6.3.3 Suspicious Object . . . 18

7.0 INCIDENT RESPONSE . . . 18
7.1 Protective Actions Responses . . . 18
7.1.1 Evacuation . . . 18
7.1.2 Take Cover . . . 19
7.2 Response to Operations Emergencies . . . 19
7.2.1 Loss of Utilities . . . 20
7.2.2 Major Process Disruption/Loss of Plant Control . . . 20
7.2.3 Pressure Release . . . 20
7.2.4 Fire and/or Explosion . . . 20
7.2.5 Hazardous Material, Radioactive/Dangerous/Mixed Waste Spills or Releases . . . 21
7.2.6 Radiological Material Release . . . 22
7.2.7 Criticality . . . 22
7.3 Prevention of Recurrence or Spread of Fires, Explosions, or Releases . . . 22
7.4 Response to Natural Phenomena . . . 23
7.4.1 Seismic Event . . . 23
7.4.2 Volcanic Eruption/Ashfall . . . 23
7.4.3 High Winds/Tornados . . . 24
7.4.4 Flood . . . 24
7.4.5 Range Fire . . . 24
7.4.6 Aircraft Crash . . . 24
7.5 Security Contingencies . . . 24
7.5.1 Bomb Threat/Explosive Device . . . 24
7.5.2 Hostage Situation/Armed Intruder . . . 25
7.5.3 Suspicious Object . . . 25

8.0 TERMINATION OF EVENT, INCIDENT RECOVERY, AND RESTART OF OPERATIONS . . . 25
8.1 Termination of Event . . . 25
8.2 Incident Recovery and Restart of Operations . . . 26
8.3 Incompatible Waste . . . 26
8.4 Post Emergency Equipment Maintenance and Decontamination . . . 27

9.0 EMERGENCY EQUIPMENT . . . 27
9.1 Fixed Emergency Equipment . . . 27
9.2 Portable Emergency Equipment . . . 28
9.3 Communications Equipment/Warning Systems . . . 28

9.4 Personal Protective Equipment 29
9.5 Spill Control and Containment Supplies 30
9.6 Incident Command Post 31

10.0 COORDINATION AGREEMENTS 31

11.0 REQUIRED REPORTS 31

12.0 PLAN LOCATION 31

13.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION 31

14.0 REFERENCES 32

ATTACHMENT A 33

FIGURES

Figure 1, Evacuation Routes from 2025E 4
Figure 2, ETF/LERF Site Plan 5
Figure 3, 200 Area LWPF SALDS, TEDF, Ground Water Transfer System 6

1.0 GENERAL INFORMATION

The 200 Area Effluent Treatment Facility (ETF) and the Liquid Effluent Retention Facility (LERF) are located in the northeast portion of the 200 East Area. The 200 Area Treated Effluent Disposal Facility (TEDF) and 200 Area ETF Groundwater Transfer System (GTS) are operated from the 2025E Building. Transfer piping systems for both TEDF and GTS are located in the 200 East and 200 West Areas. 200 East and 200 West Areas are located near the center of the Hanford Site, a 560-square-mile U.S. Department of Energy (DOE) site in southeastern Washington State. The Hanford Site Emergency Preparedness Program is based upon the incident command system which allows a graded approach for response to emergency events. This plan contains a description of facility specific emergency planning and response. It is used in conjunction with DOE/RL-94-02, *Hanford Emergency Management Plan*. Response to events is performed using facility specific and/or site-level emergency procedures.

1.1 Facility Names: U.S. Department of Energy Hanford Site
200 Area Effluent Treatment Facility (ETF)
Liquid Effluent Retention Facility (LERF)
200 Area Treated Effluent Disposal Facility (TEDF)
200 Area ETF Groundwater Transfer System

1.2 Facility Locations: Benton County, Washington; within the 200 East and 200 West Areas.

ETF Buildings/facilities covered by this plan are:

2025E Building, Effluent Treatment Facility
2025EA Building, ETF Administration Building
MO-269, Materials Control Trailer
(2025ECT1) Load-in Station, Tanker truck load-in station

LERF Buildings/facilities covered by this plan are:

Basins 42, 43, and 44, Liquid Effluent Retention Facility
MO-727 Change Trailer, Located directly between Basins 42 and 43
242AL71 Instrument Building, Located north between Basins 42 and 43
Electrical Power Substation, North side of LERF
242AL11 Storage Building, "LERF Garage"

TEDF and GTS Buildings/facilities covered by this plan are:

Transfer piping, 200 East and West areas
225W Building, Pump House 1 - 200 West Area
225E Building, Pump House 2 - 200 East Area
6653A Building, Pump House 3 - 200 East Area
6653 Building, Disposal Sampling Building

1.3 Owner: U.S. Department of Energy
Richland Operations Office
825 Jadwin Avenue
Richland, Washington 99352

FACILITY MANAGER: Waste Management Project
P.O. Box 700
Richland, Washington 99352.

ORGANIZATION: 200 Area Liquid Waste Processing Facilities (LWPF)

1.4 Description of the Facility and Operations

1.4.1 Effluent Treatment Facility

The ETF treats various aqueous wastes generated at the Hanford site prior to discharging the effluent to a State Approved Land Disposal Site (SALDS), located adjacent to the 200 West Area.

The ETF operations structure is comprised of the following:

- Process area in 2025E Building
- Administration areas in 2025E and 2025EA Buildings
- Load-in Station 291
- External tank storage area.

The 2025E Building is a two story structure, with a control room on the second level overlooking the process area. The process area is a high bay, single story area of the 2025E Building. The process area is a Radiological Buffer Area (RBA). The RBA is a posted area and contains various Contamination Areas. The entire 200 East Area is classified as a Radiological Controlled Area..

The external tank storage area is inside the fenced area immediately outside of the 2025E Building. The 200 East Area security fence encloses the ETF except for the discharge line from the verification tanks to the SALDS. This fence is used to control personnel access and exclude deer and other large animals from the facility.

Figure 1 shows the evacuation routes from the 2025E Building.

Figure 2 shows the ETF/LERF site staging areas.

1.4.2 Liquid Effluent Retention Facility

The LERF consists of three identical surface impoundments constructed with primary and secondary composite liners, a leachate detection, collection, and removal system between liners, and a floating cover. The LERF basins act as an interim storage location for aqueous waste from the 242-A Evaporator, groundwater, and other site remediation projects prior to treatment at ETF.

The LERF is a basin operations structure comprised of the following:

- Excavation and dikes (basins)
- Primary and secondary composite liners
- Leachate detection, collection, and removal system
- Cover
- Piping and pumps
- MO-727 - Change trailer
- 242AL71 Instrument Building
- 242AL11 Storage Building

1.4.3 200 Area Treated Effluent Disposal Facility and Groundwater Transfer System

The 200 Area TEDF transports the 200 East and West Area facility effluents to a common disposal system. TEDF consists of approximately 62,000 feet of collection and transfer system piping, three pump stations, a sample building, and two 5-acre disposal ponds located southeast of ETF. The TEDF accepts liquid effluents from numerous sources in the 200 East and 200 West Areas that meet environmental permit requirements for disposal in the disposal ponds.

The GTS transfers groundwater extracted from the 200-UP-1 Operable Unit for interim storage at LERF and subsequent treatment at ETF. The system boundary begins at the first flowmeter from the 200-UP-1 pumps in the 200 West Area and ends at the connection to the LERF basins sample riser.

Figure 3 shows the major facility structures and liquid effluent sources for the SALDS, TEDF, and GTS.

1.5 Building Evacuation Routing

Figures 1 and 2 show building evacuation routes and staging areas.

1.5.1 Effluent Treatment Facility

The 2025E Building evacuation routes are shown in Figure 1. Primary and Alternate staging areas are shown in Figure 2.

1.5.2 Liquid Effluent Retention Facility

Primary and alternate staging areas are shown in Figure 2.

1.5.3 Treated Effluent Disposal Facility

Figure 3 shows the TEDF location.

1.5.4 Groundwater Transfer System

Figure 3 shows the GTS location.

Figure 1, Evacuation Routes from 2025E

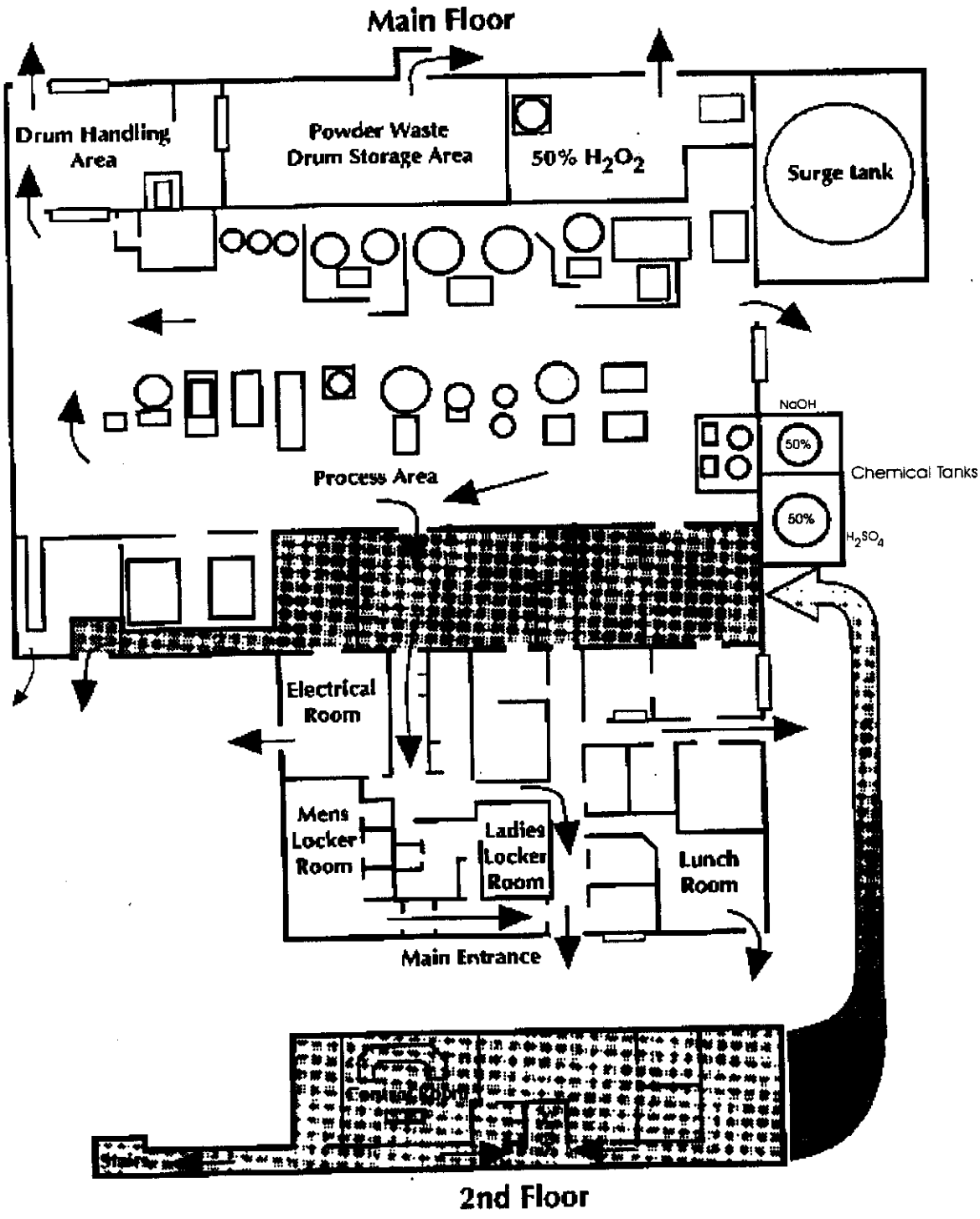
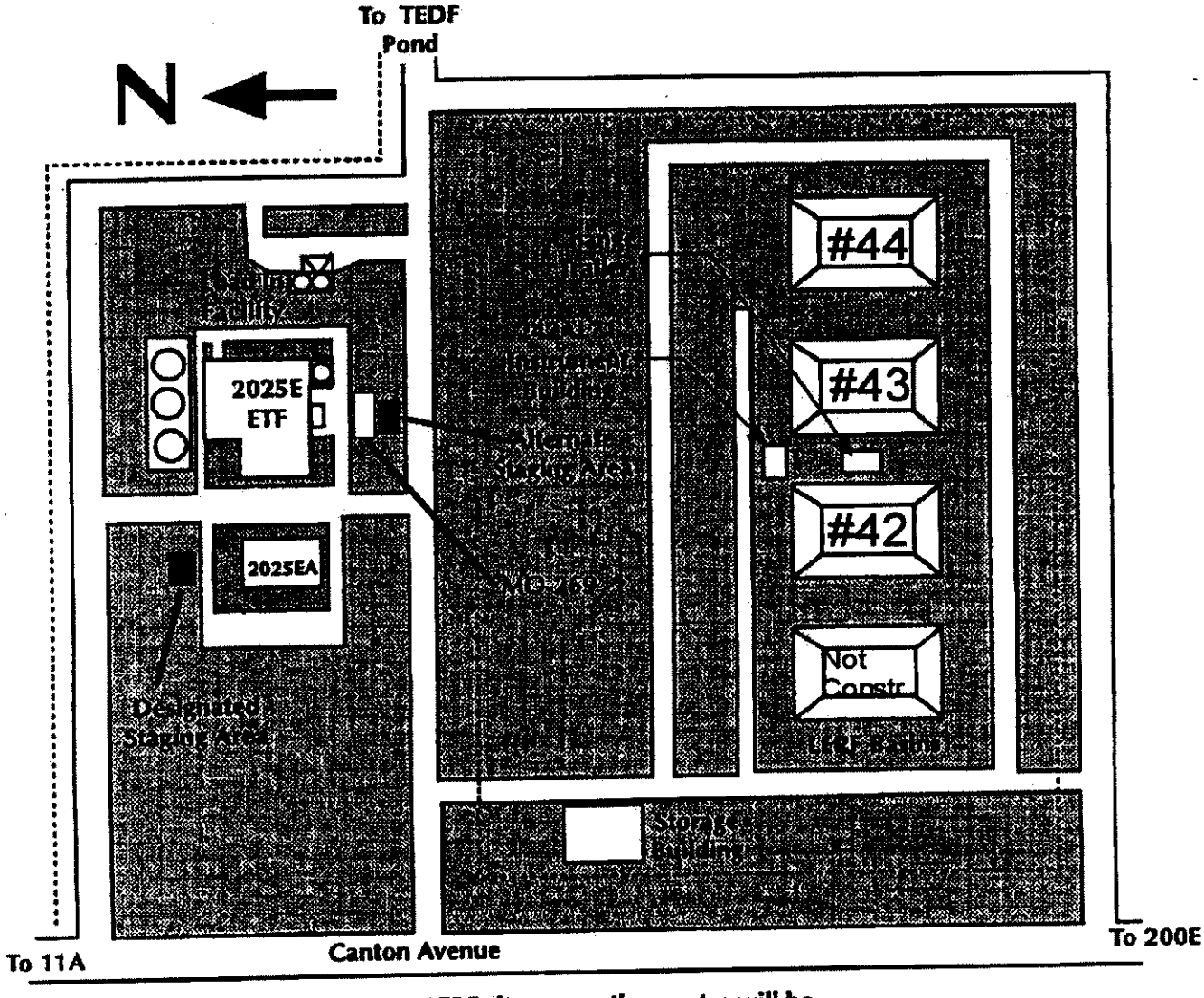


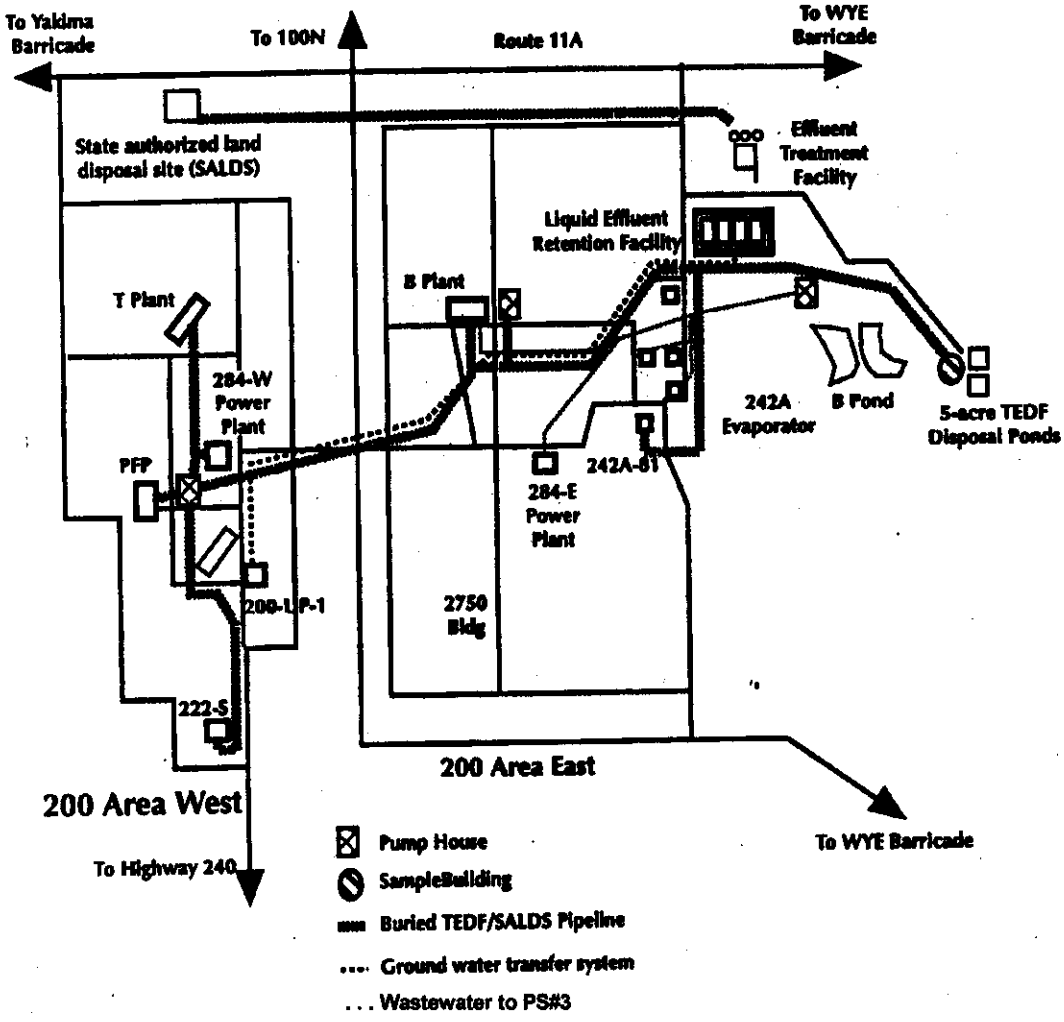
Figure 2, ETF/LERF Site Plan



■ Staging Area

ETF or LERF site evacuation routes will be determined by the Building Emergency Director dependent on event location and wind direction

Figure 3, 200 Area LWPF SALDS, TEDF, Ground Water Transfer System



2.0 PURPOSE

This plan describes both the facility hazards and the impacts of upset and/or emergency conditions. "Emergency" as used in this document includes events meeting the Washington Administrative Code (WAC) 173-303 definition of Emergency as well as U.S. Department of Energy (DOE) Order 232.1 categories of Unusual Occurrence and Emergency. These events include spills or releases, fires and explosions, transportation activities, movement of materials, packaging, storage of hazardous materials, and natural and security contingencies. When used in conjunction with DOE/RL-94-02, *Hanford Emergency Management Plan*, this plan meets the requirements for contingency planning as required by WAC 173-303. Sections 1.5, 3.1, 4.0 1st paragraph, 7.1, 7.2, 7.3, 8.1, 8.2, 8.3, 8.4, 9.0 (9.1-9.6), 11.0, 12.0, and 13.0 of the BEP are enforceable sections meeting RCRA contingency planning requirements. Enforceable sections cannot be changed without coordinating the change with the Hanford Facility RCRA Permit modification process.

3.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

The LWPF is staffed 24 hours each day, and is prepared to respond to emergencies through designated personnel with specific primary, on-call and alternate responsibilities. The ETF/LERF Building Emergency Director (BED) directs the emergency response until the Incident Commander arrives at the event scene. The BED is on duty 24 hours each day. The on-duty Shift Operations Manager is the designated primary BED. There is a designated alternate BED on day shift available for directing emergency response if required. Other personnel required as part of the building emergency organization are also on duty with either primary or alternate responsibilities. The following paragraphs describe this organization and the duties of designated personnel.

3.1 Building Emergency Director

Emergency response is directed by the Building Emergency Director (BED) until the Incident Commander arrives. The incident command system and staff with supporting on-call personnel fulfill the responsibilities of the Emergency Coordinator as discussed in WAC 173-303.

During events, facility personnel perform response duties under the direction of the BED. The Incident Command Post (ICP) is managed by either the senior Hanford Fire Department member present on the scene or senior Hanford Patrol member present on the scene (security events only). These individuals are designated as the Incident Commander (IC) and as such have the authority to request and obtain any resources necessary for protecting people and the environment. The BED becomes a member of the ICP and functions under the direction of the IC. In this role the BED continues to manage and direct facility operations.

A listing of the primary and alternate BEDs by title, work location, and work telephone numbers is contained in Section 13 of this plan. The BED is on the premises or is available through an "on-call" list 24 hours a day. Emergency Preparedness maintains a listing of BED names and work and home telephone numbers at the Patrol Operations Center (POC) in accordance with *Hanford Facility RCRA Permit*, Dangerous Waste Portion, General Condition II.A.4.

3.2 Other Members

As a minimum, Facility Management appoints and ensures training is provided to individuals to perform as Personnel Accountability Aides and Staging Area Managers. The accountability aides facilitate the implementation of protective actions (evacuation or take cover) and the accountability of personnel after the protective actions have been implemented. Staging Area Managers coordinate/conduct activities at the staging area. In addition, the BED may identify additional support personnel (Radiological Control, Maintenance, Engineering, Hazardous Material Coordinators, etc.) to be part of the Facility/Building Emergency Response Organization. Section 13.0 of this plan discusses the location of information regarding positions, names, and telephone numbers. Copies are distributed to appropriate facility locations and to the Hanford Site Emergency Preparedness organization.

4.0 IMPLEMENTATION OF THE PLAN

To meet the requirements of the WAC, this plan will be cconsidered implemented when the BED has determined that a release, fire, or explosion which could threaten human health or the environment (RCRA Emergency) has occurred at the facility. The RCRA Emergency determination process is described in DOE/RL-94-02, Section 4.2.

The BED must assess each incident to determine the response necessary to protect personnel, facility, and the environment. If emergency assistance from Patrol, Fire, or ambulance units is required, the Hanford Emergency Response Number (911) must be used to contact the POC and request the desired assistance. To request other resources or assistance from outside the facility, the POC business number is used (373-3800).

5.0 FACILITY HAZARDS

Facility hazards and potential targets are identified and evaluated in the hazards assessment required by DOE Orders for the ETF/LERF. The hazards assessment is not used in the Hanford Facility contingency planning program. The objective of this section of the emergency plan is to document all known hazards that pose significant risks to human health or to the environment and identify quantitative values for those significant risks.

Certain information in this plan pertains only to DOE Order considerations (e.g., discussions pertaining to hazards from hazardous materials and radioactive-only materials). Terms such as Emergency Response Protective Guidelines (ERPG), Alert Emergencies, Site Area Emergencies, and General Emergencies pertain only to DOE Order planning considerations. These hazards and terms are not part of the Hanford Facility contingency planning program. The only portion of this section that is part of the Hanford Facility contingency planning program are the chemical constituent hazards discussed in Section 5.3.

5.1 ETF Hazards

5.1.1 Hazardous Materials

Material Safety Data Sheets (MSDSs) are located in building 2025EA, rooms 101 and A1, and in the ETF Control Room.

Potentially hazardous materials at the ETF include chemicals added as part of the treatment process, chemicals added to prevent corrosion, and anti-foaming agents added to the evaporator. There are no explosives in the system, although some chemicals can react or decompose violently. Hazardous chemicals in the process liquid are discussed in Section 5.1.3.

Hazardous process chemicals identified in the hazards assessment are given in Table 1, including the associated American Industrial Hygiene Association ERPG values. DOE Order emergency planning ensures that appropriate protective actions are taken for the full range of events from a release of hazardous material that has the potential to exceed limits.

Table 1. ETF HAZARDOUS PROCESS CHEMICALS

Hazardous Chemical	ERPG Values		
	1	2	3
50% hydrogen peroxide	10 ppm	50 ppm	100 ppm
92% sulfuric acid	2 mg/m^3	10 mg/m^3	30 mg/m^3
50% sodium hydroxide	2 mg/m^3	40 mg/m^3	100 mg/m^3

ppm-parts per million; mg-milligram; m^3-cubic meter

5.1.2 Industrial Hazards

The industrial hazards associated with the facility include electrical equipment, rotating equipment, confined spaces, compressed gas cylinders, and propane tanks. The industrial hazards associated with the facility do not pose a threat to the human health or the environment. Industrial hazards are addressed in the building health and safety plan and maintenance programs.

5.1.3 Radioactive/Dangerous/Mixed Waste

5.1.3.1 Solid Form

There are three types of solid mixed wastes at ETF:

- Secondary waste powder - A dry powder with a low radioactivity level that may contain ammonium, sodium, sulfates, silicon, nitrates, calcium, magnesium, and trace metals. The ETF Process Run Plan will document the characterization of the waste streams. The process drum capacity is 55 gallons. Locations include the thin film dryer room, drum handling area, and the

process drum storage area. Maximum radiological source terms and hazardous materials for the secondary waste powder are below the levels requiring evaluation for emergency preparedness concerns.

- Indirect Waste - Materials that are used in the treatment process. These materials include spent resin beads, spent reverse osmosis membranes, spent high efficiency particulate air (HEPA) cartridges, carbon filter medium, and spent filter elements. Storage locations could include all staged maintenance areas or satellite accumulation areas.

- Dry active waste - Small quantities of waste from routine operations and maintenance activities (i.e., rags, sampling media, etc.). Locations include the process area, external tank area, staged maintenance areas, and satellite accumulation areas.

5.1.3.2 Liquid Form

The aqueous waste treated at ETF may contain low levels of radioactivity and/or dangerous chemical constituents. The radioactive/dangerous/mixed waste is evaluated in the hazards assessment as required by DOE Orders. Maximum radiological source term and dangerous waste materials are evaluated in the ETF Process Run Plan. The amount present must be below the levels requiring reevaluation for emergency preparedness concerns prior to treatment.

The influent aqueous waste to the ETF is treated in the primary treatment train to remove and/or destroy contaminants to allow discharge to the ground in accordance with the Washington State Waste Discharge Permit. Removed contaminants are concentrated in the secondary treatment train and are addressed in Section 5.1.3.1.

Emergency planning activities include implementing instructions that evaluate conditions and consequences associated with abnormal radiation levels, as well as release of waste water. For the purposes of field measurements, the site boundary is defined as 100 meters from the facility buildings.

5.1.3.3 Gaseous Form

Airborne effluent streams are produced through the following:

- Radiological control area Heating Ventilation Air Conditioning (HVAC) system - exhaust from radiologically controlled areas.

- Vessel offgas system - Vapors and gases from the various tanks and treatment systems.

The vessel offgas HEPA filters remove particulates from the air stream before discharge to the radiologically controlled area HVAC system. The combined air stream passes through another HEPA filter and is monitored for radiation. Analysis

shows that potential radioactive release levels are less than the values requiring event classification.

5.1.4 Criticality

A criticality is not a credible hazard at ETF.

5.2 LERF Hazards

5.2.1 Hazardous Materials

No hazardous material is stored at LERF. Small quantities of hazardous material could be used in maintenance and sampling activities. Any release of these materials would not be classed as a WAC 173-303 or DOE emergency.

5.2.2 Industrial Hazards

The industrial hazards associated with LERF include electrical equipment, rotating equipment, confined spaces, compressed gas cylinders, and propane tanks. The industrial hazards associated with the facility do not pose a threat to the health and safety of the general public or environment. Industrial hazards are addressed in the building health and safety plan and maintenance programs.

5.2.3 Radioactive/Dangerous/Mixed Waste

5.2.3.1 Solid Form

Small quantities of low radioactivity mixed waste from routine operations and maintenance activities (i.e., rags, sampling media, etc.). Locations include sampling areas, staged maintenance areas, and satellite accumulation areas. Any release of these materials would not be classed as a WAC 173-303 or DOE emergency.

5.2.3.2 Liquid Form

The aqueous waste stored in the LERF basins may contain low levels radioactivity with dangerous chemical constituents and is evaluated in the hazards assessment as required by DOE Orders. Maximum radiological source terms for LERF are below the levels requiring evaluation for emergency preparedness concerns. The chemical constituent of concern, based on worst case scenarios for process condensate from the 242-A Evaporator, is ammonia. American Industrial Hygiene Association ERPG values are shown in Table 2.

Table 2 LERF WASTE CHEMICAL CONSTITUENTS OF CONCERN

Constituent	ERPG Values		
	1	2	3
Process liquid - Ammonia	25 ppm	200 ppm	1000 ppm

5.2.3.3 Gaseous Form

Airborne effluent streams produced from the wastewater in the basins is vented through the basin vent system. Analysis shows that potential for gaseous release levels are less than the values requiring event classification.

5.2.4 Criticality

A criticality is not a credible hazard at LERF.

5.3 TEDF and Ground Water Transfer System Hazards

The hazards associated with the TEDF and the GTS are industrial hazards only. Industrial hazards to facility personnel are addressed in the building health and safety plan and maintenance programs.

5.3.1 Hazardous Materials

Only small amounts of sample preservative chemicals are stored at the TEDF. There are no hazardous materials associated with the TEDF or GTS that would pose a threat to human health or the environment. However, maintenance and sampling activities might require the use of small quantities of hazardous materials. Hazards associated with maintenance and sampling activities are addressed in the health and safety plan and maintenance programs.

5.3.2 Industrial Hazards

The industrial hazards associated with the TEDF include electrical equipment, rotating equipment, confined spaces, compressed gas cylinders, and propane tanks. A propane storage tank for the pump house #2 Standby Power Generator is the only hazard above common industrial hazards. Response to an event involving the propane tank would be as a result of fire or explosion. The industrial hazards associated with the TEDF or GTS do not pose a threat to human health or the environment.

5.3.3 Radioactive/Dangerous/Mixed Waste

The level of radioactive/dangerous materials in the influent to TEDF allows for disposal as a nondangerous waste. The total inventory of the GTS is based on the volume of the transfer line and the concentration of contaminants in the 200-UP-1 groundwater. The radioactive/dangerous material inventories associated with the aqueous waste in the TEDF or GTS are sufficiently low that there is no threat to human health or the environment.

5.3.4 Criticality

A criticality accident is not credible at the TEDF or GTS.

6.0 POTENTIAL EMERGENCY CONDITIONS

The objective of this section is to identify WAC 173-303 and DOE Order potential emergency conditions and to identify the appropriate DOE Order emergency classification level. Protective action responses based on these classifications are discussed in Section 7.0. Technical justification for the values and limits identified in this section are provided in the hazards assessment required by DOE Orders for the ETF/LERF. The hazards assessment is not used in the Hanford Facility contingency planning program.

Potential emergency conditions fall into three basic categories: operational (process upsets, fires and explosions, loss of utilities, spills, and releases), natural phenomena (earthquakes and storms), and security contingencies (bomb threats, hostage situations). For operational emergencies, event frequency coupled with accident severity provide the criteria for emergency plan response.

Potential radioactive/dangerous/mixed waste release modes include fires, explosions, spills, or environmental releases. These events are evaluated based on the potential impact to operations and subsequent release of waste or hazardous materials. Potential consequences to human health or the environment are the ultimate criteria for event classification and protective response actions. Additionally, prolonged small releases are evaluated for their potential to impact human health or the environment.

6.1 Facility Operations Emergencies

Operations emergencies for each facility are discussed in the following section.

6.1.1 ETF Operations Emergencies

6.1.1.1 Loss of Utilities

Loss of utilities would interrupt the treatment processes but would not be classed as a WAC 173-303 or DOE Order defined emergency.

6.1.1.2 Major Process Disruption/Loss of Plant Control

Process disruption/loss of plant control would interrupt the treatment processes but would not be classed as a WAC 173-303 or DOE Order defined emergency.

6.1.1.3 Pressure Release

The ETF has low pressure compressed air and steam systems. Loss of the compressed air or steam system(s) could result in loss of plant control or a process disruption. Process disruption/loss of plant control would interrupt the treatment processes .

Compressed gas cylinders are used at the ETF. Failure of compressed gas bottles could cause flying debris hazards and are addressed as part of fire and/or explosion, Section 6.1.1.4

A process system pressure release is categorized as a condensate spray release. This is addressed as a radioactive/dangerous/mixed waste spill, Section 6.1.1.6.

6.1.1.4 Fire and/or Explosion

A fire/explosion could generate highly toxic and/or corrosive fumes. Flying debris might result from explosions and compressed gas cylinder failure. Process system disruption, loss of plant control, and breach of process system boundaries could result from the flying debris.

6.1.1.5 Hazardous Material Spill

Hazards associated with process chemical spills include potential exposure to corrosive, oxidizing, or toxic materials, as well as potential environmental damage by the release of these materials to the air, water, or soil column. The hazards assessment required by DOE Orders identifies sulfuric acid and hydrogen peroxide spills as events that could pose significant risk or consequences to warrant emergency planning.

6.1.1.6 Dangerous/Mixed Waste Spill

The ETF inventories include large quantities of process liquid, secondary powder waste, indirect waste, and dry active waste. The hazards assessment has evaluated that there are no events that could pose significant risk or consequences to warrant emergency planning. ETF has the potential for minor exposures to radioactive material, corrosive, oxidizing or toxic materials, as well as localized environmental damage by their release to air, water, or soil column. Therefore, response for dangerous/mixed waste releases are included in the scope of emergency planning.

6.1.1.7 Transportation and/or Packaging Incidents

A transportation and/or packaging incident involving chemicals, dangerous/mixed waste, or samples could result in exposure to hazardous materials (corrosive, oxidizer, toxic) and/or low levels of radioactivity, as well as potential environmental damage by their release to the air, water, or soil column.

6.1.1.8 Radiological Material Release/Abnormal Radiation level

The ETF inventories include large quantities of process liquid, secondary powder waste, indirect waste, and dry active waste. Radioactive materials will accumulate in various treatment systems and in secondary waste powder. ETF has the potential for concentrating radioactive materials, therefore, response for abnormal radiation levels and radioactive material release are included in the scope of emergency planning.

6.1.1.9 Criticality

A criticality is not a credible accident at the ETF.

6.1.2 LERF Operations Emergencies

6.1.2.1 Loss of Utilities

Loss of utilities would interrupt the pumping and automatic sampling processes.

6.1.2.2 Major Process Disruption/Loss of Plant Control

Major process disruption/loss of plant control would interrupt the pumping and automatic sampling processes.

6.1.2.3 Pressure Release

The are no high pressure systems at LERF. A piping system breach is addressed as a radioactive/dangerous/mixed waste spill (Section 6.1.2.6).

6.1.2.4 Fire and/or Explosion

A fire/explosion could generate highly toxic and/or corrosive fumes.

6.1.2.5 Hazardous Material Spill

Process liquid releases are addressed in Section 6.1.2.6. Small quantities of hazardous material could be used in maintenance and sampling activities. A spill of these materials would not be classed as a WAC 173-303 or DOE emergency.

6.1.2.6 Dangerous/Mixed Waste Spill

The LERF inventories include large quantities of process liquid. The hazards at LERF could pose significant risks or consequences and warrant emergency planning. LERF has the potential for exposures to radioactive material, corrosive, oxidizing or toxic materials, as well as environmental damage by their release to air, water, or soil column. Therefore response for dangerous/mixed waste release are included in the scope of emergency planning.

6.1.2.7 Transportation and/or Packaging Incidents

A transportation and/or packaging incident involving hazardous chemicals, radioactive/dangerous/mixed waste, or samples could result in exposure to hazardous materials (corrosive, oxidizer, toxic) and/or low levels of radioactivity, as well as potential environmental damage by their release to the air, water, or soil column.

6.1.2.8 Radiological Material Release/Abnormal Radiation Level

Refer to Section 6.1.2.6.

6.1.2.9 Criticality

A criticality is not a credible accident at LERF.

6.1.3 TEDF and GTS Operations Emergencies

6.1.3.1 Loss of Utilities

Loss of utilities would interrupt the pumping and automatic sampling processes but would not be classed as a WAC 173-303 or DOE emergency.

6.1.3.2 Major Process Disruption/Loss of Plant Control

Process disruption/loss of plant control could cause an inadvertent discharge of treated effluent or nontreated groundwater to a nonpermitted area. Discharge to an unauthorized area would not be classed as a WAC 173-303 or DOE emergency.

6.1.3.3 Pressure Release

There are no high pressure systems at the TEDF or GTS. A piping system breach is addressed in section 6.1.3.6.

6.1.3.4 Fire and/or Explosion

A fire/explosion could generate highly toxic and/or corrosive fumes.

6.1.3.5 Hazardous Material Spill

No hazardous material is stored in the TEDF pump houses. Small quantities of hazardous material could be used in maintenance and sampling activities. This would not be classed as a WAC 173-303 or DOE emergency.

6.1.3.6 Dangerous/Mixed Waste Spill

Influent to TEDF is a nondangerous waste. TEDF and groundwater releases would not be classed as a WAC 173-303 or DOE emergency. LWPF surveillance serves as leak detection.

6.1.3.7 Transportation and/or Packaging Incidents

There are transportation and/or packaging activities at TEDF or GTS.

6.1.3.8 Radiological Material Release/Abnormal Radiation level

TEDF process liquid meets discharge limits. A groundwater release would not be classed as a WAC 173-303 or DOE emergency.

6.1.3.9 Criticality

A criticality is not a credible accident at TEDF or the GTS.

6.2 Natural Phenomena

6.2.1 Seismic Event

Depending on the magnitude of the seismic event, severe structural damage could occur at ETF/LERF, resulting in serious injuries or fatalities and the release of hazardous or radioactive materials to the environment. Damaged electrical circuits and wiring could result in the initiation of fires.

6.2.2 Ashfall/Snow Fall Roof Overloading

Ash or snow accumulations can cause actual roof or other structural damage to buildings containing hazardous material or radioactive/dangerous/mixed waste. There should be ample warning of an approaching large ashfall to allow the facilities to be placed in a stable condition.

6.2.3 High Winds/Tornados

Hazards associated with high winds or tornado include loss of electrical power, damage caused by flying objects, or structural damage.

6.2.4 Flood

A flood is not a credible accident at ETF/LERF because the facility is not within the Columbia River flood plain.

6.2.5 Range Fire

In the event that a range fire threatens any ETF/LERF building containing hazardous material or radioactive/dangerous/mixed waste, emergency classification will be made per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.K.

6.2.6 Aircraft Crash

If an aircraft crash occurs into or near ETF/LERF, emergency classification will be made per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.K.

6.3 Security Contingencies

6.3.1 Bomb Threat/Explosive Device

A bomb threat may be received by anyone who answers a telephone or receives mail. Bomb threats may pose a fire or explosion hazard. Fire or explosion from a bomb could lead to the release of hazardous constituents or materials and exposure or bodily harm to personnel. If the device explodes, classification of the event will be performed as stated in Section 6.1.1.4, 6.1.2.4, or 6.1.3.4.

6.3.2 Hostage Situation/Armed Intruder

A hostage situation or the entry of an armed hostile intruder(s) at ETF/LERF could pose an emergency situation if there is the potential to adversely impact the facility.

6.3.3 Suspicious Object

The major effect on the facility due to recognizing a suspicious object is that the facility should be placed in a safe configuration, if time permits, and the facility evacuated.

7.0 INCIDENT RESPONSE

The initial response to any emergency is to immediately protect the health and safety of persons in the immediate area. Identification of released material is essential to determine appropriate protective actions. Containment, event notification, treatment, and disposal assessment are secondary responses.

The following sections describe the process for implementing basic protective actions as well as descriptions of response actions for the events listed in Section 6.0. DOE/RL-94-02, Section 1.3, provides concept of operations for emergency response on the Hanford Site

Incident responses are coordinated from the ETF control room or a designated alternate location.

7.1 Protective Actions Responses

7.1.1 Evacuation

The objective of a facility evacuation order is to limit personnel exposure to hazardous materials or radioactive/dangerous/mixed waste by increasing the distance between personnel and the hazard. The scope of the evacuation includes evacuation of the facility because of an event at the facility as well as evacuation of the facility in response to a site evacuation order. Evacuation will be directed by the BED when conditions warrant and will apply to all personnel not actively involved in the event response or emergency plan-related activities.

The BED will initiate the evacuation by directing an announcement be made to evacuate along with the evacuation location over a public address system, facility radios, and, as conditions warrant, by activating the 200 Area site evacuation alarms by calling the POC using 911 or

373-3800 (if using a cellular phone). Personnel proceed to a predetermined staging area (shown in Figure 2), or other safe upwind location, as determined by the BED. The BED will determine the operating configuration of the facility and identify any additional protective actions to limit personnel exposure to the hazard.

Emergency organization personnel or assigned operations personnel will conduct a sweep of occupied buildings to ensure that all non-essential personnel and visitors have evacuated. For an immediate evacuation, accountability will be performed at the staging area. The BED will assign personnel as accountability aides and staging managers with the responsibility to ensure that evacuation actions are taken at all occupied buildings at the ETF or LERF complexes. All implementing actions executed by the aides/managers are directed by the emergency response procedures identified in Attachment A. When evacuation actions are complete, the aides/managers will provide a status report to the BED. The BED will provide status to the Incident Commander.

7.1.2 Take Cover

The objective of the take cover order is to limit personnel exposure to hazardous materials, or radioactive/dangerous/mixed waste when evacuation is inappropriate or not practical. Evacuation might not be practical or appropriate because of extreme weather conditions or the material release might limit the ability to safely evacuate personnel.

The BED will initiate the take cover by directing an announcement be made over the public address system, facility radios, and, as conditions warrant, by activating the 200 Area site take cover alarms by calling the POC using 911 or 373-3800 (if using a cellular phone). Actions to complete a facility take-cover will be directed by the emergency response procedure in Attachment A. Protective actions associated with operations include configuring, or shutting down, the ventilation systems. Determination of additional take cover response is based on plant operating configuration, weather conditions, amount and duration of release, and other conditions, as applicable to the event and associated hazard. As a minimum, personnel exposure to the hazard will be minimized. The BED will assign personnel as accountability aides with responsibility to ensure that take-cover actions are taken at all occupied buildings at the ETF complex. All implementing actions executed by the aides/managers are directed by the emergency response procedure in attachment A. When take cover actions are complete the aides/manager will provide the BED with a status report.

7.2 Response to Facility Operations Emergencies

If there is a potential for categorization of an Occurrence or classification into an Alert, Site Area or General Emergency, in the following facility operations emergency sections, reference shall be made to the site facility occurrence reporting procedure or the event recognition and classification procedure using the following statement,
"Depending on the severity of the following events, the BED reviews the site-wide procedures and facility specific procedure (s) and, as required, categorizes and classified the event. If necessary, the BED initiates area protective actions and site emergency response organization activation." The steps identified in the following description of actions do not have to be performed in sequence because of the unanticipated sequence of incident events. Attachment A provides a list of procedures.

7.2.1 Loss of Utilities

The hazards assessment has determined that this occurrence does not pose significant risk to human health or the environment. This event is not classified as a WAC 173-303 or DOE emergency. .

7.2.2 Major Process Disruption/Loss of Plant Control

The hazards assessment has determined that this occurrence does not pose significant risk to human health or the environment. This event is not classified as a WAC 173-303 or DOE emergency.

7.2.3 Pressure Release

The hazards assessment has determined that a pressure release does not pose significant risk to human health or the environment. This event is not classified as a WAC 173-303 or DOE emergency. Hazardous material release and radioactive/dangerous/mixed waste releases are addressed in Section 7.2.5.

7.2.4 Fire and/or Explosion

On becoming aware of a fire and/or explosion, the discoverer notifies personnel (if any) in the immediate area and directs them to a safe location. The discoverer then activates the nearest fire alarm pull station, contacts 911 to request fire fighting assistance, and contacts the ETF control room to report the fire. As soon as non-essential personnel are notified of a fire (verbally or by fire alarm activation), they immediately exit the facility to a safe upwind location, account for their personnel, and follow the instructions of responding personnel. If personnel are reported as missing, and might be within the facility, the Hanford Fire Department conducts a search.

The BED is notified and initiates activation of the incident command post and resources.

Operations personnel initiate a plant shutdown with the method (controlled or emergency) depending on the location and severity of the fire and the location and type of hazards in the affected area. A controlled shutdown is performed unless it is unsafe to remain in the control room. An emergency shutdown is performed if the control room must be evacuated. The BED interfaces with the Incident Commander and provides the following:

a. Location and health of personnel, including missing personnel and possible locations for fire fighters to search.

b. Location and severity of fire.

c. Known hazardous (radiological and nonradiological) conditions.

d. Facility operating status.

e. Utility systems status.

f. Support by radiological control personnel (i.e., monitoring, surveys, sampling, decontamination).

g. Facility layout, and facility known hazardous conditions, (i.e., electrical, thermal, flammable materials, pressurized cylinders, toxic gas, pressure systems, batteries, radiation areas, etc.).

h. Support for fire fighter activities as required.

Once the fire is extinguished, the Shift Operations Manager/BED ensures administrative restrictions are implemented to protect the facility, the workers, and the environment. The Shift Operations Manager/BED makes notifications as required and assists with recovery actions.

An incident requiring evacuation of personnel or the summoning of emergency response units does not necessarily indicate that the contingency plan has been implemented.

7.2.5 Hazardous Material, Radioactive/Dangerous/Mixed Waste Spills or Releases

The ETF and LERF have engineering controls to contain or minimize spills. These controls include, containment berms, dedicated spill control sumps, remote gauges and level indicators as well as spray shields on chemical pipe flanges. LWPF procedures provide alarm response and maintenance actions for leak detection equipment, surveillance of possible leak locations, and response actions for detected spills.

Spills can result from many sources including process leaks, container spills or leaks, damaged packages or shipments, or personnel error. Spills of mixed waste are complicated by the need to deal with the extra hazard induced by the presence of radioactive materials.

If a spill or release is discovered, the discoverer performs the following actions:

- Notifies the ETF control room - BED and initiates **SWIMS** response:
- Stops work,
- Warns others in the vicinity
- Isolates the area,
- Minimizes the spill if possible, and
- Requests the BED Secure unfiltered ventilation.
- The BED determines whether to activate the Incident Command System (ICS) based on classification of the spill and injured personnel; and evaluates the need to perform additional protective actions.

- If the ICS is not activated, the spill is mitigated with resources identified by the BED and proper notifications are made.
- If the ICS is requires activation, the BED calls 911 or 373-3800 using a cellular phone.
- The BED sends out a representative to meet the Hanford Fire Department.
- The BED provides formal turnover to the IC when the IC arrives at the ICP.
- The BED informs the Hanford Site Emergency Response Organization as to the extent of the emergency (including estimates of dangerous waste, mixed waste, or radioactive material quantities released to the environment.
- If operations are stopped, the BED ensures that the plant is put in safe shutdown configuration.
- Hanford Fire Department stablizes spill as needed.

7.2.5.1 Damaged, Unacceptable Hazardous Material, Dangerous and/or Mixed Waste Shipments

When a damaged shipment of hazardous material or dangerous waste arrives at the ETF and the shipment is unacceptable for receipt, actions will be taken to rectify the problem. If required, actions described in Section 7.2.5 are taken.

7.2.6 Radiological Material Release

At a minimum, actions described in Section 7.2.5 are taken. Abnormal radiation actions also may be implemented if conditions are warranted.

7.2.7 Criticality

The hazards assessment has determined that a criticality is not credible for ETF or LERF.

7.3 Prevention of Recurrence or Spread of Fires, Explosions, or Releases

The BED, as part of the incident command system, takes the steps necessary to ensure that a secondary release, fire, or explosion does not occur. The BED will take measures, where applicable, to stop processes and operations, collect and contain released waste, and remove or isolate containers. The BED also monitors for leaks, pressure buildups, gas generation, or ruptures in valves, pipes, or other equipment, whenever this is appropriate.

7.4 Response to Natural Phenomena

Depending on the severity of the event, the BED reviews occurrence reporting procedure or the facility event recognition and classification procedure and, as required, categorizes or classifies the event. If necessary, the BED initiates area protective actions and site emergency response organization activation.

7.4.1 Seismic Event

The Hanford Site emergency response organization's primary role in a seismic event is coordinating the initial response to injuries, fires, and fire hazards, and acting to contain or control radioactive and/or hazardous material releases.

Individuals should remain calm and stay away from windows, steam lines, and hazardous material storage locations. Once the shaking has subsided, individuals evacuate carefully and assist personnel needing help. The locations of any trapped individuals are reported to the BED or are reported to 911 or 373-3800 (if using a cellular phone).

The BED takes whatever actions are necessary to minimize damage and personnel injuries, including:

- Coordinating searches for personnel and potential hazardous conditions (fires, spills, etc.),
- Conducting personnel accountability,
- Securing utilities and facility operations,
- Arranging for rescue efforts, and notifying 911 or 373-3800 (if using a cellular phone) for assistance,
- Determining if hazardous materials were released,
- Determining current local meteorological conditions,
- Warning other facilities and implementing protective actions if release of hazardous materials poses a danger,
- Providing personnel and resource assistance to other facilities.

7.4.2 Volcanic Eruption/Ashfall

When notified of an impending ashfall, the BED implements measures to minimize the impact of the ashfall, including the following:

- Installing filter media over building ventilation intakes,
- Installing filter media or protective coverings on outdoor equipment that could

be adversely affected by the ash (diesel generators, equipment rooms etc.),

- Shutting down some or all operations and processes,
- Sealing secondary use exterior doors,

7.4.3 High Winds/Tornados

On notification of impending high winds, the BED takes steps necessary to secure all outside doors and windows, and secure all outdoor waste and hazardous material handling activities. All doors and windows are shut, and personnel are warned to use extreme caution when entering or exiting the building.

7.4.4 Flood

The hazard assessment determined that flooding at the LERF/ETF is not credible.

7.4.5 Range Fire

Responses to range fires are handled by preventive measures (i.e., keeping hazardous material and waste accumulation areas free of combustible materials such as weeds and brush). If a range fire breaches the facility boundary, the response is as described for a fire.

7.4.6 Aircraft Crash

Response to an aircraft crash would be appropriate for the condition created. For example: A fire due to explosion or electrical shorts would initiate the fire response actions specified in Section 7.2.4.

7.5 Security Contingencies

Depending on the severity of the event, the BED reviews occurrence reporting procedure or the facility event recognition and classification procedure and, as required, categorizes or classifies the event. If necessary, the BED initiates area protective actions and site emergency response organization activation.

7.5.1 Bomb Threat/Explosive Device

7.5.1.1 Telephone Threat

Personnel receiving telephoned threats attempt to get as much information as possible from the caller. A form is available for personnel to keep by their telephone to use as a guide for getting useful information from the caller. On conclusion of the call, personnel notify the BED and Security.

The BED evacuates the facility and questions personnel at the staging area regarding any suspicious objects in the facility. When Security personnel arrive, their instructions are followed.

7.5.1.2 Written Threat

Receivers of written threats handle the letter as little as possible and notify the BED and Security. Depending on the content of the letter, the facility may or may not be evacuated. The letter is turned over to Security personnel and their instructions are followed.

7.5.2 Hostage Situation/Armed Intruder

The discoverer of a hostage situation/armed intruder reports the situation to the BED and to the POC via 911 or 373-3800 (if using a cellular phone), if possible. The BED, after conferring with Security personnel, may covertly evacuate areas of the facility not observable by the hostage taker(s)/intruder. No alarms will be sounded.

Security will determine the remaining response actions and will activate the Hostage Negotiating Team, if necessary.

7.5.3 Suspicious Object

The discoverer of an suspicious object reports it to the BED and to the POC via 911 or 373-3800 (if using a cellular phone), and, if possible, ensures that the object is not disturbed.

The BED orders evacuation of the facility and (based on the description provided by the discoverer) attempts to determine the identity or owner of the object. This may be done by questioning facility personnel at the staging area.

If the identity/ownership of the object cannot be determined, then Security assumes command of the incident. The canine unit is used to determine if the package contains explosives. If there is a positive indication of explosives or it cannot be assured that there are no explosives, then the Richland Police Department's Emergency Ordinance Disposal Team is dispatched to the facility to properly dispose of the device.

8.0 TERMINATION OF EVENT, INCIDENT RECOVERY, AND RESTART OF OPERATIONS

The DOE/RL-94-02, *Hanford Emergency Management Plan*, Section 9.0, describes these considerations. The extent by which these actions are employed is based upon the incident classification of each event. In addition, DOE/RL-94-02 contains considerations for the management of incompatible wastes, which may apply.

8.1 Termination of Event

For events where the Hanford Emergency Operations Center (Hanford-EOC) is activated, the RL/ORP Emergency Manager has the authority to declare event termination. This decision is based on input from the BED, Incident Commander, and other emergency response organization members. For events where the Hanford-EOC is not activated, the incident command system and staff declare event termination.

8.2 Incident Recovery and Restart of Operations

A recovery plan is developed when necessary. A recovery plan is needed following an event where further risk could be introduced to personnel, the facility, or the environment through recovery action and/or to maximize the preservation of evidence. Depending on the magnitude of the event and the effort required to recover from the event, recovery planning may involve personnel from DOE-RL and other contractors. If a recovery plan is required, it is reviewed by appropriate personnel and approved by a Recovery Manager before restart. Restart of operations is performed in accordance with the approved plan.

If this plan is to be implemented for a RCRA emergency (see Section 4.0), the Washington State Department of Ecology is notified before operations can resume. The DOE/RL-94-02, *Hanford Emergency Management Plan*, Section 5.1 discusses different reports to outside agencies. This notification is in addition to other required reports and includes information documenting the following conditions:

1. There are no incompatibility issues with the waste and released materials from the incident.

2. All the equipment has been cleaned, fit for its intended use, and placed back into service. The notification may be made via telephone conference. Additional information that Ecology requests regarding these restart conditions will be included in the required 15-day report identified in WAC 173-303-360(2)(k).

For emergencies not involving activation of the Hanford-EOC, the BED ensures that conditions are restored to normal before operations are resumed. If the Hanford Site Emergency Response Organization was activated and the emergency phase is complete, a special recovery organization could be appointed at the discretion of DOE-RL to restore conditions to normal. This process is detailed in DOE-RL and contractor emergency procedures. The makeup of this organization depends on the extent of the damage and its effects. The onsite recovery organization is appointed by the appropriate contractor's management.

8.3 Incompatible Waste

After an event, the BED or the onsite recovery organization ensures that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed. Cleanup actions are taken by facility personnel or other assigned personnel. DOE/RL-94-02, Section 9.2.3, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. A field check for compatibility before storage is performed as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in storage areas appropriate for their compatibility class.

If incompatibility of wastes was a factor in the incident, the BED or the onsite recovery organization ensures that the cause is corrected.

8.4 Post Emergency Equipment Maintenance and Decontamination

All equipment used during an incident is decontaminated (if practicable) or disposed of as spill debris. Decontaminated equipment is checked for proper operation before storage for subsequent use. Consumable and disposed materials are restocked. Fire extinguishers are recharged or replaced.

The BED ensures that all equipment is cleaned and fit for its intended use before operations are resumed. Depleted stocks of neutralizing and absorbing materials are replenished, self-contained breathing apparatus are cleaned and refilled, protective clothing is cleaned or disposed of and restocked, etc.

9.0 EMERGENCY EQUIPMENT

Hanford Site emergency resources and equipment are described and listed in DOE/RL-94-02, Appendix C.

9.1 Fixed Emergency Equipment

FIXED EMERGENCY EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Safety shower/eye wash stations (ETF only)	1 - 2025E Rm 122 Decon Station 1 - 2025E South Wall of Process Area 1 - 2025E Rm 134 1 - Outside south 2025E near acid/caustic tanks 1 - Outside at Load-in station 1 - 2025E Rm 112 Laboratory	Assist in flushing chemicals/materials from the body and/or eyes and face of personnel.
Wet pipe sprinkler (ETF only)	Throughout the ETF except those areas protected by pre-active sprinklers.	Assist in the control of a fire.
Preactive sprinkler (ETF only)	Control room, communications room, electrical equipment room	Assist in the control of a fire. Maintained dry to prevent accidental damage to equipment.
Fire alarm pull boxes (ETF only)	All high traffic areas in operations administration and support areas, truck bay, and process area	Activate the local fire alarm
E-lights	Throughout ETF	1 hour temporary lighting

9.2 Portable Emergency Equipment

PORTABLE EMERGENCY EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Fire extinguisher ABC type	Throughout ETF (Administrative/Support areas), LERF, and TEDF	Fire suppression for Class A, B, and C fires
Fire extinguisher BC type	Throughout ETF (process area and electrical room)	Fire suppression for Class B and C fires
Portable safety showers and Eye Wash Stations	As needed for special evolutions and maintenance	Assist in flushing chemicals/ materials from the body and/or eyes and face of personnel.

9.3 Communications Equipment/Warning Systems

COMMUNICATIONS EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Fire alarms (ETF only)	Corridors, locker rooms, process area, drum storage, and truck bay	Audible throughout ETF
Take cover/evacuation	Site Emergency Alarm System	Audible outside buildings and inside administrative buildings
Public address system (ETF Only)	Throughout the ETF	Audible throughout ETF

Portable radios	Operations and maintenance personnel	Communication to control room
Telephone	ETF - control room, 2025E, 2025EA offices, MO-269, 2025EC71. LERF - MO-727 and 242AL71 instrument building LERF Garage 242AL11 TEDF - 225E(pump house 1), 225W (pump house 2), 6653 (sample building), 6653A (pump house 3)	Internal and external communications. Allows notification off outside resources (POC, HFD, Hanford Patrol, etc,.)
Crash alarms (ETF only)	Control room, 2025EA Rm 101	Audible in ETF control room
Area Radiation Monitors, Continuous Air Monitors	Evaporator skid and drum loadout area	Equipment only activated during potentially higher radiological campaigns

9.4 Personal Protective Equipment

PERSONAL PROTECTIVE EQUIPMENT		
Self contained breathing apparatus (SCBA)	4 - 2025E Rm 116	Breathable air for initial response to emergency, and recovery activities when required for radiological protection
Acid suits	3 each included in the spill response cabinets in 2025E.	Chemical protection for personnel during containment and isolation.
Respirators	2025E Rm 107A	Filtered air for recovery of known hazards.

9.5 Spill Control and Containment Supplies

SPILL KITS AND SPILL CONTROL EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Spill bag	1 - TEDF 6653 Disposal Sampling Building. 1 - 90-day storage CONEX East of 2025E building	Support containment and cleanup of 6 gallons of acids or bases.
Drum spill kit	2 - 2025E building in process area. 1 - MO-727 Change Trailer	Support containment and cleanup of 51 gallons of acids or bases.
Spill cart	2 - 2025E building in process area	Support containment and cleanup of 77 gallons of acids or bases.
Spill response cabinet	1 - 2025E Rm 122 1 - outside southeast side of 2025E.	Support equipment for spill response.
Spill bag	1 - 2025E Rm 112 1 - 2025E upper level process area.	Support containment and cleanup of 10 gallons of acids or bases.

9.6 Incident Command Post

For emergencies not requiring evacuation, the BED and support personnel will assemble in the ETF control room or other location as identified by the BED.

10.0 COORDINATION AGREEMENTS

DOE-RL has established a number of coordination agreements, or memoranda of understanding (MOU) with various agencies to ensure proper response resource availability for incidents involving the Hanford Site. A description of the agreements is contained in DOE/RL-94-02, Section 3, Table 3-1.

11.0 REQUIRED REPORTS

Post incident, written reports are required for certain incidents on the Hanford Site. The reports are described in DOE/RL-94-02, Section 5.1.

12.0 PLAN LOCATION

Copies of this plan are maintained at the following locations:

- ETF control room
- 242-A Evaporator control room
- Operations Managers office (Building 2025EA, room 101)
- 200 LWPF regulatory file

13.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

TITLE	WORK LOCATION	WORK PHONE
Shift Operation Manager (SOM)	2025E Building - ETF control room or 242-A Evaporator control room	373-9000 373-2737
Operations Manager		373-5533

Names and home telephone numbers of the BEDs and alternates are available from the POC (373-3800) in accordance with Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.

14.0 REFERENCES

DOEOrder 232.1, "Occurrence Reporting and Processing of Operations Information," U.S. Department of Energy, Washington D.C.

DOE/RL-94-02, *Hanford Emergency Management Plan*

WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, Washington State Department of Ecology, Olympia, Washington, as amended.

29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response*

NIOSH, *Pocket Guide to Chemical Hazards*, National Institute of Occupational Safety and Health, U.S. Department of Health and Human Resources, Public Health Service, Centers for Disease Control, Washington, D.C.

Hanford Facility RCRA Permit, Dangerous Waste Portion, Washington State Department of Ecology, Olympia, Washington, as amended.

ATTACHMENT A

Listing of Procedures and Documents

Site-Wide Procedures

DOE-0223, *Emergency Plan Implementing Procedures*:

- RLEP-1.1, "Hanford Incident Command System and Event Recognition and Classification," Appendix 1-2.K;
- RLEP-3.4, "Emergency Termination, Reentry, and Recovery."

Facility-Specific Emergency Response Procedures and Guides

EP-85B-001	Safety Shutdown
EP-85B-002	Minor Spill
EP-85B-003	Major Chemical Spill
EP-85B-004	Abnormal Radiation Levels
EP-85B-005	Fire/Explosion
EP-85B-006	Loss of AC Electrical Power
EP-85B-007	Take Cover
EP-85B-008	Evacuation
EP-85B-011	MCS Failure Safety Shutdown

Index

Page 2 of 16: Chapter 2, Section 2.1.2.1
Page 3 of 16: Appendix 7A, Section 4.0
Page 4 of 16: Appendix 7A, Section 7.2.4
Page 5 of 16: Appendix 7A, Section 14.0
Page 6 of 16: Appendix 4A, Table 4A-1
Page 7 of 16: Appendix 7A, Section 3.1
Page 8 of 16: Appendix 7A, Section 4.0
Page 9 of 16: Appendix 7A, Section 7.1.1
Page 10 of 16: Appendix 7A, Section 7.1.2
Page 11 of 16: Appendix 7A, Section 7.2
Page 12 of 16: Appendix 7A, Section 8.1
Page 13 of 16: Appendix 7A, Section 8.2
Page 14 of 16: Appendix 7A, Section 8.3
Page 15 of 16: Appendix 7A, Section 9.6
Page 16 of 16: Appendix 7A, Section 13

Hanford Facility RCRA Permit Modification Notification Form

Unit: 242-A Evaporator	Permit Part & Chapter: Part III, Chapter 5 and Attachment 35

Description of Modification:

Chapter 2, Section 2.1.2.1.:

2.1.2.1. The 207-A Retention Basins

The 207-A retention basins consist of six basins constructed of reinforced concrete, each having about 265,000 liters capacity. The north three basins ~~are~~ were used to temporarily store non-contact steam condensate from the 242-A Evaporator for sampling before discharge. Subsequently, the steam condensate was routed directly to the 200 Area Treated Effluent Disposal Facility (TEDF) and the 207-A retention basins are no longer used. The three north basins are included in the 242-A Evaporator waste management unit. The three south basins previously held process condensate mixed waste for sampling and discharge. These basins have been removed from service, emptied, and will be closed under a separate closure plan.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

1. General Permit Provisions
   A. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
12/13/99		07/07/02	3/2/10
E. S. Aromi Date	R. F. Guercia Date	R. J. Julian Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	Part III, Chapter 5 and Attachment 35

Description of Modification:

Appendix 7A, Section 4.0.

4.0 IMPLEMENTATION OF THE PLAN

To meet the requirements of WAC 173-303, this plan will be implemented when the BED has determined that a release, fire, or explosion involving dangerous waste or dangerous waste constituents that could threaten human health or the environment (WAC 173-303-350, Emergencies) has occurred at the facility. ~~An incident requiring evacuation of personnel or the summoning of emergency response units will not necessarily indicate that the plan will be implemented~~. The incident classification process is described in DOE/RL-94-02, Section ~~4.2~~ 5.7.1

Under DOE guidance, this plan will be implemented whenever the BED determines that one of the incidents listed in Section 6.0 of this plan has or will occur and that the severity is or will be such that there is a potential to endanger human health or the environment ~~(DOE Unusual Occurrence or Emergency)~~.

DOE Declared Emergencies are assigned one of three classifications which in the order of increasing severity are: 1) Alert Emergency, 2) Site Area Emergency, and 3) General Emergency. The 242-A Evaporator implements responses to these DOE emergencies through this plan and criteria identified in DOE-0223, RLEP 1.1, Appendix 1-2.M, and other documents listed in Attachment A of this plan.

The BED assesses each incident to determine the response necessary to protect personnel, the facility, and the environment. If emergency assistance from Hanford Patrol, Hanford Fire Department, or ambulance units is required, the Hanford Emergency Response Number (911) is used to contact the POC and request the desired assistance. To request other resources or assistance from outside the facility, the POC business number is used (373-3800).

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

1. General Permit Provisions
   A. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
12/13/99		2/14/00	3/2/00
E. S. Aromi Date	R. F. Guercia Date	R. Julian Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: 242-A Evaporator	Permit Part & Chapter: Part III, Chapter 5 and Attachment 35

Description of Modification:

Appendix 7A, Section 7.2.4.:

7.2.4. Fire and/or Explosion

On becoming aware of a fire and/or explosion, the discoverer notifies personnel (if any) in the immediate area and directs them to a safe location. The discoverer then activates the nearest fire alarm pull station, contacts 911 to request fire fighting assistance, and contacts the 242-A Evaporator control room to report the fire. As soon as non-essential personnel are notified of a fire (verbally or by fire alarm activation), they immediately exit the facility to a safe upwind location, account for their personnel, and follow the instructions of responding personnel. If personnel are reported as missing, and might be within the facility, the Hanford Fire Department conducts a search.

The BED is notified and initiates activation of the incident ~~event~~ command post and resources.

Operations personnel initiate a plant shutdown with the method (controlled or emergency) depending on the location and severity of the fire and the location and type of hazards in the affected area. A controlled shutdown is performed unless it is unsafe to remain in the control room. An emergency shutdown is performed if the control room must be evacuated. The ~~Shift Operations Manager~~ Building Emergency Director interfaces with the Hanford Fire Department and provides the following:

a. Location and health of personnel, including missing personnel and possible locations for fire fighters to search.
b. Location and severity of fire.
c. Known hazardous (radiological and nonradiological) conditions.
d. Facility operating status.
e. Utility systems status.
f. Support by radiological control personnel (i.e., monitoring, surveys, sampling, decontamination).
g. Facility layout, and facility known hazardous conditions, (i.e., electrical, thermal, flammable materials, pressurized cylinders, toxic gas, pressure systems, batteries, radiation areas, etc.).
h. Support for fire fighter activities as required.

Once the fire is extinguished, the Shift Operations Manager/BED ensures administrative restrictions are implemented to protect the facility, the workers, and the environment. The Shift Operations Manager/BED makes notifications as required and assists with recovery actions.

[redacted]

Modification Class: [1,2,3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

1. General Permit Provisions
   A. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
12/15/99		04/14/00	3/2/00
E. S. Aromi Date	R. F. Guercia Date DEC 27 1999	R. J. Julian Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: 242-A Evaporator	Permit Part & Chapter: Part III, Chapter 5 and Attachment 35

Description of Modification:

Appendix 7A, Section 14.0:

14.0 REFERENCES

~~DOE-0223, *Emergency Plan Implementing Procedures:*~~

~~DOE-0232~~ [redacted].1, "Occurrence Reporting and Processing of Operations Information", U.S. Department of Energy, Washington D.C.

DOE/RL-94-02, Hanford ~~Site Emergency Response Plan~~ Emergency Management Plan

~~DOE Order 5500.1B, *Emergency Management Systems*~~ [redacted] DOE-151.1 Comprehensive Emergency Management System

WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, Washington State Department of Ecology, Olympia, Washington.

29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response*

NIOSH, *Pocket Guide to Chemical Hazards*, National Institute of Occupational Safety and Health, U.S. Department of Health and Human Resources, Public Health Service, Centers for Disease Control, Washington, D.C.

Modification Class: [1 2 3]	Class I	Class[1] I	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

1. General Permit Provisions
   A. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
E. S. Aromi Date 12/13/99	R. F. Guercia Date DEC 27 1999	R. J. Julian Date 2/14/00	L.E. Ruud Date 3/2/00

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 4A, Table 4A-1:

The drawings in Table 4A-1 are process and instrumentation diagrams for the systems at the 242-A Evaporator that contact mixed waste. These drawings are provided for general information and to demonstrate the adequacy of the design of the tank systems. An update to these drawings will be provided annually to the Washington State Department of Ecology.

Table 4A-1. Process and Instrumentation Diagrams.

System	Drawing Number	Outstanding ECNs	Drawing Title
Vapor-Liquid Separator	H-2-98988 Sh. 1, Rev. ~~65~~	~~ECN-647922~~ ~~ECN-647911~~ ~~ECN-647883~~	P & ID Evap Recirc System
Reboiler/Recirculation Line	H-2-98988 Sh. 2, Rev. ~~5~~ 4	ECN-613444	P & ID Evap Recirc System
Slurry System	H-2-98989 Sh. 1,Rev. ~~109~~	None	P & ID Slurry System
Condensate Collection Tank	H-2-98990 Sh. 1,Rev. ~~98~~	None ~~ECN-642198~~	P & ID Process Condensate System
Secondary Containment Drain System	H-2-98995 Sh. 1, Rev. ~~110~~	None	P & ID Drain System
Secondary Containment Drain System	H-2-98995 Sh. 2, Rev. ~~5~~ 4	None	P & ID Drain System
Condensers	H-2-98999 Sh. 1, Rev. 11	None	P & ID Vacuum Condenser System
Pump Room Sump	H-2-99002 Sh. 1, Rev. 5	ECN-647885	P & ID Jet Gang Valve System
Condensate Recycle System	H-2-99003 Sh. 1, Rev. ~~109~~	ECN-627940 ~~ECN-647922~~	P & ID Filtered Raw Water System

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
3/22/00		APR 0 6 2000					
E. S. Aromi	Date	R. E. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 3.1:

3.1 Building Emergency Director

Emergency response is directed by the Building Emergency Director (BED) until the Incident Commander (IC) arrives. The incident command system and staff with supporting on-call personnel fulfill the responsibilities of the Emergency Coordinator as discussed in WAC 173-303-360.

During events, facility personnel perform response duties under the direction of the BED. The Incident Command Post (ICP) is managed by either the senior Hanford Fire Department member present on the scene or senior Hanford Patrol member present on the scene (security events only). These individuals are designated as the Incident Commander (IC) and as such have the authority to request and obtain any resources necessary for protecting people and the environment. The BED becomes a member of the ICP and functions under the direction of the IC. In this role the BED continues to manage and direct facility operations.

A listing of the primary and alternate BEDs by title, work location, and work telephone numbers is contained in Section 13 of this plan. The BED is on the premises or is available through an "on-call" list 24 hours a day. ~~Emergency Preparedness maintains a listing of BED~~ Names and ~~work and~~ home telephone numbers of the BEDs are available from ~~at~~ the Patrol Operations Center (POC) in accordance with *Hanford Facility RCRA Permit*, Dangerous Waste Portion, General Condition II.A.4.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
3/23/00	APR 0 6 2000		
E. S. Aromi Date	R. E. Guercia Date	J. J. Wallace Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: **242-A Evaporator**	Permit Part & Chapter: **Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 4.0:

4.0 IMPLEMENTATION OF THE PLAN

To meet the requirements of WAC 173-303, this plan will be implemented when the BED has determined that a release, fire, or explosion involving dangerous waste or dangerous waste constituents that could threaten human health or the environment (~~WAC 173-303-350, Emergencies~~ RCRA Emergency) has occurred at the facility. ~~An incident requiring evacuation of personnel or the summoning of emergency response units will not necessarily indicate that the plan will be implemented.~~ The ~~incident classification~~ RCRA Emergency determination process is described in DOE/RL-94-02, Section 4.~~0~~2.

~~Under DOE guidance, this plan will be implemented whenever the BED determines that one of the incidents listed in Section 6.0 of this plan has or will occur and that the severity is or will be such that there is a potential to endanger human health or the environment.~~

~~DOE Declared Emergencies are assigned one of three classifications which in the order of increasing severity are: 1) Alert Emergency, 2) Site Area Emergency, and 3) General Emergency. The 242-A Evaporator implements responses to these DOE emergencies through this plan and criteria identified in DOE 0223, RLEP 1.1, Appendix 1-2.M, and other documents listed in Attachment A of this plan.~~

The BED assesses each incident to determine the response necessary to protect personnel, the facility, and the environment. If emergency assistance from Hanford Patrol, Hanford Fire Department, or ambulance units is required, the Hanford Emergency Response Number (911) ~~is~~ must be used to contact the POC and request the desired assistance. To request other resources or assistance from outside the facility, the POC business number is used (373-3800).

Modification Class: [1 2 3]	Class 1	Class[1] 1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
   1. Administrative and Informational changes.

Submitted by Co-Operator		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
T Moore 3/29/00		APR 0 6 2000					
E. S. Aromi	Date	R. E. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1] 1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1] 1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 7.1.1:

7.1.1 Evacuation

The objective of a facility evacuation order is to limit personnel exposure to hazardous materials or radioactive/dangerous/mixed waste by increasing the distance between personnel and the hazard. The scope of the evacuation includes evacuation of the facility due to an event at the facility as well as evacuation of the facility in response to a site evacuation order. Evacuation is directed by the BED when conditions warrant and applies to all personnel not actively involved in the event response or in emergency plan-related activities.

The BED initiates the evacuation by directing an announcement be made to evacuate along with the evacuation location over the public address system and facility radios, activate the evacuation siren (steady siren) for three minutes, and, as conditions warrant, by activating the 200 Area evacuation alarms by calling the POC using 911 ~~(preferred)~~ or 373-3800 (if using a cellular phone). Personnel proceed to a predetermined staging area (shown in Figure 1), or other safe upwind location, as determined by the BED. The BED determines the operating configuration of the facility and identifies any additional protective actions to limit personnel exposure to the hazard.

Emergency organization personnel or assigned operations personnel conduct a sweep of occupied buildings to ensure that all non-essential personnel and visitors have evacuated. For an immediate evacuation, accountability is performed at the staging area. The BED assigns personnel as accountability aides and staging area managers with the responsibility to ensure that evacuation actions are taken at the 242-A and 242-AB Buildings. All implementing actions executed by the aides/managers are directed by the emergency response procedures identified in Attachment A. When evacuation actions are complete, the aides/managers provide a status report to the BED. The BED provides status to the Incident Commander.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
   1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date	R. E. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 7.1.2:

7.1.2 Take Cover

The objective of the take cover order is to limit personnel exposure to hazardous or radioactive/dangerous/mixed waste when evacuation is inappropriate or not practical. Evacuation might not be practical or appropriate because of extreme weather conditions or the material release might limit the ability to safely evacuate personnel.

The BED initiates the take cover by directing an announcement be made over the public address system and facility radios, by activating the take cover siren (wavering siren) for three minutes, and, as conditions warrant, by activating the 200 Area take cover alarms by calling the POC using 911 ~~(preferred)~~ or 373-3800 (if using a cellular phone). Actions to complete a facility take cover order are directed by the emergency response procedure in Attachment A. Protective actions associated with operations include configuring, or shutting down, the ventilation systems. Determination of additional take cover actions is based on operating configuration, weather conditions, amount and duration of release, and other conditions, as applicable to the event and associated hazard. As a minimum, personnel exposure to the hazard are minimized. The BED assigns personnel as accountability aides with responsibility to ensure that take cover actions are taken at all occupied buildings at the 242-A Evaporator. All implementing actions executed by the aides/managers are directed by the emergency response procedures in Attachment A. When take cover actions are complete the aides/managers provide the BED with a status report.

Modification Class: [1 2 3]	Class 1	Class[1] 1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date	R. E. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1] Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1] 1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1] 1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 7.2:

7.2 Response to Facility Operationsal Emergencies

Depending on the severity of the following events, the BED reviews the site-wide procedures and facility-specific procedure(s) and, as required, categorizes and classified the event. If necessary, the BED initiates area protective actions and site emergency response organization activation. The steps identified in the following description of actions do not have to be performed in sequence because of the unanticipated sequence of incident events. ~~Operational activities to isolate, contain, and mitigate the event can be performed in parallel with classification and protective action implementation. The responses are structured to allow parallel activity with clearly established priorities. The division of actions and workload between various personnel is such that coordinated team responses result in the successful implementation of both emergency operating actions and emergency planning requirements. Specific event mitigation strategy for each type of accident is provided in the following sections.~~

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date	R. F. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 8.1:

8.1 Termination of Event

For events where the ~~DOE-RL~~ Hanford Emergency Operations Center (~~RL~~ Hanford-EOC) is activated, the ~~DOE-RL~~ RL/ORP Emergency Manager has the authority to declare event termination. This decision is based on input from the BED, Incident Commander, and other emergency response organization members. For events where the ~~RL~~ Hanford-EOC is not activated, the incident command system and staff declare event termination.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
3/20/00	APR 0 6 2000		
E. S. Aromi Date	R. E. Guercia Date	J. J. Wallace Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: 242-A Evaporator	Permit Part & Chapter: **Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 8.2:

8.2 Incident Recovery and Restart of Operations

A recovery plan is developed when necessary. A recovery plan is needed following an event where further risk could be introduced to personnel, the facility, or the environment through recovery action and/or to maximize the preservation of evidence. Depending on the magnitude of the event and the effort required to recover from the event, recovery planning may involve personnel from DOE-RL and other contractors. If a recovery plan is required, it is reviewed by appropriate personnel and approved by a Recovery Manager before restart. Restart of operations is performed in accordance with the approved plan.

If this plan is to be implemented for a ~~WAC~~ RCRA emergency (see Section 4.0), the Washington State Department of Ecology is notified before operations can resume. The DOE/RL-94-02, *Hanford Emergency Management Plan*, Section 5.1 discusses different reports to outside agencies. This notification is in addition to other required reports and includes information documenting the following conditions:

1. There are no incompatibility issues with the waste and released materials from the incident.
2. All the equipment has been cleaned, fit for its intended use, and placed back into service. The notification may be made via telephone conference. Additional information that Ecology requests regarding these restart conditions will be included in the required 15-day report identified in WAC 173-303-360(2)(k).

For emergencies not involving activation of the ~~RL~~ Hanford-EOC, the BED ensures that conditions are restored to normal before operations are resumed. If the Hanford Site Emergency Response Organization was activated and the emergency phase is complete, a special recovery organization could be appointed at the discretion of DOE-RL to restore conditions to normal. This process is detailed in DOE-RL and contractor emergency procedures. The makeup of this organization depends on the extent of the damage and its effects. The onsite recovery organization is appointed by the appropriate contractor's management.

Modification Class: [1 2 3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
D Moore 3/27/00		APR 0 6 2000					
E. S. Aromi	Date	R. E. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: 242-A Evaporator	Permit Part & Chapter: Part III, Chapter 5 and Attachment 35

Description of Modification:

Appendix 7A, Section 8.3:

8.3 Incompatible Waste

After an event, the BED or the onsite recovery organization ensures that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed. Cleanup actions are taken by facility personnel or other assigned personnel. DOE/RL-94-02, Section 9.2.3, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. A field check for compatibility before storage is performed as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in storage areas appropriate for their compatibility class.

If incompatibility of wastes was a factor in the incident, the BED or the onsite recovery organization ensures that the cause is corrected.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
   1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date 3/22/00	R. E. Guercia	Date APR 0 6 2000	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 *modifications requiring prior Agency approval.*

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
242-A Evaporator	**Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 9.6:

9.6 ~~**Emergency Response Center**~~ **Incident Command Post**

For emergencies not requiring evacuation, the BED and support personnel will assemble in the 242-A Evaporator control room, or other location as identified by the BED.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
E. S. Aromi	Date	R.E. Guercia	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit: 242-A Evaporator	Permit Part & Chapter: **Part III, Chapter 5 and Attachment 35**

Description of Modification:

Appendix 7A, Section 13

13.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

~~BED~~	TITLE	WORK LOCATION	WORK PHONE
~~Primary~~	Shift Operation Manager (SOM)	242-A Evaporator control room or 200 Area Effluent Treatment Facility Control Room	373-2737, Evap control room ~~373-4446, Evap shift office~~ ~~373-0993, ETF shift office~~ 373-9000, ETF control room
~~Alternate~~	~~BED Qualified Shift Technical Authority~~ Operations Manager	~~2025E~~	373-5533~~372-0000~~

~~The complete building emergency organization listing of positions, names, work locations and telephone numbers for essential LWPF personnel is maintained in the organization administrative procedures. Copies are distributed to appropriate facility locations and to Emergency Preparedness. In addition, work~~ Names and home telephone numbers of the BEDs ~~and alternates~~ are available from the POC (373-3800) in accordance with Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.

Modification Class: [1 2 3]	Class 1	Class[1] 1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions
   1. Administrative and Informational changes.

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
[signature] 3/28/00	[signature] APR 0 6 2000		
E. S. Aromi Date	R. E. Guercia Date	J. J. Wallace Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modifications

Part III, Chapter 5 and Attachment 35
242-A Evaporator

Replacement Sections

Index

Chapter 2
Appendix 4A
Appendix 7A

CONTENTS

2.0 FACILITY DESCRIPTION AND GENERAL PROVISIONS [B AND E] 2-1
2.1 242-A EVAPORATOR DESCRIPTION [B-1] 2-1
2.1.1 Process Buildings 2-1
2.1.1.1 Control Room 2-1
2.1.1.2 Aqueous Makeup Room 2-2
2.1.1.3 Evaporator Room 2-2
2.1.1.4 Condenser Room 2-2
2.1.1.5 Pump Room 2-2
2.1.1.6 Loadout and Hot Equipment Storage Room 2-2
2.1.1.7 Loading Room 2-3
2.1.1.8 Heating, Ventilation, and Air Conditioning Room 2-3
2.1.1.9 Ion Exchange Column Room 2-3
2.1.1.10 Miscellaneous Offices, Lunch Room, Lavatories, and Change Rooms 2-3
2.1.2 External Equipment and Structures 2-3
2.1.2.1 The 207-A Retention Basins 2-3
2.1.2.2 Steam Service Supply 2-3
2.1.2.3 Ventilation Exhaust Fans and Filter Housing 2-3
2.1.2.4 Raw Water Service Building 2-4
2.1.3 Other Environmental Permits 2-4
2.1.4 Construction Schedule 2-4
2.2 TOPOGRAPHIC MAP [B-2] 2-4
2.3 ROADWAY TRAFFIC TO THE 242-A EVAPORATOR [B-4] 2-4
2.4 RELEASE FROM SOLID WASTE MANAGEMENT UNITS [E] 2-4

APPENDIX

2A TOPOGRAPHIC MAP ..... APP 2A-i

FIGURES

Figure 2-1. 242-A Evaporator Simplified Schematic. F2-1
Figure 2-2. 242-A Evaporator Perspective. F2-2
Figure 2-3. 242-A Evaporator First Floor Plan. F2-3
Figure 2-4. 242-A Evaporator Second Floor Plan. F2-4
Figure 2-5. Side View of 242-A and 242-AB Buildings. F2-5

This page intentionally left blank.

2.0 FACILITY DESCRIPTION AND GENERAL PROVISIONS [B AND E]

The 242-A Evaporator is an existing waste management unit located in the 200 East Area (Chapter 1.0).

The 242-A Evaporator treats mixed waste from the Double-Shell Tank System (DST System) (DOE/RL-90-39) by removing water and most volatile organics. The mixed waste is separated into a slurry stream and a process condensate stream.

A more detailed discussion of waste types and manifesting, and the identification of the processes and equipment, are provided in Chapters 3.0 and 4.0 respectively. Although the treatment, storage, and/or disposal of radioactive waste (i.e., source, special nuclear, and by-product materials as defined by the *Atomic Energy Act of 1954*) are not within the scope of *Resource Conservation and Recovery Act* (RCRA) *of 1976* or WAC 173-303, information is provided for general knowledge.

2.1 242-A EVAPORATOR DESCRIPTION [B-1]

The following sections provide general descriptions of the 242-A Evaporator process components (Figure 2-1). Detailed process information for each component is provided in Chapter 4.0.

2.1.1 Process Buildings

The principle process components of the 242-A Evaporator system are located in the 242-A and 242-AB Buildings (Figure 2-2), along with supporting service and operating areas. These buildings enclose the following areas that handle mixed waste:

- Evaporator room
- Condenser room
- Pump room
- Loadout and hot equipment storage room
- Loading room
- Ion exchange column room.

In addition, 242-A and 242-AB Buildings enclose the following areas that do not contain or handle mixed waste.

- Control room (242-AB Building)
- Aqueous makeup (AMU) room
- Heating, ventilation, and air conditioning (HVAC) room
- Miscellaneous offices, lunch room, lavatories, and change rooms.

Figures 2-3 and 2-4 provide floor plans for the first and second floors of the 242-A and 242-AB Buildings and Figure 2-5 provides building elevations.

2.1.1.1 Control Room

The new control room, located in the 242-AB Building, contains the centralized monitoring and control system (MCS). The MCS computer monitors process parameters and controls the parameters where required. Once the configuration parameters and other process control functions are set, the MCS functions independently of the operator, maintaining process parameters within specified ranges by sending output signals that operate specific pieces of equipment (e.g., control valves).

The control room also has instrumentation that monitors alarms at 241-AW, 241-AN, 241-AP, 241-A, and 242-AX Tank Farms, as well as computer terminals for the computer automated surveillance system (CASS) and the laboratory computer system (for access to sample results).

2.1.1.2 Aqueous Makeup Room

The AMU room, located on the south end of the 242-A Building, is used for receiving and mixing chemicals and transferring these into the process. The room contains the antifoam tank (E-102), a 378-liter (100-gallon) tank used to hold antifoam added to the process, the eluant tank (E-101), a 15,900-liter tank that is no longer used, and the decontamination tank (E-104), a 2,350-liter tank used to hold decontamination solutions, such as water or citric acid.

2.1.1.3 Evaporator Room

The evaporator room contains the vapor-liquid separator where evaporative separation and concentration take place, and the reboiler, which heats process solution to the required temperature. The room is set 3.0 meters belowgrade and extends approximately five stories abovegrade with work platforms located at each level.

Personnel entries to the evaporator room are made only for nonroutine maintenance and inspections. Such entries require that the evaporator vessel be drained and flushed with water or decontamination solution to reduce radiation exposure to personnel.

2.1.1.4 Condenser Room

The condenser room, like the adjacent evaporator room, is approximately five stories abovegrade, with the floor set 3.0 meters belowgrade. Condensed vapors from three condensers drain by gravity to the condensate collection tank located on the bottom floor. The condenser room also houses the vacuum condenser system, process condensate pump, condensate recycle pump, process instrumentation, and other equipment.

Also located in the condenser room is the vessel ventilation system. The vessel ventilation system is used to filter and exhaust noncondensable vapors from the 242-A Evaporator process vessels. The system consists of a deentrainment unit, prefilter, heater, high-efficiency particulate air (HEPA) filters, and an exhauster.

2.1.1.5 Pump Room

The pump room is located directly south of the evaporator room and houses the recirculation pump and slurry pump. Equipment in the pump room is designed to be maintained remotely using a bridge-type service crane. Concrete cover blocks (that can be moved by the crane) cover the pump room to provide confinement of contaminants.

A portion of the pump room floor is set 3.0 meters belowgrade to contain potential spills. Located in this section of the floor is a 1.5-meter by 1.5-meter by 1.8-meter deep sump lined with stainless steel to collect spills from various floor drains.

2.1.1.6 Loadout and Hot Equipment Storage Room

The loadout and hot equipment storage room is located adjacent to the pump room and is open to the overhead crane gallery. Failed pump room equipment (pumps, jumpers, etc.) are placed here by crane, decontaminated, and either repaired or packaged for disposal.

A shielded sampling enclosure is located within the room along a portion of the wall that is common with the pump room. Sampling lines run from the pump room to this enclosure. Valve handles outside the enclosure and a shielded viewing window allows the remote collection of feed and slurry samples.

2.1.1.7 Loading Room

The loading room is located in the southwest corner of the 242-A Building. The ceiling of the loading room is formed by a rollup, nylon-vinyl curtain-type door enclosure that can be rolled open to allow transfer of equipment between the loading room and the loadout and hot equipment storage room using the overhead crane.

2.1.1.8 Heating, Ventilation, and Air Conditioning Room

The HVAC room is located on the second floor, directly above the AMU room. The HVAC room contains the supply ventilation equipment for the 242-A Building.

2.1.1.9 Ion Exchange Column Room

The ion exchange enclosure is a small area that holds the ion exchange column for process condensate treatment. The enclosure is located on the north wall of the condenser room.

2.1.1.10 Miscellaneous Offices, Lunch Room, Lavatories, and Change Rooms

The offices, lunch room, lavatories, and change rooms are located on the first floor away from contaminated areas.

2.1.2 External Equipment and Structures

In addition to the equipment and structures housed within the 242-A and 242-AB Buildings, some external equipment and structures are required for 242-A Evaporator operation. These external units include the following:

- The 207-A retention basins
- Steam service supply
- Ventilation exhaust fans and HEPA filter housing
- Raw water service building.

2.1.2.1 The 207-A Retention Basins

The 207-A retention basins consist of six basins constructed of reinforced concrete, each having about 265,000 liters capacity. The north three basins were used to temporarily store non-contact steam condensate from the 242-A Evaporator for sampling before discharge. Subsequently, the steam condensate was routed directly to the 200 Area Treated Effluent Disposal Facility (TEDF) and the 207-A retention basins are no longer used. The three north basins are included in the 242-A Evaporator waste management unit. The three south basins previously held process condensate mixed waste for sampling and discharge. These basins have been removed from service, emptied, and will be closed under a separate closure plan.

2.1.2.2 Steam Service Supply

Steam needed for the 242-A Evaporator process currently is supplied by the 200 East Area powerhouse, 284-E Building, which supplies a high-pressure steam loop serving many units in the 200 East Area. A 6-inch steam line supplies 1,550 kilopascals gauge pressure steam to the 242-A Evaporator Building. In the future, the 284-E Building will be shut down and steam will be provided to units in the 200 East Area (including the 242-A Evaporator) by several package boilers. The 284-E Building and the package boilers are not part of the 242-A Evaporator.

2.1.2.3 Ventilation Exhaust Fans and Filter Housing

The exhaust fans and the HEPA filter system are located north of the 242-A Evaporator. There is no dangerous or mixed waste associated with this exhaust system, which ventilates the various rooms within the building for contamination control.

2.1.2.4 Raw Water Service Building

The raw water service building (242-A-81) houses the valves and strainers for routing raw process water to the 242-A Evaporator. Columbia River water is supplied to the water service building from the 284-E Water Supply Reservoir. Water used to backflush strainers in the water service building is routed to TEDF. No dangerous or mixed waste is present in the raw water service building. The 284-E Water Supply Reservoir is not considered part of the 242-A Evaporator.

2.1.3 Other Environmental Permits

All environmental permits that are required to support operation of the 242-A Evaporator are identified in the *Annual Hanford Site Environmental Permitting Status Report* (e.g., DOE/RL-96-63).

2.1.4 Construction Schedule

Any proposed new construction for mixed waste operations will be managed as described in the Hanford Facility RCRA Permit.

2.2 TOPOGRAPHIC MAP [B-2]

A topographic map (Drawing H-13-000039) is located in Appendix 2A.

2.3 ROADWAY TRAFFIC TO THE 242-A EVAPORATOR [B-4]

General traffic information for the Hanford Facility is presented in the General Information Portion (DOE/RL-91-28). Access to the 242-A Evaporator is provided by 4th Street to the south and Canton Avenue to the east. These roads are constructed of bituminous asphalt that provides satisfactory all-weather access. Paved parking areas are provided for 242-A Evaporator personnel.

2.4 RELEASE FROM SOLID WASTE MANAGEMENT UNITS [E]

Information concerning releases from solid waste management units is discussed in the General Information Portion (DOE/RL-91-28).

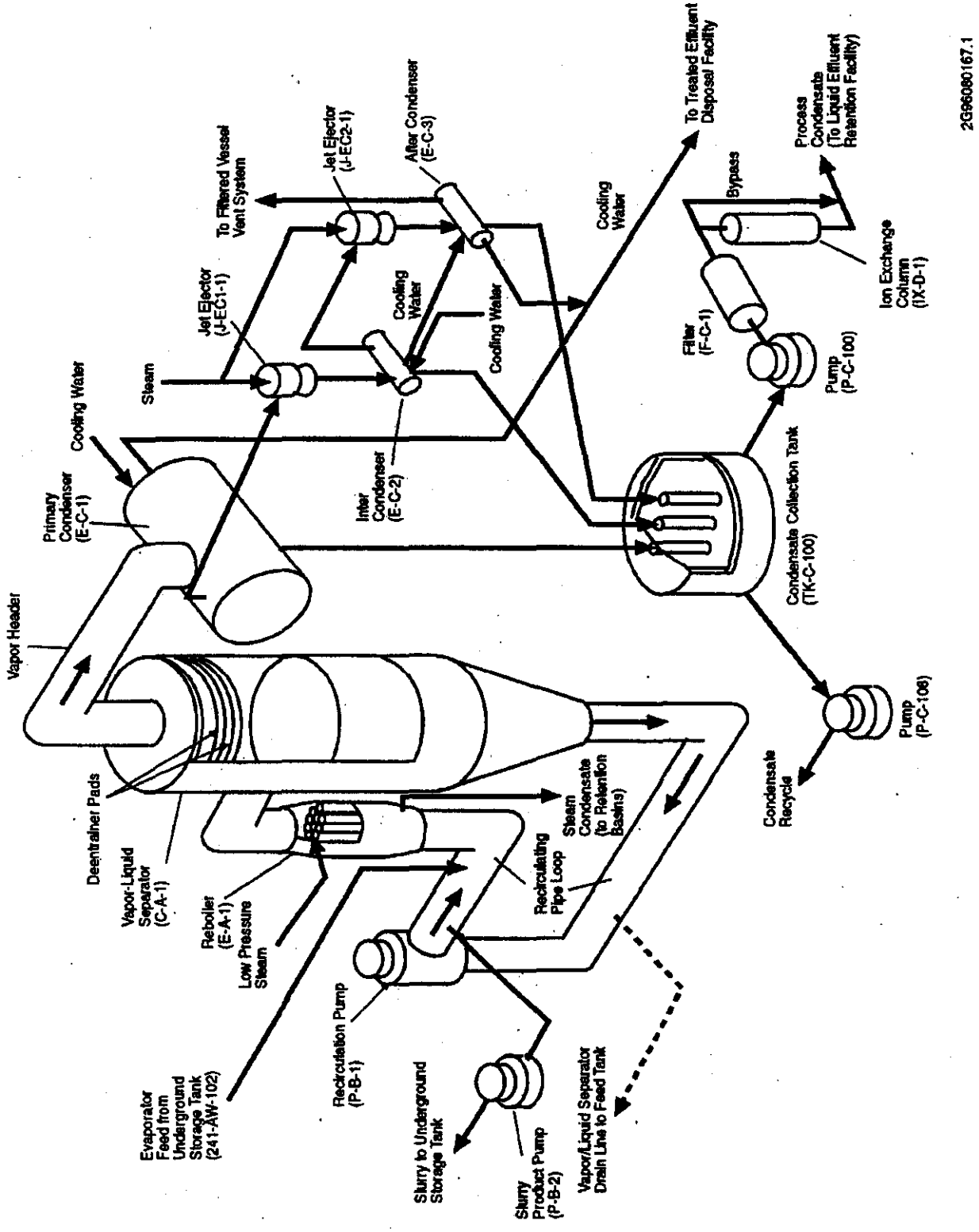
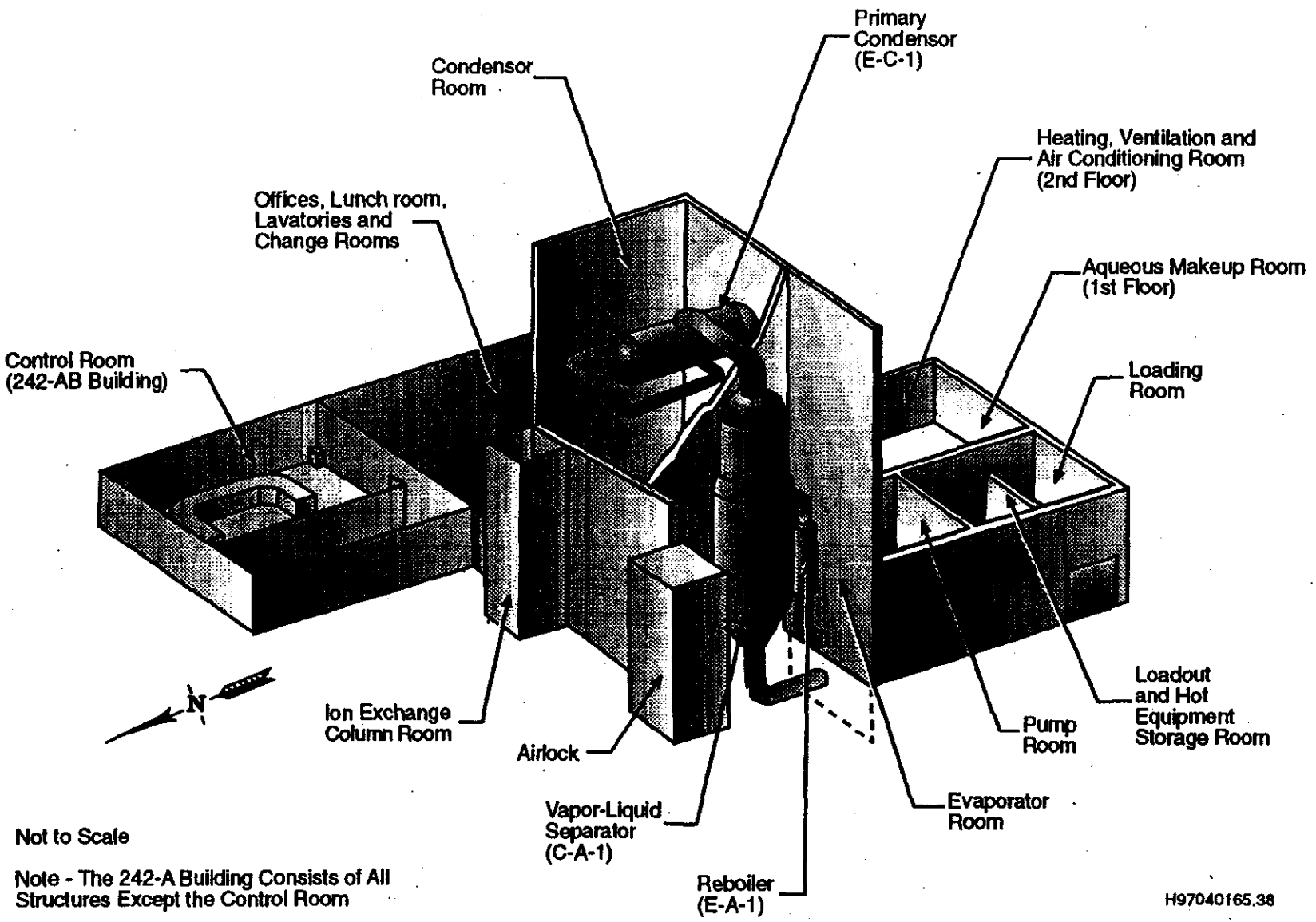


Figure 2-1. 242-A Evaporator Simplified Schematic.



Not to Scale

Note - The 242-A Building Consists of All Structures Except the Control Room

Figure 2-2. 242-A Evaporator Perspective.

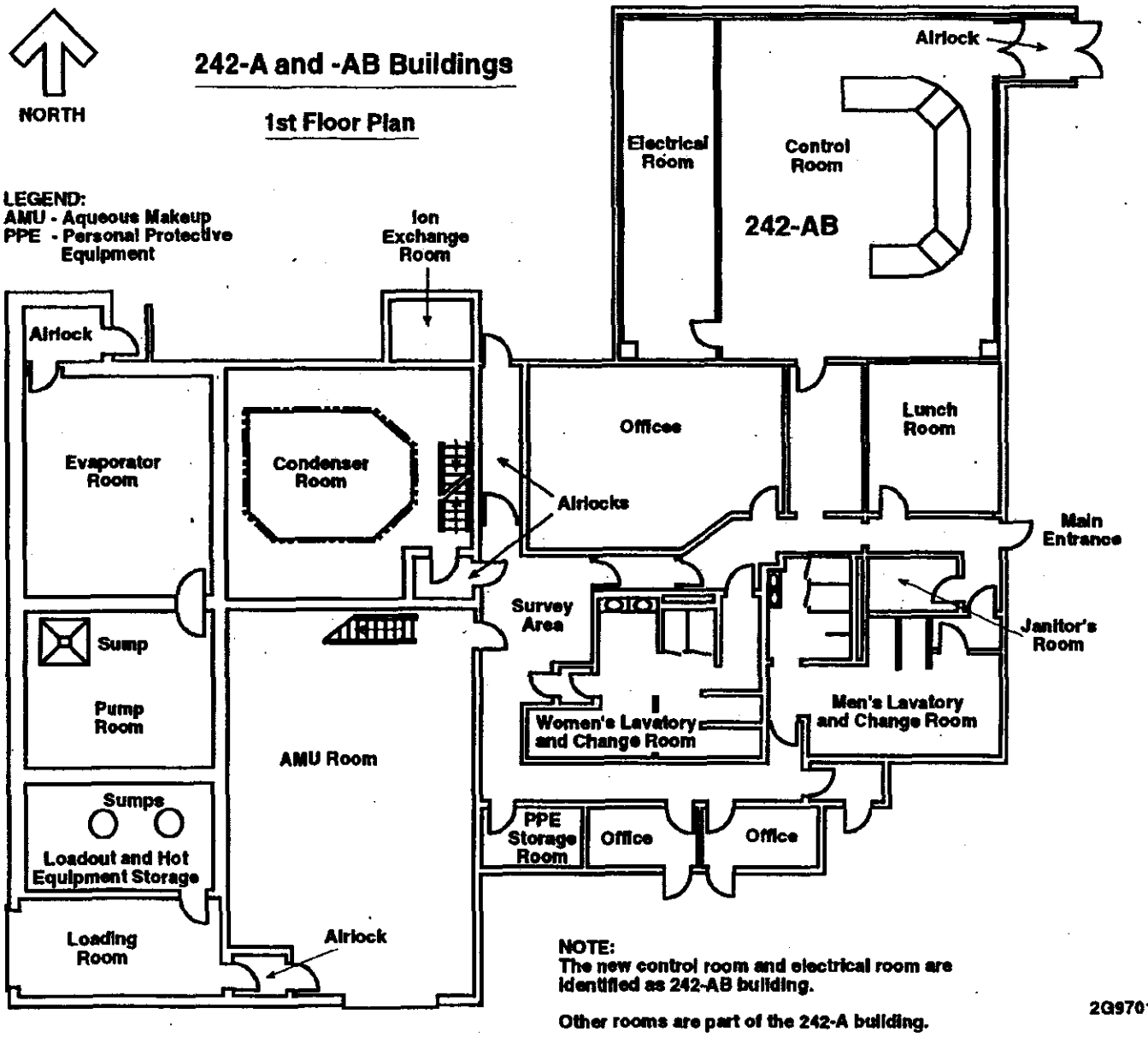


Figure 2-3. 242-A Evaporator First Floor Plan.

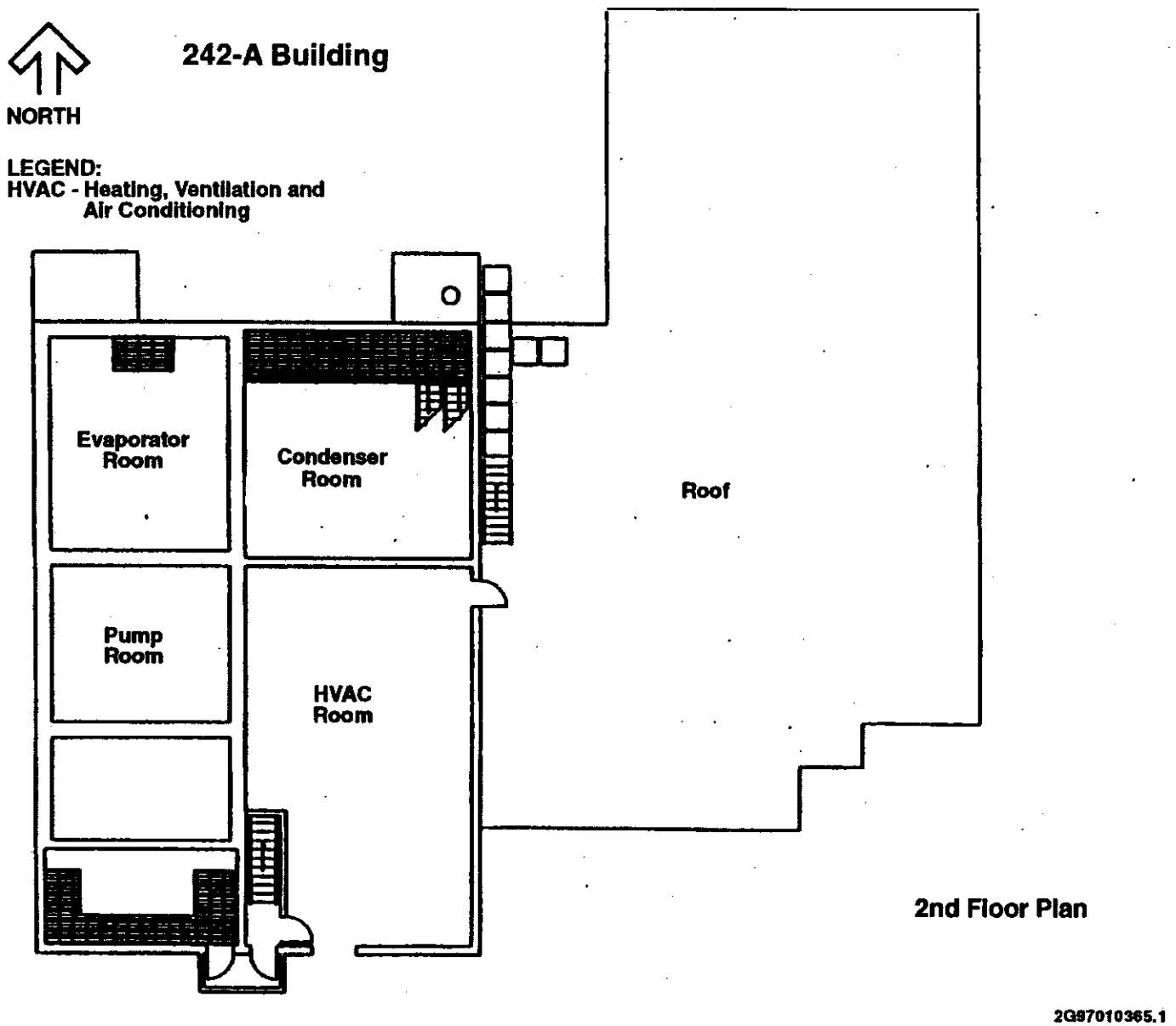


Figure 2-4. 242-A Evaporator Second Floor Plan.

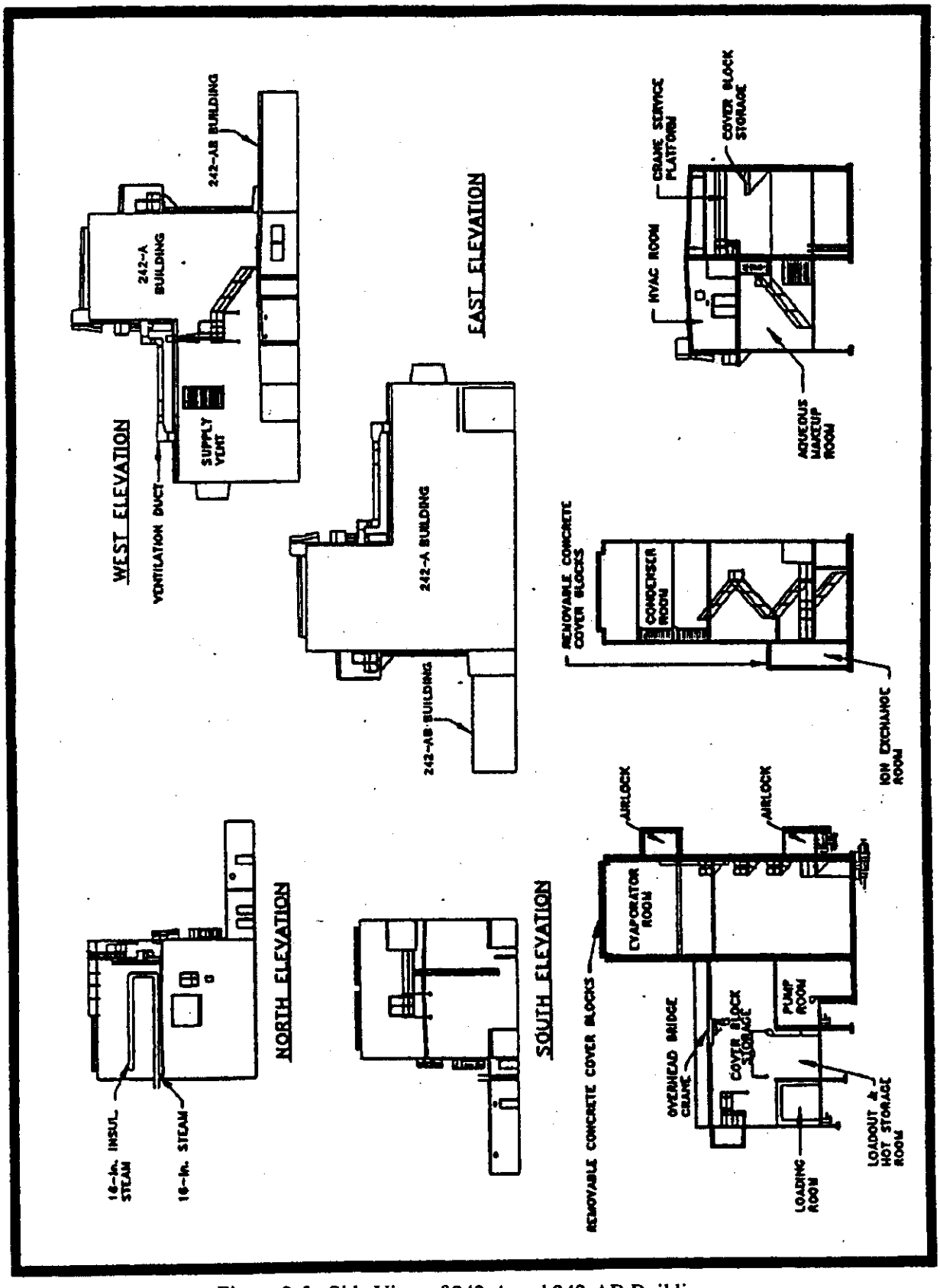


Figure 2-5. Side View of 242-A and 242-AB Buildings.

This page intentionally left blank.

APPENDIX 4A

ENGINEERING DRAWINGS

ENGINEERING DRAWINGS

CONTENTS

The drawings in Table 4A-1 are process and instrumentation diagrams for the systems at the 242-A Evaporator that contact mixed waste. These drawings are provided for general information and to demonstrate the adequacy of the design of the tank systems. An update to these drawings will be provided annually to the Washington State Department of Ecology.

Table 4A-1. Process and Instrumentation Diagrams.

System	Drawing Number	Outstanding ECNs	Drawing Title
Vapor-Liquid Separator	H-2-98988 Sh. 1, Rev. 6	ECN-647922	P & ID Evap Recirc System
Reboiler/Recirculation Line	H-2-98988 Sh. 2, Rev. 5	ECN-613444	P & ID Evap Recirc System
Slurry System	H-2-98989 Sh. 1,Rev. 10	None	P & ID Slurry System
Condensate Collection Tank	H-2-98990 Sh. 1,Rev. 9	None	P & ID Process Condensate System
Secondary Containment Drain System	H-2-98995 Sh. 1, Rev. 11	None	P & ID Drain System
Secondary Containment Drain System	H-2-98995 Sh. 2, Rev. 5	None	P & ID Drain System
Condensers	H-2-98999 Sh. 1, Rev. 11	None	P & ID Vacuum Condenser System
Pump Room Sump	H-2-99002 Sh. 1, Rev. 5	ECN-647885	P & ID Jet Gang Valve System
Condensate Recycle System	H-2-99003 Sh. 1, Rev. 10	ECN-627940 ECN-647922	P & ID Filtered Raw Water System

ECN - engineering change notice.
P & ID - piping and instrumentation diagram.

The drawings in Table 4A-2 are for secondary containment systems for the 242-A Evaporator. Because secondary containment systems are the final barrier for preventing the release of dangerous waste into the environment, ECNs that affect the secondary containment systems will be submitted to the Washington State Department of Ecology, as a Class 1, 2, or 3 permit modification, as required by WAC 173-303-830.

Table 4A-2. Drawing of 242-A Evaporator Secondary Containment Systems.

System	Drawing Number	Outstanding ECNs	Drawing Title
242-A Building	H-2-69277 Sh 1, Rev 2	None	Structural Foundation Plan Sections & General Notes - Areas 1 & 2
	H-2-69278 Sh 1, Rev 3	None	Structural Foundation Elevations & Details - Areas 1 & 2
	H-2-69279 Sh 1, Rev 3	None	Structural First Floor Plan & AMU - Areas 1 & 2
Pump Room Sump Drainage	H-2-69352 Sh 1, Rev 4	121216 121238 194242 610629 620353	Sections Process Waste Drainage
242-A Building Drainage	H-2-69354 Sh 1, Rev 4	194242 610629 620353	Plan Process Waste Drainage
Pump Room Sump	H-2-69369 Sh 1, Rev 1	None	Pump Room Sump Assembly & Details

This page intentionally left blank.

Hanford Facility RCRA Permit Modifications

Part III, Chapter 5 and Attachment 35
242-A Evaporator

Outstanding ECNs

Appendix 4A
Table 4A-1

CPF 13A
PF 13B
PF 4
PF 7

ENGINEERING CHANGE NOTICE ESSENTIAL

Page 1 of 4

1. ECN 647922

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	TM GALIOTO, 32230, S6-72, 373-4894	[X] Yes [] No LW-99-029 Rev 1.	08-09-99
	6. Project Title/No./Work Order No. Weight Factor Drip Water System Cap	7. Bldg./Sys./Fac. No. 242A/200E	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 13A	10. Related ECN No(s). NA	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-99-00443/M	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? [X] Yes [] No

H-2-98988 SH1 Rev 6
See Page 3 this ECN

H-2-99003 SH1 Rev 10
See Page 4 this ECN

Piping, fittings, and jointing methods to meet the requirements of 242-A piping specification M-9 and M-31 as appropriate. Install, inspect, and test the new piping installation in accordance with B31.1.

14a. Justification (mark one)

Criteria Change	[X]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

The weight factor drip water system is inactive but not currently removed fromt he system. When pressurizing the dip tube legs for flushing the potential exists to inadventently damage the sight glasses on these lines. This ECN will cap the lines so that the sight glass is isolated.

15. Distribution (include name, MSIN, and no. of copies)

TM GALIOTO	S6-72*	RF WEIS	S6-71
NJ SULLIVAN	S6-72	RS WEBER	S6-71
DK SMITH	S6-71	* = ADVANCED COPY	
J ISDELL	S6-17*		
MW BOWMAN	S6-72		

RELEASE STAMP

DATE: AUG 09 1999

STA: HANFORD RELEASE ID: 18

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 647918

16. Design Verification Required	17. Cost Impact		18. Schedule Impact (days)
	ENGINEERING	CONSTRUCTION	
[X] Yes	Additional [] $	Additional [] $	Improvement []
[] No	Savings [] $NA	Savings [] $NA	Delay [] NA

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[X]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]	None	[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
TO-600-010		

21. Approvals

	Signature	Date		Signature	Date
Design Authority	TM GALIOTO TM Galioto	8-9-99	Design Agent	TM Galioto	8-9-99
Cog. Eng.	TM Galioto	8-9-99	PE		
Cog. Mgr.	[illegible]	8-9-99	QA		
QA			Safety		
Safety			Design		
Environ.			Environ.		
Informal Review	[illegible]	8-9-99	Other		

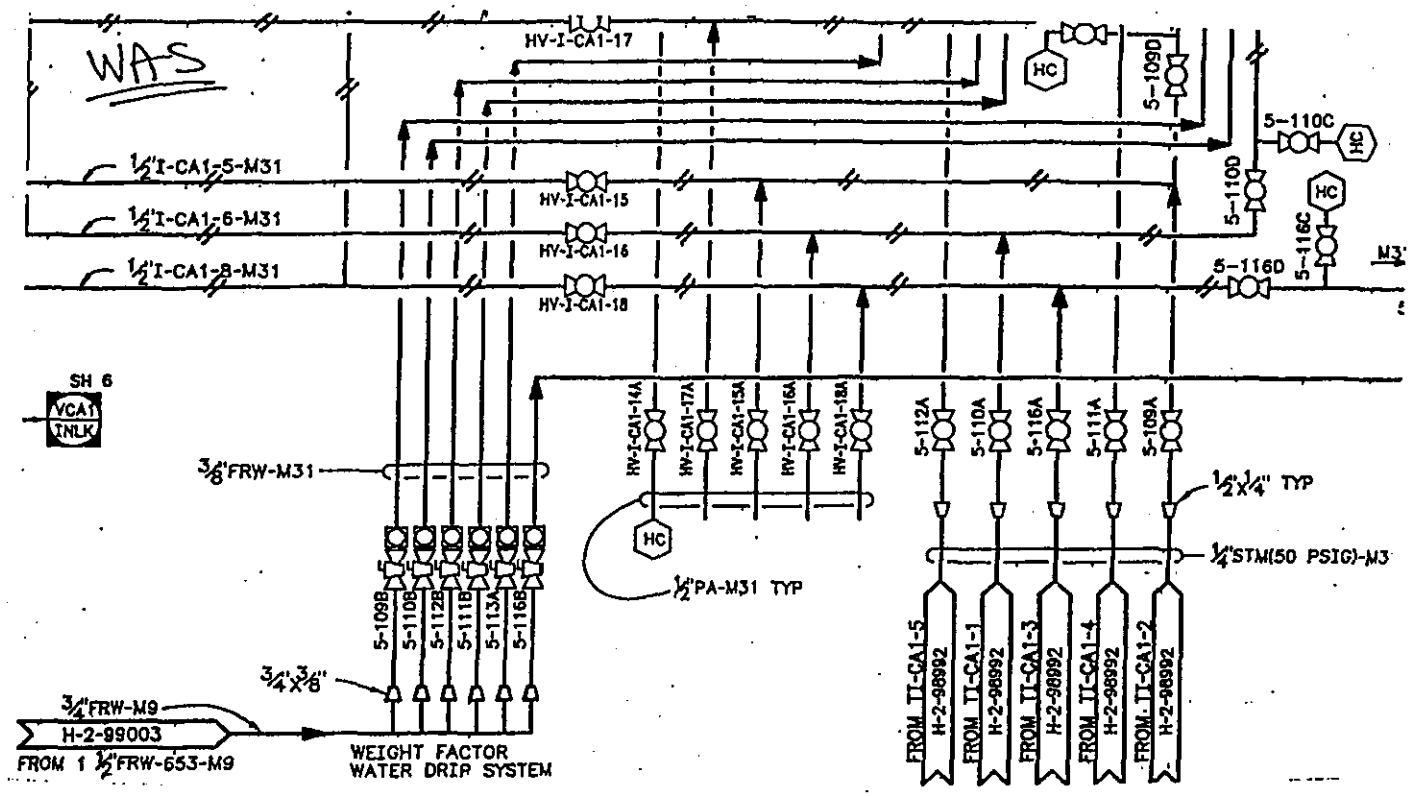
DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

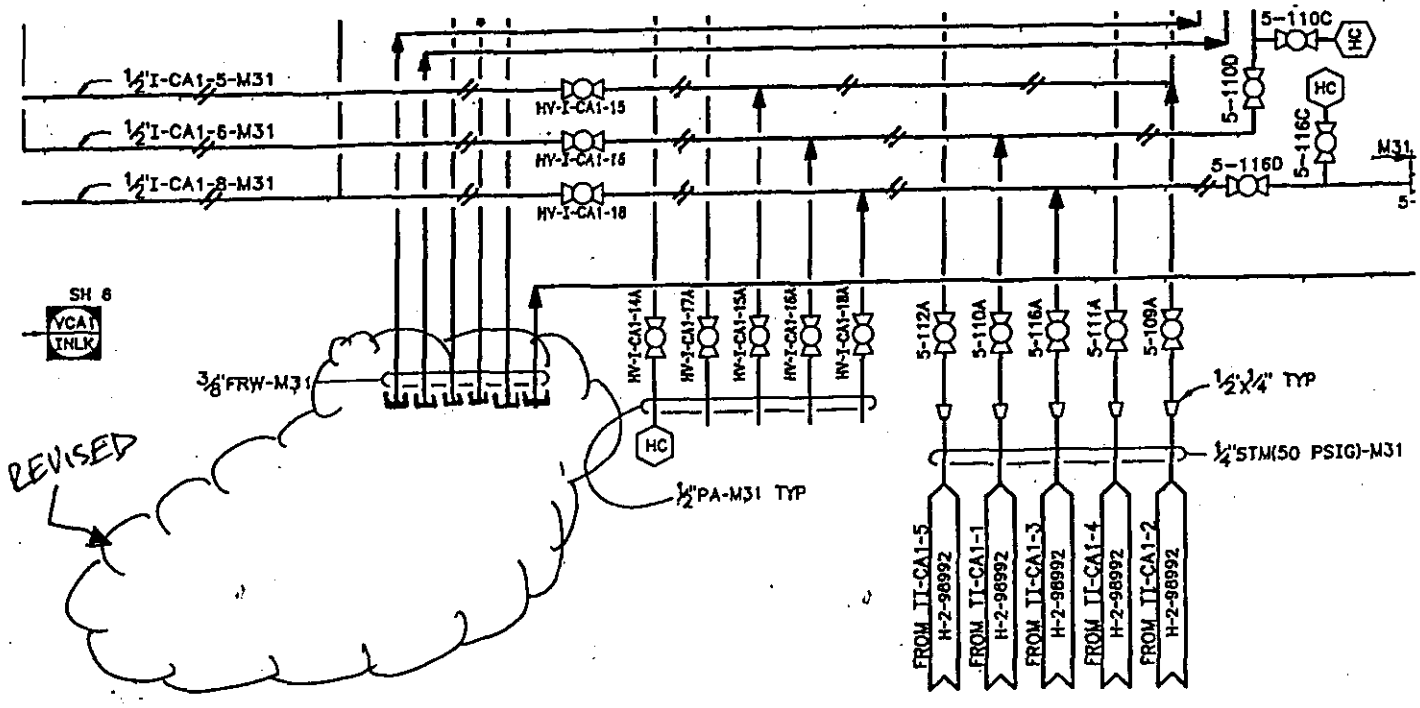
ADDITIONAL

H-2-98988 SH 1 R6

WAS

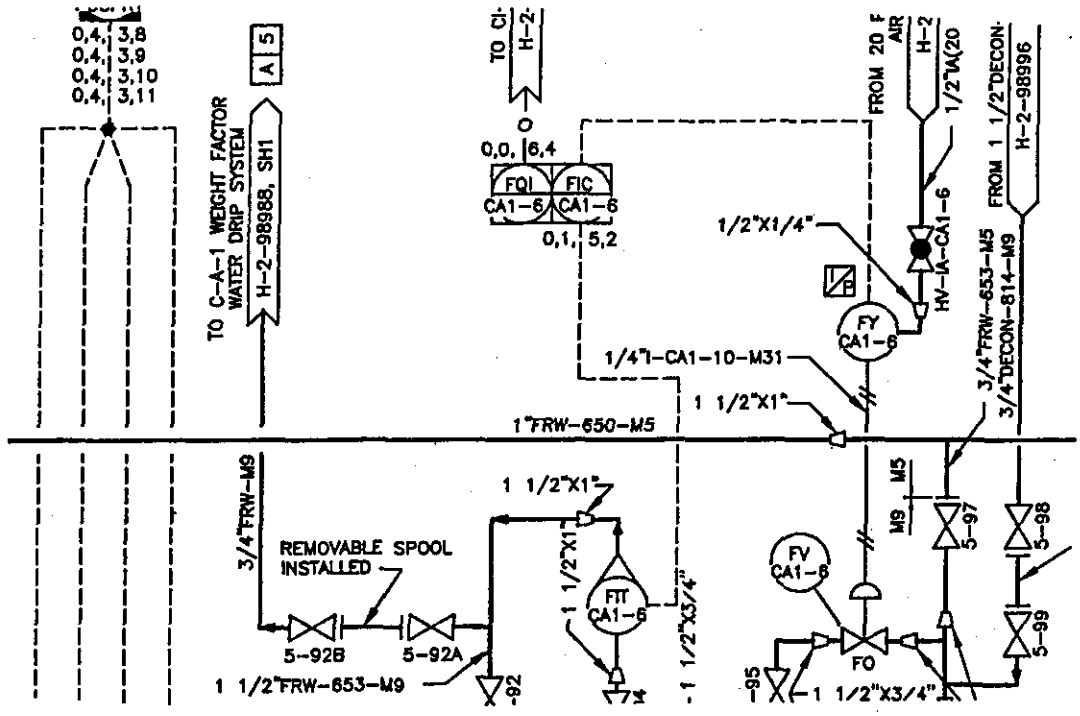


IS

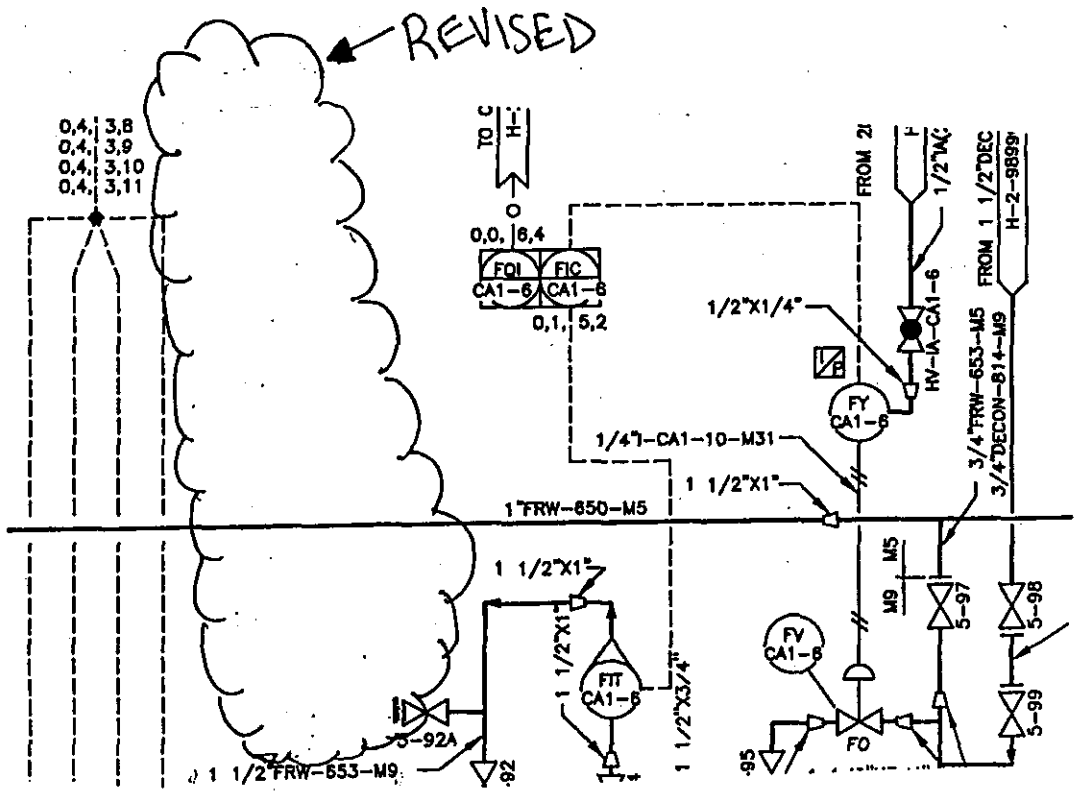


H-2-99003 SH1 Rev10

WAS



IS



ESSENTIAL

CPP 13A FILE COPY

ENGINEERING CHANGE NOTICE

Page 1 of 8

1. ECN 613444

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	3a. USQ Required?	4. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	DS HARING 74930, R1-43, 3-3154	[X] Yes [X] No D.H. 10/19/95	10/12/95
	5. Project Title/No./Work Order No. REMOVE THE FE/FT-CA1-7 FLOWMETER/ N1793	6. Bldg./Sys./Fac. No. 242-A	7. Approval Designator NA
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 12	9. Related ECN No(s). N/A	10. Related PO No. N/A

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 11b) [] No (NA Blks. 11b, 11c, 11d)	EE-95-00313/M	Cog. Engineer Signature & Date	N/A Cog. Engineer Signature & Date

12. Description of Change

THIS ECN AFFECTS THE FOLLOWING DRAWINGS:

H-2-99009, SHT 1, REV 2 ~~3~~ 10/19/95
H-2-99048, SHT 2, REV ~~1~~ 2
H-2-99047, SHT 2, REV 1
H-2-99048, SHT 9, REV 1
H-2-99087, SHT 5, REV 1
H-2-99087, SHT 2, REV 2
H-2-98988, SHT 2, REV 3
H-2-99074, SHT 1, REV ~~2~~ 3
H-2-99059, SHT 3, REV 5
H-2-99047, SHT 3, REV 1
H-2-99087, SHT 7, REV 3
H-2-99071, SHT 1, REV 2

CHANGE DRAWINGS AS SHOWN ON THE FOLLOWING ECN CONTINUATION PAGES.

13a. Justification (mark one)

Criteria Change	[X]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

13b. Justification Details

The flow transmitter FE/FT-CA1-7 does not give accurate readings due to being located close to flow disturbances. Leakage was recently observed around the flow element head. Due to ALARA concerns associated with disassembling and repairing the flow element and the inability to obtain accurate readings from this transmitter, it has been decided to permanently remove the transmitter and element. This indication is not used by Operations or Engineering, therefore removal will not impact facility operation.

14. Distribution (include name, MSIN, and no. of copies)

DS HARING	R1-43	1
CM TOWNE	R1-43	1
RJ NICKLAS	R1-43	1
JE GEARY	S5-07	1

RELEASE STAMP

OFFICIAL RELEASE BY WHC
DATE OCT 19 1995

A-7900-013-2 (11/94) GEF095

Located In RMIS by Document Number

A-7900-013-1 (04/94)

S

CPF 13A, 13B

ENGINEERING CHANGE NOTICE ESSENTIAL

Page 1 of 7

1. ECN 647885

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	TM GALIOTO, 32230, S6-72, 373-4894	[X] Yes [] No LW-98-026	06-15-98
	6. Project Title/No./Work Order No. PT-CA1-5 UPDATE	7. Bldg./Sys./Fac. No. 242A/200E	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 13A	10. Related ECN No(s). NA	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-97-00531	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

H-2-99002 SH1 REV 5
SEE PAGE 4 THIS ECN

13b. Design Baseline Document? [X] Yes [] No

14a. Justification (mark one)

Criteria Change	[X]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

The pressure transmitter is no longer used or required. It is being physically removed from service. The lines to and from the pressure transmitter will be capped.

15. Distribution (include name, MSIN, and no. of copies)

TM GALIOTO	S6-72*	RF WEIS	S6-71
NJ SULLIVAN	S6-72	RS WEBER	S6-71
JE GEARY	S6-71	* = ADVANCED COPY	
J ISDELL	S6-17*	*WCC PLANNING	S6-72
MW BOWMAN	S6-72		
DL FLYCKT	S6-71		

RELEASE STAMP

JUN 30 1998

DATE: HANFORD RELEASE

STA: 30

ID: 25

A-7900-013-2 (05/96) GEF095

Located In RMIS by Document Number

ESSENTIAL

CRF 13B

ENGINEERING CHANGE NOTICE

Page 1 of 5

1. ECN 627940

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	3a. USQ Required?	4. Date
Supplemental [] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [X] Cancel/Void []	S.P. BIGLIN,EPPE,R1-43,373-4623	[X] Yes [] No	12/13/95
	5. Project Title/No./Work Order No.	6. Bldg./Sys./Fac. No.	7. Approval Designator
	FIT REPLACEMENT	242-A	Q
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.)	9. Related ECN No(s).	10. Related PO No.
	SEE BLOCK 12	627938	NA

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 11b) [] No (NA Blks. 11b, 11c, 11d)	EE-94-00770	Cog. Engineer Signature & Date	NA Cog. Engineer Signature & Date

12. Description of Change

-THIS ECN SUPERSEDES ECN #627938 IN ITS ENTIRETY.
-DRAWINGS AFFECTED H-2-99003, SH 1, REV 8
H-2-99047, SH 3, REV 1
-CHANGE REDUCER SIZE ON H-2-99003, SH 1 AS SHOWN ON PAGE 3 OF THIS ECN.
-CHANGE INFORMATION ON H-2-99047, SH 3 AS SHOWN ON PAGE 4 OF THIS ECN.
-INSTALL NEW FLOW INDICATING TRANSMITTER AND FABRICATE JUMPERS AS SHOWN ON PAGE 5 OF THIS ECN. FIELD FIT JUMPERS AND TRANSMITTER, ALLOW A MINNIMUM OF A 5 PIPE DIAMETER LENGTH FOR THE INLET SIDE AND A 2 PIPE DIAMETER LENGTH ON THE OUTLET SIDE. WELD AND INSPECT PER B31.1, VT WELDS ON FINAL PASS.
-REMOVE CONDUIT P1301, P2145, AND POWER SUPPLY. INSTALL FLEX CONDUIT FROM TBX-7 TO TRANSMITTER AND INSTALL FLEX CONDUIT FROM JB250 TO TRANSMITTER. USE EXISTING WIRING.

FILE COPY

13a. Justification (mark one)

Criteria Change	[]	Design Improvement	[X]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

13b. Justification Details

THE CURRENT FLOW TRANSMITTER DOES NOT GIVE CONSISTANT READINGS. A MAG FLOW TRANSMITTER WILL GIVE MORE CONSISTANT READINGS AND PROVIDE BETTER EFFICIENCY.

14. Distribution (include name, MSIN, and no. of copies)

S.P. BIGLIN	R1-43
D.S. HARING	R1-43
J.E. GEARY	S5-07

RELEASE STAMP

DATE: HANFORD RELEASE

STA: 4

ID: 2

DEC 14 1995

A-7900-013-2 (11/94) GEF095

Located In RMIS by Document Number

CPF 13A 13B
CPF 13 4
PF 1 PF 7

ENGINEERING CHANGE NOTICE ESSENTIAL

Page 1 of 4

1. ECN 647922

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. USQ Required?	5. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	TM GALIOTO, 32230, S6-72, 373-4894	[X] Yes [] No LW-99-029 Rev 1.	08-09-99
	6. Project Title/No./Work Order No. Weight Factor Drip Water System Cap	7. Bldg./Sys./Fac. No. 242A/200E	8. Approval Designator NA
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 13A	10. Related ECN No(s). NA	11. Related PO No. NA

12a. Modification Work	12b. Work Package No.	12c. Modification Work Complete	12d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 12b) [] No (NA Blks. 12b, 12c, 12d)	EL-99-00443/M	Design Authority/Cog. Engineer Signature & Date	NA Design Authority/Cog. Engineer Signature & Date

13a. Description of Change

13b. Design Baseline Document? [X] Yes [] No

H-2-98988 SH1 Rev 6
See Page 3 this ECN

H-2-99003 SH1 Rev 10
See Page 4 this ECN

Piping, fittings, and jointing methods to meet the requirements of 242-A piping specification M-9 and M-31 as appropriate. Install, inspect, and test the new piping installation in accordance with B31.1.

14a. Justification (mark one)

Criteria Change	[X]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

14b. Justification Details

The weight factor drip water system is inactive but not currently removed fromt he system. When pressurizing the dip tube legs for flushing the potential exists to inadventently damage the sight glasses on these lines. This ECN will cap the lines so that the sight glass is isolated.

15. Distribution (include name, MSIN, and no. of copies)

TM GALIOTO	S6-72*	RF WEIS	S6-71
NJ SULLIVAN	S6-72	RS WEBER	S6-71
DK SMITH	S6-71	* = ADVANCED COPY	
J ISDELL	S6-17*		
MW BOWMAN	S6-72		

RELEASE STAMP

DATE: AUG 09 1999

STA: HANFORD RELEASE

ID: 18

A-7900-013-2 (05/96) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 647918

16. Design Verification Required	17. Cost Impact		18. Schedule Impact (days)
	ENGINEERING	CONSTRUCTION	
[X] Yes	Additional [] $	Additional [] $	Improvement []
[] No	Savings [] $NA	Savings [] $NA	Delay [] NA

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[X]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]	None	[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
TO-600-010		

21. Approvals.

	Signature	Date		Signature	Date
Design Authority	TM GALIOTO TM Galioto	8-9-99	Design Agent	TM Galioto	8-9-99
Cog. Eng.	TM Galioto	8-9-99	PE		
Cog. Mgr.	[illegible]	8-9-99	QA		
QA			Safety		
Safety			Design		
Environ.			Environ.		
Informal Review	[illegible]	8-9-99	Other		

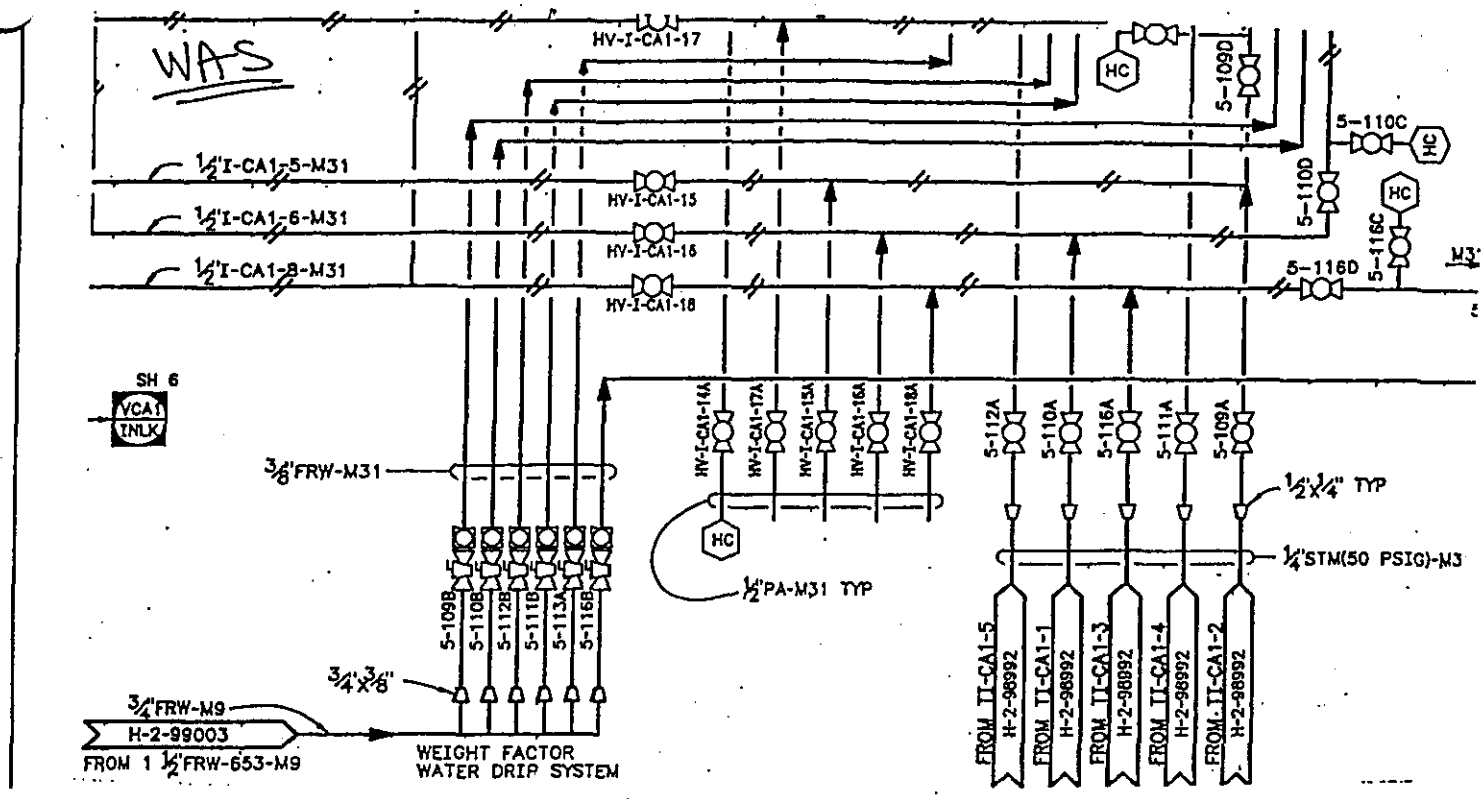
DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

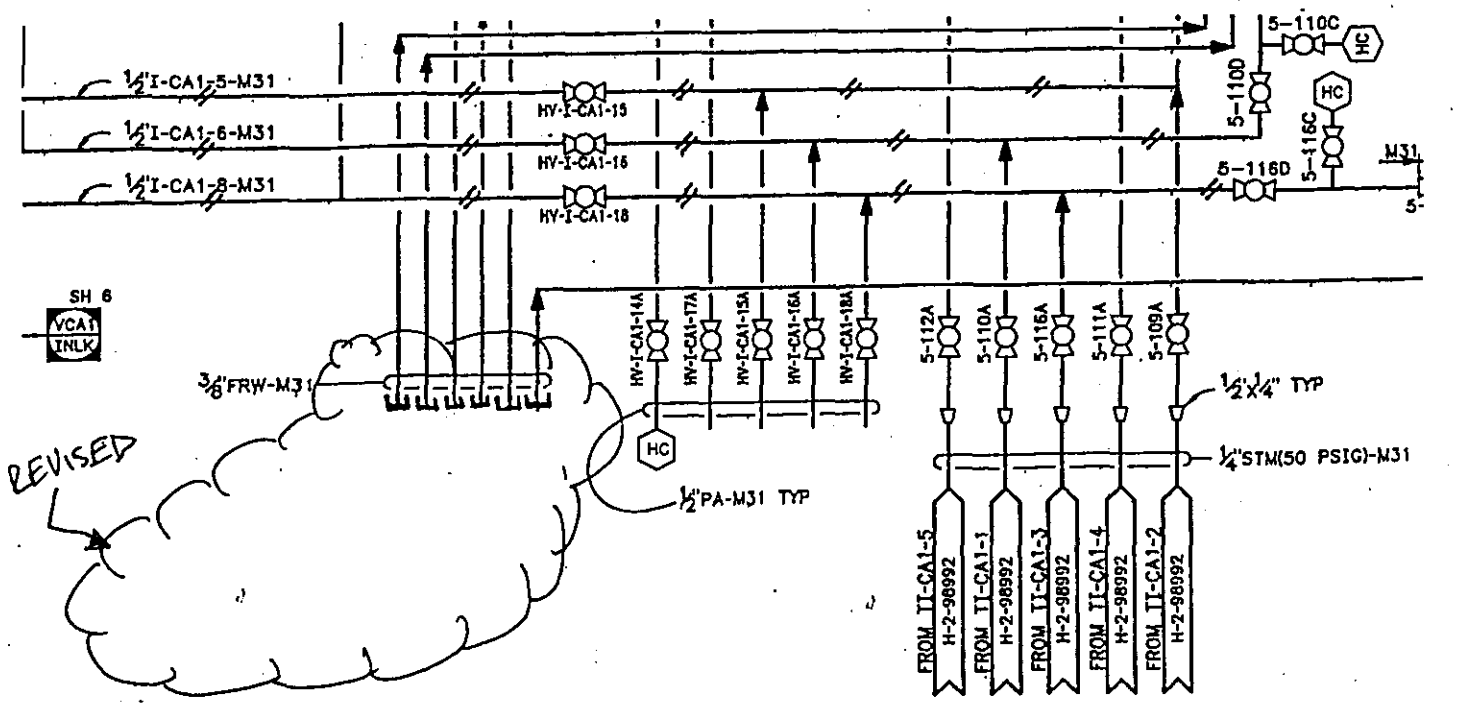
ADDITIONAL

H-2-98988 SH 1 R6

WAS



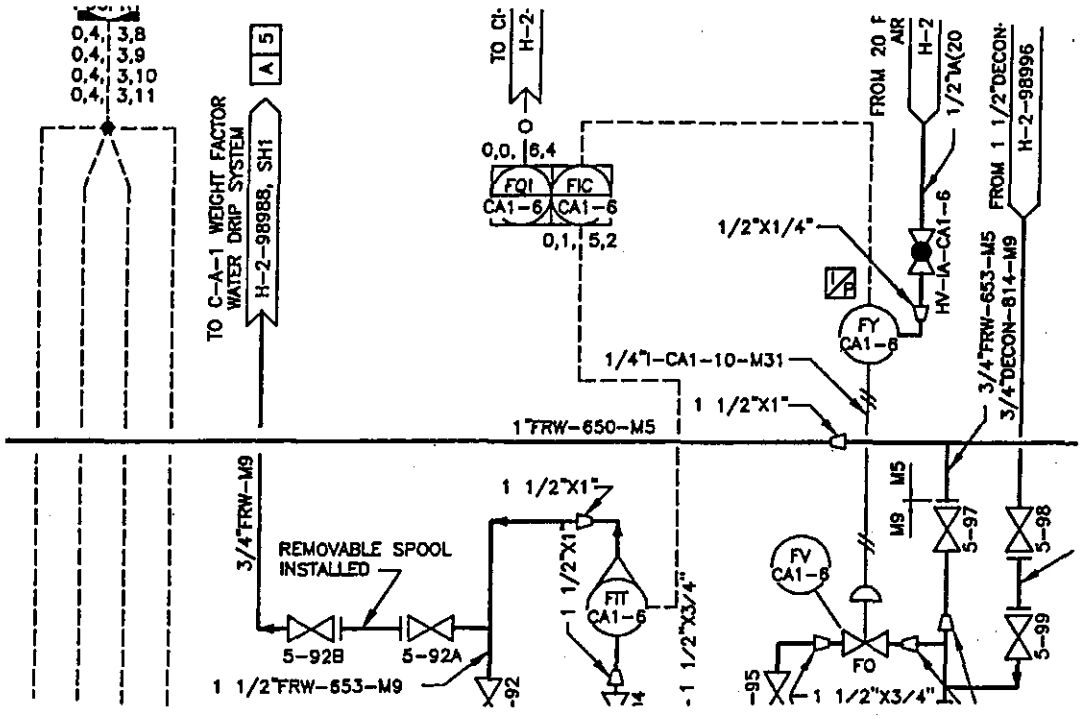
IS



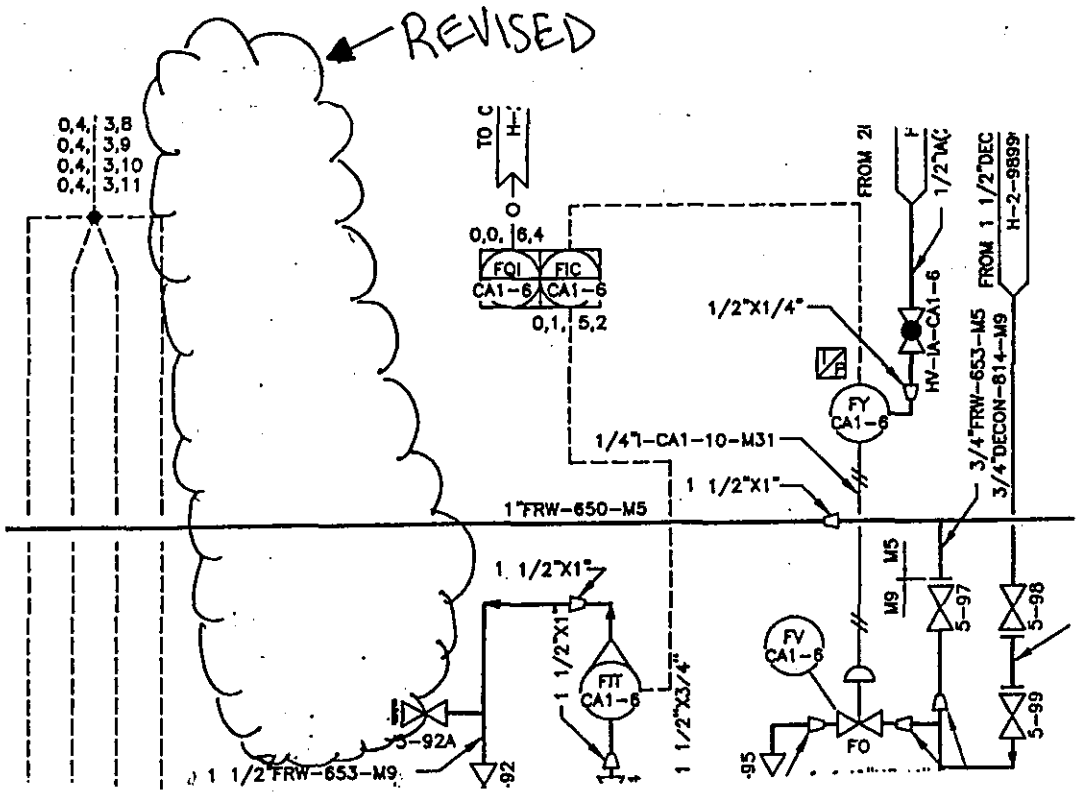
ECN 647922
Date 08-09-99

H-2-99003 SH1 Rev 10

WAS



IS



Hanford Facility RCRA Permit Modifications

Part III, Chapter 5 and Attachment 35
242-A Evaporator

Outstanding ECNs

Appendix 4A
Table 4A-2

PDC 2 + 4

55

ENGINEERING CHANGE NOTICE

Page 1 of 2

1. ECN 121216

Proj. ECN

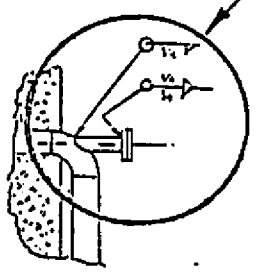
2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. Date
Supplemental ☐ Direct Revision ☐ Change ECN ☐ Temporary ☐ Supersedure ☒ Discovery ☐ Cancel/Void ☐	N.A. HERTELENDY 82331 S2-02 3-4010 HO-047	3-27-90
	5. Project Title/No./Work Order No. REPAIR AHU FLOR DRAIN TF-90-026 WB7CE	6. Bldg./Sys./Fac. No. 242-A
	8. Document Number Affected (include rev. and sheet no.) H-2-69 352 SHT-1 Rev 4	9. Related ECN No(s). ECN 121212

7. Impact Level: 3

10. Related PO No.: ——

11a. Modification Work	11b. Work Package Doc. No.	11c. Complete Installation Work	11d. Complete Restoration (Temp. ECN only)
☒ Yes (fill out Blk. 11b) ☐ No (NA Blks. 11b, 11c, 11d)	2E-89-01979/w	Cog. Engineer Signature & Date	Cog. Engineer Signature & Date

12. Description of Change This ECN Supersedes ECN 121212 in its entirety.
Add Flanged off inspection Port to Drain line at the "Elbow", as Shown.



Inspection Port is made of:
4" schedule 40 Black Steel Pipe 8" lng.
Per ASTM A53 Type E GRADE B
150# STEEL Flanges, ONE Blind and ONE SLIP-ON
PER ANSI B16.5 & ASTM A216 GRADE WCB.
Seal (gasket) Garlock Blue Guard 3000
Bolts 3/4" Dia x 3 3/4" lng Per ASTM A307 Grade B
Nuts - Heavy Hex, Per ASTM A563 Grade A

Note: Weld and inspect Per ANSI B31.3
VT All Welds at Final Pass

13a. Justification (mark one)	13b. Justification Details
Criteria Change ☐ Design Improvement ☐ Environmental ☐ As-Found ☐ Facilitate Const. ☒ Const. Error/Omission ☐ Design Error/Omission ☐	The originaly designed "T" Type inspection port could NOT be installed because the 90° Elbow it was to replace, is partialy cast into the wall.

14. Distribution (include name, MSIN, and no. of copies)

G.T. Frater	S2-02
N.A. Hertelendy	S2-02
P. Sederburg	R1-51
T. Geary	R1-51
J. Nicholas	R1-51
R. Wurz	S5-04

RELEASE STAMP

OFFICIAL RELEASE BY WHC (4)
DATE MAR 29 1990
Station 3

A-7900-013 (11 88)

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1) 121216

15. Design Verification Required	16. Cost Impact				17. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
☐ Yes	Additional	☐ $ _____	Additional	☐ $ _____	Improvement	☐ _____
☒ No	Savings	☐ $ _____	Savings	☐ $ _____	Delay	☐ _____

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	☐	Seismic/Stress Analysis	☐	Tank Calibration Manual	☐
Functional Design Criteria	☐	Stress/Design Report	☐	Health Physics Procedure	☐
Operating Specification	☐	Interface Control Drawing	☐	Spares Multiple Unit Listing	☐
Criticality Specification	☐	Calibration Procedure	☐	Test Procedures/Specification	☐
Conceptual Design Report	☐	Installation Procedure	☐	Component Index	☐
Equipment Spec.	☐	Maintenance Procedure	☐	ASME Coded Item	☐
Const. Spec.	☐	Engineering Procedure	☐	Human Factor Consideration	☐
Procurement Spec.	☐	Operating Instruction	☐	Computer Software	☐
Vendor Information	☐	Operating Procedure	☐	Electric Circuit Schedule	☐
OM Manual	☐	Operational Safety Requirement	☐	ICRS Procedure	☐
FSAR/SAR	☐	IEFD Drawing	☐	Process Control Manual/Plan	☐
Safety Equipment List	☐	Cell Arrangement Drawing	☐	Process Flow Chart	☐
Radiation Work Permit	☐	Essential Material Specification	☐	Purchase Requisition	☐
Environmental Impact Statement	☐	Fac. Proc. Samp. Schedule	☐	_____	☐
Environmental Report	☐	Inspection Plan	☐	_____	☐
Environmental Permit	☐	Inventory Adjustment Request	☐	_____	☐

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number/Revision

Approvals

	Signature	Date		Signature	Date
OPERATIONS AND ENGINEERING			ARCHITECT-ENGINEER		
X Cog./Project Engineer	[signature]	3/27/90	PE		
X Cog./Project Engr. Mgr.	[signature]	3/27/90	QA		
X QA	[signature]	3/29/90	Safety		
Safety			Design		
Security			Other		
Proj.Prog./Dept. Mgr.					
Def. React. Div.					
Chem. Proc. Div.					
Def. Wst. Mgmt. Div.			DEPARTMENT OF ENERGY		
Adv. React. Dev. Div.					
Proj. Dept.					
Environ. Div.			ADDITIONAL		
IRM Dept.					
Facility Rep. (Ops)					
Other					
[signature]	March 21, 1990				

PDC 214

ENGINEERING CHANGE NOTICE

SS/CEN

Page 1 of 2

1. ECN 121238

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.		4. Date
Supplemental ☐ Direct Revision ☐ Change ECN ☐ Temporary ☐ Supersedure ☒ Discovery ☐ Cancel/Void ☐	N.A. Hertelendy 82331 S2-02 7-4010 MO-047		5-29-90
	5. Project Title/No./Work Order No. Repair AMU Floor Drain TF-90-026 WB7CE	6. Bldg./Sys./Fac. No. 242-A	7. Impact Level 4
	8. Document Number Affected (include rev. and sheet no.) H-2-69352 SHT-1 REV-9	9. Related ECN No(s). 121237 121216	10. Related PO No. —

11a. Modification Work	11b. Work Package Doc. No.	11c. Complete Installation Work	11d. Complete Restoration (Temp. ECN only)
☒ Yes (fill out Blk. 11b) ☐ No (NA Blks. 11b, 11c, 11d)	2E-89-01979/6	Cog. Engineer Signature & Date	Cog. Engineer Signature & Date

12. Description of Change This ECN supersedes ECN 121237 in its entirety and changes ECN 121216 in part.

1.) 150# RF Flange Per ASTM A105 (Was ASTM A-216)

2.) Bolts Should be 5/8" Dia x 3" lng (Was 3/4" Dia x 3 3/4 lng)

3.) Gasket should be 1/8" thk (No thickness was given)

13a. Justification (mark one)	13b. Justification Details
Criteria Change ☐ Design Improvement ☐ Environmental ☐ As-Found ☐ Facilitate Const. ☐ Const. Error/Omission ☐ Design Error/Omission ☒	Gasket thickness was not given, and Flange type was not identified. This constituted more than 20% change prompting the supersedure

14. Distribution (include name, MSIN, and no. of copies)

G.T. Frater S2-02
N.A. Hertelendy S2-02
P.R. Rhodes R1-51

RELEASE STAMP

OFFICIAL RELEASE BY WHC
DATE MAY 29 1990
Sta. 3
16

A-7900-013 (11.88)

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 12238

15. Design Verification Required	16. Cost Impact				17. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
☑ Yes	Additional ☐	$	Additional ☐	$	Improvement ☐	
☐ No	Savings ☐	$	Savings ☐	$	Delay ☐	

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	☐	Seismic/Stress Analysis	☐	Tank Calibration Manual	☐
Functional Design Criteria	☐	Stress/Design Report	☐	Health Physics Procedure	☐
Operating Specification	☐	Interface Control Drawing	☐	Spares Multiple Unit Listing	☐
Criticality Specification	☐	Calibration Procedure	☐	Test Procedures/Specification	☐
Conceptual Design Report	☐	Installation Procedure	☐	Component Index	☐
Equipment Spec.	☐	Maintenance Procedure	☐	ASME Coded Item	☐
Const. Spec.	☐	Engineering Procedure	☐	Human Factor Consideration	☐
Procurement Spec.	☐	Operating Instruction	☐	Computer Software	☐
Vendor Information	☐	Operating Procedure	☐	Electric Circuit Schedule	☐
OM Manual	☐	Operational Safety Requirement	☐	ICRS Procedure	☐
FSAR/SAR	☐	IEFD Drawing	☐	Process Control Manual/Plan	☐
Safety Equipment List	☐	Cell Arrangement Drawing	☐	Process Flow Chart	☐
Radiation Work Permit	☐	Essential Material Specification	☐	Purchase Requisition	☐
Environmental Impact Statement	☐	Fac. Proc. Samp. Schedule	☐		☐
Environmental Report	☐	Inspection Plan	☐		☐
Environmental Permit	☐	Inventory Adjustment Request	☐		☐

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number/Revision

Approvals

	Signature	Date		Signature	Date
OPERATIONS AND ENGINEERING			ARCHITECT-ENGINEER		
X Cog./Project Engineer	James E. Geary	5-29-90	PE		
X Cog./Project Engr. Mgr.	[illegible] for RW	5-29-90	QA		
QA			Safety		
Safety			Design		
Security			Other		
Proj.Prog./Dept. Mgr.					
Def. React. Div.					
Chem. Proc. Div.					
Def. Wst. Mgmt. Div.			DEPARTMENT OF ENERGY		
Adv. React. Dev. Div.					
Proj. Dept.					
Environ. Div.			ADDITIONAL		
IRM Dept.					
Facility Rep. (Ops)					
Other					
Internal reviewer					
	[illegible]	5/29/90			

FILE COPY

IIF 2.4,13a

ENGINEERING CHANGE NOTICE

ESSENTIAL

Page 1 of 4

1. ECN 194242

Proj. ECN

ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. Date
Supplemental ☒	N1176/7C241	12-28-92
Direct Revision ☐	P.D. RHODES, W.T.E., S5-10, 3-4730	
Change ECN ☐	5. Project Title/No./Work Order No.	6. Bldg./Sys./Fac. No.	7. Impact Level
Temporary ☐	DELETE HEPA FILTER IN 2" VENT	242A	(PR) 3S
Standby ☐	8. Document Numbers Changed by this ECN (includes sheet no. and rev.)	9. Related ECN No(s).	10. Related PO No.
Supersedure ☐	AS LISTED, THIS ECN BLOCK 12	NA	NA
Cancel/Void ☐			

11a. Modification Work	11b. Work Package No.	11c. Modification Work Completed	11d. Restored to Original Condition (Temp. or Standby ECNs only)
☒ Yes (fill out Blk. 11b)	2E -	OCT 20 1995 [signature] 10/19/95	N/A
☐ No (NA Blks. 11b, 11c, 11d)		Cog. Engineer Signature & Date	Cog. Engineer Signature & Date

12. Description of Change

H-2-69352 Sht. 1 Rev. 4 → SEE PAGE 4, THIS ECN.
H-2-69354 Sht. 1 Rev. 4 → SEE PAGE 3, THIS ECN.
H-2-98995 Sht. 1 Rev. 3 → SEE PAGE 3, THIS ECN.

FILE COPY

FILE COPY

Justification (mark one)	13b. Justification Details
Criteria Change ☒	2" M24 VENT CHANGED DISCHARGE PER B-534 PROJECT. REF. CHANGE SHOWN ON H-2-99031 Sht. 2, SECTION "Q" and ON H-2-99032 Sht. 1, SECTION "Q". HEPA FILTER NO LONGER REQ'D. SINCE AFFECTED 2" VENT LINE NO LONGER VENTS OUTSIDE CONDENSER ROOM.
Design Improvement ☐	
Environmental ☐	
Found ☐	
Facilitate Const. ☐	
Const. Error/Omission ☐	
Design Error/Omission ☐	

Distribution (include name, MSIN, and no. of copies)

RHODES — S5-10 — 2
GEARY — R1-43 — 1
MURZ — S5-15 — 1

RELEASE STAMP

OFFICIAL RELEASE BY WHC (5)
DATE JAN 07 1993
Sta. 4

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 194242

Design Verification Required	16. Cost Impact		17. Schedule Impact (days)
☒ Yes	ENGINEERING	CONSTRUCTION	NA
☐ No	Additional ☐ $	Additional ☐ $	Improvement ☐
	Savings ☐ $	Savings ☐ $	Delay ☐

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	☐	Seismic/Stress Analysis	☐	Tank Calibration Manual	☐
Functional Design Criteria	☐	Stress/Design Report	☐	Health Physics Procedure	☐
Operating Specification	☐	Interface Control Drawing	☐	Spares Multiple Unit Listing	☐
Criticality Specification	☐	Calibration Procedure	☐	Test Procedures/Specification	☐
Conceptual Design Report	☐	Installation Procedure	☐	Component Index	☐
Equipment Spec.	☐	Maintenance Procedure	☐	ASME Coded Item	☐
Const. Spec.	☐	Engineering Procedure	☐	Human Factor Consideration	☐
Procurement Spec.	☐	Operating Instruction	☐	Computer Software	☐
Vendor Information	☐	Operating Procedure	☐	Electric Circuit Schedule	☐
OM Manual	☐	Operational Safety Requirement	☐	ICRS Procedure	☐
FSAR/SAR	☐	IEFD Drawing	☐	Process Control Manual/Plan	☐
Safety Equipment List	☐	Cell Arrangement Drawing	☐	Process Flow Chart	☐
Radiation Work Permit	☐	Essential Material Specification	☐	Purchase Requisition	☐
Environmental Impact Statement	☐	Fac. Proc. Samp. Schedule	☐		☐
Environmental Report	☐	Inspection Plan	☐		☐
Environmental Permit	☐	Inventory Adjustment Request	☐		☐

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

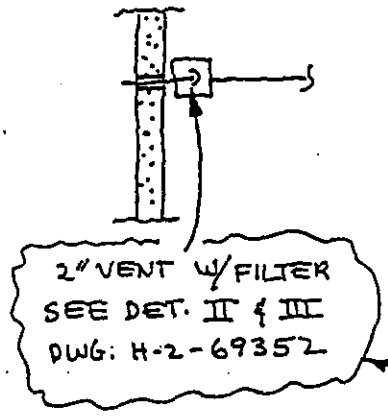
Document Number/Revision	Document Number/Revision	Document Number/Revision

20. Approvals

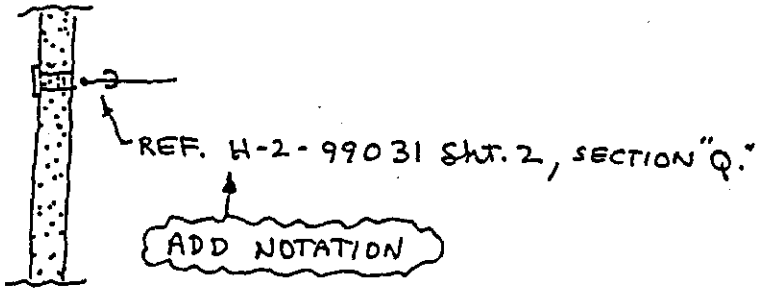
	Signature	Date		Signature	Date
OPERATIONS AND ENGINEERING			ARCHITECT-ENGINEER		
X Cog. Engineer	[signature]	1-7-93	PE		
X Cog. Mgr.	[signature]	12/28/92	QA		
QA NA			Safety		
X Safety NUCL.	[signature]	7 JAN 93	Design		
Security			Environ.		
Environ.			Other		
Projects/Programs					
Tank Waste Remediation System					
X Facilities Operations WURE			DEPARTMENT OF ENERGY		
Restoration & Remediation			Signature or Letter Number		
Operations & Support Services					
IRM			ADDITIONAL		
X Other INDEPENDENT/INFORMAL REVIEW:	[signature]	12/28/92			

ON H-2-69354 (SHT. 1): CO-ORD [D-9]:

WAS:

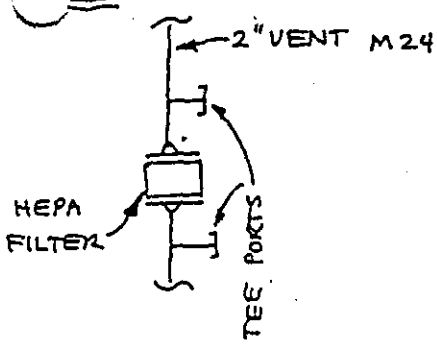


IS:

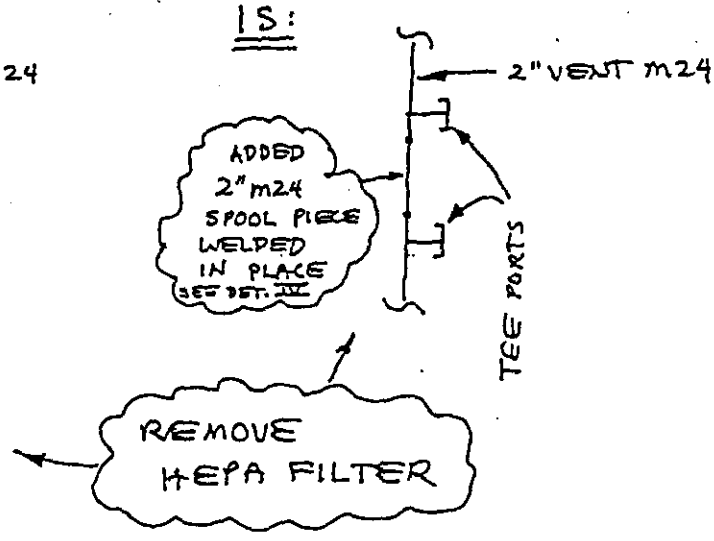


ON H-2-98995 SHT. 1: CO-ORD [D-5]:

IS:



IS:



ON H-2-69352 Sht.1 :

@ DETAIL III ← WAS (AS SHOWN)

DELETE DETAIL III ENTIRELY. ← IS

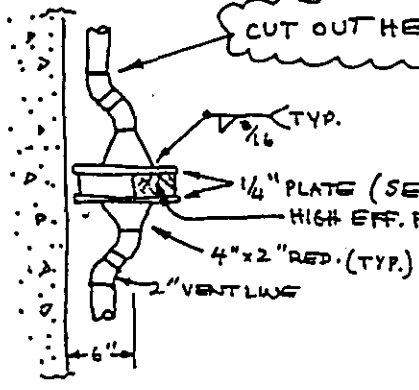
) DETAIL II :

CHANGE 2" VENT M24 TO REFLECT REMOVAL of HEPA FILTER and NOTATIONS THERETO. STRAIGHT PIPE CONFIGURATION PER DETAIL IV.

REFERENCE DETAIL IV, THIS ECN

@ DETAIL IV :

WAS :



CUT OUT HEPA INSTALLATION & PIPING TO CONFIGURATION SHOWN BELOW

REMOVE "PLAN ABOVE" FROM DRAWING, and NOTATION THERETO.

(SHOWN ON H-2-69352 Sht.1).

IS :

VENT OPENING : REF. H-2-99031 Sht. 2, SECTION Q; OPEN TO ATMOSPHERE IN CONDENSER ROOM.

2" VENT M24

FIELD FIT, WELD IN PLACE, 2" M5 C.S. SPOOL PIECE. PRIME & PAINT USING AMERGARD PRIME & GRAY FINISH SYSTEM.

TYP. 2 PLCS. WELD PER B31.3, VISUAL INSPECT FINAL PASS. NO QC REQ'D. CATEGORY III WELD.

FILE COPY

ENGINEERING CHANGE NOTICE

Page 1 of 6

1. ECN 610629

Proj. ECN FILE COPY

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.		4. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	VA SMITH / 7CF40 / R1-43 / 373-4054 - N1176		10/6/94
	5. Project Title/No./Work Order No. 242-A EVAPORATOR: C-100 PUMP REPLACEMENT	6. Bldg./Sys./Fac. No. 242-A /PROCESS CONDENSATE SYS.	7. Approval Designator Q DAF 12/7/94 N/A
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) H-2-99031, SHEET 3, REV 1	9. Related ECN No(s). 610627	10. Related PO No. 399810

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 11b) [] No (NA Blks. 11b, 11c, 11d)	EE-94-00711	JM Gilbert 4/17/95 Cog. Engineer Signature & Date APR 17 1995	N/A Cog. Engineer Signature & Date

12. Description of Change

REMOVE EXISTING P-C100 KONTRO PUMP AND REPLACE WITH NEW INGERSOLL-RAND PUMP. THE CHANGE REQUIRES THE REMOVAL OF EXISTING ASSOCIATED PIPING SYSTEMS AND GROUT FROM EXISTING PUMP BASE AND PREPARING EXISTING CEMENT PUMP BASE FOR INSTALLATION OF NEW PUMP AS SHOWN ON SHEETS 3 AND 4 OF THIS ECN.

13a. Justification (mark one)							
	Criteria Change	[]	Design Improvement	[X]	Environmental	[]	
As-Found	[]	Facilitate Const.	[]	Const. Error/Omission	[]	Design Error/Omission	[]

13b. Justification Details

TO PROVIDE A MORE RELIABLE PUMP FOR THE OPERATION OF THE 242-A EVAPORATOR.

14. Distribution (include name, MSIN, and no. of copies)

VA SMITH,	R1-43,	(1)	#1	S5-59
DS HARING,	R1-43,	(1)	#16	S5-00
JE GEARY,	S5-14,	(1)	#20	T4-08
RJ NICKLAS,	R1-43,	(1)	IPF#4	S5-85
BS DARLING,	S0-14,	(1)		
T GALIOTO,	R1-43,	(1)		
OG MARKHAN,	S5-09,	(1)		
R.R. THAE	S1-57			

RELEASE STAMP

OFFICIAL RELEASE BY WHO (2)

DATE DEC 15 1994

#4

A-7900-013-2 (06/94) GEF095

Located In RMIS by Document Number

A-7900-013-1 (06/92)

IPF 4.10 CPF #13b

ENGINEERING CHANGE NOTICE

ESSENTIAL

Page 1 of 7

1. ECN № 620353

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	3a. USQ Required?	4. Date
Supplemental [] Direct Revision [] Change ECN [X] Temporary [] Standby [] Supersedure [] Cancel/Void []	TM GALIOTO, WTSE, R1-43, 3-4894	[] Yes [X] No	2/15/95
	5. Project Title/No./Work Order No. PC100 PUMP REPLACEMENT	6. Bldg./Sys./Fac. No. 242A/PROCESS COND. SYSTEM	7. Approval Designator NA
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 12	9. Related ECN No(s). 610629	10. Related PO No.

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 11b) [] No (NA Blks. 11b, 11c, 11d)	EE-94-711	Cog. Engineer Signature & Date	NA Cog. Engineer Signature & Date

12. Description of Change

ECN #610629 SHEET 4 WILL HAVE THE EXISTING SUPPORT SEPARATED AND MOVED COUNTERCLOCKWISE AROUND THE TANK. ALSO, THE 1" DRAIN LINE WILL BE PLUGGED AND CUTOFF LEVEL WITH THE FLOOR AS SHOWN ON PAGES 3-7 OF THIS ECN.

DRAWINGS ALSO CHANGED BY THIS ECN INCLUDE:
H-2-79865 SH 3,6 REV1
H-2-98995 SH 1 REV6
H-2-69352 SH1 REV4
H-2-69354 SH1 REV4

DRAWINGS INADVERTENTLY LEFT OF BLOCK 8 OF ECN 610629.

13a. Justification (mark one)

Criteria Change	[]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[X]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

13b. Justification Details

THE DELUGE SPRAY RING SUPPORT NEEDS TO BE MOVED TO ALLOW BETTER ACCESS TO THE NEWLY INSTALLED P-C-100 PUMP. THE DRAIN WILL NO LONGER BE NEEDED AND MUST BE ELIMINATED SO THAT NEW PUMP MAY BE INSTALLED AS SHOWN ON ECN 610629.

14. Distribution (include name, MSIN, and no. of copies)

DS HARING R1-43
TM GALIOTO R1-43
RJ NICKLAS R1-43
RL BEIREIS S5-14

RELEASE STAMP

OFFICIAL RELEASE BY WHC (5)
DATE FEB 15 1995
Sta. 4

Located In RMIS by Document Number

A-7900-013-2 (11/94) GEF095

FILE COPY

IIF 24,13a

ENGINEERING CHANGE NOTICE

ESSENTIAL

Page 1 of 4

1. ECN 194242

Proj. ECN

ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	4. Date
Supplemental ☒	P.D. RHODES, W.T.E., S5-10, 3-4730 N1176/7C241	12-28-92
Direct Revision ☐		
Change ECN ☐		
Temporary ☐		
Standby ☐		
Supersedure ☐		
Cancel/Void ☐		

5. Project Title/No./Work Order No.	6. Bldg./Sys./Fac. No.	7. Impact Level
DELETE HEPA FILTER IN 2" VENT	242A	(R) 3S

8. Document Numbers Changed by this ECN (includes sheet no. and rev.)	9. Related ECN No(s).	10. Related PO No.
AS LISTED, THIS ECN BLOCK 12	NA	NA

11a. Modification Work	11b. Work Package No.	11c. Modification Work Completed	11d. Restored to Original Condition (Temp. or Standby ECNs only)
☒ Yes (fill out Blk. 11b) ☐ No (NA Blks. 11b, 11c, 11d)	2E -	OCT 20 1995 10/19/95 Cog. Engineer Signature & Date	N/A Cog. Engineer Signature & Date

12. Description of Change

H-2-69352 Sht. 1 Rev. 4 → SEE PAGE 4, THIS ECN.
H-2-69354 Sht. 1 Rev. 4 → SEE PAGE 3, THIS ECN.
H-2-98995 Sht. 1 Rev. 3 → SEE PAGE 3, THIS ECN.

FILE COPY

FILE COPY

Justification (mark one)	13b. Justification Details
Criteria Change ☒	2" M24 VENT CHANGED DISCHARGE PER B-534 PROJECT. REF. CHANGE SHOWN ON H-2-99031 Sht. 2, SECTION "Q" and ON H-2-99032 Sht. 1, SECTION "Q". HEPA FILTER NO LONGER REQ'D. SINCE AFFECTED 2" VENT LINE NO LONGER VENTS OUTSIDE CONDENSER ROOM.
Design Improvement ☐	
Environmental ☐	
Found ☐	
Facilitate Const. ☐	
Const. Error/Omission ☐	
Design Error/Omission ☐	

Distribution (include name, MSIN, and no. of copies)

RHODES — S5-10 — 2
FEARY — R1-43 — 1
[illegible] — S5-15 — 1

RELEASE STAMP

OFFICIAL RELEASE BY WHC (5)
DATE JAN 07 1993
Sta. 4

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1): 194242

Design Verification Required	16. Cost Impact		17. Schedule Impact (days)
☒ Yes	ENGINEERING	CONSTRUCTION	Improvement ☐ NA
☐ No	Additional ☐ $ NA	Additional ☑ $	Delay ☐
	Savings ☐ $	Savings ☐ $	

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	☐	Seismic/Stress Analysis	☐	Tank Calibration Manual	☐
Functional Design Criteria	☐	Stress/Design Report	☐	Health Physics Procedure	☐
Operating Specification	☐	Interface Control Drawing	☐	Spares Multiple Unit Listing	☐
Criticality Specification	☐	Calibration Procedure	☐	Test Procedures/Specification	☐
Conceptual Design Report	☐	Installation Procedure	☐	Component Index	☐
Equipment Spec.	☐	Maintenance Procedure	☐	ASME Coded Item	☐
Const. Spec.	☐	Engineering Procedure	☐	Human Factor Consideration	☐
Procurement Spec.	☐	Operating Instruction	☐	Computer Software	☐
Vendor Information	☐	Operating Procedure	☐	Electric Circuit Schedule	☐
OM Manual	☐	Operational Safety Requirement	☐	ICRS Procedure	☐
FSAR/SAR	☐	IEFD Drawing	☐	Process Control Manual/Plan	☐
Safety Equipment List	☐	Cell Arrangement Drawing	☐	Process Flow Chart	☐
Radiation Work Permit	☐	Essential Material Specification	☐	Purchase Requisition	☐
Environmental Impact Statement	☐	Fac. Proc. Samp. Schedule	☐		☐
Environmental Report	☐	Inspection Plan	☐		☐
Environmental Permit	☐	Inventory Adjustment Request	☐		☐

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

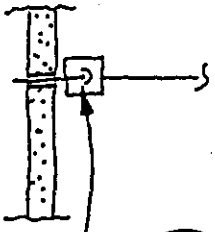
Document Number/Revision	Document Number/Revision	Document Number/Revision

20. Approvals

Signature	Date	Signature	Date
OPERATIONS AND ENGINEERING		ARCHITECT-ENGINEER	
X Cog. Engineer [signature]	1-7-93	PE	
X Cog. Mgr. [signature]	12/28/92	QA	
QA NA		Safety	
X Safety [signature]	7 JAN 93	Design	
Security		Environ.	
Environ.		Other	
Projects/Programs			
Tank Waste Remediation System			
X Facilities Operations WMRE		DEPARTMENT OF ENERGY	
Restoration & Remediation		Signature or Letter Number	
Operations & Support Services			
IRM		ADDITIONAL	
X Other INDEPENDENT/INFORMAL REVIEW: [signature]	12/28/92		

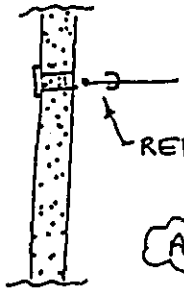
ON H-2-69354 (SHT. 1) : CO-ORD [D-9] :

WAS :



2" VENT W/FILTER
SEE DET. II & III
DWG: H-2-69352

IS:



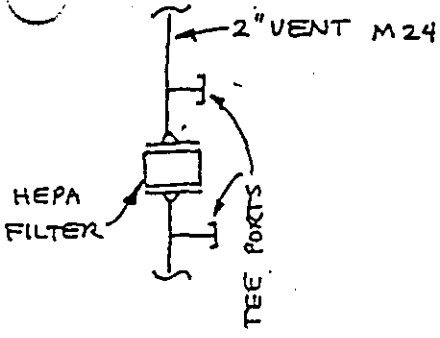
REF. H-2-99031 SHT. 2, SECTION "Q."

ADD NOTATION

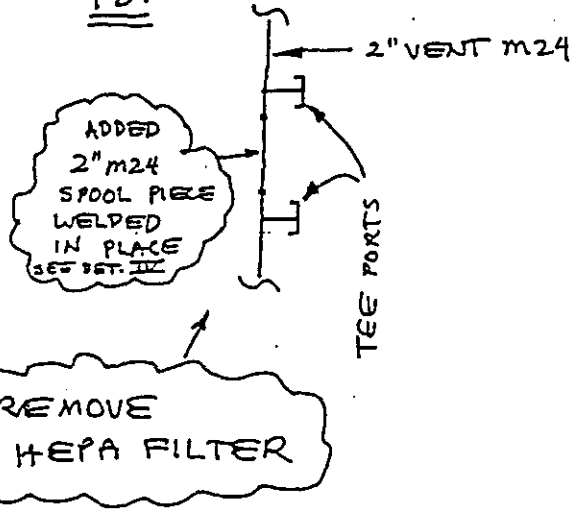
DELETE NOTATION & DEPICTION of FILTER BOX.

ON H-2-98995 SHT. 1 : CO-ORD [D-5] :

IS:



IS:



ON H-2-69352 Sht.1 :

@ DETAIL III ← WAS (AS SHOWN)

DELETE DETAIL III ENTIRELY. ← IS

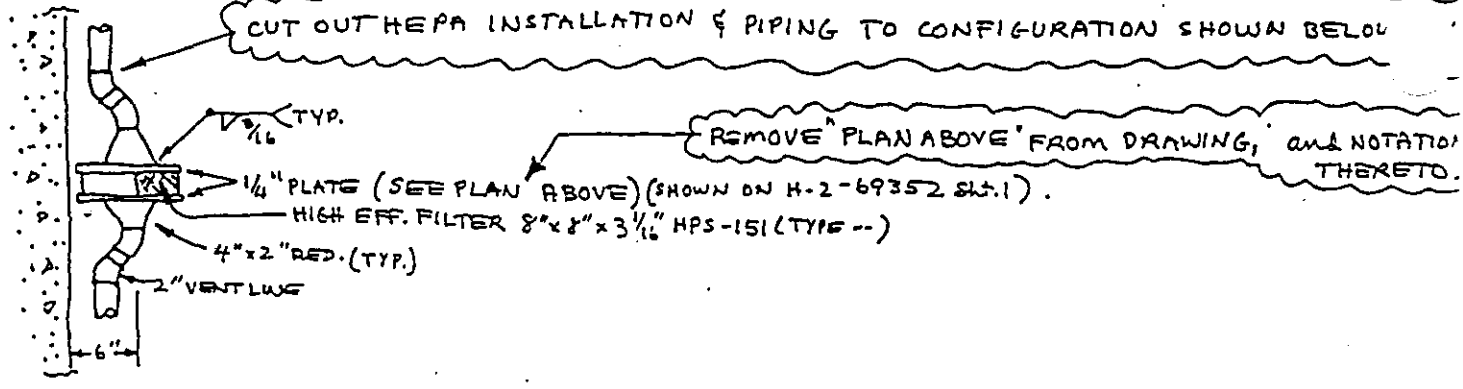
) DETAIL II :

CHANGE 2" VENT M24 TO REFLECT REMOVAL of HEPA FILTER and NOTATIONS THERETO. STRAIGHT PIPE CONFIGURATI PER DETAIL IV.

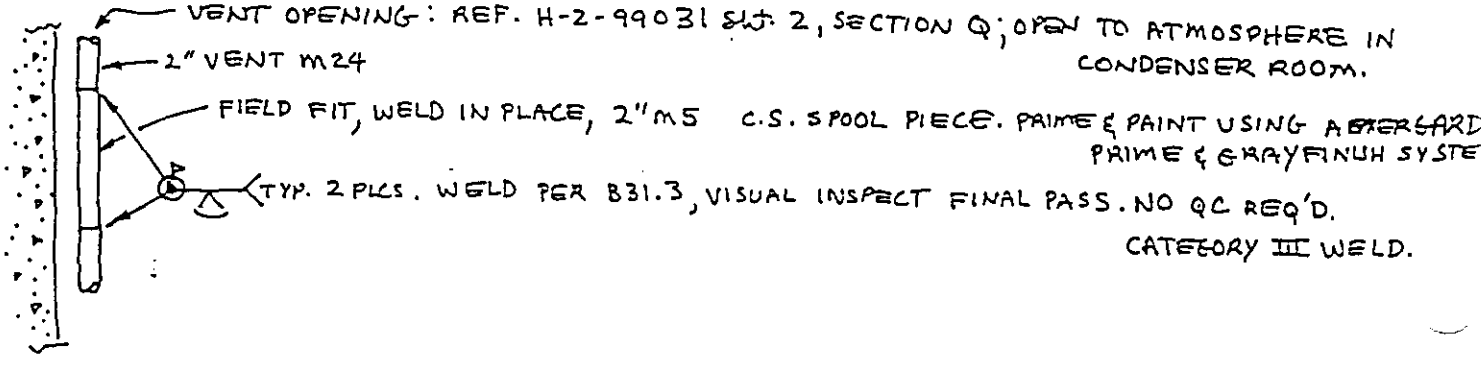
REFERENCE DETAIL IV, THIS ECN

@ DETAIL IV :

WAS :



IS :



FILE COPY

ENGINEERING CHANGE NOTICE

Page 1 of 6

1. ECN 610629

Proj ECN FILE COPY

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.		4. Date
Supplemental [X] Direct Revision [] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	VA SMITH / 7CF40 / R1-43 / 373-4054 - N117G		10/6/94
	5. Project Title/No./Work Order No. 242-A EVAPORATOR: C-100 PUMP REPLACEMENT	6. Bldg./Sys./Fac. No. 242-A /PROCESS CONDENSATE SYS.	7. Approval Designator Q 12/7/94 N/A
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) H-2-99031, SHEET 3, REV 1	9. Related ECN No(s). 610627	10. Related PO No. 399810

11a. Modification Work	11b. Work Package No.	11c. Modification Work Completed	11d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 11b) [] No (NA Blks. 11b, 11c, 11d)	EE-94-00711	5 JM [signature] 4/17/95 Cog. Engineer Signature & Date APR 17 1995	N/A Cog. Engineer Signature & Date

12. Description of Change

REMOVE EXISTING P-C100 KONTRO PUMP AND REPLACE WITH NEW INGERSOLL-RAND PUMP. THE CHANGE REQUIRES THE REMOVAL OF EXISTING ASSOCIATED PIPING SYSTEMS AND GROUT FROM EXISTING PUMP BASE AND PREPARING EXISTING CEMENT PUMP BASE FOR INSTALLATION OF NEW PUMP AS SHOWN ON SHEETS 3 AND 4 OF THIS ECN.

13a. Justification (mark one)							
		Criteria Change	[]	Design Improvement	[X]	Environmental	[]
As-Found	[]	Facilitate Const.	[]	Const. Error/Omission	[]	Design Error/Omission	[]

13b. Justification Details

TO PROVIDE A MORE RELIABLE PUMP FOR THE OPERATION OF THE 242-A EVAPORATOR.

14. Distribution (include name, MSIN, and no. of copies)

VA SMITH,	R1-43,	(1)	Sta #1	S5-59
DS HARING,	R1-43,	(1)	Sta #16	S5-00
JE GEARY,	S5-14,	(1)	Sta #20	T4-08
RJ NICKLAS,	R1-43,	(1)	IPF #4	S5-85
SS DARLING,	S0-14,	(1)		
GALIOTO,	R1-43,	(1)		
DG MARKHAN,	S5-09,	(1)		
R. TRUE	S1-57			

RELEASE STAMP

OFFICIAL RELEASE (2)
BY WHO
DATE DEC 15 1994
Sta #4

-013-2 (06/94) GEF095

Located In RMIS by Document Number

A-7900-013-1 (06/92)

IPF 4.10 CPF #13

ENGINEERING CHANGE NOTICE

ESSENTIAL

Page 1 of 7

1. ECN No 620353

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	3a. USQ Required?	4. Date
Supplemental [] Direct Revision [] Change ECN [X] Temporary [] Standby [] Supersedure [] Cancel/Void []	TM GALIOTO, WTSE, R1-43, 3-4894	[] Yes [X] No	2/15/95
	5. Project Title/No./Work Order No. PC100 PUMP REPLACEMENT	6. Bldg./Sys./Fac. No. 242A/PROCESS COND. SYSTEM	7. Approval Designator NA
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) SEE BLOCK 12	9. Related ECN No(s). 610629	10. Related PO No.

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[X] Yes (fill out Blk. 11b) [] No (NA Blks. 11b, 11c, 11d)	EE-94-711	Cog. Engineer Signature & Date	NA Cog. Engineer Signature & Date

12. Description of Change

ECN #610629 SHEET 4 WILL HAVE THE EXISTING SUPPORT SEPARATED AND MOVED COUNTERCLOCKWISE AROUND THE TANK. ALSO, THE 1" DRAIN LINE WILL BE PLUGGED AND CUTOFF LEVEL WITH THE LOOR AS SHOWN ON PAGES 3-7 OF THIS ECN.

DRAWINGS ALSO CHANGED BY THIS ECN INCLUDE:
H-2-79865 SH 3,6 REV1
H-2-98995 SH 1 REV6
H-2-69352 SH1 REV4
H-2-69354 SH1 REV4

DRAWINGS INADVERTENTLY LEFT OF BLOCK 8 OF ECN 610629.

13a. Justification (mark one)

Criteria Change	[]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[X]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[]

13b. Justification Details

THE DELUGE SPRAY RING SUPPORT NEEDS TO BE MOVED TO ALLOW BETTER ACCESS TO THE NEWLY INSTALLED P-C-100 PUMP. THE DRAIN WILL NO LONGER BE NEEDED AND MUST BE ELIMINATED SO THAT NEW PUMP MAY BE INSTALLED AS SHOWN ON ECN 610629.

14. Distribution (include name, MSIN, and no. of copies)

DS HARING R1-43
TM GALIOTO R1-43
NICKLAS R1-43
L BEIREIS S5-14

Located In RMIS by Document Number

RELEASE STAMP

OFFICIAL RELEASE BY WHC (5)
DATE FEB 15 1995

A-7900-013-2 (11/94) GEF095

This plan covers the following buildings and structures:

242-A Building, 242-AB Building, 242-A-81 Water Service Building,
207-A Retention Basins.

Approved:

Facility Management	3/29/00 Date
Environmental Compliance Officer	3/29/00 Date
Emergency Preparedness	3/29/00 Date
Hanford Fire Department	3/29/00 Date

This document will be reviewed annually and updated if necessary by Facility Management unless Hanford Facility RCRA Permit coordination requirements provides otherwise. The document will be approved by Facility Management and approved by the Manager of Emergency Preparedness (or delegate) and the Hanford Fire Department.

TABLE OF CONTENTS

1.0 GENERAL INFORMATION 1
1.1 Facility Name 1
1.2 Facility Location 1
1.3 Owner 1
1.4 Description of the Facility and Operations 1
1.5 Building Evacuation Routing 2

2.0 PURPOSE 2

3.0 BUILDING EMERGENCY ORGANIZATION 2
3.1 Building Emergency Director 5
3.2 Other Members 5

4.0 IMPLEMENTATION OF THE PLAN 5

5.0 FACILITY HAZARDS 6
5.1 Hazardous Materials 6
5.2 Industrial Hazards 6
5.3 Dangerous/Mixed Waste Hazards 7
5.3.1 Solid Form 7
5.3.2 Liquid Form 7
5.3.3 Gaseous Form 7
5.4 Radioactive Materials 7
5.5 Criticality 8

6.0 POTENTIAL EMERGENCY CONDITIONS 8
6.1 Operations Emergencies 8
6.1.1 Loss of Utilities 8
6.1.2 Major Process Disruption/Loss of Plant Control 10
6.1.3 Pressure Release 10
6.1.4 Fire and/or Explosion 10
6.1.5 Hazardous Material Spill or Release 11
6.1.6 Radioactive/Mixed Waste Spill 11
6.1.7 Transportation and/or Packaging Incidents 11
6.1.8 Radiological Material Release 11
6.1.9 Criticality 11
6.2 Natural Phenomena 11
6.2.1 Seismic Event 12
6.2.2 Ashfall/Snow Fall Roof Overloading 12
6.2.3 High Winds/Tornados 12
6.2.4 Flood 12
6.2.5 Range Fire 12
6.2.6 Aircraft Crash 12
6.3 Security Contingencies 13
6.3.1 Bomb Threat/Suspicious Object 13
6.3.2 Hostage Situation/Armed Intruder 13

6.3.3 Suspicious Object 13

7.0 INCIDENT RESPONSE 13
7.1 Protective Actions Responses 13
7.1.1 Evacuation 13
7.1.2 Take Cover 14
7.2 Response to Operations Emergencies 14
7.2.1 Loss of Utilities 15
7.2.2 Major Process Disruption/Loss of Plant Control 16
7.2.3 Pressure Release 17
7.2.4 Fire and/or Explosion 17
7.2.5 Hazardous Material, Dangerous and/or Mixed Waste Spills or Releases 18
7.2.6 Radiological Material Release 19
7.2.7 Criticality 20
7.3 Prevention of Recurrence or Spread of Fires, Explosions, or Releases 20
7.4 Response to Natural Phenomena 20
7.4.1 Seismic Event 21
7.4.2 Volcanic Eruption/Ashfall 21
7.4.3 High Winds/Tornados 22
7.4.4 Flood 22
7.4.5 Range Fire 22
7.4.6 Aircraft Crash 22
7.5 Security Contingencies 22
7.5.1 Bomb Threat/Suspicious Object 22
7.5.2 Hostage Situation/Armed Intruder 22
7.5.3 Suspicious Object 23

8.0 TERMINATION OF EVENT, INCIDENT RECOVERY, AND RESTART OF OPERATIONS 23
8.1 Termination of Event 23
8.2 Incident Recovery and Restart of Operations 23
8.3 Incompatible Waste 24
8.4 Post-Emergency Equipment Maintenance and Decontamination 24

9.0 EMERGENCY EQUIPMENT 25
9.1 Fixed Emergency Equipment 25
9.2 Portable Emergency Equipment 25
9.3 Communications Equipment/Warning Systems 26
9.4 Personal Protective Equipment 26
9.5 Spill Control and Containment Supplies 27
9.6 Emergency Response Center 27

10.0 COORDINATION AGREEMENTS 27

11.0 REQUIRED REPORTS 27

12.0 PLAN LOCATION 27

13.0 BUILDING EMERGENCY ORGANIZATION 28

14.0 REFERENCES 28

ATTACHMENT A Listing of Procedures and Guides 29

FIGURES

Figure 1, 242-A Evaporator Evacuation Routes 3
Figure 2, 242-A Evaporator Staging Areas 4

1.0 GENERAL INFORMATION

The 242-A Evaporator, which is part of the 200 Area Liquid Waste Processing Facilities (LWPF), is located on the Hanford Site, a 560-square-mile U.S. Department of Energy (DOE) site in southeastern Washington State. The 242-A Evaporator is located in the southeast portion of the 200 East Area near the center of the Hanford Site. The Hanford Site Emergency Preparedness Program is based upon the incident command system which allows a graded approach for response to emergency events. This plan contains a description of facility specific emergency planning and response. It is used in conjunction with DOE/RL-94-02, *Hanford Emergency Management Plan*. Response to events is performed using facility specific and/or site-level emergency procedures.

1.1 Facility Name: U.S. Department of Energy Hanford Site,
200 Area Liquid Waste Processing Facility,
242-A Evaporator.

1.2 Facility Location: Benton County, Washington; within the 200 East Area.

Buildings/facilities covered by this plan are:

242-A Building
242-AB Building
242-A-81 Water Service Building
207-A Retention Basins

1.3 Owner: U.S. Department of Energy
Richland Operations Office
825 Jadwin Avenue
Richland, Washington 99352

FACILITY MANAGER:
Flour Hanford, Inc.
P. O. Box 1000
Richland, Washington 99352

1.4 Description of the Facility and Operations

The 242-A Building is a five-story, concrete structure consisting of a main process area (i.e., pump room, load-out room, evaporator room, condenser room), support system area (i.e., aqueous makeup room, heating ventilation and air conditioning (HVAC) room, etc.), and the adjacent office area (i.e., lunch room, lavoratories, offices, etc.). The main process and support system areas are designed and constructed to withstand a 0.25 g horizontal acceleration seismic event, and a 100-mile-per-hour, high wind/tornado.

The 242-AB Building was constructed to house the upgraded 242-A Evaporator monitoring and control system. This building adjoins the 242-A Building and includes the control room (room 18) and electrical room (room 19).

The 207-A Retention Basins are located east of the 242-A Building, and north of the AP Tank Farm. The Water Service Building (242-A-81) is located directly south of the 242-A Building.

The 242-A Evaporator is connected to Double-Shell Tank (DST) system tanks and valve pits through underground piping that is used for transferring feed and slurry solutions and miscellaneous drainage.

There is a satellite accumulation area located south of the 242-A Building.

1.5 Building Evacuation Routing

Figure 1 shows 242-A Evaporator evacuation routes. Figure 2 shows 242-A Evaporator staging areas.

2.0 PURPOSE

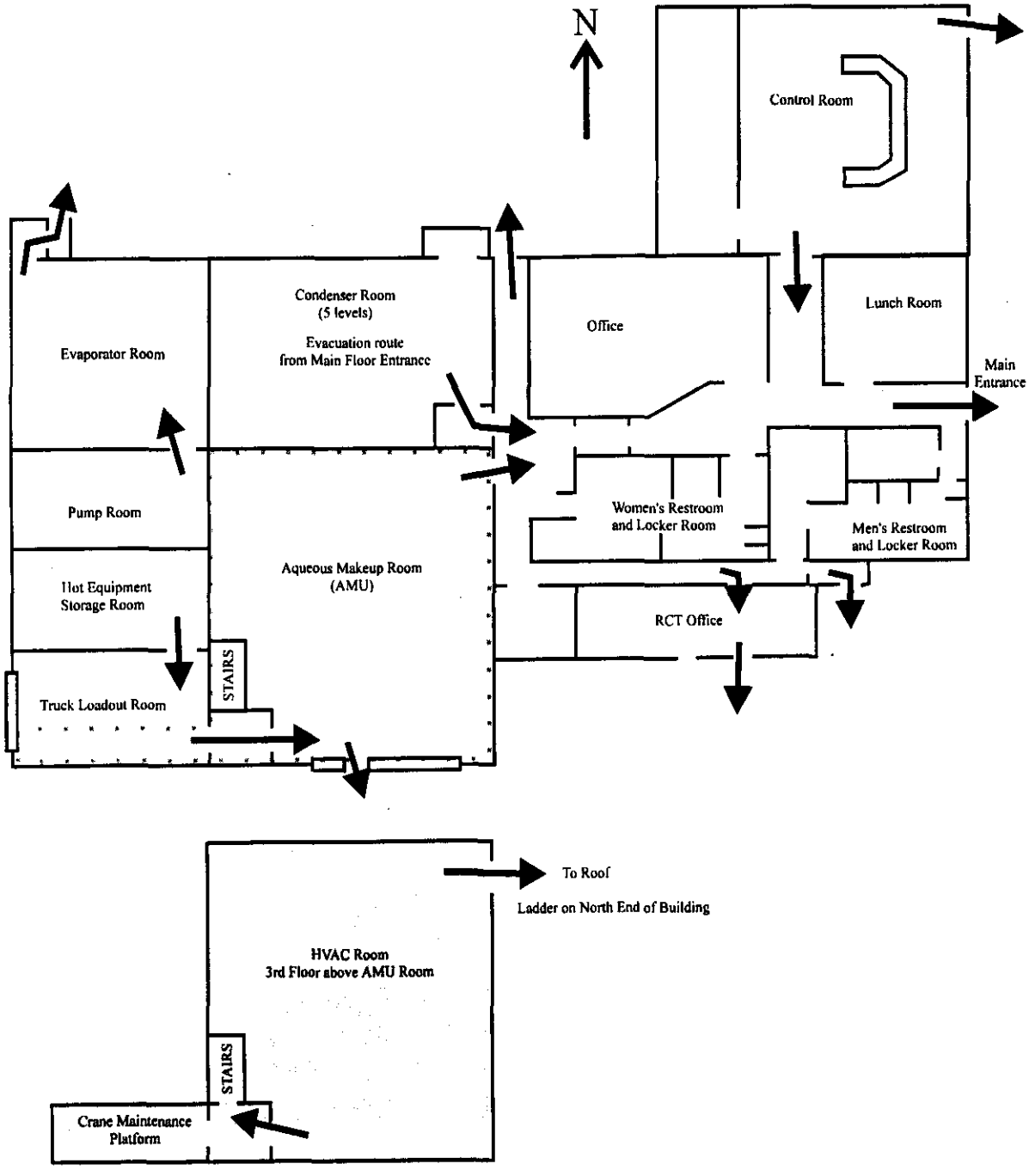
This plan describes both the facility hazards and the impacts of upset and/or emergency conditions. "Emergency" as used in this document includes events meeting the Washington Administrative Code (WAC) 173-303 definition of Emergency as well as some DOE-232.1, "Occurrence Reporting and Processing of Operations Information," categories of Unusual Occurrence and Emergency. These events include spills or releases, fires and explosions, transportation activities, movement of materials, packaging, storage of hazardous materials, and natural and security contingencies. When used in conjunction with DOE/RL-94-02, *Hanford Emergency Management Plan*, this plan meets the requirements for contingency planning as required by WAC 173-303.

3.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

The 242A LWPF is staffed 24 hours each day, and is prepared to respond to emergencies through designated personnel with specific primary, on-call and alternate responsibilities. The 242-A Building Emergency Director (BED) directs the emergency response until the Incident Commander arrives at the event scene. The BED is on duty 24 hours each day. The on-duty Shift Operations Manager is the designated primary BED. There is a designated alternate BED on day shift available for directing emergency response if required. Other personnel required as part of the building emergency organization are also on duty with either primary or alternate responsibilities. The following paragraphs describe this organization and the duties of designated personnel.

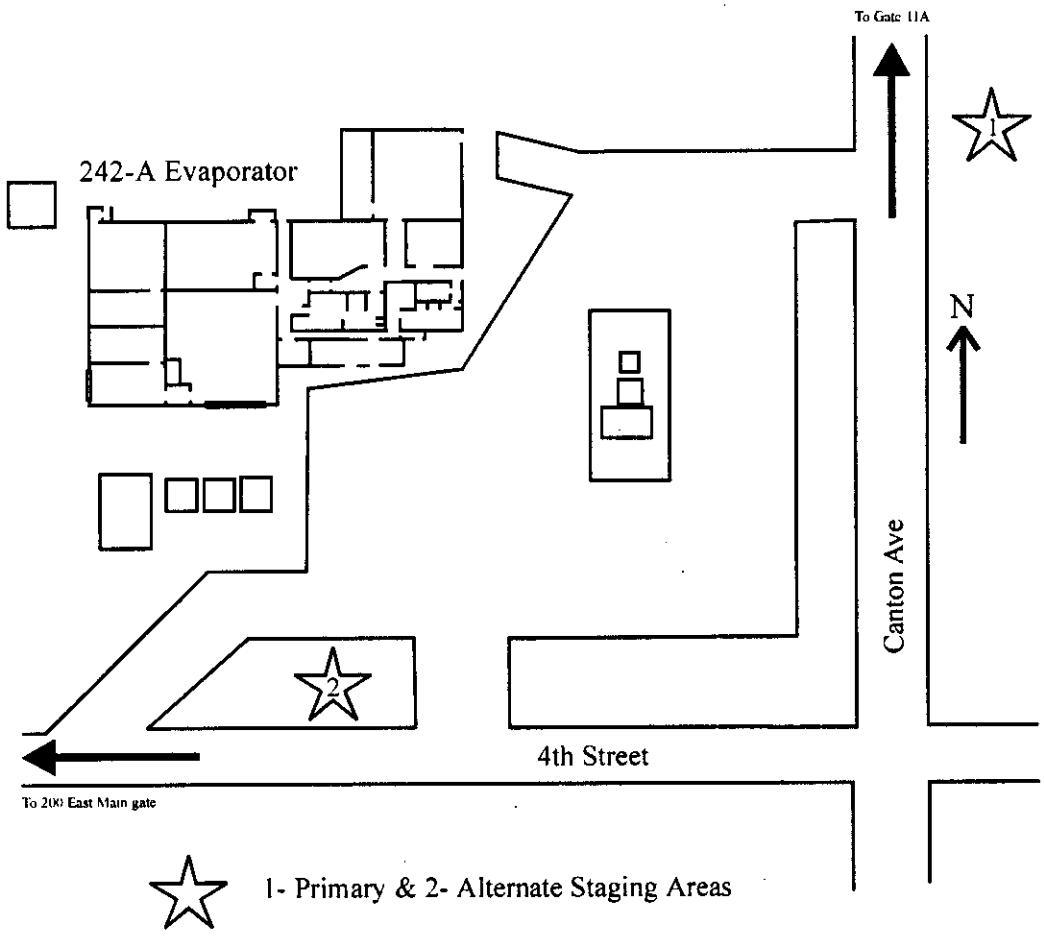
Figure 1, 242-A Evaporator Evacuation Routes

RCT: radiation control technologist



HVAC: heating, ventilation, and air conditioning

Figure 2, 242-A Evaporator Staging Areas



3.1 Building Emergency Director

Emergency response is directed by the Building Emergency Director (BED) until the Incident Commander (IC) arrives. The incident command system and staff with supporting on-call personnel fulfill the responsibilities of the Emergency Coordinator as discussed in WAC 173-303-360.

During events, facility personnel perform response duties under the direction of the BED. The Incident Command Post (ICP) is managed by either the senior Hanford Fire Department member present on the scene or senior Hanford Patrol member present on the scene (security events only). These individuals are designated as the Incident Commander (IC) and as such have the authority to request and obtain any resources necessary for protecting people and the environment. The BED becomes a member of the ICP and functions under the direction of the IC. In this role the BED continues to manage and direct facility operations.

A listing of the primary and alternate BEDs by title, work location, and work telephone numbers is contained in Section 13 of this plan. The BED is on the premises or is available through an "on-call" list 24 hours a day. Names and home telephone numbers of the BEDs are available from the Patrol Operations Center (POC) in accordance with *Hanford Facility RCRA Permit*, Dangerous Waste Portion, General Condition II.A.4.

3.2 Other Members

As a minimum, Facility Management appoints and ensures training is provided to individuals to perform as Personnel Accountability Aides and Staging Area Managers. The accountability aides are responsible for facilitating the implementation of protective actions (evacuation or take cover) and the accountability of personnel after the protective actions have been implemented. Staging Area Managers coordinate/conduct activities at the staging area. Staging Area Managers and Personnel Accountability Aids are trained annually and are required to participate in two drills per year. In addition, the BED may identify additional support personnel (Radiological Control, Maintenance, Engineering, Hazardous Material Coordinators, etc.) to be part of the Facility/Building Emergency Response Organization. Sections 13.0 of this plan discusses the location of information regarding positions, names, and telephone numbers. Copies are distributed to appropriate facility locations and to the Hanford Site Emergency Preparedness organization.

4.0 IMPLEMENTATION OF THE PLAN

To meet the requirements of WAC 173-303, this plan will be implemented when the BED has determined that a release, fire, or explosion which could threaten human health or the environment (RCRA Emergency) has occurred at the facility. The RCRA Emergency determination process is described in DOE/RL-94-02, Section 4.2.

The BED assesses each incident to determine the response necessary to protect personnel, the facility, and the environment. If emergency assistance from Hanford Patrol, Hanford Fire Department, or ambulance units is required, the Hanford Emergency Response Number (911)

must be used to contact the POC and request the desired assistance. To request other resources or assistance from outside the facility, the POC business number is used (373-3800).

5.0 FACILITY HAZARDS

This section describes hazards that pose significant risks to human health or the environment and identify quantitative values for those risks.

5.1 Hazardous Materials

Potentially hazardous materials at the 242-A Evaporator are used for normal maintenance and support functions. These could include acids, caustics, oils, diesel fuel and solvents. Diesel fuel also presents a flammability hazard. A significant release of materials would be classed as a WAC 173-303 or DOE Emergency.

Material Safety Data Sheets (MSDSs) are at the following locations:

- 2025EA Building:
  - Room 101
  - Room 104
- 2025E Building
  - Maintenance Shop, Room 103
  - Control Room
- 242-A Evaporator Control Room.

5.2 Industrial Hazards

Industrial hazards associated with the 242-A Evaporator include electrical equipment, pressurized equipment, high temperature equipment, rotating equipment, confined spaces, and compressed gas cylinders. These industrial hazards do not pose a threat to the health and safety of the general public or the environment. Industrial hazards are addressed in the building health and safety plan and maintenance programs.

5.3 Dangerous/Mixed Waste Hazards

5.3.1 Solid Form

Dangerous/mixed waste is generated at the 242-A Evaporator during sampling, decontamination, and maintenance activities. This waste is accumulated in a designated accumulation area south of the 242-A Building and transported to a 90-day accumulation area when required.

5.3.2 Liquid Form

Highly radioactive mixed waste solution is processed at the 242-A Evaporator and contained in the vapor-liquid separator, C-A-1, and ancillary equipment. Low radioactive, mixed waste solution is contained in the condensate collection tank, C-100, and ancillary equipment.

Although the mixed waste solution contains chemicals that are hazardous (primarily ammonia and sodium hydroxide), the bounding consequence for spills or releases of this waste are based on its radiological components. Major radioactive isotopes and potential concentrations in the waste are shown in Table 1.

Table 1. Major Contributors to the 242-A Evaporator Waste Bounding Source Term

Isotope	Bq/L	Ci/L
Sr-90	8.14E+09	2.20E-01
Ru-106	1.96E+09	5.30E-02
Cs-137	5.55E+10	1.50E+00
Pu-239	5.92E+06	1.60E-04
Pu-241	5.55E+08	1.50E-02
Am-241	3.70E+07	1.00E-03

The total volume of the vapor-liquid separator and recirculation loop (85,000 to 95,000 liters) is used to determine the potential radiological hazard. Sr-90 and Cs-137, along with their daughter products (Y-90 and Ba-137m), are the primary radiological hazards. Ru-106, Pu-239, Pu-241, and Am-241 also are significant contributors.

5.3.3 Gaseous Form

A waste blending error in the DST system potentially could generate large amounts of ammonia gas from the 242-A Evaporator vent system during processing.

5.4 Radioactive Materials

Radioactive material in solid form consists of waste materials which have not contacted mixed waste solutions. Radioactive waste materials removed from radiation areas are packaged and transported to an approved radioactive waste storage facility.

Radioactive materials in liquid form are mixed wastes and are described in Section 5.3.2.

Radioactive materials in gaseous form are emitted from the vessel vent and building exhaust ventilation systems. These systems have HEPA filters to remove radioactive particulate, reducing emissions to acceptable discharge levels. Failure of HEPA filters could result in a loss of confinement as described in Section 6.1.8.

5.5 Criticality

A criticality is not a credible accident at the 242-A Evaporator.

6.0 POTENTIAL EMERGENCY CONDITIONS

Potential emergency conditions, under both WAC 173-303 and DOE guidance, may include one of three basic categories: operations (process upsets, fires and explosions, loss of utilities, spills, and releases), natural phenomena (earthquakes and storms), and security contingencies (bomb threats, hostage situations, etc.). The following are conditions that may lead to an emergency situation (WAC or DOE defined) at the 242A Evaporator and require the implementation of this plan.

Potential radioactive/dangerous/mixed waste release modes include fires, explosions, spills, or releases. These events are evaluated based on the potential impact to operations and subsequent release of waste materials. Potential consequences to human health or the environment are the ultimate criteria for event classification and protective response actions. Additionally, prolonged small releases are evaluated for their potential to impact human health or the environment.

6.1 Operations Emergencies

The conditions for operations emergencies are present only when mixed waste is present in the vapor-liquid separator, C-A-1, recirculation loop, and ancillary equipment.

6.1.1 Loss of Utilities

6.1.1.1 Loss of Electrical Power

A loss of electrical power could lead to a loss of compressed air, causing the vapor-liquid separator, C-A-1, drain valves to open and suddenly dump the contents to DST system tank 241-AW-102. A potential over pressurization and subsequent radiological release could occur from that tank. Mitigating actions for a radiological release from the DST system are taken per the tank farms emergency procedures.

A loss of electrical power would interrupt processing but would not produce an emergency event at the 242-A Evaporator.

6.1.1.2 Loss of Compressed Air

A loss of compressed air would cause the vapor-liquid separator, C-A-1, drain valve to open and suddenly dump the contents to DST system tank 241-AW-102. A potential over pressurization and subsequent radiological release could occur from that tank. Mitigating actions for a radiological release from the DST system are taken per the tank farms emergency procedures.

A loss of compressed air would interrupt processing but would not produce an emergency event at the 242-A Evaporator.

6.1.1.3 Loss of Raw Water

Raw water can be used as seal water for the mechanical seals on P-B-1 recirculation pump and P-B-2 slurry pump when the normal supply of process condensate is not available. If raw water is supplied to the seals, and loss of raw water occurs, failure of mechanical seals could occur, causing a spray release of mixed waste into the facility.

The spray release scenario is discussed in Section 6.1.8. Interlocks are provided to stop the pumps on low seal water flow.

Raw water supplies cooling water to the EC-1, EC-2, and EC-3 condensers. Loss of raw water during facility operation will cause high temperatures in TK-C-100, which will result in a major process upset.

Raw water supplies cooling to the air compressors, with sanitary water available as a backup. If loss of raw water occurs, and backup cooling by sanitary water is not initiated within 15 to 20 minutes, the air compressors could overheat, causing a loss of compressed air. A loss of compressed air is discussed in section 6.1.1.2.

6.1.1.4 Loss of Sanitary Water

If sanitary water is supplying cooling to the air compressors with raw water unavailable, the air compressors could overheat causing a loss of compressed air. A loss of compressed air is discussed in section 6.1.1.2.

6.1.1.5 Loss of K1 or Vessel Ventilation System

The K1 ventilation system maintains contaminated areas of the 242-A Building at a negative pressure (with respect to atmospheric) to prevent contamination spread to uncontaminated areas. The ventilation system includes two stages of high efficiency particulate air (HEPA) filters, two exhaust fans, and stack sampling and monitoring equipment. Both fans are electrically powered, however the backup fan can be powered by a diesel powered standby generator. The fans are interlocked so that if primary electrical power is lost, the backup fan automatically starts once the generator is on line. The K1 ventilation system is interlocked to shut down the primary fan and prevent the secondary fan from starting if high radioactive particulate level is detected in the exhaust stream.

The vessel ventilation system maintains the condenser vent system and the C-100 tank under vacuum to prevent contamination spread from the processing equipment to the rooms. The vessel vent system includes a demister, prefilter, heater, two HEPA filters in series, an exhaust fan, and stack sampling and monitoring equipment. The vessel ventilation monitoring system alarms in the control room if high radiation is detected.

The K1 and vessel ventilation systems are required for 242-A Evaporator processing. A loss of either ventilation system would require the 242-A Evaporator to be shut down but would not result in an emergency condition. A ventilation system shutdown due to a radiological material release is discussed in section 6.1.8.1. A loss of confinement is discussed in section 6.1.8.3.

6.1.1.6 Loss of Steam

A loss of steam would interrupt the processing but would not produce an emergency event. Emergency planning is not required.

6.1.2 Major Process Disruption/Loss of Plant Control

A major process disruption/loss of plant control can be caused by failure of the Monitor and Control System (MCS) computer. A loss of MCS could cause the vapor-liquid separator, C-A-1, drain valve to open and suddenly dump the contents to DST system tank 241-AW-102. A potential over pressurization and subsequent radiological release could occur from that tank. Mitigating actions for a radiological release from the DST system are taken per tank farms emergency procedures.

6.1.3 Pressure Release

Consequences of a pressure release of mixed waste during processing are radiological in nature and are discussed in Section 6.1.8.

6.1.4 Fire and/or Explosion

A fire/explosion could generate highly toxic and/or corrosive fumes. Flying debris could result from explosions or compressed gas cylinder failure. Process system disruption, loss of plant control, and breach of process system boundaries could result from the flying debris.

If mixed waste is present in the vapor-liquid separator, C-A-1, process recirculation loop, and ancillary equipment, and a fire occurs in the control room, aqueous makeup room, HVAC room, condenser room, pump room, or evaporator room lasting longer than 30 minutes and requiring fire department actions for suppression, emergency classification should be made per criteria stated in DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M.

If an explosion is confirmed to have occurred at the 242-A Evaporator and the explosion threatens areas containing hazardous chemicals and/or radioactive material, or if the explosion breaches the external 242-A Building walls when the vapor-liquid separator contains solution, emergency classifications are per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M.

6.1.5 Hazardous Material Spill or Release

A waste blending error in the DST system potentially could generate large amounts of ammonia gas from the 242-A Evaporator vent system during processing. Ammonia stack releases of more than 5 grams per second (40 pounds per hour and ammonia stack releases of more than 38 grams per second (300 pounds per hour) meet emergency criteria stated in DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M.

6.1.6 Radioactive/Mixed Waste Spill

The hazards consequences for mixed waste releases are radiological. Radiological releases are discussed in Section 6.1.8.

6.1.7 Transportation and/or Packaging Incidents

A transportation and/or packaging incident involving hazardous chemicals or samples could result in exposure to hazardous and radioactive materials. Potential environmental damage by their release could also occur.

6.1.8 Radiological Material Release

6.1.8.1 Ventilation System Release

If a mixed waste release causes K1 ventilation or vessel ventilation system high radiation, it is necessary to quickly assess whether any radioactive material was released. If there is a release of radioactive material, emergency classification will be made per criteria stated in DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M.

6.1.8.2 Release of Mixed Waste into Facility

A catastrophic release of mixed waste into the Pump or Evaporator rooms would necessitate an emergency classification per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M.

6.1.8.3 Loss of Confinement

If a loss of confinement in the 242-A Building occurs, along with a loss of negative pressure in radiation areas, emergency classification will be made per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M.

6.1.9 Criticality

A criticality is not a credible accident at the 242-A Evaporator.

6.2 Natural Phenomena

Natural phenomena are discussed in the following sections.

6.2.1 Seismic Event

Depending on the magnitude of the seismic event, severe structural damage could occur at the 242-A Evaporator, resulting in serious injuries or fatalities and the release of hazardous or radioactive materials to the environment. Damaged electrical circuits and wiring could result in the initiation of fires.

Any seismic event that is felt by personnel, with some minor facility damage, and disturbance of tall objects at the 242-A Evaporator locations that house hazardous chemicals and/or radioactive materials requires classification per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M. An emergency classification upgrade could occur based on facility conditions

and/or actual hazardous material or radioactive/dangerous/mixed waste releases determined by personnel assessing quake damage.

6.2.2 Ashfall/Snow Fall Roof Overloading

Ash or snow accumulation causing actual roof or other structural damage to buildings containing hazardous material or radioactive/dangerous/mixed waste requires classification per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M. There should be ample warning of an approaching large ashfall to allow the facilities to be placed in a stable condition.

6.2.3 High Winds/Tornados

When sustained wind speeds in excess of 40 meters per second (90 miles per hour) are observed and cause degradation of the facility safety equipment/confinement barriers, emergency classification is made per *DOE-0223, Emergency Plan Implementing Procedure*, Appendix 1-2.M. An emergency classification upgrade could occur based on actual facility damage or release of hazardous materials, radioactive/dangerous/mixed waste.

6.2.4 Flood

A flood is not a credible accident at 242-A Evaporator because the facility is not within the Columbia River flood plain.

6.2.5 Range Fire

In the event that a range fire threatens any 242-A Evaporator building containing hazardous material or radioactive/dangerous/mixed waste, emergency classification is made per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M.

6.2.6 Aircraft Crash

If an aircraft crash occurs into or near the 242-A Evaporator, emergency classification is made per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2:M. An emergency classification upgrade could occur based on actual facility damage or release of hazardous material or radioactive/dangerous/mixed waste.

6.3 Security Contingencies

6.3.1 Bomb Threat/ Explosive Devices

Bomb threats may pose a fire or explosion hazard. Fire or explosion from a bomb could lead to the release of hazardous constituents or materials and exposure and bodily harm to personnel. Emergency classification will be made per DOE-0223, *Emergency Plan Implementing Procedure*, Appendix 1-2.M. If an explosive device detonates, classification of the event will be performed as stated in Section 6.1.4.

6.3.2 Hostage Situation/Armed Intruder

A hostage situation or the entry of an armed hostile intruder(s) at the 242-A Evaporator can pose an emergency if either of these conditions has the potential to adversely affect facility operations. An emergency classification upgrade could occur based on actual facility damage or release of hazardous material or radioactive/dangerous/mixed waste.

6.3.3 Suspicious Object

The major effect on the facility due to recognizing a suspicious object is that the facility should be placed in a safe configuration, if time permits, and the facility evacuated.

7.0 INCIDENT RESPONSE

The initial response to any emergency is to immediately protect the health and safety of persons in the immediate area. Identification of released material is essential to determine appropriate protective actions. Containment, event notifications, treatment, and disposal assessment are secondary responses.

The following sections describe the process for implementing basic protective actions as well as descriptions of response actions for the events listed in Section 6.0 of this plan. DOE/RL-94-02, Section 1.3, provides concept of operations for emergency response on the Hanford Site.

Incident responses are coordinated from the 242-A Evaporator control room or a designated alternate location.

7.1 Protective Actions Responses

7.1.1 Evacuation

The objective of a facility evacuation order is to limit personnel exposure to hazardous materials or radioactive/dangerous/mixed waste by increasing the distance between personnel and the hazard. The scope of the evacuation includes evacuation of the facility due to an event at the facility as well as evacuation of the facility in response to a site evacuation order. Evacuation is directed by the BED when conditions warrant and applies to all personnel not actively involved in the event response or in emergency plan-related activities.

The BED initiates the evacuation by directing an announcement be made to evacuate along with the evacuation location over the public address system and facility radios, activate the evacuation siren (steady siren) for three minutes, and, as conditions warrant, by activating the 200 Area evacuation alarms by calling the POC using 911 or 373-3800 (if using a cellular phone). Personnel proceed to a predetermined staging area (shown in Figure 1), or other safe upwind location, as determined by the BED. The BED determines the operating configuration of the facility and identifies any additional protective actions to limit personnel exposure to the hazard.

Emergency organization personnel or assigned operations personnel conduct a sweep of occupied buildings to ensure that all non-essential personnel and visitors have evacuated. For an immediate evacuation, accountability is performed at the staging area. The BED assigns personnel as accountability aides and staging area managers with the responsibility to ensure that evacuation actions are taken at the 242-A and 242-AB Buildings. All implementing actions executed by the aides/managers are directed by the emergency response procedures identified in Attachment A. When evacuation actions are complete, the aides/managers provide a status report to the BED. The BED provides status to the Incident Commander.

7.1.2 Take Cover

The objective of the take cover order is to limit personnel exposure to hazardous or radioactive/dangerous/mixed waste when evacuation is inappropriate or not practical. Evacuation might not be practical or appropriate because of extreme weather conditions or the material release might limit the ability to safely evacuate personnel.

The BED initiates the take cover by directing an announcement be made over the public address system and facility radios, by activating the take cover siren (wavering siren) for three minutes, and, as conditions warrant, by activating the 200 Area take cover alarms by calling the POC using 911 or 373-3800 (if using a cellular phone). Actions to complete a facility take cover order are directed by the emergency response procedure in Attachment A. Protective actions associated with operations include configuring, or shutting down, the ventilation systems. Determination of additional take cover actions is based on operating configuration, weather conditions, amount and duration of release, and other conditions, as applicable to the event and associated hazard. As a minimum, personnel exposure to the hazard are minimized. The BED assigns personnel as accountability aides with responsibility to ensure that take cover actions are taken at all occupied buildings at the 242-A Evaporator. All implementing actions executed by the aides/managers are directed by the emergency response procedures in Attachment A. When take cover actions are complete the aides/managers provide the BED with a status report.

7.2 Response to Facility Operations Emergencies

If there is a potential for categorization of an Occurrence or classification into an Alert, Site Area or General Emergency, in the following facility operations emergency sections, reference shall be made to the site facility occurrence reporting procedure or the event recognition and classification procedure using the following statement,
"Depending on the severity of the following events, the BED reviews the site-wide procedures and facility-specific procedure (s) and, as required, categorizes and classifies the event. If necessary, the BED initiates area protective actions and site emergency response organization activation." The steps identified in the following description of actions do not have to be performed in sequence because of the unanticipated sequence of incident events.

7.2.1 Loss of Utilities

7.2.1.1 Loss of Electrical Power

Should there be a loss of electrical power to the 242-A Evaporator, all personnel are evacuated from radiation areas due to the potential loss of radiation monitoring equipment (i.e., continuous air monitors, area radiation monitors). In addition, all non-

essential personnel leave the facility. Access into the radiation and adjacent areas is restricted to response personnel who are properly clothed and equipped. Radiation monitoring by radiological control personnel is established, and facility operations are properly shutdown to a safe configuration.

If back-up power is not automatically placed in service, the diesel powered standby generator is manually placed in service. Operation of the Backup K1 Ventilation system exhaust fan is checked and, if not operating, actions are taken to start the fan (K1-5-2), or to secure the confinement area. If an exhaust fan is operating, verification is made that the exhaust stack radiation monitor is returned to service.

If the evaporator is in operation mode and a dump of C-A-1 vessel does occur, AW Tank Farm personnel are notified of impending pressurization of DST system tank 241-AW-102. The 200 East Area Tank Farms Shift Manager is notified of the event as is the 242-A Evaporator plant management.

All implementing actions executed by the aides/managers are directed by the emergency response procedures in Attachment A.

7.2.1.2 Loss of Compressed Air

Upon loss of the compressed air at the 242-A Evaporator, restoration of the air supply system is immediately attempted. If this fails, non-essential personnel are notified to exit the facility. Automatic dumping of the C-A-1 vessel is stopped; the vessel could dump later when air pressure that holds the drain valve fails open. If a dump of C-A-1 vessel does occur, AW Tank Farm personnel are notified of impending pressurization of DST system tank 241-AW-102.
Plant conditions are monitored as components fail and shutdown interlocks activate, and the facility is placed into a safe shutdown condition. The K1 ventilation system is monitored for potential failure due to loss of damper control (caused by loss of air supply), and plant management is notified of the facility condition. A backup air compressor is placed in service as soon as possible.

7.2.1.3 Loss of Raw Water

On loss of the raw water system, 242-A Evaporator personnel are immediately notified, and non-essential personnel are directed to leave the facility. Essential personnel are directed to the 242-A Evaporator control room for support as required. The P-B-1 and P-B-2 pumps are shutdown to prevent damage to the mechanical seals. If seal water is being supplied by the process condensate system, pump operation may continue through a controlled shutdown. The compressors are placed on sanitary water cooling. If air compressor failure occurs due to loss of cooling water, the automatic dumping of the C-A-1 vessel is terminated; the vessel could dump later when air pressure that holds the drain valve fails open. If a dump of C-A-1 vessel does occur, AW Tank Farm personnel are notified of impending over-pressurization of DST system tank 241-AW-102. The 200 East Area Tank Farms Shift Manager is notified of the facility condition.

Facility operations are properly shutdown, and plant management is notified of the facility condition.

7.2.1.4 Loss of Sanitary Water

On loss of the sanitary water, 242-A Evaporator Operations personnel perform the following:

1. Notify facility personnel
2. Ensure all air compressors are placed on raw water cooling
3. Ensure all chemical operations are terminated until safety showers and eye wash stations are operational (i.e., return of sanitary water system).

7.2.1.5 Loss of K1 Ventilation System

On loss of the K1 ventilation system, restoration of the primary or backup K1 ventilation exhaust fan is immediately attempted. If the K1 ventilation system cannot be restored immediately, personnel are notified to exit contaminated areas, and non-essential personnel are directed to exit the facility. Essential personnel report to the 242-A control room for support as required. Continued adequate contamination control is ensured by having the K2 ventilation system operating. The K2 ventilation system maintains positive pressure in non-contaminated areas. If the primary and backup K1 ventilation system exhaust fans are not running, actions are taken to shutdown the facility and restrict access to contamination areas. Plant management is notified of facility conditions.

7.2.2 Major Process Disruption/Loss of Plant Control

Upon loss of the MCS, the 242-A Evaporator Shift Operations Manager is notified while an attempt is made to return the MCS to service. If a dump of C-A-1 vessel does occur, AW Tank Farm personnel are notified of impending over-pressurization of DST system tank 241-AW-102. Non-essential personnel exit the 242-A Evaporator facility.

The system condition is assessed, and corrective actions are implemented. Operations are placed on recirculation by securing the slurry pump and waste feed to the plant. Facility shutdown is accomplished by performing manual, localized actions such as system isolation, equipment shutdown, etc.

7.2.3 Pressure Release

If mixed waste release occurs, perform actions identified in Section 7.2.5.

7.2.4 Fire and/or Explosion

On becoming aware of a fire and/or explosion, the discoverer notifies personnel (if any) in the immediate area and directs them to a safe location. The discoverer then activates the nearest fire

alarm pull station, contacts 911 to request fire fighting assistance, and contacts the 242-A Evaporator control room to report the fire. As soon as non-essential personnel are notified of a fire (verbally or by fire alarm activation), they immediately exit the facility to a safe upwind location, account for their personnel, and follow the instructions of responding personnel. If personnel are reported as missing, and might be within the facility, the Hanford Fire Department conducts a search.

The BED is notified and initiates activation of the incident command post and resources.

Operations personnel initiate a plant shutdown with the method (controlled or emergency) depending on the location and severity of the fire and the location and type of hazards in the affected area. A controlled shutdown is performed unless it is unsafe to remain in the control room. An emergency shutdown is performed if the control room must be evacuated. The Building Emergency Director interfaces with the Hanford Fire Department and provides the following:

a. Location and health of personnel, including missing personnel and possible locations for fire fighters to search.

b. Location and severity of fire.

c. Known hazardous (radiological and nonradiological) conditions.

d. Facility operating status.

e. Utility systems status.

f. Support by radiological control personnel (i.e., monitoring, surveys, sampling, decontamination).

g. Facility layout, and facility known hazardous conditions, (i.e., electrical, thermal, flammable materials, pressurized cylinders, toxic gas, pressure systems, batteries, radiation areas, etc.).

h. Support for fire fighter activities as required.

Once the fire is extinguished, the Shift Operations Manager/BED ensures administrative restrictions are implemented to protect the facility, the workers, and the environment. The Shift Operations Manager/BED makes notifications as required and assists with recovery actions.

7.2.5 Hazardous Material, Dangerous and/or Mixed Waste Spills or Releases

The 242A Evaporator has engineering controls to contain or minimize spills. These controls include containment berms, dedicated spill control sumps, remote gauges and level indicators as well as spray shields on chemical pipe flanges. The 242A Evaporator procedures provide alarm response and maintenance actions for leak detection equipment, surveillance of possible leak locations, and response actions for detected spills.

Spills can result from many sources including process leaks, container spills or leaks, damaged packages or shipments, or personnel error. Spills of mixed waste are complicated by the need to deal with the extra hazard induced by the presence of radioactive materials.

If a spill or release is discovered, the discoverer performs the following actions:

1. Notifies the 242-A Evaporator control room and evacuates to a safe area

2. Remains available for consultation with the BED, Hanford Fire Department, or other emergency response personnel.

The control room operator performs the following actions:

1. Uses the public address system to notify the facility occupants of the event

2. Notifies the BED/HFD and relays information received from the event scene

3. Places the facility in a safe condition

4. Remains available to support further notification and response activities

The BED performs or arranges for personnel to perform the following actions:

1. Coordinates response activity and establishes a command post at a safe location

2. Obtains all available information pertaining to the incident and determines if the spill or release warrants implementation of the contingency plan in accordance with Sections 4.0, 6.1.5, and 6.1.8. In the case of ammonia releases, described in Section 6.1.5, this information includes monitoring stack ammonia concentrations.

3. Determines need for assistance from outside agencies and arranges for their mobilization and response

4. Initiates the appropriate announcements, if building or area evacuations are necessary

5. Arranges for care of any injured persons

6. Requests activation of the affected area emergency sirens/crash alarm system if a threat to surrounding facilities

7. Provides for event notification

8. Maintains access control at the incident site by keeping unauthorized personnel and vehicles away from the area. Security personnel can be used to assist in site control if control of the boundary is difficult. In determining controlled access areas, considers environmental factors such as wind speed and direction

9. Arranges for proper remediation of the incident after evaluation

10. Remains available for HFD, Hanford Patrol, and other authorities on the scene and provide all required information

11. Enlists the assistance of alternate BED(s), if around-the-clock work is anticipated

12. Ensures the use of proper protective equipment, remedial techniques (including ignition source control for flammable spills), and decontamination procedures by all involved personnel, if remediation is performed by 242-A Evaporator personnel

13. Remains at the incident command post to oversee activities and to provide information, if remediation is performed by the HFD Hazardous Materials Response Team or other response teams

14. Ensures proper containerization, packaging, and labeling of recovered spill materials and overpack containers

15. Ensures decontamination (or restocking) and restoration of emergency equipment used in the spill remediation before resuming operations

16. Provides required reports after the incident.

7.2.5.1 Damaged and/or Unacceptable Shipments

The 242-A Evaporator does not receive dangerous or mixed waste shipments.

7.2.6 Radiological Material Release

7.2.6.1 K1 Ventilation or Vessel Ventilation System Release

If high radiation alarms or HEPA filter failure indicate a radiological material release from the K1 ventilation or vessel ventilation system, the ventilation system is immediately shutdown. A near contact radiation survey is performed on a ventilation system sample filter to determine extent of the radiological material released. The actions described in Section 7.2.5 are then performed.

7.2.6.2 Release of Mixed Waste into Facility

If a catastrophic dumping of mixed waste from vapor-liquid separator C-A-1 occurs, the facility is immediately shutdown. AW Tank Farm personnel are notified of impending over-pressurization of DST system tank 241-AW-102. The 200 East Area Tank Farms Shift Manager is notified of facility condition. The actions in Section 7.2.5 are then performed.

If a catastrophic dumping of the vapor-liquid separator causes high radiation alarm on the K1 ventilation system, the actions described in Section 7.2.6.1 are performed.

7.2.6.3 Loss of Confinement

If a loss of confinement occurs, the proper operation and lineup of the K1/K2 ventilation systems are verified. The actions described in Section 7.2.5 are performed. If the high radiation alarm on the K1 ventilation system is actuated, the actions described in Section 7.2.6.1 are performed. If the loss of confinement results in a radiological release outside the facility, the actions described in Section 7.1.2 are performed.

7.2.7 Criticality

A criticality is not a credible accident at the 242-A Evaporator.

7.3 Prevention of Recurrence or Spread of Fires, Explosions, or Releases

The BED, in coordination with emergency response organizations, takes the steps necessary to ensure that a secondary release, fire, or explosion does not occur. The area of the initial incident is isolated by shutting off power, closing off ventilation systems, etc. The affected area containment is inspected for leaks, cracks, or other damage and for toxic vapor generation. Released material and waste remaining inside of containment structures are removed as soon as possible, and residual waste material is contained and isolated using dikes and adsorbents. Outside areas where residual released materials remain are covered or otherwise stabilized to prevent migration or spread from wind or precipitation run-off.

New structures, systems, or equipment are installed as required based on engineering evaluations to enable better management of hazardous materials or dangerous waste. Adjacent operations in affected areas are reactivated only after residual waste materials are removed to levels acceptable to control contamination spread.

7.4 Response to Natural Phenomena

Depending on the severity of the event, the BED reviews the facility event recognition and classification procedure and, if required, classifies the event and initiates area protective actions and site emergency response organization activation. If other emergency conditions arise as a result of a natural phenomena event, response is appropriate for the condition created. For example: A fire due to lightning initiates the fire response actions and a spill of hazardous material due to an earthquake initiates spill response actions.

7.4.1 Seismic Event

The Hanford Site emergency response organization's primary role in a seismic event is coordinating the initial response to injuries, fires, and fire hazards, and acting to contain or control radioactive and/or hazardous material releases.

Individuals should remain calm and stay away from windows, steam lines, and hazardous material storage locations. Once the shaking has subsided, individuals evacuate carefully and assist personnel needing help. The locations of any trapped individuals are reported to the BED or are reported to 911 or 373-3800.

The BED takes whatever actions are necessary to minimize damage and personnel injuries, including:

- Coordinating searches for personnel and potential hazardous conditions (fires, spills, etc.),
- Conducting personnel accountability,
- Securing utilities and facility operations,
- Arranging for rescue efforts, and notifying 911 or 373-3800 for assistance,
- Determining if hazardous materials were released,
- Determining current local meteorological conditions,
- Warning other facilities and implementing protective actions if release of hazardous materials poses a danger,
- Providing personnel and resource assistance to other facilities.

7.4.2 Volcanic Eruption/Ashfall

When notified of an impending ashfall, the BED implements measures to minimize the impact of the ashfall, including the following:

- Installing filter media over building ventilation intakes,
- Installing filter media or protective coverings on outdoor equipment that could be adversely affected by the ash (diesel generators, equipment rooms etc.),
- Shutting down some or all operations and processes,
- Sealing secondary use exterior doors,

7.4.3 High Winds/Tornados

On notification of impending high winds, the BED takes steps necessary to secure all outside doors and windows, and secure all outdoor waste and hazardous material handling activities. All doors and windows are shut, and personnel are warned to use extreme caution when entering or exiting the building.

7.4.4 Flood

Flooding of the 242-A Evaporator is not credible.

7.4.5 Range Fire

Responses to range fires are handled by preventive measures (i.e., keeping hazardous material and waste accumulation areas free of combustible materials such as weeds and brush). If a range fire breaches the facility boundary, the response is as described for a fire.

7.4.6 Aircraft Crash

Response to an aircraft crash is appropriate for the condition created. For example, a fire due to explosion or electrical shorts, initiates the fire response actions specified in Section 7.2.4.

7.5 Security Contingencies

Depending on the severity of the event, the BED reviews the facility event recognition and classification procedure and, if required, classifies the event and initiates area protective actions and site emergency response organization activation.

7.5.1 Bomb Threat/ Explosive Device

7.5.1.1 Telephone Threat

Personnel receiving telephoned threats attempt to get as much information as possible from the caller. A form is available for personnel to keep by their telephone to use as a guide for getting useful information from the caller. On conclusion of the call, personnel notify the BED and Security.

The BED evacuates the facility and questions personnel at the staging area regarding any suspicious objects in the facility. When Security personnel arrive, their instructions are followed.

7.5.1.2 Written Threat

Receivers of written threats handle the letter as little as possible and notify the BED and Security. Depending on the content of the letter, the facility may or may not be evacuated. The letter is turned over to Security personnel and their instructions are followed.

7.5.2 Hostage Situation/Armed Intruder

The discoverer of a hostage situation/armed intruder reports the situation to the BED and to the POC via 911 or 373-3800, if possible. The BED, after conferring with Security personnel, may covertly evacuate areas of the facility not observable by the hostage taker(s)/intruder. No alarms will be sounded.

Security will determine the remaining response actions and will activate the Hostage Negotiating Team, if necessary.

7.5.3 Suspicious Object

The discoverer of a suspicious object reports it to the BED and to the POC via 911 or 373-3800, and, if possible, ensures that the object is not disturbed.

The BED orders evacuation of the facility and (based on the description provided by the discoverer) attempts to determine the identity or owner of the object. This may be done by questioning facility personnel at the staging area.

If the identity/ownership of the object cannot be determined, then Security assumes command of the incident. The canine unit is used to determine if the package contains explosives. If there is a positive indication of explosives or it cannot be assured that there are no explosives, then the Richland Police Department's Emergency Ordinance Disposal Team is dispatched to the facility to properly dispose of the device.

8.0 TERMINATION OF EVENT, INCIDENT RECOVERY, AND RESTART OF OPERATIONS

The DOE/RL-94-02, *Hanford Emergency Management Plan*, Section 9.0, describes these considerations. The extent by which these actions are employed is based upon the incident classification of each event. In addition, DOE/RL-94-02 contains considerations for the management of incompatible wastes, which may apply.

8.1 Termination of Event

For events where the Hanford Emergency Operations Center (Hanford-EOC) is activated, the RL/ORP Emergency Manager has the authority to declare event termination. This decision is based on input from the BED, Incident Commander, and other emergency response organization members. For events where the Hanford-EOC is not activated, the incident command system and staff declare event termination.

8.2 Incident Recovery and Restart of Operations

A recovery plan is developed when necessary. A recovery plan is needed following an event where further risk could be introduced to personnel, the facility, or the environment through recovery action and/or to maximize the preservation of evidence. Depending on the magnitude of the event and the effort required to recover from the event, recovery planning may involve personnel from DOE-RL and other contractors. If a recovery plan is required, it is reviewed by appropriate personnel and approved by a Recovery Manager before restart. Restart of operations is performed in accordance with the approved plan.

If this plan is to be implemented for a RCRA emergency (see Section 4.0), the Washington State Department of Ecology is notified before operations can resume. The DOE/RL-94-02, *Hanford Emergency Management Plan*, Section 5.1 discusses different reports to outside agencies. This notification is in addition to other required reports and includes information documenting the following conditions:

1. There are no incompatibility issues with the waste and released materials from the incident.

2. All the equipment has been cleaned, fit for its intended use, and placed back into service. The notification may be made via telephone conference. Additional information that

Ecology requests regarding these restart conditions will be included in the required 15-day report identified in WAC 173-303-360(2)(k).

For emergencies not involving activation of the Hanford-EOC, the BED ensures that conditions are restored to normal before operations are resumed. If the Hanford Site Emergency Response Organization was activated and the emergency phase is complete, a special recovery organization could be appointed at the discretion of DOE-RL to restore conditions to normal. This process is detailed in DOE-RL and contractor emergency procedures. The makeup of this organization depends on the extent of the damage and its effects. The onsite recovery organization is appointed by the appropriate contractor's management.

8.3 Incompatible Waste

After an event, the BED or the onsite recovery organization ensures that no waste that might be incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed. Cleanup actions are taken by facility personnel or other assigned personnel. DOE/RL-94-02, Section 9.2.3, describes actions to be taken.

Waste from cleanup activities is designated and managed as newly generated waste. A field check for compatibility before storage is performed as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in storage areas appropriate for their compatibility class.

If incompatibility of wastes was a factor in the incident, the BED or the onsite recovery organization ensures that the cause is corrected.

8.4 Post-Emergency Equipment Maintenance and Decontamination

All equipment used during an incident is decontaminated (if practicable) or disposed of as spill debris. Decontaminated equipment is checked for proper operation before storage for subsequent use. Consumable and disposed materials are restocked. Fire extinguishers are recharged or replaced.

The BED ensures that all equipment is cleaned and fit for its intended use before operations are resumed. Depleted stocks of neutralizing and absorbing materials are replenished, self-contained breathing apparatus are cleaned and refilled, protective clothing is cleaned or disposed of and restocked, etc.

9.0 EMERGENCY EQUIPMENT

Hanford Site emergency resources and equipment are described and listed in DOE/RL-94-02, Appendix C.

9.1 Fixed Emergency Equipment

FIXED EMERGENCY EQUIPMENT

TYPE	LOCATION	CAPABILITY
Safety shower/eye wash station	1 - Aqueous makeup room - south side. Next to truck load-in airlock and chem storage tank. 1 - Condenser room basement, SE corner. 1 - Condenser room 4th floor	Assist in flushing chemicals/materials from body and/or eyes and face.
Wet pipe sprinkler system	Located throughout the facility.	Assist in the control of fire.
Fire alarm pull boxes	Located throughout the facility.	Activates the building fire alarm and notifies the HFD.
Emergency lighting - (lanterns)	Located throughout the facility	Provide 1 hour of temporary lighting.
Back-up diesel generator	50 ft SE of the 242-A main entrance	Provide back-up power.

9.2 Portable Emergency Equipment

PORTABLE EMERGENCY EQUIPMENT		
TYPE	LOCATION	CAPABILITIES
General purpose fire extinguishers	Throughout the 242-A Evaporator facility.	Fire suppression for class A,B,C, fires.
Halon fire extinguishers	Two in control room.	Suppress electrical fires.

9.3 Communications Equipment/Warning Systems

COMMUNICATIONS EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Fire alarms	Located throughout the facility in halls, corridors, and locker rooms.	Audible throughout the 242-A Evaporator Building
Roof siren	242-A Evaporator roof	Provide warning to personnel to take cover or evacuate.
Operations process alarms (from MCS or hard wired alarm panels)	242-A Evaporator control room	Audible in the 242-A Evaporator control room.
Public address system (PAX)	Located throughout the 242-A Evaporator Building (except in pump and evaporator rooms)	Provides communications and public address capabilities.
Portable Radios	242-A control room	Communication to the 242-A control room.
Telephone	242-A control room, office area's, AMU room, and condenser room.	Internal and external communications. Allows notification of outside resources (HFD, Hanford Patrol, etc.)
Crash alarm	242-A control room	Audible in the 242-A control room

9.4 Personal Protective Equipment

PERSONNEL PROTECTIVE EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Self-contained breathing apparatus (SCBA)	Two located in the 242-A Evaporator control room	Provides breathable air for initial response to emergency, and recovery activities when required
Respirators	242-A respirator storage room	Filtered air for recovery of known hazards

9.5 Spill Control and Containment Supplies

SPILL KITS AND SPILL CONTROL EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Organic and inorganic spill kits.	Survey area next to personnel protective equipment storage room, wall mounted	Provides spill control for organic and inorganic materials

9.6 Incident Command Post

For emergencies not requiring evacuation, the BED and support personnel will assemble in the 242-A Evaporator control room, or other location as identified by the BED.

10.0 COORDINATION AGREEMENTS

DOE-RL has established a number of coordination agreements, or memoranda of understanding (MOU) with various agencies to ensure proper response resource availability for incidents involving the Hanford Site. A description of the agreements is contained in DOE/RL-94-02, Section 3, Table 3-1.

11.0 REQUIRED REPORTS

Post incident written reports are required for certain incidents on the Hanford Site. The reports are described in DOE/RL-94-02, Section 5.1.

12.0 PLAN LOCATION

Copies of this plan are maintained at the following locations:

- 242-A Evaporator Control Room
- 200 Area Effluent Treatment Facility Control Room
- Operations Managers Office (Building 2025EA Room 101)
- 200 Area LWPF Regulatory File

13.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

TITLE	WORK LOCATION	WORK PHONE
Shift Operation Manager (SOM)	242-A Evaporator control room or 200 Area Effluent Treatment Facility Control Room	373-2737, Evap control room 373-4446, Evap shift office 373-0993, ETF shift office 373-9000, ETF control room
BED Qualified Shift Technical Authority	2025E	372-0000

Names and home telephone numbers of the BEDs and alternates are available from the POC (373-3800) in accordance with Hanford Facility RCRA Permit, Dangerous Waste Portion, General Condition II.A.4.

14.0 REFERENCES

DOE-232.1, "Occurrence Reporting and Processing of Operations Information," U.S Department of Energy, Washington D.C.

DOE/RL-94-02, *Hanford Emergency Management Plan.*

DOE-151.1 "Comprehensive Emergency Management System"

WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, Washington State Department of Ecology, Olympia, Washington.

29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response*

NIOSH, *Pocket Guide to Chemical Hazards*, National Institute of Occupational Safety and Health, U.S. Department of Health and Human Resources, Public Health Service, Centers for Disease Control, Washington, D.C.

ATTACHMENT A

Listing of Procedures and Documents

Site-Wide Procedures

DOE-0223, *Emergency Plan Implementing Procedures*:

- RLEP-1.1, "Hanford Incident Command System and Event Recognition and Classification," Appendix 1-2.M;
- RLEP-3.4, "Emergency Termination, Reentry, and Recovery."

Facility-Specific Emergency Response Procedures

- TO-685-001 Emergency Shutdown of Utility Support Systems
- TO-685-002 242A Evaporator Loss of Electrical Power
- TO-685-003 242A Evaporator Loss of Raw Water Systems
- TO-685-004 242A Evaporator Loss of K-1 Ventilation Systems
- TO-685-005 242A Evaporator Loss of the Steam Systems
- TO-685-006 242A Evaporator Loss of Compressed Air System
- TO-685-007 242A Evaporator Loss of MCS Control
- TO-685-008 242A Evaporator Pressure Hazards
- TO-685-009 Process Upset

- EP-685-010 242A Evaporator Evacuation
- EP-685-020 242A Evaporator Take Cover
- EP-685-030 242A Evaporator Volcanic Eruption and Ashfall
- EP-685-040 242A Evaporator Seismic Event
- EP-685-050 242A Evaporator Fire and/or Explosion
- EP-685-060 242A Evaporator High Radiation Area
- EP-685-070 242A Evaporator Bomb Threat
- EP-685-080 242A Natural Emergency/Security Contingency Event

Hanford Facility RCRA Permit Modification Notification Forms
for
305-B Storage Facility
Part III, Chapter 2, Attachment 18

Index

Page 2 of 8:	Chapter 4, Section 4.1.1.6.2
Page 3 of 8:	Chapter 4, Section 4.1.1.6.5.a.
Page 4 of 8:	Chapter 4, Figure 4-2:
Page 5 of 8:	Chapter 4, Section 4.1.1.6.9
Page 6 of 8:	Chapter 4, Figure 4-7
Page 7 of 8:	Chapter 4, Section 4.1.1.6.12
Page 8 of 8:	Chapter 4, Figure 4-9

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
305-B Storage Facility	**Part III, Chapter 2 and Attachment 18**

Description of Modification:
Chapter 4, Section 4.1.1.6.2:
Additional storage cabinets have been added to this cell to assist in the segregation and storage of acids, basis, and flammables

4.1.1.6.2 Poisons and Class 9 Cell. The poisons and Class 9 cell (cell 2) is located just south of the acids and oxidizers cell along the west wall of the high bay. This cell is also constructed of epoxy-painted concrete block walls 4' high and incorporates a 1' deep sump along its west end. ~~Three~~ Six storage cabinets and several sets of open shelving are positioned in the cell to allow storage of various sizes of containers. The northeast corner of the cell is sectioned off with a 6" spill retention berm to allow PCB storage for disposal complying with 40 CFR 761.65(b). The secondary containment volume of the individual sump for this cell is 117 gallons, and the total containment volume of the cell is 782 gallons. A diagram of this cell is provided in Figure 4-2.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

A. General Permit Provisions
1. Administrative and Informational changes

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
Alick K. Ikenberry 3/16/00	RF Christensen 4/5/00		
A.K. Ikenberry Date	R.F. Christensen Date	J. J. Wallace Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
305-B Storage Facility	**Part III, Chapter 2 and Attachment 18**

Description of Modification:
Chapter 4, Section 4.1.1.6.5.a.:
This is a correction to the reference showing the location of the Flammable liquids storage module.

4.1.1.6.5.a. Flammable Liquids Storage Module. The flammable liquid storage module is a self-contained storage module (cell 8) that allows additional storage space for flammable wastes. Located on the southeast wall, it is connected to the buildings fire suppression system. The flammable storage module has a 2-hour fire rated containment system so that according to the UFC, an unlimited capacity is allowed. However, the flammable waste storage capacity of the flammable liquid storage module is limited by the 240-gal capacity of the module's secondary containment system. No more than 240 gal of any combination of flammable liquid classes will be stored in the module. This flammable waste storage capacity is in addition to the flammable storage limits for the highbay. A diagram ~~of the module is provided in Figure 4-10~~ showing the module location in the highbay is provided in Figure 4-7.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

A. General Permit Provisions
   1. Administrative and Informational changes

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
Alice K. Ikenberry	3/16/00	RF Christensen	4/5/00				
A.K. Ikenberry	Date	R.F. Christensen	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

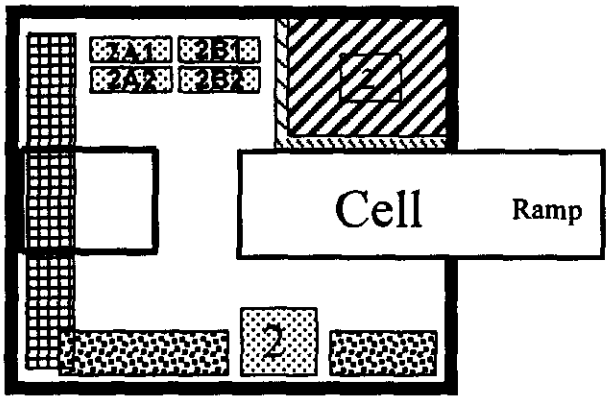
[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
305-B Storage Facility	**Part III, Chapter 2 and Attachment 18**

Description of Modification:
Chapter 4, Figure 4-2:



2A1 Poisons, Acidic (P.G. II and P.G. III) (~~Large~~ Small Cabinet)
2A2 Poisons, Neutral/Basic (P.G. II and P.G. III) (Small Cabinet)
2B1 Poisons, Neutral/Basic (P.G. I) (~~Large~~ Small Cabinet)
2B2 Poisons, Acidic (P.G. I) (Small Cabinet)
2C Class 9 (nonreactive) (Large and Small Shelf)
2D Class 9 (reactives) (Large Cabinet)
2E PCB's

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

A. General Permit Provisions
1. Administrative and Informational changes

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
Alick K. Ikenberry	3/16/00	RF Christensen	4/5/00				
A.K. Ikenberry	Date	R.F. Christensen	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
305-B Storage Facility	**Part III, Chapter 2 and Attachment 18**

Description of Modification:
Chapter 4, Section 4.1.1.6.9:
Alkaline is a more accurate description of the material being stored in the cell. This change also provides consistency with the description of the other alkaline storage cell (4.1.1.6.3.) in the facility.

4.1.1.6.9. ***~~Caustic~~ Alkaline Waste Drum Storage Area.*** A fourth section of the high bay (cell 14) has been designated for storage of drum quantities of ~~caustic~~ alkaline waste prior to offsite shipment. The area is approximately 22'x15' in size. Waste drums stored in this area are stored on pallets to prevent contact with spilled wastes in the event of an incident. Sump containment capacity in this area is approximately 110 gallons and total containment capacity is approximately 380 gallons. Maximum storage in this area is thirty-two 55-gallon drums. The location of the area is shown on the High Bay Storage Area diagram Figure 4-7.

Modification Class: [1 2 3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

A. General Permit Provisions
1. Administrative and Informational changes

Submitted by Co-Operator:	Reviewed by RL Program Office:	Reviewed by Ecology:	Reviewed by Ecology:
Alice K. Ikenberry 3/16/00	R.F. Christensen 4/5/00		
A.K. Ikenberry Date	R.F. Christensen Date	J. J. Wallace Date	L.E. Ruud Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

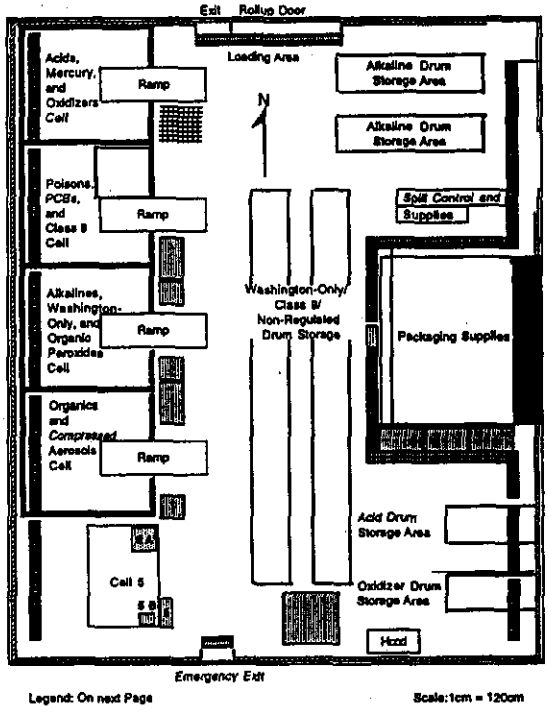
Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
305-B Storage Facility	**Part III, Chapter 2 and Attachment 18**

Description of Modification:

Chapter 4, Figure 4-7:

Updated figure of the highbay storage area showing changes from Caustic to Alkaline in cell 14.



Modification Class: [1 2 3]	Class 1	Class [1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

B. General Permit Provisions
   1. Administrative and Informational changes

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
A.K. Ikenberry	3/16/00 Date	R.F. Christensen	4/5/00 Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
305-B Storage Facility	**Part III, Chapter 2 and Attachment 18**

Description of Modification:
Chapter 4, Section 4.1.1.6.12:
Text to the section is being added referencing the containment pan figure

4.1.1.6.12 RMW Storage Area. Radioactive mixed waste that is not flammable per UFC (i.e., flash point above 100 F) is stored in a special area in the basement of 305-B. For additional segregation capability, there are eight small chemical storage cabinets and four 62" x 62" x 6" (157cm x 157cm x 15 cm stainless steel "container pans", with an approximate volume of 91 gallons (346 liters). The total area within the curbing is 1246 gallons (4716 liters). The containment pans are mounted to the floor or wall of the cell to provide segregated storage for potentially incompatible mixed waste streams. A diagram of the RMW storage cell secondary containment pan installation is provided in Figure 4-10. Drums stored in this area are stored on pallets to prevent potential contact with spilled waste in containment during an emergency. A diagram of this area is provided in Figure 4-9.

Modification Class: [1 2 3]	Class 1	Class[1] 1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

C. General Permit Provisions
1. Administrative and Informational changes

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
Alice K. Ikenberry	3/16/00	R.F. Christensen	4/15/00				
A.K. Ikenberry	Date	R.F. Christensen	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

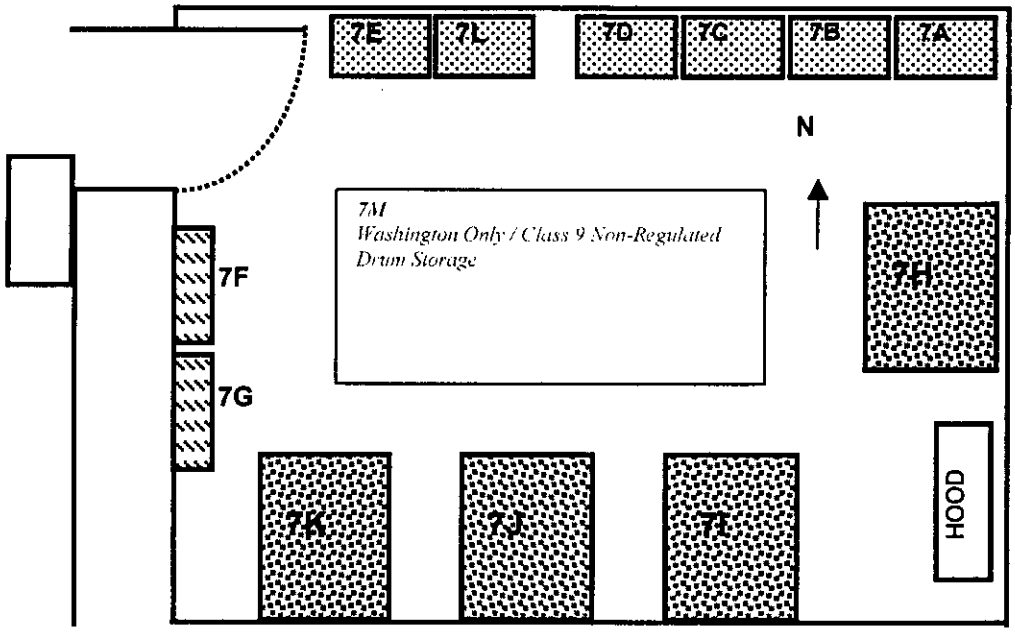
[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
305-B Storage Facility	**Part III, Chapter 2 and Attachment 18**

Description of Modification:
Chapter 4, Figure 4-9:
Legends for storage cabinets 7A, 7B, 7C, and 7D have been added to the cabinets in the Figure.



Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation:

A. General Permit Provisions
1. Administrative and Informational changes

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
Alin K. Ikenberry	3/16/00	RF Christensen	4/5/00				
A.K. Ikenberry	Date	R.F. Christensen	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Hanford Facility RCRA Permit

305-B Storage Facility
Part III, Chapter 2, and Attachment 18

Replacement Chapter

Index

Chapter 4

4.0 CONTENTS

4.0 CONTENTS 4-I

4.0 PROCESS INFORMATION [D] 4-3

4.1 CONTAINERS [D-1] 4-3
4.1.1 Containers With Free Liquids [D-1a] *4-3*
4.1.1.1 Description of Containers [D-1a(1)] 4-3
4.1.1.2 Container Management Practices [D-1a(2)] 4-3
4.1.1.3 Secondary Containment System Design and Operation [D-1a(3)] 4-5
4.1.1.4 Requirement for Base or Liner to Contain Liquids [D-1a(4)] 4-5
4.1.1.5 Containment System Drainage [D-1a(5)] 4-5
4.1.1.6 Containment System Capacity [D-1a(6)] 4-6
4.1.1.7 Control of Run-On [D-1a(7)] 4-23
4.1.1.8 Removal of Liquids from Containment System [D-1a(8)] 4-23
4.1.2 Containers Without Free Liquid That Do Not Exhibit Ignitability or Reactivity [D-1b] *4-23*
4.2 PROTECTION OF EXTREMELY HAZARDOUS WASTE IN CONTAINERS [D-2] 4-23
4.3 PREVENTION OF REACTION OF IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTES IN CONTAINERS [D-3] 4-24
4.3.1 Management of Ignitable or Reactive Wastes in Containers [D-3a] *4-24*
4.3.2 Management of Incompatible Wastes in Containers [D-3b] *4-24*
4.3.3 Tank System [D-3c] *4-24*
4.3.4 Waste Piles [D-3d] *4-24*
4.3.5 Surface Impoundments [D-3e] *4-24*
4.3.6 Incinerators [D-3f] *4-24*
4.3.7 Landfills [D-3g *4-24*
4.3.8 Land Treatment [D-3h] *4-24*

FIGURES

Figure 4-1. Acids and Oxidizers Cell 4-8
Figure 4-2. Poisons and Class 9 Cell 4-9
Figure 4-3. Alkaline, Washington-Only and Non-Regulated Waste Cell 4-10
Figure 4-4. Organics Cell 4-12
Figure 4-5. Flammable Liquid Bulking Module and Compressed Gases (Cell 5) 4-13
Figure 4-6. Segregaaated High Bay Drum Storage Areas 4-14
Figure 4-7. High Bay Storage Area 4-15
Figure 4-8. Flammable Radioactive Mixed Waste Storage Area 4-18
Figure 4-9. Radioactive Mixed Waste Storage 4-19
Figure 4-10. RMW Storage Cell Containment Pan Installation 4-20
Figure 4-11. Flammable Liquids Storage Module 4-26

TABLES

Table 4-1. Exempt Amounts of Hazardous Materials, Liquids & Chemicals Presenting a Physical Hazard 4-21
Table 4-2. Storage Devices Used at the 305-B Unit 4-25

This page left intentionally blank.

4.0 PROCESS INFORMATION [D]

4.1 CONTAINERS [D-1]

The following sections describe the types of containers stored at the 305-B Storage Unit.

4.1.1 Containers With Free Liquids [D-1a]

Containers with free liquids are discussed below.

4.1.1.1 Description of Containers [D-1a(1)]

Most wastes stored at the 305-B Storage Unit are received in their original, as-procured containers. Containers of hazardous materials entering 305-B are inspected before being accepted for storage. Generating units are responsible for placing the materials in adequate containers. Repackaged materials must be placed in containers that are new and compatible with the materials to be stored.

Containers in poor condition or inadequate for storage are not accepted at the unit. If transport is by unit personnel, such containers are not accepted for transport. See Section 6.4.1 for inspection prior to transport performed by unit personnel. "Container in poor condition or inadequate for storage" means a container which is not intact or undamaged and which is not securely sealed to prevent leakage during storage, transport and ultimate offsite disposal. Examples of acceptable packaging include laboratory reagent bottles, DOT containers, spray cans, sealed ampules with spetums, paint cans, leaking containers which have been overpacked, etc. Unit operations personnel have the authority to determine whether a container is in poor condition or inadequate for storage, using the criteria of WAC 173-303-190 and professional judgement whether the packaging may leak during handling, storage and/or disposal.

As with all wastes, repackaged containers of dangerous waste are marked and/or labeled to describe the contents of the container and the major hazards of the waste, as required under WAC 173-303. Containers are also marked with a unique identifying number assigned by the unit's computerized waste tracking system.

All flammable liquid wastes are stored in compatible DOT-specified shipping containers and/or in Underwriter's Laboratory (UL)-listed and Factory Mutual (FM)-approved flammable storage cabinets. Solid chemicals are stored on shelving in specifically designated areas based on the DOT hazard classification.

All containers utilized for offsite transport of dangerous wastes at the unit are selected and shall comply with all applicable criteria found in WAC 173-303-190.

4.1.1.2 Container Management Practices [D-1a(2)]

Management practices and procedures for containers of dangerous waste are in place at the 305-B Storage Unit to assure the safe receipt, handling, preparation for transport, and transportation of wastes. These practices and procedures are summarized below.

<u>Inspection of Containers.</u> A system of daily, weekly, monthly, and yearly inspections is in place to ensure container integrity, check for proper storage location, prevent capacity overrun, etc. These inspection procedures are detailed in Section 6.2.

<u>Container Handling.</u> All unit staff are instructed in proper container handling safeguards as part of their training (see Section 8.1.2 for further details). For example, employees are instructed to open all high-vapor-pressure liquids in the flammable liquid bulking module to avoid buildup of vapors in the unit. Containers are always kept closed except when adding or removing waste, in accordance with WAC 173-303-630(5)(a).

Containers are not opened, handled or stored in a manner, which would cause the container to leak or rupture. Small containers (five gallons or less capacity) are stored on ventilated shelving or in approved flammable liquid storage lockers (if appropriate). Containers over five gallons capacity are stored on the floor of the appropriate storage cell, in cabinets, or stored in the appropriate containment area on the high bay floor under Section 4.3.2. Unnecessary handling not required for redistribution or preparation for transport and disposal by either labpacking or bulking (see below) is minimized. Drums are moved manually, by crane or chain hoist, or with an electric forklift. For manual movement, hand trucks specifically designed for drum handling are used. Crane and chain hoist operations are performed using a choker chain or drum hoist. When using the forklift, a drum hoist is used or the drums are carried on pallets. Drums are never carried on the forks or "speared" by slipping the forks under the chime. When waste handling operations are conducted, a minimum of two persons are present in the unit.

Lab Packing. One of the major functions of the 305-B Storage Unit is the preparation of lab packs for offsite recycling, treatment and/or disposal of small quantity lab wastes generated by DOE-RL/PNNL activities.

Lab packs are prepared in compliance with WAC 173-303-161, 49 CFR 173.12, other applicable regulations, and permit conditions of the planned receiving facility (recycler, treatment facility, or disposal facility). Permit conditions affecting preparation of lab packs might include types of absorbent materials to be used (e.g., no vermiculite).

Lab packs are prepared in the storage cell containing the hazard class(es) to be placed in the lab pack. The elephant trunk ventilator system may be used to minimize respirable dusts from the absorbent material being used (usually vermiculite. Lab packs may also be prepared in the flammable liquid bulking module if appropriate; for instance, if compatible materials from more than one storage cell are being combined in a single lab pack drum. Lab packs may be prepared in the high bay storage area if storage of the completed lab pack is permitted there per Section 4.3.2.

Partial and completed lab packs are closed, labeled, and the contents list documented. Labpacks are stored in the cell from which the containers inside were drawn, or in the high bay if appropriate.

Unit personnel wear appropriate protective clothing while handling containers being placed in lab packs. At a minimum this includes labcoats, safety glasses or other protective eyewear, and chemical resistant gloves. More stringent requirements, including use of respiratory protection, may be imposed if appropriate.

Bulking. In order to promote greater recycling or treatment of wastes and reduce land disposal, some liquid wastes are "bulked" into larger containers, typically 30- or 55-gallon closed head drums. Bulking operations for chemicals which are respiratory or flammability hazards are performed in the "flammable liquid bulking module" (Also referred to as cell 5.) located in the southwest corner of the unit. Bulking of nonvolatile, low hazard wastes such as saline solutions or ethylene glycol may be done within the containment areas of the appropriate storage cell or high bay.

Compatibility of wastes to be bulked is determined using the information from generating unit designation information, process knowledge, laboratory analyses, and/or the compatibility determinations described in Section 6.5.

Containers are transported by hand or forklift to the flammable liquid bulking module area. The receiving drum (typically 30- or 55-gallon capacity) is placed in the module and the ventilation system is activated. A large chemically- resistant funnel (either metal or plastic, depending on material to be introduced) is used to pour the material into the drum. The contents of the smaller containers are then poured, one at a time, into the larger drum. The receiving drum is monitored by unit personnel to make sure no incompatibility is observed (e.g., fuming, bubbling, or heat generation). If such incompatibility

is observed, no further material is added and the worker leaves the area, closing the module and leaving the ventilation on. The unit supervisor is notified to evaluate implementation of the contingency plan.

Glass containers, which have been emptied (as defined by WAC 173-303-160(2)), as a result of bulking activities are crushed onsite by an electric glass crusher, which mounts on a 55-gallon drum. If an emptied glass container held acutely hazardous waste, as defined by WAC 173-303-040(2), the container is rinsed at least three times with an appropriate cleaner or solvent prior to being destroyed. The rinsates are managed as dangerous waste. Crushed glass is managed as solid waste in accordance with WAC 173-303-160(3).

Once bulking is complete, the bulk container is closed, labeled, and the contents list documented. Containers of bulked waste are stored in the cell from which the containers inside were drawn, or in the high bay if appropriate.

Unit personnel wear appropriate protective clothing while bulking containerized liquid wastes. At a minimum this includes coveralls, disposable splash-resistant apron, eye protection, and chemical resistant gloves. More stringent requirements, including use of respiratory protection, may be imposed if appropriate.

4.1.1.3 Secondary Containment System Design and Operation [D-1a(3)]

Several design features have been engineered into the construction of the 305-B Storage Unit as added safeguards for containment of dangerous waste spills or leaks. Design drawings for 305-B are included in Appendix 4A. The following subsections comment briefly on each of the design features.

4.1.1.4 Requirement for Base or Liner to Contain Liquids [D-1a(4)]

The base of the facility consists of a 6-in. reinforced, poured concrete slab with no cracks or gaps. The concrete was mixed in accordance with ASTM 094, Section 5.3, Alternate 2, and all exposed surfaces were finished with a smooth troweled surface. Expansion joint material is Sonneborn "Sonoflex F™" polyethylene filler. The bonding compound used at the expansion joints was Sonneborn "Sonobond™" two-part epoxy. All edges and corners were sealed with a continuous bead of polysulfide sealant.

A chemically resistant sealant paint was applied in February 1989 to the storage cells and high bay floor, and in October 1990 to drum storage areas noted in Sections 4.1.1.6.6, 4.1.1.6.7, and 4.1.1.6.8. Specific areas of 1989 application are shown on Plate 4-1 and painting methods (surface preparation and application of coatings) are described on Plate 4-2 of Appendix 4A of this permit application. The surface coating is Coronado #101-1 (101 Series) Polyamide Epoxy Coating. Estimated service life of the coating material is 14 years per manufacturer's literature. Performance specifications and a compatibility chart are provided in Appendix 4B.

The condition of the floor coating is inspected weekly per Section 6.2.1.1, and repairs are made as needed. Immediate repairs are indicated whenever the coating is observed to have been chipped, bubbled up, scraped, or otherwise damaged in a manner which would significantly impact the ability of the coating to contain spilled materials. Minor nicks and small chips resulting from normal operations will be repaired on a periodic basis. Repairs are performed in accordance with procedures provided by the manufacturer in Appendix 4B.

4.1.1.5 Containment System Drainage [D-1a(5)]

The concrete floors in each high bay storage cell are canted toward individual secondary containment trenches within those cells. These trenches are isolated from each other in order to prevent interaction, reactions, or offsite migration of spilled materials. This provides protection even during simultaneous spills.

The floors in the high bay area are also canted toward a separate sump system, which is sealed with epoxy and blocked to prevent drainage. Drums stored in this area are also stored on pallets to prevent contact with spilled material in the event of a release. Segregated storage areas for incompatible materials have been set up in the high bay storage area to prevent commingling of spilled wastes during a catastrophic (multi-drum) spill incident. Each area has its own containment trench separated from other trenches with concrete and epoxy.

The flammable liquids bulking module, along with its purpose of providing a ventilated area for bulking of compatible hydrocarbon wastes, is used as an independent storage cell. The walls of the module provide secondary containment, which have been sealed at the floor joint by use of grout coated with epoxy paint.

For protection of the basement RMW storage area, curbing/diking is provided to prevent migration. Drums are stored on pallets to prevent container contact with spilled materials and drip pans are provided to segregate RMW by dangerous waste characteristic as described in Section 4.1.1.6.11. This area has no drainage.

Flammable RMW is stored within its own secondary containment devices. The description and capacity of the flammable RMW storage area is provided in 4.1.1.6.11.

4.1.1.6 Containment System Capacity [D-1a(6)]

Secondary containment is provided for all dangerous wastes stored at the 305-B unit. Storage limits for all chemicals are listed in Table 4-1 (1988 Uniform Building Code) All floors in the high bay area are sloped toward sumps which have no drains and are covered with grating to prevent safety hazards. In addition, all floors in the high bay area are coated with an epoxy based coating as described in Section 4.1.1.4. Inspection of the containment system to maintain integrity is described in Section 6.2. Individual secondary containment systems are configured as follows:

4.1.1.6.1 Acids and Oxidizers Cell. The acids and oxidizers cell (cell 1) is located at the northwest corner of the 305-B unit high bay floor. The cell is constructed of epoxy-painted concrete block walls 4' high and incorporates a 1' deep sump at the west end of the cell. Six cabinets, open shelving, and a large-container storage area are provided within the cell to allow storage of various sizes of containers. The secondary containment volume of the individual sump for this cell is 67 gallons, and the total containment volume of the cell is 774 gallons. A diagram of the cell is provided in Figures 4-1.

4.1.1.6.2 Poisons and Class 9 Cell. The poisons and Class 9 cell (cell 2) is located just south of the acids and oxidizers cell along the west wall of the high bay. This cell is also constructed of epoxy-painted concrete block walls 4' high and incorporates a 1' deep sump along its west end. Six storage cabinets and several sets of open shelving are positioned in the cell to allow storage of various sizes of containers. The northeast corner of the cell is sectioned off with a 6" spill retention berm to allow PCB storage for disposal complying with 40 CFR 761.65(b). The secondary containment volume of the individual sump for this cell is 117 gallons, and the total containment volume of the cell is 782 gallons. A diagram of this cell is provided in Figure 4-2.

4.1.1.6.3. Alkaline, Washington State Criteria Wastes, Organic Peroxides, and Non-Regulated Waste Cell. The alkaline, Washington State Criteria waste, and non-regulated waste cell (cell 3) is located South of the poisons and Class 9 cell on the west wall of the high bay area. This cell is also constructed of epoxy-painted concrete block walls 4' high and incorporates a 1' deep sump along its west end. Four storage cabinets, 3 sets of open shelving, and 1 explosion proof refrigerator, are positioned in the cell to allow storage of various sizes of containers. The secondary containment volume of the individual sump for this cell is 137 gallons, and total containment volume of the cell is 764 gallons. A diagram of this cell is provided in Figure 4-3.

4.1.1.6.4 Flammable Cell. The flammable-cell (cell 4) is located south of the alkaline, Washington State Criteria waste, and non-regulated waste cell. As with the other three cells described above, this cell is constructed of epoxy-painted concrete block walls 4' high and incorporates a 1' deep sump along its west end. The secondary containment volume of the individual sump for this cell is 119 gallons, and total containment volume of the cell is 687 gallons. A diagram of this cell is provided in Figure 4-4.

Ignitable organic waste materials are stored in this cell that also exhibit the characteristics of corrosivity, toxicity as well as reactivity. Three Factory Mutual-approved flammable liquid storage cabinets are utilized for storage of various classes of flammable liquids as defined by the UFC. The capacities of the various cabinets are shown in Table 4-2. The following cabinets also are used for storage in this cell: one for combustibles, one for aerosols, two for flammable solids, and one for overflow from one of the other cabinets.

Total ignitable Waste Storage capacity of the 305-B highbay, including the organics cell, Cell 5, Ignitable drum storage area, and highbay storage area is limited by the following UBC restrictions for Class B occupancy:

- Class 1A flammable liquids: 120 gallons
- Class 1B flammable liquids: 240 gallons
- Class 1C flammable liquids: 360 gallons
- Maximum Class 1A, 1B, and 1C at any one time: 480 gallons
- Maximum Class 1A, 1B and 1C stored in Cell 8 self contained storage module for flammable liquids is 240 gallons
- Class 2 combustible liquids: 480 gallons
- Class 3A combustible liquids: 1320 gallons
- Combustible fibers, loose: 100 cubic feet
- Combustible fibers, baled: 1000 cubic feet
- Flammable gases in any one cylinder: 3000 cubic feet
- Liquefied flammable gases: 60 gallons

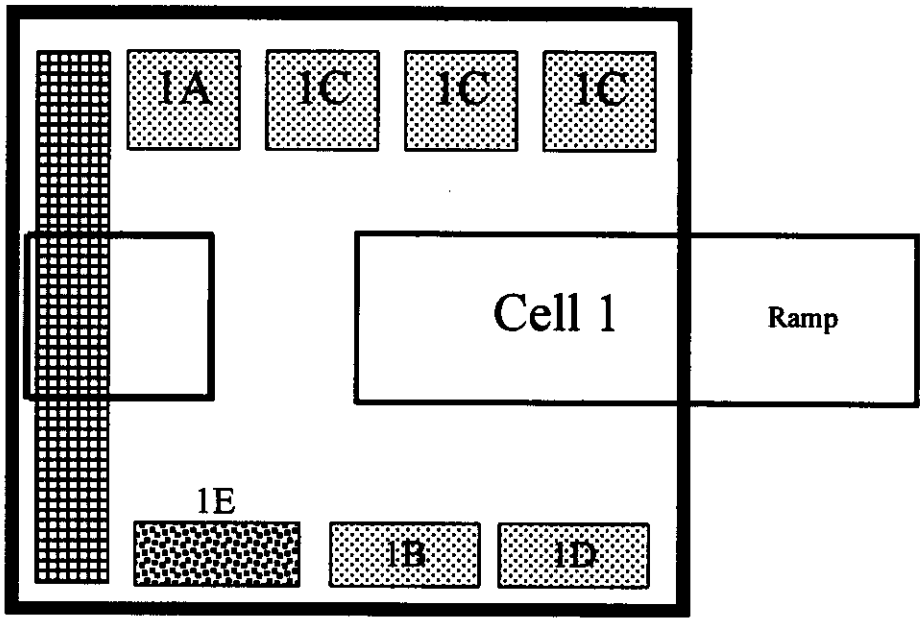
To maintain required aisle spaces and functional usability, the liquid capacity of the organics cell (cell 4) is set at 1000 gallons.

4.1.1.6.5. Flammable Liquids Bulking Module. The flammable liquids bulking module (cell 5), along with its purpose of providing a ventilated area for bulking of compatible ignitable wastes, is used as an independent storage cell. The walls of the module provide secondary containment, which have been sealed at the floor joint by use of grout coated with epoxy paint. Flammable gases in cylinders, liquefied flammable gases, and oxidizing gases will be stored in the bulking module.

Nontransient storage of flammable liquids in the module is 55 gallons. A diagram of the module is provided in Figure 4-5.

4.1.1.6.5.a. Flammable Liquids Storage Module. The flammable liquid storage module is a self-contained storage module (cell 8) that allows additional storage space for flammable wastes. Located on the southeast wall, it is connected to the buildings fire suppression system. The flammable storage module has a 2-hour fire rated containment system so that according to the UFC, an unlimited capacity is allowed. However, the flammable waste storage capacity of the flammable liquid storage module is limited by the 240-gal capacity of the module's secondary containment system. No more than 240 gal of any combination of flammable liquid classes will be stored in the module. This flammable waste storage capacity is in addition to the flammable storage limits for the highbay. A diagram showing the module location in the highbay is provided in Figure 4-7.

Figure 4-1. Acids and Oxidizers Cell



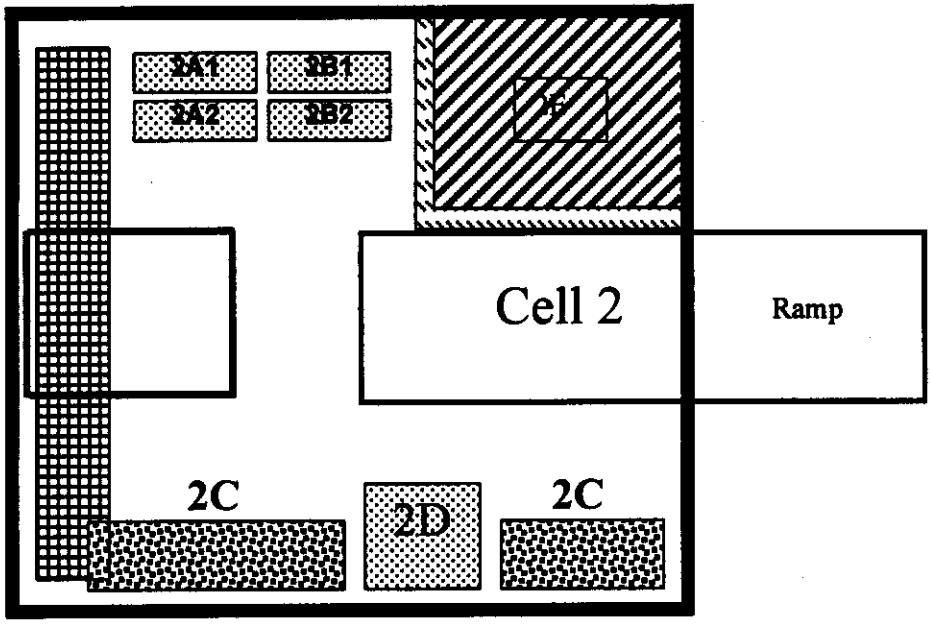
1A Liquid Oxidizers (Medium Cabinet)
1B Solid Oxidizers (Small Cabinet
1C Inorganic Acids (Medium Cabinet)
1D Organic Acids (corrosive) (Small Cabinet)
1E Mercury/Corrosive Solids (Small Shelf)

15.24cm W x 127CM H epoxy coated concrete block wall

Secondary Containment Trench

Drum and Carboy Storage Area

Figure 4-2. Poisons and Class 9 Cell



1cm = 60cm

2A1	Poisons, Acidic (P.G. II and P.G.III) (Small Cabinet)
2A2	Poisons, Neutral/Basic (P.G. II and P.G.III) (Small Cabinet)
2B1	Poisons, Neutral/Basic (P.G. I) (Small Cabinet)
2B2	Poisons, Acidic (P.G. I) (Small Cabinet)
2C	Class 9 (nonreactive) (Large and Small Shelf)
2D	Class 9 (reactives) (Large Cabinet)
2E	PCB's

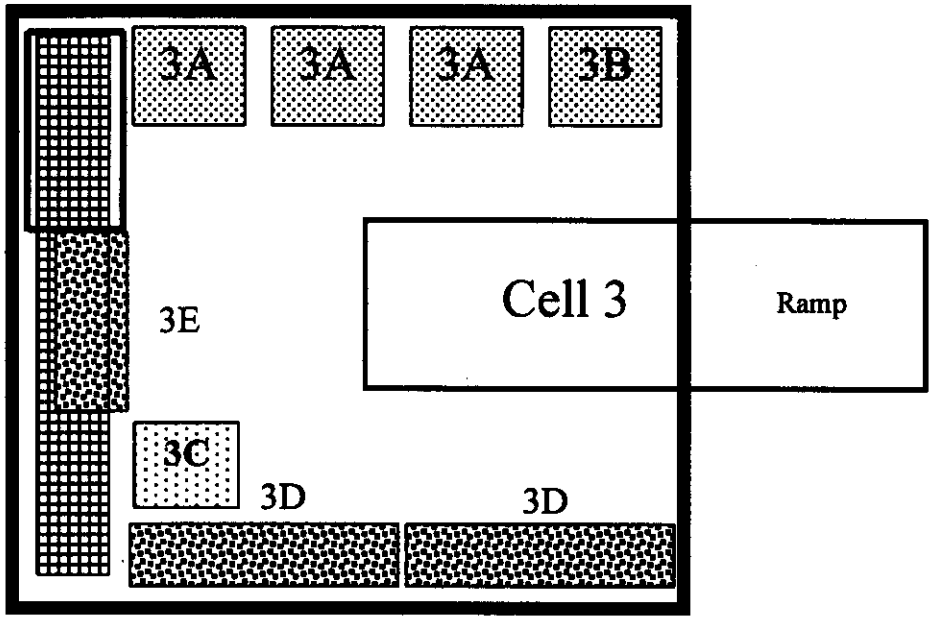
15.2cm W x 127cm H epoxy coated concrete block wall

Secondary Containment Trench

313.69cm L x 8.89cm W x 15.24 cm H epoxy coated angle iron, sealed to the floor

Drum and Carboy Storage Area

Figure 4-3. Alkaline, Washington State Criteria Waste, Organic Peroxides, and Non-Regulated Waste Cell



1cm = 60cm

3A Alkaline (liquids and solids) (Medium Cabinet)
3B Alkaline/Oxidizers (Small Cabinet)
3C Organic Peroxides and temperature sensitive (refrigerator)
3D Washington State Criteria Waste (2 Large Shelves)
3E Non-Regulated Liquids/Solids (Small Shelf)

15.24cm W x 127CM H epoxy coated concrete block wall

Secondary Containment Trench

4.1.1.6.6 Ignitable Waste Drum Storage Area. An additional section of the high bay (cell 8) has been dedicated to storage of drum quantities of ignitable waste prior to offsite shipment. The area is bordered on the north and south sides by angle iron (3½"x6") bolted to the floor (see Plate 2, Appendix 4A for detail) and sealed to provide secondary containment. The area is approximately 15'x7'. To further enhance containment and to allow greater storage capacity, the drums stored in this area are stored in flammable liquid drum storage cabinets.

Sump containment capacity of this area is approximately 224 gallons and total containment capacity is approximately 431 gallons. Maximum storage in this area is approximately six 55-gallon drums and 12 five-gallon drums. A diagram of this area is included in Figure 4-6. Additional ignitable waste storage is provided for in cell 4, organics cell, and the in the Highbay storage area. The high bay storage area has five additional flammable liquid drum storage cabinets located along the west side of the high bay (see Figure 4-7). All of this ignitable waste storage is provided for utilizing flammable liquid storage cabinets for added safety.

4.1.1.6.7 Oxidizer Waste Drum Storage Area. A second section of the high bay (cell 12) has been dedicated to storage of drum quantities of oxidizer waste prior to offsite shipment. The area is 10'x7' in size. Waste drums stored in this area are stored on pallets to prevent contact with spilled wastes in the event of an incident.

Sump containment capacity in this area is approximately 55 gallons and total containment capacity is approximately 255 gallons. Maximum storage in this area will be eight 55-gallon drums. A diagram of this area is included in Figure 4-6.

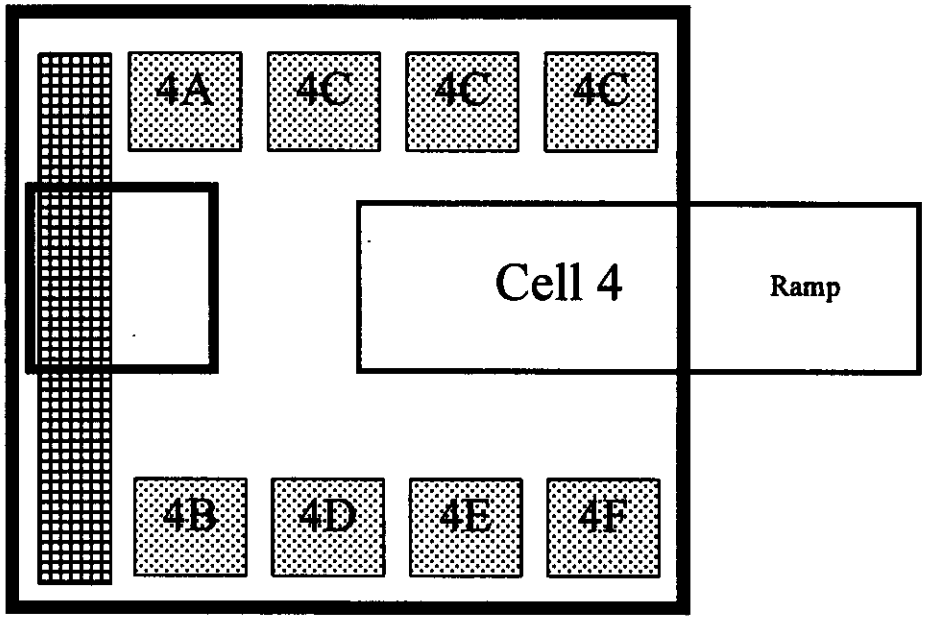
4.1.1.6.8 Acid Waste Drum Storage Area. A third section of the high bay (cell 13) has been designated for storage of drum quantities of acid waste prior to offsite shipment. The area is approximately 10'x10' in size. Waste drums stored in this area are stored on pallets to prevent contact with spilled wastes in the event of an incident. Bulked drums containing acids, with oxidizers as a secondary hazard, will be placed in the cell 1 drum area, to prevent any possibility of a reaction with surrounding hazards in the high bay drum storage area. A diagram of this area is included in Figure 4-6.

4.1.1.6.9. Alkaline Waste Drum Storage Area. A fourth section of the high bay (cell 14) has been designated for storage of drum quantities of alkaline waste prior to offsite shipment. The area is approximately 22'x15' in size. Waste drums stored in this area are stored on pallets to prevent contact with spilled wastes in the event of an incident. Sump containment capacity in this area is approximately 110 gallons and total containment capacity is approximately 380 gallons. Maximum storage in this area is thirty-two 55-gallon drums. The location of the area is shown on the High Bay Storage Area diagram Figure 4-7.

4.1.1.6.10 High Bay Storage Area. The high bay storage area, along with its partitioned areas mentioned above, is itself a secondary containment area for loading, unloading, and storage of dangerous wastes. The high bay floor is "crowned" in the center and sloped at ¼" per foot, with drainage to sumps on the east and west sides of the unit. Sump locations are indicated in Figure 4-7.

Due to space limitations in the individual cells, and for ease of mechanical handling, the high bay floor is typically used for storage of nonradioactive chemicals in drums (see Figure 4-7).

Figure 4-4. Organics Cell



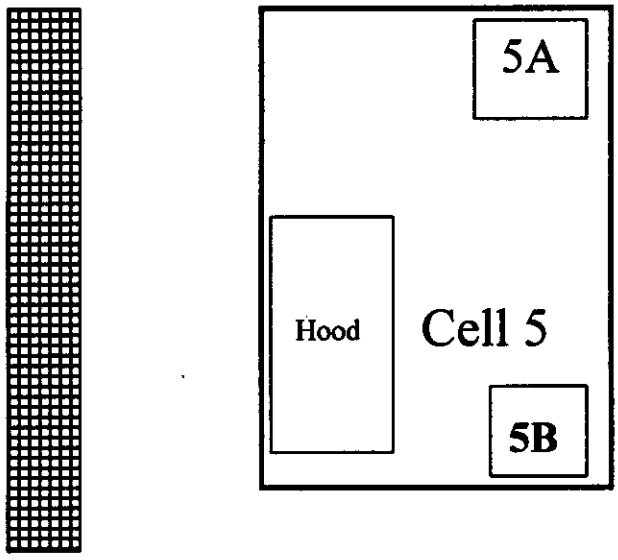
4A Combustible Liquids (Large Cabinet)
4B Aerosols (Large Cabinet)
4C Flammable Liquids (Large Cabinet)
4D Flammable Solids (Dangerous When Wet) (Large Cabinet)
4E Flammable Solids (w/ water. Spontaneously Combustible) (Large Cabinet)
4F Floating Cabinet (Large Cabinet)

15.24 cm W x 127 H epoxy coated concrete block wall

Secondary Containment Trench

Drum and Carboy Storage Area

Figure 4-5. Flammable Liquid Bulking Module and Compressed Gases (Cell 5)



5A Compressed Gases
5B Oxidizing Gases
Hood – Walk-in flammable liquid bulking, 1 drum maximum.

Secondary Containment Trench

Figure 4-6. Segregated High Bay Drum Storage Areas

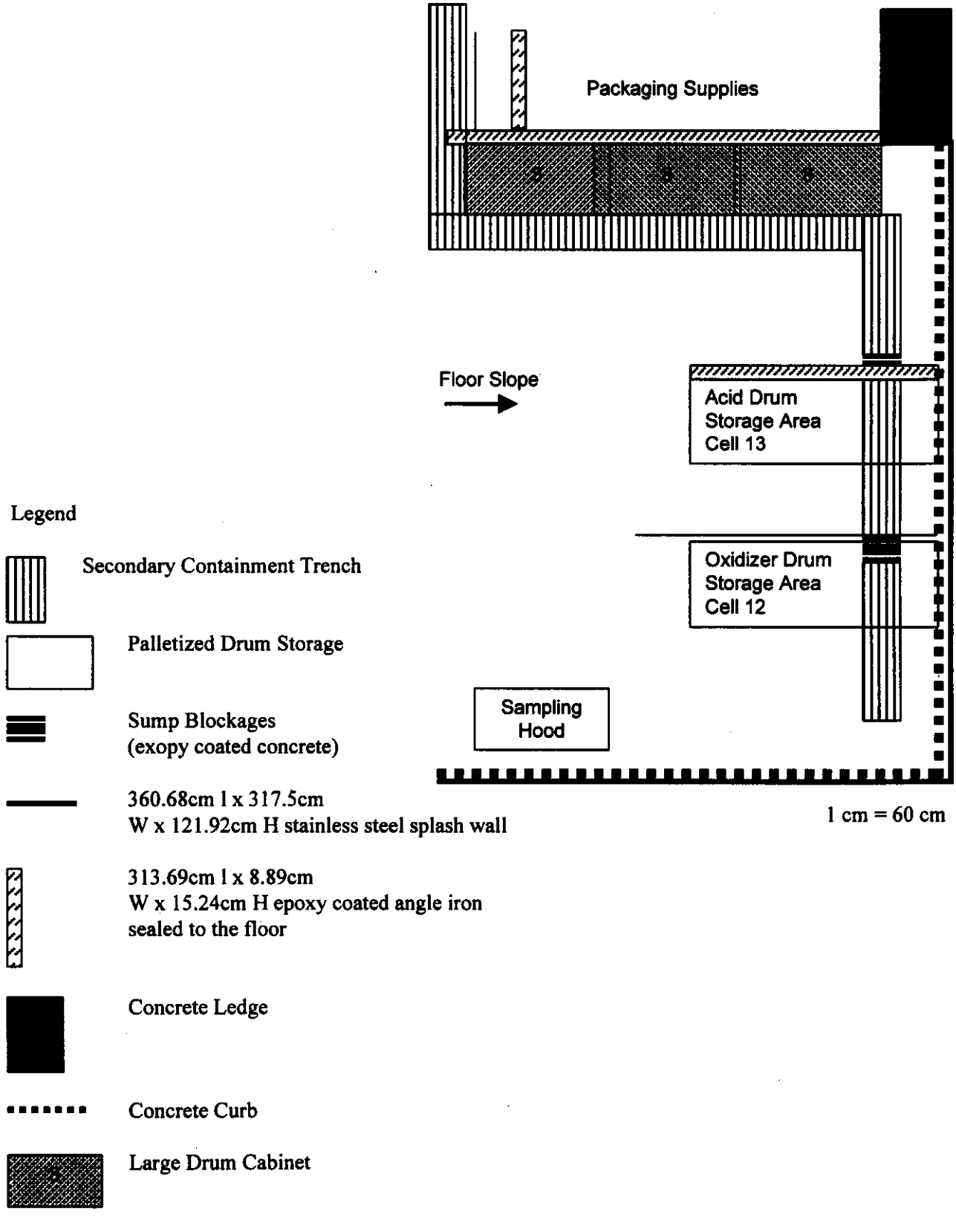
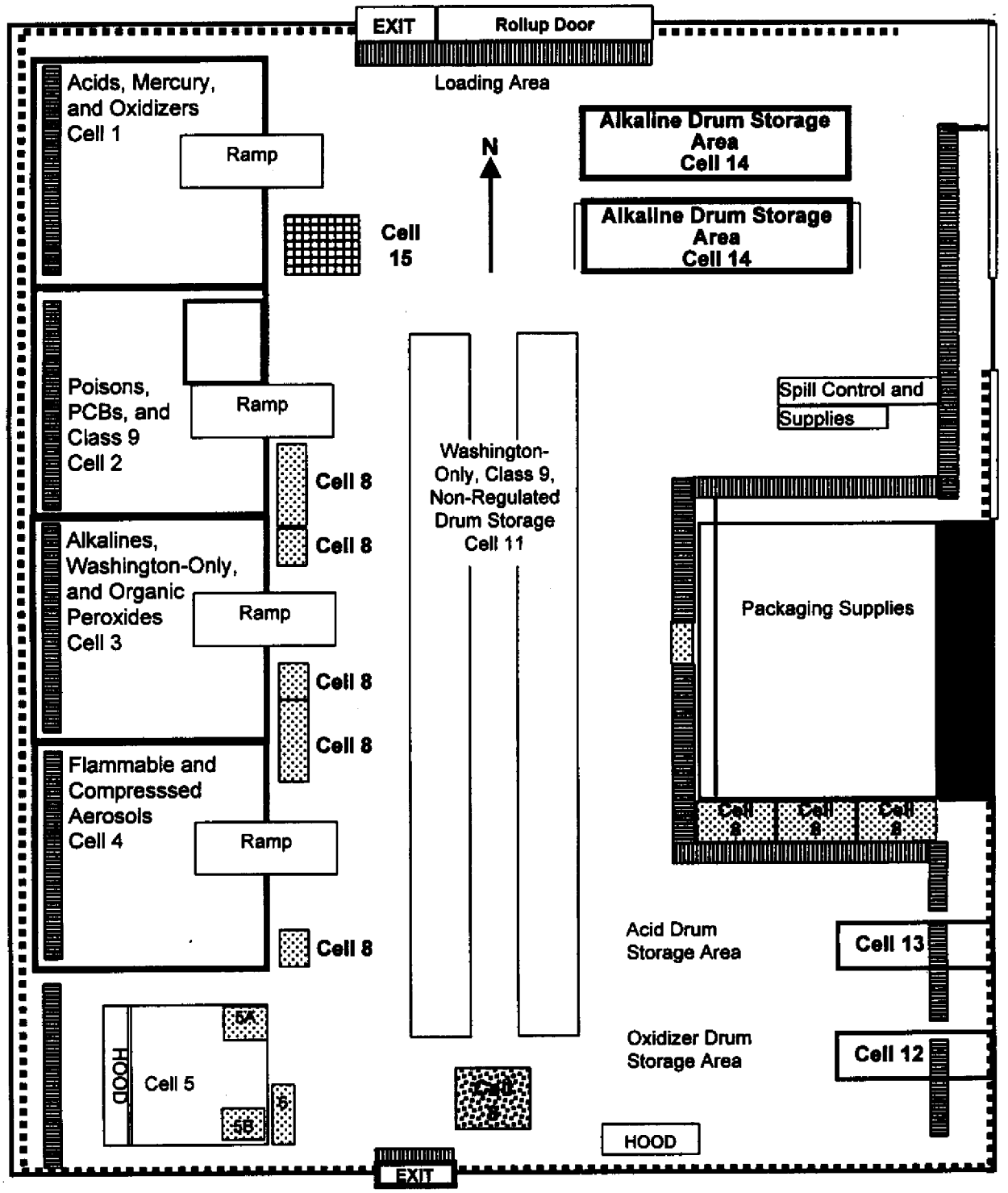


Figure 4-7. High Bay Storage Area

(Page 1 of 2)



Legend: On next page

Scale: 1cm = 120 cm

Figure 4-7. High Bay Storage Area
(Page 2 of 2)

Legend: High Bay Storage Area Diagram

Secondary Containment Trench

Palletized Drum Storage

360.68 cm L x 3.175 W x 10.16cm Stainless Steel Splash wall

313.69cm L x 8.89cm W x 15.24cm H epoxy coated angle iron sealed to the follr

Concrete Ledge

22.86cm overhang from condrete wall

Asbestos Storage (Small Cabinet)

Small Drum Cabinet (flammable waste storage)

Large Drum Cabinet (flammable waste storage)

Flammable Storage Module

Cell 5 Flammable Liquid Building Module and Compressed Gases

Compressed Gases (Large Cabinet)

Oxidizing Gases (6.985cm w X 45.72cm D x 88cm H)

Explosives Magazine

The high bay floor is also used to store labpacks and bulked waste containers prior to offsite shipment to licensed treatment, disposal, or recycling facilities. Generally, only corrosives, oxidizers, toxic organic solvent mixtures (typically halogenated solvents), antifreeze mixtures, contaminated water which is toxic DW, nonliquid wastes, ORMs, or state-only dangerous waste materials are stored in the high bay storage area.

If wastes incompatible with the foregoing are stored in the high bay storage area, they are kept separated by at least ten feet of distance and stored in individual drip pans for segregation in case of simultaneous accidental spillage. Compatibility of the materials is determined prior to acceptance in accordance with Section 3.2.

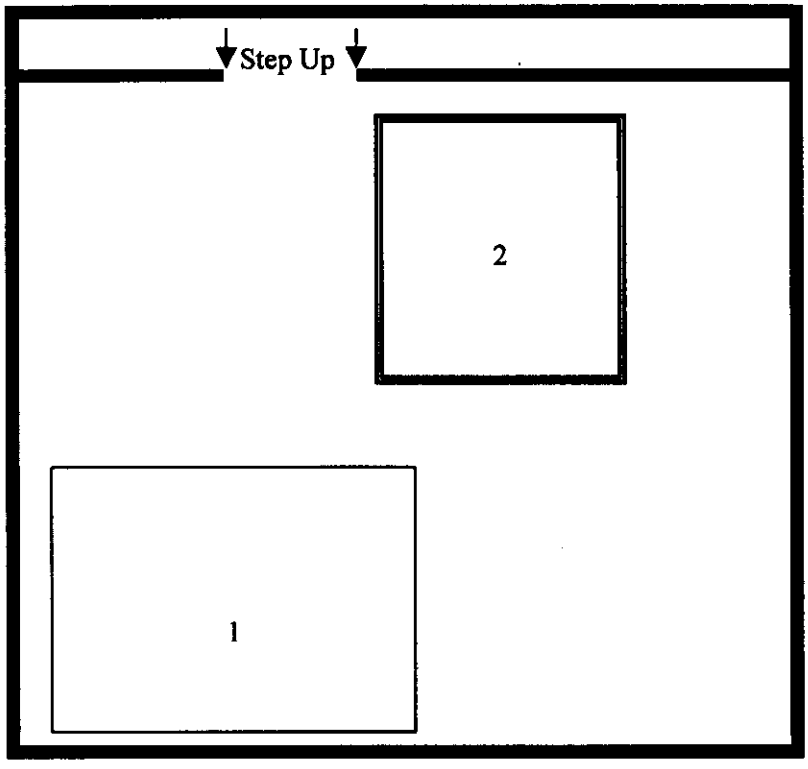
The secondary containment volume of the sumps in the high bay storage area, exclusive of the sumps within individual areas described above, is 565 gallons. Maximum storage in the high bay storage area is thus approximately 5650 gallons (102 drums). The high bay storage is also governed by the building occupancy maximums of Table 4-1, which includes the inventory of the individual storage cells described above. In order to provide additional separation from spilled liquids and for ease of handling, all drums stored on the high bay floor are stored on pallets. A diagram of this cell is provided in Figure 4-7.

4.1.1.6.11 Flammable RMW Storage Area. Due to UBC restrictions, flammable radioactive mixed waste cannot be stored in the basement of 305-B with the other radioactive mixed waste. The flammable RMW received by 305-B for storage prior to disposal is stored in a separate area above grade in the east portion of the building in a 7'x 7'x 7' flammable liquid storage module (cell 7). The module is Factory Mutual approved and has four-hour fire rated walls and doors. The module has a self-contained internal dry chemical fire suppressant system. The module has a 90-gallon polyethylene coated sump. The module is lag bolted to the concrete floor in the flammable RMW storage area indicated in Figure 4-8. The module has a storage capacity of four 55-gallon drums, or up to 250 gallons of total capacity of all containers stored, whichever is greater. This storage area meets the requirements of a one year PCB storage area as defined in 40 CFR 761.65, so flammable mixed waste, also regulated as PCB waste, may be stored in this location. A diagram of this cell is provided in Figure 4-8.

4.1.1.6.12 RMW Storage Area. Radioactive mixed waste that is not flammable per UFC (i.e., flash point above 100 F) is stored in a special area in the basement of 305-B. For additional segregation capability, there are eight small chemical storage cabinets and four 62" x 62" x 6" (157cm x 157cm x 15 cm stainless steel "container pans", with an approximate volume of 91 gallons (346 liters). The total area within the curbing is 1246 gallons (4716 liters). The containment pans are mounted to the floor or wall of the cell to provide segregated storage for potentially incompatible mixed waste streams. A diagram of the RMW storage cell secondary containment pan installation is provided in Figure 4-10. Drums stored in this area are stored on pallets to prevent potential contact with spilled waste in containment during an emergency. A diagram of this area is provided in Figure 4-9.

In normal use, the storage capacity of this area is limited by the radionuclide limits imposed by the DOE for "low inventory facilities." These limitations are defined in DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports, and are included in the radiation work permit for the mixed waste storage area.

Figure 4-8. Flammable Radioactive Mixed Waste Storage Area



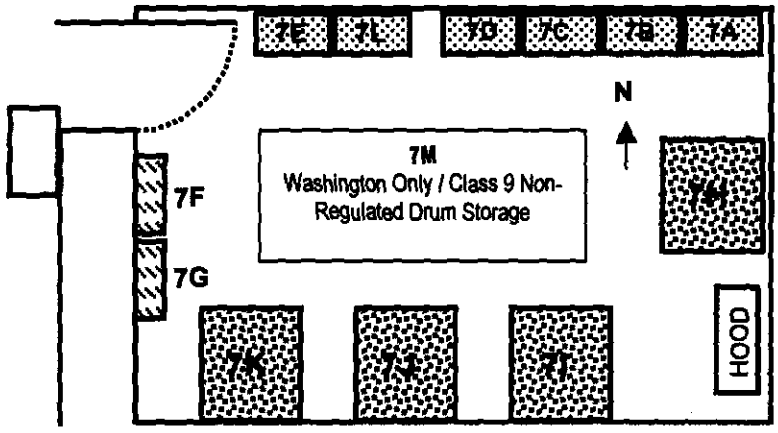
LEGEND

1 Flammable RMW Storage Module

2 Removable hatch cover for basement access (surrounded by railing)

All PCB waste stored in Cell 9 shall be stored in trays, or drum overpacks that meet all the requirements of 40 CFR 761.65(b).

Figure 4-9. Radioactive Mixed Waste Storage



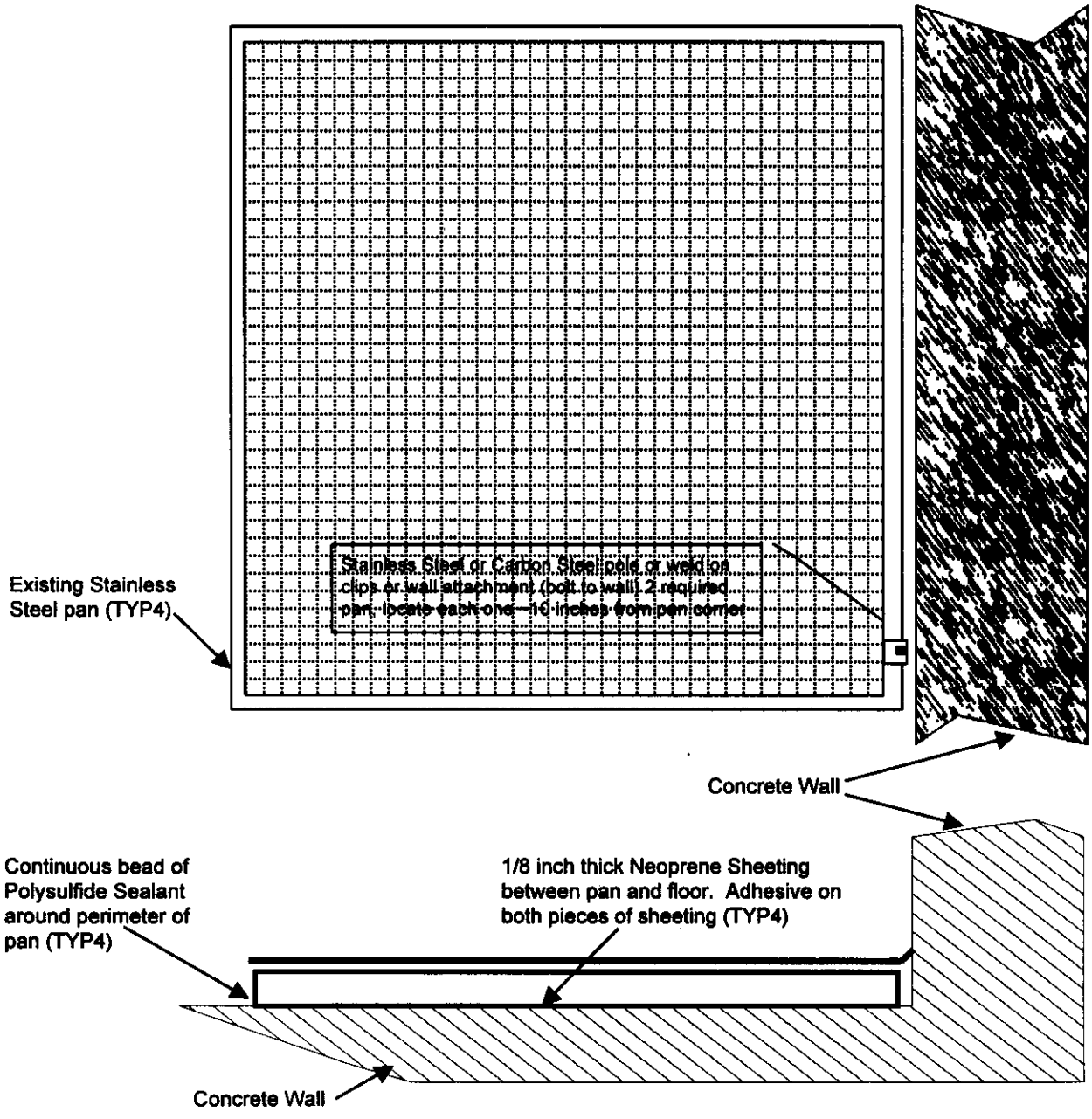
Cell 7 Legend

7A	Poisons
7B	Oxidizers
7C	Class 9/Combustible
7D	Washington Only/Combustible
7E	Flammable Solids
7F	Corrosive Base/Combustible
7G	Corrosive Acid/Combustible
7H	Corrosive/PCB's/Combustible
7I	Corrosive Acid/PCB's/Combustible
7J	PCB's/Combustible
7K	Washington Only/Class 9/PCB's/Combustible
7L	Non-Regulated/Combustible
7M	Washington state Waste/ Class 9/ Non-Regulated/Combustible/Compatibles

HOOD 121.9cm L x 54.2cm D x 228.6cm H

All PCB waste stored in Cell 7 will be segregated according to chemical compatibility, and stored in any of the four stainless steel container pans complying with 40 CFR 761.65(b)

Figure 4-10. RMW Storage Cell Containment Pan Installation



PAN TOP & SIDE VIEW

Non Flammable RMW Cell Secondary Containment Pan Installation

1 **Table 4-1. Exempt Amounts of Hazardous Materials, Liquids & Chemicals Presenting a Physical Hazard**

BASIC QUANTITIES PER CONTROL AREA[1]

When two units are given values within parentheses are in cubic feet (Cu.Ft.) or pounds (Lbs.)

CONDITION		STORAGE[2]			USE[2]—CLOSED SYSTEMS			USE[2]—OPEN SYSTEMS		
MATERIAL	CLASS	Solid Lbs. (Cu.Ft.)	Liquid Gallons (Lbs.)	Gas (Cu.Ft.)	Solid Lbs. (Cu.Ft.)	Liquid Gallons (Lbs.)	Gas (Cu.Ft.)	Solid Lbs. (Cu.Ft.)	Liquid Gallons (Lbs.)	Gas (Cu.Ft.)
1.1 Combustible liquid[3]	II	—	120[4 5]	—	—	120[4]	—	—	30[4]	—
	III-A	—	330[4 5]	—	—	330[4]	—	—	80[4]	—
	III-B	—	13,200[5 6]	—	—	13,200[6]	—	—	3,300[6]	—
1.2 Combustible dust lbs./1000 Cu.Ft.		1[7]	—	—	1[7]	—	—	1[7]	—	—
1.3 Combustible fiber			—	—		—	—		—	—
(loose)		(100)			(100)			(20)		
(baled)		(1,000)			(1,000)			(200)		
1.4 Cryogenic, flammable or oxidizing			45	—	—	45	—	—	10	—
2.1 Explosives		1[8 9]	(1)[8 9]	—	¼[8]	(¼)[8]	—	¼[8]	(¼)[8]	—
3.1 Flammable solid		125[4 5]	—	—	25[4]	—	—	25[4]	—	—
3.2 Flammable gas										—
(gaseous)		—	—	750[4 5]	—	—	750[4 5]	—	—	—
(liquefied)		—	15[4 5]	—	—		—	—	—	
3.1 Flammable liquid[3]		—	30[4 5]	—	—	30[4]	—	—	10[4]	—
		—	60[4 5]	—	—	60[4]	—	—	15[4]	—
		—	90[4 5]	—	—	90[4]	—	—	20[4]	—
Combination I-A, I-B, I-C		—	120[4 5 10]	—	—	120[4 10]	—	—	30[4 10]	—
4.1 Organic peroxide, unclassified detonable		1[5 8]	(1)[5 8]	—	¼[8]	(¼)[8]		¼[8]	(¼)[8]	—
4.2 Organic peroxide	I	5[4 5]	(5)[4 5]	—	(1)[4]	(1)[4]	—	1[4]	1[4]	—
	II	50[4 5]	(50)[4 5]	—	50[4]	(50)[4 5]	—	10[4]	(10)[4]	—
	III	125[4 5]	(125)[4 5]	—	125[4]	(125)[4 5]	—	25[4]	(25)[4]	—
	IV	500	(500)	—	500[4]	(500)	—	100	(100)	—
	V	N.L.	N.L.	—	N.L.	N.L.	—	N.L.	N.L.	—
4.3 Oxidizer	4	1[5 8]	(1)5[8]	—	¼[8]	(¼)[8]	—	¼[8]	(¼)[8]	—
	3	10[4 5]	(10)[4 5]	—	2[4]	(2)[4]	—	2[4]	(2)[4]	—
	2	[250]4 5	(250)[4 5]	—	250[4]	(250)[4]	—	50[4]	(50)[4]	—
	1	1,000[4 5]	(1,00)[4 5]	—	1,000[4]	(1,000)[4]	—	200[4]	(200)[4]	—
4.1 Oxidizer -- Gas										
(gaseous)		—	—	1,500[4 5]	—	—	1,500[4 5]	—	—	—
(liquefied)		—	15[4 5]	—	—	15[4 5]	—	—	—	—
5.1 Pyrophoric		4[5 8]	(4)[5 8]	50[5 8]	1[8]	(1)[8]	10[5 8]	0	0	0
6.1 Unstable (reactive)	4	1[5 8]	(1)[5 8]	10[5 8]	¼[8]	(¼)[8]	2[4 5]	¼[8]	(¼)[8]	0
	3	5[4 5]	(5)[4 5]	50[4 5]	1[4]	(1)[4]	10[4 5]	1[4]	1[4]	0
	2	50[4 5]	(50)[4 5]	250[4 5]	50[4]	(50)[4]	250[4 5]	10[4]	(10)[4]	0
	1	125[4 5]	(125)[4 5]	750[4 5]	125[4]	(125)[4]	750[4 5]	25[4]	(25)[4]	0
7.1 Water (reactive)	3	5[4 5]	(5)[4 5]	—	5[4]	(5)[4]	—	1[4]	(1)[4]	—
	2	50[4 5]	(50)[4 5]	—	50[4]	(50)[4]	—	10[4]	(10)[4]	—
	1	125[5 6]	(125)[5 6]	—	125[6]	(125)[5 6]	—	25[6]	(25)[6]	—

[1] Control area is a space bounded by not less than a one-hour fire-resistive occupancy separation within which the exempted amounts of hazardous materials may be stored dispensed, handled or used. The number of control areas within a building used for retail and wholesale stores shall not exceed two. The number of control areas in buildings with other uses shall not exceed four.
[2] The aggregate quantity in use and storage shall not exceed the quantity listed for storage.
[3] The quantities of alcoholic beverages in retail sales uses are unlimited provided the liquids are packaged in individual containers not exceeding four liters. The quantities of medicines, foodstuffs and cosmetics containing not more than 50 percent of volume of water-miscible liquids and with the remainder of the solutions not being flammable in retail sales or storage occupancies are unlimited when packaged in individual containers not exceeding four litters.
[4] Quantities may be increased 100 percent in sprinklered buildings. When Footnote 5 also applies, the increase for both footnotes may be applied.
[5] Quantities may be increased 100 percent when stored in approved storage cabinets or safety cans as specified in the fire code. When Footnote 4 also applies, the increase for both may be applied.
[6] The quantities permitted in a sprinklered building are not limited.
[7] A dust explosion potential is considered to exist if 1 pound or more of combustible dust per 1,000 cubic feet of volume is normally in suspension or on horizontal surfaces inside buildings or equipment and which could be put into suspension by an accident, sudden force or small explosion.
[8] Permitted in sprinklered buildings only. None is allowed in unsprinklered buildings.
[9] One pound of black sporting powder and 20 pounds of smokeless powder are permitted in sprinklered or unsprinklered buildings.
[10] Containing not more than the exempt amounts of Class I-A, Class I-B, Class I-C flammable liquids.

Table 4-1. Exempt Amounts of Hazardous Materials, Liquids & Chemicals Presenting a Physical Hazard

(cont.)

MAXIMUM QUANTITIES PER CONTROL AREA [1] [2]

When two units are given, values within parentheses are in pounds (Lbs.)

MATERIAL[3]	STORAGE[4]			USE[3]–CLOSED SYSTEMS			USE[3]–OPEN SYSTEMS		
	Solid (Lbs.)[5 6]	Liquid Gallons (Lbs.)[5 6]	Gas (Cu.Ft.)[5]	Solid (Lbs.)[5]	Liquid Gallons (Lbs.)[5]	Gas (Cu.Ft.)	Solid (Lbs.)[5]	Liquid Gallons (Lbs.)[5]	Gas (Cu.Ft.)
1. Corrosives	5,000	500	650[6]	5,000	500	650[5]	1,000	100	—
2. Highly Toxics[7]	1	(1)	20[8]	1	(1)	20[7]	¼	(¼)	—
3. Irritants	5,000	500	650[6]	5,000	500	650[5]	1,000	100	—
4. Sensitizers	5,000	500	650[6]	5,000	500	650[5]	1,000	100	—
5. Other Health Hazards	5,000	500	650[6]	5,000	500	650[5]	1,000	100	—

[1] Control area is a space bounded by not less than one-hour five resistive occupancy separation within which the exempted amounts of hazardous materials may be stored. Dispensed, handled or used. The number of control areas within retail and wholesale stores shall not exceed two and the number of control areas in other uses shall not exceed four

[2] The quantities of medicines, foodstuffs and cosmetics, containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable, in retail sales uses are unlimited when packaged in individual containers not exceeding 4 liters.

[3] The aggregate quantity in use and storage shall not exceed the quantity listed for storage.

[4] For carcinogenic and radioactive materials, see the Fire Code.

[5] Quantities may be increased 100 percent in sprinklered buildings. When Footnote 6 also applies, the increase for both footnotes may be applied.

[6] Quantities may be increased 100 percent when stored in approved storage cabinets or safety cans as specified in the fire code. When Footnote 5 also applies, the increase for both footnotes may be applied.

[7] For special provisions, see the Fire Code.

[8] Permitted only when stored in approved exhausted gas cabinets, exhausted enclosures or fume hoods.

4.1.1.6.13 Explosives Storage Area. Due to UBC restrictions, wastes classified as explosive by DOT regulations are stored in a 3' x 3'x 3' explosives magazine, with a 8 cubic foot interior, outside cell 1. The magazine is constructed of steel and is certified to have been fabricated per Institute of Makers of Explosives (IME) SLP22, type 2 day box requirements. No more than 1 lb. of explosives is stored in the magazine at one time. The location of the magazine is indicated in Figure 4-7.

4.1.1.7 Control of Run-On [D-1a(7)]

The 305-B Storage Unit was designed to eliminate the likelihood of on-site, or for that matter, off-site migration via run-on and run-off. The facility is completely enclosed (i.e., complete roof and WA, 1981.)no open walls) and has been constructed upon a foundation so that precipitation cannot cause either run-on or run-off problems.

4.1.1.8 Removal of Liquids from Containment System [D-1a(8)]

Upon discovery of liquid accumulation in the containment resulting from a spill or other release, the BED must be contacted in accordance with the 305-B contingency plan (Chapter 7). The BED may determine that the contingency plan should be implemented. If the incident is minor, and the BED approves, removal of the liquids will commence immediately following a safety evaluation. Appropriate protective clothing and respiratory protection will be worn during removal activities; a PNNL industrial hygienist may be contacted to determine appropriate personnel protection requirements and any other safety requirements that may be required, such as chemical testing or air monitoring. In addition, ventilation of the spill-impacted area may be performed if determined to be safe and if appropriate monitoring of the air discharge(s) is performed.

Spills are normally contained either within the storage cabinet, within the cell, or within a secondary containment trench or berm as described in Section 4.1.1.5. In any case, spilled material will be recovered to the extent possible by pumping recovered liquids with a pump made of nonreactive materials (either steel or PVC) to intact containers selected in accordance with the container selection procedure in Section 4.1.1.1. Nonrecoverable liquids will be absorbed with an appropriate absorbent (after appropriate chemical reaction to neutralize reactivity in the case of reactive waste, or neutralization in the case of corrosive materials); see Table 6.2 for list of available materials for this purpose. The absorbent material will then be recovered and placed in a container selected in accordance with Section 4.1.1.1, using nonsparking shovels in the case of ignitable waste. The floor, cabinets and any other impacted containers may be cleaned with dry rags, soap and water, or a compatible solvent if necessary to remove external contamination. Contaminated rags and other cleanup material will be disposed of in an appropriate manner. Verification sampling shall be carried out in accordance with Section 11.1.4.4. (Methods for sampling and testing to demonstrate success of decontamination).

4.1.2 Containers Without Free Liquid That Do Not Exhibit Ignitability or Reactivity [D-1b]

This section is not applicable to 305-B because the storage area is used to store containers both with and without free liquids. 305-B does not meet the conditions for reduced requirements for storing only containers without free liquid; therefore, the facility is subject to the full requirements for containment.

4.2 PROTECTION OF EXTREMELY HAZARDOUS WASTE IN CONTAINERS [D-2]

All wastes are stored inside of 305-B, within the storage areas described in Section 4.1.1.6. These locations are completely enclosed from the weather, as described in Section 4.1.1.7, meeting the requirements of WAC 173-303-630(7)(d).

4.3 PREVENTION OF REACTION OF IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTES IN CONTAINERS [D-3]

The following sections provide information on the management of ignitable, reactive, and incompatible waste in containers. Additional information on this subject can be found in Section 6.5.

4.3.1 Management of Ignitable or Reactive Wastes in Containers [D-3a]

Ignitable and reactive wastes are stored in compliance with Uniform Fire Code Division II regulations for Container and Portable Tank Storage Inside Buildings (International Conference of Building Officials 1988). Containers of ignitable and reactive waste are stored in individual flammable material storage cabinets within the storage cells.

4.3.2 Management of Incompatible Wastes in Containers [D-3b]

Section 6.5.2 describes procedures used at 305-B to determine the compatibility of dangerous wastes so that incompatible wastes are not stored together. Chemical wastes stored in 305-B are separated by compatibility, chemical makeup and hazard class and stored in areas having appropriate secondary containment, as described in Section 4.1.1.6.

As shown in Figures 4-2 through 4-11, each storage area has individual storage configurations; secondary containment structures are provided to assure that incompatible materials will not commingle if spilled. Further segregation is provided by chemical storage cabinets located throughout the facility in various areas as shown in Figures 4-1 through 4-10. Cabinet types are noted in those figures and capacities described in Table 4-2. Incompatible wastes are never placed in the same container, or in unwashed containers that previously held incompatible waste.

Compliance with WAC 173-303-395(1)(b) is assured utilizing the reactivity groupings given in A Method for Determining the Compatibility of Hazardous Waste (EPA 1980). Use of this system, and the procedure for handling ignitable or reactive waste and mixing of incompatible waste, as described in Section 6.5.2. fulfills the requirements of WAC 173-303-395(1)(c)Tank System [D-3c]

This section is not applicable to the 305-B Storage Unit because wastes are not managed in tanks.

4.3.3 Waste Piles [D-3d]

This section is not applicable to the 305-B Storage Unit because wastes are not managed in waste piles.

4.3.4 Surface Impoundments [D-3e]

This section is not applicable to the 305-B Storage Unit because wastes are not placed in surface impoundments.

4.3.5 Incinerators [D-3f]

This section is not applicable to the 305-B Storage Unit because wastes are not incinerated.

4.3.6 Landfills [D-3g

This section is not applicable to the 305-B Storage Unit because wastes are not placed in landfills.

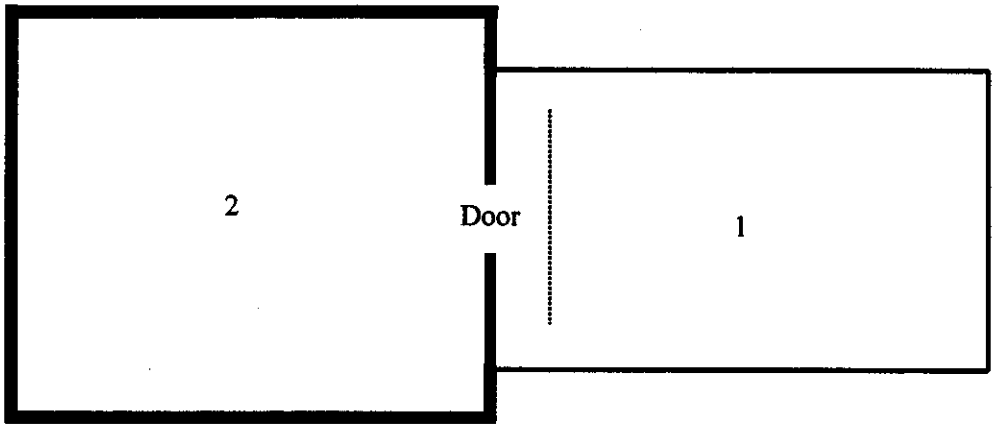
4.3.7 Land Treatment [D-3h]

This section is not applicable to the 305-B Storage Unit because wastes are not treated in land treatment units.

Table 4-2. Storage Devices Used at the 305-B Unit

Storage Device	Typical Use	External Dimensions (in.)	Capacity (gal/ft^3.)
Small Cabinet	Storage of containers (5 gallons or less capacity)	43w x 18d x 65h	50 max
Medium Cabinet	Storage of containers (18.93 liter [5 gal] or less capacity	31w x 31d x 65h	60 max
Large Cabinet	Storage of containers (5 gallons or less capacity)	34w x 34d x 65h	80 max
Small Drum Cabinet	Storage of drums (5 to 55 gallons capacity)	34w x 34d x 65h	65 max
Large Drum Cabinet	Storage of drums (5 to 55 gallons capacity)	59w x 34d x 65h	130 max
Small Shelving	Storage of containers (5 gallons or less capacity)	47w x 18d x 62h	65 max
Large Shelving	Storage of containers (5 gallons or less capacity)	72w x 18d x 62h	100 max
Flammable Storage Module	18.93 liter [5 gal] to 208.18 liter [55 gal] capacity	78w x 73d x 100h	240 max
Refrigerator/ Freezer	Storage of containers of organic peroxides and other temperature sensitive wastes	34w x 29d x 67h	25 Cu.Ft.
Explosives Magazine	Storage of containers containing DOT classified explosives	36w x 36d x 36h	8 Cu.Ft.

Figure 4-11. Flammable Liquids Storage Module



LEGEND

1 Loading Ramp

2 Drum/Container Storage Area (Flammable liquid storage, 240 gallon max,)

Index

Page 2 of 2 Chapter 11

Hanford Facility RCRA Permit Modification Notification Form

Unit:	Permit Part & Chapter:
325 Hazardous Waste Treatment Units	**Part III, Chapter 6 and Attachment 36**

Description of Modification:

Chapter 11:

Replace Chapter 11. Chapter 11was converted to Microsoft Word. No changes were made to the text.

Modification Class: [1 2 3]	Class 1	Class[1]1	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes.

Submitted by Co-Operator:		Reviewed by RL Program Office:		Reviewed by Ecology:		Reviewed by Ecology:	
Alick Ikenberry	3/16/00	R F Christensen	4/5/00				
A.K. Ikenberry	Date	R.F. Christensen	Date	J. J. Wallace	Date	L.E. Ruud	Date

[1]Class 1 modifications requiring prior Agency approval.

[2] This is only an advanced notification of an intended Class [1]1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

[3] If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to [1]1, if appropriate.

Index

Chapter 11

11.0 Contents

11.0 CLOSURE AND FINANCIAL ASSURANCE [I] 11-3
11.1 CLOSURE PLAN [I-1] 11-3
11.1.1 Closure Performance Standard [I-1a] 11-3
11.1.2 Closure Activities [I-1b] 11-4
11.1.3 Maximum Extent of Operation [I-1b(1)] 11-4
11.2 CLOSURE OF THE HAZARDOUS WASTE TREATMENT UNIT 11-4
11.2.1 Removing of Dangerous Waste, Disposal, or Decontamination of Equipment, Structures, and Soils 11-4
11.2.2 Removing Dangerous Waste [I-1b(2)] 11-4
11.2.3 Decontaminating Structures, Equipment, and Soil [I-1b(3)] 11-5
11.2.4 Management of Decontamination Waste from HWTU 11-7
11.2.5 Inspection to Identify Extent of Decontamination/Removal and to Verify Achievement of Closure Standard [I-1b(4)] 11-8
11.3 CLOSURE OF THE SHIELDED ANALYTICAL LABORATORY 11-8
11.3.1 Removing Dangerous Waste, Disposal and Decontamination of Equipment, Structures, and Soils 11-8
11.3.2 Removing Dangerous Waste [I-1b(2)] 11-8
11.3.3 Decontaminating Equipment, Structures, and Soils [I-1b(3)] 11-9
11.3.4 Decontamination of Hot Cell Trough 11-10
11.3.5 Decontamination of the Shielded Analytical Laboratory Tank System 11-11
11.3.6 Management of Decontamination Waste from SAL 11-11
11.3.7 Inspection to Identify Extent of Decontamination/Removal and to Verify Achievement of Closure Standard [I-1b(4)] 11-11
11.4 CLOSURE OF THE RADIOACTIVE LIQUID WASTE TANK SYSTEM 11-11
11.4.1 Removing Dangerous Waste [I-1b(2)] 11-11
11.4.2 Decontaminating Equipment, Structures, and Soils [I-1b(3)] 11-12
11.4.3 Decontamination of Radioactive Liquid Waste Tank System 11-12
11.4.4 Management of Decontamination Waste from RLWS Tank System 11-13
11.4.5 Inspection to Identify Extent of Decontamination/Removal and to Verify Achievement of Closure Standard [I-1b(4) 11-13
11.5 MAXIMUM WASTE INVENTORY [I-1c] 11-13
11.6 SCHEDULE FOR CLOSURE [I-1f] 11-14
11.7 EXTENSION FOR CLOSURE TIME [I-1g] 11-14
11.8 CLOSURE COST ESTIMATE [I-1h] 11-14

Tables

Table 11-1. Analysis Parameters for Closure of the 325 Hazardous Waste Treatment Units 11-15
Table 11-2. Summary of Closure Activities for the 325 Hazardous Waste Treatment Units 11-16
Table 11-3. Closure Schedule for the 325 Hazardous Waste Treatment Units 11-16

This page intentionally left blank.

11.0 CLOSURE AND FINANCIAL ASSURANCE [I]

This chapter discusses the planned activities and performance standards for closure of the 325 HWTUs in accordance with the requirements of WAC 173-303-610. No postclosure activities currently are applicable or required because the 325 HWTUs are proposed to be clean closed.

To clean close the 325 HWTUs, it will be demonstrated that dangerous waste has not been left onsite at levels above the closure performance standard for removal and decontamination. Regulations and laws will be reviewed periodically and the closure plan modified as necessary. If it is determined that clean closure is not possible or is environmentally impractical, the closure plan will be modified to address required postclosure activities.

11.1 CLOSURE PLAN [I-1]

The 325 HWTUs are planned to be clean closed.

11.1.1 Closure Performance Standard [I-1a]

The 325 HWTUs will be clean closed in a manner that will minimize the need for further maintenance and will eliminate postclosure release of dangerous waste or dangerous waste constituents. This standard will be met by removing dangerous waste and any dangerous waste residues from the units.

If the 325 Building ceases operations (i.e., utilities are disconnected and routine personnel access is not allowed), a decision will be made whether to implement this closure plan, or if continued operating authority will be sought.

After closure, the building areas formerly occupied by the HWTUs will be in a condition suitable for use in support of ongoing or future research and development activities. This use will be consistent with other land use activities in the 300 Area.

If there is any evidence of spills or leaks from the unit into the environment, further remediation will be deferred to the final disposition of the 325 Building. A postclosure monitoring plan will then be developed.

Clean closure decontamination standards for structures, equipment, bases, liners, etc., will be those specified for hazardous debris in 40 CFR 268.45, Table 1. The "clean debris surface" will be the performance standard for metal and concrete surfaces. This standard is consistent with Ecology guidance (Ecology 1994b) for achieving clean closure.

Attainment of a clean debris surface will be verified by a visual inspection in accordance with the standard that states, "A clean debris surface means the surface, when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except residual staining from soil and waste consisting of light shadows, slight streaks, or minor discolorations and soil and waste in cracks, crevices, and pits may be present provided that such staining and waste and soil in cracks, crevices and pits shall be limited to no more than 5% of each square inch of surface area." (40 CFR 268.45, Table 1).

Some unit equipment such as pumps, cartridge filters, and pipes may not be sufficiently visible for in-place contamination evaluation and waste designation. Equipment that cannot be designated in-place must be removed and then designated.

Equipment and structures will be decontaminated using the procedures in Sections 11.2.3 and 11.3.3. If decontamination is impracticable, components will be removed, designated, and disposed of. All residues resulting from decontamination will be sampled and analyzed as described in Sections 11.2.4 and 11.3.6 to determine whether they are dangerous waste. Residues containing listed waste, having dangerous waste characteristics, or exceeding dangerous waste designation limits will be managed in accordance

with all applicable requirements of WAC 173-303-170 through 173-303-203. [Reference WAC 173-303-610(5)].

11.1.2 Closure Activities [I-1b]

This closure plan describes the steps necessary to perform final closure of the 325 HWTUs. Closure activities will involve removing dangerous waste from the units and decontaminating associated structures and equipment in the units as necessary. These activities, which are discussed in subsequent sections, could be implemented at any point during the life of the 325 HWTUs.

Partial closure could involve closing either the SAL, the HWTU, or the RLWS tank individually or closing a portion of a unit, such as the SAL tank system, which includes the tank; associated piping, valves and pumps; and the secondary containment. Except for the timing of the closure activities, these closure activities would remain identical to those described in this closure plan.

11.1.3 Maximum Extent of Operation [I-1b(1)]

The 325 HWTUs consist of three units, all within the 325 Building, located in the 300 Area on the Hanford Facility. The SAL is located in Rooms 32, 200, 201, 202, and 203. The HWTU is located in Rooms 520 and 528, and the fire water containment tank located in the basement beneath Room 520. The RLWS currently collects radioactive liquid waste from the SAL and the HWTU. Once the RLWS load out tank system is complete, the RLWS will collect radioactive liquid waste from the SAL, the HWTU, and the other hot cells in the 325 Building. The RLWS runs throughout the 325 Building as depicted on Figures 2.3a and 2.3b. The SAL, the HWTU and the RLWS represent the maximum extent of operations for the 325 HWTUs to date as indicated in the Part A permit application, Form 3. If additional operations are added to the unit, the closure plan will be modified to reflect closure of the new areas.

11.2 CLOSURE OF THE HAZARDOUS WASTE TREATMENT UNIT

The following sections address the activities required to conduct closure of the HWTU.

11.2.1 Removing of Dangerous Waste, Disposal, or Decontamination of Equipment, Structures, and Soils

Steps for inventory removal, decontamination, and disposal of all dangerous waste containers, residues, and contaminated equipment are described in the following sections.

11.2.2 Removing Dangerous Waste [I-1b(2)]

Closure or partial closure activities will be initiated by removal of the dangerous waste inventory present at the HWTU at the time of closure or partial closure. Inventory removal procedures will be identical to the waste handling, treating, packaging, and manifesting activities associated with normal permitted operations at the HWTU.

All dangerous waste will be placed in containers that meet specifications stated in Chapter 4.0, Section 4.1. To the extent possible, waste will be bulked into larger containers. If waste is bulked, containers will be emptied in compliance with WAC 173-303-160 so that the containers can be considered a solid nondangerous waste. Small-quantity laboratory chemicals that cannot be bulked will be packaged in labpack containers in compliance with the requirements of WAC 173-303-161. All containers of dangerous waste will be manifested and transferred to the custody of a dangerous waste transporter having a proper dangerous waste identification number. All containers of dangerous waste will be transferred to an appropriate onsite unit permitted to manage the waste and that will ensure proper handling and disposal.

Equipment and structural components in the HWTU requiring decontamination will be decontaminated using the methods described in Section 11.2.3. All waste residues resulting from decontamination will be sampled and analyzed as described in Section 11.2.4 to determine whether the residue is mixed, dangerous, radioactive, or nonhazardous waste and to discern how to dispose of the waste properly. All residues will be removed from the units and transferred to a Treatment, Storage, and Disposal (TSD) unit having the necessary permits for proper treatment, storage, and/or disposal. Residues containing listed waste, having dangerous characteristics, or exceeding dangerous waste designation limits will be managed in accordance with all applicable requirements of WAC 173-303-170 through 173-303-203. [Reference WAC 173-303-610(5)].

11.2.3 Decontaminating Structures, Equipment, and Soil [I-1b(3)]

All equipment and structures in dangerous waste storage and treatment areas will be decontaminated at the time of closure or partial closure except equipment and structures that exhibit a "clean debris surface" prior to starting closure activities. These will be considered decontaminated and receive to further decontamination. Initial closure activities will entail decontamination of all piping and equipment that is known to have contacted the waste. Equipment and structures to be decontaminated include the following:

- Waste handling and treatment equipment
- Glove boxes
- Open-face hoods
- Storage cabinets
- Floors, walls, and ceilings of Rooms 520 and 528
- Fire water containment tank (beneath Room 520).

Decontamination methods for equipment and structures will be selected from appropriate technologies (40 CFR 268.45, Table 1) such as washing with water, high-pressure water jet scarifiers, abrasive blasting, aquablasting, or mechanical concrete scrubbers and scarifiers. Following the decontamination process, a visual inspection will be conducted for the purpose of monitoring the effectiveness of the decontamination work.

All equipment used for decontamination will be used exclusively within the HWTU during closure activities. When all structural and equipment decontamination is complete, and when the equipment is no longer necessary, the equipment will be decontaminated before final closure of the units. All cleaning and decontamination waste will be collected and analyzed as described in Section 11.2.4. Any disposable equipment will be placed in a container and disposed at an appropriate unit based on the status of the waste as dangerous, mixed, radioactive, or nonhazardous. Dangerous waste placed in containers will be managed in accordance with Chapter 4.0.

All waste-handling equipment in the HWTU will be decontaminated by washing with water or a solvent to a clean debris surface as defined in Section 11.1.1. If additional decontamination is necessary a decontamination technique will be selected from appropriate technologies (40 CFR 268.45, Table 1) such as high-pressure water wash. If adequate cleaning is not possible, the equipment will be disposed of as dangerous waste. The decision to dispose or decontaminate equipment will be made at the time of closure. The option that is the most environmentally and economically feasible will be chosen. Adequate decontamination will be determined by a visual inspection for a "clean debris surface" as described in Section 11.1.1. All waste water will be collected in sumps or portable containers, pumped to chemically compatible, closed-top containers, and transported and managed as described in Section 11.2.4.

The time required for decontamination of waste-handling equipment and the amount of waste water generated by these methods will depend on the amount of equipment that needs to be decontaminated. At this time, minimal time and effort are anticipated. The waste water to be generated through decontamination is not anticipated to exceed approximately 378 liters. The volume of solid waste generated will depend on the extent of decontamination necessary.

The radiological conditions of the unit will be established prior to starting closure activities. If a "clean debris surface" is present at the time that closure activities are started, the area will be considered clean closed. In this case, housekeeping measures may be undertaken and could include sweeping, dusting, vacuuming, and wiping with soap and water. Brushing or sweeping will be used to clean up coarse debris. Vacuuming will be performed using a commercial or industrial vacuum equipped with a high-efficiency particulate air (HEPA) filter. The vacuum cleaner bag containing captured particulates will be disposed appropriately. Dust wiping will be done with a damp cloth or wipe (soaked with water) to remove dust from surfaces that cannot be decontaminated with a vacuum. The cloth or wipe also will be disposed appropriately. HEPA filters from installed equipment and vacuum cleaners will be assessed for radiological condition, designated and managed as described in Section 11.2.4. The volume of solid waste (e.g., personal protective clothing/equipment, wipes, HEPA filters, vacuum bags) generated will depend on the extent of decontamination necessary.

Minimal time will be required for setup of the decontamination equipment. Labor requirements for the process should be moderate. Minimal time also will be required for packaging debris and dismantling and removing cleaning equipment. Small quantities of waste water (only the contents of buckets used in the decontamination procedure) will be generated. However, if a clean debis surface is not present, more sophisticated decontamination methods will be implemented. The surfaces in the HWTU that do not have a "clean debris surface" will be treated extensively using an appropriate decontamination technology such as water washing (40 CFR 268.45, Table 1). The contaminated surfaces will be decontaminated to remove all residues from the surfaces. The contaminated waste generated by this activity will be contained by the designed spill controls already in place for the unit (i.e., fire water containment tank and associated drain lines/sumps) or by disposable absorbent pads that might be placed around the area to be water washed. Pumps or vacuums will be used to empty the waste water from the containment area into chemically compatible, closed-top containers. Containers of waste water will be managed as described in Section 11.2.4.

Although this method will require more time than the dusting, vacuuming, and wiping procedures outlined previously, time requirements are still considered to be minimal for the water washing approach. Waste water generated by this method is not anticipated to exceed 500 liters.

If necessary, further decontamination methods such as sandblasting or other appropriate technologies could be used effectively to clean contaminated structure surfaces. All residues from the decontamination effort will be collected for sampling and proper subsequent disposal as described in Section 11.2.5 4. Following completion of decontamination, additional visual inspections will be performed to determine that the "clean debris surface" standard has been achieved. In the unlikely event that structures cannot be cleaned using the methods described, these structures might be demolished, removed, and managed as dangerous waste.

The collection sumps and secondary containment system will be decontaminated by water washing. Waste water collected from the cleaning process in each sump and containment system will be pumped into chemically compatible, closed-top containers and analyzed as described in Section 11.2.4 to determine if the waste water is a dangerous waste under WAC 173-303-070. If the waste water is determined to be a dangerous waste, the waste water will be managed and disposed at an appropriate permitted unit. If the waste water is not a dangerous waste, the waste water will be discharged to the 300 Area retention process sewer system. The water washing of all sumps should take minimal time and should generate less than 500 liters of waste water. Additional decontamination techniques such as grit

blasting, scabbling, or chipping might be used if necessary. The volume of solid waste generated will depend on the extent of decontamination necessary.

The radiological condition of the fire water containment tank will be established prior to starting closure activities. The internal surface of the fire water containment tank will be visually inspected. If a "clean debris surface" is present at the beginning of the closure process the fire water containment tank will be considered clean closed. If the surface of the liner does not meet the "clean debris surface" standard then the fire water containment tank for the HWTU and ancillary equipment could be flushed with water, and if flushed, the water could be tested for dangerous waste constituents. Detergents, solvents, or a dilute acid wash could be required to remove constituents from the tank. In all cases, the final decontamination rinse water will be tested. To demonstrate decontamination, the interior surface of the tank liner will be visually inspected to determine if the "clean debris surface" standard has been achieved. If this proves to be impractical or impossible the tank liner will be removed and disposed. Runoff of decontamination solutions and waste water will be prevented either by performing cleaning activities within existing containment structures or within portable containment pans or by surrounding the decontamination area with plastic and absorbent pads.

If water flushing is unsuccessful at removing dangerous waste and dangerous waste constituents, other decontamination processes will be employed, including appropriate technologies such as aquablasting and high-pressure water jet scarifiers. The actual equipment used will consist of an appropriate combination of equipment that will be the most effective as determined by sampling results. Following the decontamination process, a visual inspection for a "clean debris surface" will be conducted to monitor the effectiveness of the decontamination work.

Management of decontamination residues is provided in Section 11.2.4. The time requirements for decontamination of the tank are expected to be minimal, and waste water generated by this procedure is not expected to exceed 757 liters.

All dangerous waste storage and treatment operations at the 325 HWTUs will be conducted indoors, which will minimize potential contamination of the soil and groundwater. Unit design and administrative controls minimize the possibility of loss of waste to the soil and contamination of the groundwater. The potential for degradation of surface water quality also is very low due to the building design and administrative controls employed. Additional details on spill prevention and emergency response are provided in Chapter 7.0.

11.2.4 Management of Decontamination Waste from HWTU

Decontamination waste from the HWTU will be placed in containers and sampled to determine disposal requirements. Samples from each container will be analyzed for the following:

- Corrosivity using the methods described in EPA SW-846 (Methods 9040/9045)
- Ignitability using methods described in EPA SW-846 (Methods 1010/1020)
- Toxicity characteristic using the Toxicity Characteristic Leaching Procedure (TCLP) described in 40 CFR 261 Appendix II (Method 1311) [including analysis for metals; volatile organics; and semivolatile organics, which includes chlorinated pesticides, using methods identified in the waste analysis plan (Appendix 3A)]
- Total radioactivity using gross alpha, gross beta, and gamma scan (Method 9310).

Other analyses might be performed based on process knowledge to determine the presence of a listed waste. The results of sample analyses will be used to determine how to dispose of decontamination waste. (Background levels will be determined by analysis of the tap water used for makeup of the decontamination solutions.) The results of the ignitability, corrosivity, and toxicity characteristic analyses will be used to determine if the waste is characteristic dangerous waste (WAC 173-303-090). The results

of the radiological analyses will be used to determine whether any of the waste generated during the HWTU closure is low-level liquid radioactive waste or mixed waste. Depending on designation, decontamination waste will be managed as follows:

- Dangerous waste--Manifested and shipped and/or transferred to a permitted TSD unit
- Mixed waste--Manifested and shipped to a TSD unit as available, or treated and disposed onsite
- Low-level radioactive waste and nonregulated waste--Handled in accordance with the Liquid Effluent Consent Order (No. DE91NM-177) and Milestone M-17 of the Tri-Party Agreement.

11.2.5 Inspection to Identify Extent of Decontamination/Removal and to Verify Achievement of Closure Standard [I-1b(4)]

The radiological condition of the unit will be determined prior to starting closure activities. Attainment of a clean debris surface will be verified by a visual inspection in accordance with the standard that states, "A clean debris surface means the surface, when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except residual staining from soil and waste consisting of light shadows, slight streaks, or minor discolorations and soil and waste in cracks, crevices, and pits may be present provided that such staining and waste and soil in cracks, crevices and pits shall be limited to no more than 5% of each square inch of surface area." (40 CFR 268.45, Table 1).

Areas of degraded surface material, such as significant concrete cracking or heavily gouged steel, will be evaluated by non-destructive or destructive means to determine depth of significant surface defects, amount of contamination present in the defects, and to determine if environmental contamination has resulted from the material defect.

11.3 CLOSURE OF THE SHIELDED ANALYTICAL LABORATORY

The activities required for the closure of the SAL are described in the following sections.

11.3.1 Removing Dangerous Waste, Disposal and Decontamination of Equipment, Structures, and Soils

Steps for inventory removal, decontamination, or removal of all dangerous waste containers, residues, and contaminated equipment are described in the following sections.

11.3.2 Removing Dangerous Waste [I-1b(2)]

Closure or partial closure activities will be initiated by removal of the dangerous waste inventory present at the SAL at the time of closure or partial closure. Inventory removal procedures will be identical to the waste handling, treating, packaging, and manifesting activities associated with normal permitted operations at the SAL.

At the SAL, liquid waste either will be treated and packaged to meet requirements for disposal in onsite units or will be transferred through the SAL tank to the RLWS. Liquid dangerous waste in the SAL tank will be transferred to the RLWS. If, for some reason, the RLWS closes prior to the SAL tank, the contents of the SAL tank will be loaded into containers and managed in accordance with Section 11.2.2. Any other suitable RCRA-permitted units that might exist when the SAL tank is closed could be used as a storage alternative. Liquid waste handling, packaging, transportation, and manifesting procedures will follow those used during normal operation of the SAL.

Equipment and structural components in the 325 HWTUs will be decontaminated using appropriate methods described in Sections 11.2.3 and 11.3.3. If decontamination is impracticable, components will be removed, designated, and disposed of. All waste residues resulting from decontamination will be sampled and analyzed as described in Section 11.3.6 to determine whether the residue is mixed,

dangerous, radioactive, or nonhazardous waste and to discern how to dispose of the waste properly. All residues will be removed from the units and transferred to a TSD unit having the necessary permits for proper treatment, storage, and/or disposal. Residues containing listed waste, having dangerous characteristics, or exceeding dangerous waste designation limits will be disposed of properly.

11.3.3 Decontaminating Equipment, Structures, and Soils [I-1b(3)]

All equipment and structures in dangerous waste storage and treatment areas will be decontaminated at the time of closure or partial closure except equipment and structures that exhibit a "clean debris surface" prior to starting closure activities. These will be considered decontaminated and receive no further decontamination. Initial closure activities will entail decontamination of all piping and equipment that is known to have contacted the waste. Equipment and structures to be decontaminated include the following:

- Floors, walls, and ceilings of the SAL front face (Room 201), hot cells, back face (Rooms 200, 202, and 203), and associated airlocks
- Floors, walls, and ceiling of the basement of Room 32 in the SAL
- SAL tank and ancillary equipment
- Secondary and tertiary containment pans
- Interior surfaces of all secondary containment trenches.

Decontamination methods for equipment and structures will be selected from appropriate technologies such as washing with water, high-pressure water jet scarifiers, abrasive blasting, aquablasting, or mechanical concrete scrubbers and scarifiers. Following the decontamination process, a visual inspection for a "clean debris surface" will be conducted to monitor the effectiveness of the decontamination work.

All equipment used for decontamination will be used exclusively within the units during closure activities. When all structural and equipment decontamination is complete, and when the equipment is no longer necessary, the equipment will be decontaminated before final closure of the units. All cleaning and decontamination waste will be collected and packaged as described in Section 11.3.6. Any disposable equipment will be containerized and disposed of based on the status of the waste as dangerous, radioactive, or nondangerous waste.

Initial gross decontamination of the hot cells will be necessary prior to entry of personnel into the hot cells for the visual inspection of the cell liners. The high radiation levels in the cells will preclude personnel entry into the cells, and configuration of the cells precludes thorough visual inspection of the interior surfaces of the cells. This decontamination will be accomplished using high-pressure water sprays or other appropriate decontamination techniques operated by means of the manipulators.

If a "clean debris surface" is present at the time that closure activities are started, decontamination procedures will consist of sweeping, dusting, vacuuming, and wiping with soap and water. Brushing or sweeping will be used to clean up coarse debris. Vacuuming will be performed using a commerc ial or industrial vacuum equipped with a HEPA filter. The vacuum cleaner bag containing captured particulates will be appropriately disposed. Dust wiping will be done with a damp cloth or wipe (soaked with water) to remove dust from surfaces that cannot be decontaminated with a vacuum. The cloth or wipe also will be appropriately disposed. The volume of solid waste generated will depend on the extent of decontamination necessary.

Moderate time will be required for setup of the decontamination equipment. However, labor requirements for the process will be extensive for radioactively contaminated areas and particularly for the hot cells where radiation levels will be very high, and will, at least initially, require remote operations. Moderate time also will be required for packaging debris and dismantling and removing cleaning

equipment. Moderate quantities of waste water will be generated by this procedure. However, if a clean debris surface is not present, more sophisticated decontamination methods will be implemented. The dangerous waste management portions of the SAL will be treated extensively using an appropriate decontamination technique (40 CFR 268.45, Table 1). The ceiling, walls, and floor will be treated by applying the decontamination technique to remove all residues from the surfaces. The contaminated waste generated by this activity will be collected in the SAL and will be managed as described in Section 11.3.6. The volume of waste generated by this procedure is anticipated to be on the order of 2,000 liters.

If necessary, more aggressive decontamination methods, such as sandblasting or other appropriate technologies, could be used effectively to clean contaminated structure surfaces. All residues from the decontamination effort will be collected for sampling and proper subsequent disposal as described in Section 11.3.6. Following completion of decontamination, additional visual inspections will be performed to determine that the "clean debris surface" standard has been achieved. In the unlikely event that structures cannot be cleaned using the methods described, these structures might be demolished, removed, and managed as dangerous waste.

The hot cells in the SAL also include two other areas that might require decontamination. These are the storage rooms 200, 202 and 203 in the backside of SAL and the operating area (gallery). It is expected that the level of contamination will be minimal based on the operations performed. Accordingly, the level of the decontamination effort also is expected to be minimal. For example, decontamination efforts in the operating gallery might be limited to decontamination and removal of the fume hood. If a "clean debris surface" is present at the time that closure activities are started, decontamination procedures will consist of sweeping, dusting, vacuuming, and wiping with soap and water.

All dangerous waste storage and treatment operations at the 325 HWTUs will be conducted indoors, which will minimize potential contamination of the soil and groundwater. Unit design and administrative controls minimize the possibility of loss of waste to the soil and contamination of the groundwater. The potential for degradation of surface water quality also is very low due to the building design and administrative controls employed. Additional details on spill prevention and emergency response are provided in Chapter 7.0.

If contaminated soil is found and if practical, it may be excavated, removed, and disposed as dangerous waste. Extensive soil contamination may be deferred to the closure of the 325 Building and to the CERCLA RI/FS process for the 300-FF-2 and 300-FF-5 operable units.

11.3.4 Decontamination of Hot Cell Trough

The collection trough in the interconnected SAL hot cells will be decontaminated using an appropriate decontamination technique (40 CFR 268.45, Table 1). Any waste water collected in each sump from the cleaning process will be collected in the SAL waste tank system and analyzed to determine if the waste water is a dangerous waste. If the waste water is a dangerous waste, it will be managed and disposed at an appropriate permitted facility. If the waste water is not a dangerous waste, the waste water will be discharged to an appropriate radioactive waste disposal facility. The decontamination of the hot cell collection trough should take moderate time and should generate less than 500 liters of waste. Additional decontamination techniques, such as grit blasting or chemical cleaning, could be used if necessary. The volume of solid waste generated will depend on the extent of decontamination necessary.

11.3.5 Decontamination of the Shielded Analytical Laboratory Tank System

The SAL tank and ancillary equipment, tank secondary containment, tank tertiary containment pan, and associated tank piping will be flushed with water; the water will then be tested for dangerous waste constituents. Detergents, solvents, or a dilute acid wash could be required to remove constituents. In all cases, the final decontamination rinse water will be tested to determine whether cleaning activities are effective. Run-off of decontamination solutions and waste water will be prevented either by performing cleaning activities within existing containment structures or within portable containment pans or by surrounding the decontamination area with plastic and absorbent pads.

If water flushing is unsuccessful at removing dangerous waste and dangerous waste constituents, other decontamination processes will be employed, including appropriate technologies such as, aquablasting, sandblasting, and high-pressure water jet scarifiers. The actual equipment used will be selected based on what the sampling results indicate will be the most effective. Following the decontamination process, a visual inspection for a "clean debris surface" will be conducted to monitor the effectiveness of the decontamination work.

Management of decontamination residues is provided in Section 11.3.6. The time requirements for decontamination of the SAL tank system are expected to be moderate, and waste water generated by this procedure is not expected to exceed 1,200 liters. The volume of solid waste generated will depend on the extent of decontamination necessary.

On completion of decontamination activities, the SAL tank either will remain in place for other uses within the 325 Building, will be moved for other uses on the Hanford Facility, or will be demolished and disposed as scrap (if its usefulness is determined to be complete).

11.3.6 Management of Decontamination Waste from SAL

Decontamination liquid from the SAL hot cells will be sent to the RLWS. All nonliquid waste generated during decontamination operations and the equipment used (e.g., sandblast grit, personnel protective equipment and clothing, disposable equipment) will be collected in 208-liter, open-head containers and stored onsite. Samples of the waste could be collected and analyzed as described in Section 11.2.4.

11.3.7 Inspection to Identify Extent of Decontamination/Removal and to Verify Achievement of Closure Standard [I-1b(4)]

Methods to demonstrate success of decontamination will be the same as described in Section 11.2.5 for the HWTU.

11.4 CLOSURE OF THE RADIOACTIVE LIQUID WASTE TANK SYSTEM

The activities required for the closure of the RLWS load out tank system in the 325 Building are described in the following sections. The RLWS load out tank system includes the storage tank, chemical addition tanks, associated pipes, valves, pumps, filters, and secondary containment system. Activities for partially closing the existing RLWS prior to beginning operations of the RLWS load out tank system are also described.

11.4.1 Removing Dangerous Waste [I-1b(2)]

Closure or partial closure activities will be initiated by removal of the dangerous waste inventory present in the RLWS system at the time of closure or partial closure. Inventory removal procedures will be identical to the waste handling, treating, packaging, and manifesting activities associated with normal permitted operations of the RLWS.

Liquid waste will be transferred from the RLWS to the transfer cask and transported to the DSTs. Liquid waste handling, packaging, transportation,and manifesting procedures will follow those used during normal operation of the RLWS.

Equipment and structural components in the 325 HWTUs will be decontaminated using the methods described in Sections 11.2.3, 11.3.3 and 11.4.3. If decontamination is impractical, components will be removed, designated, and disposed of in accordance with WAC 173-303. All waste residues resulting from decontamination will be sampled and analyzed as described in Section 11.4.4 to determine whether the residue is mixed, dangerous, radioactive, or nonhazardous waste and to discern how to dispose of the waste properly. All residues will be removed from the units and transferred to a TSD unit having the necessary permits for proper treatment, storage, and/or disposal. Residues containing listed waste, having dangerous characteristics, or exceeding dangerous waste designation limits will be disposed of properly.

11.4.2 Decontaminating Equipment, Structures, and Soils [I-1b(3)]

All equipment and structures in dangerous waste handling, storage, and treatment areas will be decontaminated at the time of closure or partial closure except equipment and structures that exhibit a "clean debris surface" prior to starting closure activities. These will be considered decontaminated and receive no further decontamination (see 11.3.3, pg. 11.9).

There are two sections of piping that are currently being utilized in the existing RLWS but will not be utilized in the new RLWS load out tank system. Both sections of piping are located in the northeastern portion of the building; one runs in a north-south direction and the other runs in an east-west direction. These sections of piping will be capped and left in place when the modified RLWS system begins operations. Decontamination and other closure activities for these abandoned pipelines will be conducted along with final closure activities for the RLWS load out tank system.

Decontamination methods for equipment and structures will be selected from appropriate technologies such as washing with water, high-pressure water jet scarifiers, abrasive blasting, aquablasting, or mechanical concrete scrubbers and scarifiers. Following the decontamination process, a visual inspection for a "clean debris surface" will be conducted to monitor the effectiveness of the decontamination work.

All equipment used for decontamination will be used exclusively within the units during closure activities. When all structural and equipment decontamination is complete, and when the equipment is no longer necessary, the equipment will be decontaminated before the final closure of the units. All cleaning and decontamination waste will be collected and packaged as described in Section 11.4.4. Any disposable equipment will be containerized and disposed of based on the status of the waste as dangerous, radioactive, or nondangerous waste.

The radiological conditions of the unit will be established prior to starting closure activities. If a "clean debris surface" is present at the time that closure activities are started, the area will be considered clean closed. For these instances, housekeeping measures may be undertaken and could include sweeping, dusting, vacuuming, and wiping with soap and water. Brushing or sweeping will be used to clean up coarse debris. Vacuuming will be performed using a commercial or industrial vacuum equipped with a HEPA filter. The vacuum cleaner bag containing captured particles will be appropriately disposed. Dust wiping will be done with a damp cloth or wipe (soaked with water) to remove dust from surfaces that cannot be decontaminated with a vacuum. The cloth or wipe will also be appropriately disposed. The volume of solid waste generated will depend on the extent of decontamination necessary.

11.4.3 Decontamination of Radioactive Liquid Waste Tank System

The RLWS tank, chemical addition tanks, ancillary equipment, tank secondary containment pan (tank pit liner), and associated tank piping will be flushed with water; the water will then be tested for dangerous waste constituents. Detergents, solvents, or a dilute acid wash could be required to remove constituents.

In all cases, the final decontamination rinse water will be tested to determine whether cleaning activities are effective. Run-off of decontamination solutions and waste water will be prevented either by performing cleaning activities within existing containment structures or within portable containment pans or by surrounding the decontamination area with plastic and absorbent pads.

If water flushing is unsuccessful at removing dangerous waste and dangerous waste constituents, other decontamination processes will be employed, including appropriate technologies such as aquablasting, sandblasting, and high-pressure water jet scarifiers. The actual equipment used will be selected based on what the sampling results indicate will be the most effective. Following the decontamination process, a visual inspection for a "clean debris surface" will be conducted to monitor the effectiveness of the decontamination work.

Some unit material such as pumps, cartridge filters, and pipes may not be sufficiently visible for in-place waste designation. Material that cannot be designated in-place must be removed and then designated.

Management of decontamination residues is provided in Section 11.4.4. The time requirements for decontamination of the RLWS load out tank system are expected to be moderate, and waste water generated by this procedure is not expected to exceed 34,065 liters. The volume of solid waste generated will depend on the extent of decontamination necessary.

On completion of decontamination activities, the RLWS tank either will remain in place for other uses within the 325 Building, will be moved out for other uses on the Hanford Facility, or will be demolished and disposed as scrap (if its usefulness is determined to be complete).

11.4.4 Management of Decontamination Waste from RLWS Tank System

Decontamination liquid from the RLWS load out tank system will be sent to the DSTs via the approved shielded cask system. All nonliquid waste generated during decontamination operations and the equipment used (e.g., sandblast grit, personal protective equipment and clothing, disposable equipment) will be collected in 208-liter, open-head containers and dispositioned according to the following criteria: material that is dangerous waste (only) will be disposed of at an offsite TSD Facility; mixed waste will be transferred to the Central Waste Complex for interim storage and future treatment or disposal; and low-level radioactive waste will be disposed onsite in the 200 Area. Samples of the waste could be collected and analyzed as described in Section 11.2.4.

11.4.5 Inspection to Identify Extent of Decontamination/Removal and to Verify Achievement of Closure Standard [I-1b(4)

Methods to demonstrate success of decontamination will be the same as described in Section 11.2.5 for the HWTU.

11.5 MAXIMUM WASTE INVENTORY [I-1c]

The 325 HWTUs are used to store and treat a variety of different research-and-operations-related dangerous waste. The maximum inventory of waste that could be present at any one time in the 325 HWTUs is constrained by the following factors.

- The maximum inventory of dangerous waste stored in containers will not exceed the limits listed in the Part A permit application, Form 3.
- The maximum inventory of dangerous waste in tank storage in the SAL will not exceed 12,574 liters in accordance with the design capacity of the SAL and the RLWS tanks and the Part A permit application, Form 3.
- The total amount of dangerous waste at any one time will not exceed Uniform Building Code hazardous material quantity restrictions (Chapter 4.0).

11.6 SCHEDULE FOR CLOSURE [I-1f]

Completion of closure activities is expected to take up to two years from the date of receipt of the final volume of waste at the units. This extended time period for closure is necessary due to the high radiation levels and radiological contamination present in the facility, particularly the six interconnected hot cells. Safety systems needed to protect the environment will continue to operate during the closure process. Ecology personnel will be notified by the DOE-RL at least 45 days before the final closure activities are to begin. Closure activities are summarized in Table 11.2, and a detailed schedule of closure activities is provided in Table 11.3.

11.7 EXTENSION FOR CLOSURE TIME [I-1g]

An extension of the time for removal of the inventory of dangerous waste from the unit designated for closure is requested for the 325 HWTUs. This extension is necessitated by the high levels of radioactive materials that are present, particularly in the six interconnected hot cells. The expected time needed to remove all waste from the units is two years.

The extended period for removal of the inventory of dangerous waste is needed to accomplish the procedures that are needed to safely work with the levels of radioactive materials that are present in the SAL. All activities required to remove the inventory of dangerous waste will be conducted in accordance with applicable permit conditions and all safety systems will continue to be operated. The removal of the inventory of dangerous waste will be conducted following procedures that are designed to be protective of the workers and the environment.

An extension of the closure time is requested for the 325 HWTUs. This extension is necessitated by the high levels of radioactive materials that are present, particularly in the six interconnected hot cells. The expected time needed to close the units is two years.

Decontamination of hot cells is a slow and labor-intensive operation, complicated by the fact that most of the work must be done remotely using manipulators because of the very high radiation levels that are present in the hot cells. Even after radiation levels in the hot cells have been reduced enough to allow personnel entry, work is hampered by the extensive personal protective equipment that staff are required to wear, and the strict procedures that are enforced to ensure that both workers and the environment are protected from contamination with radioactive material.

Most equipment located in the hot cells must be packaged in shielded containers. Typically, this requires extensive remotely operated size reduction of the equipment. Removal of hot cell equipment, such as is located in the SAL, usually takes many months to a year or more to complete.

The extended closure period is needed to accomplish the procedures that are needed to safely work with the levels of radioactive materials that are present in the SAL. All closure activities will be conducted in accordance with applicable permit conditions and all safety systems will continue to be operated. The closure activities will be conducted following procedures that are designed to be protective of the workers and the environment.

11.8 CLOSURE COST ESTIMATE [I-1h]

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status will be submitted to Ecology in accordance with WAC 173-303-390 by October 31 of each year.

Table 11-1. Analysis Parameters for Closure of the 325 Hazardous Waste Treatment Units

Parameter and EPA SW-846a Analytical Method	Equipment and Structures Wipe Samples	Decontamination Waste Water Samples	Soil Samples (if determined to be contaminated)
pH for corrosivity (Method 9040 or 9045)		X	
Ignitablity (Method 1010 or 1020)		X	
TCLP (Extraction Method 1311) ▪ Metals (Method 6000 and/or 7000 series) ▪ Volatile organics (Method 8240) ▪ Semivolatile organics (Method 8270) ▪ Chlorinated pesticides (Method 8080)		X	
Total metals: antimony, arsenic, beryllium, boron, cadmium, chromium, lead, mercury, nickel, selenium, silver, and thallium (Method 6000 and/or 7000 series)	X		X
Volatile organics (Method 8240)	X		X
Semivolatile organics (Method 8270)	X		X
Radioactivity[b] ▪ Gross alpha (Method 9310) ▪ Gross beta (Method 9310)	X	X	X

(a) SW-846 = EPA Test Methods for Evaluating Solid Wastes (Third Edition, latest update, 1986).

(b) Characterization of radionuclides is not within the scope of WAC 173-303 or of this permit application. The information on radionuclides is provided for general knowledge where appropriate.

Table 11-2. Summary of Closure Activities for the 325 Hazardous Waste Treatment Units

Closure Activity Description	Expected Duration(a)
Receive final volume of dangerous waste	N/A
Notify Ecology that closure activities will commence (at least 45 days before final closure activities begin)	N/A
Remove waste inventory and package, manifest, and transport all dangerous waste for treatment, storage, and/or disposal	80 days
Initial decontamination of the hot cells	120 days
Remove equipment from hot cells	270 days
Visual inspection of structural surfaces, equipment, troughs, and tanks in the HWTU and SAL to identify areas of contamination and to determine levels and methods of decontamination required	30 days
Decontaminate structural surfaces, equipment, troughs, and tanks at the HWTU and SAL using methods determined after visual inspection	180 days
Decontaminate front face and rear face	120 days
Reinspect surfaces to verify thoroughness of decontamination	2 days
Evaluate best methods for treatment and disposal of waste resulting from decontamination	25 days
Dispose of waste resulting from decontamination	80 days
Submit certification of closure to Ecology (within 60 days of completion of final closure activities)	N/A
(a) Some activities are performed concurrently.	

Table 11-3. Closure Schedule for the 325 Hazardous Waste Treatment Units

Action	Schedule
Date of receipt of last volume of waste	Day 0
Waste inventory removal	Day 90
Equipment decontamination or disposal and visual inspection of structural surfaces to identify areas of contamination and to determine level of decontamination needed	Day 530
HWTU and SAL structural decontamination	Day 635
HWTU sump and fire water containment tank and SAL hot cells trough decontamination	Day 650
Visual inspection to determine effectiveness of decontamination	Day 690
Further decontamination and visual inspection, if necessary, and disposal of all decontamination waste based on results of waste analyses	Day 720
Clean closure certification	Day 780