



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
3100 Port of Benton Blvd • Richland, WA 99354 • 509-372-7950
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February 20, 2020

20-NWP-037

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CH2M HILL Plateau Remediation Company
PO Box 1600, MSIN: A7-01
Richland, Washington 99352

Re: Final Class 3 Permit Modification 8C.2020.1F to the *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste* (Site-wide Permit), Part III, Operating Unit Group 19, Capsule Interim Storage (CIS), WA7890008967

References: See page 4

Dear Addressees:

This letter issues the Department of Ecology's (Ecology) final permit decision on the draft 8C.2018.1D permit modification (Reference 1) now issued as the final 8C.2020.1F permit modification.



Ecology incorporated the final 8C.2020.1F permit modification for CIS. In accordance with Washington Administrative Code (WAC) 173-303-840(8)(b), the addition of this Operating Unit Group (OUG) into the Site-wide Permit is effective March 21, 2020.

The purpose of this Class 3 Permit Modification is to incorporate CIS OUG 19 and its Unit Specific permit conditions and addenda into the Site-wide Permit, based upon the application materials provided (References 2 and 3)

As required by WAC 173-303-840(3)(d), Ecology held a 45-day public comment period from November 4, 2019 through December 20, 2019. Ecology received six public comments during the public comment period. Ecology reviewed the comments, and a *Response to Comments* document is on the enclosed DVD (Ecology Publication 20-05-008) and on Ecology's website at <https://fortress.wa.gov/ecy/publications/SummaryPages/2005008.html>.

The permit modification is also on the enclosed DVD. A copy of the DVD is located at the Hanford Public Information Repositories in Richland, Spokane, and Seattle, Washington, as well as Portland, Oregon. A hard copy and DVD is on file at the locations listed below:

Department of Ecology
Nuclear Waste Program
3100 Port of Benton Boulevard
Richland, Washington 99354

United States Department of Energy
Administrative Record
2440 Stevens Center Place
Richland, Washington 99354

Individuals can request copies of the DVD by contacting Ecology's Resource Center at (509) 372-7950.

In accordance with WAC 173-303-830(4)(f)(ii), Ecology's decision to grant or deny a Class 3 Permit Modification request under this section may be appealed under the permit appeal procedures of WAC 173-303-845.

Your Right to Appeal

You have a right to appeal this permit modification to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Permit. The appeal process is governed by Chapter 43.21B of the Revised Code of Washington (RCW) and Chapter 371-08 of the WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this Permit:

- File your appeal and a copy of this Permit with the PCHB (see addresses in this letter). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Permit on Ecology in paper form-by mail or in person (see addresses below). E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B of the RCW and Chapter 371-08 of the WAC.

1. To file your appeal with the Pollution Control Hearings Boards

Mail appeal to:

OR

Deliver your appeal in person to:

The Pollution Control Hearings Board
PO Box 40903
Olympia, Washington 98504-0903

The Pollution Control Hearings Board
1111 Israel Road, Southwest, Suite 301
Tumwater, Washington 98501

2. To serve your appeal on the Department of Ecology

Mail appeal to:

OR

Deliver your appeal in person to:

The Department of Ecology
Appeals Processor
PO Box 47608
Olympia, Washington 98504-7608

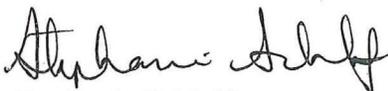
The Department of Ecology
Appeals Processor
300 Desmond Drive Southeast
Lacey, Washington 98503

3. Send a copy of your appeal to:

John Temple
Department of Ecology
Nuclear Waste Program
3100 Port of Benton Boulevard
Richland, Washington 99354

If there are any questions, please contact Matt Williams, Environmental Engineer, at matt.williams@ecy.wa.gov or (509) 372-7910 or John Temple, Project Manager, at john.temple@ecy.wa.gov or (509) 372-7929

Sincerely,



Stephanie Schleif
Deputy Program Manager
Nuclear Waste Program

mfw/jlg

Enclosure

cc: See page 5

References:

1. Letter 19-NWP-163, dated October 30, 2019, "Proposed Class 3 Permit Modification 8C.2018.1D to the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste (Site-wide Permit), Part III, Operating Unit Group 19, Capsule Interim Storage, WA7890008967
2. Letter 18-AMRP-0013, dated November 16, 2017, "Hanford Facility Dangerous Waste Permit Part B Application for the Waste Encapsulation and Storage Facility (WESF) Operating Unit Group (OUG) DOE/RL-2017-43, Revision 0 and the Capsule Interim Storage (CIS) OUG DOE/RL-2017-44, Revision 0"
3. Letter 19-AMRP-0068, dated July 31, 2019, "Response to Notice of Deficiency for the Capsule Interim Storage Operating Unit Group Class 3 Permit Modification Request"

cc electronic w/o enc:

Dave Bartus, EPA
David Einan, EPA
Mary Beth Burandt, USDOE-ORP
Lori Huffman, USDOE-ORP
Christopher Kemp, USDOE-ORP
Glyn Trenchard, USDOE-ORP
Duane Carter, USDOE-RL
Joe Franco, USDOE-RL
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Brittany Sparks, BNI
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Tony McKarns, USDOE-RL
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Trevor Fox, USFW
Mike Livingston, WDFW
John Martell, WDOH
John Wiesman, WDOH
Randy Treadwell, WSDA
Allyson Brooks, WSDAHP

Cindy Preston, WSDNR
BNI Correspondence Control
CHPRC Correspondence Control
Environmental Portal
Gonzaga University Foley Center Library
Hanford Facility Operating Record
MSA Correspondence Control
PNNL Correspondence Control
Portland State University Library,
Government Information
University of Washington Suzzallo Library,
Government Publications
USDOE-ORP Correspondence Control
USDOE Public Reading Room, CIC
USDOE-RL Correspondence Control
USEPA Region 10 Hanford Field Office
Correspondence Control
WRPS Correspondence Control

cc w/enc, DVD and hard copy:

Hanford Administrative Record: Hanford Site-wide Permit
NWP Central File

cc w/enc, hard copy:

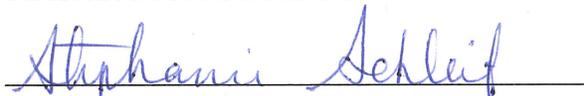
NWP Library: Hanford Site-wide Permit

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**DANGEROUS WASTE PORTION OF THE
RESOURCE CONSERVATION AND RECOVERY ACT PERMIT
FOR THE TREATMENT, STORAGE, AND DISPOSAL OF DANGEROUS WASTE
SIGNATURE PAGE FOR 8C.2020.1F**

8 The enclosed portions of the Hanford Facility Resource Conservation and Recovery Act Permit,
9 Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste, Revision 8c,
10 were modified on February 20, 2020, and effective on March 21, 2020. These portions are the legal and
11 current version of the permit. It will remain in effect unless modified, revoked and reissued under
12 Washington Administrative Code (WAC) 173-303-830(3), terminated under WAC 173-303-830(5), or
13 continued in accordance with WAC 173-303-806(7). All other portions of the permit remain unchanged.

14 ISSUED BY:
15 **WASHINGTON STATE DEPARTMENT OF ECOLOGY**

16 

Date: 2/20/2020

17 Stephanie Schleif, Deputy Program Manager
18 Department of Ecology
19 Nuclear Waste Program
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Response to Comments
Capsule Interim Storage Permit
Modification
(8C.2018.1D)

November 4 to December 20, 2019

*Summary of a public comment period
and responses to comments*

February 2020

Publication no. 20-05-008

Publication and Contact Information

This publication is available on the Department of Ecology's (Ecology) website at <https://fortress.wa.gov/ecy/publications/SummaryPages/2005008.html>

For more information contact:

Matt Williams, Environmental Engineer
Nuclear Waste Program
3100 Port of Benton Boulevard
Richland, WA 99354
Phone: 509-372-7950
Email: Hanford@ecy.wa.gov

Washington State Department of Ecology – www.ecology.wa.gov

- Headquarters, Lacey 360-407-6000
- Northwest Regional Office, Bellevue 425-649-7000
- Southwest Regional Office, Lacey 360-407-6300
- Central Regional Office, Yakima 509-575-2490
- Eastern Regional Office, Spokane 509-329-3400

Ecology publishes this document to meet the requirements of [Washington Administrative Code 173-303-840 \(9\)](#).

To request ADA accommodation including materials in a format for the visually impaired, call Ecology at 360-407-6831 or visit <https://ecology.wa.gov/accessibility>. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.

Response to Comments

***Capsule Interim Storage Permit Modification
(8C.2018.1D)***

November 4 to December 20, 2019

Nuclear Waste Program
Washington State Department of Ecology
Richland, Washington

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Introduction

The Washington State Department of Ecology's Nuclear Waste Program (Ecology) manages dangerous waste within the state by writing permits to regulate its treatment, storage, and disposal.

When a new permit or a significant modification to an existing permit is proposed, Ecology holds a public comment period to allow the public to review the change and provide formal feedback. (See [Washington Administrative Code \[WAC\] 173-303-830](#) for types of permit changes.)

The Response to Comments is the last step before issuing the final permit, and its purpose is to:

- Specify which provisions, if any, of a permit will become effective upon issuance of the final permit, providing reasons for those changes.
- Describe and document public involvement actions.
- List and respond to all significant comments received during the public comment period and any related public hearings.

This Response to Comments is prepared for:

Comment period:	Capsule Interim Storage Permit Modification (8C.2018.1D) November 4 to December 20, 2019
Permit:	<i>Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit for the Treatment, Storage, and Disposal of Dangerous Waste, Part III, Operating Unit Group 19 (WA7890008967), Capsule Interim Storage</i>
Permittee(s):	<i>U.S. Department of Energy Richland Operation Office</i>
Expected issuance date:	February 20, 2020
Draft effective date:	March 21, 2020

To see more information related to the Hanford Site and nuclear waste in Washington, please visit our website: <https://www.ecology.wa.gov/Hanford>.

Reasons for issuing the permit modification

Currently 1,936 capsules storing radioactive cesium chloride and strontium fluoride salts are stored in pools at the Waste Encapsulation and Storage Facility (WESF). The permittees separated these salts from Hanford tank waste from 1967 to 1985 to reduce the temperature of storage tanks.

The cesium chloride is contained in 1,335 capsules and the strontium fluoride is contained in 601 capsules. The cesium chloride and strontium fluoride salts also include heavy metals such as lead, chromium, and cadmium as contaminants. These contaminants make the material mixed waste.

Response to Comments
Capsule Interim Storage Permit Modification

This permit modification authorizes construction of a new facility, the Capsule Interim Storage (CIS) operating unit group, to replace the current pool storage at WESF. CIS will have one dangerous waste management unit, the Capsule Storage Area (CSA).

Within the CSA, 25 cask storage systems (CSSs) will hold the capsules. The CSS design of a multi-layered steel Transportable Storage Container protected by a concrete cask to provide radiation shielding, waste protection, and cooling through passive air ventilation.

Transferring the capsules from WESF to CIS will provide increased safety and resiliency. At WESF, active cooling and water circulation dissipates the heat generated by capsules. WESF is beyond its 30-year design lifespan, and the concrete pool cell walls show signs of deterioration due to radiation exposure. This deterioration is not yet an emergency, but would likely progress if capsule storage continued long-term. If an event, such as an earthquake, breached the pool cell walls it might leave the capsules uncooled and unshielded.

Transferring the capsules to dry storage also eliminates the risk of power loss or equipment failure impacting the cooling system at WESF. The cesium and strontium salts have gone through at least one half-life since placement in the pools and show reduced activity and heat generation. The capsules are still too hazardous for currently available treatment or disposal options, but the storage casks can now provide sufficient shielding and cooling. This will limit the potential for spread of contamination to soil, groundwater, and surface water.

Moving these capsules is also essential to initiate cleanup and closure of WESF and B Plant. Although the capsules will still be on site at Hanford, CIS will have a much smaller physical and environmental footprint than existing facilities. This transfer advances the overall goal of Ecology and the permittees to clean and restore the Hanford Site.

Public involvement actions

Ecology encouraged public comment on the Unit Group Specific Conditions, CIS Part A Form, and all CIS Part B addenda during a 45-day public comment period held November 4 through December 20, 2019.

Ecology took the following actions to notify the public:

- Mailed a public notice announcing the comment period to 1230 members of the public. Copies of the public notice were distributed to members of the public at Hanford Advisory Board meetings.
- Placed a public announcement legal classified notice in the *Tri-City Herald* on November 3, 2019.
- Emailed a notice announcing the start of the comment period to the [Hanford-Info email list](#), which has 1334 recipients.
- Posted the comment period as an event on the [Washington Department of Ecology – Hanford Facebook page](#).

The Hanford information repositories located in Richland, Spokane, and Seattle, Washington, and Portland, Oregon, received the following documents for public review:

- Public notice
- Transmittal letter
- Statement of Basis for the proposed CIS Permit Modification
- Draft CIS Permit Modification
- Supplemental Information Supporting the Permit Modification

The following public notices for this comment period are in [Appendix A](#) of this document:

- Public notice (focus sheet)
- Classified advertisement in the *Tri-City Herald*
- Notice sent to the Hanford-Info email list
- Event posted on the Washington Department of Ecology – Hanford Facebook page

List of Commenters

The table below lists the names of organizations or individuals who submitted a comment on the Capsule Interim Storage Permit modification. The comments and responses are in [Attachment 1](#).

Commenter	Organization
Byron Countryman	<i>Citizen</i>
Mike Conlan	<i>Citizen</i>
Gordon Smith	<i>Citizen</i>
Judy Pigott	<i>Citizen</i>
Department of Energy – Richland Operations	<i>Permittee</i>
CH2M Hill Plateau Remediation Company	<i>Permittee</i>

Attachment 1: Comments and responses

Description of comments:

Ecology accepted comments from November 4 through December 20, 2019. This section provides a summary of comments we received during the public comment period and our responses, as required by RCW 34.05.325(6)(a)(iii). Comments are grouped by individual, and each comment is addressed separately.

I-1: BYRON COUNTRYMAN

Comment I-1-1

- What is the expected life of the Capsule Storage Units and what is the expected life or half-life of the radioactive capsules being stored? - What monitoring will be implemented to ensure the safety and security of the Capsule Storage Units?

Response to I-1-1

Tri-Party Agreement Major Milestone M-092-00 requires a permanent storage, treatment/processing, or disposal solution for the capsules be completed by December 31, 2047. This gives the Capsule Storage Area a maximum expected use period of approximately 50 years. To support this, the Capsule Storage Area and Vertical Concrete Casks were designed with a minimum design lifespan of 100 years for critical components. Certain components, such as the entire Transportable Storage Canister assembly, have significantly longer design lifespans due to the rugged and durable materials used.

The primary sources of radiation in the capsules are strontium-90 and cesium-137, which have respective half lives of 28.8 and 30.17 years. The capsules have been stored for more than one half life but will be significant sources of radiation for several hundred years. This lifespan is a primary factor in the decision to require a permanent solution prior to the capsules becoming safe to handle.

Throughout the process of transferring capsules the permittees will continuously monitor radiation, pool cell temperature, and pool cell level backed up by visual observation and inspections. The primary assembly processes will occur in secured areas that are designed for remote handling and containment of the capsules and their contents. The WESF itself is also secured facility within a secured site.

Once the Vertical Concrete Cask systems are within the Capsule Storage Area (CSA), the permittees will monitor outlet vent temperatures to ensure capsules are being properly cooled. This will be backed up by visual inspections to ensure that foreign material does not accumulate on the inlet and outlet vents. The CSA is also a secured storage location within a secured site.

I-2: MIKE CONLAN

Comment I-2-1

1. Remove all nuclear waste,
2. Do not allow anymore nuclear waste into the facility,
3. Replace all the single storage tanks,
4. Stop all the nuclear leakage entering the Columbia River

Mike Conlan, Redmond WA

Response to I-2-1

Ecology is working to ensure that long-term storage, treatment and disposal of the waste is protective of Human health and the environment.

The proposed permit changes are not to allow new waste, but to better manage the waste already at Hanford.

Single-shell tanks are not in the scope of this comment period.

Stopping any potential nuclear waste from impacting the Columbia River is not within the scope of the CIS Permit. Prevention of groundwater and surface water impacts are addressed in operations associated with other units.

I-3: GORDON SMITH

Comment I-3-1

For the full text of this comment, please see Appendix B. This comment expressed very significant concern with the use of concrete to store dangerous waste in terms of porosity, durability, and difficulty of repair. This comment also noted the lack of apparent progress at the Hanford site, supporting a permanent solution to prevent additional contamination.

Response to I-3-1

Ecology agrees that uncoated concrete can absorb and potentially allow migration of dangerous wastes. Ecology has ensured that this waste will not directly contact concrete in the Capsule Interim Storage (CIS) Operating Unit Group. The cesium and strontium salts are already sealed in stainless steel capsules which will not be opened prior to transfer. These capsules will be grouped together and packaged with two additional sealed layers of stainless steel to create Transportable Storage Canisters (TSCs).

The TSCs will be housed in concrete casks to provide radiation shielding and an additional layer of physical protection for the stainless steel. Concrete is a more practical outer shielding layer to reduce exposure for workers who might need to enter CIS, but concrete will not be used to contain waste.

I-4: JUDY PIGOTT

Comment I-4-1

I'm writing to comment on the Proposed Coordinated Closure Changes to the Tri-Party Agreement of the Hanford Site.

My strong input is that no matter which agency or law is in charge or operating, the decisions reached should be to support the SAFEST (often most costly, but not always) choice. Over many years it has been true that proposals have been made to delay classification, look to waste storage/evaporation/sludge removal to solve serious issues related to contaminant spread, or to assume that taking later action will prove better. I reject these approaches, and hope that interim storage will not be implemented except where it's in support of a fully funded and currently undertaken approach to full clean up. The Capsule Interim Storage Operating Unit 19, being added to the Site-wide Permit sounds pretty good.

Thank you — Judy

Response to I-4-1

Ecology agrees that safety, both for human health and the environment, is critical for the Hanford Site. Capsule Interim Storage will be an improvement over the current storage system at the Waste Encapsulation and Storage Facility. However, Ecology will continue to require that a permanent solution for the long term storage or ultimate treatment and/or disposal of the capsules is established implemented.

Tri-Party Agreement Major Milestone M-092-00 requires a more permanent storage, treatment/processing, or disposal solution be completed by December 31, 2047. To support this, Milestone M-092-20 requires an evaluation of disposition pathways every four years, with the first report due March 31, 2022.

A-1: DEPARTMENT OF ENERGY - RICHLAND OPERATIONS

Comment A-1-1

Capsule Interim Storage permit modification 1. Permit Section: Permit Conditions, Unit Description Comment Text: These salts [cesium chloride and strontium fluoride] contain several dangerous waste-designated metals estimated at less than 10% by weight each as contaminant. Basis Text: As written, this sentence can be interpreted as each metal is less than 10% or there is less than 10% metals total. Capsule impurities, as described in Addendum B, Waste Analysis Plan, show variability in results within each capsule and should not be summarized within the Permit Conditions, which could result in incorrect conclusions. Recommendation Text: Recommend deletion of cited text. 2. Permit Section: Permit Conditions, Definitions Comment Text: A Transportable Storage Canister or "TSC" is the combination of sealed stainless steel shell, Transportable Storage Canister Basket, Universal Capsule Sleeves, capsules, and spacers in a configuration described in Addendum C Section C2.1. Basis Text: Per Addendum C, Process Information Section C2.2, the Cask Storage System (CSS) consists of the Universal Capsule Sleeve (UCS), Transportable Storage Canister (TSC) and TSC Basket, and Vertical Concrete Cask. The UCS is a separate component of the CSS and should be identified individually. Standard, Type W, and spacer capsules are not credited as part of the CSS and should not be included in the TSC description. Recommendation Text: A Transportable Storage Canister or "TSC" is the combination of a sealed stainless steel shell and Transportable Storage Canister Basket. Twenty-two Universal Capsule Sleeves or "UCS" can be inserted into the storage space inside a TSC. A Universal Capsule Sleeve or "UCS" is a sealed stainless steel shell capable of holding up to six standard capsules or two Type W overpacks. Stainless steel capsule spacers may be loaded into a UCS to take the place of a capsule.

Response to A-1-1

Ecology has made the recommended revisions with one slight change to use "UCSs" as the pluralized abbreviation. The referenced language was intended to provide a general overview of the cesium and strontium salts as well as the Capsule Storage System. These revisions will improve clarity in the final permit.

B-1: CH2M HILL PLATEAU REMEDIATION COMPANY

Comment B-1-1

1. Permit Section: Permit Conditions, Unit Description Comment Text: These salts [cesium chloride and strontium fluoride] contain several dangerous waste-designated metals estimated at less than 10% by weight each as contaminant. Basis Text: As written, this sentence can be interpreted as each metal is less than 10% or there is less than 10% metals total. Capsule impurities, as described in Addendum B, Waste Analysis Plan, show variability in results within each capsule and should not be summarized within the Permit Conditions, which could result in incorrect conclusions. Recommendation Text: Recommend deletion of cited text. 2. Permit Section: Permit Conditions, Definitions Comment Text: A Transportable Storage Canister or "TSC" is the combination of sealed stainless steel shell, Transportable Storage Canister Basket, Universal Capsule Sleeves, capsules, and spacers in a configuration described in Addendum C Section C2.1. Basis Text: Per Addendum C, Process Information Section C2.2, the Cask Storage System (CSS) consists of the Universal Capsule Sleeve (UCS), Transportable Storage Canister (TSC) and TSC Basket, and Vertical Concrete Cask. The UCS is a separate component of the CSS and should be identified individually. Standard, Type W, and spacer capsules are not credited as part of the CSS and should not be included in the TSC description. Recommendation Text: A Transportable Storage Canister or "TSC" is the combination of a sealed stainless steel shell and Transportable Storage Canister Basket. Twenty-two Universal Capsule Sleeves or "UCS" can be inserted into the storage space inside a TSC. A Universal Capsule Sleeve or "UCS" is a sealed stainless steel shell capable of holding up to six

standard capsules or two Type W overpacks. Stainless steel capsule spacers may be loaded into a UCS to take the place of a capsule.

Response to B-1-1

Ecology has made the recommended revisions with one slight change to use "UCSs" as the pluralized abbreviation. The referenced language was intended to provide a general overview of the cesium and strontium salts as well as the Capsule Storage System. These revisions will improve clarity in the final permit.

Appendix A: Copies of all public notices

Public notices for this comment period:

- Public notice (focus sheet)
- Classified advertisement in the *Tri-City Herald*
- Notice sent to the Hanford-Info email list
- Event posted on Washington Department of Ecology – Hanford’s Facebook page

Hanford Site Dangerous Waste Permit Modification for Capsule Interim Storage



Public comment period

November 4 to December 20, 2019

Please submit comments

Electronically (preferred) via:

<http://nw.ecology.commentinput.com/?id=CpErH>

By U.S. Mail, or hand-delivery:

Daina McFadden
3100 Port of Benton Blvd
Richland WA 99354

Public hearing

A public hearing is not scheduled, but if there is enough interest, we will consider holding one. To request a hearing or for more information, contact:

Daina McFadden
509-372-7950
Hanford@ecy.wa.gov

Special accommodations

To request ADA accommodation including materials in a format for the visually impaired, call Ecology at 360-407-6831 or visit <https://ecology.wa.gov/accessibility>.

People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.

Public comment invited

The Washington State Department of Ecology (Ecology) invites you to comment on a draft permit modification to the *Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Revision 8c* (Site-wide Permit).

This modification would add a new operating unit group, Capsule Interim Storage Operating Unit 19, to the Site-wide Permit.

The permittees are:

U.S. Department of Energy Richland Operations Office
PO Box 550
Richland, Washington 99352

CH2M HILL Plateau Remediation Company
PO Box 1600
Richland, WA 99352

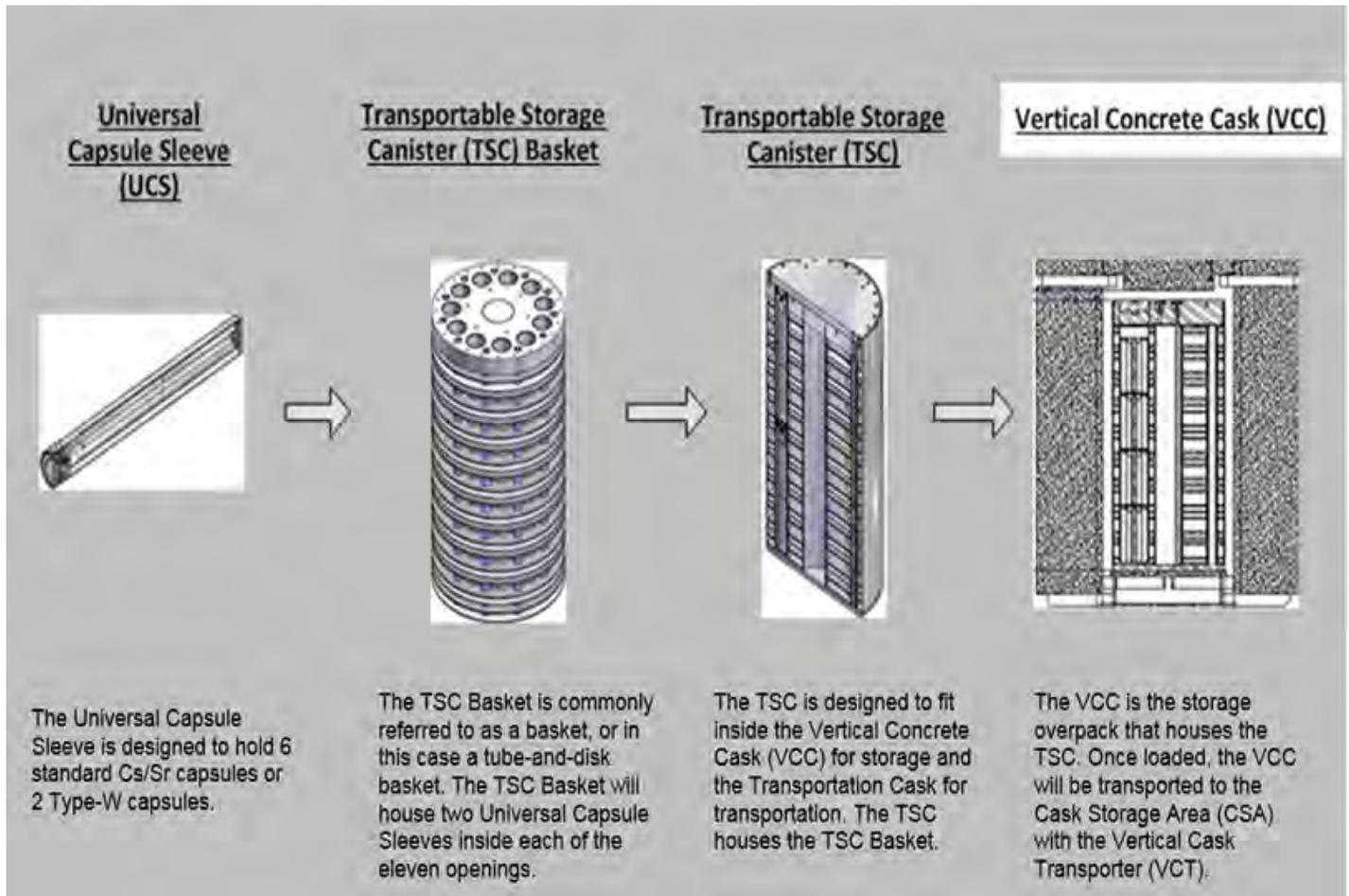
Ecology invites you to comment on this proposed permit modification. The public comment period begins November 4, 2019, and ends December 20, 2019.

Modification overview

Currently 1,936 capsules storing radioactive cesium chloride and strontium fluoride salts are stored in pools at the Waste Encapsulation and Storage Facility (WESF). The permittees separated these salts from tank waste from 1967 to 1985 to reduce the temperature of storage tanks.

The process of separating also recovered small amounts of heavy metals such as lead, chromium, and cadmium. This mixed waste is now contained in double-walled stainless steel capsules and stored under water for cooling and radiation shielding.

The permittees have requested a permit modification to construct a new Capsule Interim Storage (CIS) operating unit group to replace the current pool storage at WESF. CIS would contain the Capsule Storage Area (CSA) dangerous waste management unit. Within the CSA, 25 cask storage systems would hold capsules in cylindrical casks approximately 10 feet in diameter by 11 feet tall. Each cask storage system would be constructed of concrete and steel to provide radiation shielding, waste protection and containment, and sufficient cooling through passive air ventilation.



Capsule Storage System Design

Why capsule transfer matters

Transferring the capsules from WESF to dry storage will provide increased safety and resiliency. At WESF, active cooling and water circulation is needed to dissipate the heat generated by capsules. WESF is beyond its 30-year design lifespan and the concrete pool cell walls show signs of deterioration due to radiation exposure. A spill or release would create a significant volume of contaminated water to clean. If the pools were breached in an event such as an earthquake, the capsules would be left uncooled and unshielded.

Transferring the capsules to dry storage also eliminates the risk of power loss or equipment failure impacting the cooling system at WESF. The cesium and strontium salts have gone through at least one half-life since being placed into pool storage, and they show reduced activity and heat generation. The capsules are still extremely hazardous, but can be safely shielded and cooled in storage casks.

In an emergency, such as a significant earthquake, the potential for spread of contamination to soil and groundwater is more limited in dry storage than it would be in pool storage.

Moving these capsules is also essential to initiate cleanup and closure of WESF and B Plant. Although the capsules will still be on site at Hanford, Capsule Interim Storage will have a much smaller physical and environmental footprint than existing facilities. This transfer advances the overall goal of Ecology and the permittees to clean and restore the Hanford Site.

Why capsules will be retained on site

Currently there are no viable alternatives to continued storage of the cesium and strontium capsules at the Hanford Site. There are no facilities in the United States permitted to treat or permanently store this material. Therefore, continued interim storage in a manner protective of human health and the environment is the only current option.

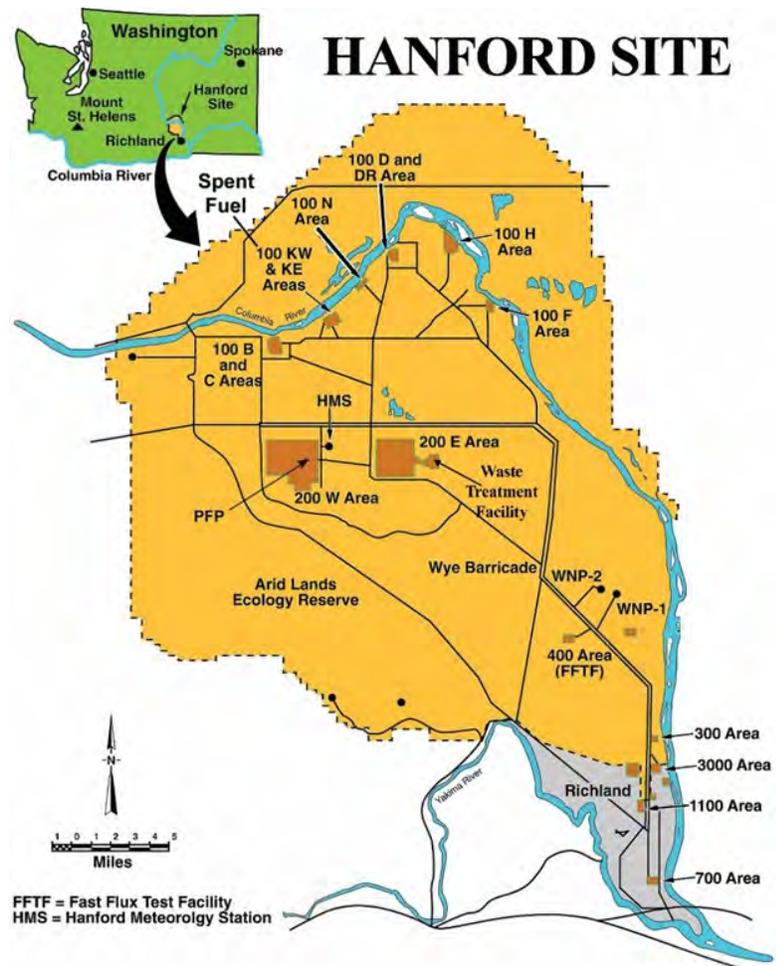
The permittees must continue to periodically evaluate more permanent disposition options under the Hanford Federal Facility Agreement and Consent Order. When an option is available, the cesium and strontium capsules will be treated and/or stored permanently at a different facility.

Reviewing the proposed changes

Ecology invites you to review and comment on this proposed permit modification for the Capsule Interim Storage Operating Unit Group. See Page 1 for comment period dates and information on how to submit comments.

Copies of the application for the proposed modification and supporting documentation will be available during the public comment period online at Ecology’s website on the [Public Comment Period page](#). The documents will also be available at the Hanford Public Information Repositories listed on the last page.

Ecology will consider and respond to all comments received during the public comment period. We will document our responses and issue a response to comments document when we make our final permitting decision.





DEPARTMENT OF
ECOLOGY
State of Washington

Nuclear Waste Program
3100 Port of Benton Blvd
Richland, WA 99354

Hanford's Information Repositories and Document Review Locations

Washington

Richland

Ecology Nuclear Waste Program
Resource Center
3100 Port of Benton Blvd.
Richland, WA 99354
509-372-7950

U.S. Department of Energy
Administrative Record
2440 Stevens Drive, Room 1101
Richland, WA 99354
509-376-2530

Washington State University Tri-Cities
Department of Energy Reading Room
2770 Crimson Way, Room 101L
Richland, WA 99354
509-375-7443

Seattle

University of Washington
Suzzallo Library
P.O. Box 352900
Seattle, WA 98195
206-543-5597

Spokane

Gonzaga University
Foley Center
502 E Boone Avenue
Spokane, WA 99258
509-313-6110

Oregon

Portland

Portland State University
Millar Library
1875 SW Park Avenue
Portland, OR 97207
503-725-4542

JUMBLE

THAT SCRAMBLED WORD GAME
By David L. Hoyt and Jeff Knurek

Unscramble these Jumbles. One letter to each square. To form six ordinary words.

RWANDO
CAPERN
TROHET
WRUOFR
VEYIL
TWOALU

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Her center of gravity is so low I couldn't get leverage.
How can you defend against that move?

THE FIRST TIME THE NEW JUDO TECHNIQUE WAS USED ON HIM, HE WAS ---

Now arrange the circled letters to form the surprise answer, as suggested by the above cartoon.

PRINT YOUR ANSWER IN THE CIRCLES BELOW

See Jumble Answers on the 2nd page of the classifieds

Misc. Announcements

DID YOU KNOW 7 IN 10 Americans or 158 million U.S. Adults read content from newspaper media each week?
Discover the Power of the Pacific Northwest Newspaper Advertising. For a free brochure call 916-288-6011 or email cecelia@cnpa.com (PNDC)

DID YOU KNOW Newspaper-generated content is so valuable it's taken and repeated, condensed, broadcast, tweeted, discussed, posted, copied, edited, and emailed countless times throughout the day by others? Discover the Power of Newspaper Advertising in FIVE STATES with just one phone call. For free Pacific Northwest Newspaper Association Network brochures call 916-288-6011 or email cecelia@cnpa.com (PNDC)

DID YOU KNOW that not only does newspaper media reach a HUGE audience, they also reach an ENGAGED AUDIENCE. Discover the Power of Newspaper Advertising in five states - AK, ID, MT, OR & WA. For a free rate brochure call 916-288-6011 or email cecelia@cnpa.com (PNDC)

DONATE YOUR CAR, TRUCK OR BOAT TO HERITAGE FOR THE BLIND. Free 3 Day Vacation, Tax Deductible, Free Towing, All Paperwork Taken Care Of. CALL 1-844-493-7877 (PNDC)

Stay in your home longer with an American Standard Walk-In Bath. Receive up to \$1,500 off, including a free toilet, and a lifetime warranty on the tub and installation! Call us at 1-855-876-1237. (PNDC)

Farm & Equipment

Farm & Ranch & Garden
ADAMS PLACE - APPLES
Fuji, Granny Smith, Jonathons & Other End of Oak in Kennewick ~ Weekdays ~ Phone for Hours 582-8564

ALBERTIN'S ORCHARD
Apples, many varieties, also plums & Nectarines. 509-212-0300
Cherrywood for sale \$190 a cord 509-588-4582/509-440-1619

Auctions

ABANDONED VEHICLE AUCTION
November 7, 2019 9am
Viewing 1 hour prior.
Casaday Bee-Line
Service & Towing
Auction to be held at: 1708 W. Lewis St., Pasco. 15 Vehicles

Arts & Crafts Fair Richland Lutheran Church Arts and Crafts Sale. 901 Van Giesen, Richland. Saturday, November 9th from 9:00am to 2:00pm. Hand made quilts, crafts, antiques and a bake sale. Lunch will also be available for purchase. All proceeds go to support the church's TV Ministry "Good News Today". 509-943-3164, officecatri@gmail.com

Merchandise

Antiques

Wes Knodel Gunshows
ANTIQUE/COLLECTIBLE
Flea Market
Spokane Co Fair & Expo Center
November 2nd & 3rd, 2019
Sat. 9-5 Sun. 9-3
Admission: \$4.00
Info. 503-363-9564
www.wesknodelgunshows.com

Firearms

Wes Knodel Gunshows
GUN SHOW
Spokane Co Fair & Expo Center
November 2nd & 3rd, 2019
Sat. 9-5 Sun. 9-3
Admission: \$8.00
Info. 503-363-9564
www.wesknodelgunshows.com

Fitness/Sporting Goods

Titelst Golf Clubs, full set Irons
Driver 3 Wood putter, bag, like new. Call Larry @ 509-547-6398

Bargains under \$200

ANTIQUE Brass bed (full) \$200.00 509-375-1594
CD player Only \$25 bucks! Call 735-9298

Garment moving box 2 ft wide by 4 ft high \$4.00 509-491-0655
Hedge Trimmer Black & Decker - 18" Works good \$15.00 509-628-0050

MADAM ALEXANDER DOLL 14" "NIB." \$15.00 509-627-3040

Radio Flyer Trike Foldable - Ex Cond \$25.00 509-628-0050
RECLINER GRAY LEATHERLIKE ONLY \$200 #735-9298

VINTAGE CAMERAS 4, with cases \$90.00 for all 509-627-3040.

VINTAGE US ARMY BLANKET Wool, 60"x76" VG \$25.00 509-627-3040.

Medical Equipment/Supplies

Attention: Oxygen Users! Gain freedom with a Portable Oxygen Concentrator! No more heavy tanks and refill! Guaranteed Lowest Prices! Call the Oxygen Concentrator Store: 1-855-641-2803 (PNNA)

ATTENTION: OXYGEN USERS! The NEW Inogen One G5. 1-6 flow settings. Designed for 24 hour oxygen use. Compact and Lightweight. Get a Free Info kit today: 1-844-359-3986 (PNDC)

Medical-Grade HEARING AIDS for LESS THAN \$200! FDA-Registered. Crisp, clear sound, state-of-the-art features & no audiologist needed. Try it RISK FREE for 45 Days! CALL 1-844-295-0409 (PNDC)

POWER WHEELCHAIR Titan AXS. Used 1yr, X-Cond. New battery. Delivery avail Price neg \$1,950.00 360-770-7308, roadones@hotmail.com

Animals

Dogs

Adorable AKC Golden Retriever Puppies Family raised and well socialized. Ready for their new homes Nov. 15. \$900.00 Jeff 509-991-7055, tothetownhouse@msn.com

Adorable AKC Golden Retrievers Family raised and well socialized Ready 11/15. \$900.00 509-991-7055, tothetownhouse@msn.com

Dogs

Golden retriever/Labrador Puppies Beautiful, well socialized lab/retriever mix puppies ready for new homes. Come visit them on our 5 acre farm in the Walla Walla Valley. They come vaccinated and dewormed. Call or text for more details. \$700.00 541-321-9643, michellej.zehr@gmail.com

Pet Services and Supplies



Tired of taking your dog or cat to the groomer? Mobile Pet Works COMES TO YOU! Call or text today to make an appointment. (509) 591-5913.

Financials

Misc. Financials

ARE YOU BEHIND \$10k OR MORE ON YOUR TAXES? Stop wage & bank levies, liens & audits, unfiled tax returns, payroll issues, & resolve tax debt FAST. Call 1-855-730-0388 (PNDC)

Automotive

SUVs

2002 Ford Explorer Red/Gray 180,000.00 Miles \$900.00 Great for winter. Needs engine work, mechanics project 509-585-8171 whitehawk48@hotmail.com

Misc. Automotive

DONATE YOUR CAR FOR BREAST CANCER! Help United Breast Foundation education, prevention, & support programs. FAST FREE PICKUP - 24 HR RESPONSE - TAX DEDUCTION. 1-855-385-2819. (PNDC)

Miscellaneous

DISTRIBUTION CENTER

IN PASCO, WASHINGTON

is searching for excellent warehouse workers to join the AutoZone team!

This position is full time and experience in warehouse is preferred, but not required. Excellent attitude and work ethic is a must.

To apply for this position and to view the complete job posting, please visit our website at <http://www.autozone.com/careers>.

Part time and Full Time Options available.

Equal Employment Opportunity Employer

Misc. Automotive

WANTED! Old Porsche 356/911/912 for restoration by hobbyist 1948-1973 Only. Any condition, top \$ paid! PLEASE LEAVE MESSAGE (707) 965-9546. Email: porsche restoration@yahoo.com. (PNDC)

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Save time and money. Go to www.tricityherald.com, click on Classifieds and follow the user-friendly steps to place your ad.

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- Print and Online Options
- Basic/Deluxe/Premium Packages

Tri-City Herald
VOICE OF THE MID-COLUMBIA

CLASSIFIED LEGALS

Legals

Legals & Public Notices

BEN FRANKLIN TRANSIT INVITATION TO BID
KNIGHT STREET RESTROOM SIGNAGE
IFB 33-19

Ben Franklin Transit, a municipal corporation of the State of Washington, is requesting quotes from qualified Contractors for signage for BFT's Driver's restroom located at 750 Knight Street Richland, WA 99352. The Contractors bid will include Prevailing Wage Labor costs, equipment and materials to complete the work in accordance with Local, State, and Federal specifications and regulations. A Pre-Bid Conference is scheduled on November 04, 2019 at 10:00 AM. Quotes are due November 14, 2019 no later than 2:00 PM (PDT). For a copy of the Invitation for Bid (IFB) please email a request to: Erika Armatrout, Procurement Analyst, Phone: (509) 734-5187 Fax: (509) 735-9880 EArmatrout@bft.org

The contractor will be required to comply with all applicable Equal Opportunity laws and regulations. Disadvantaged Business Goals. BFT affirmatively ensures that disadvantaged and Women-owned Business Enterprises (W/DBE's) will be afforded full opportunity to submit bids and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

WISHA and OSHA Regulations The contractor agrees to abide by all laws, rules and regulations promulgated by the United States of America, the State of Washington, or any agencies or subdivisions thereof, specifically including WISHA and OSHA regulations currently in effect at time RFQ due date and during the agreement term. Protest Procedure Policy BFT's protest procedure policy can be obtained by contacting BFT's Procurement Supervisor at the above address or phone number. Contractors who can demonstrate substantial economic interest may protest BFT's decision regarding a provision of the RFQ or Award.

BFT reserves the right to reject any or all quotes, to waive informalities and minor irregularities in quotes received with any contractor, and to accept quotes which are considered to be in the best interest of BFT. Contractors will be required to follow all Federal, State, and Local rules and regulations.

CITY OF PASCO REQUEST FOR QUALIFICATIONS FOR "A" Street Sporting Complex Design Services

The City of Pasco, Washington, Department of Administrative & Community Services is soliciting Statements of Qualifications (SOQ) to provide Design Services from qualified Consultants that are registered to do so in the State of Washington for a Sporting Complex which will be located on "A" Street. The objective of this Request for Qualifications is to provide sufficient information to enable qualified Consultants to submit a written SOQ that demonstrates recent experience in the design of Multi-sport fields. The full request for qualifications can be found on the City's website at www.pasco-wa.gov/Bids beginning Monday, November 4, 2019 at 10:00am. For additional information, please contact Samantha McCance, Procurement Specialist, City of Pasco Finance, 525 N. 3rd Avenue, PO Box 293, Pasco, WA 99301, mcsances@pasco-wa.gov. SO-Q's must be submitted in writing on or before **November 19, 2019 at 2:00 p.m.** to be considered responsive. The City of Pasco is an equal opportunity and affirmative action employer. Small, minority and women-owned businesses are encouraged to submit a statement of qualifications. DATED: October 29, 2019

CITY OF PASCO SUMMARY OF ORDINANCE NO. 4466

ORDINANCE NO. 4466, IS AN ORDINANCE of the City of Pasco, Washington, providing for an increase in the regular property taxes of the City for levy in 2019 and collection in the 2020 tax year; preserving levy capacity for future years; and providing for related matters. This ordinance:

- Is effective the day after publication.
- The full text of Ordinance No. 4466, is available free of charge and will be mailed (electronically or via postal service) to any person who requests it from the City Clerk of the City of Pasco (509)545-3096, P.O. Box 293, Pasco, Washington 99301-0293. Debra Barham, City Clerk

CITY OF RICHLAND NOTICE OF PUBLIC HEARING

The Richland City Council will conduct a public hearing on Tuesday, November 5, 2019 at 7:30 p.m. in the Council Chambers, Richland City Hall, 625 Swift Boulevard, Richland, WA 99352, to receive comments on proposed budget amendment in the Industrial Development Fund. Comments may be mailed to the City of Richland c/o Development Services Director Kerwin Jensen, 625 Swift Blvd. MS-2, Richland, WA 99352, or emailed to kjensen@ci.richland.wa.us. All comments will be received by 5:00 p.m. on the meeting date identified above. For information, please contact Lynne Folley at lfolley@ci.richland.wa.us or 509-942-7583. Published: Sunday, November 3, 2019

Legals & Public Notices

INVITATION TO BID

2020 POLYUREA APPLICATION PROJECTS
GRANT COUNTY, WASHINGTON
Bidders are invited to submit sealed bids for the sandblasting of concrete panels and application of polyurea material in the West Canal and Main Canal in accordance with applicable industry standards, regulatory requirements, and District-supplied specifications. Bidders will comply with any applicable laws of the State of Washington pertaining to the performance of public works contracts, including compliance with laws pertaining to prevailing wages on public works contracts. Bidders must also comply with any applicable federal laws.

Bids shall be on a unit price basis per schedule and in U.S. dollars. Tabulated bids will be required to be submitted to the Board of Directors for consideration and award at their regular meeting on Tuesday, December 3, 2019. Award will be based upon the lowest responsible responsive bid as defined in RCW 39.04. All work related to this contract must be completed by March 6, 2020. The Quincy-Columbia Basin Irrigation District (District), P.O. Box 188 / 1720 South Central Ave., Quincy, WA 98848 will receive bids until 2:00 P.M., November 20, 2019. Bids received after the time of announced opening will not be accepted and will be returned unopened. Bidder's failure to perform onsite inspection for field conditions will subject bid to being declared non-responsive.

For a copy of the Bidding Documents, contact the District office at (509) 787-3591 Monday through Friday 7:30 A.M. to 4:00 P.M.
A pre-bid site visit is scheduled for 9:30 am on Tuesday, November 12, 2019, at the Adco Watermaster Office, 22411 Road F NE, Soap Lake, WA. A representative of each bidder is required to perform a pre-bid site visit.

Each bid shall be accompanied by a bid security in certified or cashier's check or bid bond on District form and in an amount equal to at least 5% of the amount of such bid. All bid proposals must be on the form provided and if Successful Bidder fails to enter into the contract within the time specified in the specifications, the bid proposal deposit shall be forfeited. The Successful Bidder will be required to furnish the additional bond(s) prescribed in the Bidding Documents and be required to sign the Non-Collusion and Debarment Affidavit, and Certification of Compliance with Wage Payment Statutes form as found in the Bidding Documents. In order to submit a Bid on public work, Bidders and their Subcontractors shall hold such licenses and registrations as required by State Statutes and Codes and federal and local Laws and Regulations. Bidders will be required to comply with State of Washington RCW 39.30.060 relating to identification of Subcontractors.

The District reserves the right to reject any or all bids and to waive any irregularities as informalities.

NOTICE is hereby given that the regularly scheduled November 6, 2019 Board meeting for Badger Mountain Irrigation District has been rescheduled for November 7, 2019 at 8:00 a.m. at the district office located at 87525 E. Reata Road Kennewick WA.

Notice of Filing

Petition to Annex to the Badger Mt. Irrigation District The Board of Directors of BMID has received a petition from the owner(s) of Columbia Park Trail Development located within a portion of the NE ¼ of Section 22, Twp. 9N, Range 28E Benton County WA, requesting that it be included within the boundaries of the District. The hearing to consider this matter will be held during a public meeting of the Board of Directors on November 6, 2019 at the BMID offices located at 87525 E. Reata Road Kennewick, WA

REQUEST FOR QUALIFICATIONS FOR AIRPORT ENGINEERING CONSULTANT FOR RICHLAND AIRPORT AND PROSSER AIRPORT PORT OF BENTON

The Port of Benton is hereby requesting interested firms to submit their Statement of Qualifications for Engineering Consulting Services at the Richland and Prosser Airports. Anticipated services to be provided include, but are not limited to: Professional Engineering, Design and Construction Observation, Environmental Assessments, Surveying, Testing, Federal, State and local Grant Preparation and Administration Assistance. The Port of Benton will retain an airport engineering consultant to provide these services for both the Richland and Prosser Airports for an expected five (5) year period. These services will be provided for a variety of projects including, but not limited to: Land Acquisition Assistance, Helicopter Pad, Runway, Taxiway and Apron Design, Construction and/or Rehabilitation, Airfield Lighting and Navigational Aid Installations, and Miscellaneous Airport Consulting. Projects are anticipated to be funded in part by the Federal Aviation Administration (FAA), Washington State Department of Transportation (WSDOT) and other State or local funding as well as the Port of Benton. The selection process will be in accordance with Chapter 2 of FAA Advisory Circular 150/5100-14E, Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects. The contract issued to the successful consultant is subject to the provisions of Executive Order 11224 (Affirmative Action to Ensure Equal Employment Opportunity) and to the provisions of the Department of Transportation Regulation 49 CFR Part 26 (Disadvantaged Business Participation). The Port of Benton encourages Disadvantaged Business Enterprises, Veterans, Minority and Women-Owned Businesses to apply. A complete Request for Qualifications package including a detailed list of potential projects, qualification requirements, selection criteria and other information can be found on the Port of Benton's website by going to: <https://portofbenton.com/notices-projects-contracts/>. Interested firms should submit: one (1) electronic copy in PDF format on electronic device, as well as three (3) paper copies, no later than 4:00 p.m. PST on Thursday, December 5, 2019, to the address listed below. Email submittals will not be accepted.

PORT OF BENTON ATTN: STATEMENT OF QUALIFICATIONS FOR AIRPORT ENGINEERING SERVICES 3100 PORT OF BENTON BLVD. RICHLAND, WA 99354

Please direct any questions regarding this Request for Qualifications and/or Statement of Qualifications for Airport Engineering Consultant Services to: John Haakenson at (509) 375-3060. Publish dates: November 3, 2019, November 6, 2019 and November 10, 2019

Legals & Public Notices

Notice of Filing

Petition to Annex to the Badger Mt. Irrigation District The Board of Directors of BMID has received a petition from the owner(s) of L10 and 11, Block 5, BADGER HEIGHTS SUBDIVISION located within a portion of the SW ¼ of the NE ¼ of Section 22, Twp. 9N, Range 28E Benton County WA, requesting that it be included within the boundaries of the District. The hearing to consider this matter will be held during a public meeting of the Board of Directors on November 6, 2019 at the BMID offices located at 87525 E. Reata Road Kennewick, WA beginning at 1:00 PM. The petition was signed by the following landowner(s): Randy & Abbey Aust All persons interested in or that may be affected by such change of the boundaries of the District are hereby notified to appear before the Board at the District office at the time and place stated above and show cause in writing if any they have, why the change in boundaries as stated on the petition, shall not be made. Colby Getchell District Manager

Notice of Filing

Pasco School District No. 1 Request for Proposals

The Pasco School District is seeking proposals to provide Bulk Canned Fruit for the Student Nutrition Program. The District will accept proposals until public opening at 10 a.m. on November 8, 2019, in the Support Services Building, located at: 3412 Stearman Avenue, Pasco, WA 99301. Bid packages containing instructions and specifications may be obtained by contacting Support Services at (509) 546-2691, or the District website, <http://www.psd1.org/Page/361>. The Pasco School District hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

Pasco School District No. 1 Request for Proposals

The Pasco School District is seeking proposals to provide Shelf Stable Fruit Cups for the Student Nutrition Program. The District will accept proposals until public opening at 10:30 a.m. on November 8, 2019, in the Support Services Building, located at: 3412 Stearman Avenue, Pasco, WA 99301. Bid packages containing instructions and specifications may be obtained by contacting Support Services at (509) 546-2691, or the District website, <http://www.psd1.org/Page/361>. The Pasco School District hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

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Legals & Public Notices

CITY OF RICHLAND NOTICE OF PUBLIC HEARING

Notice is hereby given that the Richland City Council will conduct a public hearing at its regular meeting on Tuesday, November 5, 2019 at 7:30 a.m. in the Council Chambers of Richland City Hall, 625 Swift Boulevard, Richland, Washington to receive comments regarding the draft 2020-2024 Consolidated Plan, First Year Annual Action Plan and Analysis of Impediments to Fair Housing. Comments may be emailed to mburden@ci.richland.wa.us or mailed to 625 Swift Blvd., MS-19, Richland, WA 99352. Comments must be received by 5:00 p.m. on November 6, 2019. For information, contact Michelle Burden - CDBG/HOME Administrator at 509-942-7580 or by email at mburden@ci.richland.wa.us. Published: Sunday, November 3, 2019

PORT OF BENTON NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Port of Benton Commission will hold a Public Hearing at its regular Commission Meeting, November 13, 2019, at 8:30 a.m., at the Port of Benton Commission Meeting Room, located at 3250 Port of Benton Boulevard, Richland, Washington for the purpose of receiving public comment regarding the 2020 Port Budget. Copies of the proposed budget are available to the public at the Port Offices, 3250 Port of Benton Boulevard, Richland, Washington, during regular business hours (7:00 a.m. to 4:30 p.m. Monday through Thursday and 8:00 a.m. to 12:00 p.m. Friday), beginning on Wednesday, November 6, 2019. DATED at Richland, Washington this 31st day of October 2019. /s/ Robert D. Larson Commission Secretary

Public Comment Invited

The Benton-Franklin Council of Governments will hold a Transportation Open House for the Congestion Management Process (CMP) on Wednesday, November 13, from 4:00 p.m. to 6:00 p.m. at the Mid-Columbia Library - Keewaydin Park Branch (405 S Dayton St, Kennewick, WA 99336). Attend to learn about and provide feedback on congested corridors in the Tri-Cities. The draft CMP is available at transportation@bfog.us, call (509) 943-9183, or visit www.bfog.us.

Public Notice

The Benton-Franklin Council of Governments will hold a Transportation Open House for the Congestion Management Process (CMP) on Wednesday, November 13, from 4:00 p.m. to 6:00 p.m. at the Mid-Columbia Library - Keewaydin Park Branch (405 S Dayton St, Kennewick, WA 99336). Attend to learn about and provide feedback on congested corridors in the Tri-Cities. The draft CMP is available at transportation@bfog.us, call (509) 943-9183, or visit www.bfog.us.

Public Notice

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From: [McFadden, Daina \(ECY\)](#)
To: HANFORD-INFO@LISTSERV.ECOLOGY.WA.GOV
Subject: Capsule Interim Storage permit modification 30-Day Advance Notice
Date: Friday, October 4, 2019 11:25:25 AM

Capsule Interim Storage permit modification 30-Day Advance Notice

The Washington State Department of Ecology is providing notification of a 45-day public comment period starting early to mid-November 2019. This modification would add a new operating unit group, Capsule Interim Storage (CIS) Operating Unit 19, to the *Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Revision 8c* (Site-wide Permit).

The permittees are the U.S Department of Energy Richland Operations Office and CH2M HILL Plateau Remediation Company. The CIS operating unit would be located on the Hanford Site in southeastern Washington.

What Changes are Being Proposed?

The permittees have requested a permit modification to construct a new CIS operating unit group to replace the current pool storage at the Waste Encapsulation and Storage Facility. CIS would contain the Capsule Storage Area dangerous waste management unit.

Public Hearing

A public hearing is not scheduled, but if there is enough interest, we will consider holding one. To request a hearing or for more information, contact:

Daina McFadden
Hanford@ecy.wa.gov
509-372-7950



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From: [McFadden, Daina \(ECY\)](#)
To: HANFORD-INFO@LISTSERV.ECOLOGY.WA.GOV
Subject: 45-day public comment period starts today!
Date: Monday, November 4, 2019 11:52:17 AM

Capsule Interim Storage Permit Modification Public Comment Period Notification

The Washington State Department of Ecology is providing notification of a 45-day public comment period starting November 4 through December 20, 2019. This comment period will address proposed modifications to the *Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Revision 8c (Site-wide Permit)*. This modification would add a new operating unit group, Capsule Interim Storage Operating Unit 19, to the Site-wide Permit. The Permittees are the U.S. Department of Energy, Richland Operations Office and CH2M Hill Plateau Remediation Company. The Capsule Interim Storage area will be located on the Hanford Site in southeastern Washington.

What Changes are Being Proposed?

The permittees have requested a permit modification to construct a new Capsule Interim Storage (CIS) operating unit group to replace the current pool storage at the Waste Encapsulation and Storage Facility (WESF). CIS would contain the Capsule Storage Area (CSA) dangerous waste management unit. A maximum of 25 cask storage systems (CSS) could be stored within the CSA. Each CSS is approximately 10 feet in diameter by 11 feet tall and constructed of concrete and steel to provide radiation shielding, waste protection and containment, and sufficient cooling through passive air ventilation. More information is available on Ecology's [Public Comment Page](#).

How to Comment

Ecology invites you to review and comment on this proposed Capsule Interim Storage permit modification. Copies of the proposed modification are located in the [Administrative Record](#) and the [Information Repositories](#).

Please submit comments by **December 20, 2019**.

[Electronically](#) (preferred):

Mail or hand-deliver to:

Daina McFadden

3100 Port of Benton Blvd

Richland WA 99354

Fax 509-372-7971

Public Hearing

A public hearing is not scheduled, but if there is enough interest, we will consider holding one. To request a hearing or for more information, contact:

Daina McFadden

Hanford@ecy.wa.gov
509-372-7950

Ecology logo



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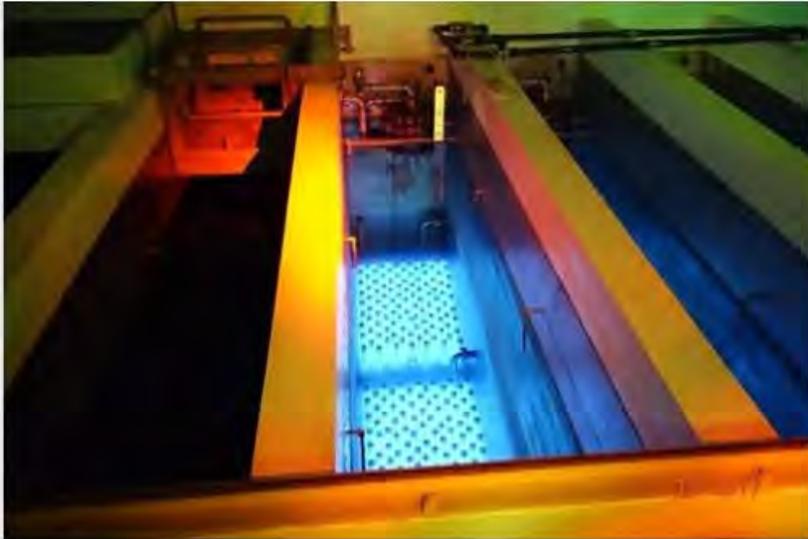
Washington Department of Ecology - Hanford

Published by Ryan Ecology Miller [?] · 2 mins · 🌐

A new public comment period held by agency began today, regarding cesium and strontium capsule interim storage.

The U.S. Department of Energy and CH2M Hill Plateau Remediation Company requested a permit modification to construct a new Capsule Interim Storage operating unit group to replace current pool storage at the Waste Encapsulation and Storage Facility on the Hanford Site.

Read more about the comment period and provide your input here: <https://ecology.wa.gov/.../Nuclear-was.../Public-comment-periods>.



Boost Post

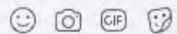
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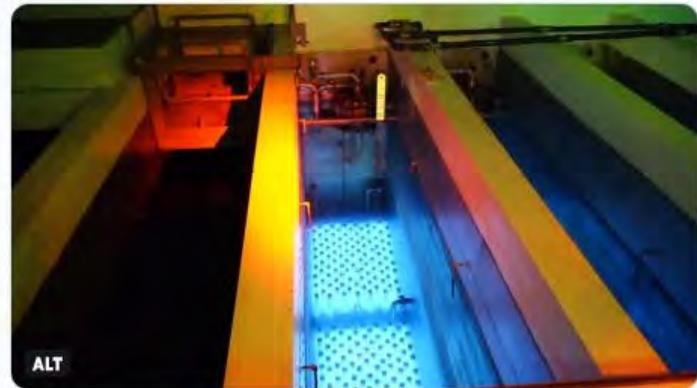


Write a comment...



Ecology - Hanford @ecyHanford · 47s

A new public comment period held by our agency began today, regarding cesium and strontium capsule interim storage. Read more about the comment period and provide your input here: ecology.wa.gov/Waste-Toxics/N... @EcologyWA @EPAnorthwest @HanfordSite @RiverProtection #Hanford #Cleanup



Appendix B: Full Text of Public Comment I-3-1

11/4/19

Dear Permittees -

I've been watching & reading of the clean up progress at Hanford since the 1980's - I'm extremely disappointed at the apparent progress - This letter is an objection in the extreme to the scheme in Publication # 19-05-017 Nov 2018 -

Exposing this level of waste in a concrete Tank is a very bad idea - Concrete is porous, prone to cracks from stress and is not easily repairable - These Tanks Will Fail!! - sooner than later - & no one will want to deal with them - plus it will be contaminated when it does - use something else and mostly do something permanent - What's I RAN planning to do with their waste? - I'm watching the Xsens

Really - no concrete! -

thanks

Gordon Churnith
8029 Mevickon N
Seattle 98103

Hanford Facility RCRA Permit Modification Notification Forms

Part III

Capsule Interim Storage Operating Unit Group

Index

Page 2 of 3: III Capsule Interim Storage Permit Application

Submitted by Co-Operator:

Stephan H. Jones

Co-Operator Name

10/19/17

Date

Reviewed by DOE Program Office:

Julie A. Reddick

DOE Program Office Name

10-23-17

Date

Hanford Facility RCRA Permit Modification Form				
Unit: Capsule Interim Storage	Permit Part Part III, Capsule Interim Storage Operating Unit Group			
<p><u>Description of Modification:</u></p> <p>Submitting a Permit Application for the Capsule Interim Storage (CIS) per Ecology letter 15-NWP-024, <i>Final Waste Encapsulation and Storage Facility (WESF) and Capsule Storage Area (CSA) Permitting Plan, January 2015</i>, to reflect physical changes needed for capsule removal.</p> <p>The following addenda are being submitted:</p> <ul style="list-style-type: none"> • Part A Form • Waste analysis plan • Process information • Security • Preparedness and prevention • Training plan • Closure plan • Inspection plan • Contingency plan <p>See attached permit application for modification.</p>				
WAC 173-303-830 Modification Class Please mark the Modification Class:	Class 1	Class 1	Class 2	Class 3 X
<p>Enter relevant WAC 173-303-830, Appendix I Modification citation number: WAC 173-303-830(4)(d)</p>				
<p>^{Approval} Modification Concurrence: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (state reason for denial)</p> <p><u>Reason for Non-concurrence:</u></p>			<p>Reviewed by Ecology:</p> <p style="text-align: center;"><i>S. L. Dahl-Crumpler</i> 2/29/2000 S. L. Dahl-Crumpler Date</p>	

Revision Instructions:

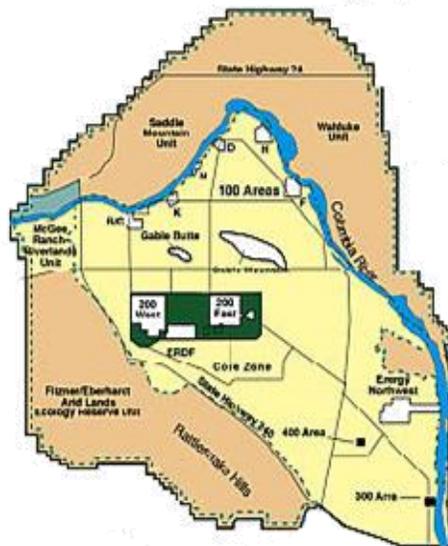
Incorporate CIS Part B into permit.



Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion

Revision 8C

For the Treatment, Storage, and Disposal of Dangerous Waste



Washington State Department of Ecology
Nuclear Waste Program

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For additional copies of this permit contact:

Washington State Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99354-1670
509-372-7950

The Department of Ecology is an equal-opportunity agency and does not discriminate on the basis of race, creed, color, disability, age, religion, national origin, sex, marital status, disabled-veteran status, Vietnam-era veteran status or sexual orientation.

For more information or if you have special accommodation needs, please contact the Nuclear Waste Program at (509) 372-7950.

Department of Ecology Headquarters telecommunications device for the deaf (TDD) number is: (360) 407-6006

**PART I STANDARD AND PART II GENERAL FACILITY CONDITIONS
DANGEROUS WASTE PORTION OF THE
RESOURCE CONSERVATION AND RECOVERY ACT PERMIT
FOR THE TREATMENT, STORAGE, AND DISPOSAL OF DANGEROUS WASTE
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

Modification Date	Modification Number
02/20/2020	8C.2020.1F
04/23/2019	PCN-HFSW-2019-03 (8C.2019.Q2)
04/01/2019	8C.2019.1F
03/14/2019	PCN-HFSW-2019-01 (8C.2019.Q1)
12/12/2018	PCN-1325-2016-02 (8C.2018.Q4)
12/12/2018	PCN-1301-2016-02 (8C.2018.Q4)
12/12/2018	PCN-HFSW-2016-02 (8C.2018.Q4)
09/18/2018	PCN-HFSW-2018-01 (8C.2018.Q3)
08/28/2018	PCN-HFSW-2018-02 (8C.2018.Q3)
07/09/2018	PCN-PWSTF-2016-01 (8C.2018.Q3)
06/14/2018	PCN-1324-2016-02 (8C.2018.Q2)
06/14/2018	PCN-1706KE-2016-01 (8C.2018.Q2)
11/01/2017	8C.2017.Q3
07/19/2017	8C.2017.Q2
04/26/2017	8C.2017.Q1
03/01/2017	8C.2016.Q4
12/15/2016	8C.2016.Q3
10/06/2016	8C.2016.6F

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**DANGEROUS WASTE PORTION OF THE
RESOURCE CONSERVATION AND RECOVERY ACT PERMIT
FOR THE TREATMENT, STORAGE, AND DISPOSAL OF DANGEROUS WASTE**

7 Washington State Department of Ecology
8 Nuclear Waste Program
9 3100 Port of Benton Boulevard
10 Richland, Washington 99354
11 Telephone: 509-372-7950

12 Issued in accordance with the applicable provisions of the *Hazardous Waste Management Act*,
13 Chapter 70.105 Revised Code of Washington (RCW), and the regulations promulgated there under in
14 Chapter 173-303 Washington Administrative Code (WAC).

15 **ISSUED TO:**

United States Department of Energy
Richland Operations Office
(Owner/Operator)
PO Box 550, MSIN: A7-50
Richland, Washington 99352
Telephone: (509) 376-7395

Mission Support Alliance
2490 Garlick Boulevard, MSIN: H1-30
Richland, Washington 99354
Telephone: (509) 376-1310

Pacific Northwest National Laboratory
(Co-operator)
PO Box 999, MSIN: K1-46
Richland, Washington 99352
Telephone: (509) 375-5911

United States Department of Energy
Office of River Protection
(Owner/Operator)
PO Box 450, MSIN: H6-60
Richland, Washington 99352
Telephone: (509) 372-3062

Bechtel National, Inc.
(Co-Operator)
2435 Stevens Center Place, MSIN: H4-02
Richland, Washington 99354
Telephone: (509) 371-2335

Washington River Protection Solutions, LLC
(Co-operator)
PO Box 1500, MSIN: H6-63
Richland, Washington 99352
Telephone: (509) 372-9138

CH2M HILL Plateau Remediation Company
(Co-operator)
PO Box 1600, MSIN: H7-30
Richland, Washington 99352
Telephone: (509) 376-0556

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**DANGEROUS WASTE PORTION OF THE
RESOURCE CONSERVATION AND RECOVERY ACT PERMIT
FOR THE TREATMENT, STORAGE, AND DISPOSAL OF DANGEROUS WASTE**

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LIST OF ATTACHMENTS

The following listed documents are attached in their entirety. However, only those portions of the attachments specified in Parts I through VI are enforceable conditions of this Permit and subject to the permit modification requirements of Permit Condition I.C.3. Changes to portions of the attachments, which are not subject to the permit modification process, will be addressed in accordance with Permit Conditions I.E.8, I.E.11, I.E.13, I.E.15, through I.E.20, and I.E.22. The Washington State Department of Ecology (Ecology) has, as deemed necessary, modified specific language in these attachments. These modifications are described in the conditions (Parts I through VI), and thereby supersede the language of the attachment.

- Attachment 1 Hanford Federal Facility Agreement and Consent Order, (as amended)
<https://www.hanford.gov/page.cfm/TriParty>
- Attachment 2 Hanford Facility Permit Legal Description & Operating Boundary
- Attachment 3 Security
- Attachment 4 Hanford Emergency Management Plan
- Attachment 5 Hanford Facility Personnel Training Program
- Attachment 6 Reports and Records
- Attachment 7 Policy on Remediation of Existing Wells and Acceptance Criteria for RCRA and CERCLA, June 1990
- Attachment 8 Hanford Well Maintenance and Inspection Plan
- Attachment 9 Permit Applicability Matrix
- Attachment 10 Strategy for Handling and Disposing of Purgewater at the Hanford Site, July 1990

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INTRODUCTION

5 Where information regarding treatment, management, and disposal of the radioactive source, byproduct
6 material, special nuclear material (as defined by the *Atomic Energy Act of 1954*, as amended) and/or the
7 radionuclide component of mixed waste has been incorporated into this permit, it is not incorporated for
8 the purpose of regulating the radiation hazards of such components under the authority of this permit or
9 Chapter 70.105 RCW.

10 Pursuant to Chapter 70.105 RCW, the *Hazardous Waste Management Act of 1976*, as amended, Chapter
11 70.105D RCW, the *Model Toxics Control Act* (MTCA), and regulations promulgated there under by the
12 Washington State Department of Ecology (hereafter called Ecology), codified in Chapter 173-303 WAC,
13 Dangerous Waste Regulations, a Dangerous Waste Permit is issued to the United States Department of
14 Energy (USDOE) - Richland Operations Office (RL) and Office of River Protection (ORP)
15 [owner/operator], and its contractors [co-operators], Bechtel National, Incorporated (BNI), CH2M HILL
16 Plateau Remediation Company (CHPRC), Mission Support Alliance, LLC (MSA), Pacific Northwest
17 National Laboratory (PNNL), and Washington River Protection Solutions, LLC (WRPS) and hereafter
18 called the Permittees, for the treatment, storage, and disposal of dangerous waste at the Hanford Facility.

19 This Dangerous Waste Permit, issued in conjunction with the United States Environmental Protection
20 Agency's (EPA) Hazardous and Solid Waste Amendments Portion of the Resource Conservation and
21 Recovery Act (RCRA) Permit for the Treatment, Storage, and Disposal (TSD) of Hazardous Waste
22 (HSWA Permit), constitutes the RCRA Permit for the Hanford Facility. Use of the term "Permit" within
23 the Dangerous Waste Permit will refer to the Dangerous Waste Permit, while use of the term "Permit"
24 within the HSWA Permit, will refer to the HSWA Permit. Use of the same term in both the Dangerous
25 Waste Permit and the HSWA Permit, will have the standard meaning associated with the activities
26 addressed by the permit in which the term is used. Such meanings will prevail, except where specifically
27 stated otherwise.

28 The Permittees will comply with all terms and conditions set forth in this Permit and those portions of the
29 Attachments that have been specifically incorporated into this Permit. When the Permit and the
30 Attachments (except Permit Attachment 1) conflict, the wording of the Permit will prevail. The Permit is
31 intended to be consistent with the terms and conditions of the Hanford Federal Facility Agreement and
32 Consent Order (HFFACO), Permit Attachment 1. The Permittees will also comply with all applicable
33 state regulations, including Chapter 173-303 WAC.

34 Applicable state regulations are those which are in effect on the date of issuance, or as specified in
35 subsequent modifications of this Permit. In addition, applicable state regulations include any
36 self-implementing statutory provisions and related regulations which, according to the requirements of the
37 HWMA, as amended, or other law(s), are automatically applicable to the Permittees' dangerous waste
38 management activities, notwithstanding the conditions of this Permit.

39 This Permit is based upon the Administrative Record, as required by WAC 173-303-840. The Permittees'
40 failure in the application, or during the Permit issuance process, to fully disclose all relevant facts, or the
41 Permittees' misrepresentation of any relevant facts at any time, will be grounds for the termination or
42 modification of this Permit and/or initiation of an enforcement action, including criminal proceedings.
43 The Permittees will inform Ecology of any deviation from the Permit conditions, or changes in the
44 information on which the application is based, which would affect either the Permittees' ability to comply,
45 or actual compliance with the applicable regulations or the Permit conditions, or which alters any
46 condition of this Permit in any way.

1 Ecology will enforce all conditions of this Permit for which the State of Washington is authorized, or
2 which are "state-only" provisions (i.e., conditions broader in scope or more stringent than the federal
3 RCRA program). Any challenges of any Permit condition may be appealed in accordance with
4 WAC 173-303-845. In the event that any Permit condition is challenged by any Permittee under
5 WAC 173-303-845, Ecology may stay any such Permit condition as it pertains to all Permittees, in
6 accordance with the same terms of any stay it grants to the challenging Permittee. If such a stay is
7 granted, it will constitute a "stay by the issuing agency" within the meaning of RCW 43.21B.320(1).

8 This Permit has been developed to allow a step-wise permitting process of the Hanford Facility to ensure
9 the proper implementation of the HFFACO. In order to accomplish this, this Permit consists of six (6)
10 parts.

11 **Part I, Standard Conditions**, contains conditions which are similar to those appearing in all dangerous
12 waste permits.

13 **Part II, General Facility Conditions**, combines typical dangerous waste permit conditions with those
14 conditions intended to address issues specific to the Hanford Facility. Where appropriate, the general
15 facility conditions apply to all final status dangerous waste management activities at the facility. Where
16 appropriate, the general facility conditions also address dangerous waste management activities which
17 may not be directly associated with distinct TSD units, or which may be associated with many TSD units
18 (i.e., spill reporting, training, contingency planning, etc.). Part II also includes conditions that address
19 corrective action at solid waste management units and areas of concern.

20 **Part III, Unit-Specific Conditions for Operating Units**, contains those Permit requirements that apply
21 to each individual TSD unit operating under final status. Conditions for each TSD unit are found in a
22 chapter dedicated to that TSD unit. These unit-specific chapters contain references to Standard
23 Conditions (Part I) and General Conditions (Part II), as well as additional requirements which are
24 intended to ensure that each TSD unit is operated in an efficient and environmentally protective manner.
25 Additional requirements may also be added when an operating unit ceases operations and undergoes
26 closure.

27 **Part IV, Unit-Specific Conditions for Corrective Action**, contains Permit conditions for releases from
28 Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs). For past practice units
29 identified in the HFFACO as either *Comprehensive Environmental Response, Compensation, and*
30 *Liability Act* (CERCLA) Past Practice units (CPP units) or combined *Resource Conservation and*
31 *Recovery Act-Comprehensive Environmental Response, Compensation and Liability Act* Past Practice
32 units (R-CPP units), the corrective action conditions are structured around reliance on, the investigation
33 and cleanup requirements established under the HFFACO. For TSD units identified in the HFFACO, the
34 corrective action conditions contemplate use of closure and post-closure processes to satisfy corrective
35 action.

36 **Part V, Unit-Specific Conditions for Units Undergoing Closure**, contains those requirements which
37 apply to those specific TSD units, included in this part, that are undergoing closure. In accordance with
38 Section 5.3 of the Action Plan of the HFFACO, all TSD units that undergo closure, irrespective of permit
39 status, will be closed pursuant to the authorized State Dangerous Waste Program in accordance with
40 WAC 173-303-610. Requirements for each TSD unit undergoing closure are found in a chapter dedicated
41 to that TSD unit. These unit-specific chapters contain references to Standard Conditions (Part I) and
42 General Conditions (Part II), as well as additional requirements which are intended to ensure that each
43 TSD unit is closed in an efficient and environmentally protective manner.

1 **Part VI, Unit-Specific Conditions for Units in Post-Closure**, contains those requirements which apply
2 to those specific units in this part that have completed modified or landfill closure requirements, and now
3 only need to meet Post-Closure Standards. As set forth in Section 5.3 of the Action Plan of the
4 HFFACO, certain TSD units will be permitted for post-closure care pursuant to the authorized State
5 Dangerous Waste Program (WAC 173-303) and the Hazardous and Solid Waste Amendments.
6 Requirements for each unit undergoing post-closure care are found in a chapter, within this part, dedicated
7 to that unit. These unit specific chapters may contain references to Standard Conditions (Part I) and
8 General Conditions (Part II), as well as the unit specific conditions, all of which are intended to ensure the
9 unit is managed in an efficient, environmentally protective manner.

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4**Unit Status Table**

Permit Revision	Revision Date	Units Incorporated
Permit Revision 0	8/29/94	616 Nonradioactive Dangerous Waste Storage Facility (NRDWSF), 305-B Storage Facility, 183-H Solar Evaporation Basin (SEB), 300 Area Solvent Evaporator (ASE), 2727-S
Permit Revision 1	4/28/95	Simulated High-Level Waste Slurry, 218-E-9 Borrow Pit Demo Site, 200 W Area Ash Pit Demo Site, 2101-M Pond, 216-B-3 Expansion Ponds
Permit Revision 2	8/29/95	Hanford Patrol Academy Demolition Site, 105-DR Large Sodium Fire Facility, 304 Concretion Facility
Permit Revision 3	11/25/96	PUREX Storage Tunnels, 4843 Alkali Metal Storage Facility, 3718-F Alkali Metal Treatment & Storage Facility, 303-K Storage Facility, 300 Area Process Trenches (APT)
Permit Revision 4	1/28/98	Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility (ETF), 242-A Evaporator, 325 Hazardous Waste Treatment Units (HWTUs)
Permit Revision 5	5/18/99	100 D Ponds, 1301-N & 1325-Liquid Waste Disposal Facility, 1324-N Surface Impoundment, 1324-NA Percolation Pond
Permit Revision 6	3/28/00	Permit Condition II.Y, Corrective Action
Permit Revision 7	2/27/01	Waste Treatment & Immobilization Plant, 300 Area Waste Acid Treatment System
Permit Revision 8	9/23/04	No new units, modification updates
Permit Revision 8A	3/6/06	Integrated Disposal Facility
Permit Revision 8B	1/2007	331-C Storage Unit, Plutonium Finishing Plant Treatment Unit, 241-Z Treatment & Storage Tanks, 303-M Oxide Facility
Permit Revision 8C	8/2007	400 Area Waste Management Unit, 224-T Transuranic Waste Storage and Assay Facility
Permit Revision 8C (8C.2016.2F)	01/21/2016	FS-1 Outdoor Container Storage Area Closure
Permit Revision 8C (8C.2016.6F)	10/6/2016	207-A South Retention Basins
Permit Revision 8C (8C.2017.Q1)	04/26/2017	1706 KE Waste Treatment System
Permit Revision 8C (8C.2017.Q1)	04/26/2017	600 Area Purgewater Storage and Treatment Facility
Permit Revision 8C (8C.2020.1F)	2/20/2020	Capsule Interim Storage

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Unit	Permit Revision		Comments/History
	Incorporated	Retired	
Part III, Operating Units			
616 Non-Radioactive Dangerous Waste Storage Facility	Rev. 6	Rev. 7	Closed, 9/5/01
242-A Evaporator	Rev. 4		
305-B Storage Facility	Rev. 0		Closed, 7/2/07
325 Hazardous Waste Treatment Units	Rev. 4		RLWT procedural closure, 9/04
LERF & 200 Area ETF	Rev. 4		
PUREX Storage Tunnels	Rev. 3		
Waste Treatment and Immobilization Plant	Rev. 7		Permitted unit under construction
Integrated Disposal Facility	Rev. 8A		
331-C Storage Unit	Rev. 8B	Rev. 8C	Closed, 7/22/11
400 Area Waste Management Unit	Rev. 8C		
Capsule Interim Storage	Rev. 8C		
Part IV, Corrective Action			
100-NR-1 Operable Unit	Rev. 6		
100-NR-2 Operable Unit	Rev. 6	Rev. 8C	Retired, 9/30/09
Part V, Undergoing Closure Units			
100-D Ponds	Rev. 5	Rev. 6	Closed, 8/9/99
105 DR Large Sodium Fire Facility	Rev. 2	Rev. 6	Closed, 7/1/04
1301-N Liquid Waste Disposal Facility	Rev. 5	Rev. 8C	Closed, 11/28/18
1324-N Surface Impoundment	Rev. 5	Rev. 8C	Closed, 04/25/17
1324-NA Percolation Pond	Rev. 5	Rev. 8C	Closed, 04/25/17
1325-N Liquid Waste Disposal Facility	Rev. 5	Rev. 8C	Closed, 11/28/18
200 West Area Ash Pit Demo Site	Rev. 1	Rev. 6	Closed, 11/28/95
2101-M Pond	Rev. 1	Rev. 6	Closed, 11/28/95
216-B-3 Expansion Ponds	Rev. 1	Rev. 6	Closed, 7/31/95
218-E-8 Borrow Demolition Site	Rev. 1	Rev. 6	Closed, 11/28/95
2727-S Storage Facility	Rev. 0	Rev. 6	Closed, 7/31/95
300 Area Solvent Evaporator	Rev. 0	Rev. 6	Closed, 7/31/95

Part I Standard and Part II General Facility Conditions

Unit	Permit Revision		Comments/History
	Incorporated	Retired	
300 Area Waste Acid Treatment System	Rev. 6	Rev. 8B	Closed, 1/21/05
303-K Storage Facility	Rev. 4	Rev. 6	Closed, 7/22/02
304 Concretion Facility	Rev. 2	Rev. 6	Closed, 1/21/96
311 Tanks (includes 300 Area WATS)	Rev. 6	Rev. 7	Closed, 5/20/02
3718-F Alkali Metal Treatment/Storage	Rev. 3	Rev. 6	Closed, 8/4/98
4843 Alkali Metal Storage Facility	Rev. 3	Rev. 6	Closed, 4/14/97
Hanford Patrol Academy Demo Site	Rev. 2	Rev. 6	Closed, 11/28/95
Simulated High Level Waste Slurry	Rev. 1	Rev. 6	Closed, 9/6/95
PFM Treatment Unit (HA-20MB)	Rev. 8B	Rev. 8B	Closed, 2/8/05
241-Z Treatment and Storage Tanks	Rev. 8B	Rev. 8B	Closed, 2/22/07
303-M Oxide Facility	Rev. 8B	Rev. 8B	Closed, 6/15/06
224-T Transuranic Waste Storage and Assay Facility	Rev. 8C	Rev. 8C	Closed, 11/12/08
FS-1 Outdoor Container Storage Area Closure	Rev. 8C	Rev.8C	Closed, 10/25/16
Waste Encapsulation and Storage Facility Hot Cells A through F	Rev. 8C		
207-A South Retention Basins	Rev. 8C	Rev. 8C	Closed, 05/18/17
1706 KE Waste Treatment System	Rev. 8C	Rev. 8C	Closed, 1/11/18
600 Area Purgewater Storage and Treatment Facility	Rev. 8C	Rev. 8C	Closed, 02/16/18
Part VI, Post-closure Units			
183-H Solar Evaporation Basin	Rev. 4		
300 Area Process Trenches	Rev. 3		
Procedurally Closed			
216-U-12 Crib	N/A	N/A	Closed, 7/19/07
221-T Test Facility	N/A	N/A	Closed, 2/22/99
2727-WA SRE Sodium Storage Bldg	N/A	N/A	Closed, 2/22/99
324 Pilot Plant	N/A	N/A	Closed, 6/9/97
332 Storage Facility	N/A	N/A	Closed, 4/21/97

Part I Standard and Part II General Facility Conditions

Unit	Permit Revision		Comments/History
	Incorporated	Retired	
437 Maintenance and Storage Facility	N/A	N/A	Closed, 9/11/03
Biological Treatment Test Facilities	N/A	N/A	Closed, 12/10/96
Physical/Chemical Treatment Test Facilities	N/A	N/A	Closed, 5/13/96
Sodium Storage/Sodium Reaction	N/A	N/A	Closed, 9/17/03
Thermal Treatment Test Facilities	N/A	N/A	Closed, 5/13/96
216-A-10	N/A	N/A	Closed, 5/14/10
To Be Incorporated			
216-A-29 Ditch			
216-A-36B Crib			
216-A-37-1 Crib			
216-B-3 Main Pond			
216-B-63 Trench			
216-S-10 Pond & Ditch			
222-S Dangerous & Mixed Waste TSD Unit			
241-CX Tank System			
Central Waste Complex			
Contact Handled Transuranic Mixed Waste Packaging and Interim Storage Facility			
Double Shell Tank System/ 204-AR Waste Unloading Station			
Grout Treatment Facility			
Hexone Storage & Treatment Facility			

Unit	Permit Revision		Comments/History
	Incorporated	Retired	
Immobilized High-Level Waste Interim Storage/Canister Storage Building			
Low-Level Burial Grounds			
Nonradioactive Dangerous Waste Landfill			
Single-Shell Tank System			
T Plant Complex			
Waste Encapsulation and Storage Facility			
Waste Receiving and Processing Facility			
Transition Under HFFACO Action Plan, Section 8 (Will not be incorporated into Permit)			
B Plant Complex			
PUREX Plant			

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DEFINITIONS

5 Except with respect to those terms specifically defined below, all definitions contained in the HFFACO,
6 May 1989, as amended, and in WAC 173-303-040 and other portions of Chapter 173-303 WAC are
7 hereby incorporated, in their entirety, by reference into this Permit. For terms defined in both
8 Chapter 173-303 WAC and the HFFACO, the definitions contained in Chapter 173-303 WAC will control
9 within this Permit. Nonetheless, this Permit is intended to be consistent with the HFFACO.

10 Where terms are not defined in the regulations, the Permit, or the HFFACO, a standard dictionary
11 reference, or the generally accepted scientific or industrial meaning of the terms will define the meaning
12 associated with such terms.

13 As used in this Permit, words in the masculine gender also include the feminine and neuter genders,
14 words in the singular include the plural, and words in the plural include the singular.

15 The following definitions apply throughout this Permit:

16 The term "**Area of Concern**" means any area of the Facility where a release of dangerous waste or
17 dangerous constituents has occurred, is occurring, is suspected to have occurred, or threatens to occur.

18 The term "**Contractor(s)**" means, unless specifically identified otherwise in this Permit or Attachments,
19 Bechtel National, Inc. (BNI), CH2M HILL Plateau Remediation Company, Inc. (CHPRC), Mission
20 Support Alliance, LLC (MSA), Pacific Northwest National Laboratory (PNNL), and Washington River
21 Protection Solutions, LLC (WRPS).

22 The term "**Critical Systems**" as applied to determining whether a Permit modification is required, means
23 those specific portions of a TSD unit's structure, or equipment, whose failure could lead to the release of
24 dangerous waste into the environment, and/or systems which include processes which treat, transfer,
25 store, or dispose of regulated wastes. A list identifying the critical systems of a specific TSD unit may be
26 developed and included in Part III, V, and/or VI of this Permit. In developing a critical system list, or in
27 the absence of a critical system list, WAC 173-303-830 Modifications will be considered.

28 The term "**Dangerous Constituent**" means any constituent identified in WAC 173-303-9905 or 40 Code
29 of Federal Regulations (CFR) Part 264 Appendix IX, any constituent which caused a waste to be listed or
30 designated as dangerous under Chapter 173-303 WAC, and any constituents within the meaning of
31 hazardous substance at RCW 70.105D.020(7).

32 The term "**Dangerous Waste**" means those solid wastes designated under Chapter 173-303 WAC as
33 dangerous or extremely hazardous waste. As used in the Permit, the phrase "dangerous waste" will refer
34 to the full universe of wastes regulated by Chapter 70.105 RCW and Chapter 173-303 WAC (including
35 dangerous waste, hazardous waste, extremely hazardous waste, mixed waste, and acutely hazardous
36 waste).

37 The term "**Days**" means calendar days, unless specifically identified otherwise. Any submittal,
38 notification, or recordkeeping requirement that would be due, under the Conditions of this Permit, on a
39 Saturday, Sunday, or federal, or state holiday, will be due on the following business day, unless
40 specifically stated otherwise in the Permit.

41 The term "**Director**" means the Director of the Washington State Department of Ecology, or a designated
42 representative. The Program Manager of the Nuclear Waste Program (with the address as specified on
43 page one [1] of this Permit) is a duly authorized and designated representative of the Director for
44 purposes of this Permit.

45 The term "**Ecology**" means the Washington State Department of Ecology (with the address as specified on
46 page one [1] of this Permit).

- 1 The term "**Facility**" means all contiguous land, structures, other appurtenances, and improvements on the
2 land used for recycling, reusing, reclaiming, transferring, storing, treating, or disposing of dangerous
3 waste. The legal and physical description of the Facility is set forth in Permit Attachment 2.
- 4 The term "**Facility**" for the purposes of corrective action under Permit Condition II.Y, means all
5 contiguous property under the control of the Permittees and all property within the meaning of "Facility"
6 at RCW 70.105D.020(3) as set forth in Permit Attachment 2.
- 7 The term "**HFFACO**" means the Hanford Federal Facility Agreement and Consent Order, as amended
8 (Commonly referred to as Tri-Party Agreement [TPA]).
- 9 The term "**Permittees**" means the United States Department of Energy (owner/operator), Bechtel
10 National, Inc. (Co-operator), CH2M HILL Plateau Remediation Company (Co-operator), Mission
11 Support Alliance, LLC, Pacific Northwest National Laboratory (Co-operator), Washington River
12 Protection Solutions, LLC.
- 13 The term "**Permittees**" for purposes of corrective action under Permit Condition II.Y means only the
14 United States Department of Energy (owner/operator).
- 15 The term "**Raw Data**" means the initial value of analog or digital instrument output, and/or manually
16 recorded values obtained from measurement tools or personal observation. These values are converted
17 into reportable data (e.g., concentration, percent moisture) via automated procedures and/or manual
18 calculations.
- 19 The term "**RCRA Permit**" means the Dangerous Waste Portion of the RCRA Permit for the Treatment,
20 Storage, and Disposal of Dangerous Waste (Dangerous Waste Permit) issued by the Washington State
21 Department of Ecology, pursuant to Chapter 70.105 RCW and Chapter 173-303 WAC, coupled with the
22 HSWA Portion of the RCRA Permit for the Treatment, Storage, and Disposal of Hazardous Waste
23 (HSWA Permit) issued by EPA, Region 10, pursuant to 42 United States Code (U.S.C.) 6901 et seq. and
24 40 CFR Parts 124 and 270.
- 25 The term "**Reasonable Times**" means normal business hours; hours during which production, treatment,
26 storage, construction, disposal, or discharge occurs, or times when Ecology suspects a violation requiring
27 immediate inspection.
- 28 The term "**Release**" means any intentional or unintentional spilling, leaking, pouring, emitting, emptying,
29 discharging, injecting, pumping, escaping, leaching, dumping, or disposing of dangerous constituents into
30 the environment and includes the abandonment or discarding of barrels, containers, and other receptacles
31 containing dangerous waste or dangerous constituents, and includes any releases within the meaning of
32 release at RCW 70.105D.020(20).
- 33 The term "**Significant Discrepancy**" in regard to a manifest or shipping paper, means a discrepancy
34 between the quantity or type of dangerous waste designated on the manifest, or shipping paper, and the
35 quantity or type of dangerous waste a TSD unit actually receives. A significant discrepancy in quantity is
36 a variation greater than ten (10) percent in weight for bulk quantities (e.g., tanker trucks, railroad tank
37 cars, etc.), or any variation in piece count for nonbulk quantities (i.e., any missing container or package
38 would be a significant discrepancy). A significant discrepancy in type is an obvious physical or chemical
39 difference which can be discovered by inspection or waste analysis (e.g., waste solvent substituted for
40 waste acid).
- 41 The term "**Solid Waste Management Unit (SWMU)**" means any discernible location at the Facility
42 where solid wastes have been placed at any time, irrespective of whether the location was intended for the
43 management of solid or dangerous waste, and includes any area at the Facility at which solid wastes have
44 been routinely and systematically released (for example through spills), and includes dangerous waste
45 treatment, storage, and disposal units.

Part I Standard and Part II General Facility Conditions

- 1 The term "**Unit**" or "**TSD unit**", as used in Parts I through VI of this Permit, means the contiguous area of
- 2 land on or in which dangerous waste is placed, or the largest area in which there is a significant likelihood
- 3 of mixing dangerous waste constituents in the same area. A TSD unit, for purposes of this Permit, is a
- 4 subgroup of the Facility which has been identified in a Hanford Facility Dangerous Waste Part A Form.

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4**ACRONYMS**

ALARA	As Low As Reasonably Achievable
AMSF	Alkali Metal Storage Facility
APDS	Ash Pit Demolition Site
APP	Used to Denote Appendix Page Numbers
APT	Area Process Trenches
ARAR	Applicable, Relevant, and Appropriate Requirements
BNI	Bechtel National, Inc.
BPDS	Borrow Pit Demolition Site
CD/RR	Chemical Disposal/Recycle Request
CERCLA	<i>Comprehensive Environmental Response Compensation and Liability Act of 1980 (as Amended by the Superfund Reauthorization Act of 1986)</i>
CFR	Code of Federal Regulations
CHPRC	CH2M HILL Plateau Remediation Company
CIP	Construction Inspection Plan
CLARC	Cleanup Levels and Risk Calculations
CLP	Contract Laboratory Program
COC	Chemical Contaminants of Concern
CPP	CERCLA Past Practice
USDOE-RL	U.S. Department of Energy, Richland Operations Office
USDOE-ORP	U.S. Department of Energy, Office of River Protection
DQO	Data Quality Objective
DSC	Differential Scanning Calorimetry
EC	Emergency Coordinator
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
ERA	Expedited Response Action
ETF	200 Area Effluent Treatment Facility
HFFACO	<i>Hanford Federal Facility Agreement and Consent Order</i>
GW	Ground Water
HPADS	Hanford Patrol Academy Demolition Site
HSWA	<i>Hazardous and Solid Waste Amendments of 1984</i>
HWMA	<i>Hazardous Waste Management Act</i>
ID	Identification
IRM	Interim Remedial Measure
LDR	Land Disposal Restrictions
LERF	Liquid Effluent Retention Facility
LSFF	105-DR Large Sodium Fire Facility

MSA	Mission Support Alliance, LLC
MTCA	<i>Model Toxics Control Act</i>
OSWER	Office of Solid Waste and Emergency Response
PNNL	Pacific Northwest National Laboratory
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RCRA	<i>Resource Conservation and Recovery Act of 1976</i>
RCW	Revised Code of Washington
ROD	Record of Decision
RPD	Relative Percent Difference
RPP	RCRA Past Practice
SAP	Sampling and Analysis Plan
SARA	<i>Superfund Amendments and Reauthorization Act of 1986</i>
SCD	Security Control Devices
SHLWS	Simulated High Level Waste Slurry
SOP	Standard Operating Procedure
SWMU	Solid Waste Management Unit
TCLP	Toxicity Characteristic Leaching Procedure
TSD	Treatment, Storage, and/or Disposal
USDOE	United States Department of Energy
U.S.C.	United States Code
WAC	Washington Administrative Code
WAP	Waste Analysis Plan
WRPS	Washington River Protection Solutions, LLC
WTP	Waste Treatment and Immobilization Plant
183-H	183-H Solar Evaporation Basins
242-A	242-A Evaporator
300 APT	300 Area Process Trenches
300 ASE	300 Area Solar Evaporator
303-K	303-K Storage Facility
305-B	305-B Storage Facility
325 HWTUs	325 Hazardous Waste Treatment Units
616-NRDWSF	616 Nonradioactive Dangerous Waste Storage Facility

1 **PART I STANDARD CONDITIONS**

2 **I.A Effect of Permit**

3 The Permittees are authorized to treat, store, and dispose of dangerous waste in
4 accordance with the Conditions of this Permit and in accordance with the applicable
5 provisions of Chapter 173-303 WAC (including provisions of the Chapter as they have
6 been applied in the HFFACO). Any treatment, storage, or disposal of dangerous waste by
7 the Permittees at the Facility that is not authorized by this Permit, or by WAC 173-303-
8 400 (including provisions of this regulation as they have been applied in the HFFACO),
9 for those TSD units not subject to this Permit, and for which a Permit is required by
10 Chapter 173-303 WAC, is prohibited.

11 TSD units operating or closing under interim status will maintain interim status until that
12 TSD unit is incorporated into Part III, V, and/or VI of this Permit, or until interim status is
13 terminated under WAC 173-303-805(8). Interim status units will be incorporated into
14 this Permit through the Permit modification process.

15 The Conditions of this Permit will be applied to the Facility as defined by the Permit
16 Applicability Matrix (Permit Attachment 9).

17 **I.A.1** USDOE is responsible for activities which include, but are not limited to, the overall
18 management and operation of the Facility.

19 BNI is identified as a Permittee for activities subject to the Conditions of this Permit
20 where its agents, employees, or subcontractors have operational and/or management
21 responsibilities and control.

22 CHPRC is identified as a Permittee for activities subject to the Conditions of this Permit
23 where its agents, employees, or subcontractors have operational and/or management
24 responsibilities and control.

25 MSA is identified as a Permittee for activities subject to the Conditions of this Permit
26 where its agents, employees, or subcontractors have operational and/or management
27 responsibilities and control.

28 PNNL is identified as a Permittee for activities subject to the Conditions of this Permit
29 where its agents, employees, or subcontractors have operational and/or management
30 responsibilities and control.

31 WRPS is identified as a Permittee for activities subject to the Conditions of this Permit
32 where its agents, employees, or subcontractors have operational and/or management
33 responsibilities and control.

34 **I.A.2** Coordination with the HFFACO

35 Each TSD unit will have an application for a final status Permit or closure/post-closure
36 plan submitted to Ecology in accordance with the schedules identified in the HFFACO
37 Milestone M-20-00 or in accordance with WAC 173-303-830. After completion of the
38 Permit application or closure/post-closure plan review, a final Permit decision will be
39 made pursuant to WAC 173-303-840. Specific Conditions for each TSD unit will be
40 incorporated into this Permit in accordance with the Class 3 Permit modification
41 procedure identified in Permit Condition I.C.3.

1 **I.B Personal and Property Rights**

2 This Permit does not convey property rights of any sort, or any exclusive privilege; nor
3 does it authorize any injury to persons or property, or any invasion of other private rights,
4 or any violation of federal, state, or local laws or regulations.

5 **I.C Permit Actions**

6 **I.C.1** Modification, Revocation, Reissuance, or Termination

7 This Permit may be modified, revoked and reissued, or terminated by Ecology for cause
8 per WAC 173-303-810(7) as specified in WAC 173-303-830(3), (4), and (5).

9 **I.C.2** Filing of a Request

10 The filing of a request for a Permit modification, or revocation and reissuance, or
11 termination, or a notification of planned changes, or anticipated noncompliance on the
12 part of the Permittees, will not stay any Permit condition [WAC 173-303-810(7)] except
13 as provided in WAC 173-303-810(2) under an emergency permit.

14 **I.C.3** Modifications

15 **I.C.3.a** Except as provided otherwise by specific language in this Permit, the Permit modification
16 procedures of WAC 173-303-830(2), (3), and (4) will apply to modifications or changes
17 in design or operation of the Facility, or any modification or change in dangerous waste
18 management practices covered by this Permit.

19 **I.C.3.b** As an exception, the Permittees will provide notifications to Ecology required by
20 WAC 173-303-830(4)(a)(i)(A) on a quarterly basis. Each quarterly notification will be
21 submitted within ten (10) days of the end of the quarter, and provide the required
22 information for all such modifications put into effect during that reporting period.

23 **I.C.3.c** Quarterly reporting periods will be based upon the state Fiscal Year. For notifications
24 required by the Permittees to persons on the facility mailing list described in
25 WAC 173-303-830(4)(a)(i)(B), -830(4)(b)(ii), -830(4)(c)(ii), and -830(4)(e)(ii)(C), use of
26 appropriate HFFACO Community Relations Plan publications and/or list servers for
27 public involvement satisfy the notification requirements.

28 **I.D Severability**

29 **I.D.1** Effect of Invalidation

30 The provisions of this Permit are severable, and if any provision of this Permit, or the
31 application of any provision of this Permit to any circumstance is contested and/or held
32 invalid, the application of such provision to other circumstances and the remainder of this
33 Permit will not be affected thereby. Invalidation of any state statutory or regulatory
34 provision which forms the basis for any Condition of this Permit does not affect the
35 validity of any other state statutory or regulatory basis for said Condition.

36 **I.D.2** Final Resolution

37 In the event that a Condition of this Permit is stayed for any reason, the Permittees will
38 continue to comply with the related applicable and relevant interim status standards in
39 WAC 173-303-400 until final resolution of the stayed Condition, unless Ecology
40 determines compliance with the related applicable and relevant interim status standards
41 would be technologically incompatible with compliance with other Conditions of this
42 Permit, which have not been stayed, or unless the HFFACO authorizes an alternative
43 action, in which case the Permittees will comply with the HFFACO.

1 **I.E Duties and Requirements**

2 **I.E.1** Duty to Comply

3 The Permittees will comply with all Conditions of this Permit, except to the extent and
4 for the duration such noncompliance is authorized by an emergency Permit issued under
5 WAC 173-303-804. Any Permit noncompliance other than noncompliance authorized by
6 an emergency Permit constitutes a violation of Chapter 70.105 RCW, as amended, and is
7 grounds for enforcement action, Permit termination, modification or revocation and
8 reissuance of the Permit, and/or denial of a Permit renewal application.

9 **I.E.2** Compliance Not Constituting Defense

10 Compliance with the terms of this Permit does not constitute a defense to any order
11 issued or any action brought under Section 3007, 3008, 3013, or 7003 of RCRA
12 (42 U.S.C. Sections 6927, 6928, 6934, and 6973), Section 104, 106(a) or 107 of the
13 *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
14 [42 U.S.C. Sections 9604, 9606(a), and 9607], as amended by the *Superfund Amendments*
15 *and Reauthorization Act of 1986* (42 U.S.C. 9601 et seq.), or any other federal, state, or
16 local law governing protection of public health, or the environment; provided, however,
17 that compliance with this Permit during its term constitutes compliance at those areas
18 subject to this Permit for the purpose of enforcement with WAC 173-303-140,
19 WAC 173-303-180, WAC 173-303-280 through -395, WAC 173-303-600 through -680,
20 WAC 173-303-810, and WAC 173-303-830, except for Permit modifications and those
21 requirements not included in the Permit that become effective by statute, or that are
22 promulgated under 40 CFR Part 268 restricting the placement of dangerous waste in or
23 on the land.

24 **I.E.3** Duty to Reapply

25 If the Permittees wish to continue an activity regulated by this Permit after the expiration
26 date of this Permit, the Permittees must apply for, and obtain a new Permit, in accordance
27 with WAC 173-303-806(6).

28 **I.E.4** Permit Expiration and Continuation

29 This Permit, and all Conditions herein, will remain in effect beyond the Permit's
30 expiration date until the effective date of the new Permit, if the Permittees have submitted
31 a timely, complete application for renewal per WAC 173-303-806 and, through no fault of
32 the Permittees, Ecology has not made a final Permit determination as set forth in
33 WAC 173-303-840.

34 **I.E.5** Need to Halt or Reduce Activity Not a Defense

35 It will not be a defense in the case of an enforcement action that it would have been
36 necessary to halt or reduce the permitted activity in order to maintain compliance with the
37 Conditions of this Permit.

38 **I.E.6** Duty to Mitigate

39 In the event of noncompliance with the Permit, the Permittees will take all reasonable
40 steps to minimize releases to the environment, and will carry out such measures as are
41 reasonable to minimize or correct adverse impacts on human health and the environment.

- 1 **I.E.7** Proper Operation and Maintenance
- 2 The Permittees will at all times properly operate and maintain all facilities and systems of
3 treatment and control, which are installed or used by the Permittees, to achieve
4 compliance with the Conditions of this Permit. Proper operation and maintenance
5 includes effective performance, adequate funding, adequate operator staffing and
6 training, and adequate laboratory and process controls, including appropriate quality
7 assurance/quality control procedures. This provision requires the operation of backup or
8 auxiliary facilities, or similar systems only when necessary to achieve compliance with
9 the Conditions of the Permit.
- 10 **I.E.8** Duty to Provide Information
- 11 The Permittees will furnish to Ecology, within a reasonable time, any relevant
12 information which Ecology may request to determine whether cause exists for modifying,
13 revoking and reissuing, or terminating this Permit, or to determine compliance with this
14 Permit. The Permittees will also furnish to Ecology, upon request, copies of records
15 required to be kept by this Permit.
- 16 **I.E.9** Inspection and Entry
- 17 The Permittees will allow Ecology, or authorized representatives, upon the presentation
18 of Ecology credentials, to:
- 19 **I.E.9.a** During operating hours, and at all other reasonable times, enter and inspect the Facility or
20 any unit or area within the Facility, where regulated activities are located or conducted, or
21 where records must be kept under the Conditions of this Permit;
- 22 **I.E.9.b** Have access to, and copy, at reasonable times, any records that must be kept under the
23 Conditions of this Permit;
- 24 **I.E.9.c** Inspect at reasonable times any portion of the Facility, equipment (including monitoring
25 and control equipment), practices, or operations regulated or required under this Permit;
26 and,
- 27 **I.E.9.d** Sample or monitor, at reasonable times, for the purposes of assuring Permit compliance,
28 or as otherwise authorized by state law, as amended, for substances or parameters at any
29 location.
- 30 **I.E.10** Monitoring and Records
- 31 **I.E.10.a** Samples and measurements taken by the Permittees for the purpose of monitoring
32 required by this Permit will be representative of the monitored activity. Sampling
33 methods will be in accordance with WAC 173-303-110 or 40 CFR 261, unless otherwise
34 specified in this Permit, or agreed to in writing by Ecology. Analytical methods will be
35 as specified in the most recently published test procedure of the documents cited in
36 WAC 173-303-110(3)(a) through (h), unless otherwise specified in this Permit, or agreed
37 to in writing by Ecology.
- 38 **I.E.10.b** The Permittees will retain at the TSD unit(s), or other locations approved by Ecology, as
39 specified in Parts III, V, and/or VI of this Permit, records of monitoring information
40 required for compliance with this Permit, including calibration and maintenance records
41 and all original strip chart recordings for continuous monitoring instrumentation, copies
42 of reports and records required by this Permit, and records of data used to complete the
43 application for this Permit for a period of at least ten (10) years from the date of the
44 sample, measurement, report, or application, unless otherwise required for certain

- 1 information by other Conditions of this Permit. This information may be retained on
2 electronic media.
- 3 **I.E.10.c** The Permittees will retain at the Facility, or other approved location, records of all
4 monitoring and maintenance records, copies of all reports and records required by this
5 Permit, and records of all data used to complete the application for this Permit, which are
6 not associated with a particular TSD unit, for a period of at least ten (10) years from the
7 date of certification of completion of post-closure care, or corrective action for the
8 Facility, whichever is later. This information may be retained on electronic media.
- 9 **I.E.10.d** The record retention period may be extended by request of Ecology at any time by
10 notification, in writing, to the Permittees, and is automatically extended during the course
11 of any unresolved enforcement action regarding this Facility to ten (10) years beyond the
12 conclusion of the enforcement action.
- 13 **I.E.10.e** Records of monitoring information shall include:
- 14 **I.E.10.e.i** The date, exact place and time of sampling or measurements;
- 15 **I.E.10.e.ii** The individual who performed the sampling or measurements and their affiliation;
- 16 **I.E.10.e.iii** The dates the analyses were performed;
- 17 **I.E.10.e.iv** The individual(s) who performed the analyses and their affiliation;
- 18 **I.E.10.e.v** The analytical techniques or methods used; and,
- 19 **I.E.10.e.vi** The results of such analyses.
- 20 **I.E.11** Reporting Planned Changes
- 21 The Permittees will give notice to Ecology, as soon as possible, of any planned physical
22 alterations, or additions to the Facility subject to this Permit. Such notice does not
23 authorize any noncompliance with, or modification of, this Permit.
- 24 **I.E.12** Certification of Construction or Modification
- 25 **I.E.12.a** The Permittees may not commence treatment, storage, or disposal of dangerous wastes in
26 a new or modified portion of TSD units subject to this Permit until:
- 27 **I.E.12.b** The Permittees have submitted to Ecology, by certified mail, overnight express mail, or
28 hand delivery, a letter signed by the Permittees, and a registered professional engineer,
29 stating that the TSD unit has been constructed or modified in compliance with the
30 Conditions of this Permit; and,
- 31 **I.E.12.c** Ecology has inspected the modified or newly constructed TSD unit, and finds that it is in
32 compliance with the Conditions of this Permit; or
- 33 **I.E.12.d** Within fifteen (15) days of the date of receipt of the Permittees' letter, the Permittees have
34 not received notice from Ecology of its intent to inspect, prior inspection is waived, and
35 the Permittees may commence treatment, storage, and disposal of dangerous waste.
- 36 **I.E.13** Anticipated Noncompliance
- 37 The Permittees will give at least thirty (30) days advance notice to Ecology of any
38 planned changes in the Facility subject to this Permit, or planned activity which might
39 result in noncompliance with Permit requirements.
- 40 If thirty (30) days advance notice is not possible, then the Permittees will give notice
41 immediately after the Permittees become aware of the anticipated noncompliance. Such
42 notice does not authorize any noncompliance with, or modification of, this Permit.

- 1 **I.E.14** Transfer of Permits
- 2 **I.E.14.a** This Permit may be transferred to a new owner/operator only if it is modified, or revoked
3 and reissued, pursuant to WAC 173-303-830(3)(b). Unit-specific portion may be
4 transferred to a new Co-operator as a Class ¹1 modification with prior approval of the
5 Department's director.
- 6 **I.E.14.b** Before transferring ownership or operation of the Facility during its operating life, the
7 owner/operator will notify the new owner/operator in writing, of the requirements of
8 WAC 173-303-290(2), -600 and -806, and this Permit.
- 9 **I.E.15** Immediate Reporting
- 10 **I.E.15.a** The Permittees will verbally report to Ecology any release of dangerous waste or
11 hazardous substances, or any noncompliance with the Permit which may endanger human
12 health or the environment. Any such information will be reported immediately after the
13 Permittees become aware of the circumstances.
- 14 **I.E.15.b** The immediate verbal report will contain all the information needed to determine the
15 nature and extent of any threat to human health and the environment, including the
16 following:
- 17 **I.E.15.b.i** Name, address, and telephone number of the Permittee responsible for the release or
18 noncompliant activity;
- 19 **I.E.15.b.ii** Name, location, and telephone number of the unit at which the release occurred;
- 20 **I.E.15.b.iii** Date, time, and type of incident;
- 21 **I.E.15.b.iv** Name and quantity of material(s) involved;
- 22 **I.E.15.b.v** The extent of injuries, if any;
- 23 **I.E.15.b.vi** An assessment of actual or potential hazard to the environment and human health, where
24 this is applicable;
- 25 **I.E.15.b.vii** Estimated quantity of released material that resulted from the incident; and,
- 26 **I.E.15.b.viii** Actions which have been undertaken to mitigate the occurrence.
- 27 **I.E.15.c** The Permittees will report, in accordance with Permit Conditions I.E.15.a and I.E.15.b,
28 any information concerning the release, or unpermitted discharge, of any dangerous waste
29 or hazardous substances that may cause an endangerment to drinking water supplies, or
30 ground or surface waters, or of a release, or discharge of dangerous waste, or hazardous
31 substances, or of a fire or explosion at the Facility, which may threaten human health or
32 the environment. The description of the occurrence and its cause will include all
33 information necessary to fully evaluate the situation and to develop an appropriate course
34 of action.
- 35 **I.E.15.d** For any release or noncompliance not required to be reported to Ecology immediately, a
36 brief account must be entered within two (2) working days, into the TSD Operating
37 Record, for a TSD unit, or into the Facility Operating Record, inspection log, or separate
38 spill log, for non-TSD units. This account must include: the time and date of the release,
39 the location and cause of the release, the type and quantity of material released, and a
40 brief description of any response actions taken or planned.
- 41 **I.E.15.e** All releases, regardless of location of release, or quantity of release, will be controlled
42 and mitigated, if necessary, as required by WAC 173-303-145(3).

- 1 **I.E.16** Written Reporting
- 2 Within fifteen (15) days after the time the Permittees become aware of the circumstances
- 3 of any noncompliance with this Permit, which may endanger human health or the
- 4 environment, the Permittees will provide to Ecology a written report. The written report
- 5 will contain a description of the noncompliance and its cause (including the information
- 6 provided in the verbal notification); the period of noncompliance including exact dates
- 7 and times; the anticipated time noncompliance is expected to continue, if the
- 8 noncompliance has not been corrected; corrective measures being undertaken to mitigate
- 9 the situation, and steps taken or planned to reduce, eliminate, and prevent recurrence of
- 10 the noncompliance.
- 11 **I.E.17** Manifest Discrepancy Report
- 12 **I.E.17.a** For dangerous waste received from outside the Facility, whenever a significant
- 13 discrepancy in a manifest is discovered, the Permittees will attempt to reconcile the
- 14 discrepancy. If not reconciled within fifteen (15) days of discovery, the Permittees will
- 15 submit a letter report in accordance with WAC 173-303-370(4), including a copy of the
- 16 applicable manifest or shipping paper, to Ecology.
- 17 **I.E.17.b** For dangerous waste which is being transported within the Facility (i.e., shipment of
- 18 on-site generated dangerous waste), whenever a significant discrepancy in the shipping
- 19 papers (see Permit Condition II.Q.1) is discovered, the Permittees will attempt to
- 20 reconcile the discrepancy. If not reconciled within fifteen (15) days of discovery, the
- 21 Permittees will note the discrepancy in the receiving unit's Operating Record.
- 22 **I.E.18** Unmanifested Waste Report
- 23 The Permittees will follow the provisions of WAC 173-303-370 for the receipt of any
- 24 dangerous waste shipment from off-site. The Permittees will also submit a report in
- 25 accordance with WAC 173-303-390(1) to Ecology within fifteen (15) days of receipt of
- 26 any unmanifested dangerous waste shipment received from off-site sources.
- 27 **I.E.19** Other Noncompliance
- 28 The Permittees will report to Ecology all instances of noncompliance, not otherwise
- 29 required to be reported elsewhere in this Permit, at the time the Annual Dangerous Waste
- 30 Report is submitted.
- 31 **I.E.20** Other Information
- 32 Whenever the Permittees become aware that they have failed to submit any relevant facts
- 33 in a Permit application, closure plan, or post-closure plan, or submitted incorrect
- 34 information in a Permit application, closure plan, or post-closure plan, or in any report to
- 35 Ecology, the Permittees will promptly submit such facts or corrected information.
- 36 **I.E.21** Reports, Notifications, and Submissions
- 37 All written reports, notifications or other submissions, which are required by this Permit
- 38 to be sent, or given to the Director or Ecology, should be sent certified mail, overnight
- 39 express mail, or hand delivered, to the current address and telephone number shown
- 40 below. This address and telephone number may be subject to change.
- 41 Washington State Department of Ecology
- 42 Nuclear Waste Program
- 43 3100 Port of Benton Blvd
- 44 Richland, Washington 99354
- 45 Telephone: (509) 372-7950

1 Telephonic and oral reports/notifications also need to be provided to Ecology's Richland
2 Office.

3 Ecology will give the Permittees written notice of a change in address or telephone
4 number. It is the responsibility of the Permittees to ensure any required reports,
5 notifications, or other submissions are transmitted to the addressee listed in this
6 Condition. However, the Permittees will not be responsible for ensuring verbal and
7 written correspondence reaches a new address or telephone number until after their
8 receipt of Ecology's written notification.

9 **I.E.22 Annual Report**

10 The Permittees will comply with the annual reporting requirements of
11 WAC 173-303-390(2)(a) through (e), and (g).

12 **I.F Signatory Requirement**

13 All applications, reports, or information submitted to Ecology, which require
14 certification, will be signed and certified in accordance with WAC 173-303-810(12) and
15 (13). All other reports required by this Permit and other information requested by
16 Ecology will be signed in accordance with WAC 173-303-810(12).

17 **I.G Confidential Information**

18 The Permittees may declare as confidential any information required to be submitted by
19 this Permit, at the time of submission, in accordance with WAC 173-303-810(15).

20 **I.H Documents to be Maintained at Facility Site**

21 The Permittees will maintain at the Facility, or some other location approved by Ecology,
22 the following documents and amendments, revisions, and modifications to these
23 documents: (1) This Permit and all Attachments; and (2) The Hanford Facility Operating
24 Record.

25 All dangerous waste Part B permit applications, post closure permit applications, and
26 closure plan applications are maintained in the Administrative Record located at
27 2440 Stevens, Room 1101, Richland, Washington.

28 Other approved locations: (1) 700 Area, (2) Locations within the City of Richland under
29 control of one or more of the Permittees, (3) Administrative Record locations within the
30 Stevens Center complex, (4) Consolidated Information Center at Washington State
31 University, Tri-Cities. (5) Archived records at the National Archives and Records
32 Administration (NARA), Pacific Alaska Region, 6125 Sand Point Way NE, Seattle,
33 Washington, 98115-7999.

34 These documents will be maintained for ten (10) years after post-closure care or
35 corrective action for the Facility, whichever is later, has been completed and certified as
36 complete.

1 **PART II GENERAL FACILITY CONDITIONS**

2 **II.A Facility Contingency Plan**

3 **II.A.1** The Permittees will immediately carry out applicable provisions of the *Hanford*
4 *Emergency Management Plan* as provided in Permit Attachment 4, pursuant to
5 WAC 173-303-360(2), whenever there is an incident meeting the criteria of Permit
6 Attachment 4, Section 4.2. Enforceable portions of Permit Attachment 4, *Hanford*
7 *Emergency Management Plan* (DOE/RL-94-02) are identified in Permit Attachment 4,
8 Appendix A.

9 **II.A.2** The Permittees will comply with the requirements of WAC 173-303-350(4), as
10 provided in the *Hanford Emergency Management Plan* (Permit Attachment 4). The
11 *Hanford Emergency Management Plan* provides reference to the need for unit-specific
12 contingency documentation. Unit-specific contingency documentation for Part III,
13 TSD units is included in Part III of this Permit. Unit-specific contingency documentation
14 for Part V and VI TSD units required by this Permit condition is maintained in the
15 Hanford Facility Operating Record, Unit-Specific files.

16 **II.A.3** The Permittees will review and amend, if necessary, the applicable portions of the
17 *Hanford Emergency Management Plan*, as provided in Permit Attachment 4, pursuant to
18 WAC 173-303-350(5), and in accordance with the provisions of WAC 173-303-830(4).
19 The Permittees will be able to demonstrate how Amendments to the applicable portions
20 are controlled. The plan will be amended within a period of time agreed upon by
21 Ecology.

22 **II.A.4** The Permittees will comply with the requirements of WAC 173-303-350(3) and -360(1)
23 concerning the emergency coordinator, except the names and home telephone numbers
24 will be on file with the single point-of-contact, phone number (509) 373-3800 or
25 375-2400 (for PNNL units) as described in the *Hanford Emergency Management Plan*.

26 **II.A.5** The Permittees will comply with contingency planning requirements using a “One Plan”
27 contingency plan in accordance with WAC 173-303-350(2) and WAC 173-303-
28 201(9)(a).

29 **II.B Preparedness and Prevention**

30 **II.B.1** The Permittees will equip the Facility with the equipment specified in
31 WAC 173-303-340(1) as specified in the *Hanford Emergency Management Plan*
32 (Permit Attachment 4). Unit-specific preparedness and prevention provisions are
33 included in Parts III, V, and/or VI of this Permit.

34 **II.B.2** The Permittees will test and maintain the equipment specified in Permit Condition II.B.1
35 as necessary to assure proper operation in the event of emergency.

36 **II.B.3** The Permittees will maintain access to communications or alarms pursuant to
37 WAC 173-303-340(2), as provided in the *Hanford Emergency Management Plan*
38 (Permit Attachment 4) and unit-specific contingency plans.

39 **II.B.4** The Permittees will comply with WAC 173-303-340(4) and WAC 173-303-355(1)
40 pertaining to arrangements with local authorities.

41 **II.B.5** Based on the arrangements with local authorities required by WAC 173-303-340(4)
42 documented in Permit Attachment 4, Table 3-1, the Permittees will maintain the
43 Memorandums of Understanding to comply with WAC 173-303-350(4)(b). The Hanford
44 Facility Memorandums of Understanding with local authorities provides emergency

1 planning and coordination equivalent to submittal of the contingency plan to local
2 authorities

3 **II.C Personnel Training**

4 **II.C.1** The Permittees will conduct personnel training as required by WAC 173-303-330. The
5 Permittees will maintain documents in accordance with WAC 173-303-330(2) and (3).
6 Training records may be maintained in the Hanford Facility Operating Record, or on
7 electronic data storage.

8 **II.C.2** All Hanford Facility personnel will receive general Facility training within six (6) months
9 of hire. This training will provide personnel with orientation of dangerous waste
10 management activities being conducted at the Hanford Facility. This training will
11 include:

12 **II.C.2.a** Description of emergency signals and appropriate personnel response;

13 **II.C.2.b** Identification of contacts for information regarding dangerous waste management
14 activities;

15 **II.C.2.c** Introduction to waste minimization concepts;

16 **II.C.2.d** Identification of contact(s) for emergencies involving dangerous waste; and

17 **II.C.2.e** Familiarization with the applicable portions of the *Hanford Emergency Management*
18 *Plan*.

19 **II.C.3** Description of training plans for personnel assigned to TSD units subject to this Permit
20 are delineated in the unit-specific Chapters in Parts III, V, and/or VI of this Permit.

21 **II.C.4** The Permittees will provide the necessary training to non-Facility personnel (i.e., visitors,
22 sub-contractors), as appropriate, for the locations of such personnel, and the activities that
23 will be undertaken. At a minimum, this training will describe dangerous waste
24 management hazards at the Facility.

25 **II.D Waste Analysis**

26 **II.D.1** All waste analyses required by this Permit will be conducted in accordance with a written
27 Waste Analysis Plan (WAP), or sampling and analysis plan (SAP). Operating TSD units
28 will have a WAP, which will be approved through incorporation of the TSD unit into
29 Part III of this Permit. Closing TSD units, and units in post-closure, should have a SAP
30 and, if necessary, a WAP, which will be approved through incorporation of the TSD unit
31 into Part V and/or VI of this Permit.

32 **II.D.2** Until a WAP is implemented in accordance with Permit Condition II.D.1., any unit(s)
33 identified in Parts III, V, and/or VI of this Permit, without a unit-specific WAP approved
34 by Ecology, will not treat, store, or dispose of dangerous waste, unless specified
35 otherwise by Ecology in writing.

36 **II.D.3** Each TSD unit WAP will include:

37 **II.D.3.a** The parameters for which each dangerous waste will be analyzed, and the rationale for
38 selecting these parameters; (i.e., how analysis for these parameters will provide sufficient
39 information on the waste properties to comply with WAC 173-303-300(1), (2), (3),
40 and (4);

41 **II.D.3.b** The methods of obtaining or testing for these parameters;

42 **II.D.3.c** The methods for obtaining representative samples of wastes for analysis (representative
43 sampling methods are discussed in WAC 173-303-110(2));

- 1 **II.D.3.d** The frequency with which analysis of a waste will be reviewed, or repeated, to ensure
2 that the analysis is accurate and current;
- 3 **II.D.3.e** The waste analyses which generators have agreed to supply;
- 4 **II.D.3.f** Where applicable, the methods for meeting the additional waste analysis requirements for
5 specific waste management methods, as specified in WAC 173-303-140(4)(b),
6 WAC 173-303-395(1), WAC 173-303-630 through 173-303-670, and 40 CFR 264.1034,
7 264.1063, 284(a), and 268.7, for final status facilities;
- 8 **II.D.3.f.i** For off-site facilities, the procedures for confirming that each dangerous waste received
9 matches the identity of the waste specified on the accompanying manifest, or shipping
10 paper. This includes at least:
- 11 **II.D.3.f.i.a** The procedure for identifying each waste movement at the Facility; and,
- 12 **II.D.3.f.i.b** The method for obtaining a representative sample of the waste to be identified, if the
13 identification method includes sampling.
- 14 **II.D.3.f.ii** For surface impoundments exempted from Land Disposal Restrictions (LDR) under
15 40 CFR 268.4(a), incorporated by reference in WAC 173-303-140(2), the procedures and
16 schedules for:
- 17 **II.D.3.f.iii** The sampling of impoundment contents;
- 18 **II.D.3.f.iv** The analysis of test data; and
- 19 **II.D.3.f.v** The annual removal of residues that are not delisted under 40 CFR 260.22, or which
20 exhibit a characteristic of hazardous waste and either;
- 21 **II.D.3.f.v.a** Do not meet applicable treatment standards of 40 CFR Part 268, Subpart D; or
- 22 **II.D.3.f.v.b** Where no treatment standards have been established:
- 23 **II.D.3.f.v.b.1** Such residues are prohibited from land disposal under 40 CFR 268.32, or RCRA
24 Section 3004(d); or
- 25 **II.D.3.f.v.b.2** Such residues are prohibited from land disposal under 40 CFR 268.33(f); and
- 26 **II.D.4** Should waste analysis be required by this Permit at a location on the Facility, other than
27 at a TSD unit, a SAP will be maintained by the Permittees, and made available upon
28 request from Ecology. Any SAP required by this Permit, not associated with a particular
29 TSD unit, will include the elements of Permit Conditions II.D.3.a.
- 30 **II.E** **Quality Assurance/Quality Control**
- 31 **II.E.1** All WAPs and SAPs required by this Permit will include a quality assurance/quality
32 control (QA/QC) plan, or equivalent, to document all monitoring procedures to ensure
33 that all information, data, and resulting decisions are technically sound, statistically valid,
34 and properly documented in accordance with HFFACO Action Plan §6.5, Quality
35 Assurance, and reported/made available in accordance with HFFACO Action Plan §9.6,
36 Data Access and Delivery Requirements.
- 37 **II.E.2** The level of QA/QC for the collection, preservation, transportation, and analysis of each
38 sample required for implementation of this Permit may be based upon an Ecology-
39 approved Data Quality Objective (DQO) for the sample. These DQOs will be approved
40 by Ecology in writing or through incorporation of unit plans and Permits into Parts III, V,
41 and/or VI of this Permit.

- 1 **II.F Ground Water and Vadose Zone Monitoring**
- 2 The Permittees will comply with the ground water monitoring requirements of
3 WAC 173-303-645. This Condition will apply only to those wells the Permittees use for
4 the ground water monitoring programs applicable to the TSD units incorporated into
5 Parts III, V, and/or VI of this Permit. Where releases from TSD units subject to this
6 Permit have been documented or confirmed by investigation, or where vadose zone
7 monitoring is proposed for integration with ground water monitoring, the Permittees will
8 evaluate the applicability of vadose zone monitoring. The Permittees will consult with
9 Ecology regarding the implementation of these requirements. If agreed to by Ecology,
10 integration of ground water and vadose zone monitoring, for reasons other than this
11 Permit, may be accommodated by this Permit. Results from other investigation activities
12 will be used whenever possible to supplement and/or replace sampling required by this
13 Permit.
- 14 **II.F.1 Purgewater Management**
- 15 Purgewater will be handled in accordance with the requirements set forth in permit
16 Attachment 10, *Purgewater Management Plan*.
- 17 **II.F.2 Well Inspection and Maintenance**
- 18 **II.F.2.a** The Permittees will inspect the integrity of active resource protection wells as defined by
19 WAC 173-160-410(13), subject to this Permit, at least once every five (5) years as
20 specified in the *Hanford Well Maintenance and Inspection Plan* (Permit Attachment 8).
21 These inspections will be recorded in the Operating Record.
- 22 **II.F.2.b** The Permittees will evaluate resource protection wells subject to this Permit according to
23 the *Hanford Well Maintenance and Inspection Plan* (Permit Attachment 8) and the
24 *Policy on Remediation of Existing Wells and Acceptance Criteria for RCRA and*
25 *CERCLA*, June 1990 (Permit Attachment 7). The Permittees will submit a permit
26 modification request to Ecology to decommission or maintain wells as necessary to
27 ensure compliance with WAC 173-303-645(8)(c). This permit modification request will
28 include a schedule of compliance, which may incorporate by reference applicable
29 schedule(s) in HFFACO Milestone M-24. For Wells to be decommissioned, this permit
30 modification must also include a request for installation of replacement wells, if
31 necessary, to ensure compliance with WAC 173-303-645 requirements.
- 32 **II.F.2.c** Ecology will receive a notice of intent (NOI) in writing at least seventy-two (72) hours
33 before the Permittees decommission (excluding maintenance activities) any well subject
34 to this Permit.
- 35 **II.F.2.d** For wells subject to this Permit, the Permittees will achieve full compliance with
36 Chapter 173-160 WAC and Chapter 18.104 RCW by replacing non-compliant wells
37 subject to the permit with new wells under the schedule in HFFACO Milestone M-24, as
38 amended, incorporated by reference into this Permit.
- 39 **II.F.3 Well Construction**
- 40 All wells constructed pursuant to this Permit will be constructed in compliance with
41 Chapter 173-160 WAC.
- 42 **II.G Siting Criteria**
- 43 The Permittees will comply with the applicable notice of intent and siting criteria of
44 WAC 173-303-281 and WAC 173-303-282, respectively.

- 1 **II.H Recordkeeping and Reporting**
- 2 The provisions of WAC 173-303-620 are not applicable to the Hanford Facility because
- 3 the USDOE is both owner and operator of the Hanford Facility.
- 4 WAC 173-303-620(1)(c).
- 5 **II.I Facility Operating Record**
- 6 **II.I.1 The Permittees will maintain a written Facility Operating Record until ten (10) years after**
- 7 post-closure, or corrective action is complete and certified for the Facility, whichever is
- 8 later. Except as specifically provided otherwise in this Permit, the Permittees will also
- 9 record all information referenced in this Permit in the Facility Operating Record within
- 10 seven (7) working days after the information becomes available. A TSD unit-specific
- 11 Operating Record will be maintained for each TSD unit at a location identified in
- 12 Parts III, V, and VI of this Permit. This information may be maintained on electronic
- 13 media. Each TSD unit-specific Operating Record will be included by reference in the
- 14 Facility Operating Record. Information required in each TSD unit-specific Operating
- 15 Record is identified on a unit-by-unit basis in Part III, V, or VI of this Permit. The
- 16 Facility Operating Record will include, but not be limited to, the following information.
- 17 **II.I.1.a A description of the system(s) currently utilized to identify and map solid waste**
- 18 management units and their locations. The description of the system(s) is required to
- 19 include an identification of on-site access to the system's data, and an on-site contact
- 20 name and telephone number. In addition to, or as part of, this system(s), the Permittees
- 21 will also maintain a list identifying active ninety (90)-day waste storage areas, and
- 22 dangerous waste satellite accumulation areas and their locations. The list will identify the
- 23 location, the predominant waste types managed at the area, and a date identifying when
- 24 the list was compiled. Maps will be provided by the Permittees upon request by Ecology;
- 25 **II.I.1.b Records and results of waste analyses required by WAC 173-303-300;**
- 26 **II.I.1.c An identification of the system(s) currently utilized to generate Occurrence Reports. The**
- 27 identification of the system(s) is required to include a description, an identification of an
- 28 on-site location of hard-copy Occurrence Reports, an identification of on-site access to
- 29 the system's data, and an on-site contact name and telephone number;
- 30 **II.I.1.d Copies of all unmanifested waste reports;**
- 31 **II.I.1.e The *Hanford Emergency Management Plan*, as well as summary reports, and details of all**
- 32 incidents that require implementing the contingency plan, as specified in
- 33 WAC 173-303-360(2)(k);
- 34 **II.I.1.f An identification of the system(s) currently utilized and being developed to record**
- 35 personnel training records and to develop training plans. The identification of the
- 36 system(s) is required to include a description, an identification of on-site access to the
- 37 system's data, and an on-site contact name and telephone number;
- 38 **II.I.1.g Preparedness and prevention arrangements made pursuant to WAC 173-303-340(4) and**
- 39 documentation of refusal by state or local authorities that have declined to enter into
- 40 agreements in accordance with WAC 173-303-340(5);
- 41 **II.I.1.h Reserved Condition;**
- 42 **II.I.1.i Reserved Condition;**
- 43 **II.I.1.j Documentation (e.g., waste profile sheets) of all dangerous waste transported to or from**
- 44 any TSD unit subject to this Permit. This documentation will be maintained in the
- 45 receiving unit's Operating Record from the time the waste is received;

- 1 **II.I.1.k** An identification of the system(s) currently utilized to cross-reference waste locations to
 2 specific manifest document numbers. The identification of the system(s) is required to
 3 include a thorough description, an identification of an on-site location of a hard-copy data
 4 report, an identification of on-site access to the system's data, and an on-site contact
 5 name and telephone number;
- 6 **II.I.1.l** Reserved Condition;
- 7 **II.I.1.m** Annual Reports required by this Permit;
- 8 **II.I.1.n** An identification of all systems currently utilized to record monitoring information,
 9 including all calibration and maintenance records, and all original strip chart recordings
 10 for continuous monitoring instrumentation. The identification of systems will include a
 11 description of the systems. The descriptions will include a confirmation that the criteria
 12 of Permit Condition I.E.10 is provided by the utilization of the system. The identification
 13 of the systems will also include an identification of on-site access to the system's data, an
 14 on-site contact name and telephone number;
- 15 **II.I.1.o** Reserved Condition;
- 16 **II.I.1.p** Summaries of all records of ground water corrective action required by
 17 WAC 173-303-645;
- 18 **II.I.1.q** An identification of the system(s) currently being utilized and being developed to
 19 evaluate compliance with the Conditions of this Permit and with Chapter 173-303 WAC.
 20 The identification of the system(s) will include a description of the system(s), an
 21 identification of on-site access to the system's data, and an on-site contact name and
 22 telephone number. The description of the system(s) will also include a definition of
 23 which portion(s) of the system(s) is accessible to Ecology;
- 24 **II.I.1.r** All deed notifications required by this Permit (to be included by reference);
- 25 **II.I.1.s** All inspection reports required by this Permit; and
- 26 **II.I.1.t** All other reports as required by this Permit, including design change documentation and
 27 nonconformance documentation.
- 28 **II.J Facility Closure**
- 29 **II.J.1** Final closure of the Hanford Facility will be achieved when closure activities for all TSD
 30 units have been completed, as specified in Parts III, IV, V, or VI of this Permit.
 31 Completion of these activities will be documented using either certifications of closure,
 32 in accordance with WAC 173-303-610(6), or certifications of completion of post-closure
 33 care, in accordance with WAC 173-303-610(11).
- 34 **II.J.2** The Permittees will close all TSD units as specified in Parts III, V, and/or VI of this
 35 Permit.
- 36 **II.J.3** The Permittees will submit a written notification of, or request for, a Permit modification
 37 in accordance with the provisions of WAC 173-303-610(3)(b), whenever there is a
 38 change in operating plans, facility design, or the approved closure plan. The written
 39 notification or request must include a copy of the amended closure plan for review, or
 40 approval, by Ecology.
- 41 **II.J.4** The Permittees will close the Facility in a manner that:
- 42 **II.J.4.a** Minimizes the need for further maintenance;

- 1 **II.J.4.b** Controls, minimizes or eliminates, to the extent necessary to protect human health and
 2 the environment, post-closure escape of dangerous waste, dangerous constituents,
 3 leachate, contaminated run-off, or dangerous waste decomposition products, to the
 4 ground, surface water, ground water, or the atmosphere; and
- 5 **II.J.4.c** Returns the land to the appearance and use of surrounding land areas to the degree
 6 possible, given the nature of the previous dangerous waste activity.
- 7 **II.J.4.d** Meets the requirements of WAC 173-303-610(2)(b).
- 8 **II.K** **Soil/Ground Water Closure Performance Standards**
- 9 **II.K.1** For purposes of Permit Condition II.K, the term "clean closure" shall mean the status of a
 10 TSD unit at the Facility which has been closed to the cleanup levels prescribed by
 11 WAC 173-303-610(2)(b), provided certification of such closure has been accepted by
 12 Ecology.
- 13 **II.K.2** The Permittees may close a TSD unit to background levels as defined in Ecology
 14 approved Hanford Site Background Documents, if background concentrations exceed the
 15 levels prescribed by Permit Condition II.K.1. Closure to these levels, provided the
 16 Permittees comply with all other closure requirements for a TSD unit as identified in
 17 Parts III, V, and/or VI of this Permit, shall be deemed as "clean closure."
- 18 **II.K.3** Except for those TSD units identified in Permit Conditions II.K.1, II.K.2, or II.K.4, the
 19 Permittees may close a TSD unit to a cleanup level specified under Method C of
 20 Chapter 173-340 WAC. Closure of a TSD unit to these levels, provided the Permittees
 21 comply with all other closure requirements for the TSD unit as specified in Parts III, V,
 22 and/or VI of the Permit, and provided the Permittees comply with Permit
 23 Conditions II.K.3.a through II.K.3.c, shall be deemed as a "modified closure."
- 24 **II.K.3.a** For "modified closures," the Permittees shall provide institutional controls in accordance
 25 with WAC 173-340-440 which restricts access to the TSD unit for a minimum of
 26 five (5) years following completion of closure. The specific details and duration of
 27 institutional controls shall be specified in Parts III, V, and/or VI of this Permit for a
 28 particular TSD unit.
- 29 **II.K.3.b** For "modified closures," the Permittees shall provide periodic assessments of the
 30 TSD unit to determine the effectiveness of the closure. The specific details of the
 31 periodic assessments shall be specified in Parts III, V, and/or VI of this Permit. The
 32 periodic assessments shall include, as a minimum, a compliance monitoring plan in
 33 accordance with WAC 173-340-410 that will address the assessment requirements on a
 34 unit-by-unit basis. At least one (1) assessment activity shall take place after a period of
 35 five (5) years from the completion of closure, which will demonstrate whether the soils
 36 and ground water have been maintained at or below the allowed concentrations as
 37 specified in Parts III, V, or VI of this Permit. Should the required assessment activities
 38 identify contamination above the allowable limits as specified in Parts III, V, and/or VI,
 39 the TSD unit must be further remediated, or the requirements of II.K.4 must be followed.
 40 Should the required assessment activities demonstrate that contamination has diminished,
 41 or remained the same, the Permittees may request that Ecology reduce, or eliminate the
 42 assessment activities and/or institutional controls.
- 43 **II.K.3.c** For "modified closures," the Permittees shall specify the particular activities required by
 44 this Condition in a Post-Closure Permit application.

- 1 **II.K.4** Any TSD unit for which Permit Conditions II.K.1, II.K.2, or II.K.3, are not chosen as the
2 closure option, closing the TSD unit as a landfill may be selected. Closure and
3 post-closure of the TSD unit as a landfill, must follow the procedures and requirements
4 specified in WAC 173-303-610.
- 5 **II.K.5** The cleanup option selected shall be specified in Parts III, V, and/or VI of this Permit, and
6 shall be chosen with consideration of the potential future site use for that TSD unit/area.
7 Definitions contained within Chapter 173-340 WAC shall apply to Permit Condition II.K.
8 Where definitions are not otherwise provided by this Permit, the HFFACO, or
9 Chapter 173-303 WAC.
- 10 **II.K.6** Deviations from a TSD unit closure plan required by unforeseen circumstances
11 encountered during closure activities, which do not impact the overall closure strategy,
12 but provide equivalent results, shall be documented in the TSD unit-specific Operating
13 Record and made available to Ecology upon request, or during the course of an
14 inspection.
- 15 **II.K.7** Where agreed to by Ecology, integration of other statutorily or regulatory mandated
16 cleanups may be accommodated by this Permit. Results from other cleanup investigation
17 activities shall be used whenever possible to supplement and/or replace TSD unit closure
18 investigation activities. All, or appropriate parts of, multipurpose cleanup and closure
19 documents can be incorporated into this Permit through the Permit modification process.
20 Cleanup and closures conducted under any statutory authority, with oversight by either
21 Ecology or the EPA, which meet the equivalent of the technical requirements of Permit
22 Conditions II.K.1 through II.K.4, may be considered as satisfying the requirements of this
23 Permit.
- 24 **II.L Design and Operation of the Facility**
- 25 **II.L.1** Proper Design and Construction
- 26 The Permittees will design, construct, maintain, and operate the Facility to minimize the
27 possibility of a fire, explosion, or any unplanned sudden or non-sudden release of
28 hazardous substances to air, soil, ground water, or surface water, which could threaten
29 human health, or the environment.
- 30 **II.L.2** Design Changes, Nonconformance, and As-Built Drawings
- 31 **II.L.2.a** After completing the Permit modification process in Permit Condition I.C.3, the
32 Permittees will conduct all construction subject to this Permit in accordance with the
33 approved designs, plans and specifications that are required by this Permit, unless
34 authorized otherwise in Permit Conditions II.L.2.b or II.L.2.c. For purposes of Permit
35 Conditions II.L.2.b and II.L.2.c, an Ecology construction inspector, or TSD unit manager,
36 are designated representatives of Ecology.
- 37 **II.L.2.b** During construction of a project subject to this Permit, changes to the approved designs,
38 plans and specifications will be formally documented. All design change documentation
39 will be maintained in the TSD unit-specific Operating Record and will be made available
40 to Ecology upon request or during the course of an inspection. The Permittees will
41 provide copies of design change documentation affecting any critical system to Ecology
42 within five (5) working days of initiating the design change documentation.
43 Identification of critical systems will be included by the Permittees in each TSD
44 unit-specific dangerous waste Permit application, closure plan or Permit modification, as
45 appropriate. Ecology will review a design change documentation modifying a critical
46 system, and inform the Permittees in writing within two (2) working days, whether the

1 proposed design change documentation, when issued, will require a Class 1, 2, or 3
 2 Permit modification. If after two (2) working days Ecology has not responded, it will be
 3 deemed as acceptance of the design change documentation by Ecology.

II.L.2.c

4 During construction of a project subject to this Permit, any work completed which does
 5 not meet or exceed the standards of the approved design, plans and specifications will be
 6 formally documented with nonconformance documentation. All nonconformance
 7 documentation will be maintained in the TSD unit-specific Operating Record and will be
 8 made available to Ecology upon request, or during the course of an inspection. The
 9 Permittees will provide copies of nonconformance documentation affecting any critical
 10 system to Ecology within five (5) working days after identification of the
 11 nonconformance. Ecology will review nonconformance documentation affecting a
 12 critical system and inform the Permittees in writing, within two (2) working days,
 13 whether a Permit modification is required for any nonconformance, and whether prior
 14 approval is required from Ecology before work proceeds, which affects the
 15 nonconforming item. If Ecology does not respond within two (2) working days, it will be
 16 deemed as acceptance and no Permit modification will be required.

II.L.2.d

17 Upon completion of a construction project subject to this Permit, the Permittees will
 18 produce as-built drawings of the project which incorporate the design and construction
 19 modifications resulting from all project design change documentation and
 20 nonconformance documentation, as well as modifications made pursuant to
 21 WAC 173-303-830. The Permittees will place the drawings into the Operating Record
 22 within twelve (12) months of completing construction, or within an alternate period of
 23 time specified in a unit-specific Permit Condition in Part III or V of this Permit.

II.L.2.e

24 Facility Compliance

25 The Permittees in receiving, storing, transferring, handling, treating, processing, and
 26 disposing of dangerous waste, will design, operate, and/or maintain the Facility in
 27 compliance with all applicable federal, state, and local laws and regulations.

II.M**Security**

29 The Permittees will comply with the security provisions of WAC 173-303-310. The
 30 Permittees may comply with the requirements of WAC 173-303-310(2) on a unit-by-unit
 31 basis.

II.N**Receipt of Dangerous Wastes Generated Off-Site****II.N.1**

33 Receipt of Off-Site Waste

34 The Permittees will comply with Permit Conditions II.N.2 and II.N.3 for any dangerous
 35 wastes which are received from sources outside the United States, or from off-site
 36 generators.

II.N.2

37 Waste from Sources Outside the United States

38 The Permittees will meet the requirements of WAC 173-303-290(1) for waste received
 39 from outside the United States.

II.N.3

40 Notice to Generator

41 For waste received from off-site sources (except where the owner/operator is also the
 42 generator), the Permittees will inform the generator in writing that they have the
 43 appropriate Permits for, and will accept, the waste the generator is shipping, as required
 44 by WAC 173-303-290(3). The Permittees will keep a copy of this written notice as part
 45 of the TSD unit-specific Operating Record.

- 1 **II.O General Inspection Requirements**
- 2 **II.O.1** The Permittees will inspect the Facility to prevent malfunctions and deterioration,
3 operator errors, and discharges, which may cause or lead to the release of dangerous
4 waste constituents to the environment, or threaten human health. Inspections must be
5 conducted in accordance with the provisions of WAC 173-303-320(2). In addition to the
6 TSD unit inspections specified in Parts III, V, and/or VI, the following inspections will
7 also be conducted:
- 8 **II.O.1.a** The 100, 200 East, 200 West, 300, and 400 areas will be inspected annually.
- 9 **II.O.1.b** The Permittees will inspect the banks of the Columbia River, contained within the
10 Facility boundary, once a year. The inspection will be performed from the river, by boat,
11 and the inspectors will follow the criteria in Permit Condition II.O.1.c.
- 12 **II.O.1.c** The Permittees will visually inspect the areas identified in Permit Conditions II.O.1.a and
13 II.O.1.b for malfunctions, deterioration, operator errors, and discharges which may cause
14 or lead to the release of dangerous waste constituents to the environment, or that threaten
15 human health. Specific items to be noted are as follows:
- 16 **II.O.1.c.i** Remains of waste containers, labels, or other waste management equipment;
- 17 **II.O.1.c.ii** Solid waste disposal sites not previously identified for remedial action;
- 18 **II.O.1.c.iii** Uncontrolled waste containers (e.g., orphan drums);
- 19 **II.O.1.c.iv** Temporary or permanent activities that could generate an uncontrolled waste form; and
- 20 **II.O.1.c.v** Unpermitted waste discharges.
- 21 **II.O.1.d** The Permittees will notify Ecology at least seven (7) days prior to conducting these
22 inspections in order to allow representatives of Ecology to be present during the
23 inspections.
- 24 **II.O.2** If the inspection by the Permittees, conducted pursuant to Permit Condition II.O.1,
25 reveals any problems, the Permittees will take remedial action on a schedule agreed to by
26 Ecology.
- 27 **II.O.3** The inspection of high radiation areas will be addressed on a case-by-case basis in either
28 Part III of this Permit, or prior to the inspections required in Permit Condition II.O.1.
- 29 **II.P Manifest System**
- 30 **II.P.1** The Permittees will comply with the manifest requirements of WAC 173-303-370 for
31 waste received from off-site and WAC 173-303-180 for waste shipped off-site.
- 32 **II.P.2** Transportation of dangerous wastes along roadways, if such routes are not closed to
33 general public access at the time of transport, can be manifested pursuant to an alternate
34 tracking system as allowed by WAC 173-303-180(5). The alternate tracking system can
35 be a paper system or an electronic system. The roadways addressed by this condition are
36 a public or private right-of-way within or along the border of contiguous property where
37 the movement is under control of the USDOE. The alternate tracking system will consist
38 of documentation between the offering Hanford Facility location and the receiving
39 Hanford Facility location containing the following information:
- 40 **II.P.2.a** Hanford Facility offeror name, location, and telephone number;
- 41 **II.P.2.b** Hanford Facility receiver name, location, and telephone number;
- 42 **II.P.2.c** Description of waste;

- 1 **II.P.2.d** Number and type of containers;
- 2 **II.P.2.e** Total quantity of waste;
- 3 **II.P.2.f** Unit volume/weight;
- 4 **II.P.2.g** Dangerous waste number(s) or U.S. Department of Transportation hazard class; and
- 5 **II.P.2.h** Special handling instructions including emergency contacts.
- 6 **II.P.3** The Hanford Facility offeror and receiver will resolve any discrepancies of information
7 found related to Permit Conditions II.P.2.a through II.P.2.h.
- 8 **II.P.4** If the discrepancies cannot be resolved at the Hanford Facility receiving location, a new
9 Hanford Facility receiver location will be agreed upon, or the dangerous waste will be
10 returned to the offeror location. The documentation accompanying the movement of
11 dangerous waste will be updated to reflect the new receiving location.
- 12 **II.Q** **On-Site Transportation**
- 13 **II.Q.1** Documentation must accompany any on-site dangerous waste which is transported to or
14 from any TSD unit subject to this Permit, through or within the 600 Area, unless the
15 roadway is closed to general public access at the time of shipment. Waste transported by
16 rail or by pipeline is exempt from this Condition. This documentation will include the
17 following information, unless other unit-specified provisions are designated in Part III or
18 V of this Permit:
- 19 **II.Q.1.a** Generator's name, location, and telephone number;
- 20 **II.Q.1.b** Receiving TSD unit's name, location, and telephone number;
- 21 **II.Q.1.c** Description of waste;
- 22 **II.Q.1.d** Number and type of containers;
- 23 **II.Q.1.e** Total quantity of waste;
- 24 **II.Q.1.f** Unit volume/weight;
- 25 **II.Q.1.g** Dangerous waste number(s); and
- 26 **II.Q.1.h** Any special handling instructions.
- 27 **II.Q.2** All non-containerized solid, dangerous waste transported to or from TSD units, subject to
28 this Permit, will be covered to minimize the potential for material to escape during
29 transport.
- 30 **II.R** **Equivalent Materials**
- 31 **II.R.1** The Permittees may substitute an equivalent or superior product for any equipment or
32 materials specified in this Permit. Use of equivalent or superior products will not be
33 considered a modification of this Permit. A substitution will not be considered equivalent
34 unless it is at least as effective as the original equipment or materials in protecting human
35 health and the environment.
- 36 **II.R.2** The Permittees will place in the Operating Record (within seven [7] days after the change
37 is put into effect) the substitution documentation, accompanied by a narrative
38 explanation, and the date the substitution became effective. Ecology may judge the
39 soundness of the substitution.

- 1 **II.R.3** If Ecology determines that a substitution was not equivalent to the original, it will notify
2 the Permittees that the Permittees' claim of equivalency has been denied, of the reasons
3 for the denial, and that the original material or equipment must be used. If the product
4 substitution is denied, the Permittees will comply with the original approved product
5 specification, or find an acceptable substitution.
- 6 **II.S Land Disposal Restrictions**
- 7 Unless specifically identified otherwise in the HFFACO, the Permittees will comply with
8 all LDR requirements as set forth in WAC 173-303-140.
- 9 **II.T Access and Information**
- 10 To the extent that work required by this Permit must be done on property not owned or
11 controlled by the Permittees, the Permittees must utilize their best efforts to obtain access
12 and information at these locations.
- 13 **II.U Mapping of Underground Piping**
- 14 **II.U.1** Reserved
- 15 **II.U.2** Reserved
- 16 **II.U.3** The Permittees will maintain piping maps for existing, newly identified, and/or new
17 dangerous waste underground pipelines (including active, inactive, and abandoned
18 pipelines, which contain or contained dangerous waste subject to the provisions of
19 Chapter 173-303 WAC) at the Hanford Facility. The maps will identify the origin,
20 destination, direction of flow, size, depth and type (i.e., reinforced concrete, stainless
21 steel, cast iron, etc.), of each pipe, and the location of their diversion boxes, valve pits,
22 seal pots, catch tanks, receiver tanks, and pumps, and utilize Washington State Plane
23 Coordinates, NAD 83(91), meters. If the type of pipe material is not documented on
24 existing drawings, the most probable material type will be provided. The maps will also
25 identify whether the pipe is active, inactive, or abandoned. The age of all pipes requiring
26 identification pursuant to this Condition will be documented in an Attachment to the
27 submittal. If the age cannot be documented, an estimate of the age of the pipe will be
28 provided based upon best engineering judgment. These maps need not include the pipes
29 within a fenced tank farm or within a building/structure. These maps will be compiled
30 using documented QA/QC control methods and procedures outlined in DOE/RL-96-50,
31 *Hanford Facility RCRA Permit Mapping and Marking of Dangerous Waste Underground*
32 *Pipelines Report*, September 1996. These maps and any Attachments will be maintained
33 in the Facility Operating Record and be updated annually as required by Permit
34 Condition II.U.4.
- 35 **II.U.4** Permittees will maintain current all maps required by Permit Condition II.U.3. These
36 maps will be updated to incorporate new or revised information available by March 30th
37 of each year. By September 30th of each year, the Permittees will submit to Ecology a
38 list of maps that have been updated. The updated maps (including any Attachments) and
39 the annual list submitted to Ecology will be maintained in the Facility Operating Record.
- 40 **II.V Marking of Underground Piping**
- 41 The Permittees will maintain marking of underground pipelines located outside the
42 200 East, 200 West, 300, 400, 100N, and 100K Areas. These pipelines will be marked at
43 the point they pass beneath an area fence, at their origin and destination, at any point they
44 cross an improved road, and every 100 meters along the pipeline corridor where

1 practicable. The markers will be labeled with a sign that reads "Buried Dangerous Waste
2 Pipe" and will be visible from a distance of fifteen (15) meters.

3 **II.W Other Permits and/or Approvals**

4 **II.W.1** The Permittees will be responsible for obtaining all other applicable federal, state, and
5 local permits authorizing the development and operation of the Facility. To the extent
6 that work required by this Permit must be done under a permit and/or approval pursuant
7 to other regulatory authority, the Permittees will use their best efforts to obtain such
8 permits.

9 **II.W.2** All other permits related to dangerous waste management activities are severable and
10 enforceable through the permitting authority under which they are issued.

11 **II.W.3** All air emissions from units subject to this Permit will comply with all applicable state
12 and federal regulations pertaining to air emission controls, including but not limited to,
13 Chapter 173-400 WAC, *General Regulations for Air Pollution Sources*; Chapter 173-460
14 WAC, *Controls for New Sources of Toxic Air Pollutants*; and Chapter 173-480 WAC,
15 *Ambient Air Quality Standards and Emission Limits for Radionuclides*.

16 **II.X Schedule Extensions**

17 **II.X.1** The Permittees will notify Ecology in writing, as soon as possible, of any deviations or
18 expected deviations, from the schedules of this Permit. The Permittees will include with
19 the notification all information supporting their claim that they have used best efforts to
20 meet the required schedules. If Ecology determines that the Permittees have made best
21 efforts to meet the schedules of this Permit, Ecology will notify the Permittees in writing
22 by certified mail, that the Permittees have been granted an extension. Such an extension
23 will not require a Permit modification under Permit Condition I.C.3. Should Ecology
24 determine that the Permittees have not made best efforts to meet the schedules of this
25 Permit, Ecology may take such action as deemed necessary.

26 Copies of all correspondence regarding schedule extensions will be kept in the Operating
27 Record.

28 **II.X.2** Any schedule extension granted through the approved change control process identified
29 in the HFFACO will be incorporated into this Permit. Such a revision will not require a
30 Permit modification under Permit Condition I.C.3.

31 **II.Y Corrective Action**

32 In accordance with WAC 173-303-646 and WAC 173-303-815(2)(b)(ii), the Permittees
33 must conduct corrective action, as necessary to protect human health and the
34 environment, for releases of dangerous waste and dangerous constituents from solid
35 waste management units and areas of concern at the Facility, including releases that have
36 migrated beyond the Facility boundary. The Permittees may be required to implement
37 measures within the Facility to address releases, which have migrated beyond the
38 Facility's boundary. As specified in permit conditions II.Y.1.g, II.Y.2.a.iii, and II.Y.2.a.ii,
39 the Permittee's right to challenge Ecology's authority to impose corrective action with
40 respect to radionuclides, CPP Units (as identified under Permit Condition II.Y.2.a) and
41 selected solid waste management units not covered by the HFFACO at property currently
42 subleased to US Ecology, Inc. (as identified under Permit Condition II.Y.3.a.i), is
43 reserved until such time as Ecology chooses to impose corrective action in accordance
44 with the permit modification procedures of WAC 173-303-830.

- 1 **II.Y.1** Compliance with Chapter 173-340 WAC
- 2 In accordance with WAC 173-303-646, the Permittee must conduct corrective action
- 3 "as necessary to protect human health and the environment." To ensure that corrective
- 4 action will be conducted as necessary to protect human health and the environment,
- 5 except as provided in Permit Condition II.Y.2, the Permittee must conduct corrective
- 6 action in a manner consistent with the following provisions of Chapter 173-340 WAC:
- 7 **II.Y.1.a** As necessary to select a cleanup action in accordance with WAC 173-340-360 and
- 8 WAC 173-340-350 *Remedial investigation and feasibility study*.
- 9 **II.Y.1.b** WAC 173-340-360 *Selection of cleanup actions*.
- 10 **II.Y.1.c** WAC 173-340-400 *Implementation of the cleanup action*.
- 11 **II.Y.1.d** WAC 173-340-410 *Compliance monitoring requirements*.
- 12 **II.Y.1.e** WAC 173-340-420 *Periodic review*.
- 13 **II.Y.1.f** WAC 173-340-440 *Institutional controls*; and
- 14 **II.Y.1.g** WAC 173-340-700 through -760 cleanup standards, except that to the extent that Ecology
- 15 seeks to impose corrective action with respect to radionuclides regulated under the
- 16 provisions of the *Atomic Energy Act*, as amended, 42 U.S.C. § 2011 et seq., the
- 17 Permittees may challenge Ecology's authority to impose such corrective action through a
- 18 timely appeal of the Permit modification issued by Ecology without argument from
- 19 Ecology that such right has been waived by a failure to fully litigate that issue through an
- 20 appeal taken within thirty (30) days of the issuance of this Permit, and without argument
- 21 from the Permittees that such requirement fails to satisfy a cause for Permit modification
- 22 under WAC 173-303-830(3)(a).
- 23 **II.Y.2** Acceptance of Work Under Other Authorities or Programs and Integration with the
- 24 HFFACO
- 25 Corrective action is necessary to protect human health and the environment for all units
- 26 identified in Appendix B and Appendix C of the HFFACO. Notwithstanding Permit
- 27 Condition II.Y.1, work under other cleanup authorities or programs, including work under
- 28 the HFFACO, may be used to satisfy corrective action requirements, provided it protects
- 29 human health and the environment.
- 30 **II.Y.2.a** For past practice units identified in Appendix C of the HFFACO, as amended, as CPP
- 31 Units, Ecology accepts work under the HFFACO, as amended, and under the CERCLA
- 32 program, as satisfying corrective action requirements to the extent provided for in, and
- 33 subject to the reservations and requirements of, Permit Conditions II.Y.2.a.i through
- 34 II.Y.2.a.iv.
- 35 **II.Y.2.a.i** For any past practice unit identified in Appendix C of the HFFACO as a CPP unit, the
- 36 Permittee must comply with the requirements and schedules related to investigation and
- 37 cleanup of the CPP unit(s) developed and approved under the HFFACO, as amended.
- 38 The requirements and schedules related to investigation and cleanup of CPP units
- 39 currently in place under the HFFACO, as amended, and in the future developed and
- 40 approved under the HFFACO, as amended, are incorporated into this Permit by this
- 41 reference and apply under this Permit as if they were fully set forth herein. If the
- 42 Permittee is not in compliance with requirements of the HFFACO, as amended, that relate
- 43 to investigation or cleanup of CPP unit(s), Ecology may take action to independently
- 44 enforce the requirements as corrective action requirements under this Permit.

- 1 **II.Y.2.a.ii** For any past practice unit identified in Appendix C of the HFFACO as a CPP unit, in the
2 case of an interim Record of Decision (ROD), a final decision about satisfaction of
3 corrective action requirements will be made in the context of issuance of a final ROD.
- 4 **II.Y.2.a.iii** If EPA and Ecology, after exhausting the dispute resolution process under Section XXVI
5 of the HFFACO, cannot agree on requirements related to investigation or cleanup of CPP
6 unit(s), Ecology will notify the Permittees, in writing, of the disagreement and impose, in
7 accordance with the permit modification procedures of WAC 173-303-830, a requirement
8 for the Permittees to conduct corrective action for the subject units(s) in accordance with
9 Permit Condition II.Y.1. The Permittees may challenge Ecology's authority to impose
10 such corrective action requirements through a timely appeal of such Permit modification,
11 without argument from Ecology that the Permittee's right to raise such challenge has
12 been waived by a failure to fully litigate that issue through an appeal taken within thirty
13 (30) days of the issuance of this Permit, and without argument from the Permittee that
14 such requirement fails to satisfy a cause for Permit modification under
15 WAC 173-303-830(3)(a). Within 60 days of receipt of the above Permit modification, or
16 within some other reasonable period of time agreed to by Ecology and the Permittees, the
17 Permittees must submit for Ecology review and approval, a plan to conduct corrective
18 action in accordance with Permit Condition II.Y.1 for the subject unit(s). The Permittee's
19 plan may include a request that Ecology evaluate work under another authority or
20 program. Approved corrective action plans under this Permit Condition will be
21 incorporated into this Permit in accordance with the Permit modification procedures of
22 WAC 173-303-830.
- 23 **II.Y.2.a.iv** The Permittees must maintain information on corrective action for CPP units covered by
24 the HFFACO in accordance with Sections 9.0 and 10.0 of the HFFACO Action Plan.
25 In addition, the Permittees must maintain all reports and other information developed in
26 whole, or in part, to implement the requirements of Permit Condition II.Y.2.a, including
27 reports of investigations and all raw data, in the Hanford Facility Operating Record in
28 accordance with Permit Condition II.I. Information that is maintained in the Hanford Site
29 Administrative Record may be incorporated by reference into the Hanford Facility
30 Operating Record.
- 31 **II.Y.2.b** For past practice units identified in Appendix C of the HFFACO, as amended, as
32 R-CPP units, Ecology accepts work under the HFFACO, as amended, as satisfying
33 corrective action requirements to the extent provided for, and subject to the reservations
34 and requirements of, Permit Conditions II.Y.2.b.i through II.Y.2.b.ii.
- 35 **II.Y.2.b.i** For any past practice unit identified in Appendix C of the HFFACO, as amended, as an
36 R-CPP unit, the Permittees must comply with the requirements and schedules related to
37 investigation and cleanup of R-CPP units developed and approved under the HFFACO, as
38 amended. The requirements and schedules related to investigation and cleanup of
39 R-CPP units currently in place under the HFFACO, as amended, and in the future
40 developed and approved under the HFFACO, as amended, are incorporated into this
41 Permit by this reference and apply under this Permit as if they were fully set forth herein.
42 If the Permittee is not in compliance with requirements and schedules related to
43 investigation and cleanup of R-CPP units developed and approved under the HFFACO, as
44 amended, Ecology may take action to independently enforce the requirements as
45 corrective action requirements under this Permit.
- 46 **II.Y.2.b.ii** The Permittees must maintain information on corrective action for R-CPP units covered
47 by the HFFACO, as amended, in accordance with Sections 9.0 and 10.0 of the HFFACO
48 Action Plan. In addition, the Permittees must maintain all reports and other information

- 1 developed in whole, or in part, to implement the requirements of Permit
 2 Condition II.Y.2.b, including reports of investigations and all raw data, in the Hanford
 3 Facility Operating Record in accordance with Permit Condition II.I. Information that is
 4 maintained in the Hanford Site Administrative Record may be incorporated into the
 5 Hanford Facility Operating Record by reference.
- 6 **II.Y.2.c** For each TSD unit, when the Permittees submit a certification of closure or a certification
 7 of completion of post-closure care, or at an earlier time agreed to by Ecology and the
 8 Permittees, the Permittees must, at the same time, either:
- 9 **II.Y.2.c.i** Document that the activities completed under closure and/or post-closure satisfy the
 10 requirements for corrective action; or
- 11 **II.Y.2.c.ii** If the activities completed under closure and/or post-closure care do not satisfy corrective
 12 action requirements, identify the remaining corrective action requirements and the
 13 schedule under which they will be satisfied, if remaining corrective action requirements
 14 will be satisfied by work developed and carried out under the HFFACO provisions for
 15 R-CPP units or CPP units, a reference to the appropriate R-CPP or CPP process and
 16 schedule will suffice.
- 17 **II.Y.2.c.iii** Ecology will make final decisions as to whether the work completed under closure or
 18 post-closure care satisfies corrective action, specify any unit-specific corrective action
 19 requirements, and incorporate the decision into this Permit in accordance with the permit
 20 modification procedures of WAC 173-303-830.
- 21 **II.Y.2.d** Notwithstanding any other condition in this Permit, Ecology may directly exercise any
 22 administrative or judicial remedy under the following circumstances:
- 23 **II.Y.2.d.i** Any discharge or release of dangerous waste, or dangerous constituents, which are not
 24 addressed by the HFFACO, as amended.
- 25 **II.Y.2.d.ii** Discovery of new information regarding dangerous constituents or dangerous waste
 26 management, including but not limited to, information about releases of dangerous waste
 27 or dangerous constituents which are not addressed under the HFFACO, as amended.
- 28 **II.Y.2.d.iii** A determination that action beyond the terms of the HFFACO, as amended, is necessary
 29 to abate an imminent and substantial endangerment to the public health, or welfare, or to
 30 the environment.
- 31 **II.Y.3** Releases of Dangerous Waste or Dangerous Constituents Not Covered By the HFFACO:
- 32 **II.Y.3.a** US Ecology
- 33 **II.Y.3.a.i** The following solid waste management units are not covered by the HFFACO:
- 34 **II.Y.3.a.i.a** US Ecology, Inc., SWMU 1: Chemical Trench.
- 35 **II.Y.3.a.i.b** US Ecology, Inc., SWMU 2-13: Low-Level Radioactive Waste Trenches 1 through 11A.
- 36 **II.Y.3.a.i.c** US Ecology, Inc., SWMU 17: Underground Resin Tank.
- 37 **II.Y.3.a.ii** Selected solid waste management units identified in Permit Condition II.Y.3.a.i are
 38 currently being investigated by US Ecology in accordance with the Comprehensive
 39 Investigation US Ecology – Hanford Operations Workplan. Following completion of this
 40 investigation and any closure required of such solid waste management unit under the
 41 authority of the Washington State Department of Health, or within one year of the
 42 effective date of this Permit Condition, whichever is earlier, Ecology will make a
 43 tentative decision as to whether additional investigation or cleanup is necessary to protect
 44 human health or the environment for the solid waste management units identified in

- 1 Permit Condition II.Y.3.a.i, and publish that decision as a draft permit in accordance with
 2 WAC 173-303-840(10). Following the associated public comment period, and
 3 consideration of any public comments received during the public comment period,
 4 Ecology will publish as final Permit conditions under WAC 173-303-840(8) either:
- 5 **II.Y.3.a.ii.a** A decision that corrective action is not necessary to protect human health or the
 6 environment;
- 7 **II.Y.3.a.ii.b** An extension to the schedule established under Permit Condition II.Y.3.a.ii, or
- 8 **II.Y.3.a.ii.c** A decision, that corrective action, in accordance with Permit Condition II.Y.1, is
 9 necessary to protect human health or the environment.
- 10 **II.Y.3.a.iii** If Ecology decides under Permit Condition II.Y.3.a.ii that corrective action is necessary to
 11 protect human health or the environment, the Permittees may challenge Ecology’s
 12 authority to impose such corrective action requirements through a timely appeal of such
 13 permit modification, without argument from Ecology that the right to raise such challenge
 14 has been waived by a failure to fully litigate that issue through an appeal taken within 30
 15 days of the issuance of this Permit, and with argument from the Permittees that such
 16 requirement fails to satisfy a cause for permit modification under
 17 WAC 173-303-830(3)(a). Within 180 days of receipt of the above Permit modification,
 18 the Permittees must submit, for Ecology review and approval, a plan to conduct
 19 corrective action in accordance with Permit Condition II.Y.1. Approved corrective action
 20 plans under this condition will be incorporated into this Permit in accordance with the
 21 Permit modification procedures of WAC 173-303-830.
- 22 **II.Y.3.b** Newly Identified Solid Waste Management Units and Newly Identified Releases of
 23 Dangerous Waste or Dangerous Constituents.
- 24 The Permittees must notify Ecology of all newly-identified solid waste management units
 25 and all newly-identified areas of concern at the Facility. For purposes of this condition, a
 26 “newly-identified” solid waste management unit or a “newly-identified” area of concern
 27 is a unit or area not identified in the HFFACO, as amended, on the effective date of this
 28 condition and not identified by Permit Condition II.Y.3.a.
- 29 Notification to Ecology must be in writing and must include, for each newly-identified
 30 unit or area, the information required by WAC 173-303-806(4)(a)(xxiii) and
 31 WAC 173-303-806(4)(a)(xxiv). Notification to Ecology must occur at least once every
 32 calendar year, in January, and must include all units and areas newly identified since the
 33 last notification, except that if a newly identified unit or area may present an imminent
 34 and substantial endangerment to human health or the environment, notification must
 35 occur within five days of identification of the unit or area. If information required by
 36 WAC 173-303-806(4)(a)(xxiii) or WAC 173-303-806(4)(a)(xxiv) is already included in
 37 the Waste Information Data System, it may be incorporated by reference into the required
 38 notification.
- 39 **II.Z Waste Minimization**
- 40 In accordance with WAC 173-303-380(1)(q), and Section 3005(h) of RCRA,
 41 42 U.S.C. 6925(h), the Permittee must place a certification in the Hanford Facility
 42 Operating Record, Unit-Specific Files on an annual basis that:
- 43 **II.Z.1.a** A program is in place to reduce the volume and toxicity of hazardous waste generated to
 44 the degree determined by the Permittee to be economically practicable; and,

1 **II.Z.1.b** The proposed method of treatment, storage or disposal is that practicable method
 2 currently available to the Permittee, which minimizes the present and future threat to
 3 human health and the environment.

4 **II.Z.2** The Permittee will maintain each such certification of waste minimization in the
 5 operating record as required by Permit Condition II.I.1.

6 **II.AA Air Emission Standards for Process Vents**

7 The Permittees will comply with applicable requirements of WAC 173-303-690 for
 8 process vents associated with Part III units performing specific separations processes
 9 unless exempted by WAC 173-303-690(1)(d). Threshold limits applied to process vents
 10 potentially requiring emission controls subject to WAC 173-303-690 are evaluated based
 11 on the summation of applicable emission sources for the entire Hanford Facility. When
 12 the summed emissions fall below threshold limits in 40 CFR 264.1032(a)(1), no emission
 13 control devices are required. If threshold limits in 40 CFR 264.1032(a)(1) are predicted
 14 to be exceeded, the Permittees will notify Ecology to determine the appropriate course of
 15 action. Unit-specific information is contained in Part III of the Permit for applicable
 16 units.

17 **II.BB Air Emission Standards for Equipment Leaks**

18 The Permittees will comply with applicable requirements of WAC 173-303-691 for
 19 certain equipment leaks associated with Part III units unless exempted by
 20 WAC 173-303-691(1)(e) or (f). Air emission standards apply to equipment that contacts
 21 or contains hazardous wastes with organic concentrations of at least 10 percent by
 22 weight. Unit-specific information is contained in Part III of the Permit for applicable
 23 units.

24 **II.CC Air Emission Standards for Tanks, Surface Impoundments, and Containers**

25 The Permittees shall comply with applicable requirements of WAC 173-303-692 for
 26 containers, tanks, and surface impoundment areas associated with Part III units unless
 27 exempted by WAC 173-303-692(1)(b). Unit-specific information is contained in Part III
 28 of the Permit for applicable units.

29 **PART III UNIT-SPECIFIC CONDITIONS FOR FINAL STATUS OPERATIONS**

30 Operating Unit 2, PUREX Storage Tunnels

31 Operating Unit 3, Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

32 Operating Unit 4, 242-A Evaporator

33 Operating Unit 5, 325 Hazardous Waste Treatment Units

34 Operating Unit 10, Waste Treatment and Immobilization Plant

35 Operating Unit 11, Integrated Disposal Facility

36 Operating Unit 16, 400 Area Waste Management Unit

37 Operating Unit 19, Capsule Interim Storage

38 **PART IV UNIT SPECIFIC CONDITIONS FOR CORRECTIVE ACTION**

39 Corrective Action Unit 1, 100-NR-1

40 **PART V UNIT-SPECIFIC CONDITIONS FOR UNITS UNDERGOING CLOSURE**

41 Closure Unit 6, Waste Encapsulation and Storage Facility Hot Cells A through F

1 PART VI UNIT-SPECIFIC CONDITIONS FOR UNITS IN POST-CLOSURE

2 Post Closure Unit 1, 300 Area Process Trenches

3 Post Closure Unit 2, 183-H Solar Evaporation Basins

4 UNITS RETIRED FROM THE PERMIT

5 100 D Ponds (Closed 8/9/99)

6 105-DR Large Sodium Fire Facility (Closed 7/1/04)

7 100-NR-2 Operable Unit (9/30/09)

8 200 West Area Ash Pit Demolition Site (Closed 11/28/95)

9 2101-M Pond (Closed 11/28/95)

10 216-B-3 Expansion Ponds (Closed 7/31/95)

11 218-E-8 Borrow Pit Demolition Site (Closed 11/28/95)

12 224-T Transuranic Waste Storage and Assay Facility (Closed 11/12/08)

13 241-Z Treatment and Storage Tanks (Closed 2/22/07)

14 2727-S Nonradioactive Dangerous Waste Storage Facility (Closed 7/31/95)

15 300 Area Solvent Evaporator (Closed 7/31/95)

16 300 Area Waste Acid Treatment System (Closed 10/30/2005)

17 303-K Storage Facility (Closed 7/22/02)

18 303-M Oxide Facility (Closed 6/15/06)

19 304 Concretion Facility (Closed 1/21/96)

20 305-B Storage Facility (Closed 7/2/07)

21 3718-F Alkali Metal Treatment and Storage Facility Closure Plan (Closed 8/4/98)

22 4843 Alkali Metal Storage Facility Closure Plan (Closed 4/14/97)

23 Hanford Patrol Academy Demolition Site (Closed 11/28/95)

24 Plutonium Finishing Plant Treatment Unit (Closed 2/8/05)

25 Simulated High Level Waste Slurry Treatment and Storage Unit (Closed 10/23/95)

26 FS-1 Outdoor Container Storage Area (Closed 10/25/2016)

27 616 Non-Radioactive Dangerous Waste Storage Facility (Closed 9/5/01)

28 331-C Storage Unit (Closed 7/22/11)

29 207-A South Retention Basin (Closed 5/18/17)

30 1324-N Surface Impoundment & 1324-NA Percolation Pond (Closed 4/25/2017)

31 1706-KE Waste Treatment System Facility (Closed 1/11/18)

32 600 Area Purgewater Storage and Treatment Facility (Closed 2/16/18)

33 1301-N Liquid Waste Disposal Facility (Closed 11/28/18)

34 1325-N Liquid Waste Disposal Facility (Closed 11/28/18)

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**PERMIT ATTACHMENT 9
PERMIT APPLICABILITY MATRIX
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

Modification Date	Modification Number
02/20/2020	8C.2020.1F
08/05/2019	PCN-HFSW-2019-04 (8C.2019.Q3)
12/12/2018	PCN-1325-2016-02 (8C.2018.Q4)
12/12/2018	PCN-1301-2016-02 (8C.2018.Q4)
08/28/2018	PCN-HFSW-2018-02 (8C.2018.Q3)
07/09/2018	PCN-PWSTF-2016-01 (8C.2018.Q3)
06/14/2018	PCN-1324-2016-02 (8C.2018.Q2)
06/14/2018	PCN-1706KE-2016-01 (8C.2018.Q2)
11/01/2017	8C.2017.Q3
04/26/2017	8C.2017.Q1
03/01/2017	8C.2016.Q4
10/06/2016	8C.2016.6F

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**PERMIT ATTACHMENT 9
PERMIT APPLICABILITY MATRIX**

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**PERMIT ATTACHMENT 9
PERMIT APPLICABILITY MATRIX**

Part I									
Condition		Category							Qualifiers
Part	Title	A	B	C	D	E	F	G	
I.A	Effect of Permit								
I.A.1		*	*	*	*	*	*	*	
I.A.2		*	*	*	*	*	*	*	
I.A.3		*	*		*	*	*	*	
I.A.4	Coordination with the Hanford Federal Facility Agreement and Consent Order (HFFACO)		*		*	*	*	*	
I.B	Personal and Property Rights		*		*	*	*	*	
I.C	Permit Actions								
I.C.1	Modification, Revocation, Reissuance, or Termination		*		*	*	*	*	
I.C.2	Filing of a Request		*		*	*	*	*	
I.C.3	Modifications		*		*	*	*	*	
I.D	Severability								
I.D.1	Effect of Invalidation		*		*	*	*	*	
I.D.2	Final Resolution		*		*	*	*	*	
I.E	Duties and Requirements								
I.E.1	Duty to Comply		*		*	*	*	*	
I.E.2	Compliance Not Constituting Defense		*		*	*	*	*	
I.E.3	Duty to Reapply		*		*	*	*	*	
I.E.4	Permit Expiration & Continuation		*		*	*	*	*	

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- E. TSD Unit Closures (in Part V)
- F. TSD Operating Units (in Part III)
- G. TSD Units in Post-Closure/Modified Closure (in Part VI)

* Condition applies to this category, as modified by applicable footnotes and qualifiers.

1 – For Category B, Part I Conditions only apply if future TSD activities are begun on the North Slope or ALE.

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3 – For Category D, Part I Conditions only apply to activities subject to Conditions II.A., II.C., II.D.4., II.G., II.I., II.L.2.e, II.O., II.Q., II.S., II.T., II.X., and II.Y.

Part I								
Condition		Category						Qualifiers
Part	Title	A	B	C	D	E	F	G
I.E.5	Need to Halt or Reduce Activity Not a Defense		*		*	*	*	*
I.E.6	Duty to Mitigate		*		*	*	*	*
I.E.7	Proper Operation & Maintenance		*			*	*	*
I.E.8	Duty to Provide Information		*		*	*	*	*
I.E.9	Inspection & Entry		*		*	*	*	*
I.E.10	Monitoring & Records							
I.E.11	Reporting Planned Changes		*			*	*	*
I.E.12	Certification of Construction or Modification		*				*	
I.E.13	Anticipated Noncompliance		*		*	*	*	*
I.E.14	Transfer of Permits		*			*	*	*
I.E.15	Immediate Reporting		*		*	*	*	*
I.E.16	Written Reporting		*		*	*	*	*
I.E.17	Manifest Discrepancy Report							
I.E.17.a			*			*	*	*
I.E.17.b			*		*	*	*	*
I.E.18	Unmanifested Waste Report		*			*	*	*
I.E.19	Other Noncompliance		*		*	*	*	*
I.E.20	Other Information		*		*	*	*	*
I.E.21	Reports, Notifications, & Submissions		*		*	*	*	*
I.E.22	Annual Report		*		*	*	*	*
I.F	Signatory Requirement		*		*	*	*	*
I.G	Confidential Information		*		*	*	*	*
I.H	Documents to be Maintained at Facility Site		*		*	*	*	*

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Part II									
Condition		Category							Qualifiers
Part	Title	A	B	C	D	E	F	G	
II.A	Facility Contingency Plan								
II.A.1					*	*	*	*	
II.A.2					*	*	*	*	
II.A.3					*	*	*	*	
II.A.4					*	*	*	*	
II.A.5				*	*	*	*	*	
								Additional information is provided in 19-ESQ-0080, 7/10/2019 (PCN-HFSW-2019-03)	
II.B	Preparedness and Prevention								
II.B.1						*	*		
II.B.2						*	*		
II.B.3						*	*		
II.B.4						*	*		
II.B.5						*	*		
II.C	Personnel Training								
II.C.1						*	*	*	
II.C.2					*	*	*	*	
II.C.3						*	*	*	
II.C.4					*	*	*	*	
								For Category D, Condition II.C.4 will not apply to unrestricted (publicly accessible) areas.	
II.D	Waste Analysis								
II.D.1						*	*	*	

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Part II									
Condition		Category							Qualifiers
Part	Title	A	B	C	D	E	F	G	
II.D.2						*	*	*	
II.D.3						*	*	*	
II.E	Quality Assurance/Quality Control								
II.E.1						*	*	*	
II.E.2						*	*	*	
II.F	Ground Water and Vadose Zone Monitoring					*	*	*	
II.F.1	Purgewater Management			*		*	*	*	
II.F.2	Well Remediation and Abandonment			*		*	*	*	
II.F.3	Well Construction			*		*	*	*	
II.G	Siting Criteria				*		*		For Category D, Condition II.G only applies if a new TSD unit is to be sited.
II.H	Recordkeeping and Reporting					*	*	*	
II.I	Facility Operating Record								For Category D, II.I Conditions only apply to activities subject to this Permit as defined by this matrix. For Category E, Condition applicability to be specified in Part V. Condition II.I only applies to existing records and records prepared after the date of Permit issuance.
II.I.1		*	*		*	*	*	*	
II.I.1.a		*	*		*	*	*	*	
II.I.1.b							*	*	
II.I.1.c					*	*	*	*	
II.I.1.d						*	*	*	
II.I.1.e			*		*				
II.I.1.f					*	*	*	*	
II.I.1.g						*	*	*	
II.I.1.h	Reserved Condition								
II.I.1.i	Reserved Condition								
II.I.1.j						*	*	*	
II.I.1.k					*	*	*	*	

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Part II								
Condition		Category						Qualifiers
Part	Title	A	B	C	D	E	F	G
II.I.1.l	Reserved Condition							
II.I.1.m						*	*	*
II.I.1.n					*	*	*	*
II.I.1.o	Reserved Condition							
II.I.1.p			*		*	*	*	*
II.I.1.q			*		*	*	*	*
II.I.1.r					*	*	*	*
II.I.1.s					*	*	*	*
II.I.1.t					*	*	*	*
II.J	Facility Closure							
II.J.1						*	*	*
II.J.2						*	*	*
II.J.3						*	*	*
II.J.4						*	*	*
II.K	Soil/Ground Water Closure Performance Standards							
II.K.1						*	*	*
II.K.2						*	*	*
II.K.3						*	*	*
II.K.4						*	*	*
II.K.5						*	*	*
II.K.6						*	*	*
II.K.7						*	*	*
II.L	Design and Operation of Facility							
II.L.1	Proper Design and Construction					*	*	*

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Part II									
Condition		Category							Qualifiers
Part	Title	A	B	C	D	E	F	G	
II.L.2	Design Changes, Nonconformance and as-built Drawings					*	*	*	Condition II.L.2, applies to Categories E & G only if it is a landfill closure.
II.L.2.a						*	*	*	
II.L.2.b						*	*	*	
II.L.2.c						*	*	*	
II.L.2.d						*	*	*	
II.L.2.e	Facility Compliance				*	*	*	*	
II.M	Security					*	*	*	
II.N	Receipt of Dangerous Wastes Generated Off-Site								
II.N.1	Receipt of Off-Site Waste						*		
II.N.2	Waste From Sources Outside the United States						*		
II.N.3	Notice to Generator						*		
II.O	General Inspection Requirements								
II.O.1					*	*	*	*	
II.O.1.a					*				
II.O.1.b					*				
II.O.1.c					*				
II.O.1.d					*				
II.O.2					*	*	*	*	
II.O.3					*	*	*	*	
II.P	Manifest System								
II.P.1						*	*	*	
II.P.2						*	*	*	
II.Q	On-Site Transportation								
II.Q.1					*	*	*	*	
II.Q.2					*	*	*	*	

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Part II									
Condition		Category							Qualifiers
Part	Title	A	B	C	D	E	F	G	
II.R	Equivalent Materials								
II.R.1						*	*	*	
II.R.2						*	*	*	
II.R.3						*	*	*	
II.S	Land Disposal Restrictions				*	*	*	*	
II.T	Access and Information				*	*	*	*	
II.U	Mapping of Underground Piping								
II.U.1	Reserved Condition								
II.U.2	Reserved Condition								
II.U.3				*		*	*	*	
II.U.4				*		*	*	*	
II.V	Marking of Underground Piping			*		*	*	*	
II.W	Other Permits and/or Approvals								
II.W.1						*	*	*	
II.W.2						*	*	*	
II.W.3						*	*	*	
II.X	Schedule Extensions								Condition II.X, only applies to Category C if activities are subject to Conditions II.U, and II.V.
II.X.1				*	*	*	*	*	
II.X.2				*	*	*	*	*	Condition II.X, only applies to Category D if activities are subject to this Permit as defined by this matrix.
II.Y	Corrective Action	*	*	*	*	*	*	*	
II.Y.1	Compliance with Chapter 173-340 Washington Administrative Code	*	*	*	*	*	*	*	

Categories are Defined as Follows:

- A. Leased Land
- B. North Slope and Arid Lands Ecology Reserve (ALE)
- C. Interim Status Treatment, Storage, or Disposal Facility (TSD) Units
- D. Areas Between TSDs (excluding A and B)
- E. TSD Unit Closures (in Part V)
- F. TSD Operating Units (in Part III)
- G. TSD Units in Post-Closure/Modified Closure (in Part VI)

* Condition applies to this category, as modified by applicable footnotes and qualifiers.

1 – For Category B, Part I Conditions only apply if future TSD activities are begun on the North Slope or ALE.

2 – For Category C, all Part I Conditions apply to activities subject to Conditions II.U. and II.V.

3 – For Category D, Part I Conditions only apply to activities subject to Conditions II.A., II.C., II.D.4., II.G., II.I., II.L.2.e, II.O., II.Q., II.S., II.T., II.X., and II.Y.

Part II									
Condition		Category							Qualifiers
Part	Title	A	B	C	D	E	F	G	
II.Y.1.a		*	*	*	*	*	*	*	
II.Y.1.b		*	*	*	*	*	*	*	
II.Y.1.c		*	*	*	*	*	*	*	
II.Y.1.d		*	*	*	*	*	*	*	
II.Y.1.e		*	*	*	*	*	*	*	
II.Y.1.f		*	*	*	*	*	*	*	
II.Y.1.g		*	*	*	*	*	*	*	
II.Y.2	Acceptance of Work Under Other Authorities or Programs and Integration with the HFFACO	*	*	*	*	*	*	*	
II.Y.2.a		*	*	*	*	*	*	*	
II.Y.2.b		*	*	*	*	*	*	*	
II.Y.2.c		*	*	*	*	*	*	*	
II.Y.2.d		*	*	*	*	*	*	*	
II.Y.3	Releases of Dangerous Waste or Dangerous Constituents Not Covered by the HFFACO	*	*	*	*	*	*	*	
II.Y.3.a	U.S. Ecology	*	*	*	*	*	*	*	
II.Y.3.b	Newly Identified Solid Waste Management Units and Newly Identified Releases of Dangerous Waste or Dangerous Waste Constituents	*	*	*	*	*	*	*	
II.Z	Waste Minimization								
II.Z.1							*		
II.Z.1.a							*		
II.Z.1.b							*		
II.Z.2							*		

Categories are Defined as Follows:

- A. Leased Land
- B. North Slope and Arid Lands Ecology Reserve (ALE)
- C. Interim Status Treatment, Storage, or Disposal Facility (TSD) Units
- D. Areas Between TSDs (excluding A and B)
- E. TSD Unit Closures (in Part V)
- F. TSD Operating Units (in Part III)
- G. TSD Units in Post-Closure/Modified Closure (in Part VI)

* Condition applies to this category, as modified by applicable footnotes and qualifiers.

1 – For Category B, Part I Conditions only apply if future TSD activities are begun on the North Slope or ALE.

2 – For Category C, all Part I Conditions apply to activities subject to Conditions II.U. and II.V.

3 – For Category D, Part I Conditions only apply to activities subject to Conditions II.A., II.C., II.D.4., II.G., II.I., II.L.2.e, II.O., II.Q., II.S., II.T., II.X., and II.Y.

Part II									
Condition		Category							Qualifiers
Part	Title	A	B	C	D	E	F	G	
II.AA	Air Emission Standards for Process Vents						*		
II.BB	Air Emission Standards for Equipment Leaks						*		
II.CC	Air Emission Standards for Tanks, Surface Impoundments, and Containers						*		

Categories are Defined as Follows:

- A. Leased Land
- B. North Slope and Arid Lands Ecology Reserve (ALE)
- C. Interim Status Treatment, Storage, or Disposal Facility (TSD) Units
- D. Areas Between TSDs (excluding A and B)
- E. TSD Unit Closures (in Part V)
- F. TSD Operating Units (in Part III)
- G. TSD Units in Post-Closure/Modified Closure (in Part VI)

* Condition applies to this category, as modified by applicable footnotes and qualifiers.

1 – For Category B, Part I Conditions only apply if future TSD activities are begun on the North Slope or ALE.

2 – For Category C, all Part I Conditions apply to activities subject to Conditions II.U. and II.V.

3 – For Category D, Part I Conditions only apply to activities subject to Conditions II.A., II.C., II.D.4., II.G., II.I., II.L.2.e, II.O., II.Q., II.S., II.T., II.X., and II.Y.

Part III									
Condition		Category							Qualifiers
Part	Title	A	B	C	D	E	F	G	
III.	Unit Specific Conditions for Final Status Operations								
III.2	PUREX Storage Tunnels						*		
III.3	Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility						*		
III.4	242-A Evaporator						*		
III.5	325 Hazardous Waste Treatment Units						*		
III.10	Waste Treatment and Immobilization Plant						*		
III.11	Integrated Disposal Facility						*		
III.16	400 Area Waste Management Unit						*		
III.19	Capsule Interim Storage						*		
Part IV									
IV.	Unit Specific Conditions for Corrective Action								
IV.1	100-NR-1				*	*			
Part V									
V.	Unit Specific Conditions for Units Undergoing Closure								
V.6	Waste Encapsulation and Storage Facility Hot Cells A through F					*			
Part VI									
VI.	Unit Specific Conditions for Units in Post Closure								
VI.1	300 Area Process Trenches							*	
VI.2	183-H Solar Evaporation Basins							*	

**CAPSULE INTERIM STORAGE
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have a “**Last Modification Date**” which represents the last date the portion of the unit has been modified. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Last modification to Capsule Interim Storage **February 20, 2020**

Addenda	Last Modification Date	Modification Number
Unit-Specific Conditions	02/20/2020	8C.2020.1F
A. Part A Form	02/20/2020	8C.2020.1F
B. Waste Analysis Plan	02/20/2020	8C.2020.1F
C. Process Information	02/20/2020	8C.2020.1F
D. Reserved		
E. Security	02/20/2020	8C.2020.1F
F. Preparedness & Prevention	02/20/2020	8C.2020.1F
G. Personnel Training	02/20/2020	8C.2020.1F
H. Closure Plan	02/20/2020	8C.2020.1F
I. Inspection Plan	02/20/2020	8C.2020.1F
J. Contingency Plan	02/20/2020	8C.2020.1F

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**CAPSULE INTERIM STORAGE
PART III, OPERATING UNIT GROUP 19 PERMIT CONDITIONS
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

Modification Date	Modification Number
02/20/2020	8C.2020.1F

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**PART III, OPERATING UNIT GROUP 19 PERMIT CONDITIONS
CAPSULE INTERIM STORAGE**

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1
2 **PART III, OPERATING UNIT GROUP 19 PERMIT CONDITIONS**
3 **CAPSULE INTERIM STORAGE**
4
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6 **UNIT DESCRIPTION**

7 Capsule Interim Storage (CIS) is a dangerous waste operating unit group located in the 200 East Area.
8 CIS contains one Dangerous Waste Management Unit (DWMU), the Capsule Storage Area (CSA). The
9 CSA is a miscellaneous unit due to the unique nature of the waste and storage system design. CIS also
10 includes an Operating Pad for staging and maneuvering equipment and a graveled area for drainage and
11 radiological buffering.

12 The CSA stores cesium chloride and strontium fluoride salts separated from Hanford tank waste from
13 1969 through 1984. The cesium and strontium salts are stored within Cask Storage Systems (CSSs).
14 Each CSS consists of a Vertical Concrete Cask (VCC) housing a stainless steel Transportable Storage
15 Canister (TSC). The TSC is loaded with a TSC Basket holding up to 22 Universal Capsule Sleeves
16 (UCSs). A UCS can hold up to six standard capsules or two of the larger Type W overpacks. Total
17 permitted storage is 1,936 capsules loaded into 25 VCCs to specific aggregate heat generation thresholds.

- 18 • The CSA dangerous waste management unit consists of a concrete pad with a surface of
19 approximately 90 feet by 184 feet. An area of approximately 90 feet by 90 feet within the inner
20 security fence is the primary storage area housing the 25 VCCs during normal operation. If
21 needed (e.g., for isolation and individual monitoring), VCCs can be moved from the inner area to
22 the portion of the CSA pad between the two security fences.
- 23 • The concrete Operating Pad has a surface of approximately 45 feet by 45 feet and is located
24 adjacent to the CSA pad between the two security fences. This pad is not part of any DWMU and
25 cannot be used for dangerous or mixed waste loading, unloading, storage, handling, or treatment.
- 26 • The graveled area comprising the remainder of the area between the two security fences is not
27 part of a DWMU. This area provides a physical buffer and drainage, but cannot be used for
28 dangerous or mixed waste loading, unloading, storage, handling, or treatment.

29 Addendum A, Attachment A, contains maps and diagrams of the CIS layout. CSSs are received at the
30 CSA, completely assembled, from the Waste Encapsulation and Storage Facility (WESF) and no
31 additional waste sampling is required for receipt of the specific capsules identified in Addendum C.
32 CSA is not currently authorized to receive or store any other wastes.

33 **LIST OF ADDENDA SPECIFIC TO OPERATING UNIT GROUP 19**

34	Addendum A	Part A Form
35	Addendum B	Waste Analysis Plan
36	Addendum C	Process Information
37	Addendum D	Groundwater Monitoring - RESERVED
38	Addendum E	Security
39	Addendum F	Preparedness and Prevention
40	Addendum G	Personnel Training
41	Addendum H	Closure Plan
42	Addendum I	Inspection Plan
43	Addendum J	Contingency Plan

1 **DEFINITIONS**

2 The terms **capsule(s)**, **cesium and strontium capsule(s)**, and **cesium capsule(s)** are assumed to include
3 both **standard capsules** and **Type W overpacks** unless the type is specified.

4 **Standard capsules** are the 1,913 double-walled capsules containing cesium chloride and strontium
5 fluoride mixed waste constructed at WESF from 1974 through 1985 which have not been overpacked.
6 These capsules have an approximate inner capacity of 1 liter.

7 **Type W overpacks** are the 23 larger capsules produced from 1997 through 1999 to encapsulate bulging
8 cesium **standard capsules** and loose cesium chloride mixed waste. There are no **Type W overpacks**
9 containing strontium fluoride mixed waste.

10 A **Vertical Concrete Cask** or “**VCC**” is the passively-ventilated outer concrete shell of a **Capsule**
11 **Storage System** or “**CSS**.” A single **Transportable Storage Canister** or “**TSC**” can be inserted into the
12 storage space inside the VCC.

13 A **Transportable Storage Canister** or “**TSC**” is the combination of a sealed stainless steel shell and
14 Transportable Storage Canister Basket. Twenty-two Universal Capsule Sleeves or "UCSs" can be
15 inserted into the storage space inside a TSC.

16 A **Universal Capsule Sleeve** or "**UCS**" is a sealed stainless steel shell capable of holding up to six
17 standard capsules or two Type W overpacks. Stainless steel capsule spacers may be loaded into a UCS to
18 take the place of a capsule.

19 A **Vertical Cask Transporter** or “**VCT**” is a mobile structure capable of lifting a fully-assembled **CSS**
20 for transport under power of a **Tug** which is equivalent to the device described on page C-13 of
21 CHPRC-02538, Rev. 0. A VCT and Tug are the standard method for moving a CSS.

22 A **Tug** is a self-propelled piece of mobile equipment capable of towing a **VCT** and fully-assembled **CSS**
23 to a new position.

24 **ACRONYMS**

25	CIS	Capsule Interim Storage
26	CSA	Capsule Storage Area
27	CSS	Capsule Storage System
28	DWMU	Dangerous Waste Management Unit
29	LDR	Land Disposal Restrictions
30	OUG	Operating Unit Group
31	TSC	Transportable Storage Canister
32	VCC	Vertical Concrete Cask

- 1 **III.19.A COMPLIANCE WITH UNIT-SPECIFIC PERMIT CONDITIONS**
- 2 **III.19.A.1** The Permittees will comply with all Permit conditions in this Chapter and its Addenda
3 with respect to dangerous waste management and DWMU in Operating Unit Group 19,
4 CIS, in addition to requirements in Permit Part I and II.
- 5 **III.19.B GENERAL WASTE MANAGEMENT**
- 6 **III.19.B.1** The Permittees are authorized to accept mixed waste for storage in this DWMU that
7 satisfies the waste acceptance criteria in Permit Addendum B according to the waste
8 acceptance procedures in Permit Addendum B. (Washington Administrative Code
9 [WAC] 173-303-300)
- 10 **III.19.B.2** The Permittees are authorized to store in the CSA, the specific mixed wastes identified in
11 Addendum C, Section C.2.1. These mixed wastes will be stored according to the
12 requirements of this Chapter and will be received and stored in the CSS, which includes
13 the VCC and TSC, according to the requirements detailed in Addendum C, Section C.2.
- 14 **III.19.C WASTE ANALYSIS**
- 15 **III.19.C.1** If sampling or analysis of wastes associated with the CSA is to be conducted, the
16 Permittees will submit to Department of Ecology (Ecology) a permit modification request
17 in accordance with WAC 173-303-830 to incorporate an appropriate sampling and
18 analysis plan and a quality assurance plan into the permit. [WAC 173-303-300(2)]
- 19 **III.19.C.2** The Permittees will have an accurate and complete description of each waste stream
20 managed at the CSA as necessary to document designation according to WAC 173-303-
21 070, applicable land disposal restriction treatment standards pursuant to WAC 173-303-
22 140, and any other information necessary to ensure management of the waste streams in
23 accordance with requirements of this Permit.
- 24 **III.19.C.2.a** For the specific mixed wastes identified in Addendum C, Section C.2.1, the description of
25 waste streams will consist of, at a minimum, the supporting references cited in
26 Addendum B, Section B.2.
- 27 **III.19.C.2.b** This description of waste streams will be maintained in the Hanford Facility Operating
28 Record, CIS File required by Permit Condition II.I.1 and must be available upon request.
29 [WAC 173-303-380(1)(a)]
- 30 **III.19.D RECORDKEEPING AND REPORTING**
- 31 **III.19.D.1** The Permittees will place the following into the Hanford Facility Operating Record, CIS
32 File required by Permit Condition II.I.1. (WAC 173-303-380)
- 33 **III.19.D.1.a** The quantity and profile of each mixed waste stream managed at CSA. [WAC 173-303-
34 380(1)(a), and -(b)]
- 35 **III.19.D.1.b** Records required by WAC 173-303-380(1)(o), incorporated by reference.
- 36 **III.19.D.1.c** An inspection log, summarizing inspections conducted pursuant to Permit Condition
37 III.19.H.1. [WAC 173-303-380(1)(e)]
- 38 **III.19.D.1.d** Summary reports and details of all incidents that require implementation of the
39 Contingency Plan according to the requirements of Permit Condition II.A.1.
40 [WAC 173-303-380(1)(d)]

- 1 **III.19.E SECURITY**
- 2 **III.19.E.1** The Permittees will comply with the Security requirements specific to CIS in
3 Addendum E and Permit Attachment 3 as required by Permit Condition II.M.
4 [WAC 173-303-310(2)(c)]
- 5 **III.19.F PREPAREDNESS AND PREVENTION**
- 6 **III.19.F.1** The Permittees will comply with the Preparedness and Prevention requirements specific
7 to CIS in Addendum F and Permit Condition II.B. (WAC 173-303-340)
- 8 **III.19.G CONTINGENCY PLAN**
- 9 **III.19.G.1** The Permittees will comply with Contingency Plan requirements specific to CIS in
10 Addendum J in addition to the requirements of Permit Condition II.A when applicable.
11 (WAC 173-303-350)
- 12 **III.19.H INSPECTIONS**
- 13 **III.19.H.1** The Permittees will comply with the Inspection Plan requirements specific to CIS in
14 Addendum I and Permit Condition II.O. [WAC 173-303-320(2)]
- 15 **III.19.I TRAINING PLAN**
- 16 **III.19.I.1** The Permittees will comply with the Personnel Training requirements specific to CIS in
17 Addendum G and Permit Condition II.C. (WAC 173-303-330)
- 18 **III.19.J OTHER GENERAL REQUIREMENTS**
- 19 RESERVED
- 20 **III.19.K CLOSURE**
- 21 **III.19.K.1** The Permittees will close the CIS dangerous waste management units in accordance with
22 Addendum H, “Closure Plan” and Permit Condition II.J. [WAC 173-303-610(3)(a)]
- 23 **III.19.L MISCELLANEOUS UNITS**
- 24 **III.19.L.1** The Permittees will construct and maintain the physical structure of CIS as documented
25 in Addendum A, Attachment A, Figure A-2 and Addendum C, Section C1.1.
26 [WAC 173-303-680(2), WAC 173-303-630(7)(c)(i)]
- 27 **III.19.L.2** The Permittees will construct and maintain each CSS as documented in Addendum C,
28 Section C.2.2, including maintaining CSS physical structure and the integrity of each
29 mixed waste containment. [WAC 173-303-680(2), WAC 173-303-630(7)(c)(ii)]
- 30 **III.19.L.3** The Permittees will handle and store each CSS in a manner which will not cause the TSC
31 to rupture or cause it to leak. [WAC 173-303-680(2)]
- 32 **III.19.L.4** In the event damage to or degradation of a CSS may reasonably lead to a spill or release
33 from a TSC, the Permittees will initiate the Contingency Plan, if appropriate, in
34 accordance with Permit Condition III.19.G.1 and will develop a strategy to repair,
35 replace, or transfer components of the CSS in a manner which will prevent release of
36 stored mixed waste. When such criteria are met, the Permittees will perform such repairs,
37 replacements, or transfers as soon as practicable with consideration of worker safety,
38 protection of human health and the environment, and the risk posed by the condition of
39 the affected CSS. [WAC 173-303-680(2)]
- 40 **III.19.L.5** The Permittees will ensure that equipment which is capable of safely moving a CSS will
41 be available and properly maintained. [WAC 173-303-680(2)]

1 **III.19.L.6** If a CSS temperature monitoring system is not functional, visual inspection of the
2 associated CSS passive ventilation system inlet and outlet vents will be substituted for
3 daily temperature monitoring required by Addendum I. Operating in this manner is not,
4 by itself, a failure to properly operate and maintain CSS passive ventilation systems or
5 CSS temperature monitoring systems. If visual inspections are conducted because the
6 CSS temperature monitoring system is not functional the Permittees will notify Ecology
7 and provide a timeline for resuming normal operations of the temperature monitoring
8 system.

9 **III.19.L.7** The Permittees will comply with any applicable requirements for evaluation of
10 alternatives for long-term storage or disposal of the mixed waste at a location other than
11 the CSA as well as requirements for acquisition or modification of facilities for treatment,
12 storage, and/or disposal of the capsules required by and enforceable under Hanford
13 Federal Facility Agreement and Consent Order Milestone M-092.

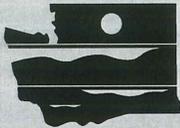
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Addendum A

Part A Form

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WASHINGTON STATE
DEPARTMENT OF
E C O L O G Y

Dangerous Waste Permit Application
Part A Form

Date Received:			Reviewed by: <i>Matt Williams</i>	Date:	0	1	3	6	2	0	2	0
Month	Day	Year	Approved by: <i>Alphane Ashf</i>	Date:	0	2	2	0	2	0	2	0
0	7	3	1	2	0	1	9					

I. This form is submitted to: (place an "X" in the appropriate box)

<input type="checkbox"/>	Request modification to a final status permit (commonly called a "Part B" permit)
<input type="checkbox"/>	Request a change under interim status
<input checked="" type="checkbox"/>	Apply for a final status permit. This includes the application for the initial final status permit for a site or for a permit renewal (i.e., a new permit to replace an expiring permit).
<input type="checkbox"/>	Establish interim status because of the wastes newly regulated on: _____ (Date) _____
List waste codes: _____	

II. EPA/State ID Number

W	A	7	8	9	0	0	0	8	9	6	7
---	---	---	---	---	---	---	---	---	---	---	---

III. Name of Facility

U.S. Department of Energy – Hanford Facility

IV. Facility Location (Physical address not P.O. Box or Route Number)

A. Street

Refer to Permit Attachment 2 – Hanford Facility Permit Legal Description

City or Town			State	ZIP Code
Near Richland			WA	
County Code (if known)		County Name		
0	0	5	Benton	

B. Land Type	C. Geographic Location		D. Facility Existence Date		
	Latitude (degrees, mins, secs)	Longitude (degrees, mins, secs)	Month	Day	Year
F	Refer to TOPO map (Section XV).		1	1	1 9 8 0

V. Facility Mailing Address

Street or P.O. Box

P.O. Box 550

City or Town			State	ZIP Code
Richland			WA	99352

VI. Facility contact (Person to be contacted regarding waste activities at facility)			
Name (last)		(first)	
Vance		Brian	
Job Title		Phone Number (area code and	
Manager		(509) 376-7395	
Contact Address			
Street or P.O. Box			
P.O. Box 550			
City or Town		State	ZIP Code
Richland		WA	99352
VII. Facility Operator Information			
A. Name		Phone Number	
U.S. Department of Energy Owner/Operator		(509) 376-7395	
CH2M HILL Plateau Remediation Company, Co-Operator for the Capsule Interim Storage		(509) 376-0556	
Street or P.O. Box			
U.S. Department of Energy		CH2M Hill Plateau Remediation Company	
P.O. Box 550		P.O. Box 1600	
City or Town		State	ZIP Code
Richland		WA	99352
B. Operator Type	F		
C. Does the name in VII.A reflect a proposed change in operator?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, provide the scheduled date for the change:		Month	Day
D. Is the name listed in VII.A. also the owner? If yes, skip to Section VIII.C.		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
VIII. Facility Owner Information			
A. Name		Phone Number (area code and number)	
U.S. Department of Energy Owner/Operator		(509) 376-7395	
Street or P.O. Box			
P.O. Box 550			
City or Town		State	ZIP Code
Richland		WA	99352
B. Owner Type	F		
C. Does the name in VIII.A reflect a proposed change in owner?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

If yes, provide the scheduled date for the change:	Month	Day	Year

IX. NAICS Codes (5/6 digit codes)

A. First						B. Second							
5	6	2	2	1	1	9	2	4	1	1	0	Waste Treatment & Disposal	Administration of Air & Water Resource & Solid Waste Management Programs
C. Third						D. Fourth							
5	4	1	7	1	5	5	6	2	9	1	0	Research & Development in the Physical, Engineering, & Life Sciences	Remediation Services

X. Other Environmental Permits (see instructions)

A. Permit Type		B. Permit Number										C. Description	
	E	S	T	0	0	0	4	5	1	1			WAC 173-216 State Waste Discharge Permit Program, Sitewide Permit for Miscellaneous Streams

XI. Nature of Business (provide a brief description that includes both dangerous waste and non-dangerous waste areas and activities)

The Capsule Interim Storage (CIS) is designed in accordance with the Management of Cesium and Strontium Capsule (W-135) Project in the western portion of the 200 East Area to store radioactive cesium and strontium salts previously encapsulated and stored at the Waste Encapsulation and Storage Facility (WESF). The radioactive cesium is stored as cesium chloride, and the strontium is stored as strontium fluoride. Due to the impurities, the salts were designated as mixed waste. The CSA will store the cesium and strontium capsules until addressed by Major Milestone M-092. Major Milestone M-092 addresses the disposition path for the cesium and strontium capsules, with a milestone due date of December 31, 2047 to complete the acquisition and modification of facilities necessary for the storage, treatment/processing, and disposal of the capsules.

CIS consists of the operating Capsule Storage Area (CSA) dangerous waste management unit (DWMU). The CSA has been classified as an X99 (miscellaneous) unit due to the unique packaging and radiological characteristics of the cesium and strontium that necessitate specialized management systems and requirements other than those applicable to container storage units. Miscellaneous units do not clearly fit into a regulatory category, such as a container storage unit, containment building, or tank system. WAC 173-303-680, "Dangerous Waste Regulations," "Miscellaneous units," requires that miscellaneous units be located, designed, constructed, and operated in a way that protects human

health and the environment according to those provisions most appropriate to the unit being permitted. Terms and provisions most appropriate to CIS are those applicable requirements in WAC 173-303-630, "Use and management of containers."

CIS does not generate dangerous waste from routine maintenance.

NAICS code 562910, Remediation Services, does not apply to the CIS operating unit group.

CSA Description

CSA is an uncovered, unenclosed, rectangular storage pad constructed of reinforced concrete measuring ~27 m (90 ft) wide by 56 m (184 ft) long and 46 cm (18 in.) thick. Waste managed at the CSA consists of 1,936 capsules previously stored at the WESF.

Capsules are stored at the CSA within 25 Cask Storage Systems (CSS), which provide additional containment for the capsules. Designed as a passive system, the CSS has natural circulation that provides cooling as outlet air vents offer a flow path for the internal circulation of air adjacent to the canister for heat removal. Instruments at the outlet air vents provide temperature monitoring.

The CSS consists of the following components: universal capsule sleeve (UCS), transportable storage canister (TSC) basket, TSC, and vertical concrete cask (VCC). Up to six standard capsules or two Type-W capsules are contained within a UCS that are sealed closed. The loaded UCS are placed in the TSC basket that has 11 cell locations. Each cell location holds up to two UCS, and each of the cells has a shield plug and closure lid. A maximum of 132 capsules can be stored in each TSC.

The TSC houses the TSC basket and serves as an overpack. The lid of the TSC is sealed shut. The TSC is contained within a VCC ~3.4 m (11 ft) tall and 3.0 m (10 ft) in diameter. The thickness of the VCC concrete wall is ~0.6 m (2 ft), and the lid is ~0.3 m (1 ft). The VCC provides radiation shielding, protection from external hazards, and protection from the environment (e.g., wind, rain, snow).

No capsule loading operations will occur at the CSA; the capsules are loaded into the CSS at the WESF.

CSA Storage Capacity

CSA does not produce products or have any production processes. After initial receipt of the capsules, no additional waste will be received. The maximum waste stored at the CSA DWMU is the 1,936 cesium and strontium capsules; therefore, the maximum storage capacity for the CSA is the 1,936 capsules. Since each capsule has a maximum volume of 1 L (0.264 gal), this equates to a total capacity of 1,936 L (511.4 gal). The total mass of cesium and strontium salts was calculated by subtracting the empty capsule weight from the gross weight of a loaded capsule. The total mass of the salts is 5,049 kg (11,131 lb).

Section XII. Process Codes and Design Capacities							Section XIII. Other Process Codes							
Line Number	A. Process Codes (enter code)			B. Process Design Capacity		C. Process Total Number of Units	Line Number	A. Process Codes (enter code)			B. Process Design Capacity		C. Process Total Number of Units	D. Process Description
				1. Amount	2. Unit of Measure (enter code)						1. Amount	2. Unit of Measure (enter code)		
X 1	S	0	2	1,600	G	002	X 1	T	0	4	700	C	001	In situ Vitrification
X 2	T	0	3	20	E	001								
X 3	T	0	4	700	C	001								
1	X	9	9	1,936	L	001	1	X	9	9	1,936	L	001	Capsule Storage Area
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XV. Map

Attach to this application a topographic map of the area extending to at least one (1) mile beyond property boundaries. The map must show the outline of the facility; the location of each of its existing and proposed intake and discharge structures; each of its dangerous waste treatment, storage, recycling, or disposal units; and each well where fluids are injected underground. Include all springs, rivers, and other surface water bodies in this map area, plus drinking water wells listed in public records or otherwise known to the applicant within ¼ mile of the facility property boundary. The instructions provide additional information on meeting these requirements.

XVI. Facility Drawing

All existing facilities must include a scale drawing of the facility (refer to Instructions for more detail).

See Attachment A.

XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, recycling, and disposal areas; and sites of future storage, treatment, recycling, or disposal areas (refer to Instructions for more detail).

See Attachment A.

XVIII. Certifications

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Operator

Name and Official Title (type or print)

Brian Vance, Manager
U.S. Department of Energy
Richland Operations Office



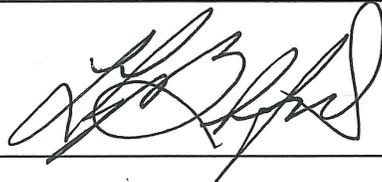
Date Signed

7/31/2019

Co-Operator

Name and Official Title (type or print)

L. Ty Blackford
President and Chief Executive Officer
CH2M HILL Plateau Remediation Company



Date Signed

7/25/19

Co-Operator — Address and Telephone Number

P.O. Box 1600
Richland, WA 99352
(509) 376-0556

Facility-Property Owner

Name and Official Title (type or print)

Brian Vance, Manager
U.S. Department of Energy
Richland Operations Office

Signature



Date Signed

7/31/2019

XIX. Comments

Attachment A contains a topographic map, facility drawing, and photograph of CIS. See Ecology Administrative Record for the Hanford Facility topographic map.

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Part A Attachment A

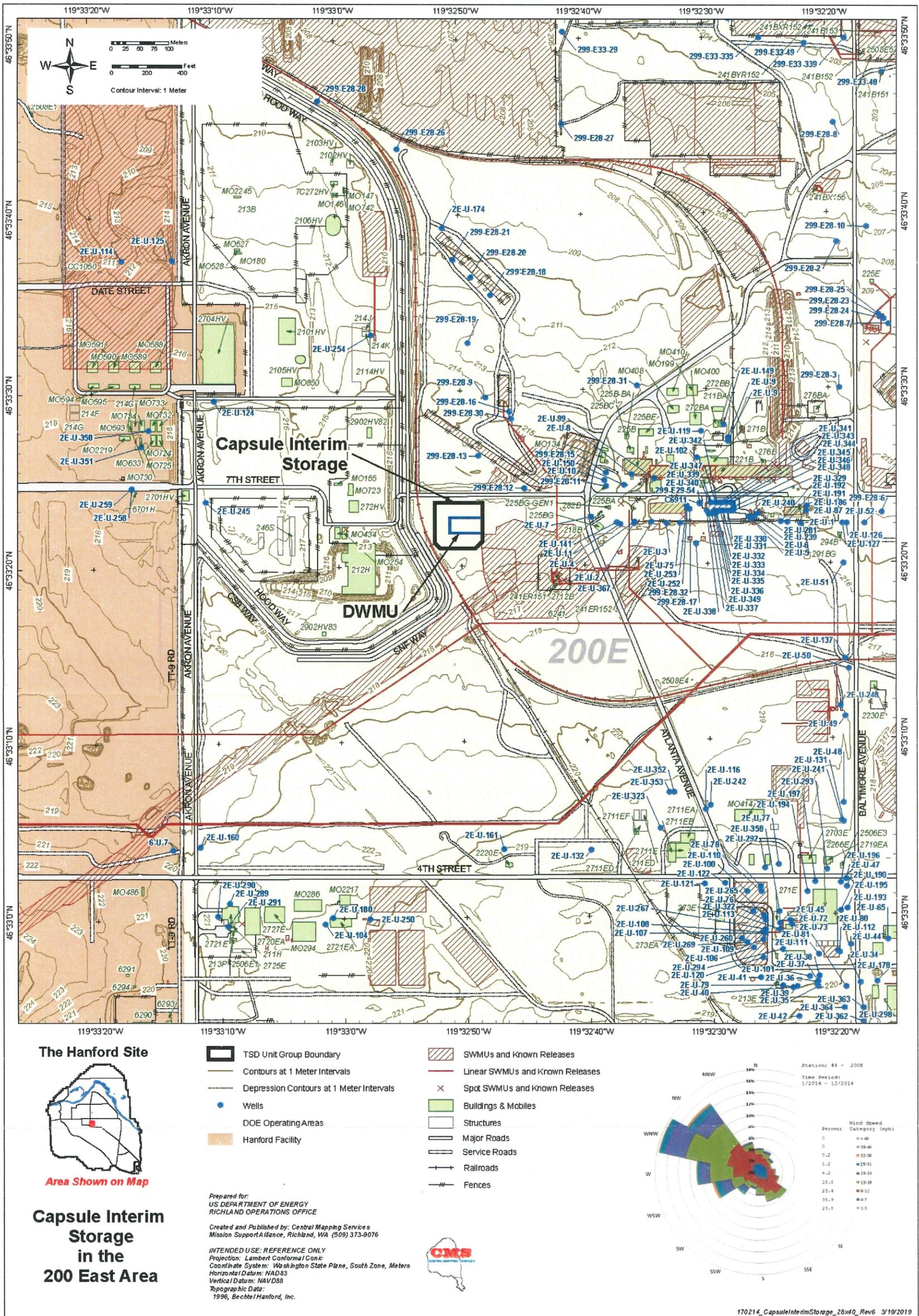
Figures

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Note: Figure date is March 2019.

Figure A-1. CIS Topographic Map

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Figure A-3. Proposed Area for the Capsule Interim Storage (August, 2017)

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**CAPSULE INTERIM STORAGE UNIT
ADDENDUM B
WASTE ANALYSIS PLAN
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

Modification Date	Modification Number
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**ADDENDUM B
WASTE ANALYSIS PLAN**

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**ADDENDUM B
WASTE ANALYSIS PLAN**

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1 **B.1 Introduction and Unit Description**

2 This addendum details the Waste Analysis Plan (WAP) required by Washington Administrative Code
3 (WAC) 173-303-300, Dangerous Waste Regulations, *General waste analysis*, in effect at the Capsule
4 Interim Storage (CIS) Operating Unit Group (OUG).

5 The purpose of this CIS WAP is to provide a clear outline of the waste management activities that occur
6 for storage of waste at CIS. This WAP demonstrates compliance with the applicable requirements of
7 WAC 173-303-300(1) through (5). Information of CIS storage operations is detailed in CIS Addendum C,
8 “Process Information.”

9 The CIS OUG is comprised of the Capsule Storage Area (CSA) Dangerous Waste Management Unit
10 (DWMU). The CSA is an uncovered, unenclosed, concrete storage pad, as described in Addendum C.

11 **B.2 Waste Management Activities**

12 Waste management within CIS includes continued safe storage and maintenance of the Cask Storage
13 System storing 1,936 capsules containing cesium and strontium radioactive mixed waste. Waste managed
14 at CIS consists of waste previously accepted at the Waste Encapsulation and Storage Facility (WESF).
15 CIS does not produce products for use, have any production processes, nor receive waste from offsite
16 facilities. CIS does not treat or dispose of waste.

17 **B.2.1 Identification and Classification of Waste**

18 All waste stored in the CSA DWMU was designated prior to being placed in the storage casks
19 [WAC 173-303-300(1) and (2)]. Three studies, described in the following subsections, were conducted to
20 determine impurities in the WESF capsules, and are the basis used to support waste acceptance into the
21 CSA. Based on process knowledge and available analytical methods, the capsules do not exhibit ignitable
22 or reactive characteristics, as defined in WAC 173-303-090, *Dangerous waste characteristics*. Of the 23
23 total impurities found, only four are designated as dangerous waste per WAC 173-303-070, *Designation
24 of dangerous waste*. The analyses of the cesium and strontium salts have identified possible dangerous
25 waste designations of barium (D005), cadmium (D006), chromium (D007), and lead (D008). The silver
26 (D011) concentration was not estimated but was added from process knowledge described in *Process Test
27 Report for Silver Decontamination of Strontium in the Waste Encapsulation and Storage Facility (WESF)*
28 (SD-WM-PTR-003); therefore, it is not listed on the tables in this section.

29 Initial characterization of the contents of the cesium and strontium capsules predated promulgation of
30 WAC 173-303 and was conducted such that sampling and analysis was as accurate and representative as
31 possible, given the nature and properties of the materials.

32 Reanalysis based on WAC 173-303-300(5)(d) is not planned because the salts stored within the casks
33 have been maintained in sealed capsules since encapsulation and no changes are expected due to the
34 properties of the waste. The waste encapsulated in Type W overpacks was verified to be consistent with
35 the original capsules, as described in HNF-2928, *Certification that CsCl Powder and Pellet Materials
36 Meet WESF Acceptance Criteria*. The CIS will only accept the mixed waste capsules previously stored at
37 WESF; thus, reanalysis is not necessary in accordance with WAC 173-303-300(4).

38 **B.2.1.1 Cesium Impurities**

39 Impurities in the cesium salt are estimated as listed in PNL-5170, *A Review of Safety Issues that Pertain
40 to the Use of WESF Cesium Chloride Capsules in an Irradiator*. Table B-1 lists the impurities of the
41 cesium feed solution and salt analyzed for corrosion analysis. Concentrations are listed as weight percent
42 solids.

Table B-1 Impurities in Cesium Feed Solution and Salt

Element	Cesium Feed Solution ^a (Wt%)	Salt Analysis ^a (Wt%)	Mass Spectrometry Salt Analysis ^b (Wt%)	Dangerous Waste Designation
Aluminum (Al)	1.7	0.14	0.3	N/A
Boron (B)	--	0.14	0.4	N/A
Barium (Ba)	0.94	0.55	-- ^c	D005 ^c
Calcium (Ca)	1.0	--	0.05	N/A
Cadmium (Cd)	--	0.02	--	D006 ^c
Cobalt (Co)	--	0.10	0.02	N/A
Chromium (Cr)	0.27	1.4	0.1	D007 ^c
Iron (Fe)	0.38	-- ^d	0.5	N/A
Potassium (K)	0.79	0.68	0.1	N/A
Magnesium (Mg)	0.25	--	--	N/A
Sodium (Na)	0.70	2.8	0.2	N/A
Nickel (Ni)	0.33	0.1	0.1	N/A
Lead (Pb)	1.4	0.14	--	D008 ^c
Rubidium (Rb)	0.52	--	0.02	N/A
Silicon (Si)	7.0	0.21	5	N/A
Strontium (Sr)	0.18	0.02	0.001	N/A
Titanium (Ti)	--	0.07	--	N/A
Zinc (Zn)	--	0.03	0.08	N/A

a. Analyzed by dissolving in nitric acid, diluting, and analyzing by inductively coupled plasma atomic emissions spectroscopy. Numbers are averages of several analyses normalized to the chloride form.

b. Analyzed by spark source mass spectrometry.

c. Waste has been designated per WAC 173-303-070, Dangerous Waste Regulations, *Designation of dangerous waste*.

d. Iron percentage was very high and non-reproducible, indicating probable contamination of cesium chloride solution.

e. Ba was not analyzed since Ba-137 was not distinguished from Cs-137, therefore, it was included with the cesium.

N/A = not applicable

1

2 Impurities in the cesium salts analyzed at the U.S. Department of Energy Oak Ridge Site are listed in
3 HNF-2928. Concentrations are listed in Table B-2 by weight percent.

4 Encapsulated cesium chloride salt contains dangerous waste chemical impurities from the fractionation
5 process consisting of lead, barium, chromium, cadmium, and silver. Barium is generated continuously as
6 a result of the cesium-137 decay chain.

Table B-2 Impurities in Cesium Salts Analyzed at the Oak Ridge Site

Element	Wt% ^a	Dangerous Waste Designation
Aluminum (Al)	0.68	N/A
Boron (B)	5.2	N/A
Barium (Ba)	3.0	D005 ^b
Calcium (Ca)	0.68	N/A
Copper (Cu)	0.016	N/A
Iron (Fe)	0.043	N/A
Potassium (K)	1.2	N/A
Magnesium (Mg)	0.044	N/A
Molybdenum (Mo)	0.0085	N/A
Sodium (Na)	7.8	N/A
Nickel (Ni)	0.085	N/A
Silicon (Si)	2.6	N/A
Strontium (Sr)	0.0097	N/A
Zinc (Zn)	0.032	N/A

a. Numbers have been rounded to two significant figures.

b. Waste has been designated per WAC 173-303-070, Dangerous Waste Regulations, *Designation of dangerous waste*.

N/A = not applicable

1

2 **B.2.1.2 Strontium Impurities**

3 Impurities in strontium salt are estimated as listed in BNWL-1967, *The Containment of ⁹⁰SrF₂ at 800 to*
 4 *1100°C Preliminary Results*. Table B-3 data are estimates based on process flowsheet information;
 5 concentrations are listed in weight percent.

6 The encapsulated strontium fluoride salt contains dangerous waste chemical impurities from the
 7 fractionation process consisting of barium, lead, cadmium, chromium, and silver.

8

Table B-3 Impurities in Strontium Salt

Element	Probable Concentration (Wt%)	Dangerous Waste Designation
Aluminum (Al)	<0.5	N/A
Barium (Ba)	0.1-2.0	D005*
Calcium (Ca)	0.1-2.0	N/A
Cadmium (Cd)	<0.1	D006*
Chromium (Cr)	<0.2	D007*
Copper (Cu)	<0.01	N/A
Iron (Fe)	<0.1	N/A
Hydrogen (H)	<0.01	N/A

Table B-3 Impurities in Strontium Salt

Element	Probable Concentration (Wt%)	Dangerous Waste Designation
Potassium (K)	<0.1	N/A
Magnesium (Mg)	0.05-0.5	N/A
Manganese (Mn)	<0.1	N/A
Nitrogen (N)	<0.01	N/A
Sodium (Na)	1-4	N/A
Nickel (Ni)	<0.1	N/A
Oxygen (O)	<0.05	N/A
Lead (Pb)	<0.2	D008*
R (Rare Earths)	<2.0	N/A
Silicon (Si)	<0.02	N/A
Zirconium (Zr)	Variable (decay product)	N/A

*Waste has been designated per WAC 173-303-070, Dangerous Waste Regulations, *Designation of dangerous waste*.

N/A = not applicable

1

2 **B.2.2 Waste Acceptance and Analysis Parameters**

3 The mixed waste capsules managed at CIS were generated and accepted for storage at WESF;
4 consequently, the capsules will be accepted at CIS without any additional sampling and analysis.

5 Before acceptance into the CSA, an inspection of documentation will be conducted for each cask. In
6 addition to the inspection of documentation, 100 percent of containers will undergo physical inspection
7 for any damage to the container and the presence of accurate labeling.

8 Waste will be tracked by recording the waste into a waste inventory sheet. Following completion of
9 waste acceptance activities, the waste is considered accepted to the CIS.

10 **B.3 Recordkeeping**

11 Permittees will place documentation into the WA7890008967, Hanford Facility Resource Conservation
12 and Recovery Act Permit (CIS portion), as required by Hanford Facility RCRA Permit Condition II.I
13 (WAC 173-303-380, *Facility recordkeeping*), WAC 173-303-300(5), and WAC 173-303-806(4)(a)(iii),
14 *Final facility permits*. Documentation will be maintained in electronic format or hard copy, and include
15 waste transfer records (Hanford Facility RCRA Permit Condition II.I.1.j) and results of waste analysis
16 (Hanford Facility RCRA Permit Condition II.I.1.b). Records will be maintained in accordance with
17 Hanford Facility RCRA Permit Condition II.I.1.

18 **B.4 References**

19 BNWL-1967, 1975, *The Containment of ⁹⁰SrF₂ at 800 to 1100° C Preliminary Results*, Battelle Pacific
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- 1 PNL-5170, 1984, *A Review of Safety Issues that Pertain to the Use of WESF Cesium Chloride Capsules*
2 *in an Irradiator*, Pacific Northwest Laboratory, Richland, Washington. Available at:
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- 4 SD-WM-PTR-003, 1984, *Process Test Report for Silver Decontamination of Strontium in the Waste*
5 *Encapsulation and Storage Facility (WESF)*, Rev. 0, Rockwell Hanford Operations, Richland,
6 Washington. Available at: [https://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=AR-](https://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=AR-02422)
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- 8 WA7890008967, *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste*
9 *Portion for the Treatment, Storage, and Disposal of Dangerous Waste*, Revision 8C, as amended,
10 Washington State Department of Ecology. Available at:
11 <https://fortress.wa.gov/ecy/nwp/permitting/hdwp/rev/8c/index.html>.
- 12 WAC 173-303, *Dangerous Waste Regulations*, Washington Administrative Code, Olympia, Washington.
13 Available at: <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-303>.
- 14 WAC 173-303-070, *Designation of dangerous waste*.
- 15 WAC 173-303-090, *Dangerous waste characteristics*.
- 16 WAC 173-303-300, *General waste analysis*.
- 17 WAC 173-303-380, *Facility recordkeeping*.
- 18 WAC 173-303-806, *Final facility permits*.

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**CAPSULE INTERIM STORAGE UNIT
ADDENDUM C
PROCESS INFORMATION
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

Modification Date	Modification Number
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ADDENDUM C
PROCESS INFORMATION

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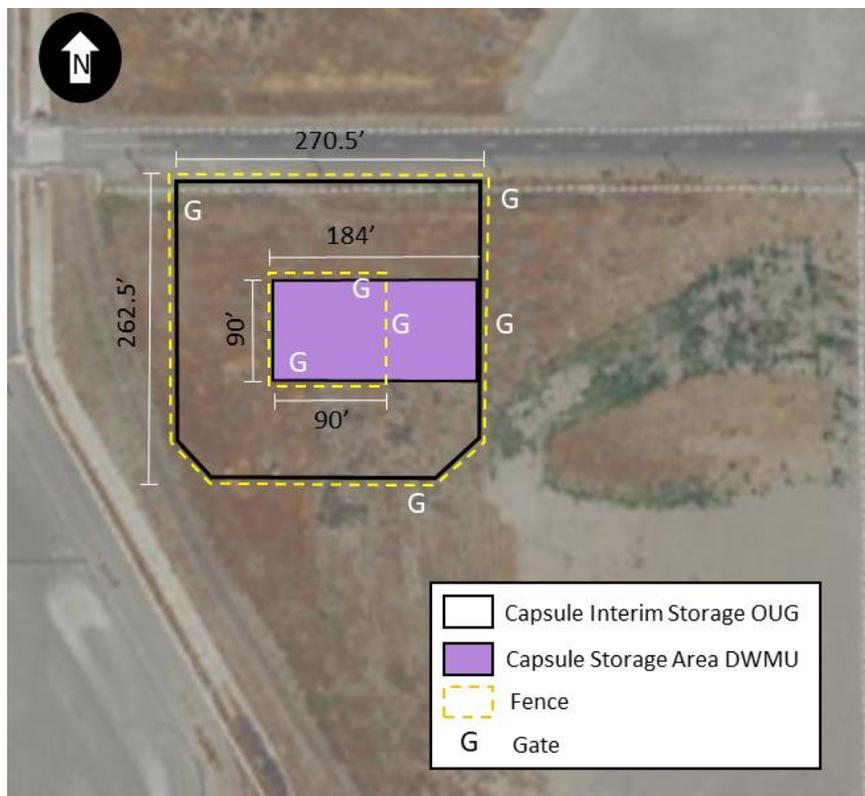
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1 **C.1 Introduction and Operating Unit Group Description**

2 This addendum provides a description of storage operations required by Washington Administrative Code
3 (WAC) 173-303, *Dangerous Waste Regulations*, in effect at the Capsule Interim Storage (CIS) Operating
4 Unit Group (OUG).

5 **C.1.1 Capsule Storage Area Dangerous Waste Management Unit Description**

6 Located in the western portion of the Hanford Facility 200 East Area and surrounded by a chain-link
7 fence, CIS contains the Capsule Storage Area (CSA) Dangerous Waste Management Unit (DWMU)
8 (Figure C-1). CSA is an uncovered, unenclosed, rectangular storage pad constructed of reinforced
9 concrete measuring ~27 m (90 ft) wide by 56 m (184 ft) long and 46 cm (18 in.) thick. The concrete pad
10 has a loading capacity of 5,000 psi, sloping one percent to the south. A second chain-link fence encircles
11 the portion of the pad storing the casks, as shown in Figure C-1. A portion of the concrete pad located
12 outside the CSA fence line is used for movement operations of the storage casks.



13 **Figure C-1 Aerial Photo of Capsule Interim Storage**
14 **Dangerous Waste Management Unit (2012)**

15 **C.1.2 List of Wastes**

16 Waste managed at CIS consists of waste previously accepted, encapsulated, and loaded into Cask Storage
17 Systems (CSS) at the Waste Encapsulation and Storage Facility (WESF). Two mixed waste streams are
18 managed at CIS: cesium chloride and strontium fluoride salts. CIS does not generate products for use,
19 have any production processes, nor receive waste from offsite facilities. For a comprehensive list of
20 waste managed in accordance with *Resource Conservation and Recovery Act of 1976 (RCRA)*
21 regulations, refer to the CIS “Part A Form” located in Addendum A.

1 **C.1.2.1 Capsule Storage Area Dangerous Waste Management Unit Maximum Waste**
2 **Inventory**

3 Waste inventory is described in CIS Addendum A, “Part A Form.”

4 **C.2 Process Information – Waste Management**

5 The CIS mission is to provide safe, compliant, and cost-effective storage of the cesium and strontium
6 mixed waste. The CIS CSSs meet the definition of “container” as noted in WAC 173-303-040,
7 *Definitions*. However, due to the unique characteristics of the CSS and the radioactive component of the
8 mixed waste, CIS storage operations differ from the standard container management requirements of
9 WAC 173-303-630, *Use and management of containers*. Due to the radioactive component of the mixed
10 waste contents and the specialized management system, CIS is considered a miscellaneous unit. For
11 further discussion on the analysis of miscellaneous unit regulatory requirements pursuant to
12 WAC 173-303-680, *Miscellaneous units*, refer to Section C.3. The mixed waste is stored in a manner that
13 minimizes the potential for a release of the mixed waste contents as described in the following sections.

14 **C.2.1 Description of Capsules**

15 CIS stores 1,936 capsules within the CSS: 1,335 contain cesium chloride salt, while the remaining 601
16 contain strontium fluoride salt. There are three types of capsules: cesium mixed waste capsules,
17 strontium mixed waste capsules, and Type W overpacks. Table C-1 contains design specifications of the
18 capsules. See Appendix C-A for engineering drawings of the capsules.

Table C-1 Capsule Properties

Capsule Type	Containment Boundary	Material	Wall Thickness^a (cm [in.])	Outside Diameter (cm [in.])	Total Length (cm [in.])	Cap Thickness (cm [in.])
CsCl Capsule	Inner	316L Stainless Steel	0.3 (0.1)	5.8 (2.3)	50.0 (19.7)	1 (0.4)
	Outer	316L Stainless Steel	0.3 (0.1)	6.6 (2.6)	52.8 (20.8)	1 (0.4)
SrF ₂ Capsule	Inner	Hastelloy [®] C-276	0.3 (0.1)	5.8 (2.3)	48.5 (19.1)	1 (0.4)
	Outer	316L Stainless Steel ^b	0.3 (0.1)	6.6 (2.6)	51.1 (20.1)	1 (0.4)
Type W Overpack	Single	316L Stainless Steel	0.3 (0.1)	8.4 (3.3)	55.4 (21.8)	1 (0.4)

[®]Hastelloy is a registered trademark of Haynes International, Kokomo, Indiana.

Note: Capsule data taken from HNF-22687, *WESF Capsule Data Book*, were rounded.

a. The specified wall thickness of the capsules was changed during production.

b. Some of the initial SrF₂ capsules were made with Hastelloy C-276 outer capsules.

CsCl = cesium chloride

SrF₂ = strontium fluoride

- 1 The cesium capsules are double-walled (i.e., a capsule placed inside another capsule), stainless steel
- 2 containers that are ~52.8 cm (20.8 in.) by 6.6 cm (2.6 in.) in length and diameter, respectively
- 3 (Figure C-2). Strontium capsules have the same general dimensions but consist of a Hastelloy C-276
- 4 inner capsule and a stainless steel outer capsule (Figure C-3).

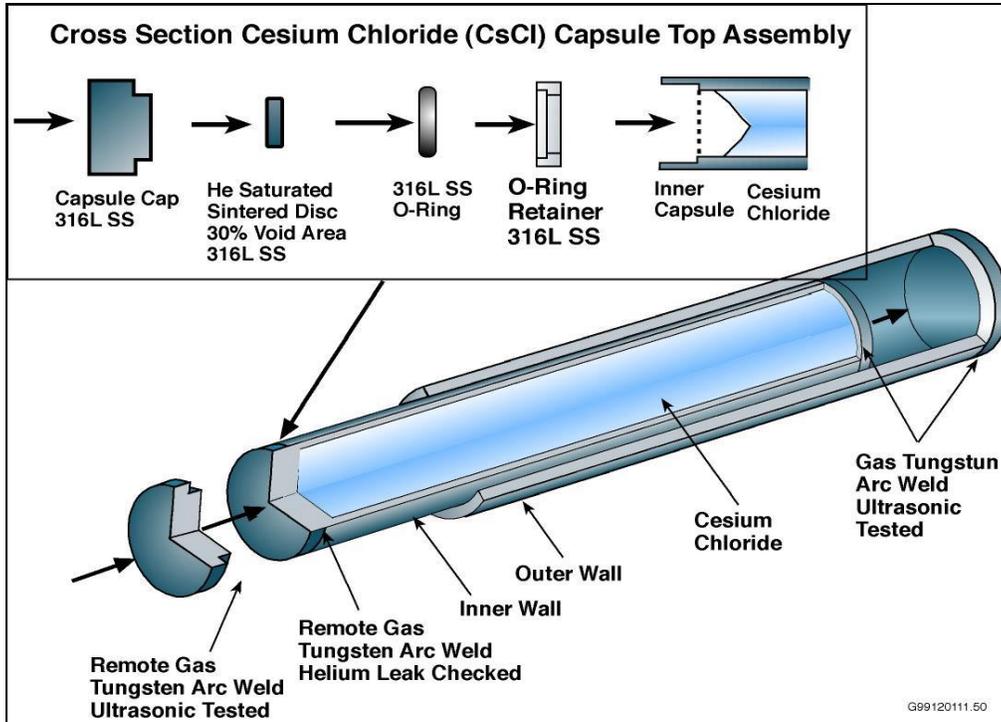


Figure C-2 Cesium Capsule

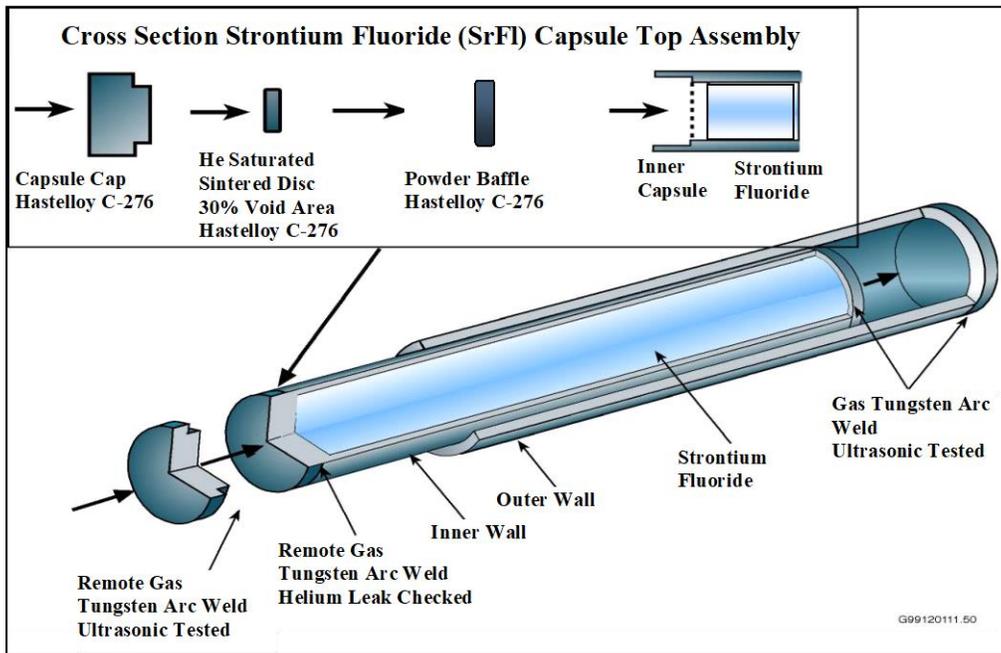
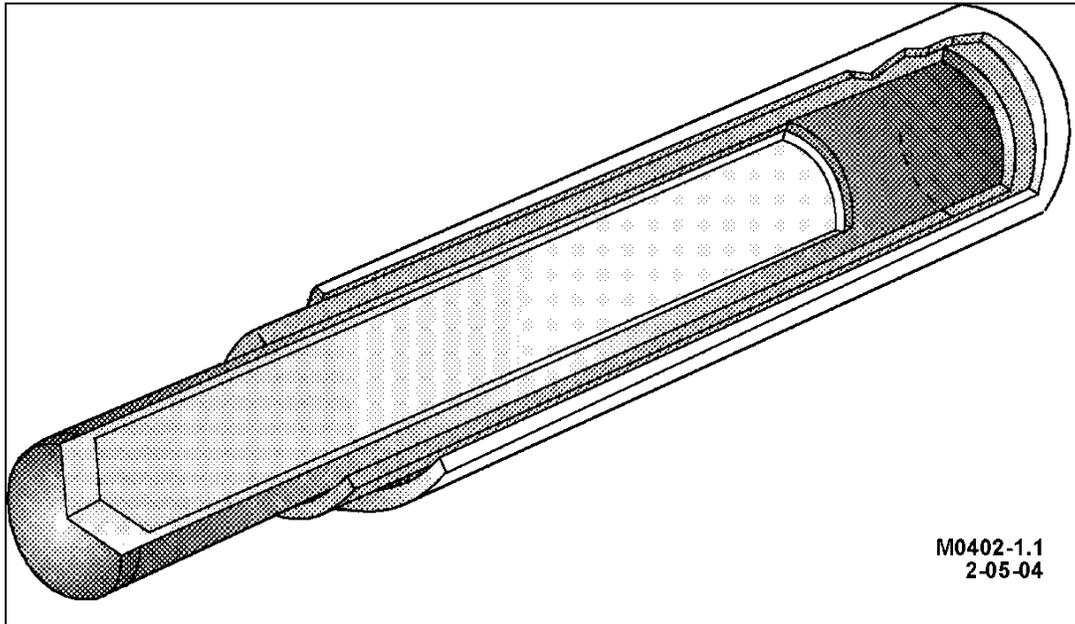


Figure C-3 Strontium Capsule

1 Of the cesium capsules, 23 are referred to as Type W overpacks (Figure C-4). Type W overpacks were
2 fabricated at the 324 Building from 1997 to 1999. Of the Type W overpacks, 16 contain degraded cesium
3 capsules, while the other 7 contain cesium chloride packaged during cleanout of the 324 Building.
4 Type W overpacks are made of stainless steel and are 55.4 cm (21.8 in.) by 8.4 cm (3.3 in.) in length and
5 diameter, respectively.



6 **Figure C-4 Type W Overpack (Typical)**

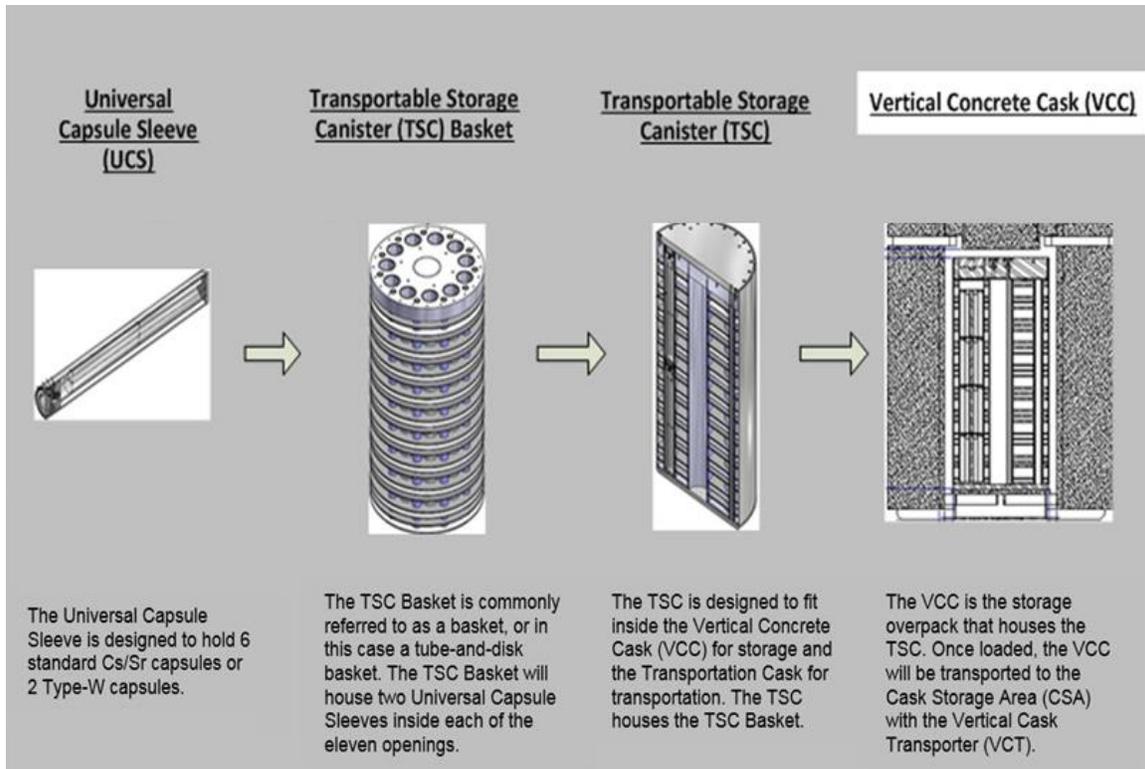
7 WESF encapsulation operations occurred between September 1974 and January 1985. First, the cesium
8 chloride or strontium fluoride salt was added to the inner capsule, followed by a sintered metal disk to aid
9 the helium leak check performance test. The capsule was then purged with helium, capped, welded, leak
10 checked (to verify the integrity of the inner capsule weld), and decontaminated before insertion into a
11 stainless steel outer capsule. The outer capsule cap was welded in place, and the weld was examined
12 ultrasonically. Finally, a calorimetry test was performed prior to placing the capsule in storage.
13 The Type W overpacks had both a helium leak check and an ultrasonic weld inspection on the outer
14 capsule to verify weld integrity.

15 **C.2.2 Description of the Cask Storage System**

16 The CSS is designed to store the cesium capsules, strontium capsules, and Type W overpacks in a safe
17 and compliant configuration. The initial design and analysis for the CSS components are based on
18 previous Nuclear Regulatory Commission (NRC)-certified designs. The components of the NRC design
19 have been modified to accommodate the cesium and strontium capsules. The CSS consists of the
20 following components and is detailed in Figures C-5 and C-6:

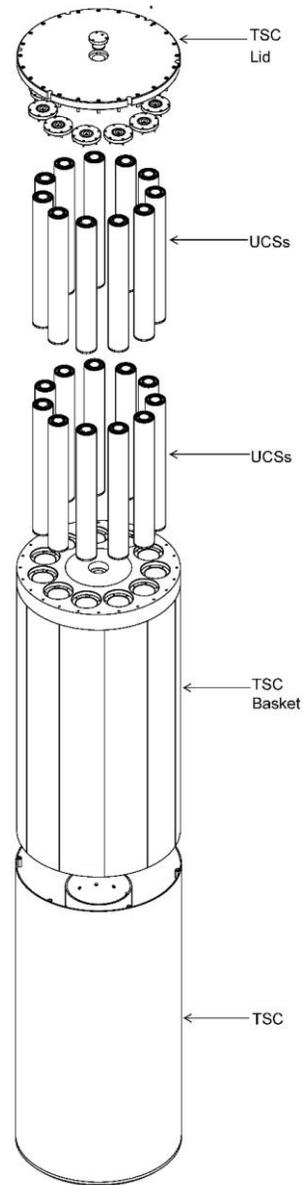
- 21 • Universal capsule sleeve (UCS).
- 22 • Transportable storage canister (TSC) basket.
- 23 • TSC.
- 24 • Vertical concrete cask (VCC).

- 1 The CSS is designed to provide passive cooling of the capsules, shielding from radiation, protection from
- 2 external hazards, and protection from the environment (e.g., rain, snow, ice). The CSS is ~3.4 m (11 ft)
- 3 tall by 3.0 m (10 ft) in diameter.



4

Figure C-5 Cask Storage System



1 **Figure C-6 The Transportable Storage Canister, Basket, and Universal Capsule Sleeves**

2 **C.2.2.1 Universal Capsule Sleeve**

3 The capsules are contained in 316L stainless steel Universal Capsule Sleeves (UCSs), sealed closed.
4 A UCS holds up to six cesium or strontium capsules or two Type W capsules. Despite having different
5 capsules types, the UCS will have the same exterior dimensions of approximately 120 cm (49 in.) tall by
6 19 cm (7.5 in.) in diameter. Standard capsules are vertically stored in a UCS in a 3x2 array, while Type W
7 capsules are loaded in a 1x2 array. A single-piece aluminum shunt within the UCS defines the capsule
8 cell location. The UCS is closed with a threaded plug lid assembly.

9 **C.2.2.2 Transportable Storage Canister Basket**

10 The UCSs are inside a TSC basket constructed of aluminum and steel. A TSC basket holds up to two
11 UCSs end-to-end inside 11 cell locations, each of which has a shield plug and closure lid.

1 **C.2.2.3 Transportable Storage Canister**

2 The TSC houses the TSC basket. The steel TSC incorporates a closure lid design with shield plugs,
3 which provides confinement of the contents. The closure lid is sealed to the TSC shell to complete the
4 TSC structure.

5 **C.2.2.4 Vertical Concrete Casks**

6 Each TSC is placed within a VCC consisting of a reinforced concrete structure, a 10 cm (4 in.) structural
7 steel inner liner, a bolted on steel lid, and a pedestal equipped with a steel plate at the bottom. Concrete
8 reinforcement consists of both inner and outer steel rebar cages, encased within concrete. The concrete
9 shell surrounds the carbon steel liner and pedestal. The concrete cask is stable against tip-over and sliding
10 during tornado, flood, and earthquake accidents. A 23 cm (9 in.) drop of a fully loaded VCC shows that
11 the TSC will maintain confinement and there will be no release of waste. Each VCC is ~3.4 m (11 ft) tall
12 by 3.0 m (10 ft) in diameter. A loaded VCC has a maximum weight of approximately 73,620 kg
13 (162,300 lb). The thickness of the VCC concrete wall is ~0.6 m (2 ft), and the lid is ~0.3 m (1 ft) thick.
14 The structure of the VCC provides shielding protection for personnel and protects the TSC from external
15 hazards and the elements.

16 **C.2.2.5 Heat Loading**

17 Capsules were loaded into the CSS based on the total heat load of the cask. There are three heat loads for
18 strontium casks: 14.6 kW, 17.6 kW, and 22.3 kW. Casks loaded with cesium capsules have heat loads of
19 15.6 kW and casks with Type W are 3.52 kW. To ensure the proper heat distribution, stainless steel
20 capsule spacers may be included in the loading plan to take the place of a capsule.

21 Aluminum inserts in the UCS and TSC draw the heat away from the capsules. The casks are designed to
22 direct the heat from the capsules through the VCC vents by means of convection. Since temperature is
23 the limiting factor, the materials, CSS design, and loading plan have all been considered to ensure that the
24 waste is maintained below the phase transition and melting points of the cesium and strontium waste.
25 Cesium chloride undergoes a phase transition at temperatures as low as 330°C (626°F), therefore
26 operating limits for the salt-capsule interface will not exceed 317°C (603°F). Strontium fluoride does not
27 undergo a solid phase transition, and has a minimum melting point of 800°C (1,472°F). Operating limits
28 for the strontium salt-capsule interface is set at 540°C (1004°F).

29 There are two primary concerns that would result in an increase in capsule temperature: fire and vent
30 blockage. Accident scenarios have been completed for both possibilities. For a fire hazard, there will be
31 an initial rise in temperature with a quick decrease as the fire is extinguished or moves away. The
32 stainless steel containment components (UCS and TSC) will not reach the allowable temperature limit of
33 815°C (1500°F). For a scenario in which all vents are completely blocked and no air flow occurs, the
34 temperature will steadily rise until it reaches a steady-state. At steady-state, the stainless steel
35 containment components will not reach the allowable temperature limit.

36 In either of the accident scenarios, the strontium fluoride will not melt due to its high melting point. The
37 cesium chloride may undergo a phase transition due to the increase in temperature. However, in the event
38 that the inner layer of the capsule does fail due to the excess temperature and pressure, the cesium will not
39 breach the outer layer of the capsule.

40 As the casks were designed to safely store the cesium and strontium capsules for interim storage, failure
41 of the VCC is highly unlikely. However, in the event of degradation of a VCC, a strategy will be
42 developed to transfer a TSC to a new VCC. In the unlikely event of an unplanned release, the
43 Contingency Plan (Addendum J) will be implemented.

1 **C.2.2.6 Temperature Monitoring**

2 The VCCs are designed to provide passive cooling of the TSC via natural air circulation. Outside air
3 enters the inlet air vents [99 cm (39 in.) wide by 72 cm (28 in.) high by 2.5 cm (1.0 in.) thick] located at
4 the bottom of the VCC structure. Outlet air vents [100 cm (39 in.) wide by 69 cm (27 in.) high by 1.3 cm
5 (0.5 in.) thick] provide a flow path for the internal circulation of air adjacent to the canister for heat
6 removal. The vent inlets and outlets are protected from natural elements by bolted-on removable screens
7 designed to prevent or minimize debris (e.g., soil, vegetation) and wildlife from entering. Resistance
8 temperature detectors (RTDs), installed outside each of the outlet air vents are connected to the
9 temperature monitoring system (TMS) to provide temperature monitoring for each CSS. As obstructions
10 to the vents are the primary cause of an increase in cask temperature, temperature monitoring will verify
11 that vents are free from obstruction and the ventilation system is functioning properly. CIS Addendum I,
12 “Inspection Plan,” provides further information on this CIS inspection requirement.

13 The TMS consists of the TMS cabinet designed with a weatherproof hinged window and an interface.
14 The cabinet is protected by a three-sided structure, which is located to the northeast of the CIS outer fence
15 (see the CSA Enlarged Plan in Appendix C-A). The TMS interface displays the temperature of each cask,
16 ambient temperature, and a high temperature annunciator. An alarm beacon, located on top of the TMS
17 cabinet, is designed to alert operators of unsatisfactory conditions. The TMS provides continuous readout
18 of temperature by location and a representation of temperature over time. The maximum temperature for
19 normal operating conditions is based on the allowable temperature difference between the ambient
20 temperature and the outlet air vents. For strontium casks with a maximum heat load of 14.6 kW and
21 22.3 kW, the allowable temperature difference is 45.6°C (114°F). For strontium casks with a maximum
22 heat load of 17.6 kW, the allowable temperature difference is 55°C (131°F). For all cesium casks, a
23 43.3°C (110°F) difference is allowable.

24 **C.2.2.7 Identification and Labeling**

25 Each component of the CSS is marked with a unique identifier to record storage locations for tracking
26 purposes. In addition, each VCC has a metal stamped label identifying hazardous waste, the hazards
27 associated with the waste contents, and the accumulation start date. Casks have been loaded according to
28 a capsule loading plan recorded as an inventory sheet, as part of the Treatment, Storage, or Disposal
29 Facility (TSD) unit-specific operating record. In the event of missing labels, the inventory sheet may be
30 referenced to determine waste type. The labels will be managed to facilitate compliance with the
31 requirements outlined in CIS Addendum I.

32 **C.2.2.8 Waste Management**

33 CIS operations provide for the continued safe storage and maintenance of 1,936 cesium and strontium
34 capsules stored within CSSs. The CSS will be handled, managed, and stored in a manner that maintains
35 containment and limits personnel contact with the waste. Only qualified personnel trained in accordance
36 with CIS Addendum G, “Personnel Training,” will conduct waste container handling activities at the CIS.

37 The CSSs containing the mixed waste will be transferred from the WESF for placement on the CSA
38 concrete pad. Once a CSS has been positioned outside the truckport of WESF, the Vertical Cask
39 Transporter (VCT) is connected to a VCC through the use of lifting lugs. The VCT will lift the VCC in
40 preparation of transport. The tugger will move the VCT supporting the VCC along the haul path, and
41 place the CSS on the CSA concrete pad at its assigned destination. The VCT will be disconnected from
42 the VCC and moved away. The previously installed RTDs will then be connected to the CIS TMS control
43 panel via cable connections to the TMS junction box located on the side of each cask.

1 The CSS may be moved from the storage configuration within the inner fence to other areas on the CSA
2 DWMU concrete pad (e.g., heat monitoring, maintenance) as a result of actions or events related to
3 Addendum I and Addendum J. Maintenance, repairs, or replacements which occur due to unexpected
4 events will be conducted as quickly as practicable and in a manner that ensures protection of human
5 health and the environment. Visual inspections and temperature monitoring will ensure each CSS
6 remains in good condition through all expected events until Milestone M-092 is met.

7 **C.2.3 Waste Compatibility**

8 The CSS is constructed of materials that are both compatible with the mixed waste being stored and
9 designed for long-term dry storage. Capsule, UCS, canister, and cask materials preclude chemical,
10 electrochemical, or other reactions (e.g., internal corrosion) from occurring.

11 The mixed waste stored at CIS does not exhibit the characteristics of ignitability or reactivity as defined
12 in WAC 173-303-040 or WAC 173-303-090(5) and (7), *Dangerous waste characteristics*.

13 As a best management practice, strontium capsules and cesium capsules will not be loaded in a single
14 TSC; therefore, each TSC will consist of capsules containing the same mixed waste stream. Furthermore,
15 this means that conventional cesium capsules and Type W overpacks may be loaded in a single TSC.

16 **C.2.4 Equipment**

17 The VCT provides wheeled transport for the VCCs by using hydraulics to lift and carry a VCC no more
18 than 23 cm (9 in.) above grade. A tow tractor is the designated prime mover for the VCT, traveling no
19 more than 15 mph.

20 **C.2.5 Aisle Spacing**

21 Each TSC has an internal support structure used to confine the capsules. In addition, the CSA storage
22 design configuration provides aisle space between VCCs to allow for the unobstructed movement of
23 personnel and emergency equipment, thereby meeting the requirements of WAC 173-303-340(3),
24 *Preparedness and prevention*. VCC storage configuration requires ~4.6 m (15 ft) distance between center
25 points of the VCCs, which allows ~1.5 m (5 ft) between each cask. The pad is constructed for placement
26 of casks to be aligned with the temperature monitoring system, which are installed at the required spacing
27 distance. If a CSS is moved outside of the designed configuration, a 1.5 m (5 ft) spacing will be
28 maintained.

29 **C.2.6 Inspections**

30 Qualified personnel trained in accordance with CIS Addendum G conduct inspections of the CSA
31 DWMU. Inspections detect any signs of malfunction, deterioration, or other anomalies. CIS Addendum I
32 describes content and frequency of inspections.

33 **C.2.7 Containment Requirements for Storing Capsules**

34 All capsules are stored within the CSS to maintain the contents of the mixed waste and keep exposures as
35 low as reasonably achievable. CIS does not store capsules with free liquids, waste that exhibit ignitability
36 or reactivity, or waste designated as F020 through F023, F026, or F027. The casks are elevated and
37 protect the waste from contact with accumulated liquids [WAC 173-303-630(7)(c)(ii)]. The CSA storage
38 pad is sloped to drain liquid resulting from precipitation in accordance with WAC 173-303-630(7)(c)(i).
39 These design features address control of run-on. Due to the configuration of capsules in CSS,
40 contaminated runoff is not possible.

1 **C.2.8 Prevention of Reaction of Ignitable, Reactive, and Incompatible Waste in Capsule**
2 **Interim Storage**

3 The mixed waste contents of the capsules stored at CIS do not exhibit characteristics of ignitability,
4 reactivity, or incompatibility. Additionally, CIS does not and will not store ignitable, reactive, or
5 incompatible waste; therefore, WAC 173-303-630(8) and (9) requirements are not applicable to CIS.

6 **C.2.9 Air Emissions**

7 This section addresses air emission standards from the following requirements:

- 8 • WAC 173-303-690, *Air emission standards for process vents*, incorporated by 40 CFR 264,
9 *Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal*
10 *Facilities*, Subpart AA, *Air Emission Standards for Process Vents*.
- 11 • WAC 173-303-691, *Air emission standards for equipment leaks*, incorporated by 40 CFR 264,
12 Subpart BB, *Air Emission Standards for Equipment Leaks*.
- 13 • WAC 173-303-692, *Air emission standards for tanks, surface impoundments, and containers*,
14 incorporated by 40 CFR 264, Subpart CC, *Air Emission Standards for Tanks, Surface*
15 *Impoundments, and Containers*.

16 **C.2.9.1 Applicability of Subpart AA Standards**

17 The air emission standards in 40 CFR 264, Subpart AA apply to process vents associated with distillation,
18 fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations for hazardous
19 wastes with organic concentrations of at least 10 parts per million (ppm) by weight. Because CIS does
20 not have any process vents, Subpart AA standards do not apply.

21 **C.2.9.2 Applicability of Subpart BB Standards**

22 The air emission standards in 40 CFR 264, Subpart BB apply to equipment that contains or contacts
23 hazardous waste with a total organic concentration of 10% by weight or more. Because CIS does not
24 store hazardous waste with associated organic compounds, Subpart BB standards do not apply
25 (CIS Addendum A provides a comprehensive list of waste managed at the facility).

26 **C.2.9.3 Applicability of Subpart CC Standards**

27 Air emission standards from 40 CFR 264, Subpart CC apply to tank, surface impoundment, and container
28 storage units that manage hazardous waste with average volatile organic concentrations equal to or
29 exceeding 500 ppm by weight, based on the waste composition at the point of origination. However,
30 containers that solely manage mixed waste are exempt per 40 CFR 264.1080(b)(6), *Applicability*.
31 Because CIS only contains mixed waste Subpart CC standards do not apply.

32 **C.3 Analysis of Miscellaneous Unit Regulatory Requirements Pursuant to**
33 **WAC 173-303-680**

34 The CSA has been classified as an X99 (miscellaneous) unit due to the unique radiological characteristics
35 of the cesium and strontium that necessitate specialized management systems and requirements other than
36 those applicable to container storage units. Miscellaneous units do not fit clearly into a regulatory
37 category such as a container storage unit, containment building, or tank system.

38 WAC 173-303-680 requires that a miscellaneous unit must be located, designed, constructed, operated,
39 maintained, and closed in a manner that will ensure protection of human health and the environment
40 according to those provisions most appropriate to the unit being permitted. Terms and provisions most
41 appropriate to CIS are those applicable requirements in WAC 173-303-630. Waste management process
42 descriptions provided in this addendum describe all essential elements of waste management practices
43 necessary to support the required demonstrations.

1 WAC 173-303-680(2)(a) through (c) requires consideration of the potential release or migration of waste
2 or waste constituents to groundwater, surface water, and air. The CIS is situated in a flat, open area,
3 approximately 11 km (6.8 mi) south of the Columbia River, with groundwater at depth approximately
4 94 m (310 ft) below ground surface. Because mixed wastes managed at CIS are in sealed capsules within
5 the multilayered CSS, there is no potential for release outside the containment system or into the
6 environment. CIS is not seeking to be a permitted as a disposal unit; therefore, the requirements of
7 WAC 173-303-680(4) concerning post-closure care are not applicable.

8 **C.4 Recordkeeping**

9 The Permittees will place documentation into the Hanford Facility Operating Record (CIS portion) as
10 required by WA7890008967, Hanford Facility Resource Conservation and Recovery Act Permit,
11 Condition II.I (WAC 173-303-380, *Facility recordkeeping*).

12 **C.5 Training**

13 For training requirements relative to duties described in this addendum, refer to CIS Addendum G.

14 **C.6 References**

15 40 CFR 264, *Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal*
16 *Facilities*, Code of Federal Regulations. Available at: [https://www.ecfr.gov/cgi-bin/text-
17 idx?SID=f934618132e33e188ab6c3f15442552c&mc=true&node=pt40.28.264&rgn=div5](https://www.ecfr.gov/cgi-bin/text-idx?SID=f934618132e33e188ab6c3f15442552c&mc=true&node=pt40.28.264&rgn=div5).

18 264.1080, *Applicability*.

19 Subpart AA, *Air Emission Standards for Process Vents*.

20 Subpart BB, *Air Emission Standards for Equipment Leaks*.

21 Subpart CC, *Air Emission Standards for Tanks, Surface Impoundments, and Containers*.

22 HNF-22687, 2004, *WESF Capsule Data Book*, Rev. 0, Fluor Hanford, Inc., Richland, Washington.

23 *Resource Conservation and Recovery Act of 1976*, 42 USC 6901, et seq. Available at:

24 <https://elr.info/sites/default/files/docs/statutes/full/rcra.pdf>.

25 WA7890008967, *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste*
26 *Portion for the Treatment, Storage, and Disposal of Dangerous Waste*, Revision 8C, as amended,
27 Washington State Department of Ecology. Available at:

28 <https://fortress.wa.gov/ecy/nwp/permitting/hdwp/rev/8c/index.html>.

29 WAC 173-303, *Dangerous Waste Regulations*, Washington Administrative Code, Olympia, Washington.

30 Available at: <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-303>.

31 WAC 173-303-040, *Definitions*.

32 WAC 173-303-090, *Dangerous waste characteristics*.

33 WAC 173-303-340, *Preparedness and prevention*.

34 WAC 173-303-380, *Facility Recordkeeping*.

35 WAC 173-303-630, *Use and management of containers*.

36 WAC 173-303-680, *Miscellaneous units*.

37 WAC 173-303-690, *Air emission standards for process vents*.

38 WAC 173-303-691, *Air emission standards for equipment leaks*.

39 WAC 173-303-692, *Air emission standards for tanks, surface impoundments, and containers*.

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**APPENDIX C-A
ENGINEERING DRAWING**

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1 **CAPSULE STORAGE AREA DANGEROUS WASTE MANAGEMENT UNIT**

2 Capsule Storage Area Civil Enlarged PlanH-2-837593

3 Capsule Storage Area Civil Grading PlanH-2-837592

4

5 **CAPSULES**

6 Strontium Inner Capsule Assembly and DetailsH-2-66758

7 Strontium Outer Capsule Assembly and DetailsH-2-66759

8 Cesium Inner Capsule Assembly and DetailsH-2-66760

9 Cesium Outer Capsule Assembly and DetailsH-2-66761

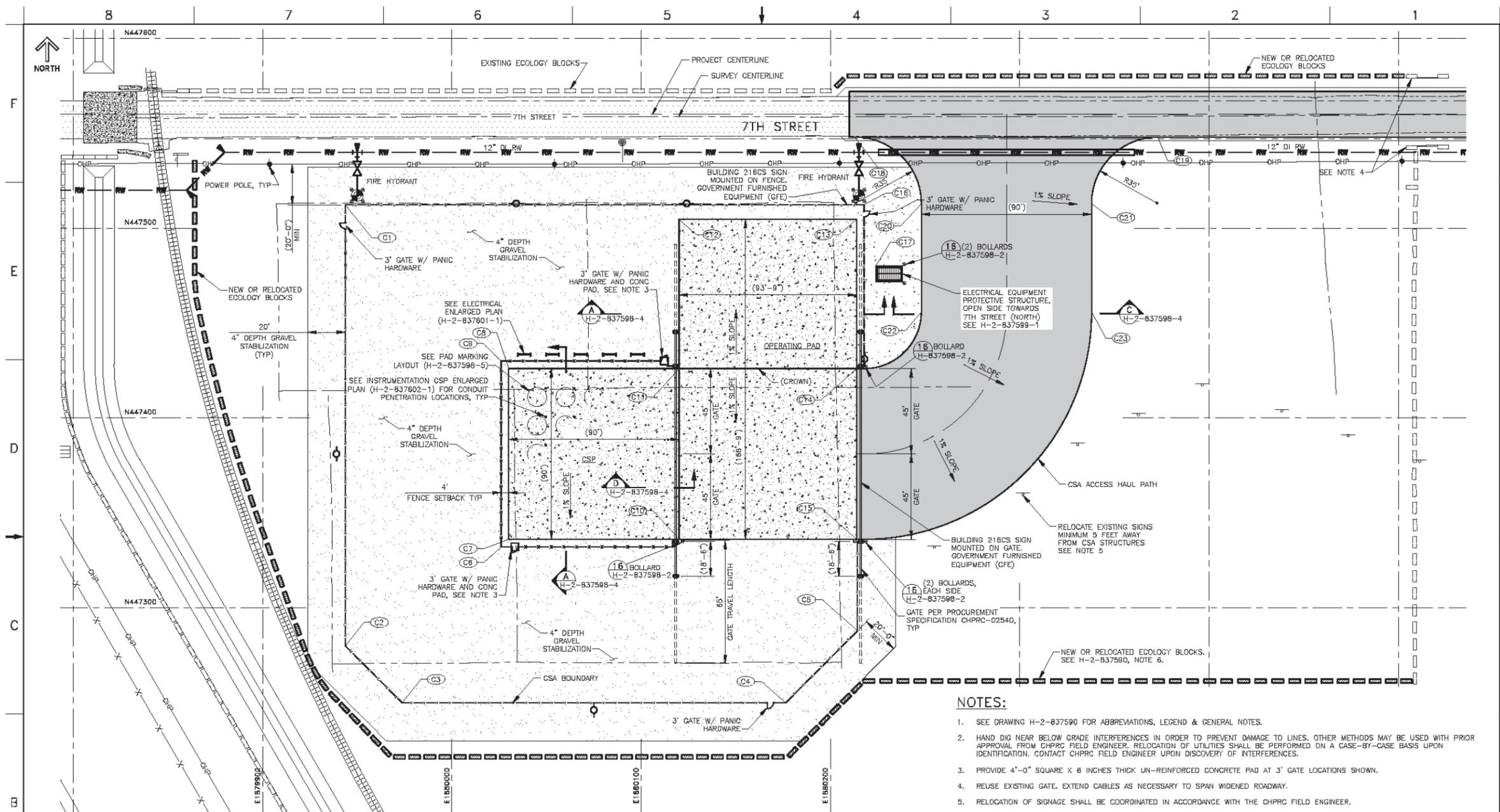
10 Cesium Capsule Type W Overpack Weldment and DetailsH-3-307504

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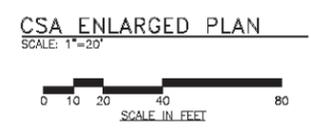
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- NOTES:**
- SEE DRAWING H-2-837590 FOR ABBREVIATIONS, LEGEND & GENERAL NOTES.
 - HAND DIG NEAR BELOW GRADE INTERFERENCES IN ORDER TO PREVENT DAMAGE TO LINES. OTHER METHODS MAY BE USED WITH PRIOR APPROVAL FROM CHPRC FIELD ENGINEER. RELOCATION OF UTILITIES SHALL BE PERFORMED ON A CASE-BY-CASE BASIS UPON IDENTIFICATION. CONTACT CHPRC FIELD ENGINEER UPON DISCOVERY OF INTERFERENCES.
 - PROVIDE 4'-0" SQUARE X 6 INCHES THICK UN-REINFORCED CONCRETE PAD AT 3' GATE LOCATIONS SHOWN.
 - REUSE EXISTING GATE. EXTEND CABLES AS NECESSARY TO SPAN WIDENED ROADWAY.
 - RELOCATION OF SIGNAGE SHALL BE COORDINATED IN ACCORDANCE WITH THE CHPRC FIELD ENGINEER.

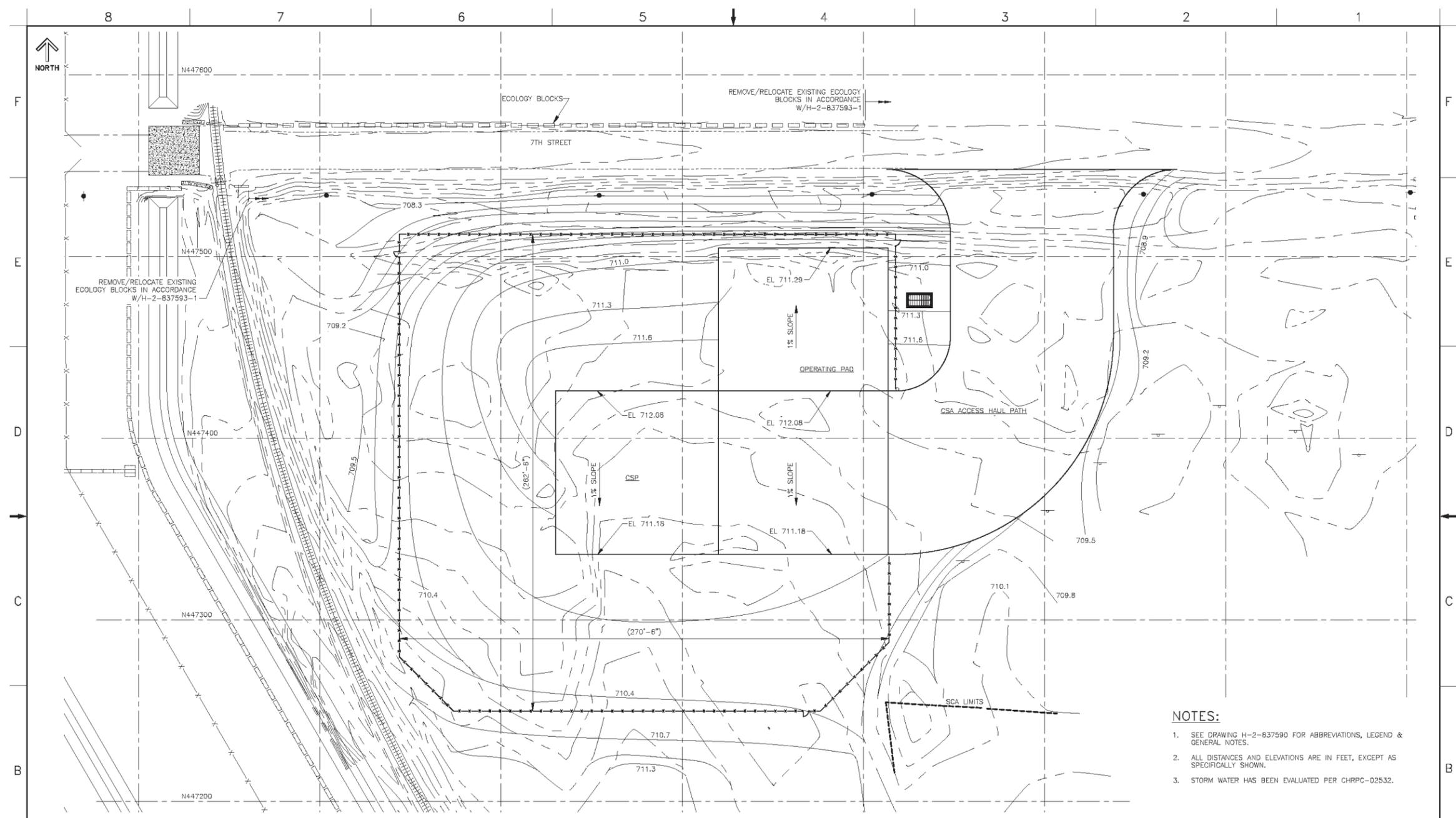
KEYED NOTES:

(C1) N.447512.25, E.1879943.75	CSA BOUNDARY FENCE CORNER	(C14) N.447426.00, E.1880213.75	CSA ACCESS HAUL PATH CORNER
(C2) N.447279.75, E.1879943.75	CSA BOUNDARY FENCE CORNER	(C15) N.447336.00, E.1880213.75	OPERATING PAD CORNER
(C3) N.447249.75, E.1879973.75	CSA BOUNDARY FENCE CORNER	(C16) N.447512.25, E.1880217.75	CSA BOUNDARY FENCE CORNER
(C4) N.447249.75, E.1880176.25	CSA BOUNDARY FENCE CORNER	(C17) N.447480.00, E.1880224.00	ELECTRICAL EQUIPMENT PROTECTIVE STRUCTURE NW CORNER
(C5) N.447287.75, E.1880214.25	CSA BOUNDARY FENCE CORNER	(C18) N.447548.00, E.1880213.00	CSA ACCESS HAUL PATH POINT OF TANGENT AT 7TH STREET
(C6) N.447332.00, E.1880026.00	CSP FENCE CORNER	(C19) N.447548.00, E.1880373.00	CSA ACCESS HAUL PATH POINT OF TANGENT AT 7TH STREET
(C7) N.447336.00, E.1880030.00	CSP PAD CORNER	(C20) N.447513.00, E.1880248.00	CSA ACCESS HAUL PATH POINT OF CURVE
(C8) N.447426.00, E.1880030.00	CSP PAD CORNER	(C21) N.447513.00, E.1880338.00	CSA ACCESS HAUL PATH POINT OF CURVE
(C9) N.447430.00, E.1880026.00	CSP FENCE CORNER	(C22) N.447456.00, E.1880248.00	CSA ACCESS HAUL PATH POINT OF TANGENT
(C10) N.447336.00, E.1880120.00	CSP PAD CORNER	(C23) N.447456.00, E.1880338.00	CSA ACCESS HAUL PATH POINT OF TANGENT
(C11) N.447426.00, E.1880120.00	CSP PAD CORNER		
(C12) N.447504.75, E.1880120.00	OPERATING PAD CORNER		
(C13) N.447504.75, E.1880213.75	OPERATING PAD CORNER		



DWG NUMBER	TITLE	REF NUMBER	TITLE
	DRAWING TRACEABILITY LIST		REFERENCES
			NEXT USED ON END ITEM

<p>CAUTION NOT COMPLETE WITHOUT CURRENT CHANGE DOCUMENTS FROM DATABASE</p> <p>NAME: _____ DATE: _____</p> <p>U.S. DEPARTMENT OF ENERGY Richland Operations Office</p> <p>CAPSULE STORAGE AREA CIVIL ENLARGED PLAN</p> <p>SCALE: AS SHOWN</p>	<p>ATTENTION DESTROY THIS DOCUMENT BY SHREDDING MAY CONTAIN SENSITIVE INFORMATION</p> <p>U.S. DEPARTMENT OF ENERGY Richland Operations Office</p> <p>CAPSULE STORAGE AREA CIVIL ENLARGED PLAN</p> <p>SCALE: AS SHOWN</p>
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<p>RELEASED PER DCN-W135-CSA-001</p>	<p>H-2-837593</p> <p>1 0</p>



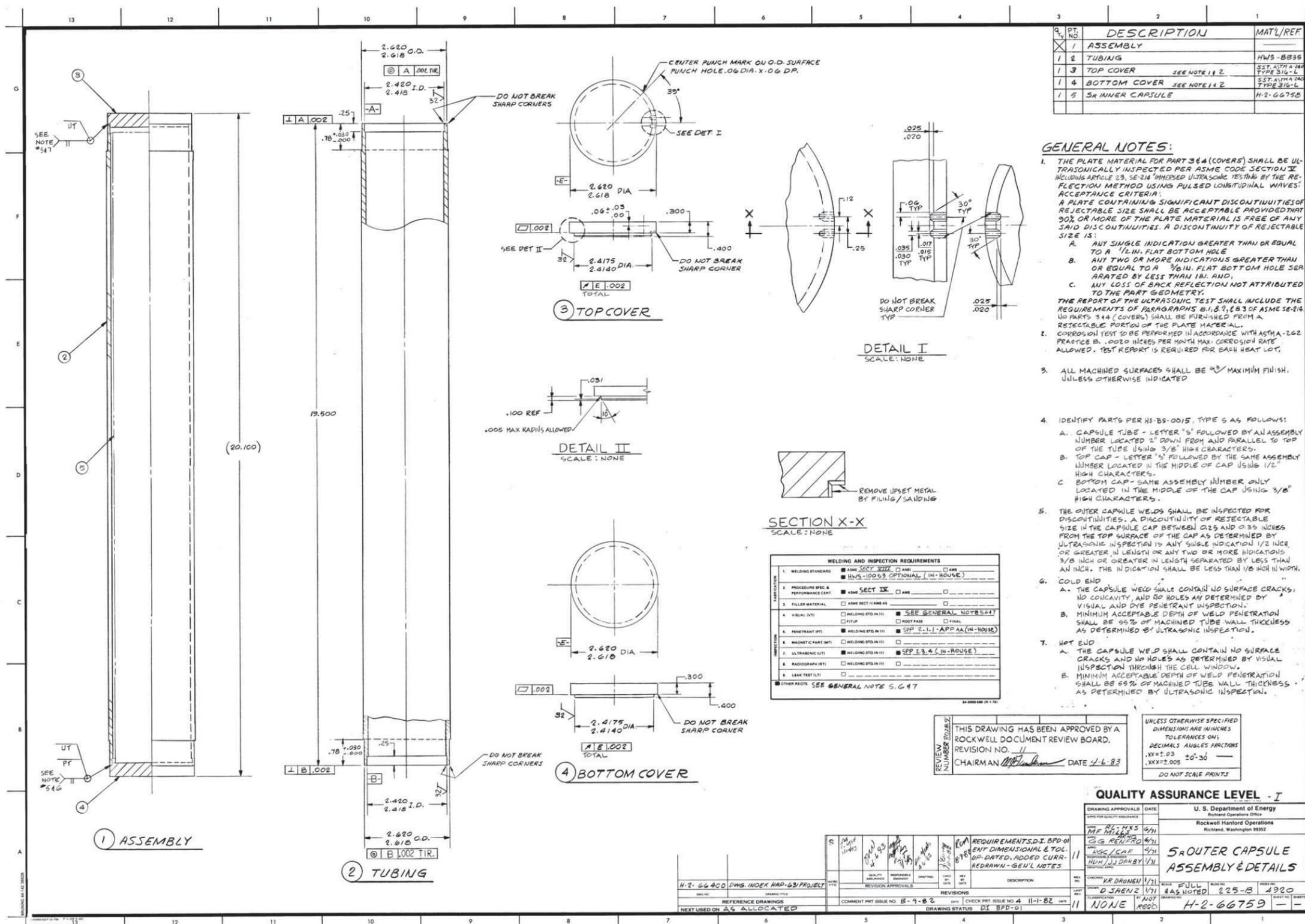
- NOTES:**
- SEE DRAWING H-2-837590 FOR ABBREVIATIONS, LEGEND & GENERAL NOTES.
 - ALL DISTANCES AND ELEVATIONS ARE IN FEET, EXCEPT AS SPECIFICALLY SHOWN.
 - STORM WATER HAS BEEN EVALUATED PER CHRPC-02532.

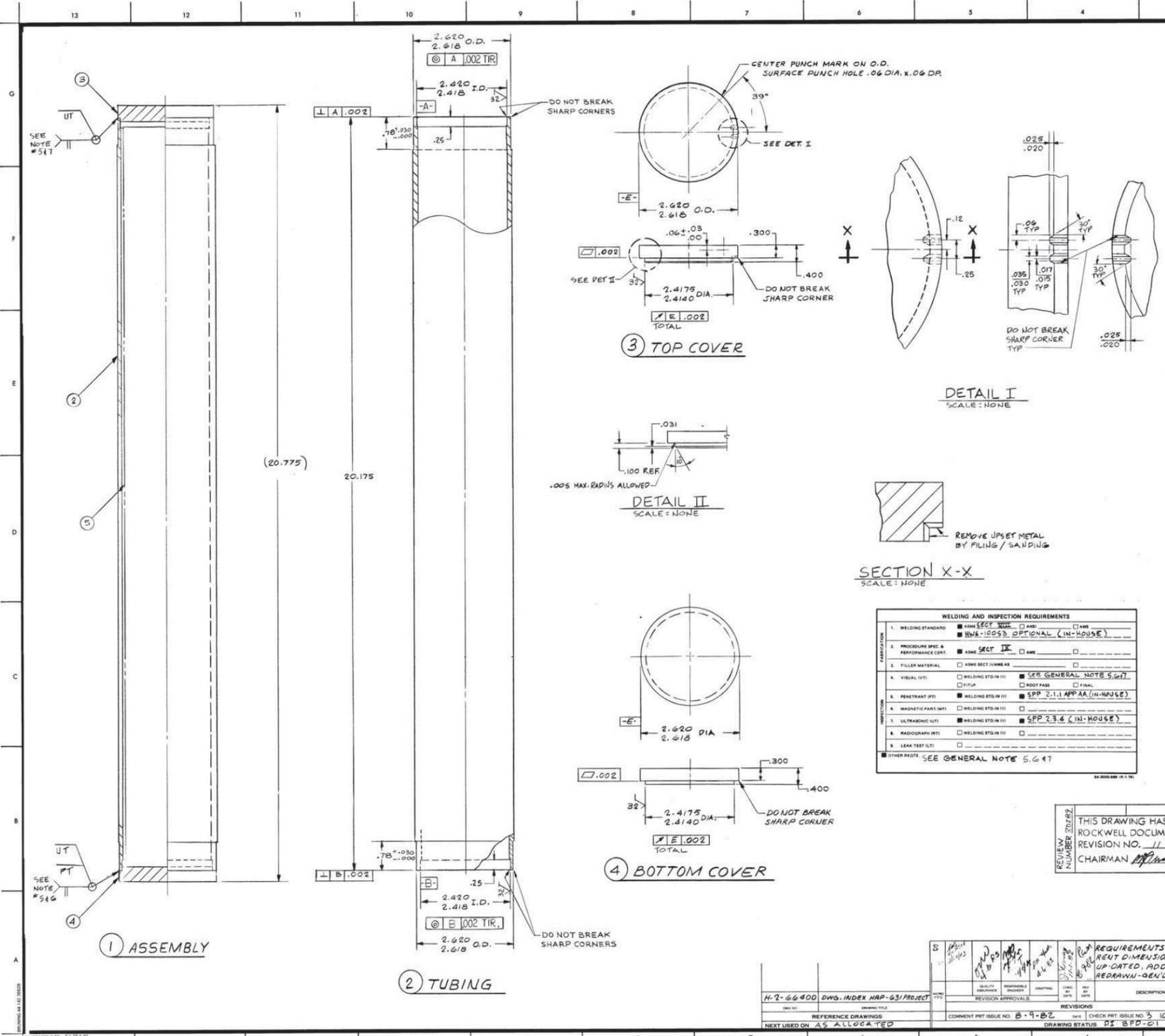
CSA SITE GRADING PLAN
SCALE: 1"=20'



DWG NUMBER	TITLE	REF NUMBER	TITLE	REV	DESCRIPTION
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		CAPSULE STORAGE AREA CIVIL GRADING PLAN	
NAME J. C. ILLBERTSON DATE 11/14/00 CHECKED G. MARTINEZ-DISNEROS	DATE 11/14/00 STATUS YES YES YES	REV F H-2-837592	SHEET 1 OF 0





QTY	PT. NO.	DESCRIPTION	MATL/REF
1	1	ASSEMBLY	
AR	2	TUBING	HW5 8835
1	3	TOP COVER	SST. ASTM A-182 TYPE 316-L
1	4	BOTTOM COVER	SST. ASTM A-182 TYPE 316-L
1	5	Cs INNER CAPSULE	H-2-66760

WELDING AND INSPECTION REQUIREMENTS	
1. WELDING STANDARD	<input checked="" type="checkbox"/> AWS SECT VIII <input type="checkbox"/> AWS <input type="checkbox"/> AWS
2. PROCEDURE SPEC. & PERFORMANCE CERT.	<input checked="" type="checkbox"/> AWS SECT IX <input type="checkbox"/> AWS <input type="checkbox"/> AWS
3. FILLER MATERIAL	<input type="checkbox"/> ASME SECT VIII-AS <input type="checkbox"/> AWS
4. VISUAL (VT)	<input type="checkbox"/> WELDING STD. IN (I) <input checked="" type="checkbox"/> SEE GENERAL NOTE 5.617
5. PENETRANT (PT)	<input type="checkbox"/> WELDING STD. IN (I) <input type="checkbox"/> FINAL
6. MAGNETIC PARTIC (MT)	<input type="checkbox"/> WELDING STD. IN (I) <input type="checkbox"/> SPP 2.1.1 APP. AA (IN-HOUSE)
7. ULTRASONIC (UT)	<input type="checkbox"/> WELDING STD. IN (I) <input checked="" type="checkbox"/> SPP 2.3.4 (IN-HOUSE)
8. RADIOGRAPH (RT)	<input type="checkbox"/> WELDING STD. IN (I) <input type="checkbox"/>
9. LEAK TEST (LT)	<input type="checkbox"/>
OTHER NOTE	SEE GENERAL NOTE 5.617

THIS DRAWING HAS BEEN APPROVED BY A ROCKWELL DOCUMENT REVIEW BOARD.
REVISION NO. 11
CHAIRMAN *[Signature]* DATE 4-6-83

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
DECIMALS ANGLES FRACTIONS
XX ± .03 ± 0°-30'
XXX ± .005
DO NOT SCALE PRINTS

QUALITY ASSURANCE LEVEL - I

DRAWING APPROVALS		DATE	
APPROVED FOR QUALITY ASSURANCE			
APPROVED FOR DESIGN			
APPROVED FOR FABRICATION			
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APPROVED FOR TESTING			
APPROVED FOR SHIPMENT			

U. S. Department of Energy
Rockwell Hanford Operations
Richland, Washington 99352

Cs OUTER CAPSULE ASSEMBLY & DETAIL

REVISIONS: 10 NONE REGD

DATE: 4/21/83

BY: D. SHENZ

REVISION NO. 225-B

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H-2-66761

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**CAPSULE INTERIM STORAGE UNIT
ADDENDUM E
SECURITY
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

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1 **E.1 Security**

2 This addendum discusses the security requirements relative to the Capsule Interim Storage (CIS)
3 Operating Unit Group (OUG) and complies with the security requirements set forth in Washington
4 Administrative Code (WAC) 173-303-310, Dangerous Waste Regulations, *Security*.

5 CIS, located within the western portion of the 200 East Area of the Hanford Facility, consists of the
6 operating Capsule Storage Area (CSA) Dangerous Waste Management Unit (DWMU) (Figure E-1).

7 CIS operations provide for continued safe storage and maintenance of the 1,936 capsules containing
8 cesium and strontium radioactive mixed waste. The double-encapsulated cesium and strontium salts are
9 stored in a Cask Storage System on the CSA storage pad. CIS storage operations are designed to protect
10 human health and the environment from the encapsulated mixed waste.

11 **E.1.1 Hanford Site Security**

12 The Hanford Site is a controlled-access area. Permit Attachment 3, *Security*, of the WA7890008967,
13 Hanford Facility Resource Conservation and Recovery Act Permit, describes the multi-tiered site-wide
14 security system and how it applies to the requirements for signs [WAC 173-303-310(2)(a)], 24-hours
15 surveillance [WAC 173-303-310(2)(b)], and artificial and natural barriers [WAC 173-303-310(2)(c)].

16 **E.1.2 Capsule Interim Storage Security Provisions**

17 CIS complies with access control and warning sign requirements pursuant to WAC 173-303-310(1) and (2).

18 **E.1.2.1 Access Control**

19 Unknowing entry and the possibility for unauthorized entry of persons or livestock onto the active portion
20 of CIS are minimized through implementation and maintenance of security fencing. Access to the CSA
21 DWMU is controlled by a 2.4 m (8 ft) tall chain-link fence encircling the CIS perimeter with access
22 provided through vehicle and personnel gates. A second 2.4 m (8 ft) tall chain-link fence encircles the
23 portion of the DWMU that contains the waste storage configuration. The CIS gates are under
24 surveillance by authorized personnel when work activities are occurring in the area. All gates remain
25 closed and locked when not in use. Access is controlled and accessible to authorized personnel only
26 [WAC 173-303-310(2)(c)]. Keys to access gates are controlled by Project Operations dispatch personnel,
27 and accessible only by authorized personnel.

28 Visitors to CIS must adhere to all personal protection requirements, and are subject to escorting protocols.
29 Personnel training requirements for security protocol for those individuals whose assigned work tasks
30 directly relate to CIS mixed waste management activities are found in CIS Addendum G, "Personnel
31 Training."

32 **E.1.2.2 Warning Signs**

33 Warning signs stating "Danger-Unauthorized Personnel Keep Out" are posted at each gate entrance.
34 Signs identical to those affixed at gate entrances are posted along the outer fence line at distances not to
35 exceed 76 m (250 ft) between signs. Figure E-1 identifies the minimum number of signs posted along
36 each segment of fence.

37 Permittees must maintain the warning signage at points described in this Addendum and ensure that signs
38 are written in English, legible from a distance of at least 7.6 m (25 ft) or more, and visible from all angles
39 of approach [WAC 173-303-310(2)(a)].



Note: Minimum number of signs required per boundary segment at distances not to exceed 76 m (250 ft) between signs. Signs will be posted on gates.

1 **Figure E-1 Capsule Storage Area Warning Signs (Month Unknown, 2017)**

**CAPSULE INTERIM STORAGE UNIT
ADDENDUM F
PREPAREDNESS AND PREVENTION
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

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PREPAREDNESS AND PREVENTION**

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PREPAREDNESS AND PREVENTION

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1 **F.1 Preparedness and Prevention**

2 This addendum addresses the preparedness and prevention measures in effect at the Capsule Interim
3 Storage (CIS) Operating Unit Group and, furthermore, complies with the requirements set forth in
4 Washington Administrative Code (WAC) 173-303-340, Dangerous Waste Regulations, *Preparedness and*
5 *prevention*; WAC 173-303-806(4)(a)(viii), *Final facility permits*; and WAC 173-303-395(4), *Other*
6 *general requirements*.

7 CIS operations provide for continued safe storage and maintenance of the 1,936 capsules containing
8 cesium and strontium mixed waste. The double-encapsulated cesium and strontium salts are stored in a
9 Cask Storage System (CSS) on the Capsule Storage Area (CSA) Dangerous Waste Management Unit
10 (DWMU) storage pad. CIS storage operations are designed to protect human health and the environment
11 from the encapsulated mixed waste.

12 **F.2 Preparedness and Prevention Requirements**

13 The purposes of preparedness and prevention are to minimize the damage caused by a fire, natural
14 disaster or explosion, and help avoid or mitigate any unplanned releases of dangerous waste constituents
15 to the air, soil, surface water, or groundwater. The following subsections describe preparedness and
16 prevention measures at CIS, which help avoid or mitigate such situations.

17 The following equipment is available for use, in accordance with the requirements of
18 WAC 173-303-340(1). All communications, alarms, and notifications are tested and maintained to ensure
19 proper operation in time of emergency, in accordance with Addendum I, "Inspection Plan."

20 **F.2.1 Internal Communication**

21 The CSA DWMU will not be a normally occupied area and does not require a telephone system.
22 Personnel at CIS will use hand-held two-way radios as a portable communication device
23 (WAC 173-303-340(1)(b) and (2)).

24 Whenever casks are being handled at CIS, all personnel involved must have immediate access to a
25 hand-held two-way radio capable of directing emergency communication with another employee. The
26 communication device described in this section meets the internal communication requirements of
27 WAC 173-303-340(1)(a) and (2)(a).

28 Emergency notifications are conveyed through the use of hand-held two-way radios and site-wide alerts.
29 Sirens broadcast the Hanford Site Emergency Alerting System in case of emergency (DOE/RL-94-02,
30 *Hanford Emergency Management Plan*, Section 5.2.5).

31 **F.2.2 External Communications**

32 As required by WAC 173-303-340(1)(b), the communications equipment described in Section F2.1 must
33 have the capability for contacting the Hanford Patrol Operations Center and Hanford Fire Department to
34 request the assistance of local emergency response organizations. Hand-held radios can be used to notify
35 dispatch personnel to request emergency assistance. The Hanford Patrol Operations Center Point of
36 Contact can be contacted for 24-hour emergency communications and for information relays by dispatch
37 personnel.

38 State and local response organizations are contacted through the Hanford Patrol Operations Center.
39 Onsite responders are notified and dispatched through the Hanford Patrol Operations Center.

40 In the instance that just one employee is at CIS during operations, the individual must have immediate
41 access to a hand-held two-way radio capable of summoning external emergency assistance
42 [WAC 173-303-340(2)(b)].

1 **F.2.3 Emergency Equipment and Water for Fire Control**

2 CIS stores double-walled capsules containing mixed waste that are further protected from external
3 conditions by a CSS. The capsules are stored inside a sealed container, which is designed to contain the
4 hazardous waste under accident condition. The CSSs contain no liquid waste and remain stationary due
5 to the CSS configuration. Therefore, emergency equipment, such as spill control and decontamination
6 equipment are not maintained at the CIS. In the unlikely event of an unplanned release, Addendum J,
7 “Contingency Plan,” will be implemented.

8 National Fire Protection Association compliant fire hydrants, providing water at adequate volume and
9 pressure, are located within accessible distances from the CSA. When needed, the Hanford Fire
10 Department will use these hydrants to supply fire control equipment and water for fire suppression. The
11 Hanford Fire Department can also respond to fire related emergencies at the CSA with pump engines
12 capable of providing water at adequate volume and pressure for fire suppression.

13 CIS does not produce products for use, have any production processes, or receive waste from offsite
14 facilities. For further details on CIS and storage operation, refer to CIS Addendum C, “Process
15 Information.”

16 **F.3 Preventive Procedures, Structures, and Equipment**

17 The following sections describe preventive procedures, structures, and equipment in effect at CIS.

18 **F.3.1 Aisle Spacing Requirements**

19 The CSS has an internal support structure used to confine the capsules and prevent releases of hazardous
20 waste (see CIS Addendum C for further details on the CSS design and capsule storage configuration). As
21 described in Addendum C, the CSA design and CSS storage configuration maintains aisle space between
22 casks to allow the unobstructed movement of personnel and emergency equipment to any area of the CSA
23 in the event of an emergency, thereby meeting the requirements of WAC 173-303-340(3).

24 **F.3.2 Loading and Unloading Operations**

25 To minimize potential for accidental release of dangerous waste during loading and unloading activities,
26 CIS personnel shall implement the following preventive measures, as addressed in Addendum C:

- 27 • The casks are handled by equipment appropriate for loading and transport operations.
- 28 • Management approval must be obtained prior to conducting cask transport operations.
- 29 • Pathways for loading and unloading operations must remain clear of obstructions.
- 30 • Transport vehicles are positioned in a manner that provides an unobstructed workspace to move
31 the casks.

32 **F.3.3 Prevention of Run On, Runoff, and Contamination to Water Supplies**

33 Run on is prevented through engineered controls. As described in CIS Addendum C, the mixed waste
34 capsules are stored in a CSS. The CSS protects the waste from contact with accumulated liquids. The
35 casks are elevated on the concrete pad. The concrete storage pad is also sloped to prevent precipitation
36 accumulation, thus preventing run on from entering the casks. Run on is not considered a relevant factor
37 in evaluating the protectiveness of mixed waste storage activities at CIS. Because no precipitation can
38 enter the cask to contact the mixed waste contents, no runoff can occur.

39 **F.3.4 Equipment and Power Failure**

40 **F.3.4.1 Equipment Failure**

41 The CSS has been designed to minimize the possibility of equipment failure. As described in
42 Addendum C, the capsules are sealed within universal capsule sleeves (UCS), which are within a sealed
43 transportable storage canister (TSC). In the event of a capsule failure, the UCS and TSC are fabricated

1 from 316L corrosion resistant stainless steel that are sealed to contain any releases. The system is
2 designed with a passive cooling system to eliminate concerns related to cooling equipment failure. The
3 inlet air vents contain screens to prevent foreign material from entering the cask and interfering with the
4 passive air cooling system.

5 **F.3.4.2 Power Failure**

6 CIS is designed for safe operation during power outages. A temporary loss of electrical power does not
7 affect the safe storage of the dangerous waste and would not result in a release of mixed waste, therefore,
8 it would not constitute an emergency. In the event of a loss of electrical power, the temperature
9 monitoring system would not be operational. However, actions would be taken to restore the loss of
10 power and provide alternate monitoring of the casks to ensure air flow. A visual inspection would be
11 conducted in place of remote temperature monitoring.

12 **F.3.5 Personal Protection Equipment**

13 CIS minimizes personnel exposure to occupational injury and dangerous waste by ensuring the use of
14 adequate personal protective equipment (PPE) during normal operations and emergencies. All personnel
15 are required to wear PPE specified by work authorization documentation, and in accordance with training,
16 posted requirements, and administrative instruction. PPE requirements will vary depending on the form,
17 content, and waste handling activities. When possible, engineering and/or administrative controls are first
18 implemented to minimize the possibility of exposure.

19 **F.4 Prevention of Reaction of Ignitable, Reactive, and Incompatible Waste**

20 CIS does not and will not store ignitable waste, reactive waste, or waste found incompatible with the
21 mixed waste capsules.

22 **F.5 Arrangements with Local Authorities**

23 Written emergency assistance agreements exist with local authorities that include arrangements to
24 familiarize and furnish local hospitals, police departments, fire departments, and city and county
25 emergency response teams with Hanford Facility information [WAC 173-303-340(4)(a) through (c)], as
26 described in DOE/RL-94-02. The response agreements designate primary emergency authority
27 [WAC 173-303-340(4)(d)]. If state or local authorities decline to enter into a response agreement or
28 familiarization arrangement with the Hanford Facility, the Permittees will record the refusal in the
29 Hanford Facility Operating Record, as required by WA7890008967, Hanford Facility Resource
30 Conservation and Recovery Act Permit, Condition II.I.1.g [WAC 173-303-340(5)].

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**CAPSULE INTERIM STORAGE UNIT
ADDENDUM G
PERSONNEL TRAINING
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

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1 **G.1 Introduction**

2 This addendum discusses personnel training requirements based on Washington Administrative Code
3 (WAC) 173-303, *Dangerous Waste Regulations*, and WA7890008967, Hanford Facility Resource
4 Conservation and Recovery Act Permit (hereinafter called Hanford Facility RCRA Permit) for the
5 Capsule Interim Storage (CIS) Operating Unit Group (OUG).

6 Permittees will comply with the training outlined in Tables G-1 and G-2, which provide the training
7 requirements for Hanford Facility personnel associated with dangerous and/or mixed waste management
8 activities at CIS.

9 **G.1.1 Introductory and Continuing Training Program**

10 The dangerous waste training program consists of introductory and continuing training that are designed
11 to prepare personnel to manage and maintain the CIS facility in a safe, effective, and environmentally
12 sound manner. In addition to preparing personnel to manage and maintain the CIS facility under normal
13 conditions, the training program ensures that personnel are prepared to respond in a prompt and effective
14 manner should abnormal or emergency conditions occur. Emergency response training is consistent with
15 the description of actions contained in Addendum J, "Contingency Plan."

16 The introductory and continuing training programs contain the following objectives:

- 17 • Teach Hanford Facility personnel to perform their duties in a way that ensures compliance with
18 WAC 173-303.
- 19 • Teach Hanford Facility personnel dangerous waste management activities (including
20 implementation of the contingency plan) relevant to the job titles/positions in which they are
21 employed.
- 22 • Ensure Hanford Facility personnel can respond effectively to emergencies.

23 The introductory and continuing training programs meet the requirements of WAC 173-303-330,
24 *Personnel training*, through general Hanford Facility training, Contingency Plan training, Emergency
25 Coordinator training, and Operations training as outlined in this section.

26 **G.1.1.1 Introductory Training**

27 Introductory training includes general Hanford Facility training and unit-group specific training. General
28 Hanford Facility training is described below. Unit-group specific training is provided to CIS personnel
29 allowing those personnel to work unescorted, and in some cases is required for escorted access.
30 Personnel cannot perform a task for which they are not properly trained, except to gain required
31 experience while under the direct supervision of a supervisor or coworker who is properly trained, as
32 described in Section G.2.1. Personnel must be trained within six months after their employment at or
33 assignment to the Hanford Facility, or to a new job title/position at the Hanford Facility, whichever is
34 later.

35 General Hanford Facility training: Hanford Facility personnel will receive general Hanford Facility
36 training described in Hanford Facility RCRA Permit Attachment 5, *Hanford Facility Personnel Training*
37 *Program*, within six months of hire. This training provides an orientation on dangerous waste
38 management activities conducted at the Hanford Facility and includes the following:

- 39 • Description of emergency signals and appropriate personnel response.
- 40 • Identification of contacts for information regarding dangerous waste management activities.
- 41 • Introduction to waste minimization concepts.
- 42 • Identification of contact(s) for emergencies involving dangerous waste.
- 43 • Familiarization with the applicable portions of the Hanford Facility RCRA Permit Attachment 4,
44 *Hanford Emergency Management Plan* (DOE/RL-94-02).

1 The Permittees will provide the necessary training to non-CIS personnel or visitors as appropriate for the
2 locations and activities undertaken. Non-CIS personnel or visitors include individuals not permanently
3 assigned exclusively to the CIS facility and who do not have dangerous waste management
4 responsibilities or supervision of such activities. These individuals include but are not limited to
5 administrative personnel, regulatory oversight, transient sampling personnel not permanently assigned to
6 the CIS facility, and personnel utilized for temporary assignments.

7 Contingency Plan training: CIS personnel receive training on applicable portions of DOE/RL-94-02 in the
8 general CIS training. To ensure effective emergency response, personnel receive training on the content
9 of the actions described in Addendum J as well.

10 Emergency Coordinator training: CIS personnel facilitating emergency coordinator duties,
11 WAC 173-303-360, *Emergencies*, such as the Building Emergency Director (BED)/Building Warden
12 (BW) within the Hanford Incident Command System (ICS), receive training on implementing
13 Addendum J and ICS BED/BW responsibilities. These personnel must also become thoroughly familiar
14 with applicable contingency plan documentation, operations, activities, location and properties of all
15 waste handled, location of all records, and the unit/building layout.

16 Emergency Coordinator training consists of the BED/BW training courses required for facility
17 BEDs/BWs described in Table G-1.

18 Operations training: Dangerous waste management operations training (e.g., container management
19 training, shippers training) will be determined on a unit-by-unit basis and shall consider the type of
20 activities performed at the OUG (e.g., surveillance). Training provided for CIS operations is identified in
21 Table G-1. Operations training consists of the following subjects:

- 22 • Container management.
- 23 • Waste Handling.
- 24 • Container labeling.
- 25 • Position specific training as detailed in Table G-1.

26 **G.1.1.2 Continuing Training**

27 In accordance with the requirements for WAC 173-303-330(1)(b), *Personnel Training*, dangerous waste
28 workers participate in an annual review of training, including general Hanford Facility training and
29 unit-group specific training. The frequencies for individual training courses is described below.

30 General Hanford Facility training: Annual refresher training is provided for general Hanford Facility
31 training. Refer to description in Section G.1.1.

32 Contingency Plan training: Annual refresher training is provided for contingency plan training. Refer to
33 description above in Section G.1.1.

34 Emergency Coordinator training: Annual refresher training is provided for emergency coordinator training
35 including the BED/BW training course (Table G-1). Refer to description above in Section G.1.1.

36 Operations training: Refresher training occurs on many frequencies (i.e., annual, every other year, and
37 every 3 years) for operations training. When justified, some training will not contain a refresher course
38 and will be identified as a one-time only training course. Table G-1 specify the frequency for each
39 training course.

40 **G.2 Description of Training Program**

41 The dangerous waste training program is overseen by a training manager who is knowledgeable in
42 dangerous waste management procedures and is otherwise qualified to design a dangerous waste training
43 program by a combination of education and relevant experience. These qualifications are listed in
44 Table G-2 as required by WAC 173-303-330(2)(a).

1 Training elements of WAC 173-303-330(1)(e) applicable to the CIS operations include the following:

- 2 • Procedures for using, inspecting, repairing, and replacing monitoring equipment.
- 3 • Communications or alarm systems.
- 4 • Response to fires or explosions.

5 Proper design of the training program ensures CIS personnel responsible for facilitating these elements
6 are compliant with WAC 173-303 requirements. Actual job tasks, referred to as duties, include the
7 above-referenced elements and are used to determine training requirements. As such, CIS personnel
8 receive training pertinent to the duties they perform. CIS duties are outlined in Table G-2. Table G-1
9 contain specific information regarding the training requirements for CIS personnel.

10 **G.2.1 Qualification of Staff (Including On-the-Job Training)**

11 Training consists of a combination of self-study, classroom instruction, computer-based training, and
12 on-the-job training (OJT) through the use of a qualification card.

13 A qualification card is the formal mechanism used to document the specialized training and performance
14 requirements of a specific job/task (e.g. waste management, waste shipping, etc.). Qualification cards list
15 the specific courses, required reading, and OJT activities that must be completed in order for personnel to
16 perform the job task independently. OJT activities involve qualified personnel demonstrating a specific
17 task, allowing the trainee to practice the task under supervision of the qualified OJT instructor.

18 The trainee's knowledge and skills are then evaluated against established standards. This can include
19 written and/or oral examinations, evaluations, and reviews to ensure that they are adequately trained
20 commensurate to their job title(s)/position(s). Results of examinations, evaluations, and reviews are
21 documented. Completed checklists, examinations and evaluations are placed in each individual's training
22 record.

23 These qualification cards are generally required to be completed within 6 months, as a means to record
24 that personnel who perform dangerous waste activities have been provided training within 6 months of
25 assignment. Qualification/proficiency training may, of necessity and in accordance with the provisions of
26 collective bargaining agreements, take longer than 6 months to complete. In no case would unqualified
27 personnel be allowed to complete specified tasks without direct oversight of certified personnel.

28 **G.2.2 Review of the Training Program**

29 Facility training provides for frequent, systematic review of the various components of the training
30 program through multiple processes.

- 31 • All employees are required to complete Hanford General Employee Training (HGET) on an
32 annual basis. This training is subject to biennial evaluation by HGET Approval Authorities who
33 review, and revise HGET lessons when deemed necessary.
- 34 • The Permittee accounts for rule changes, facility changes, observed difficulties, and staff
35 feedback to incorporate changes to training curricula, and/or frequency to address such new or
36 changing circumstances.
- 37 • Another element of the training program is to ensure employees are assigned the correct training.
38 To accomplish this, annual employee training plan reviews are conducted by assigned managers.
- 39 • At the student level, the effectiveness of the training program is determined by reviewing student
40 feedback (e.g. evaluation forms) and evaluating student performance (e.g. test scores). Any
41 changes deemed necessary to the training, will be addressed with a revision and documented in
42 the operating record.

- The training matrices (Table G-1) included in this addendum indicate regularly scheduled (required) refresher training frequencies of individual courses for the express purpose of ensuring a regimented review of course material at a topical level on a specified interval.

G.3 Description of Training Plan

The WAC 173-303-330 requirements for training are satisfied by this addendum. A description of how documentation meets the three items in WAC 173-303-330(2) is as follows:

WAC 173-303-330(2)(a): "... the job title, job description, and the name of the employee filling each job. The job description must include the requisite skills, education, other qualifications, and duties for each position."

Description: The specific personnel job title/position is correlated to the dangerous waste management duties. Dangerous waste management duties relating to WAC 173-303 are correlated to training courses to verify that training is properly assigned.

Only names of CIS personnel who carry out duties relating to unit-group dangerous waste management activities are maintained. A list of personnel assigned to CIS is available upon request.

A summary of requisite skills, education, and other qualifications for job title(s)/position(s) is summarized in Table G-2. Detailed information concerning job title, requisite skills, education, and other qualifications for personnel can be provided upon request.

WAC 173-303-330(2)(b): "A written description of the type and amount of both introductory and continuing training required for each position."

Description: In addition to the outline provided in Section G.1, training courses developed to comply with the introductory and continuing training programs are identified and described in Table G-1. Certain job titles/positions identified in Table G-1 may have some variability of task assignment/responsibility. Personnel assigned specific dangerous waste management duties within a job title/position are only required to take the necessary training specific to those duties. Training for assigned dangerous waste management duties are located in Table G-1.

Note that equivalent training can be used to meet the dangerous waste training requirements outlined in Table G-1 and G-2. Employees can substitute courses for the required training if the course is both similar in nature and quality and accomplishes the duties of the position to which he or she is assigned. Personnel must show by documentation or certification that an employee's training has resulted in training equivalency to the training required.

WAC 173-303-330(2)(c): "Records documenting that facility personnel have received and completed the training required by this section. The department may require, on a case-by-case basis, that training records include employee initials or signature to verify that training was received."

Description: As specified in Permit Condition II.C.1, the Permittees will maintain documentation in accordance with WAC 173-303-330(2) and (3) in the Hanford Facility Operating Record (CIS portion).

Note that training records are maintained in accordance with the requirements of the *Privacy Act of 1974*. Training records for personnel are available for inspection purposes through 59 Federal Register (FR) 17091, which gives federal, state, and local government officers routine use access to training records where a regulatory program being implemented is applicable to a Department of Energy (DOE) or contractor program.

Table G-1 Personnel Training

Course Number	Course Title/Description	Frequency	Job Title/Position						
			SOM	Waste Shipper ^a	Maintenance Crafts	NCO	TBD	ECO	BED/BW
General									
000001	Hanford General Employee Training (CBT) <ul style="list-style-type: none"> Standard alarms, chemical spills, security, hazards, signs, escorts, badge requirements, and overall safety. 	Annual	X	X	X	X	X	X	X
Facility Health & Safety									
TBD	Capsule Storage Area Orientation (CBT) <ul style="list-style-type: none"> CSA facility overview, entry requirements, staging areas, and overall safety. 	Initial	X	X ^b	X	X	X	X	X
03E179	Fuels Facility Emergency and Hazard Identification Checklist ^c (CBT) <ul style="list-style-type: none"> Location/content of facility-specific hazards, hazard communication program, facility response actions, and waste management practices. 	Annual	X	X ^b	X ^b	X	X	X	X
Waste Management									
035100	Container Waste Management (Classroom) <ul style="list-style-type: none"> Waste minimization and pollution prevention, waste designation categories, recordkeeping, and container management. 	Initial	X		X ^e	X			
035110	Container Waste Management Refresher ^d (CBT) <ul style="list-style-type: none"> Waste minimization and pollution prevention, waste designation categories, recordkeeping, and container management. 	Annual	X			X			
02006G	Waste Management Awareness (Classroom) <ul style="list-style-type: none"> Introductory waste management topics, waste minimization, modifications, spills, and recordkeeping. 	Initial			X ^e				
Waste Services									
020159	Advanced Hazardous Waste Shipper Certification Training (Classroom) <ul style="list-style-type: none"> Shipping techniques on hazardous waste labels, containers, packing, and manifesting. 	Initial		X					

Table G-1 Personnel Training

Course Number	Course Title/Description	Frequency	Job Title/Position						
			SOM	Waste Shipper ^a	Maintenance Crafts	NCO	TBD	ECO	BED/BW
020078	Advanced Mixed Waste Shipper Certification Training ^d (Classroom) <ul style="list-style-type: none"> Shipping techniques on hazardous waste labels, containers, packing, and manifesting. 	Every 3 years		X					
Building Emergency									
037500	Building Warden Initial Training for Low-Hazards Facilities ^f <ul style="list-style-type: none"> BW performance expectations and responsibilities as outlined in DOE/RL-94-02 for preparation, response, and recovery from emergency events at respective facility. 	Initial							X
037525	Building Warden Refresher Training for Low-Hazards Facilities ^{d, f} <ul style="list-style-type: none"> Refresher for BW performance expectations and responsibilities as outlined in DOE/RL-94-02. 	Annual							X
02028B	Building Emergency Director Initial Training (Classroom) ^f <ul style="list-style-type: none"> BED performance expectations and responsibilities as outlined in DOE/RL-94-02 for preparation, response, and recovery from emergency events at respective facility. 	Initial							X
037515	Building Emergency Director Refresher Training ^d (CBT) ^f <ul style="list-style-type: none"> Refresher for BED performance expectations and responsibilities as outlined in DOE/RL-94-02. 	Annual							X
TBD	Capsule Storage Area Building Emergency Director Qualification (XXX) ^f <ul style="list-style-type: none"> Emergency response actions and responsibilities of the BED specific to the Capsule Storage Area. 	Initial							X

Table G-1 Personnel Training

Course Number	Course Title/Description	Frequency	Job Title/Position						
			SOM	Waste Shipper ^a	Maintenance Crafts	NCO	TBD	ECO	BED/BW
Environmental									
600100	Environmental Compliance Officer – Core (OJT) <ul style="list-style-type: none"> Knowledge of environmental regulations, permits, regulator inspections and notifications, recordkeeping, and pollution prevention practices. 	Initial						X	
705610	Fuels Storage – Environmental Compliance Officer (OJT) <ul style="list-style-type: none"> Facility specific environmental requirements and processes, including management of regulated waste and environmental impacts from operations. 	Initial						X ^g	
Facility Operations									
TBD	Capsule Storage Area Nuclear Chemical Operator Initial Qualification Card (XXX) <ul style="list-style-type: none"> Surveillance activities associated with the CSA and mandated by dangerous waste regulations. 	Initial				X			
TBD	Capsule Storage Area Nuclear Chemical Operator Requalification ^d (XXX) <ul style="list-style-type: none"> Surveillance activities associated with the CSA and mandated by dangerous waste regulations. 	Every 2 years				X			
Facility Management									
300226	Core Fundamentals for Shift Managers in Training (OJT) <ul style="list-style-type: none"> Management of activities and tasks associated with emergency response, emergency or abnormal operations, inspections, and communications. 	Initial	X						

Table G-1 Personnel Training

Course Number	Course Title/Description	Frequency	Job Title/Position						
			SOM	Waste Shipper ^a	Maintenance Crafts	NCO	TBD	ECO	BED/BW
TBD	Capsule Storage Area Shift Operations Manager (XXX) <ul style="list-style-type: none"> • Management of activities and tasks associated with emergency response, emergency or abnormal operations, inspections, and communications. 	Initial	X						
TBD	Capsule Storage Area Shift Operations Manager Requalification ^d (XXX) <ul style="list-style-type: none"> • Management of activities and tasks associated with emergency response, emergency or abnormal operations, inspections, and communications. 	Every 2 years	X						

a. Training is only required during the initial transfer of casks to the CSA and the shipment of the casks to their final disposal location.

b. Personnel that do not have this training will be escorted.

c. Personnel may have training in course 03E179 or 03E079.

d. Refresher/requalification training is taken only after the initial training is completed.

e. Maintenance Crafts may take course 02006G or 035100. Course 02006G is an awareness level class that satisfies the requirements of the job duties. Course 035100 is an operational level class that satisfies and exceeds the requirements identified in course 02006G.

f. The Emergency Coordinator is defined as a Building Warden during pre-active life, and as a Building Emergency Director during active life.

g. Required training only for permanently assigned ECO.

BED = Building Emergency Director

NCO = Nuclear Chemical Operator

BW = Building Warden

OJT = On-the-Job Training

CBT = Computer Based Training

SOM = Shift Operations Manager

ECO = Environmental Compliance Officer

TBD = to be determined

Table G-2 Capsule Storage Area Job Description

Job Title/Position	Job Description	
	Duties	Requisite Skills, Education, Other Qualifications
Shift Operations Manager (SOM)	<ul style="list-style-type: none"> • Report discovered spills and releases. • Evacuate or take cover in response to specific incidents. • Respond to and use communications or alarm systems. • Respond to fires or explosions. • Receive shipment of dangerous or mixed waste. • Ensure corrective actions are addressed for problems identified by inspections. • Dispatch personnel responsible for access control. • Prepare and submit environmental records. 	<u>Requisite skills</u> Three years of nuclear facility experience, or education/experience equivalent <u>Education</u> High School Diploma or equivalent <u>Other qualifications</u> None
Waste Shippers	<ul style="list-style-type: none"> • Report discovered spills and releases. • Evacuate or take cover in response to specific incidents. • Prepare and certify waste shipment documentation for both onsite and offsite shipments of waste. • Prepare and submit environmental records. 	<u>Requisite skills</u> None <u>Education</u> High school diploma <u>Other qualifications</u> None
Maintenance Crafts	<ul style="list-style-type: none"> • Report discovered spills and releases. • Evacuate or take cover in response to specific incidents. • Routine maintenance within the TSD facility. • Prepare environmental records. 	<u>Requisite skills</u> One year maintenance related <u>Education</u> None <u>Other qualifications</u> None
Nuclear Chemical Operator (NCO)	<ul style="list-style-type: none"> • Report discovered spills and releases. • Evacuate or take cover in response to specific incidents. • Respond to and use communications or alarm systems. • Respond to fires or explosions. • Perform annual inspection of CSA (signs, exterior surfaces and surrounding area, cask labels). • Perform monthly inspection of CSA general area. • Prepare environmental records. 	<u>Requisite skills</u> None <u>Education</u> High school diploma or equivalent <u>Other qualification</u> None
TBD	<ul style="list-style-type: none"> • Report discovered spills and releases. • Evacuate or take cover in response to specific incidents. • Respond to and use communications or alarm systems. • Respond to fires or explosions. • Perform inspections of temperature monitoring system. • Prepare environmental records. 	TBD

Table G-2 Capsule Storage Area Job Description

Job Title/Position	Job Description	
	Duties	Requisite Skills, Education, Other Qualifications
Environmental Compliance Officer (ECO)	<ul style="list-style-type: none"> Report discovered spills and releases. Evacuate or take cover in response to specific incidents. Ensure operations are consistent with requirements contained in Dangerous Waste Regulations, WAC 173-303. Prepare and submit environmental records. 	<u>Requisite skills</u> Experience with environmental regulations <u>Education</u> Bachelor of Arts or Bachelor of Science degree in a technical discipline or an equivalent combination of education and experience. <u>Other qualifications</u> None
Building Emergency Director (BED)*	<ul style="list-style-type: none"> Report discovered spills and releases. Evacuate or take cover in response to specific incidents. Respond to and use communications or alarm systems. Provide direction during emergencies, evacuation or take cover. Perform RCRA Emergency Coordinator duties as the Building Emergency Director in Hanford Incident Command System. Prepare and submit environmental records. 	<u>Requisite skills</u> Three years nuclear facility experience <u>Education</u> High school diploma or equivalent <u>Other qualifications</u> None
Building Warden (BW)*	<ul style="list-style-type: none"> Report discovered spills and releases. Evacuate or take cover in response to specific incidents. Respond to and use communications or alarm systems. Provide direction during emergencies, evacuation or take cover. Perform RCRA Emergency Coordinator duties as the Building Warden in Hanford Incident Command System. Prepare and submit environmental records. 	<u>Requisite skills</u> None <u>Education</u> High school diploma or equivalent <u>Other qualifications</u> None
Training Manager	<ul style="list-style-type: none"> Ensure the application of a graded, systematic approach to training program development and administration. Ensure the training program will comply with WAC 173-303. Approve training program content and provide final approval. 	<u>Requisite skills</u> Four-years nuclear facility experience <u>Education</u> Bachelor of Science or Bachelor of Arts <u>Other qualifications</u> None

* The Emergency Coordinator is defined as a BW during pre-active life, and as a BED during active life.

RCRA = *Resource Conservation and Recovery Act of 1976.*

TSD = treatment, storage, and disposal.

**CAPSULE INTERIM STORAGE UNIT
ADDENDUM H
CLOSURE PLAN
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

Modification Date	Modification Number
02/20/2020	8C.2020.1F

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**ADDENDUM H
CLOSURE PLAN**

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**ADDENDUM H
CLOSURE PLAN**

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1 **H.1 Introduction**

2 This addendum discusses closure activities for the Capsule Interim Storage (CIS) Operating Unit Group
3 (OUG) and, furthermore, complies with the closure requirements outlined in Washington Administrative
4 Code (WAC) 173-303-610(2) through (6), Dangerous Waste Regulations, *Closure and post-closure*.

5 Amendments to this closure plan will be submitted as a permit modification in accordance with
6 WAC 173-303-610(3)(b) and WAC 173-303-830, *Permit changes*, as applicable.

7 Any deviations from a treatment, storage, and/or disposal (TSD) unit closure plan required by unforeseen
8 circumstances encountered during the closure activities, which do not impact the overall closure strategy,
9 but provide equivalent results, shall be documented in the TSD unit-specific Operating Record.

10 Documentation shall be made available to the Washington State Department of Ecology (Ecology) upon
11 request, or during the course of an inspection in accordance with WA7890008967, Hanford Facility
12 Resource Conservation and Recovery Act Permit (hereinafter referred to as the Hanford Facility RCRA
13 Permit), Condition II.K.6.

14 **H.1.1 Hanford Facility Contact Information**

15 The Hanford Facility contact information is described in CIS Addendum A, “Part A Form.”

16 **H.1.2 Hanford Facility Description**

17 The Hanford Facility, located in southeastern Washington State, is owned and operated by the
18 U.S. Department of Energy (DOE). Dangerous waste and mixed waste (i.e., waste containing both
19 dangerous and radioactive components) are generated and managed at the Hanford Facility.

20 **H.1.3 Capsule Interim Storage Operating Unit Group History, Function, Location, and** 21 **Layout**

22 The CIS OUG is in the western portion of the 200 East Area of the Hanford Facility. CIS was designed as
23 part of the Management of Cesium and Strontium Capsules (W-135) Project for dry storage of the
24 1,936 cesium and strontium capsules previously stored at the Waste Encapsulation and Storage Facility, as
25 described in Addendum C, “Process Information.” Refer to Addendum A, “Part A Form,” for waste
26 quantity.

27 **H.1.4 Products and Production Processes**

28 The CIS OUG does not produce products nor have production processes.

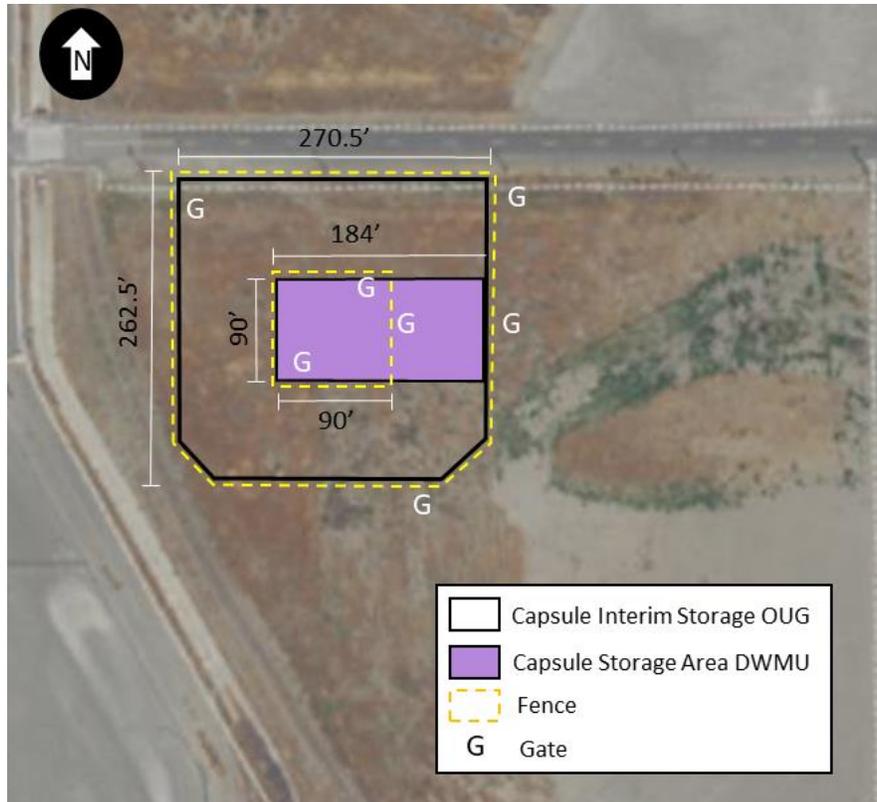
29 **H.1.5 Capsule Storage Area Dangerous Waste Management Unit**

30 The CIS OUG consists of one operating miscellaneous Dangerous Waste Management Unit (DWMU):
31 the Capsule Storage Area (CSA). Casks stored on the CSA concrete pad contain cesium chloride and
32 strontium fluoride salts, which are contained within double-walled capsules and Type W overpacks
33 arranged within a Cask Storage System (CSS). Each CSS contains up to 132 capsules arranged within
34 redundant containment in the storage system. See Addendum C, Section C2.2 for additional information
35 on the CSS. The cesium and strontium salts are known to have chemical impurities with associated
36 dangerous waste codes (shown in parentheses) consisting of barium (D005), cadmium (D006), chromium
37 (D007), lead (D008), and silver (D011). CIS Addendum A provides a comprehensive list of waste
38 managed in accordance with *Resource Conservation and Recovery Act of 1976* (RCRA) regulations,
39 including estimated annual quantities.

40 **H.1.5.1 Unit Description**

41 The CSA is an uncovered concrete pad located within CIS in the western portion of the 200 East Area
42 (Figure H-1). Refer to Addendum A for a topographic map of the area and the civil engineering plan of
43 the site. The CSA measures approximately 27 m (90 ft) wide by 56.1 m (184 ft) long. A chain-link fence
44 encircles a portion of the pad to control access to the waste configuration. See Addendum E, “Security”

- 1 for further description on security requirements. The CSA is permitted for storage of concrete casks
2 containing capsules of cesium and strontium salts.
3 Treatment of dangerous or mixed waste will not be conducted within the CSA DWMU.
4



5 **Figure H-1 Capsule Interim Storage Capsule Storage Area**
6 **Dangerous Waste Management Unit Configuration**

7
8 **H.1.5.2 Maximum Waste Inventory**

9 The CSA is permitted to store cesium chloride and strontium fluoride mixed waste. The maximum waste
10 inventory is 1,936 L (511.4 gal) stored within CSSs, as described in CIS Addendum A.

11 **H.2 Closure Performance Standard**

12 This closure plan addresses the CSA DWMU concrete pad. The CSA will be closed in accordance with
13 the general closure performance standards in WAC 173-303-610(2)(a), which requires closure of the
14 facility in a manner that accomplishes the following objectives:

- 15
- 16 • Minimize the need for further maintenance.
 - 17 • Control, minimize, or eliminate, to the extent necessary to protect human health and the
18 environment (HHE), post-closure escape of dangerous waste, dangerous constituents, leachate,
19 contaminated runoff, or dangerous waste decomposition products to the ground, surface water,
20 groundwater, or atmosphere.
 - 21 • Return the land to the appearance and use of surrounding land areas, to the degree possible, given
the nature of the previous dangerous waste activity.

1 Furthermore, clean closure requires removal or decontamination of all dangerous waste; dangerous waste
2 residues; and equipment, bases, liners, soils/subsoils, and other materials containing or contaminated with
3 dangerous waste or dangerous waste residue in accordance with WAC 173-303-610(2)(b).

4 The CSA will be clean closed by removal of the CSA DWMU concrete pad to the performance standards
5 identified in WAC 173-303-610 through the successful completion of the closure activities described in
6 Section H.4.

7 **H.3 Health and Safety Requirements**

8 Due to the radioactive nature of mixed waste in storage, the Permittees must ensure that all closure
9 activities do not pose a risk to HHE. Closure of the CSA will be performed in a manner to ensure the
10 safety of personnel and the surrounding environment. Qualified personnel will be trained in and perform
11 all necessary closure activities in compliance with the applicable safety and environmental procedures
12 identified in CIS Addendum G, "Personnel Training." All field operations will be performed in
13 accordance with applicable health and safety requirements. Personnel will be equipped with appropriate
14 personal protective equipment (PPE) for the closure activity being performed.

15 The Permittees have instituted training and qualification programs to meet training requirements imposed
16 by regulations, DOE orders, and national standards such as those published by the American National
17 Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety,
18 and health training program provides workers with the knowledge and skills necessary to execute
19 assigned duties safely. Attachment 5, *Hanford Facility Personnel Training Program*, to the Hanford
20 Facility RCRA Permit describes specific training requirements for Hanford Facility personnel.
21 The Permittees will comply with the training matrix detailed in CIS Addendum G, which provides
22 training requirements for Hanford Facility personnel associated with the CSA DWMU.

23 Training records are maintained for each employee in an electronic database. The Permittees training
24 organization maintains the training records system.

25 During the closure period, to prevent threats to HHE, the CSA will be inspected in accordance with
26 WAC 173-303-320, *General inspection*, requirements and CIS Addendum I, "Inspection Plan."

27 **H.4 Closure Activities**

28 The CSA will be clean closed by removal of the concrete pad under Washington State's *Hazardous Waste*
29 *Management Act*, Chapter 70.105 Revised Code of Washington, and implementing regulations of
30 WAC 173-303. The term "clean closure" refers to performing closure activities that result in full removal
31 of all dangerous wastes and full removal or decontamination of all structures and containment system
32 components, equipment, debris, environmental media (i.e., soil and groundwater) materials affected by
33 releases from the unit so as to satisfy the closure performance standards of WAC 173-303-610(2)(b)(i)
34 and (ii). Clean closure determinations for the CSA will be based on successful completion of the closure
35 activities outlined in this chapter.

36 The following closure activities, in sequential order, are required to achieve and verify clean closure of
37 the CSA:

- 38 • Review cask storage, operating, and inspection records for documented spills or releases of mixed
39 waste and subsequent cleanup actions.
- 40 • Perform a visual inspection of the concrete pad to identify any mixed waste related staining, all
41 cracks, holes, or other breaches in the concrete pad, through which dangerous waste might
42 migrate.
- 43 • Remove and dispose of the concrete pad and inner fence.
- 44 • Transmit closure certification to Ecology.

1 **H.4.1 Records Review and Visual Examination**

2 CIS cask storage, operating, inspection, and spill records will be reviewed for documented spills or
3 potential releases of mixed waste within the CSA, and subsequent cleanup actions.

4 A visual examination will then be performed to determine and document the presence of any mixed waste
5 related staining, and all cracks, holes, or other breaches in the concrete pad, through which dangerous
6 waste might migrate. A walkdown of the area will be performed and photographs taken for
7 documentation. Locations and dimensions of any staining or breaches will also be documented.

8 Collaborative results of the records review and visual examination will be used to determine if mixed
9 waste or dangerous waste constituents could have been released to the environment. If contaminated
10 environmental media (soil) is identified, the Permittees will work with Ecology to develop a sampling and
11 analysis plan that meets the closure performance standards set forth in WAC 173-303-610.

12 **H.4.2 Demolition**

13 Once all the steps identified in Section H.4.1 have been completed, demolition of the DWMU concrete
14 pad can be initiated. Demolition of the pad will include the following primary activities, described in the
15 sub-sections below:

- 16 • Location of utilities.
- 17 • Mobilization of equipment.
- 18 • Removal and disposal of the concrete pad and inner chain-link fence.

19 **H.4.2.1 Location of Utilities**

20 Prior to demolition, any in-use utilities will be located and marked to ensure that there are no disruptions
21 to the surrounding activities.

22 **H.4.2.2 Equipment Mobilization**

23 The resources, equipment, and materials necessary to perform demolition will be staged in designated
24 laydown areas.

25 **H.4.2.3 Demolition Activities for the Capsule Storage Area**

26 Demolition of the CSA will be accomplished primarily by using shearing and rubbleizing. Demolition of
27 the DWMU will require the use of heavy equipment (e.g., excavator with various attachments) to remove
28 and demolish the fencing and concrete. Standard industry or conventional demolition practices may be
29 used (e.g., hydraulic shears with steel shear jaws, concrete pulverizer jaws or breaker jaws).

30 Selection of demolition methods will be based on the structural elements to be demolished, location, and
31 integrity of the structure. Water may be used to control dust generated from demolition activities. The
32 fire hydrants may be used to supply water for dust control during rubbleization of the concrete pad. The
33 amount of water used will be minimized to prevent ponding and runoff.

34 **H.4.3 Identifying and Managing Waste Generated During Closure Activities**

35 Closure activities for the CSA will result in generation of debris in the generation of one known waste
36 stream (debris from demolition) requiring management and disposal. Waste generated during closure
37 activities will be managed as a newly generated waste stream in accordance with WAC 173-303-610(5).
38 Waste generated during the closure period must be properly disposed. The newly generated waste must
39 be handled in accordance with all applicable requirements of WAC 173-303-170, *Requirements for*
40 *generators of dangerous waste*, through WAC 173-303-230, *Special conditions*.

41 Management and disposal of waste generated during closure will be documented and included as part of
42 the clean closure certification documentation (Section H.6).

1 **H.4.3.1 Debris from Demolition**

2 Debris generated from demolition will be packaged at the CSA and transported to an appropriate waste
3 disposal facility. Debris includes, but is not limited to, the following:

- 4 • Concrete and associated rubblized debris.
- 5 • Fencing materials.
- 6 • Miscellaneous (e.g., rubber, glass, paper, PPE, cloth, plastic, and metal).
- 7 • Equipment and construction materials.

8 The preferred management of debris resulting from demolition of the pad is in bulk form. Bulk waste
9 will be designated and placed into bulk containers, such as roll-off boxes, for disposal. These bulk
10 containers will be stored in a suitable area in proximity to the DWMU or, if debris designates as
11 dangerous waste, it may be accumulated for up to 90 days in accordance with WAC 173-303-200,
12 *Conditions for exemption for a large quantity generator that accumulates dangerous waste*. Bulk
13 containers of waste will be covered when waste is not being added or removed. Lightweight material
14 (e.g., plastic and paper) will be bagged, if appropriate, prior to placement in the bulk container, to
15 eliminate the potential for materials blowing out of the bulk container.

16 Debris will be containerized and labeled for waste characterization. Waste subject to land disposal
17 restriction (LDR) requirements of WAC 173-303-140, *Land disposal restrictions*, which includes by
18 reference 40 Code of Federal Regulations (CFR) 268, *Land Disposal Restrictions*, will be characterized
19 and designated at the CSA, as applicable, prior to being stored, treated, and/or disposed of in an approved
20 facility.

21 **H.4.4 Identifying and Managing Contaminated Environmental Media**

22 A sampling and analysis plan will be developed upon identification of possible contaminated
23 environmental media (Section H.4.1). Contaminated soil will be managed as a newly generated waste
24 stream in accordance with WAC 173-303-610(5). Contaminated soil must be handled in accordance with
25 all applicable requirements of WAC 173-303-170 through WAC 173-303-230. Contaminated soil will be
26 containerized, labeled, and sampled for waste characterization. Soil accumulations will be placed in the
27 U.S. Department of Transportation compliant containers and sent to an approved disposal facility or
28 staged at less than 90-day accumulation areas in accordance with WAC 173-303-200 standards. Waste
29 subject to LDR requirements of WAC 173-303-140, which includes by reference 40 CFR 268, will be
30 characterized and designated at the CSA, as applicable, prior to being stored, treated and/or disposed of in
31 an approved facility.

32 **H.5 Role of the Independent Qualified Registered Professional Engineer**

33 An Independent Qualified Registered Professional Engineer (IQRPE) will be retained to provide
34 certification of closure, as required by WAC 173-303-610(6). The IQRPE will be responsible for
35 observing field activities and reviewing documents associated with clean closure of the CSA.

36 At minimum, the following activities will be performed by the IQRPE:

- 37 • Review of the CSA DWMU visual inspection.
- 38 • Review demolition activities.
- 39 • Review of newly generated waste management and disposition records.
- 40 • Verify that closure activities were performed in accordance with this closure plan.

41 The IQRPE will record observations and reviews in the closure certification, which will then be provided
42 to Ecology and maintained in the CIS portion of the Hanford Facility Operating Record.

1 **H.6 Closure Certification**

2 In accordance with WAC 173-303-610(6), within 60 days of completion of closure of the CSA, a
3 certification that the DWMU has been closed in accordance with the specifications in this closure plan
4 will be submitted to Ecology by registered mail. The certification will be signed by the owner or operator
5 and an IQRPE.

6 Upon request by Ecology, in accordance with WAC 173-303-610(6), information will be submitted to
7 support closure certification. This information could include the following:

- 8 • All field notes and photographs related to closure activities.
- 9 • Description and justification of any minor deviations from the approved closure plan and
10 justification for these deviations.
- 11 • Documentation of the removal and final disposition of all dangerous and mixed wastes residues
12 and any corresponding residues.
- 13 • Description of the DWMU area appearance at completion of closure.

14 **H.7 Conditions that will be Achieved when Closure is Complete**

15 Once the CSA concrete pad has been removed, no possible contaminated environmental media is
16 identified, and it meets the closure performance standards, the CSA DWMU will be considered clean
17 closed, at which point only bare soil will remain. A permit modification request will be submitted after
18 clean closure has been confirmed by Ecology to remove the CSA DWMU from the Hanford Facility
19 RCRA Permit.

20 **H.8 Closure Schedule and Time Frame**

21 Major Milestone M-092 addresses the disposition path for the cesium and strontium capsules, with a
22 milestone due date of December 31, 2047 to complete the acquisition and modification of facilities
23 necessary for the storage, treatment/processing, and disposal of the capsules. Currently, a viable disposal
24 option for the capsules is not available. Milestone M-092-20 requires a disposition pathway evaluation
25 every four years until such time that disposition is determined. Due to these circumstances, storage of the
26 CSS at the CSA is expected to take place over an extended period, and meeting the 30-day requirement to
27 begin closure activities after receiving the last known volume of waste, as required in
28 WAC 173-303-610(4)(b), is not possible. Therefore, the Permittees request an extension to the start of
29 closure. Approval of this closure plan will grant the Hanford Facility an extension to the start of closure,
30 in accordance with WAC 173-303-610(3)(c), and a separate extension request will not be filed. In
31 accordance with WAC 173-303-610(3)(c)(i), a notification of intent to close the CSA DWMU will be
32 submitted to Ecology at least 45 days prior to the date on which closure is expected to begin.

33 In accordance with WAC 173-303-610(4)(b), closure activities will be completed no more than 180 days
34 after the start of closure (Table H-1 and Figure H-2) for the CSA. Should unexpected circumstances arise
35 and an extension to the 180-day closure period be deemed necessary, a permit modification will be
36 submitted to Ecology for approval at least 30 days prior to the 180-day expiration date in accordance with
37 WAC 173-303-610(4)(c) and WAC 173-303-830, Appendix I, Section D.1.b. The extension request
38 would also demonstrate that all steps to prevent threats to HHE, including compliance with all applicable
39 permit requirements, have been and will continue to be taken. In the event of a proposed change in
40 facility design or operation or an unexpected event that affects the closure plan, a permit modification
41 request to amend the closure plan will be submitted to Ecology per WAC 173-303-610(3)(b)(iii).

42 Closure certification will be submitted to Ecology within 60 days following completion of closure
43 activities at the CSA, as outlined in Section H.6.

1 **H.9 Closure Costs**

2 An annual report outlining updated projections of anticipated closure costs for the Hanford Facility
 3 treatment, storage and disposal units having final status is not required per Permit Condition II.H.
 4 The Hanford Facility is owned by DOE and operated by DOE and its contractors; therefore, in accordance
 5 with WAC 173-303-620(1)(c), provisions of WAC 173-303-620, *Financial requirements*, are not
 6 applicable to the Hanford Facility.

7

Table H-1 Capsule Storage Area Dangerous Waste Management Unit Closure Activity Description

Closure Activity Description		Expected Duration
Primary Activity	Secondary Activity	
Prior to Closure		
Submit Notification to Ecology of Intent to Close the CSA DWMU	In accordance with WAC 173-303-610(3)(c)(i), at least 45 days prior to the date on which closure is expected to begin.	--
Begin Closure of the CSA DWMU	Once all casks are removed from the CSA, closure of the CSA DWMU will commence.	Day 0
Closure Activities		
Records Review	Perform review of cask storage, inspection, and spill records.	70 Days (Day 70)
Visual Inspection of Concrete Pad	Inspect structural integrity for any mixed waste related staining, cracks, holes, or other breaches in the concrete pad.	20 Days (Day 90)
	Document visual inspection with photos, locations, and dimensions of staining and cracks (if any).	
Remove Concrete Pad and Fence	Remove concrete pad and fence with large equipment.	90 Days (Day 180)
	Containerize waste debris.	
	Dispose of debris in approved disposal facility.	
RCRA Closure Activities Complete		
Owner/Operators and IQRPE Submit Clean Closure Certification	In accordance with WAC 173-303-610(6), within 60 days of completion of closure of the DWMU; certification that the DWMU has been closed in accordance with the specifications in the approved closure plan (Section H.6 provides details on the clean closure certification).	60 Days (Day 240)

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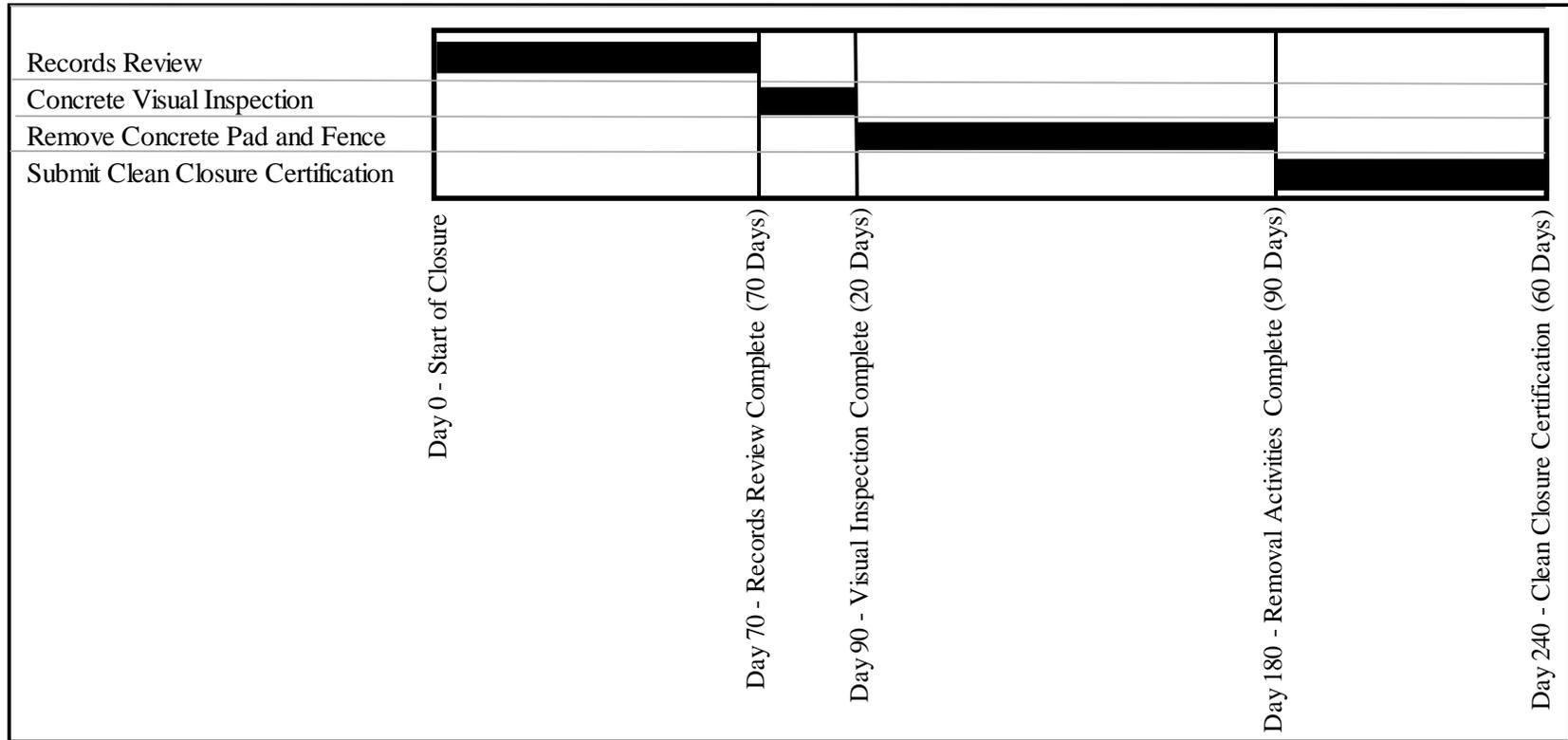


Figure H-2 Capsule Storage Area Closure Schedule Activities

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1 **H.10 References**

- 2 40 CFR 268, *Land Disposal Restrictions*, Code of Federal Regulations. Available at:
3 [https://www.ecfr.gov/cgi-bin/text-idx?SID=8ed4dbc82239fd075f48a3f71ea03d9b&mc=](https://www.ecfr.gov/cgi-bin/text-idx?SID=8ed4dbc82239fd075f48a3f71ea03d9b&mc=true&node=pt40.29.268&rgn=div5)
4 [true&node=pt40.29.268&rgn=div5](https://www.ecfr.gov/cgi-bin/text-idx?SID=8ed4dbc82239fd075f48a3f71ea03d9b&mc=true&node=pt40.29.268&rgn=div5).
- 5 M-92-17-01, 2017, Federal Facility Agreement and Consent Order Change Control Form, *Establish One*
6 *Interim Milestone for the Management of Cesium and Strontium (Cs/Sr) Capsules*, Washington
7 State Department of Ecology and U.S. Department of Energy, Richland Operations Office,
8 Richland, Washington. Available at:
9 <http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0069392H>.
- 10 *Resource Conservation and Recovery Act of 1976*, 42 USC 6901, et seq. Available at:
11 <https://elr.info/sites/default/files/docs/statutes/full/rcra.pdf>.
- 12 WAC 173-303, *Dangerous Waste Regulations*, Washington Administrative Code, Olympia, Washington.
13 Available at: <http://apps.leg.wa.gov/WAC/default.aspx?cite=173-303>.
- 14 WAC 173-303-140, *Land disposal restrictions*.
- 15 WAC 173-303-170, *Requirements for generators of dangerous waste*.
- 16 WAC 173-303-200, *Conditions for exemption for a large quantity generator that accumulates*
17 *dangerous waste*.
- 18 WAC 173-303-230, *Special conditions*.
- 19 WAC 173-303-320, *General inspection*.
- 20 WAC 173-303-610, *Closure and post-closure*.
- 21 WAC 173-303-620, *Financial requirements*.
- 22 WAC 173-303-830, *Permit changes*.
- 23 WA7890008967, *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste*
24 *Portion for the Treatment, Storage, and Disposal of Dangerous Waste*, Revision 8C, as amended,
25 Washington State Department of Ecology. Available at:
26 <https://fortress.wa.gov/ecy/nwp/permitting/hdwp/rev/8c/index.html>.

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**CAPSULE INTERIM STORAGE UNIT
ADDENDUM I
INSPECTION PLAN
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

Modification Date	Modification Number
02/20/2020	8C.2020.1F

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**ADDENDUM I
INSPECTION PLAN**

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**ADDENDUM I
INSPECTION PLAN**

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[WAC 173-303-320(2)(c)] 6

TABLE

Table I-1 Capsule Interim Storage Inspection Schedule 7

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1 **I.1 Inspection Plan**

2 In accordance with Washington Administrative Code (WAC) 173-303-806(4)(a)(v), Dangerous Waste
3 Regulation, *Final facility permits*, WAC 173-303-320, *General inspection*, and WAC 173-303-340,
4 *Preparedness and prevention*, this inspection plan is designed to prevent malfunctions, deterioration,
5 operator errors, and discharges at the Capsule Interim Storage (CIS) Operating Unit Group which may
6 cause or lead to the release of dangerous waste constituents to the environment or a threat to human
7 health. This inspection plan is designed to provide early warning of the potential for such events to make
8 timely corrections or take preventive actions.

9 **I.1.1 General Inspection Requirements**

10 Inspections within the schedule are performed by qualified personnel according to a frequency that has
11 been developed through both regulatory requirements and operating experience (Table I-1). For
12 frequencies that are not defined by specific regulatory requirements, a justification for the frequency will
13 be documented and maintained in the Hanford Facility Operating Record (CIS portion) in accordance
14 with WA7890008967, Hanford Facility Resource Conservation and Recovery Act Permit (hereinafter
15 referred to as Hanford Facility RCRA Permit) Condition II.I. During an inspection, inspectors evaluate
16 each inspection item against its associated acceptance criteria, defined in the schedule (Table I-1). The
17 results of the inspections are documented in inspection logs that are dated and signed, handwritten or
18 electronically, by the inspector, and retained in the Hanford Facility Operating Record (CIS portion) for at
19 least 5 years.

20 This inspection plan addresses the following unit group specific items:

- 21 • General facility.
- 22 • Casks.

23 Management-level staff are responsible for implementation and training according to the inspection plan.
24 These staff may include the Facility Director or Facility Manager personnel. All inspectors shall have the
25 appropriate training as outlined in Addendum G, "Personnel Training."

26 **I.1.2 Inspection Log [WAC 173-303-320(2)(d)]**

27 Inspections implemented through operating requirements will be documented on inspection checklists or
28 log sheets in accordance with WAC 173-303-320(2)(d). Inspection checklists or log sheets will note the
29 date and time of the inspection and the items that will be assessed during each inspection. Any problems
30 or discrepancies identified during the inspection, and the date and nature of any repairs or remedial
31 actions taken, are recorded on the inspection checklist or log sheet, reported to the operating
32 organizations, and prioritized and addressed in a timely fashion, as described in Section I.1.3.

33 When the inspection is completed, the inspector's full name is printed and signed on the inspection
34 checklist or log sheet. The schedule and inspection records will be maintained and stored in the Hanford
35 Facility Operating Record (CIS portion) in accordance with the record retention requirements of
36 WAC 173-303-320(2)(d) and WAC 173-303-380(1)(e), *Facility recordkeeping*. The schedule will be
37 electronically available at building 212H.

38 **I.1.3 Remedy Schedule [WAC 173-303-320(3)]**

39 Problems and unanticipated substandard conditions identified by the inspector are documented on the
40 inspection log and reported to facility management for prioritization, and scheduling of remedial actions
41 to prevent environmental or human health incidents. Problems identified during inspections are
42 categorized into three general areas and addressed accordingly. The areas include imminent hazards to
43 human health and the environment, problems that can be easily remedied with little or no planning, and
44 maintenance items that require planning and coordination to correct:

- 1 • When an identified problem poses an imminent risk to human health or the environment, actions
2 are taken immediately to mitigate the hazard and may include activation of the Building
3 Emergency Plan for CIS (located in CIS Addendum J, “Contingency Plan”) and the Hanford
4 Emergency Management Plan (located in Hanford Facility RCRA Permit Attachment 4, *Hanford*
5 *Emergency Management Plan*), when contingency plan action levels are exceeded. Problems that
6 warrant immediate action include active releases of mixed waste to the environment (i.e., cask
7 leak).
- 8 • Problems identified during inspections that are easily corrected (e.g., no maintenance planning
9 required), such as sign replacement, will be corrected within 24 hours or tracked until completion.
- 10 • Other problems that cannot be easily corrected are addressed on a prioritized schedule. Actions to
11 assess and remedy such problems are assigned and a schedule for completion is determined.

12 Inspections are completed by using either inspection logs or through a job control database. Problems
13 identified using an inspection log are noted on the inspection log and either corrected during the time of
14 the inspection or tracked on each subsequent inspection log until corrected. Problems identified using the
15 job control database are noted on the inspection form and either corrected during the time of the
16 inspection or the problem is added to the job control database to be addressed according to a remedy
17 schedule.

18 An overall schedule for remedying problems would include time to develop a maintenance instruction in
19 conjunction with any schedule constraints, such as parts availability, fabrication, and environmental or
20 facility access limitations. The time to develop a maintenance instruction depends on several factors
21 including nuclear, radiological, and industrial safety hazards associated with the task; complexity of the
22 task; human factors and performance considerations; skill of worker(s); and risk to the worker(s), public,
23 or the environment.

24 The inspection problem resolution process may include preparing an inspection data sheet that identifies
25 the criteria for the inspection; relaying identified problems onto an action tracking list; and developing
26 maintenance instructions for problems based on the actions tracking list. The remedies for problems
27 identified are developed using maintenance instructions and prioritized on a schedule as described
28 previously. Problems pending resolution, and their associated tracking designation, will be noted until the
29 remedy is complete.

30 Information from the inspection checklist or log sheet will be maintained in the Hanford Facility
31 Operating Record (CIS portion) in accordance with the Hanford Facility RCRA Permit Condition II.I.

32 **I.1.4 Summary and Frequency of Dangerous Waste Management Unit Items to be** 33 **Inspected [WAC 173-303-320(2)(c)]**

34 The capsules, which are stored within a CSS, contain no liquid waste, and remain stationary due to the
35 CSS design configuration. Therefore, the Capsule Storage Area (CSA) Dangerous Waste Management
36 Unit (DWMU) is not subject to spills and daily inspections per WAC 173-303-320(2)(c) are not required.

37 Based on possible localized radiation fields at the CSA DWMU, physical access to the casks should be
38 minimized. In-person weekly inspections (pursuant to WAC 173-303-630(6), *Use and management of*
39 *containers*) of the casks would cause unnecessary risks to workers and contradict *Atomic Energy Act of*
40 *1954* radiation safety requirements. Therefore, remote inspection of the CSA DWMU will be
41 accomplished through monitoring of the temperature monitoring equipment associated with the CSS
42 passive ventilation system. Temperature monitoring will be performed on work days to determine if the
43 CSS outlet air vent temperature is within an acceptable range; thus, verifying the cooling vents are clear
44 of debris (e.g., soil, vegetation) and wildlife.

45 The items subject to inspection and their respective evaluation criteria are identified at Table I-1.

Table I-1 Capsule Interim Storage Inspection Schedule

Inspection Item/Area	Frequency	Types of Problems and Evaluation Criteria
General Facility		
Posted Warning Signs ^a	A	<p>Problem: Dangerous waste warning signs missing, not in proper location, not visible, or not in good condition.</p> <p>Check condition of dangerous waste warning signs. Ensure signs are visible, in good condition, and verify the location of the signs.</p>
Exterior Surfaces of the Casks and Storage Pad ^a	A	<p>Problem: Cracks, gaps, or other degradation of the casks and concrete storage pad, which could compromise the integrity of the storage system. Evidence of spills or leaks.</p> <p>Check for deterioration, structural damage, and settlement. Visually inspect for any evidence of spills present on or near the casks.</p>
General Area	M	<p>Problem: Damage to fence and gates. Abnormal conditions within DWMU.</p> <p>Verify outer fence and gates are intact with no unexpected openings, and check for accumulated debris (e.g., tumbleweeds). Visually inspect the DWMU for abnormal conditions from all sides of the outer fence line.</p>
Two-way Radios	M	<p>Problem: Two-way radios not operational.</p> <p>Verify that equipment is operational by checking for power and function.</p>
Casks		
Cooling Vents ^b	A	<p>Problem: Debris and wildlife blocking the casks' cooling vents.</p> <p>Verify that cooling vents are clear of defects and obstructions.</p>
Cask Labels	A	<p>Problem: Labels not present, difficult to read, altered, or falling off.</p> <p>Ensure labels are intact. Assess legibility of labels, note any impediments to visibility and off-normal condition of labels. Ensure labels are visible and legible.</p>
Temperature Monitoring System Annunciator	W	<p>Problem: High temperature beacon not functional.</p> <p>Visually verify that high temperature beacon is functional.</p>

Table I-1 Capsule Interim Storage Inspection Schedule

Inspection Item/Area	Frequency	Types of Problems and Evaluation Criteria												
Temperature Monitoring	D ^d	<p>Problem: Equipment not operational. Temperature out of normal operating range.</p> <p>Verify that equipment is operational and within the acceptable range.</p> <table border="1"> <thead> <tr> <th>Cask Type</th> <th>Temperature Difference^c</th> </tr> </thead> <tbody> <tr> <td>Sr (14.6 kW)</td> <td>114°F</td> </tr> <tr> <td>Sr (17.6 kW)</td> <td>131°F</td> </tr> <tr> <td>Sr (22.3 kW)</td> <td>114°F</td> </tr> <tr> <td>Cs (3.52 kW)</td> <td>110°F</td> </tr> <tr> <td>Cs (15.6 kW)</td> <td>110°F</td> </tr> </tbody> </table>	Cask Type	Temperature Difference ^c	Sr (14.6 kW)	114°F	Sr (17.6 kW)	131°F	Sr (22.3 kW)	114°F	Cs (3.52 kW)	110°F	Cs (15.6 kW)	110°F
Cask Type	Temperature Difference ^c													
Sr (14.6 kW)	114°F													
Sr (17.6 kW)	131°F													
Sr (22.3 kW)	114°F													
Cs (3.52 kW)	110°F													
Cs (15.6 kW)	110°F													

a. Inspection will continue during and through closure activities until final certification.

b. Due to localized radiation fields, physical inspections of cooling vents will be conducted on an annual basis. Temperature monitoring will occur daily and used as an indicator for the cooling vents.

c. Allowable temperature difference between the ambient temperature and the cask outlet temperature.

d. Inspections will be on scheduled work days excluding Hanford Facility closure days.

Note: Unless otherwise noted, inspection frequencies are defined by the following periodicities:

Daily (D) = Once per calendar day.

Weekly (W) = Once per calendar week with a period that runs from Sunday to Saturday.

Monthly (M) = Once per calendar month.

Annually (A) = At least once per 12-month period ±30 days from the time of the last annual inspection.

BUILDING EMERGENCY PLAN FOR CAPSULE INTERIM STORAGE

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

Contractor for the U.S. Department of Energy
under Contract DE-AC06-08RL14788

CH2MHILL
Plateau Remediation Company

**P.O. Box 1600
Richland, Washington 99352**

BUILDING EMERGENCY PLAN FOR CAPSULE INTERIM STORAGE

Document Type: PLAN Program/Project: W&FMP

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CH2M HILL Plateau Remediation Company

Date Published
July 2019

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

Contractor for the U.S. Department of Energy
under Contract DE-AC06-08RL14788

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APPROVED

By Lynn M. Ayers at 2:59 pm, Jul 11, 2019

Release Approval

Date

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This plan covers the following buildings and structures: Capsule Interim Storage.

USQ #: N/A per Section 1.3 PRC-PRO-NS-062

Screened by: L. Covery 709 7-10-19

Brad Norman
Fuels Facilities Management

7/10/19
Date

Dave Watson
Environmental Compliance Officer

7-10-2019
Date

H. M. Hassell
CHPRC Emergency Management

7-10-2019
Date

This document will be reviewed at least annually and updated if necessary by Facility Management unless Hanford Facility RCRA Permit coordination requirements provide otherwise. The Building Emergency Director has the authority to carry out the provisions of this plan.

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1.0 GENERAL INFORMATION

The Capsule Storage Area (CSA) is located on the Hanford Site, a 560-square-mile (1,450-square kilometer) U.S. Department of Energy (DOE) Richland Operations Office (RL) site in southeastern Washington State. The CSA is located in the center portion of the 200 East Area near the center of the Hanford Site.

This plan contains a description of facility-specific emergency planning and response, and is used in conjunction with portions of the DOE/RL-94-02, *Hanford Emergency Management Plan*, to meet contingency plan requirements of Washington Administrative Code (WAC) 173-303. Pursuant to WAC 173-303 Dangerous Waste Regulations, DOE-RL (as the owner or operator of the Hanford Facility) is required to have a “contingency plan” for use in emergencies or sudden or nonsudden releases that threaten human health and the environment. Additionally, WAC 173-303-201(9) (for dangerous waste generator locations) and WAC 173-303-350(2) (for treatment, storage, and disposal [TSD] facilities) allows the owner or operator to use documentation, other than a “contingency plan,” so long as the other documentation incorporates dangerous waste management provisions sufficient to comply with the requirements of WAC 173-303-201, WAC 173-303-350, and WAC 173-303-360. This approach is used at Hanford. There is no specific document titled “Contingency Plan” for the Hanford Facility. Rather, specific portions of this plan combined with portions of contractor facility/activity-specific documentation (e.g., emergency plans/procedures) are maintained to meet the contingency plan requirements of WAC 173-303.

1.1 Facility Name

U.S. Department of Energy
Hanford Site
Capsule Interim Storage

1.2 Facility Location

Benton County, Washington within the 200 East Area.

Buildings/facilities covered by this plan are: Capsule Storage Area.

1.3 Owner

U.S. Department of Energy
Richland Operations Office
2420 Steven Center Plaza
Richland, Washington 99354

Manager

CH2M HILL Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352-1600

WASTE AND FUELS MANAGEMENT PROJECT	Document:	HNF-IP-0263-CSA
	Revision	0
BUILDING EMERGENCY PLAN	Page:	5 of 46
FOR CAPSULE INTERIM STORAGE	Effective Date	07/10/2019

1.4 Description of the Facility and Operations

The CSA will be used to store cesium and strontium capsules inside dry storage casks. The capsules are currently located in the Waste Encapsulation and Storage Facility (WESF) pool cells.

The CSA will consist of a concrete pad, fencing, lighting, and road access to support interim storage of the capsules. The location of the facility will be in the 200 East Area to the west of WESF and east of the Canister Storage Building (CSB) (Figure 1). The CSA will be similar to spent fuel storage pads in use elsewhere and consist primarily of passive systems.

The dry storage portion of the Cask Storage System (CSS) will consist of a Vertical Concrete Cask (VCC) with a Transportable Storage Canister (TSC) and a TSC Basket inside. Universal Capsule Sleeves (UCSs) will contain the capsules and will be placed inside the TSC Basket.

Each UCS will hold up to six standard cesium or strontium capsules or two Type W capsules and will be sealed and leak tested. The UCS has a nominal diameter of 19.1 cm (7.5 in.) and a length of 1.2 m (49 in.). There are two UCS designs; a standard configuration that accommodates up to six cesium or strontium capsules and a Type W configuration that accommodates two Type W capsules. The standard configuration will hold six capsules and the Type W configuration will hold two capsules, each with capsules stacked two units high. The UCS includes a closure lid, which provides a lift feature for handling of the loaded UCS with the Dry Transfer System (DTS) grapple.

The TSC Basket is located inside the TSC and will house up to two UCSs inside each of 11 openings. The TSC Basket is robustly designed to provide structural and thermal performance tailored to the specific content geometry and heat load of the UCSs. Each of the TSC Basket 11 openings has a shield plug and closure lid. The TSC incorporates a dual-sealed closure lid design whose primary purpose is to provide confinement to the contents. The first lid incorporates a fitting to permit inerting the cavity with helium after loading. The second lid provides redundant closure for the canister.

Each CSS contains one TSC and is approximately 3.4 m (11 ft) tall and 30 m (10 ft) in diameter. The expected loaded weight of the CSS assembly is approximately 73,620 kg (162,300 lb.) The VCC concrete in the radial direction and the VCC steel lid in the axial direction provide the primary CSS shielding. The CSS also includes cooling channels to allow passive cooling of the capsules.

This plan addresses both the “active life”¹ and the “pre-active life”² for the CSA.

2.0 PURPOSE

This plan describes both the facility hazards and the basic responses to upset and/or emergency conditions within the CSA. These events may include spills or releases caused by processing, fires and explosions, transportation activities, movement of materials, packaging, storage of hazardous materials, and natural and security contingencies. When used in conjunction with Permit Attachment 4, *Hanford Emergency Management Plan (DOE/RL-94-02)*, this plan meets the requirements for contingency planning as required by WAC 173-303. Sections 1.0, 3.1, 4.0, 7.1,

¹ “Active life” of a facility means the period from the initial receipt of dangerous waste at the facility until the department receives certification of final closure (WAC 173-303-040).

² “Pre-active life” is not defined in the regulation, but refers to the facility construction up to the start of active life.

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7.1.1, 7.1.2, 7.2, 7.2.1, 7.2.2, 7.2.3, 7.2.4, 7.2.5, 7.2.5.1, 7.3 and subsections), 7.6, 8.2, 8.2.1, 8.2.2, 9.0, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 11.0, 12.0 of this Building Emergency Plan (BEP) are enforceable sections meeting RCRA contingency planning requirements. Enforceable sections cannot be changed without coordinating the change with the Permit modification process. Attachment B of this BEP provides a crosswalk listing applicable WAC 173-303 requirements and how/where the requirements are met.

3.0 FACILITY/BUILDING EMERGENCY RESPONSE ORGANIZATION

The facility/building emergency response organization (ERO) includes the Building Emergency Director (BED)/Building Warden (BW), facility subject matter experts, and other operations personnel who are responsible for implementing emergency response actions at CSA.

The CSA BED/BW is an on-call position during normal working hours, back-shifts, weekends, and holidays, which is established to handle various emergencies. In any emergency that requires implementation of this emergency plan, the on-call BED/BW has the authority to commit the resources required to respond, including money, manpower, and/or equipment. For after-hours response, the Hanford Patrol Operations Center (POC)/Hanford Emergency Operations Center (EOC) Shift Office maintains a weekly on-call directory of the Hanford Site BEDs/BWs. When notified, the POC/EOC Shift Office will contact the on-call CSA BED/BW to respond to the scene in person, as necessary.

The CSB facility ERO is responsible for implementing emergency response actions at the CSA.

3.1 Building Emergency Director

Emergency response will be directed by the BED/BW until the IC arrives. The BED/BW, supported by facility/building ERO personnel, fulfills the role and meets the requirements of the “Emergency Coordinator” as defined in WAC 173-303-201 (for dangerous waste generator activities) and WAC 173-303-360 (for permitted TSD facilities). During events, CSA personnel perform response duties under the direction of the BED/BW. The senior responding Hanford Fire Department official will be the IC. If the event is determined to primarily be a security event, the Hanford Fire Department and Hanford Patrol will operate under a unified command system with Hanford Patrol making decisions pertaining to security. These individuals have the authority to request and obtain any resources necessary for protecting people and the environment.

The BED/BW becomes a member of the Incident Command Organization and functions under the direction of the IC. In this role, the BED/BW continues to manage and direct CSA operations.

The BED/BW is on the premises or is available through an “on-call” list 24 hours a day. **The on-call BED/BW’s home telephone number is available from the POC in accordance with Permit Condition II.A.4.**

As necessary, the BED/BW will make the Operational Emergency categorization/classification decision and also determine if the event is subject to the requirements of WAC 173-303-201(14)(d) or WAC 173-303-360(2)(d) prior to responding to the scene.

3.2 Other Members

At a minimum, Facility Management appoints and ensures training is provided to individuals to perform as Personnel Accountability Aides and Staging Area Managers. The Personnel Accountability Aides are responsible for facilitating the implementation of protective actions (evacuation or take cover) and for facilitating the accountability of personnel after the protective actions have been implemented. Staging Area Managers are responsible for coordinating and conducting activities at the staging area. In addition, the BED/BW can identify additional support personnel (radiological control, maintenance, engineering, hazardous material coordinators, etc.) to be part of the facility/building ERO.

The BED/BW will notify other facility/building ERO to support the on-scene response. During upset conditions requiring the response from the facility/building ERO, Patrol Operations and the Hanford Emergency Operations Center Shift Office notify the on-call BED/BW.

The complete Facility/Building ERO listing of positions, names of ERO members, work locations, and telephone numbers for the CSA is maintained in a separate location in a format determined appropriate by CSA management. Copies are distributed to appropriate CSA locations and maintained by the Permittee.

4.0 IMPLEMENTATION OF THE PLAN

The BED/BW must assess each incident to determine the response necessary to protect the personnel, facility, and the environment. If assistance from the Hanford Patrol or the Hanford Fire Department is required, the Hanford Emergency Response Number (911 or 509-373-0911 if using a cell phone) must be used to contact the POC and request the desired assistance.

In accordance with WAC 173-303-201(14)(b) or WAC 173-303-360(2)(b), whenever there is a release, fire, or explosion, the BED/BW ensures that personnel identify the character, source, amount, and a real extent of any released materials. Identification can be made by activities that can include, but are not limited to, visual inspection of casks, 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 and analyzed as appropriate. These activities must be performed with a sense of immediacy and shall include available information.

The BED/BW shall use the following steps to determine if an emergency circumstance is subject to the contingency plan implementation and notification requirements of WAC 173-303-201 or WAC 173-303-350 and WAC 173-303-360:

1. The event involved an unplanned spill, release, fire, or explosion.

AND

2. a. The unplanned spill or release involved a dangerous waste, or the material involved became a dangerous waste as a result of the event (e.g., product that is not recoverable for reuse without processing).

OR

2. b. **The unplanned fire or explosion occurred at a facility or transportation activity subject to RCRA contingency planning requirements.**

AND

3. **A threat to human health or the environment exists.**

Additional guidance to assist the BED/BW in determining the applicability of the requirements is maintained in DOE-0223, *DOE-RL Emergency Plan Implementing Procedures (RLEPs)*. This guidance is derived from Washington State Department of Ecology Dangerous Waste Permit application guidelines for implementation of the contingency plan and notifications to Washington State Department of Ecology (Ecology). Contractor environmental single points-of-contact are also available to assist the BED/BW in determining the applicability of requirements.

If assessment of an event does not allow a definitive determination of the threat to human health and the environment, then the BED/BW shall continue to implement the emergency procedures for the event, and through that process continue the assessment of the event.

If the BED/BW determines that the event response requires contingency plan implementation, the BED/BW must complete/verify notifications to management/environmental compliance in accordance with WAC 173-303-201(14)(d) or WAC 173-303-360(2).

The following information must be included in the assessment report:

- **The name and telephone number of reporter**
- **The name and address of facility**
- **The time and type of incident (e.g., release, fire)**
- **The name and quantity of material(s) involved, to the extent known**
- **The extent of injuries, if any**
- **The possible hazards to human health or the environment outside the facility**

5.0 FACILITY HAZARDS

Hazards at the CSA potentially include industrial hazards, hazardous materials, and physical hazards. During pre-active life, dangerous/mixed waste will not yet be managed at the TSD unit. Until active life begins, this plan would be limited to response to hazardous materials/waste incident associated with generator activities.

5.1 Hazardous Materials

Hazardous materials handled during pre-active life might include (but may not be limited to) the following: spray adhesive, sorbent, diesel fuel, hydraulic oil, propane, road salt, industrial cleaner and

degreaser, and unleaded gasoline. A total list of materials will not be available until CSA begins active life. The use, storage, and inventory of hazardous materials will be controlled. Hazardous material inventories and safety data sheets will be maintained electronically using current Hanford Site databases.

5.2 Industrial Hazards

Industrial hazards could include transportation incidents, moving equipment accidents, subsidence (cave-ins), and exposure to spilled hazardous materials (Section 5.1). Potential material handling mishaps are associated with cask movement.

5.3 Dangerous/Mixed Waste

The dangerous/mixed waste at the CSA will consist of CSSs containing cesium or strontium capsules. The CSSs are closed environments, and due to important design features incorporated into the CSS, are robust enough not to release dangerous/mixed waste material. The CSB will be responsible for the CSA.

5.4 Radioactive Materials

The radioactive material at the CSA consists of cesium or strontium capsules in the CSSs. There will be a maximum of 132 capsules in a CSS (up to 6 capsules per UCS, 2 UCSs per TSC Basket cell, and 11 cells per TSC Basket). A total of 1,936 capsules will be stored at the CSA and it is expected that approximately 25 CSSs will be used.

5.5 Criticality

Not Applicable.

6.0 POTENTIAL EMERGENCY CONDITIONS

Potential emergency conditions, under both WAC 173-303 and DOE requirements, fall into three basic categories: (1) operations (process upsets, fires, explosions, loss of utilities, spills, and releases); (2) natural phenomena (e.g., earthquakes); and (3) security contingencies (e.g., bomb threat, hostage situation). The following are conditions that may lead to an emergency at the CSA.

6.1 Facility Operations Emergencies

6.1.1 Loss of Utilities

A loss of utilities could include the loss of electricity. Electrical power is required for the CSA; however, loss of electricity does not constitute an emergency, but must be restored as soon as possible.

Loss of Water – Not Applicable.

Loss of Ventilation – Not Applicable.

Loss of Steam – Not Applicable.

Loss of Air – Not Applicable.

6.1.2 Major Process Disruption/Loss of Plant Control

Not applicable.

6.1.3 Pressure Release

Not applicable.

6.1.4 Fire and/or Explosion

Potential fire hazards include smoke inhalation, burns, damage to equipment and/or structures. Fires in the vicinity of the CSA could engulf one or more casks. Based on scenario results of a potential fire, the fire will not exceed the design of the containment barriers of the cask, and will not result in a release of mixed waste.

6.1.5 Hazardous Material Spill

Hazards associated with spills include potential exposure to radioactive, toxic, dangerous, and corrosive material, as well as environmental damage.

6.1.6 Dangerous/Mixed Waste Spill

A failed capsule could present a hazard to operations personnel; however, due to design features incorporated into the CSS, the design is robust enough not to release dangerous/mixed waste material.

6.1.7 Transportation and/or Packaging Incidents

The only shipments to the CSA will be from WESF.

6.1.8 Radioactive Material Release

Due to important design features identified for the CSS, there will be very little to no potential for radioactive material to be released from the CSA. However, work activities having a potential for the spread of radioactive contamination are monitored for radiological conditions during the performance of the work. Responses to a release of radiological materials are performed in accordance with working level procedures.

6.1.9 Criticality

Not applicable.

6.2 Natural Phenomena

Natural phenomena are discussed in the following sections.

6.2.1 Seismic Event

Depending on the magnitude of the event, severe structural damage can occur resulting in serious injuries or fatalities and the release of hazardous materials to the environment. Damaged electrical circuits and wiring could result in the initiation of fires.

6.2.2 Volcanic Eruption/Ash Fall

Though not expected to cause structural damage, the ash resulting from a volcanic eruption could cause shorts in electrical equipment and plug the passive ventilation system.

6.2.3 High Winds/Tornadoes

While highly unlikely, high winds or tornadoes could cause structural damage to systems containing hazardous materials resulting in a release of the materials to the environment.

6.2.4 Flood

Not applicable.

6.2.5 Range Fire

The hazards associated with a range fire are the same as those associated with a fire/explosion (Section 6.1.4) plus potential site access restrictions and travel hazards such as poor visibility.

6.2.6 Aircraft Crash

In addition to the potential for serious injuries or fatalities, an aircraft crash could result in the direct release of hazardous materials to the environment or cause a fire.

6.3 Security Contingencies

Security contingencies are discussed in the following sections.

6.3.1 Bomb Threat/Explosive Device

A bomb threat may be received by anyone who answers the telephone or receives mail. In the event of a bomb threat, CSA personnel will evacuate the area. If an explosive device detonates, the effects could result in the direct release of hazardous materials to the environment.

6.3.2 Hostage Situation/Armed Intruder

A hostage situation or the entry of an armed hostile intruder(s) can pose an emergency if either of these conditions has the potential to adversely affect facility operations.

6.3.3 Suspicious Object

If a suspicious object is discovered, the CSA personnel will evacuate the area.

6.4 Unexpected/Unidentified Odors

Unexpected or unidentified odors have the potential to cause health effects and could be indicative of other events.

7.0 INCIDENT RESPONSE

The initial response to any emergency is to immediately protect the health and safety of persons in the affected area. Identification of released material is essential to determine appropriate protective actions. Containment, 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. In addition, a section addressing prevention of secondary release, fires, or explosions is provided. Attachment A provides a list of applicable procedures.

7.1 Protective Action Responses

Protective action responses are discussed in the following sections. 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.

In addition to the facility protective actions described below, the BED/BW also reviews the sitewide and CSA emergency response procedure(s) for categorization and/or classification of the event and if necessary, initiates area protective actions and Hanford Site ERO activation. Operational Emergency categorization and/or classification is reported to the Hanford Emergency Operations Center (EOC), triggering notification to offsite officials that includes planned recommendations for protective actions if needed. Hanford EOC staff are responsible to coordinate protective action recommendations with offsite officials.

7.1.1 Evacuation Plan

- Halt any maintenance or work and place equipment and structures in a safe condition. Use emergency shutdown procedures for rapid evacuation, as applicable.
- Use whatever means are available (portable radios, bullhorns, runners, etc.) to pass the evacuation information to personnel.
- Evacuate personnel to the staging area (Figure 1) and group personnel as follows: PPE clothing-clad personnel, persons with keys to immediately available government or personal vehicles, and all others. Assist personnel with special needs.
- Conduct personnel accountability. If unable to account for personnel, report personnel accountability results to the BED/BW.
- Inform IC of any potentially affected personnel (i.e., injured, contaminated, exposed) once the IC arrives at the ICP.

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- Relay pertinent evacuation information (routes, destination, etc.) to drivers.
- Dispatch vehicles as soon as the vehicles are loaded, providing safe routes of travel (Figure 2).
- Report status to the Hanford EOC, request additional transportation if required, and report if any personnel remain who are performing shutdown duties.

7.1.2 Take Cover

When the Take Cover Alarm (wavering siren) is activated, personnel shall take cover in the nearest building or trailer. The BED/BW shall notify the POC upon activation of the emergency siren system.

The following actions should be taken or considered in a Take Cover:

- Shut doors and windows and wait for further instructions.
- Secure ventilation and unnecessary electronic or electrical equipment, if possible.
- Follow normal exit procedures from radiological areas (in preparation for a possible evacuation).
- Potentially exposed personnel should be reported to the BED/BW to ensure they receive appropriate follow-up evaluation.

7.2 Response to Facility Operations Emergencies

Depending on the severity of the event, the BED/BW reviews the sitewide and CSA emergency response procedure(s) and, as required, categorizes and/or classifies the event. If necessary, the BED/BW initiates area protective actions and Hanford Site ERO activation. Attachment A provides a list of procedures.

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

A case-by-case evaluation is required for each event to determine loss of utility impacts. When a BED/BW determines a loss of utility impact, actions are taken to ensure dangerous and/or mixed waste is being properly managed, to the extent possible given event circumstances. As necessary, the BED/BW will stop operations and take appropriate actions until the utility is restored.

A loss of utilities could include the loss of electricity.

Electrical power is required for the CSA; however, loss of electricity does not constitute an emergency, but must be restored as soon as possible.

Loss of Water – Not Applicable.

Loss of Ventilation – Not Applicable.

Loss of Steam – Not Applicable.

Loss of Air – Not Applicable.

7.2.2 Major Process Disruption/Loss of Plant Control

Not applicable.

7.2.3 Pressure Release

Not applicable.

7.2.4 Fire and/or Explosion

In the event of a fire, the discoverer calls 911 (509-373-0911 if using a cell phone) or verifies that 911 has been called.

- Unless otherwise instructed, personnel shall evacuate the area by the nearest safe exit and proceed to the designated staging area for accountability.
- ONLY if time permits, personnel should shut down equipment and secure waste, as applicable.
- The BED/BW establishes the initial command post, obtains all necessary information pertaining to the incident and sends a representative to meet the Hanford Fire Department.
- The BED/BW provides a formal turnover to the IC when the IC arrives at the initial command post.
- The BED/BW informs the Hanford Site ERO as to the extent of the emergency (including estimates of dangerous waste and mixed waste quantities released to the environment).
- If operations are stopped in response to the fire, the BED/BW ensures that systems are monitored for temperature.
- Hanford Fire Department firefighters extinguish the fire as necessary.

7.2.5 Hazardous Material, Dangerous, and/or Mixed Waste Spill

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 hazards posed by the presence of radioactive materials.

The discoverer notifies the BED/BW and initiates SWIM response:

- **Stops work.**
- **Warns others in the vicinity.**

- **Isolates the area.**
- **Minimizes exposure to the hazards.**
- The BED/BW determines if emergency conditions exist requiring response from the Hanford Fire Department based on classification of the spill and injured personnel, and evaluates the need to perform additional protective actions.
- If the Hanford Fire Department resources are not needed, the spill is mitigated with resources identified in Section 9.0 of this plan and proper notifications are made.
- If the Hanford Fire Department resources are needed, the BED/BW calls 911 (509-373-0911 if using a cell phone).
- The BED/BW sends a representative to meet the Hanford Fire Department.
- The BED/BW provides a formal turnover to the IC when the IC arrives at the ICP.
- The BED/BW informs the Hanford Site ERO as to the extent of the emergency (including estimates of dangerous waste and mixed waste quantities released to the environment).
- If operations are stopped in response to the spill, the BED/BW ensures that systems are monitored for leaks, pressure buildup, gas generation, and ruptures if applicable.
- Hanford Fire Department stabilizes the spill.

7.2.5.1 Damaged or Unacceptable Shipments

During the course of receiving dangerous and/or mixed waste at CSA, an unanticipated event could be discovered resulting in a conformance issue concerning the waste. Damaged or unacceptable shipments resulting from onsite transfers are not subject to WAC 173-303-370; however, conformance issues must be resolved in order to maintain proper records.

Regardless of whether the waste is received as an off-site shipment or onsite transfer, the following actions are taken:

- **Operations management is notified of the damaged or unacceptable waste to be received.**
- **If the conformance issue results in a spill or release, actions described in Section 7.2.5 are taken.**
- **The generating organization is notified of the conformance issue.**
- **An operations representative, in conjunction with the generating organization, determines the course of action to resolve the conformance issue.**

7.2.6 Radioactive Material Release

Section 7.2.5 addresses the actions for a radiological material release.

7.2.7 Criticality

Not applicable.

7.3 Response to Natural Phenomena

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.

7.3.1 Seismic Event

The Hanford Site ERO's primary role in a seismic event is coordinating the initial response to injuries, fires, 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 should evacuate carefully and assist personnel needing help. The location of any trapped individuals should be reported to the BED/BW or is reported to 911 (509-373-0911 if using a cell phone).

The BED/BW takes whatever actions are necessary to minimize damage and personnel injuries. Responsibilities include the following:

- Coordinating searches for personnel and potential hazardous conditions (e.g., fires, spills).
- Conducting accountability.
- Securing utilities and facility operations.
- Arranging rescue efforts and notifying 911 (509-373-0911 if using a cell 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 an immediate danger.
- Providing personnel and resource assistance to other facilities, if required and possible.

7.3.2 Volcanic Eruption/Ashfall

In the event of ash-fall, the BED will coordinate efforts to remove accumulating ash around intake vents.

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If other emergency conditions arise as a result of the ashfall (e.g., fires due to electrical shorts), response is as described in other sections of this plan.

7.3.3 High Winds/Tornadoes

Upon notification of impending high winds, the BED/BW takes steps necessary to secure all outdoor waste and hazardous material containers and storage locations.

7.3.4 Flood

Not applicable.

7.3.5 Range Fire

Responses to range fires are handled by preventive measures (e.g., keeping hazardous material and waste accumulation areas free of combustible materials such as weeds and brush). If a range fire breaches the CSA boundary, the response is as described in Section 7.2.4.

7.3.6 Aircraft Crash

The response to an aircraft crash is the same as for a fire and/or explosion (Section 7.2.4).

7.4 Security Contingencies

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.

7.4.1 Bomb Threat/Explosive Device

7.4.1.1 Telephone Threat

Individuals receiving telephoned threats attempt to get as much information as possible from the caller (using the bomb threat checklist if available). Upon conclusion of the call, or during the call if possible, notify the BED/BW and Hanford Patrol by calling 911 (do not use wireless communications devices for reporting a bomb threat/explosive device unless beyond 30 m (100 ft) from the suspected object).

When notified, the BED/BW ensures the CSA protective actions have been taken and questions personnel at the staging area regarding any suspicious objects. When Hanford Patrol personnel arrive, follow their instructions.

7.4.1.2 Written Threat

Receivers of written threats handle the letter as little as possible. Notify the BED/BW and Hanford Patrol by calling 911 (do not use wireless communications devices for reporting a bomb threat/explosive device unless beyond 30 m (100 ft) from the suspected object). Depending on the content of the letter, the BED/BW might evacuate the affected locations. The letter is turned over to Hanford Patrol and their instructions are followed.

7.4.2 Hostage Situation/Armed Intruder

The discoverer of a hostage situation or armed intruder reports the incident to 911 (509-373-0911 if using a cell phone) and to the BED/BW if possible. Hanford Patrol will determine the remaining response actions.

7.4.3 Suspicious Object

The discoverer of a suspicious object reports this object to the BED/BW and to 911 (do not use wireless communications devices for reporting a bomb threat/explosive device unless beyond 30 m (100 ft) from the suspected object), if possible, and ensures that the object is not disturbed.

7.5 Response to Unexpected/Unidentified Odors

Unexpected and unidentified odors should be investigated by the facility or project safety and health personnel. If the odor can be traced to an identifiable source and controlled safely with local resources, it can be resolved at the facility level. Air monitoring may aid in identification of a source and help determine if the odor is indicative of a health threat or is merely a nuisance. If facility or project safety and health personnel concur that the odor may be indicative of a health threat and cannot be safely controlled with local resources or an odor is found to be the result of an action or condition that requires emergency response, the Hanford Fire Department would be notified and respond accordingly.

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

The BED/BW, as part of the Incident Command Organization, takes the steps necessary to ensure that a secondary release, fire, or explosion does not occur. The BED/BW will take measures, where applicable, to stop processes and operations; collect and contain released wastes and remove or isolate containers. The BED/BW shall also monitor for leaks, pressure buildups, gas generation, or ruptures in valves, pipes or other equipment, whenever this is appropriate.

8.0 TERMINATION OF EVENT, INCIDENT RECOVERY, AND RESTART OF OPERATIONS

DOE/RL-94-02, Section 9.0, describes actions for event termination, incident recovery, restart of operations, and incompatible waste.

8.1 Termination of Event

For events where the Hanford EOC is activated, the Site Emergency Director has the authority to declare event termination. This decision is based on input from the BED/BW, IC, and other ERO members. For events where the Hanford EOC is not activated, the IC and staff will declare event termination.

8.2 Incident Recovery and Restart of Operations

Immediately after an emergency, the BED/BW must provide for treating, storing, or disposing of recovered waste, contaminated soil, or surface water, or any other material that results from a

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release, fire, or explosion at CSA. A recovery plan is developed when necessary in accordance with DOE/RL-94-02, Section 9.2.

If this plan was implemented according to Section 4.0 of this plan, Ecology is notified that the CSA is in compliance with cleanup activities, as described in DOE/RL-94-02, Section 5.1.2.2, before operations can resume.

8.2.1 Incompatible Waste

After an event, the BED/BW 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. Clean-up actions are taken by CSA 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 is performed before storage, as necessary. Incompatible wastes are not placed in the same container. Containers of waste are placed in approved storage areas appropriate for their compatibility class.

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

8.2.2 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.

The BED/BW ensures that all equipment is cleaned and fit for its intended use before operations are resumed. Protective clothing is cleaned or disposed of, and restocked, etc.

9.0 EMERGENCY EQUIPMENT

Emergency resources and equipment for the CSA are presented in this section. Emergency equipment must be tested and maintained to assure its proper operation in time of emergency.

Sufficient space is maintained on the CSA pad to allow access of personnel and equipment responding to fires, spills, or other emergencies. Unobstructed fire lanes run from the main entrance to allow emergency vehicle access to the main entrance and the nearby fire hydrant. The interior space is designed to allow access by emergency response personnel while maintaining barriers to contain releases of gaseous or liquid waste and hazardous substances as defined in WAC 173-303-040 and WAC 173-303-201.

9.1 Fixed Emergency Equipment

Not applicable. There is no fixed emergency equipment.

9.2 Portable Emergency Equipment

Not Applicable. There is no portable emergency equipment.

9.3 Communications Equipment/Warning Systems

Whenever dangerous waste is being poured, mixed, spread, or otherwise handled, or if there is ever just a single employee on the premises while the facility is operating, the employee or employees involved must have immediate access to emergency communications capable of summoning emergency assistance.

COMMUNICATIONS EQUIPMENT		
TYPE	LOCATION	CAPABILITY
PAX System	North of CIS	Internal Communications
Temperature Monitoring System	Each individual Cask	Warning beacon to alert for a rise in temperature
Two way radios	Key Personnel	Internal Communications

NOTE: Sitewide communications and warning systems are identified in DOE/RL-94-02, Section 5.2.5.

9.4 Personal Protective Equipment

PERSONAL PROTECTIVE EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Protective Clothing	WESF	Personnel Contamination Protection
Respirators	WESF	Airborne Contamination Protection

9.5 Spill Control and Containment Supplies

Not applicable.

9.6 Incident Command Post

The IC determines the location of the ICP based on the event and may use the Hanford Fire Department Mobile Command Unit if necessary. 272HV is the primary location of the initial command post. Emergency resource materials are stored at various locations to support emergencies. Additional resources are available at other facilities.

10.0 COORDINATION AGREEMENTS

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

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Hanford Site. A description of the agreements is contained in DOE/RL-94-02, Section 3.0, 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 5.1.2.2.

Facility management must note in the TSD-unit operating record, the time, date and details of any incident that requires implementation of the contingency plan (refer to Section 4.0 of this plan). Within 15 days after the incident, a written report must be submitted to Ecology. The report must include the elements specified in WAC 173-303-201(14)(k) or WAC 173-303-360(2)(k).

12.0 PLAN LOCATION AND AMENDMENTS

Copies of this plan are maintained at the following locations:

272HV is the initial command post and the Hanford Emergency Operations Center.

This plan will be reviewed and immediately amended as necessary, in accordance with DOE/RL-94-02, Section 14.3.1.1.

13.0 REFERENCES

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

Washington Administrative Code 173-303, *Washington State Dangerous Waste Regulations,* Washington State Department of Ecology, Olympia, Washington.

***Hanford Facility Resource Conservation and Recovery Act Permit for the Treatment, Storage, and Disposal of Dangerous Waste, Permit Number WA7890008967,* Washington State Department of Ecology, Olympia, Washington.**

ATTACHMENT A

Listing of Procedures

U.S. Department of Energy Richland Operations Office DOE-0223, *Emergency Plan Implementing Procedures, RLEP 1.0, Recognizing and Classifying Emergencies, Appendix 1-X.X (Facility Emergency Action Level Table). The EALs have not been created.*

U.S. Department of Energy Richland Operations Office DOE-0223, *Emergency Plan Implementing Procedures, RLEP 1.1, Hanford Incident Command System and Event Recognition and Classification.*

U.S. Department of Energy Richland Operations Office DOE-0223, *Emergency Plan Implementing Procedures, RLEP 3.24, Notification, Reporting, and Processing of Operations Information.*

U.S. Department of Energy Richland Operations Office DOE-0223, *Emergency Plan Implementing Procedures, RLEP 3.4, Emergency Termination, Reentry, and Recovery.*

Figure 1 – CSA Primary and Alternate Staging Area

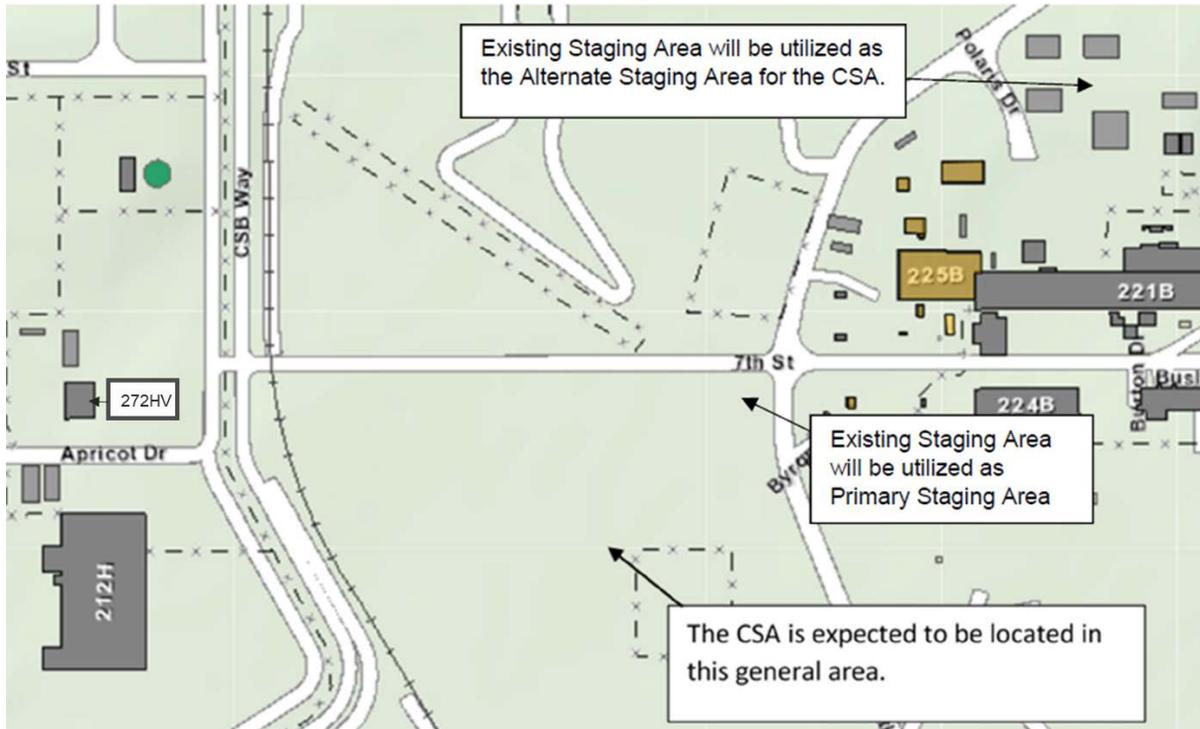
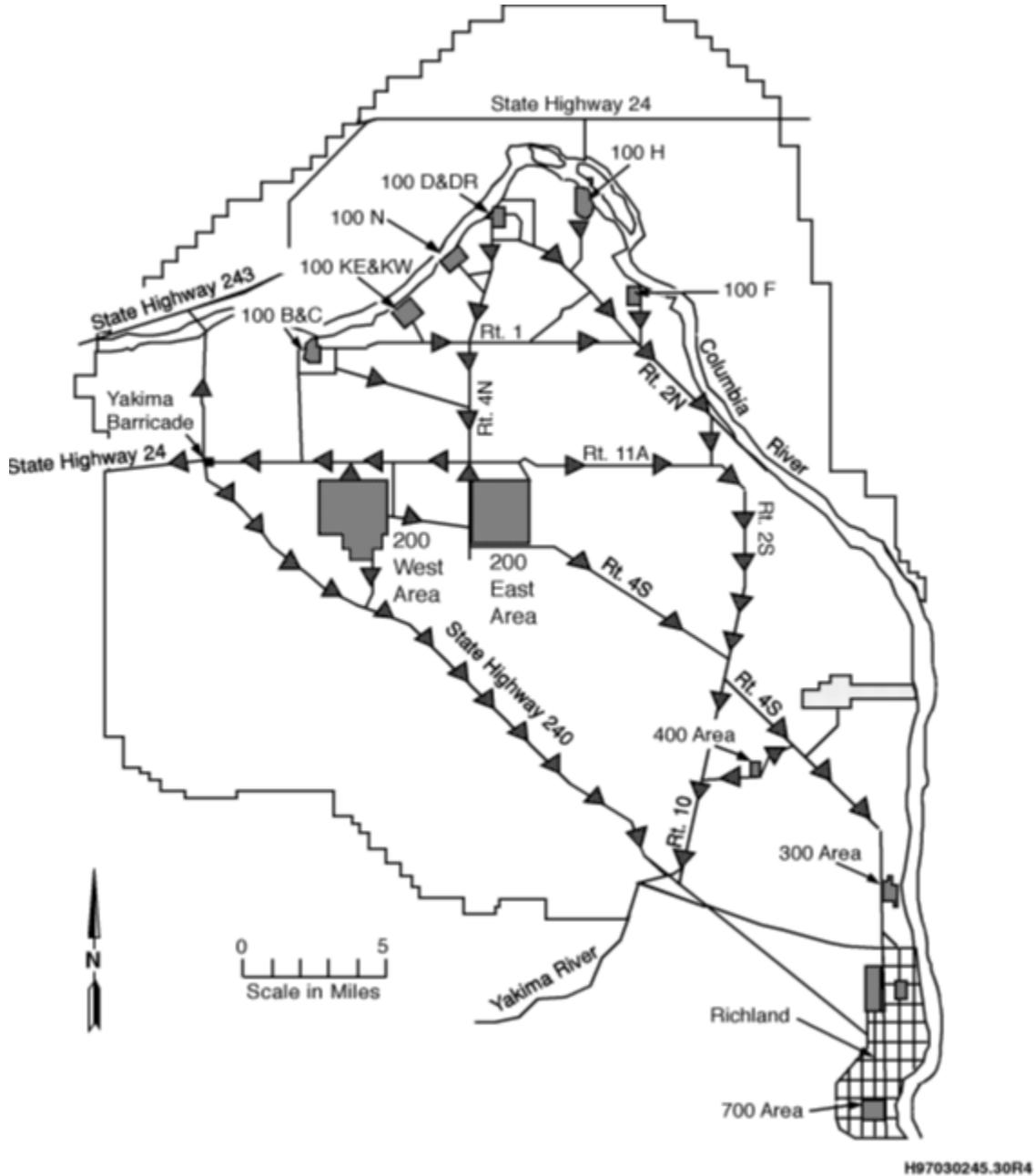


Figure 2 – Hanford Site Evacuation Map



ATTACHMENT B**RCRA APPLICABILITY MATRIX FOR THE TSD ACTIVITIES**

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-340	Preparedness and prevention. Facilities must be designed, constructed, maintained, and operated to minimize the possibility of fire, explosion, or any unplanned sudden or nonsudden release of dangerous waste or dangerous waste constituents to air, soil, or surface or ground water, which could threaten the public health or the environment. This Section describes preparations and preventive measures, which help avoid or mitigate such situations.	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-340(1)	Required equipment. All facilities must be equipped with the following, unless it can be demonstrated to the department that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-340(1)(a)	(a) An internal communications or alarm system capable of providing immediate emergency instruction to facility personnel;	DOE/RL-94-02, Section 5.2.5	<i>BEP Section 9.3</i>
WAC 173-303-340(1)(b)	(b) A device, such as a telephone or a hand-held, two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;	DOE/RL-94-02, Section 5.2.12	<i>BEP Section 9.3</i> Units summon assistance by calling the Hanford Patrol emergency number. No offsite assistance is requested by the unit itself.
WAC 173-303-340(1)(c)	(c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and	DOE/RL-94-02, Sections 11.2.2, 11.2.3, 11.2.4, 11.2.8 and Appendix C	<i>BEP Sections 9.1, 9.2, and 9.5</i>
WAC 173-303-340(1)(d)	(d) Water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers, or water spray systems.	DOE/RL-94-02, Sections 11.2.2 and 11.2.8	<i>BEP Section 9.1</i>

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-340(1)(end)	All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.	DOE/RL-94-02, Sections 11.2, 11.2.8, and 11.3	<i>BEP Section 9.0</i>
WAC 173-303-340(2)	Access to communications or alarms. Personnel must have immediate access to the signaling devices described in the situations below:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-340(2)(a)	(a) Whenever dangerous waste is being poured, mixed, spread, or otherwise handled, all personnel involved must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required in subsection (1) of this Section;	DOE/RL-94-02, Section 5.2.12	<i>BEP Section 9.3</i>
WAC 173-303-340(2)(b)	(b) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone or a hand-held, two-way radio, capable of summoning external emergency assistance, unless such a device is not required in subsection (1) of this Section.	DOE/RL-94-02, Section 5.2.12	<i>BEP Section 9.3</i>
WAC 173-303-340(3)	Aisle space. The owner or operator must maintain aisle space to allow the unobstructed movement of personnel. Fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless it can be demonstrated to the department that aisle space is not needed for any of these purposes.	Requirement is met at the unit level.	Parts III, V, and VI of the Hanford Facility Dangerous Waste Permit (WA7890008967) include description of how each unit meets this requirement. For 90-day areas, <i>BEP Section 9.0</i>

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-340(4)	Arrangements with local authorities. The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations, unless the hazards posed by wastes handled at the facility would not require these arrangements:	Introductory statement of requirement – requirements are in sections below.	Requirement is met at the site level.
WAC 173-303-340(4)(a)	(a) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of dangerous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;	The arrangements agreed to by local police, fire departments emergency response teams to coordinate emergency services are located in DOE/RL-94-02, Sections 3.4, 3.4.1.1, 3.4.1.2, 3.7, and Table 3-1.	Requirement is met at the site level.
WAC 173-303-340(4)(b)	(b) Arrangements to familiarize local hospitals with the properties of dangerous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility;	The arrangements agreed to by local hospitals to coordinate emergency services are located in DOE/RL-94-02, Sections 3.4.1.3, 3.7, and Table 3-1.	Requirement is met at the site level.
WAC 173-303-340(4)(c)	(c) Agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and	The arrangements agreed to by state emergency response teams to coordinate emergency services are located in DOE/RL-94-02, Sections 3.3.1, 3.3.2, 3.7, and Table 3-1.	Requirement is met at the site level.
WAC 173-303-340(4)(d)	(d) Where more than one party might respond to an emergency, agreements designating primary emergency authority and agreements with any others to provide support to the primary emergency authority.	Discussed in the Tri-County Mutual Aid Agreement Memorandum of Understanding (MOU) and Mutual Law Enforcement Assistance MOUs. DOE/RL-94-02, Section 3.7, and Table 3-1.	Requirement is met at the site level.
WAC 173-303-340(5)	Where state or local authorities decline to enter into such agreements, the owner, or operator must document the refusal in the operating record.	If authorities decline, the documentation will be maintained in the Hanford Facility Operating Record.	Requirement is met at the site level.

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-350(1)	Purpose. The purpose of this Section and WAC 173-303-360 is to lessen the potential impact on the public health and the environment in the event of an emergency circumstance, including a fire, explosion, or unplanned sudden or nonsudden release of dangerous waste or dangerous waste constituents to air, soil, surface water, or ground water by a facility. A contingency plan must be developed to lessen the potential impacts of such emergency circumstances, and the plan must be implemented immediately in such emergency circumstances.	DOE/RL-94-02, Sections 1.1 and 1.2	<i>BEP Section 1.0.</i> Identified sections of the BEP/FRP are part of the contingency plan.
WAC 173-303-350(2)	(2) Contingency plan. Each owner or operator must have a contingency plan at his facility for use in emergencies or sudden or nonsudden releases which threaten human health and the environment. If the owner or operator has already prepared a spill prevention control and countermeasures (SPCC) plan in accordance with Part 112 of Title 40 C.F.R. or Part 1510 of chapter V, or some other emergency or contingency plan, they need only amend that plan to incorporate dangerous waste management provisions that are sufficient to comply with the requirements of this section and WAC <u>173-303-360</u> . The owner or operator may develop one contingency plan that meets all regulatory requirements. Ecology recommends that the plan be based on the National Response Team's Integrated Contingency Plan Guidance ("One Plan") as found at www.nrt.org . When modifications are made to nondangerous waste (non-Hazardous Waste Management Act or nondangerous waste regulation) provisions in an integrated contingency plan, the changes do not trigger the need for a dangerous waste permit modification.	DOE/RL-94-02, Sections 1.1 and 1.2 Portions of the Hanford emergency response program are used to meet requirements of WAC 173-303-350 and -360 under the provision of -350(2).	<i>BEP Section 1.0</i> Identified sections of the BEP/FRP are part of the contingency plan.

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-350(3)(a)	The contingency plan must contain the following: (a) A description of the actions which facility personnel must take to comply with this Section and WAC 173-303-360;	DOE/RL-94-02, Section 1.3.4 provides an overview of how the Hanford Site responds to emergency events. More specific descriptions of actions to meet other requirements of this section and WAC 173-303-360 are identified in those sections of this matrix. The relationship of emergency procedures and description of actions is in footnote ³ .	<i>BEP Section 7.1 and subsections and Sections 7.2, 7.2.1, 7.2.2, 7.2.3, 7.2.4, 7.2.5, 7.2.5.1, 7.3 and subsections</i>
WAC 173-303-350(3)(b)	The contingency plan must contain the following: (b) A description of the actions which will be taken in the event that a dangerous waste shipment, which is damaged or otherwise presents a hazard to the public health and the environment, arrives at the facility, and is not acceptable to the owner or operator, but cannot be transported, pursuant to the requirements of WAC 173-303-370(5), Manifest system, reasons for not accepting dangerous waste shipments;	Requirement is met at the unit level.	<i>BEP Section 7.2.5.1</i>

³ Sitewide and facility/activity-specific emergency procedures are described and in some cases identified in this plan. The descriptions of actions in this plan are required to accurately describe the emergency procedures. Unless specifically incorporated into the RCRA Permit, these emergency procedures are not subject to permit modification requirements of permit condition 1.C.3 simply because they are described or referenced in this plan. If the emergency procedures change and the description is no longer accurate, the revision of the description is subject to permit modification requirements of permit condition 1.C.3.

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-350(3)(c)	The contingency plan must contain the following: (c) A description of the arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services as required in WAC 173-303-340(4);	The arrangements agreed to by state emergency response teams to coordinate emergency services are located in DOE/RL-94-02, Sections 3.2.3, 3.3.1, 3.3.2, 3.4, 3.4.1.1, 3.4.1.2, 3.4.1.3, 3.7, and Table 3-1.	Requirement is met at the site level.
WAC 173-303-350(3)(d)	The contingency plan must contain the following: (d) A current list of names, addresses, and phone numbers (office and home) of all persons qualified to act as the emergency coordinator required under WAC 173-303-360(1). Where more than one person is listed, one must be named as primary emergency coordinator, and others must be listed in the order in which they will assume responsibility as alternates. For new facilities only, this list may be provided to the department at the time of facility certification (as required by WAC 173-303-810(14)(a)(i)), rather than as part of the permit application;	DOE/RL-94-02, Sections 2.2 and 2.2.1.1 discuss personnel job titles, which will fill duties and responsibilities of the Emergency Coordinator, described in WAC 173-303-360. A list of current assigned or "on-call" BEDs/BWs is maintained at the Patrol Operations Center per II.A.4. A list of BEDs/BWs for each Hanford TSD unit group is maintained in Permit Attachment 4A. Changing BEDs/BWs on this list is a class 1 mod, self-implemented.	<i>BEP Section 3.1</i>
WAC 173-303-350(3)(e)	The contingency plan must contain the following: (e) A list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.	DOE/RL-94-02, Sections 11.2 and 11.2.8, and Appendix C	<i>BEP Sections 9.1, 9.2, 9.3, 9.4, 9.5, and 9.6</i>
WAC 173-303-350(3)(f)	The contingency plan must contain the following: (f) An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe the signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes.	DOE/RL-94-02, Figure 7-3, and Table 5-1	<i>BEP Section 7.1.1</i>

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-350(4)	Copies of contingency plan. A copy of the contingency plan and all revisions to the plan shall be:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-350(4)(a)	(a) Maintained at the facility; and	DOE/RL-94-02, Section 14.3.7	<i>BEP Section 12.0</i>
WAC 173-303-350(4)(b)	(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.	DOE/RL-94-02, Section 14.3.7	Requirement is met at the site level.
WAC 173-303-350(5)	Amendments. The owner or operator shall review and immediately amend the contingency plan, if necessary, whenever:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-350(5)(a)	(a) Applicable regulations or the facility permit are revised;	DOE/RL-94-02, Section 14.3.1.1	<i>BEP Section 12.0</i>
WAC 173-303-350(5)(b)	(b) The plan fails in an emergency;	DOE/RL-94-02, Section 14.3.1.1	<i>BEP Section 12.0</i>
WAC 173-303-350(5)(c)	(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;	DOE/RL-94-02, Section 14.3.1.1	<i>BEP Section 12.0</i>
WAC 173-303-350(5)(d)	(d) The list of emergency coordinators changes; or	DOE/RL-94-02, Section 14.3.1.1	<i>BEP Section 12.0</i>
WAC 173-303-350(5)(e)	(e) The list of emergency equipment changes.	DOE/RL-94-02, Section 14.3.1.1	<i>BEP Section 12.0</i>
WAC 173-303-355(1)	Owners or operators must coordinate preparedness and prevention planning and contingency planning efforts, conducted under WAC 173-303-340 and -350 with local emergency planning committees established pursuant to Title III of the 1986 Superfund Amendments and Reauthorization Act.	DOE/RL-94-02, Sections 3.1, 3.1.1, and 3.4	Requirement is met at the site level.

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-355(2)	Appropriate and generally accepted computer models should be utilized to determine the impacts of a potential catastrophic air release due to fire, explosion, or other accidental releases of hazardous constituents. Evacuation plans prepared pursuant to WAC 173-303-350(3)(d) must include those effected persons and areas identified through these modeling efforts.	DOE/RL-94-02, Sections 2.2.2.2.4 and 1.3.3.2	Requirement is met at the site level.
WAC 173-303-360(1)	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. This 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.	DOE/RL-94-02, Sections 2.2 and 2.2.1.1	<i>BEP Section 3.1</i> Permit Attachment 4A lists the BED/BW for each unit.
WAC 173-303-360(2)	Emergency procedures. The following procedures must be implemented in the event of an emergency.	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-360(2)(a)	(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:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-360(2)(a)(i)	(i) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and	DOE/RL-94-02, Sections 2.2.1.1.2(b), 2.2.1.1.3(b), and 5.2.5	<i>BEP Sections 7.1</i> and subsections, and <i>7.2</i> and subsections
WAC 173-303-360(2)(a)(ii)	(ii) Notify appropriate state or local agencies with designated response roles if their help is needed.	DOE/RL-94-02, Sections 1.3.4, and 5.2.1 Units summon assistance by calling the Hanford Patrol emergency number. No offsite assistance is requested by the unit itself.	<i>BEP Section 4.0</i>

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-360(2)(b)	Emergency procedures. (b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials.	DOE/RL-94-02, Sections 2.2.1.1.2(f), 2.2.1.1.3(g), and 4.2	<i>BEP Section 4.0</i>
WAC 173-303-360(2)(c)	Emergency procedures. (c) Concurrently, the emergency coordinator shall assess possible hazards to human health and the environment (considering direct, indirect, immediate, and long-term effects) that may result from the release, fire, or explosion.	DOE/RL-94-02, Sections 4.2 and 2.2.2.2.4	<i>BEP Section 4.0</i>
WAC 173-303-360(2)(d)	Emergency procedures. (d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment, he must report his findings as follows:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-360(2)(d)(i)	(i) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and	DOE/RL-94-02, Sections 2.2.1.1.2(a) & (d), 2.2.1.1.3 (a) & (e), 5.1.1, 5.1.1.2, and 5.1.2.1	<i>BEP Section 7.1</i>
WAC 173-303-360(2)(d)(ii)	(ii) He must immediately notify the department and either the government official designated as the on-scene coordinator, or the National Response Center (using their 24-hour toll free number (800) 424-8802).	DOE/RL-94-02, Sections 2.2.1.1.2(a) & (d), 2.2.1.1.3 (a) & (e), 5.1.1, 5.1.1.2, 5.1.2.1, and 5.1.2.2	<i>BEP Section 4.0</i>
WAC 173-303-360(2)(e)	Emergency procedures. (e) His assessment report must include: (i) Name and telephone number of reporter; (ii) Name and address of facility; (iii) Time and type of incident (e.g., release, fire); (iv) Name and quantity of material(s) involved, to the extent known; (v) The extent of injuries, if any; and (vi) The possible hazards to human health or the environment outside the facility.	DOE/RL-94-02, Sections 2.2.1.1.2(d), 2.2.1.1.3(e), 5.1.1, 5.1.1.2, 5.1.2.1, and 5.1.2.2	<i>BEP Section 4.0</i>

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-360(2)(f)	Emergency procedures. (f) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other dangerous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting, and containing released waste, and removing or isolating containers.	DOE/RL-94-02, Sections 2.2.1.1, 2.2.1.1.2(f), and 2.2.1.1.3(g)	<i>BEP Section 7.6</i>
WAC 173-303-360(2)(g)	Emergency procedures. (g) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.	DOE/RL-94-02, Sections 2.2.1.1.2(f) and 2.2.1.1.3(g)	<i>BEP Sections 7.2.4 and 7.2.5</i>
WAC 173-303-360(2)(h)	Emergency procedures. (h) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.	DOE/RL-94-02, Section 9.2.3	<i>BEP Section 8.2</i>
WAC 173-303-360(2)(i)	Emergency procedures. (i) The emergency coordinator must ensure that, in the affected area(s) of the facility:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-360(2)(i)(i)	(i) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and	DOE/RL-94-02, Section 9.2.3	<i>BEP Section 8.2.1</i>
WAC 173-303-360(2)(i)(ii)	(ii) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.	DOE/RL-94-02, Section 11.2	<i>BEP Section 8.2.2</i>
WAC 173-303-360(2)(j)	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.	DOE/RL-94-02, Section 5.1.2.2	<i>BEP Section 8.2</i>

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-360(2)(k)	<p>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:</p> <ul style="list-style-type: none"> (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. 	DOE/RL-94-02, Section 5.1.2.2	<i>BEP Section 11.0</i>

RCRA APPLICABILITY MATRIX FOR GENERATOR ACTIVITIES

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201	Preparedness and prevention. Facilities must be designed, constructed, maintained, and operated to minimize the possibility of fire, explosion, or any unplanned sudden or nonsudden release of dangerous waste, hazardous substance or dangerous waste constituents to air, soil, or surface or groundwater, which could threaten the public health or the environment. This section describes preparations and preventive measures, which help avoid or mitigate such situations.	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(1)	Applicability. The regulations of this section apply to those areas of a large quantity generator's facility where dangerous waste is generated or accumulated on site.	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(3)	Required equipment. All areas deemed applicable by subsection (1) of this section must be equipped with the following, unless it can be demonstrated to the department that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below. A large quantity generator may determine the most appropriate locations within its facility to locate equipment necessary to prepare for and respond to emergencies:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(3)(a)	(a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;	DOE/RL-94-02, Section 5.2.5	<i>BEP Section 9.3</i>
WAC 173-303-201(3)(b)	(b) A device, such as a telephone (immediately available at the scene of operations) or a hand-held, two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;	DOE/RL-94-02, Section 5.2.12	<i>BEP Section 9.3</i> Units summon assistance by calling the Hanford Patrol emergency number. No offsite assistance is requested by the unit itself.
WAC 173-303-201(3)(c)	(c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and	DOE/RL-94-02, Sections 11.2.2, 11.2.3, 11.2.4, 11.2.8 and Appendix C	<i>BEP Sections 9.1, 9.2, and 9.5</i>

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(3)(d)	(d) Water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers, or water spray systems.	DOE/RL-94-02, Sections 11.2.2 and 11.2.8	<i>BEP Section 9.1</i>
WAC 173-303-201(4)	Testing and maintenance of equipment. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.	DOE/RL-94-02, Sections 11.2, 11.2.8, and 11.3	<i>BEP Section 8.0</i>
WAC 173-303-201(5)	Access to communications or alarms. Personnel must have immediate access to the signaling devices described in the situations below:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(5)(a)	(a) Whenever dangerous waste is being poured, mixed, spread, or otherwise handled, all personnel involved must have immediate access (e.g., direct or unimpeded access) to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required in subsection (3) of this section;	DOE/RL-94-02, Section 5.2.12	<i>BEP Section 8.3</i>
WAC 173-303-201(5)(b)	(b) If there is ever just one employee on the premises while the facility is operating, they must have immediate access (e.g., direct or unimpeded access) to a device, such as a telephone (immediately available at the scene of operation) or a hand-held, two-way radio, capable of summoning external emergency assistance, unless such a device is not required in subsection (3) of this Section.	DOE/RL-94-02, Section 5.2.12	<i>BEP Section 8.3</i>
WAC 173-303-201(6)	Aisle space. The generator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless it can be demonstrated to the department that aisle space is not needed for any of these purposes.	Requirement is met at the unit level.	<i>BEP Section 9.0</i>

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(7)	Arrangements with local authorities. The large quantity generator must attempt to make the following arrangements, as appropriate for the type of waste handled at its facility and the potential need for the services of these organizations, unless the hazards posed by wastes handled at the facility would not require these arrangements:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(7)(a)	(a) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of dangerous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;	The arrangements agreed to by local police, fire departments emergency response teams to coordinate emergency services are located in DOE/RL-94-02, Sections 3.4, 3.4.1.1, 3.4.1.2, 3.7, and Table 3-1.	Requirement is met at the site level.
WAC 173-303-201(7)(b)	(b) Arrangements to familiarize local hospitals with the properties of dangerous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility;	The arrangements agreed to by local hospitals to coordinate emergency services are located in DOE/RL-94-02, Sections 3.4.1.3, 3.7, and Table 3-1.	Requirement is met at the site level.
WAC 173-303-201(7)(c)	(c) Agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and	The arrangements agreed to by state emergency response teams to coordinate emergency services are located in DOE/RL-94-02, Sections 3.3.1, 3.3.2, 3.7, and Table 3-1.	Requirement is met at the site level.
WAC 173-303-201(7)(d)	(d) Where more than one party might respond to an emergency, agreements designating primary emergency authority and agreements with any others to provide support to the primary emergency authority.	Discussed in the Tri-County Mutual Aid Agreement MOU and Mutual Law Enforcement Assistance MOUs. DOE/RL-94-02, Section 3.7 and Table 3-1	Requirement is met at the site level.
WAC 173-303-201(7)(e)	(e) Where state or local authorities decline to enter into such agreements, the owner, or operator must document the refusal in the operating record; and-	If authorities decline, the documentation will be maintained in the Hanford Facility Operating Record.	Requirement is met at the site level.

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(7)(f)	(f) A facility possessing twenty-four-hour response capabilities may seek a waiver from the authority having jurisdiction (AHJ) over the fire code with the facility's locality as far as organization necessary to respond to an emergency, provided that the waiver is documented in the generator's operating record.		
WAC 173-303-201(8)	Contingency plan purpose and implementation.	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(8)(a)	(a) The large quantity generator must have a contingency plan for the facility. The purpose of a contingency plan and emergency procedures is to lessen the potential impact on the public health and the environment due to any emergency event such as, but not limited to, a fire, natural disaster, explosion, or unplanned sudden or nonsudden release of dangerous waste or dangerous waste constituents to air, soil, surface water, or groundwater.	DOE/RL-94-02, Sections 1.1 and 1.2	<i>BEP Section 1.0</i> Identified sections of the BEP are part of the contingency plan.
WAC 173-303-201(8)(b)	(b) A contingency plan must be developed to lessen the potential impacts of such emergency events, and the plan must be implemented immediately when such emergency events occur.	DOE/RL-94-02, Sections 1.1 and 1.2	<i>BEP Section 1.0</i> Identified sections of the BEP are part of the contingency plan.
WAC 173-303-201(9)	Contents of a contingency plan.	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(9)(a)	(a) Each large quantity generator must have a contingency plan at their facility for use in emergencies or sudden or nonsudden releases which threaten human health and the environment. If the generator has already prepared a spill prevention control and countermeasures (SPCC) plan in accordance with Part 112 of Title 40 C.F.R. or some other emergency or contingency plan, they need only amend that plan to incorporate dangerous waste management provisions that are sufficient to comply with the requirements of this section. The large quantity generator may develop one contingency plan that meets all regulatory requirements. Ecology recommends that the plan be based on the National Response Team's Integrated Contingency Plan Guidance ("One Plan").	DOE/RL-94-02, Sections 1.1 and 1.2 Portions of the Hanford emergency response program are used to meet requirements of WAC 173-303-201(8) through 201(14) under the provision of -201(9).	<i>BEP Section 1.0</i> Identified sections of the BEP are part of the contingency plan.

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(9)(b)	(b) The contingency plan must contain the following: (i) A description of the actions which facility personnel must take to comply with this section and WAC 173-303-145;	DOE/RL-94-02, Section 1.3.4 provides an overview of how the Hanford Site responds to emergency events. More specific descriptions of actions to meet other requirements of this section are identified in those sections of this matrix. Actions to comply with WAC 173-303-145 are addressed in DOE/RL-94-02, Section 5.1.2.	<i>BEP Section 7.1 (including subsections) and Sections 7.2, 7.2.1, 7.2.2, 7.2.3, 7.2.4, 7.2.5, 7.2.5.1</i>
WAC 173-303-201(9)(b)	The contingency plan must contain the following: (ii) A description of the actions which will be taken in the event that a dangerous waste shipment, which is damaged or otherwise presents a hazard to the public health and the environment, arrives at the facility, and is not acceptable to the large quantity generator, but cannot be transported, pursuant to the requirements of WAC 173-303-370(6), manifest system, reasons for not accepting dangerous waste shipments;	Requirement is met at the unit level.	<i>BEP Section 7.2.5.1</i>
WAC 173-303-201(9)(b)	The contingency plan must contain the following: (iii) A description of the arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services as required in subsection (7) of this section;	The arrangements agreed to by state emergency response teams to coordinate emergency services are located in DOE/RL-94-02, Sections 3.2.3, 3.3.1, 3.3.2, 3.4, 3.4.1.1, 3.4.1.2, 3.4.1.3, 3.7, and Table 3-1.	Requirement is met at the site level.

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(9)(b)	The contingency plan must contain the following: (iv) A current list of names, addresses, and telephone numbers of all persons qualified to act as the emergency coordinator required in this section and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator, and others must be listed in the order in which they will assume responsibility as alternates. In situations where the large quantity generator facility has an emergency coordinator continuously on duty because it operates a twenty-four hours per day, every day of the year, the plan may list the staff position (e.g., operations manager, shift coordinator, shift operations supervisor) as well as an emergency telephone number that can be guaranteed to be answered at all times;	DOE/RL-94-02, Sections 2.2 and 2.2.1.1 discuss personnel job titles, which will fill duties and responsibilities of the Emergency Coordinator, described in WAC 173-303-360. A list of current assigned or "on-call" BEDs/BWs is maintained at the Patrol Operations Center per II.A.4. A list of BEDs/BWs for each Hanford TSD unit group is maintained in Permit Attachment 4A. Changing BEDs/BWs on this list is a class 1 mod, self-implemented.	<i>BEP Section 3.1</i> The list of BEDs/BWs for CAAs and SAAs is maintained and collocated with the BEP.
WAC 173-303-201(9)(b)	The contingency plan must contain the following: (v) A list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.	DOE/RL-94-02, Sections 11.2 and 11.2.8, and Appendix C	<i>BEP Sections 9.1, 9.2, 9.3, 9.4, and 9.5</i>
WAC 173-303-201(9)(b)	The contingency plan must contain the following: (vi) An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe the signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of materials or fires).	DOE/RL-94-02, Figure 7-3 and Table 5-1	<i>BEP Section 7.1.1</i>
WAC 173-303-201(10)	Copies of contingency plan. A copy of the contingency plan and all revisions to the plan shall be:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(10)(a)	(a) Maintained at the large quantity generator's facility; and	DOE/RL-94-02, Section 14.3.7	<i>BEP Section 12.0</i>
WAC 173-303-201(10)(b)	(b) Submitted by the large quantity generator to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.	DOE/RL-94-02, Section 14.3.7	Not applicable at the unit level. DOE is responsible for offering documents to offsite entities.

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(12)	Amendments. The large quantity generator must review and immediately amend the contingency plan, if necessary, whenever:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(12)(a)	(a) Applicable regulations or the facility permit are revised;	DOE/RL-94-02, Section 14.3.1.1	<i>BEP Section 12.0</i>
WAC 173-303-201(12)(b)	(b) The plan fails in an emergency;	DOE/RL-94-02, Section 14.3.1.1	<i>BEP Section 12.0</i>
WAC 173-303-201(12)(c)	(c) The generator's 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;	DOE/RL-94-02, Section 14.3.1.1	<i>BEP Section 12.0</i>
WAC 173-303-201(12)(d)	(d) The list of emergency coordinators changes; or	DOE/RL-94-02, Section 14.3.1.1	<i>BEP Section 12.0</i>
WAC 173-303-201(12)(e)	(e) The list of emergency equipment changes.	DOE/RL-94-02, Section 14.3.1.1	<i>BEP Section 12.0</i>
WAC 173-303-201(13)	Emergency coordinator. At all times, there must be at least one employee either on the facility premises or on call (that is, available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, required by subsection (14) of this section.	DOE/RL-94-02, Sections 2.2 and 2.2.1.1	<i>BEP Section 3.1</i> Permit Attachment 4A lists the BED/BW for each unit.
WAC 173-303-201(14)	Emergency procedures. The following procedures must be implemented in the event of an emergency.	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(14)(a)	(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:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(14)(a)(i)	(i) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and	DOE/RL-94-02, Sections 2.2.1.1.2(b), 2.2.1.1.3(b), and 5.2.5	<i>BEP Section 7.1 and subsections and 7.2 subsections</i>

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(14)(a)(ii)	(ii) Notify appropriate state or local agencies with designated response roles if their help is needed.	DOE/RL-94-02, Sections 1.3.4 and 5.2.1 Units summon assistance by calling the Hanford Patrol emergency number. No offsite assistance is requested by the unit itself.	<i>BEP Section 4.0</i>
WAC 173-303-201(14)(b)	Emergency procedures. (b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials.	DOE/RL-94-02, Sections 2.2.1.1.2(f), 2.2.1.1.3(g), and 4.2	<i>BEP Section 4.0</i>
WAC 173-303-201(14)(c)	Emergency procedures. (c) Concurrently, the emergency coordinator shall assess possible hazards to human health and the environment (considering direct, indirect, immediate, and long-term effects) that may result from the release, fire, or explosion.	DOE/RL-94-02, Sections 4.2 and 2.2.2.2.4	<i>BEP Section 4.0</i>
WAC 173-303-201(14)(d)	Emergency procedures. (d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health or the environment, he must report his findings as follows:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(14)(d)(i)	(i) If their assessment indicates that evacuation of local areas may be advisable, they must immediately notify appropriate local authorities. They must be available to help appropriate officials decide whether local areas should be evacuated; and	DOE/RL-94-02, Sections 2.2.1.1.2(a) & (d), 2.2.1.1.3 (a) & (e), 5.1.1, 5.1.1.2, and 5.1.2.1	<i>BEP Section 7.1</i>
WAC 173-303-201(14)(d)(ii)	(ii) They must immediately notify the department and either the government official designated as the on-scene coordinator, or the National Response Center (using their 24-hour toll free number (800) 424-8802).	DOE/RL-94-02, Sections 2.2.1.1.2(a) & (d), 2.2.1.1.3 (a) & (e), 5.1.1, 5.1.1.2, 5.1.2.1, and 5.1.2.2	<i>BEP Section 4.0</i>
WAC 173-303-201(14)(e)	Emergency procedures. (e) His assessment report must include: (i) Name and telephone number of reporter; (ii) Name and address of facility; (iii) Time and type of incident (e.g., release, fire); (iv) Name and quantity of material(s) involved, to the extent known; (v) The extent of injuries, if any; and (vi) The possible hazards to human health or the environment outside the facility.	DOE/RL-94-02, Sections 2.2.1.1.2(d), 2.2.1.1.3(e), 5.1.1, 5.1.1.2, 5.1.2.1, and 5.1.2.2	<i>BEP Section 4.0</i>

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(14)(f)	Emergency procedures. (f) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other dangerous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting, and containing released waste, and removing or isolating containers.	DOE/RL-94-02, Sections 2.2.1.1, 2.2.1.1.2(f), and 2.2.1.1.3(g)	<i>BEP Section 7.6</i>
WAC 173-303-201(14)(g)	Emergency procedures. (g) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.	DOE/RL-94-02, Sections 2.2.1.1.2(f) and 2.2.1.1.3(g).	<i>BEP Sections 7.2.4 and 7.2.5</i>
WAC 173-303-201(14)(h)	Emergency procedures. (h) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.	DOE/RL-94-02, Section 9.2.3	<i>BEP Section 8.2</i>
WAC 173-303-201(14)(i)	Emergency procedures. (i) The emergency coordinator must ensure that, in the affected area(s) of the facility:	Introductory statement of requirement – requirements are in sections below.	Introductory statement of requirement – requirements are in sections below.
WAC 173-303-201(14)(i)(i)	(i) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and	DOE/RL-94-02, Section 9.2.3	<i>BEP Section 8.2.1</i>
WAC 173-303-201(14)(i)(ii)	(ii) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.	DOE/RL-94-02, Section 11.2	<i>BEP Section 8.2.2</i>

REQUIREMENT SOURCE	REQUIREMENT DESCRIPTION	SITE LEVEL (How/Where Met)	UNIT LEVEL (How/Where Met)
WAC 173-303-201(14)(j)	Emergency procedures. (j) The large quantity generator must notify the department, and appropriate local authorities, that the facility is in compliance with (14)(i) of this section before operations are resumed in the affected area(s) of the facility.	DOE/RL-94-02, Section 5.1.2.2	<i>BEP Section 8.2</i>
WAC 173-303-201(14)(k)	<p>Emergency procedures. (k) The large quantity generator 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:</p> <ul style="list-style-type: none"> (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. 	DOE/RL-94-02, Sections 5.1.2.1 and 5.1.2.2	<i>BEP Section 11.0</i>

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