Ms. Alexandra K. Smith, Program Manager
Nuclear Waste Program
Washington State Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99354

Dear Ms. Smith:

SUBMITTAL OF HANFORD FACILITY DANGEROUS WASTE CLASS 2 PERMIT MODIFICATION REQUEST FOR PERMIT ATTACHMENT 8 - TRAINING AND INSPECTION PLAN FOR GROUNDWATER MONITORING WELLS

This letter submits a Class 2 permit modification request for the Hanford Facility to the Washington State Department of Ecology (Ecology). This permit modification request proposes replacing the existing Permit Attachment 8, “Hanford Well Maintenance and Inspection Plan,” with a new Permit Attachment 8, “Training and Inspection Plan for Groundwater Monitoring Wells,” adding detail to the well inspection requirements and personnel training requirements.

This permit modification request includes the following:

- Certification for the Hanford Facility Dangerous Waste Class 2 Permit Modification Request for “Permit Attachment 8 - Training and Inspection Plan for Groundwater Monitoring Wells.”
- Hanford Facility RCRA Permit Modification Notification Forms, Permit Attachment 8 – “Training and Inspection Plan for Groundwater Monitoring Wells.”
- Revision of General Conditions I and II, including permit condition II.F.

A sixty-day public comment period, starting on January 13, 2020, to March 13, 2020, will be held on the permit modification request as required by WAC 173-303-830(4)(c)(ii)(A). The notice of the start of public comment required by the permittees in WAC 173-303-830(4)(c) will be included in the appropriate Hanford Federal Facility Agreement and Consent Order publication or list server, as described in the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste, Revision 8C, Permit Condition I.C.3. A public meeting will be held on February 11, 2020, per WAC 173-303-830(4)(c)(iv).
If you have any questions, please contact me or your staff may contact Bill Hamel, Assistant Manager for the River and Plateau, on (509) 373-9971.

Sincerely,

[Signature]

Brian T. Vance
Manager

AMRP:DBC

Attachments:
1. Attachment 8 Certification Statement
2. Permit Modification Notification Form
3. Permit Attachment 8
4. General Conditions I and II

cc w/attachs:
D. B. Bartus, EPA
J. Bell, NPT
R. Buck, Wanapum
C. E. Cameron, EPA
L. Contreras, YN
D. R. Einan, EPA
D. Goswami, Ecology
M. Johnson, CTUIR
J. W. Lindberg, Ecology
S. P. Luttrell, Ecology
K. Niles, ODOE
S. N. Schleif, Ecology
Administrative Record (TSD: H-0-1)
Ecology NWP Library
Environmental Portal
HF Operating Record (J. K. Perry, MSA)
Certification
for the
Hanford Facility Dangerous Waste Class 2 Permit Modification Request for "Permit Attachment 8 - Training and Inspection Plan for Groundwater Monitoring Wells"

"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."

[Signature]
Brian T. Vance, Manager
Owner/Operator
U.S. Department of Energy
Richland Operations Office

[Date]
12/18/19
Certification for the Hanford Facility Dangerous Waste Class 2 Permit Modification Request for "Permit Attachment 8 - Training and Inspection Plan for Groundwater Monitoring Wells"

"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."

L. Ty Blackford, President and CEO
Co-Operator
CHPRC
Richland, Washington

11/20/19 Date
Hanford Facility RCRA Permit Modification Notification Forms

Permit Attachment 8

Training and Inspection Plan for Groundwater Monitoring Wells

Index

Page 2 of 4: Attachment 8, Description of changes
Page 3 of 4: Parts I & II, List of Attachments
Page 4 of 4: Revision Instructions

Reviewed by DOE Program Office: [Signature]

DOE Program Office Name: [Name]
Date: 12-30-19
Description of Modification:

Permit Attachment 8, Training and Inspection Plan for Groundwater Monitoring Wells (formally titled Hanford Well Maintenance and Inspection Plan, HNF-56398, Revision 2): This attachment was rewritten in its entirety to describe inspection and training activities for groundwater monitoring wells.

Updates include:
- Additional criteria and frequency details for inspections of groundwater monitoring wells
- Addition of a well corrosion data review inspection
- Addition of a training plan for groundwater sampling personnel

The proposed changes to Attachment 8 are substantial. Hence, a red-line/strike-out version of the changes is impractical. The Attachment 8 document currently in the permit is being replaced in its entirety with a revised version provided herein.

<table>
<thead>
<tr>
<th>WAC 173-303-830 Modification Class</th>
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<th>Class 2</th>
<th>Class 3</th>
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Enter relevant WAC 173-303-830, Appendix I Modification citation number:
General Facility Standards, B.4. Changes in frequency or content of inspection schedules and B.5.a. Changes in the training plan: That affect the type or decrease the amount of training given to employees.

Modification Approved: ☐ Yes ☐ No (state reason for denial)  Reviewed by Ecology: 

Reason for denial: 

S. N. Schleif  Date
Hanford Facility RCRA Permit Modification Form

<table>
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<tr>
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<th>Permit Part</th>
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<tbody>
<tr>
<td>Not Applicable</td>
<td>Parts I &amp; II (Standard &amp; General Conditions)</td>
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**Description of Modification:**

Revise the “List of Attachments” (page 9) to revise the title for Attachment 8. The revised title of Attachment 8 is “Training and Inspection Plan for Groundwater Monitoring Wells.”

Revise permit condition “II.F” (Page 35) to replace the title “Ground Water and Vadose Zone Monitoring” with “Groundwater and Vadose Zone Monitoring.”

Addition of new permit condition “II.F.1” (Page 35) titled “Inspection and Training Requirements” with text of “Inspection and training requirements for groundwater monitoring wells are discussed in Permit Attachment 8, Training and Inspection Requirements for Groundwater Monitoring Wells. Individual unit groups with groundwater monitoring plans and activities must comply with these requirements.”

Revise permit condition “II.F.1” (Page 35) to “II.F.2”

Revise permit condition “II.F.2” (Page 35) to “II.F.3”

Delete permit condition “II.F.2.a” (Page 35).

Revise permit condition “II.F.2.b” (Page 35) to “II.F.3.a” and replace “Hanford Well Maintenance and Inspection Plan (Permit Attachment 8) and the Policy on Remediation of Existing Wells and Acceptance Criteria for RCRA and CERCLA, June 1990 (Permit Attachment 7)” with “Permit Attachment 8 and Permit Attachment 7.”

Revise permit condition “II.F.2.c” (Page 35) to “II.F.3.b”

Revise permit condition “II.F.2.d” (Page 35) to “II.F.3.c” and replace “Chapter 173-160 WAC” with “WAC 173-160, Minimum Standards for Construction and Maintenance of Wells.”

Revise permit condition “II.F.3” (Page 36) to “II.F.4” and replace “Chapter 173-160 WAC” with “WAC 173-160.

These revisions are needed to reflect the changes being made in PCN, C2-HFSW-2019-01.

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</table>

Enter relevant WAC 173-303-830, Appendix I Modification citation number: General Facility Standards, B.4. Changes in frequency or content of inspection schedules and B.5.a. Changes in the training plan: That affect the type or decrease the amount of training given to employees.

Modification Approved: [ ] Yes [ ] No (state reason for denial)

Reason for denial:

Reviewed by Ecology: S. N. Schleif Date
Revision Instructions:

Remove the existing Permit Attachment 8 and replace the document in its entirety with the new document provided herein.

Revise Parts I & II (i.e., List of Attachments and Permit Conditions II.F) to incorporate the changes shown herein.
PERMIT ATTACHMENT 8 - TRAINING AND INSPECTION PLAN FOR GROUNDWATER MONITORING WELLS, REVISION 8C, RCRA PERMIT

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

P.O. Box 550
Richland, Washington 99352
DOE/RL-2018-15
Revision 0

PERMIT ATTACHMENT 8 - TRAINING AND INSPECTION PLAN FOR GROUNDWATER MONITORING WELLS, REVISION 8C, RCRA PERMIT

Date Published
May 2019

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

U.S. DEPARTMENT OF ENERGY
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

APPROVED
By Lynn M. Ayers at 6:54 am, Jun 04, 2019

Release Approval Date

Approved for Public Release;
Further Dissemination Unlimited
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Printed in the United States of America
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## Terms

<table>
<thead>
<tr>
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<th>Description</th>
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<tr>
<td>BED</td>
<td>Building Emergency Director</td>
</tr>
<tr>
<td>Ecology</td>
<td>Washington State Department of Ecology</td>
</tr>
<tr>
<td>HGET</td>
<td>Hanford General Employee Training</td>
</tr>
<tr>
<td>ICS</td>
<td>Incident Command System</td>
</tr>
<tr>
<td>OJT</td>
<td>on-the-job training</td>
</tr>
<tr>
<td>RCRA</td>
<td><em>Resource Conservation and Recovery Act of 1980</em></td>
</tr>
</tbody>
</table>
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1 Inspection Plan for Groundwater Monitoring Wells

In accordance with WAC 173-303-806(4)(a)(v), “Dangerous Waste Regulations,” “Final Facility Permits”; WAC 173-303-320, “General Inspection”; and WAC 173-303-340, “Preparedness and Prevention,” this inspection plan is designed to prevent malfunctions, deterioration, operator errors, and discharges at active Resource Conservation and Recovery Act of 1976 (RCRA) resource protection groundwater monitoring wells (wells) on the Hanford Facility as defined by WAC 173-160-410(13), “Minimum Standards for Construction and Maintenance of Wells,” “What Are the Specific Definitions for Words in This Chapter?” These events may cause or lead to the release of dangerous waste constituents to the environment or a threat to human health. This inspection plan is designed to provide early warning of the potential for such events in order to prolong the life of the wells, make timely corrections, or take preventative actions. Permittees will comply with inspection requirements as identified in Sections 1.1 through 1.4.

In accordance with WAC 173-303-645(8)(c), “Releases from Regulated Units,” all wells must be cased in a manner that maintains the integrity of the monitoring well borehole. This casing must allow collection of representative groundwater samples. Wells must be constructed in such a manner as to prevent contamination of the samples, the sampled strata, and areas between aquifers and water-bearing strata. Wells must meet the requirements applicable to resource protection wells, which are set forth in WAC 173-160. Applicable wells are listed in 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) in the various Operating, Closure, and Post-Closure Unit Group’s (Unit Group) Addenda D, “Groundwater Monitoring.”

This inspection plan is applicable to various Unit Groups until certification of closure or post-closure care as applicable is submitted and approved by the Washington State Department of Ecology (Ecology).

1.1 General Inspection Requirements

Inspections within the schedule are performed by qualified personnel according to the frequency developed based on both regulatory requirements and permittee operating experience (Table 1-1). For frequencies that are not defined by specific regulatory requirements, a justification for the frequency are documented and maintained in Section 1.4. During an inspection, inspectors evaluate each inspection item against its associated acceptance criteria defined in the schedule (Table 1-1). The results of the inspections are documented, dated, signed by the inspector, and retained in the Hanford Facility Operating Record (appropriate Unit Group portion) for at least 5 years as required by WAC 173-303-380(1)(e), “Facility Recordkeeping.” In accordance with Site-wide Permit Attachment 7, “Policy on Remediation of Existing Wells and Acceptance Criteria for RCRA and CERCLA, June 1990,” several of the RCRA groundwater monitoring wells were constructed prior to the effective date of WAC 173-160. These wells do not meet all of the criteria in WAC 173-160 and will not satisfy all of the inspection criteria in Table 1-1.
<table>
<thead>
<tr>
<th>Item/Location</th>
<th>Frequency</th>
<th>Job Title/Position Conducting Inspection</th>
<th>Types of Problems and Acceptable Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Groundwater Monitoring Well Data Review and Pumps</strong></td>
<td></td>
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</tr>
</tbody>
</table>
| Well pump                         | During groundwater sampling event        | NCO – SGRP Groundwater Inspector        | **Problem:** The well pump is not available, present, or operational. Or water is not able to be pumped to the surface.  
  **Acceptable Condition:** The well pump is present and operational, as needed. |
| Well pump aboveground equipment   | Prior to groundwater sampling event      | NCO – SGRP Groundwater Inspector        | **Problem:** Well pump aboveground equipment is not functional (e.g., pipe threading or electrical plugs/cables are damaged or unsafe to operate).  
  **Acceptable Condition:** Well pump aboveground equipment is functional and undamaged (e.g., pipe threading and electrical plugs/cable are operational). |
| Analysis of well corrosion data   | No more than 30 days after all of the well corrosion data in Table 1-2 for a well groundwater sampling event are available in HEIS | Groundwater Scientist                   | **Problem:** Analysis of the well corrosion data in accordance with Section 1.4.2 indicates indeterminate issues with the belowgrade portion of the well.  
  **Acceptable Condition:** Analysis in accordance with Section 1.4.2 for the well corrosion data show no indeterminate issues with the belowgrade portion of the well. |
| **Security Equipment (Surface Protection Requirements)**                                                                                                                                       |
| Well caps                         | Prior to groundwater sampling event      | NCO – SGRP Groundwater Inspector        | **Problem:** On aboveground wells, well cap not present or present with holes/damaged.  
  **Acceptable Condition:** Well cap is in place and in good condition (i.e., no holes/damage) on aboveground wells. |
| Hasps and locks on well caps      | Prior to groundwater sampling event      | NCO – SGRP Groundwater Inspector        | **Problem:** On aboveground wells, well cap is not locked or hasp is not in good condition.  
  **Acceptable Condition:** Well cap is locked and hasp is in good condition on aboveground wells. |
| Well bolt-down lid                | Prior to groundwater sampling event      | NCO – SGRP Groundwater Inspector        | **Problem:** On flush-mount wells, the bolt-down lid is not in place or not in good condition.  
  **Acceptable Condition:** Bolt-down lid is in place and in good condition on flush-mount wells. |
| Securement of well bolt-down lid  | Prior to groundwater sampling event      | NCO – SGRP Groundwater Inspector        | **Problem:** On flush-mount wells, the bolt-down lid is not secured with a locking bolt or other appropriate locking mechanism.  
  **Acceptable Condition:** The bolt-down lid is secured with a locking bolt or other appropriate locking mechanism on flush-mount wells. |
| Aboveground well casings          | Prior to groundwater sampling event      | NCO – SGRP Groundwater Inspector        | **Problem:** Well casing is damaged (e.g., holes, bent) for aboveground wells.  
  **Acceptable Condition:** Well casing is free of damage (e.g., holes, bent). |
Table 1-1. Inspection Schedule

<table>
<thead>
<tr>
<th>Inspection Item/Location</th>
<th>Frequency</th>
<th>Job Title/Position Conducting Inspection</th>
<th>Types of Problems and Acceptable Conditions</th>
</tr>
</thead>
</table>
| Bollards                | Prior to groundwater sampling event | NCO – SGRP Groundwater Inspector | **Problem:** On aboveground wells, fewer than 3 bollards present and less than 2 ft from well.  
**Acceptable Condition:** At least 3 bollards are present and greater than or equal to 2 ft from well on aboveground wells. |
| Concrete pads           | Prior to groundwater sampling event | NCO – SGRP Groundwater Inspector | **Problem:** On aboveground wells, cracks in pad present large enough to make surface seal ineffective at preventing direct pathways of contamination to the groundwater.  
**Acceptable Condition:** Concrete pad is free of cracks and gaps that make the surface seal ineffective on aboveground wells. |

**Operating and Structural Equipment (General Construction Requirements)**

| Ecology well ID tag     | Prior to groundwater sampling event | NCO – SGRP Groundwater Inspector | **Problem:** Ecology well ID tag not present.  
**Acceptable Condition:** Ecology well ID tag is present and legible. |

---

a. Inspections occur at the well locations detailed in the Site-wide Permit Unit Group Addendum D, “Groundwater Monitoring.” The well name will be notated on the inspection log.

b. Groundwater sampling events are described in the Site-wide Permit Unit Group Addendum D, “Groundwater Monitoring.”

Ecology = Washington State Department of Ecology  
HEIS = Hanford Environmental Information System  
ID = identification  
NCO = Nuclear Chemical Operator  
SGRP = Soil and Groundwater Remediation Project

This inspection plan addresses the following Unit Group specific items:

- Groundwater monitoring equipment
- Security equipment
- Operating and structural equipment

Management-level staff are responsible for implementation of and training according to this inspection plan. These staff may include the Sampling Director, Manager, or Supervisor personnel. The designated Sampling Director, Manager, or Supervisor personnel who has oversight responsibility for this inspection plan for Groundwater Monitoring Plans. All inspectors shall have the appropriate training as outlined in Section 2.

Problems identified by the inspector are documented on the inspection log and reported to facility management for prioritization and scheduling of remedial actions to minimize potential impacts to environmental or human health incidents.

The inspection schedule (Table 1-1) is maintained in the Hanford Facility Operating Record.

1.2 Inspection Log

Inspections implemented in accordance with this inspection plan will be documented on inspection checklists or log sheets in accordance with WAC 173-303-320(2)(d), “General Inspection”. Inspection
checklists or log sheets will note the date and time of the inspection, well name, and well identification number, and will list the items that will be assessed during each inspection. Any problems or discrepancies identified during the inspection will be recorded on the inspection checklist or log sheet, reported to the operating organizations, prioritized, and addressed in a timely fashion as described in Section 1.3.

When the inspection is complete, the inspector’s full name (first and last) is printed and signed on the inspection checklist or log sheet. The inspection records and this inspection schedule will be maintained and stored in the Hanford Facility Operating Record (appropriate Unit Group portion) in accordance with the Site-wide Permit Condition II.I, “Facility Operating Record,” which complies with the record retention requirements set forth in WAC 173-303-320(2)(d) and WAC 173-303-380(1)(e).

1.3 Remedy Schedule

Problems identified during inspections are categorized into three general areas and addressed accordingly. The areas are imminent hazards to human health and the environment, problems that cannot be easily corrected without required planning and coordination, and problems that can be easily remedied with little or no planning. Examples of problems can be categorized into these three areas:

- When an identified problem may pose an imminent risk to human health or the environment, actions are taken appropriately to mitigate the hazard. This may include activation of the Building Emergency Plan for the appropriate Unit Group (located in the appropriate Site-wide Permit Unit Group Permit Addendum J, “Contingency Plan”) and the Hanford Emergency Management Plan (located in Site-wide Permit Attachment 4, DOE/RL-94-02, Hanford Emergency Management Plan), when contingency plan action levels are exceeded. An example of problems that warrant immediate action include active release of untreated groundwater (i.e., purgewater) to the environment and evidence of failure of systems that mitigate potential releases (e.g., failure of the well surface seal or well casing corrosion resulting in a direct pathway of contamination to the groundwater).

- Problems that cannot be easily corrected (e.g., broken pump, electrical issues) are addressed on a prioritized schedule. Identified problems are entered into a work management system. Actions to assess and remedy such problems are assigned and a schedule for completion is determined. A priority is given to remedial actions that can be performed within the sampling time period so that groundwater can be sampled within the frequencies identified in the Site-wide Permit Unit Group’s Addendum D, “Groundwater Monitoring.” Wells that need to be decommissioned for the above reason will be placed on the “well decommissioning list.” The timing of the decommissioning activity will be dependent on availability of resources and scheduling of services to perform the decommissioning.

- Problems identified during an inspection that are easily corrected (e.g., no maintenance planning required); for example, Ecology well identification tag replacement, missing well caps, or locks will be corrected within 24 hours or tracked until completion.

An overall schedule for remediating problems would include time to develop a maintenance instruction in conjunction with any schedule constraints such as personnel resources, parts availability, fabrication, environmental, and facility access limitations. The time to develop a maintenance instruction is dependent on a number of factors including nuclear, radiological, and industrial safety hazards associated with the task; complexity of the task; human factors and performance considerations; skill of worker(s); and risk to the worker(s), public, or the environment.
The inspection problem resolution process may include an inspection data sheet that identifies the criteria for the inspection and problems identified during the inspection, relays identified problems to the well maintenance organization for tracking (e.g., well concern report), and develops maintenance instructions (e.g., well maintenance report) to remedy problems. The remedies for problems identified are developed using maintenance instructions and prioritized on a schedule, as described above. Problems pending resolution and their associated tracking designation will be noted until the remedy is complete.

Information from the inspection checklist or log sheet will be maintained in the Hanford Facility Operating Record (appropriate Unit Group portion) in accordance with the Site-wide Permit Condition II.1.

Adverse weather conditions (e.g., wildland fire, lightning) and other unplanned unpreventable events (e.g., radiologic contamination issues, delay in receiving laboratory data) may delay or prevent the inspection detailed in this document from being performed. If nonperformance occurs due to these events, a note will be made in either the inspection log sheet/checklist or to the Hanford Facility Operating Record (appropriate Unit Group portion).

1.4 Justification of Frequency of Items to be Inspected

The frequency of items to be inspected under the scope of this inspection plan is not driven by any specific frequencies in the regulations; therefore, the justification for all frequencies is detailed in the following sections.

1.4.1 Items to be Inspected in Association with Each Sampling Event

Items to be inspected (Table 1-1) in conjunction with the sampling event will be inspected at the sampling frequency specified in the appropriate Site-wide Permit Unit Group Addendum D, “Groundwater Monitoring.” Inspections will not occur more frequently than the sampling frequency specified in the appropriate Site-wide Permit Unit Group Addendum D, “Groundwater Monitoring,” except when the sampling frequency is not at least annual, then wells identified in the network will be inspected at least annually (i.e., at least once per 12-month period). If problems are identified during inspections indicating a higher or lower rate of deterioration and probability of an environmental or human health incident, then the frequency will be reevaluated.

1.4.2 Groundwater Monitoring Well Data Review

Corrosion of well casing, screen, and other components is a process that occurs over time. Wells on the Hanford Facility are typically constructed using components made of stainless steel, which while being resistant to corrosion is not impervious to all corrosion effects. Well component corrosion has been observed to produce detectable amounts of specific metals in groundwater samples as well components deteriorate. Review of groundwater monitoring data for the presence of the stainless steel alloy metals and their relative concentrations can provide indication of well corrosion and provide a basis for initiating additional well assessment and rehabilitation activities.

The objective of reviewing groundwater monitoring data for the presence of corrosion products is to ensure both that wells are maintained in usable condition and that samples collected from the well(s) will be representative of the aquifer being monitored. The presence of metals originating from corrosion of well components in groundwater samples is a condition that is not representative of the surrounding groundwater.

Wells on the Hanford Facility may contain components made from one or more common stainless steel alloys such as 304, 304L, 316, and/or 316L. These alloys are industry standard materials and are fabricated from specified constituents within a relatively narrow range of defined content and are present in reasonably predictable ratios. The average weight percent of constituents in these alloys are shown in...
Table 1-2. The metallic constituents of these alloys (i.e., iron, chromium, nickel, molybdenum, and manganese) account for the largest fraction of the steel alloy and are readily detectable in laboratory analyses of water. These metals have been selected as indicators of well component corrosion. The ratios of the alloy metals to the iron content in the four common stainless steel alloys are shown in Table 1-3. If these metals are present in an unfiltered groundwater sample at ratios similar to those of the reference alloys, then this is an indication that stainless steel corrosion may be occurring in the subject well and further action is needed. The ratio comparison data is used to detect corrosion of stainless steel wells in order to prevent potential contamination of groundwater from unrecoverable deterioration in the subsurface well casing. An increase in the trend of stainless steel alloys in groundwater samples indicates corrosion of the well. The ratio analysis comparisons are completed after each sampling event to identify trends and take additional actions per Section 1.4.2. The documentation of that review must be provided as part of the inspection log identified in Section 1.2.

Table 1-2. Average Constituent Content in Selected Stainless Steel Alloys

<table>
<thead>
<tr>
<th>Alloy</th>
<th>Iron (wt %)</th>
<th>Chromium (wt %)</th>
<th>Nickel (wt %)</th>
<th>Molybdenum (wt %)</th>
<th>Manganese (wt %)</th>
<th>Silicon (wt %)</th>
<th>Carbon (wt %)</th>
<th>Phosphorus (wt %)</th>
<th>Sulfur (wt %)</th>
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<td>19</td>
<td>9.25</td>
<td>-</td>
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<td>12</td>
<td>2.5</td>
<td>2</td>
<td>1</td>
<td>0.03</td>
<td>0.045</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Reference: NEA, 2019, “Stainless Steel 300 Series [Nominal Data Sheet [s]]”

Table 1-3. Ratios of Alloy Metals Content to Iron in Reference Stainless Steel Alloys

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>304</td>
<td>1</td>
<td>0.28</td>
<td>0.13</td>
<td>-</td>
<td>0.03</td>
</tr>
<tr>
<td>304L</td>
<td>1</td>
<td>0.28</td>
<td>0.15</td>
<td>-</td>
<td>0.03</td>
</tr>
<tr>
<td>316</td>
<td>1</td>
<td>0.26</td>
<td>0.18</td>
<td>0.04</td>
<td>0.03</td>
</tr>
<tr>
<td>316L</td>
<td>1</td>
<td>0.26</td>
<td>0.18</td>
<td>0.04</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Measurement results of total metal analysis of unfiltered samples from each monitoring event will be inspected for detectable concentrations of iron, chromium, nickel, molybdenum and manganese. If detectable concentrations for iron, chromium, nickel and manganese are reported in a sample, then that sample will be evaluated for potential corrosion effects. If molybdenum is reported as a detectable concentration, then molybdenum will be included in the evaluation.

The evaluation begins by dividing the detected concentrations of the target alloy metals in a single sample by the detected iron concentration to calculate a ratio of each alloy metal concentration to the iron concentration. The resulting ratios are then compared to the ratios of a reference alloy and inspected for similarity. This comparison is best performed using either bar charts or pie charts for comparison of the reference alloy to the monitoring sample results. Example pie charts of ratios of alloy metals to iron in 304 and 316 reference alloys (based on information in Table 1-3) are shown in Figures 1-1 and 1-2, respectively.
304 SS Alloy Metal Ratios (Reference Alloy)

- Ratio Fe:Fe, 1
- Ratio Cr:Fe, 0.28
- Ratio Ni:Fe, 0.13
- Ratio Mn:Fe, 0.03

316 SS Alloy Metal Ratios (Reference Alloy)

- Ratio Fe:Fe, 1
- Ratio Cr:Fe, 0.26
- Ratio Ni:Fe, 0.18
- Ratio Mo:Fe, 0.04
- Ratio Mn:Fe, 0.03

Figure 1-1. Ratio of Alloy Metals to Iron in 304 Stainless Steel Reference Alloy

Figure 1-2. Ratio of Alloy Metals to Iron in 316 Stainless Steel Reference Alloy
If the data exhibit the general proportions for stainless steel alloys (shown in Table 1-2) on inspection, then the groundwater scientist will review the results and trending analysis with their direct manager or delegate within 2 weeks of the evaluation being complete. The outcome will then be reviewed with the appropriate sampling and maintenance management. Defined actions will be determined during the review. Possible actions include the following:

- Collect and observe additional groundwater samples/data
- Perform a camera survey of the well interior surfaces
- Perform well cleaning/rehabilitation
- Other actions as identified by the Well Maintenance organization

If a camera survey is the defined action, the survey will be initiated within 30 days. Once complete, the camera survey results will be reviewed by the groundwater scientist (and direct manager or delegate) as well as the appropriate sampling and maintenance management within 2 weeks and the outcome documented in the Hanford Facility Operating Record for the Unit Group portion. If the outcome of the review concludes that the corrosion is detrimental to well performance, well cleaning will be scheduled and completed before the next sampling event.

If the review determines that the corrosion encountered has progressed to a point that the well casing cannot be repaired, the well will be added to the “well decommissioning list” and identified for replacement if the well is determined to be required to maintain the facility monitoring well network.

If the outcome of the review of the camera survey indicates other non-corrosion problems internal to the well casing, appropriate maintenance actions (e.g., repairing well screens; cleaning well casing, screen, or perforations; removing debris and fill material; redeveloping the well) may be needed to address the identified problems.

If the review of well data and subsequent examination/inspection of the well confirms that corrosion of the well components is contributing alloy metals to the groundwater sample, then analysis of those metals will not be used for assessment of either detection or compliance of contamination attributed to the monitored facility. Depending on conditions observed, the well may remain in service for monitoring of other constituents not related to corrosion of stainless steel.

Table 1-1 identifies the items subject to inspection and their acceptable conditions.

For well casing made of carbon steel, a camera survey of the interior surface of the casing will occur every 10 years.
2 Personnel Training for Groundwater Monitoring Wells

This training plan discusses personnel training requirements based on WAC 173-303-330, “Personnel Training,” and the Site-wide Permit for the well organization positions listed in this training plan.

Permittees will comply with the training outlined in Sections 2.1 through 2.3, which provide the training requirements for Hanford Facility personnel associated with dangerous and/or mixed waste management activities at the wells.

2.1 Introductory and Continuing Training Program

The dangerous waste training program consists of introductory and continuing training programs designed to prepare personnel to manage and maintain the wells on the Hanford Facility in a safe, effective, and environmentally sound manner. In addition to preparing personnel to manage and maintain the wells under normal conditions, the training programs ensure that personnel are prepared to respond in a prompt and effective manner should abnormal or emergency conditions occur. Emergency response training is consistent with the description of actions contained in the appropriate Site-wide Permit Unit Group Addendum J, “Contingency Plan.”

The introductory and continuing training programs contain information addressing the following objectives:

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

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

2.1.1 Introductory Training

Introductory training includes general Hanford Facility training and Unit Group specific training. General Hanford Facility training is described below. Unit Group specific training allows personnel to work unescorted and in some cases is required for escorted access. Personnel cannot perform a duty for which they are not properly trained except to gain required experience while under the direct oversight of a supervisor or coworker who is properly trained as described in Section 2.2.1. Personnel must be trained within 6 months after their employment at or assignment to the Hanford Facility or to a new job title/position at the Hanford Facility, whichever is later.

General Hanford Facility training: Hanford Facility personnel will receive general Hanford Facility training described in Site-wide Permit Attachment 5, “Hanford Facility Personnel Training Program,” within 6 months of hire. This training provides an orientation on dangerous waste management activities being conducted at the Hanford Facility and includes the following:

- Description of emergency signals and appropriate personnel response
- Identification of contacts for information regarding dangerous waste management activities
- Introduction to waste minimization concepts
- Identification of contact(s) for emergencies involving dangerous waste
• Familiarization with the applicable portions of Site-wide Permit Attachment 4, DOE/RL-94-02, Hanford Emergency Management Plan

The Permittees will provide the necessary training to non-well organization personnel or visitors as appropriate for the locations and activities undertaken. Non-well organization personnel or visitors include individuals not permanently assigned exclusively to the well organization and who do not have dangerous waste management or generation responsibilities or supervision of such activities. These individuals include but are not limited to administrative personnel, regulatory oversight, transient sampling personnel not permanently assigned to the well organization, and personnel utilized for temporary assignments. For Unit Group personnel, refer to the appropriate Site-wide Permit Unit Group Addendum G, “Personnel Training.”

Contingency Plan training: Unit Group personnel receive training on applicable portions of Site-wide Permit Attachment 4, DOE/RL-94-02, Hanford Emergency Management Plan in the General Hanford Facility training. To ensure effective emergency response, personnel receive training on the content of the actions described in the appropriate Site-wide Permit Unit Group Addendum J, “Contingency Plan,” as well.

Emergency Coordinator training: Unit Group personnel who perform emergency coordinator duties (WAC 173-303-360, “Emergencies”) such as the Building Emergency Director (BED) within the Hanford Incident Command System (ICS) receive training on implementing the appropriate Site-wide Permit Unit Group Addendum J, “Contingency Plan,” and ICS BED responsibilities. These personnel must also become thoroughly familiar with applicable contingency plan documentation, operations, activities, location, and properties of all waste handled, location of all records, and the unit/building layout.

Emergency Coordinator training consists of BED training courses required for Unit Group facility BEDs described in the appropriate Site-wide Permit Unit Group Addendum G, “Personnel Training.”

Operations training: Dangerous waste management operations training (e.g., waste designation training, shipper training) will be determined on a unit-by-unit basis and shall consider the type of activities performed at the Unit Group (e.g., sampling). Training provided for the well organization is identified in Tables 2-1 and 2-2. Operations training consists of the following subjects:

• Safe and compliant sample and waste handling
• Container management
• Container packaging and labeling
• Well maintenance and sampling
• Position-specific training as detailed in Tables 2-1 and 2-2
### Table 2.1. Personnel Training

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title/Format */Description</th>
<th>Frequency</th>
<th>FWS</th>
<th>WMR</th>
<th>Waste Shipper</th>
<th>NCO b</th>
<th>Well Maintenance Craft</th>
<th>ECO</th>
<th>Groundwater Scientist</th>
</tr>
</thead>
</table>
| 000001        | Hanford General Employee Training (CBT)  
• *Standard alarms, chemical spills, security, hazards, signs, escorts, badge requirements, and overall safety*  | Annual    | X   | X   | X             | X     | X                      | X   | X                     |
| 301850        | SGRP Orientation (CBT)  
• *Overview of the groundwater organization and main operations. Review of employee’s responsibilities to help assure a safe and healthful work environment*  | Initial   | X   | X   | X             | X     | X                      | X   | X                     |
| 301851        | SGRP FEHIC (CBT)  
• *Hazards communication, waste management, potential emergency conditions, and response actions for anyone with unescorted access to pump & treat facilities, drill sites, remediation areas, and controlled areas*  | Annual    | X   | X   | X             | X     | X                      | X   | X                     |
| 035100        | Container Waste Management (Classroom)  
• *Waste minimization and pollution prevention, waste designation categories, recordkeeping, and container management*  | Initial   | X   | X   | X             |       |                        |     |                       |
| 035110        | Container Waste Management Refresher (CBT)  
• *Waste minimization and pollution prevention, waste designation categories, recordkeeping, and container management*  | Annual    | X   | X   | X             |       |                        |     |                       |
| 02006G        | Waste Management Awareness (Classroom)  
• *Introductory waste management topics, waste minimization, waste generation duties and responsibilities, notifications, spills, recordkeeping*  | Initial   | X   | X   | X             |       |                        |     |                       |
### Table 2-1. Personnel Training

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title/Format */Description</th>
<th>Frequency</th>
<th>Job Title/Position</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Well Sampling Management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>301818 c</td>
<td>SGRP Sampling/Characterization FWS Qualification Card (Self-Study, Classroom, CBT, and OJT) • Establishes the training requirements and performance expectations for supervision of fieldwork activities ensuring fieldwork activities are properly supervised</td>
<td>Initial X</td>
<td>WMR Waste Shipper NCO</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>290520 c</td>
<td>GRP Field Work Supervisor-Buyer Technical Representative Qualification Card (Self-Study, Classroom, CBT, and OJT) • Establishes the training requirements and performance expectations for supervision of fieldwork activities ensuring fieldwork activities are properly supervised</td>
<td>Initial X</td>
<td>WMR Waste Shipper NCO</td>
</tr>
<tr>
<td></td>
<td><strong>Waste Services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>035010</td>
<td>Waste Designation (Classroom) • Dangerous waste designation and land disposal restrictions according to WAC 173-303</td>
<td>Initial X</td>
<td>WMR Waste Shipper NCO</td>
</tr>
<tr>
<td>035012</td>
<td>Waste Designation Qualification (Classroom) • Dangerous waste designation and land disposal restrictions according to WAC 173-303</td>
<td>Annual X</td>
<td>WMR Waste Shipper NCO</td>
</tr>
<tr>
<td>153020</td>
<td>Waste Fundamentals Qualification Card (OJT) • Waste designation, waste management, land disposal restrictions, and recordkeeping</td>
<td>Initial X</td>
<td>WMR Waste Shipper NCO</td>
</tr>
<tr>
<td>153021</td>
<td>WMR Qualification Card (OJT) • Work control activities, waste planning and packaging documentation, and transportation requirements</td>
<td>Initial X</td>
<td>WMR Waste Shipper NCO</td>
</tr>
<tr>
<td>020159</td>
<td>Advanced Hazardous Waste Shipper Certification Training (Classroom) • Shipping techniques on hazardous waste labels, containers, packing, and manifesting</td>
<td>Initial X</td>
<td>WMR Waste Shipper NCO</td>
</tr>
<tr>
<td>020078</td>
<td>Advanced Mixed Waste Shipper Certification Training (Classroom) • Shipping techniques on hazardous waste labels, containers, packing, and manifesting</td>
<td>Every 3 years X</td>
<td>WMR Waste Shipper NCO</td>
</tr>
</tbody>
</table>
## Table 2-1. Personnel Training

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title/Format */Description</th>
<th>Frequency</th>
<th>FWS</th>
<th>WMR</th>
<th>Waste Shipper</th>
<th>NCO</th>
<th>Well Maintenance Craft</th>
<th>ECO</th>
<th>Groundwater Scientist</th>
</tr>
</thead>
<tbody>
<tr>
<td>600100</td>
<td>Environmental Compliance Officer – Core (OJT)</td>
<td>Initial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Knowledge of environmental regulations, permits, regulator inspections and notifications,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>recordkeeping, and pollution prevention practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>290300 f</td>
<td>SGRP – ECO (OJT)</td>
<td>Initial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• SGRP specific environmental requirements and processes, including management of regulated</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>waste and environmental impacts from operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


a. Section 2.2 explains the self-study, classroom, computer, and OJT categories.
b. See Table 2-2 for training needed for specific NCO positions/duties.
c. Only SGRP Facility Health and Safety courses are included. Workers who perform duties inside active portions of Unit Groups unescorted will need the applicable FEHIC training from the Site-wide Permit Unit Group Addendum G, “Personnel Training.” Those are courses 290200 (Central Plateau Surveillance and Maintenance FEHIC), 03E079 (ETF FEHIC), 290130 (Tank Farm Overview), 705705 (ETF Orientation), 300701 (Central Waste Complex Orientation), 301740 (Solid Waste Storage & Disposal FEHIC), or 600026 (Integrated Disposal Facility FEHIC).
d. FWS and well maintenance craft may take course 02006G or 035100. If course 035100 is selected, then refresher course 035110 will be taken. If course 02006G is selected, then no refresher course is required.
e. The FWS will take one of these courses, depending on who they are supervising.
f. Required training only for permanently assigned ECO.

Annual = At least once per 12-month period ±30 days
Initial = Completed at the frequency in Sections 2.1.1 and 2.2.1

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBT</td>
<td>computer-based training</td>
</tr>
<tr>
<td>CHPRC</td>
<td>CH2M HILL Plateau Remediation Company</td>
</tr>
<tr>
<td>ECO</td>
<td>Environmental Compliance Officer</td>
</tr>
<tr>
<td>ETF</td>
<td>Effluent Treatment Facility</td>
</tr>
<tr>
<td>FEHIC</td>
<td>Facility Emergency and Hazard Identification Checklist</td>
</tr>
<tr>
<td>FWS</td>
<td>Field Work Supervisor</td>
</tr>
<tr>
<td>GRP</td>
<td>Groundwater Remediation Project</td>
</tr>
<tr>
<td>NCO</td>
<td>Nuclear Chemical Operator</td>
</tr>
<tr>
<td>OJT</td>
<td>on-the-job training</td>
</tr>
<tr>
<td>SGRP</td>
<td>Soil &amp; Groundwater Remediation Project</td>
</tr>
<tr>
<td>WMR</td>
<td>Waste Management Representative</td>
</tr>
</tbody>
</table>
## Table 2-2. Personnel Training for Specific NCO Positions

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title/Format(^*/)Description</th>
<th>Frequency</th>
<th>Job Title/Position</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>GW Inspector</td>
</tr>
<tr>
<td>301805</td>
<td>SGRP Sampling Fundamentals (Classroom)</td>
<td>Initial</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>• Prepare and preserve sample bottles, take a basic groundwater level measurement, and use the water filtration/purification system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>301806</td>
<td>SGRP Sampling Fundamentals OJT/OJE (Self-Study, Classroom, CBT, and OJT)</td>
<td>Every 2 years</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>• Prepare and preserve sample bottles, take a basic groundwater level measurement, and use the water filtration/purification system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>301815</td>
<td>Sampling Instrumentation Fundamentals (Classroom)</td>
<td>Initial</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>• Use of sampling instruments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>301802</td>
<td>Groundwater Monitoring &amp; Sampling (Self-Study, Classroom, CBT, and OJT)</td>
<td>Every 2 years</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>• Perform groundwater sampling activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>301813</td>
<td>Sample Packaging and Shipping (Self-Study, Classroom, CBT, and OJT)</td>
<td>Every 2 years</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>• Perform packaging, shipping, disposition of samples, and all associated documentation at SGRP sites</td>
<td></td>
<td></td>
</tr>
<tr>
<td>301820</td>
<td>Cleaning Sampling Equipment Qualification (Self-Study, Classroom, CBT, and OJT)</td>
<td>Every 2 years</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>• Conduct cleaning activities in support of sampling activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>301810</td>
<td>Multi-Media Sampling Qualification Card (Self-Study, Classroom, CBT, and OJT)</td>
<td>Every 2 years</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>• Perform sampling of non-groundwater media inside of a RCRA site (e.g., general soil sampling) at SGRP sites and facilities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 2-2. Personnel Training for Specific NCO Positions

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title/Format*/*Description</th>
<th>Frequency</th>
<th>GW Inspector</th>
<th>GW Sampler</th>
<th>Sample Shipper &amp; Packager</th>
<th>Sample Equipment Cleaner</th>
<th>Multi-Media Sampler</th>
<th>Borehole Sampler</th>
<th>Routine Sampler</th>
<th>Remediation Sampler</th>
</tr>
</thead>
<tbody>
<tr>
<td>301812</td>
<td>Borehole Characterization and Waste (Self-Study, Classroom, CBT, and OJT)</td>
<td>Every 2 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>• Perform soil borehole sampling inside of a RCRA site at SGRP sites and facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>301811</td>
<td>Routine Sampling (Self-Study, Classroom, CBT, and OJT)</td>
<td>Every 2 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>• Perform routine sampling activities of dangerous waste drums in a RCRA site at SGRP sites and facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>301821</td>
<td>Remediation Sampling (Self-Study, Classroom, CBT, and OJT)</td>
<td>Every 2 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>• Perform soil sampling through a RCRA WIDS and/or other RCRA sites at SGRP sites and facilities</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

*Section 2.2 explains the self-study, classroom, computer, and OJT categories.

**Notation**

- **Annual** = At least once per 12-month period ±30 days
- **Initial** = Completed at the frequency in Sections 2.1.1 and 2.2.1
- **CBT** = computer-based training
- **GW** = groundwater well
- **OJE** = on-the-job experience
- **OJT** = on-the-job training
- **NCO** = Nuclear Chemical Operator
- **RCRA** = Resource Conservation and Recovery Act of 1976
- **SGRP** = Soil & Groundwater Remediation Project
- **WIDS** = Waste Information Data System
2.1.2 Continuing Training

In accordance with the requirements of WAC 173-303-330(1)(b), dangerous waste workers participate in an annual review of training, including general Hanford Facility training and well organization specific training. The frequencies for individual training courses are described below and discussed in Section 2.1.1.

**General Hanford Facility training:** Annual refresher training is provided for general Hanford Facility training.

**Contingency plan training:** Annual refresher training is provided for contingency plan training.

**Emergency Coordinator training:** Annual refresher training is provided for emergency coordinator training including the BED training course.

**Operations training:** Refresher training occurs on many frequencies (e.g., annual, every other year, every 3 years) for operations training. When justified, some training will not contain a refresher course and will be identified as a one-time only training course. Tables 2-1 and 2-2 specify the frequency for each training course.

### 2.2 Description of Training Program

The dangerous waste training program is overseen by a training manager who is knowledgeable in dangerous waste management procedures and is otherwise qualified to design a dangerous waste training program by a combination of education and relevant experience. These qualifications are listed in Table 2-3 as required by WAC 173-303-330(2)(a).

#### Table 2-3. Job Descriptions

<table>
<thead>
<tr>
<th>Job Title/Position</th>
<th>Job Description</th>
<th>Requisite Skills, Education, Other Qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Work Supervisor</td>
<td>• Report discovered spills and releases &lt;br&gt;• Evacuate or take cover in response to specific incidents &lt;br&gt;• Supervise waste management activities &lt;br&gt;• Use emergency and monitoring equipment &lt;br&gt;• Respond to and use communications or alarm systems &lt;br&gt;• Prepare and submit environmental records</td>
<td>Requisite Skills &lt;br&gt;3 years of nuclear facility experience, or education/experience equivalent Education &lt;br&gt;High school diploma or equivalent Other Qualifications &lt;br&gt;As detailed in Table 2-1</td>
</tr>
<tr>
<td>Waste Management Representative</td>
<td>• Report discovered spills and releases &lt;br&gt;• Evacuate or take cover in response to specific incidents &lt;br&gt;• Choose containers for storage, determine container markings, determine waste segregation practices &lt;br&gt;• Complete waste designations &lt;br&gt;• Initiate process for waste shipments to appropriate facilities onsite and offsite for storage or disposal &lt;br&gt;• Prepare and submit environmental records</td>
<td>Requisite Skills &lt;br&gt;None Education &lt;br&gt;High school diploma or equivalent Other Qualifications &lt;br&gt;As detailed in Table 2-1</td>
</tr>
<tr>
<td>Job Title/Position</td>
<td>Duties</td>
<td>Requisite Skills, Education, Other Qualifications</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Waste Shipper</td>
<td>• Report discovered spills and releases</td>
<td>Requisite Skills</td>
</tr>
<tr>
<td></td>
<td>• Evacuate or take cover in response to specific incidents</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>• Prepare and certify waste shipment documentation for both onsite and offsite shipments of dangerous and/or mixed waste</td>
<td>Education High school diploma or equivalent</td>
</tr>
<tr>
<td></td>
<td>• Prepare and submit environmental records</td>
<td>Other Qualifications As detailed in Table 2-1</td>
</tr>
<tr>
<td>Well Maintenance Craft</td>
<td>• Report discovered spills and releases</td>
<td>Requisite Skills</td>
</tr>
<tr>
<td></td>
<td>• Evacuate or take cover in response to specific incidents</td>
<td>1 year of maintenance-related experience</td>
</tr>
<tr>
<td></td>
<td>• Manage dangerous or mixed waste during work activities</td>
<td>Education None</td>
</tr>
<tr>
<td></td>
<td>• Maintain groundwater well and monitoring equipment</td>
<td>Other Qualifications None</td>
</tr>
<tr>
<td></td>
<td>• Observe results from groundwater monitoring devices (e.g., camera)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Prepare and submit environmental records</td>
<td></td>
</tr>
<tr>
<td>Environmental Compliance Officer</td>
<td>• Report discovered spills and releases</td>
<td>Requisite Skills</td>
</tr>
<tr>
<td></td>
<td>• Evacuate or take cover in response to specific incidents</td>
<td>Experience with the environmental regulations</td>
</tr>
<tr>
<td></td>
<td>• Ensure operations are consistent with requirements contained in the Site-wide Permit and WAC 173-303</td>
<td>Education College BA/BS degree in a technical discipline or an equivalent combination of education and experience</td>
</tr>
<tr>
<td></td>
<td>• Prepare and submit environmental records</td>
<td>Other Qualifications As detailed in Table 2-1</td>
</tr>
<tr>
<td>Groundwater Scientist</td>
<td>• Perform inspections as assigned per Table 1-1</td>
<td>Requisite Skills</td>
</tr>
<tr>
<td></td>
<td>• Develop and maintain groundwater monitoring documents</td>
<td>Knowledge of geology, hydrogeology, and chemistry</td>
</tr>
<tr>
<td></td>
<td>• Review groundwater monitoring data</td>
<td>Education College BA/BS degree in a technical discipline, or equivalent combination of education and experience</td>
</tr>
<tr>
<td></td>
<td>• Determine status and adequacy of groundwater monitoring network(s)</td>
<td>Other Qualifications As detailed in Table 2-1</td>
</tr>
<tr>
<td></td>
<td>• Support permit required reporting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Prepare and submit environmental records</td>
<td></td>
</tr>
<tr>
<td>Training Manager</td>
<td>• Ensuring the application of graded, systematic approach to training program development and administration</td>
<td>Requisite Skills</td>
</tr>
<tr>
<td></td>
<td>• Ensure the training program will comply with WAC 173-303</td>
<td>4 years nuclear facility experience</td>
</tr>
<tr>
<td></td>
<td>• Approve training program content and provide final approval</td>
<td>Education College BA/BS degree, or equivalent combination of education and experience</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other Qualifications None</td>
</tr>
</tbody>
</table>
## Table 2-3. Job Descriptions

<table>
<thead>
<tr>
<th>Job Title/Position</th>
<th>Duties</th>
<th>Requisite Skills, Education, Other Qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NCO – SGRP Groundwater Inspector</strong></td>
<td>• Report discovered spills and releases</td>
<td>Requisite Skills</td>
</tr>
<tr>
<td></td>
<td>• Evacuate or take cover in response to specific incidents</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>• Manage dangerous or mixed waste during work activities</td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td>• Use emergency and monitoring equipment</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td></td>
<td>• Respond to and use communications or alarm systems</td>
<td>Other Qualifications</td>
</tr>
<tr>
<td></td>
<td>• Prepare and submit environmental records</td>
<td>As detailed in Table 2-2</td>
</tr>
<tr>
<td></td>
<td>• Perform inspections as assigned per Table 1-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Prepare sample containers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Observe results from groundwater monitoring devices</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Sample groundwater</td>
<td></td>
</tr>
<tr>
<td><strong>NCO – SGRP Groundwater Sampler</strong></td>
<td>• Report discovered spills and releases</td>
<td>Requisite Skills</td>
</tr>
<tr>
<td></td>
<td>• Evacuate or take cover in response to specific incidents</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>• Manage dangerous or mixed waste during work activities</td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td>• Use emergency and monitoring equipment</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td></td>
<td>• Respond to and use communications or alarm systems</td>
<td>Other Qualifications</td>
</tr>
<tr>
<td></td>
<td>• Prepare and submit environmental records</td>
<td>As detailed in Table 2-2</td>
</tr>
<tr>
<td></td>
<td>• Perform inspections as assigned per Table 1-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Prepare sample containers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Observe results from groundwater monitoring devices</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Sample groundwater</td>
<td></td>
</tr>
<tr>
<td><strong>NCO – SGRP Sample Shipper and Packager</strong></td>
<td>• Report discovered spills and releases</td>
<td>Requisite Skills</td>
</tr>
<tr>
<td></td>
<td>• Evacuate or take cover in response to specific incidents</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>• Manage dangerous or mixed waste during work activities</td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td>• Use emergency and monitoring equipment</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td></td>
<td>• Respond to and use communications or alarm systems</td>
<td>Other Qualifications</td>
</tr>
<tr>
<td></td>
<td>• Prepare and submit environmental records</td>
<td>As detailed in Table 2-2</td>
</tr>
<tr>
<td></td>
<td>• Package groundwater samples</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Ship groundwater samples</td>
<td></td>
</tr>
<tr>
<td><strong>NCO – SGRP Sample Equipment Cleaner</strong></td>
<td>• Report discovered spills and releases</td>
<td>Requisite Skills</td>
</tr>
<tr>
<td></td>
<td>• Evacuate or take cover in response to specific incidents</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>• Manage dangerous or mixed waste during work activities</td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td>• Use emergency and monitoring equipment</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td></td>
<td>• Respond to and use communications or alarm systems</td>
<td>Other Qualifications</td>
</tr>
<tr>
<td></td>
<td>• Prepare and submit environmental records</td>
<td>As detailed in Table 2-2</td>
</tr>
<tr>
<td></td>
<td>• Clean sample equipment</td>
<td></td>
</tr>
<tr>
<td>Job Title/Position</td>
<td>Duties</td>
<td>Requisite Skills, Education, Other Qualifications</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
</tbody>
</table>
| **NCO – SGRP Multi-media Sampler**|  • Report discovered spills and releases  
  • Evacuate or take cover in response to specific incidents  
  • Manage dangerous or mixed waste during work activities  
  • Use emergency and monitoring equipment  
  • Respond to and use communications or alarm systems  
  • Prepare and submit environmental records  
  • Prepare sample containers  
  • Sample non-groundwater media inside of a RCRA site (e.g., general soil sampling) at SGRP sites and facilities | Requisite Skills  
  None  
  Education  
  High school diploma or equivalent  
  Other Qualifications  
  As detailed in Table 2-2 |
| **NCO – SGRP Borehole Sampler**   |  • Report discovered spills and releases  
  • Evacuate or take cover in response to specific incidents  
  • Manage dangerous or mixed waste during work activities  
  • Use emergency and monitoring equipment  
  • Respond to and use communications or alarm systems  
  • Prepare and submit environmental records  
  • Prepare sample containers  
  • Sample soil boreholes inside of a RCRA site at SGRP sites and facilities | Requisite Skills  
  None  
  Education  
  High school diploma or equivalent  
  Other Qualifications  
  As detailed in Table 2-2 |
| **NCO – SGRP Routines Sampler**  |  • Report discovered spills and releases  
  • Evacuate or take cover in response to specific incidents  
  • Manage dangerous or mixed waste during work activities  
  • Use emergency and monitoring equipment  
  • Respond to and use communications or alarm systems  
  • Prepare and submit environmental records  
  • Prepare sample containers  
  • Sample dangerous waste drums in a RCRA site at SGRP sites and facilities | Requisite Skills  
  None  
  Education  
  High school diploma or equivalent  
  Other Qualifications  
  As detailed in Table 2-2 |
| **NCO – SGRP Remediation Sampler**|  • Report discovered spills and releases  
  • Evacuate or take cover in response to specific incidents  
  • Generate and handle dangerous or mixed waste during work activities  
  • Use emergency and monitoring equipment  
  • Respond to and use communications or alarm systems  
  • Prepare and submit environmental records  
  • Prepare sample containers  
  • Sample soil through a RCRA WIDS and/or other RCRA sites at SGRP sites and facilities | Requisite Skills  
  None  
  Education  
  High school diploma or equivalent  
  Other Qualifications  
  As detailed in Table 2-2 |
Table 2-3. Job Descriptions

<table>
<thead>
<tr>
<th>Job Title/Position</th>
<th>Job Description</th>
<th>Requisite Skills, Education, Other Qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


BA = bachelor of arts degree
BS = bachelor of science degree
NCO = Nuclear Chemical Operator
RCRA = Resource Conservation and Recovery Act of 1976
SGRP = Soil & Groundwater Remediation Project
WIDS = Waste Information Data System

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

- Procedures for using, inspecting, repairing, and replacing emergency and monitoring equipment
- Communications or alarm systems
- Response to fires or explosions inside active Unit Groups
- Response to groundwater contamination incidents
- Shutdown of operations inside active Unit Groups

Proper design of a training program ensures well organization personnel responsible for facilitating these elements are compliant with WAC 173-303 requirements. Actual job tasks, referred to as duties, include the above-referenced elements and are used to determine training requirements. As such, well organization personnel receive training pertinent to the duties they perform: Table 2-3 outlines well duties, and Tables 2-1 and 2-2 contain specific information regarding the training requirements for well organization personnel.

2.2.1 Qualification of Staff (Including OJT)

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

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

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

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

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

- All employees are required to complete Hanford General Employee Training (HGET) on an annual basis. This training is subject to biennial evaluation by HGET Approval Authorities who review and revise HGET lessons when deemed necessary.

- The Permittee accounts for rule changes, well organization or facility changes, observed difficulties, and staff feedback to incorporate changes to training curricula, and/or frequency to address such new or changing circumstances.

- Another element of the training program is to ensure employees are assigned the correct training. To accomplish this, annual employee training plan reviews are conducted by assigned managers.

- At the student level, the effectiveness of the training program is determined by reviewing student feedback (e.g., evaluation forms) and evaluating student performance (e.g., test scores). Any changes deemed necessary to the training will be addressed with a revision and documented in the Hanford Facility Operating Record.

- The training matrices (Tables 2-1 and 2-2) included in this training plan 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.

2.3 Description of Training Plan

The WAC 173-303-330 requirements for training are satisfied by this training plan. 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 name of the employee filling each job. The job description must include 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 well organization personnel who perform duties relating to Unit Group dangerous waste management activities are maintained. A list of personnel assigned to the well organization positions in Table 2-3 will be provided on request.

A summary of requisite skills, education, and other qualifications for job title(s)/position(s) is summarized in Table 2-3. Detailed information concerning job title, requisite skills, education, and other qualifications for personnel will be provided on 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 2.1, training courses developed to comply with the introductory and continuing training programs are identified and described in Tables 2-1 and 2-2. Certain job titles/positions identified in Tables 2-1 and 2-2 may have some variability of duty 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 is located in Tables 2-1 and 2-2.

Note that equivalent training can be used to meet the dangerous waste training requirements outlined in Tables 2-1 and 2-2. 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 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 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 Site-wide 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.

Note that training records are maintained in accordance with the requirements of the *Privacy Act of 1974* promulgated in the *Federal Register* on April 11, 1994 (59 FR 17091). Training records for personnel are available for inspection purposes through this Act, which gives federal, state, and local government officers “routine use” access to training records where a regulatory program being implemented is applicable to a U.S. Department of Energy or contractor program.
3 References


303-320, “General Inspection.”
303-330, “Personnel Training.”
303-340, “Preparedness and Prevention.”
303-360, “Emergencies.”
303-380, “Facility Recordkeeping.”
303-645, “Releases from Regulated Units.”
303-806, “Final Facility Permits.”
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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
For additional copies of this permit contact:

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

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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

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<th>Modification Number</th>
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<td>03/14/2019</td>
<td>PCN-HFSW-2019-01 (8C.2019.Q1)</td>
</tr>
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<td>12/12/2018</td>
<td>PCN-1325-2016-02 (8C.2018.Q4)</td>
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<td>12/12/2018</td>
<td>PCN-1301-2016-02 (8C.2018.Q4)</td>
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<tr>
<td>07/09/2018</td>
<td>PCN-PWSTF-2016-01 (8C.2018.Q3)</td>
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<td>06/14/2018</td>
<td>PCN-1324-2016-02 (8C.2018.Q2)</td>
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<td>PCN-1706KE-2016-01 (8C.2018.Q2)</td>
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DANGEROUS WASTE PORTION OF THE
RESOURCE CONSERVATION AND RECOVERY ACT PERMIT
FOR THE TREATMENT, STORAGE, AND DISPOSAL OF DANGEROUS WASTE

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

Issued in accordance with the applicable provisions of the Hazardous Waste Management Act,
Chapter 70.105 Revised Code of Washington (RCW), and the regulations promulgated there under in

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Telephone: (509) 372-9138

CH2M HILL Plateau Remediation Company
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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 Conditions 1.E.3. Changes to portions of the attachments, which are not subject to the permit modification process, will be addressed in accordance with Permit Conditions 1.E.8, 1.E.11, 1.E.13, 1.E.15, through 1.E.20, and 1.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 Training and Hanford Well Maintenance and Inspection Plan Inspection Plan for Groundwater Monitoring Wells
Attachment 9 Permit Applicability Matrix
Attachment 10 Strategy for Handling and Disposing of Purge Water at the Hanford Site, July 1990
INTRODUCTION

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

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

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

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

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

This Permit is based upon the Administrative Record, as required by WAC 173-303-840. The Permittees’ failure in the application, or during the Permit issuance process, to fully disclose all relevant facts, or the Permittees’ misrepresentation of any relevant facts at any time, will be grounds for the termination or modification of this Permit and/or initiation of an enforcement action, including criminal proceedings. The Permittees will inform Ecology of any deviation from the Permit conditions, or changes in the information on which the application is based, which would affect either the Permittees’ ability to comply, or actual compliance with the applicable regulations or the Permit conditions, or which alters any condition of this Permit in any way.
Ecology will enforce all conditions of this Permit for which the State of Washington is authorized, or which are "state-only" provisions (i.e., conditions broader in scope or more stringent than the federal RCRA program). Any challenges of any Permit condition may be appealed in accordance with WAC 173-303-845. In the event that any Permit condition is challenged by any Permittee under WAC 173-303-845, Ecology may stay any such Permit condition as it pertains to all Permittees, in accordance with the same terms of any stay it grants to the challenging Permittee. If such a stay is granted, it will constitute a "stay by the issuing agency" within the meaning of RCW 43.21B.320(1).

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

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

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

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

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

**Part V, Unit-Specific Conditions for Units Undergoing Closure**, contains those requirements which apply to those specific TSD units, included in this part, that are undergoing closure. In accordance with Section 5.3 of the Action Plan of the HFFACO, all TSD units that undergo closure, irrespective of permit status, will be closed pursuant to the authorized State Dangerous Waste Program in accordance with WAC 173-303-610. Requirements for each TSD unit undergoing closure are found in a chapter dedicated to that TSD unit. These unit-specific chapters contain references to Standard Conditions (Part I) and General Conditions (Part II), as well as additional requirements which are intended to ensure that each TSD unit is closed in an efficient and environmentally protective manner.
Part VI, Unit-Specific Conditions for Units in Post-Closure, contains those requirements which apply to those specific units in this part that have completed modified or landfill closure requirements, and now only need to meet Post-Closure Standards. As set forth in Section 5.3 of the Action Plan of the HFFACO, certain TSD units will be permitted for post-closure care pursuant to the authorized State Dangerous Waste Program (WAC 173-303) and the Hazardous and Solid Waste Amendments. Requirements for each unit undergoing post-closure care are found in a chapter, within this part, dedicated to that unit. These unit specific chapters may contain references to Standard Conditions (Part I) and General Conditions (Part II), as well as the unit specific conditions, all of which are intended to ensure the unit is managed in an efficient, environmentally protective manner.
## Unit Status Table

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**Part VI, Postclosure Units**

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**Procedurally Closed**

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**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
DST System/204-AR Waste Unloading Station
Grout Treatment Facility
Hexone Storage & Treatment Facility
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DEFINITIONS

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

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

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

The following definitions apply throughout this Permit:

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

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

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

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

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

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

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

The term "Ecology" means the Washington State Department of Ecology (with the address as specified on page one [1] of this Permit).
The term "Facility" means all contiguous land, structures, other appurtenances, and improvements on the land used for recycling, reusing, reclaiming, transferring, storing, treating, or disposing of dangerous waste. The legal and physical description of the Facility is set forth in Permit Attachment 2.

The term "Facility" for the purposes of corrective action under Permit Condition II.Y, means all contiguous property under the control of the Permittees and all property within the meaning of "facility" at RCW 70.105D.020(3) as set forth in Permit Attachment 2.

The term "HFFACO" means the Hanford Federal Facility Agreement and Consent Order, as amended (Commonly referred to as Tri-Party Agreement [TPA]).

The term "Permittees" means the United States Department of Energy (owner/operator), Bechtel National, Inc. (Co-operator), CH2M HILL Plateau Remediation Company (Co-operator), Mission Support Alliance, LLC (MSA), Pacific Northwest National Laboratory (Co-operator), Washington River Protection Solutions, LLC (WRPS).

The term "Permittees" for purposes of corrective action under Permit Condition II.Y means only the United States Department of Energy (owner/operator).

The term "Raw Data" means the initial value of analog or digital instrument output, and/or manually recorded values obtained from measurement tools or personal observation. These values are converted into reportable data (e.g., concentration, percent moisture) via automated procedures and/or manual calculations.

The term "RCRA Permit" means the Dangerous Waste Portion of the RCRA Permit for the Treatment, Storage, and Disposal of Dangerous Waste (Dangerous Waste Permit) issued by the Washington State Department of Ecology, pursuant to Chapter 70.105 RCW and Chapter 173-303 WAC, coupled with the HSWA Portion of the RCRA Permit for the Treatment, Storage, and Disposal of Hazardous Waste (HSWA Permit) issued by EPA, Region 10, pursuant to 42 U.S.C. 6901 et seq. and 40 CFR Parts 124 and 270.

The term "Reasonable Times" means normal business hours; hours during which production, treatment, storage, construction, disposal, or discharge occurs, or times when Ecology suspects a violation requiring immediate inspection.

The term "Release" means any intentional or unintentional spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of dangerous constituents into the environment and includes the abandonment or discarding of barrels, containers, and other receptacles containing dangerous waste or dangerous constituents, and includes any releases within the meaning of release at RCW 70.105D.020(20).

The term "Significant Discrepancy" in regard to a manifest or shipping paper, means a discrepancy between the quantity or type of dangerous waste designated on the manifest, or shipping paper, and the quantity or type of dangerous waste a TSD unit actually receives. A significant discrepancy in quantity is a variation greater than ten (10) percent in weight for bulk quantities (e.g., tanker trucks, railroad tank cars, etc.), or any variation in piece count for nonbulk quantities (i.e., any missing container or package would be a significant discrepancy). A significant discrepancy in type is an obvious physical or chemical difference which can be discovered by inspection or waste analysis (e.g., waste solvent substituted for waste acid).

The term "Solid Waste Management Unit (SWMU)" means any discernible location at the Facility where solid wastes have been placed at any time, irrespective of whether the location was intended for the management of solid or dangerous waste, and includes any area at the Facility at which solid wastes have been routinely and systematically released (for example through spills), and includes dangerous waste treatment, storage, and disposal units.
The term "Unit" or "TSD unit", as used in Parts I through VI of this Permit, means the contiguous area of land on or in which dangerous waste is placed, or the largest area in which there is a significant likelihood of mixing dangerous waste constituents in the same area. A TSD unit, for purposes of this Permit, is a subgroup of the Facility which has been identified in a Hanford Facility Dangerous Waste Part A Form.
### ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALARA</td>
<td>As Low As Reasonably Achievable</td>
</tr>
<tr>
<td>AMSF</td>
<td>Alkali Metal Storage Facility</td>
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<tr>
<td>APDS</td>
<td>Ash Pit Demolition Site</td>
</tr>
<tr>
<td>APP</td>
<td>Used to Denote Appendix Page Numbers</td>
</tr>
<tr>
<td>APT</td>
<td>Area Process Trenches</td>
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<td>ARAR</td>
<td>Applicable, Relevant, and Appropriate Requirements</td>
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<td>BNI</td>
<td>Bechtel National, Inc.</td>
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<td>BPDS</td>
<td>Borrow Pit Demolition Site</td>
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<tr>
<td>CD/RR</td>
<td>Chemical Disposal/Recycle Request</td>
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<td>CERCLA</td>
<td>Comprehensive Environmental Response Compensation and Liability Act of 1980 (as Amended by the Superfund Reauthorization Act of 1986)</td>
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<td>CFR</td>
<td>Code of Federal Regulations</td>
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<td>CHPRC</td>
<td>CH2M HILL Plateau Remediation Company</td>
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<tr>
<td>CIP</td>
<td>Construction Inspection Plan</td>
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<tr>
<td>CLARC</td>
<td>Cleanup Levels and Risk Calculations</td>
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<tr>
<td>CLP</td>
<td>Contract Laboratory Program</td>
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<tr>
<td>COC</td>
<td>Chemical Contaminants of Concern</td>
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<td>CPP</td>
<td>CERCLA Past Practice</td>
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<td>U.S. Department of Energy, Richland Operations Office</td>
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<td>USDOE-ORP</td>
<td>U.S. Department of Energy, Office of River Protection</td>
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<tr>
<td>DQO</td>
<td>Data Quality Objective</td>
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<td>DSC</td>
<td>Differential Scanning Colorimetry</td>
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<td>EC</td>
<td>Emergency Coordinator</td>
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<td>Ecology</td>
<td>Washington State Department of Ecology</td>
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<td>U.S. Environmental Protection Agency</td>
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<td>Expedited Response Action</td>
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<td>200 Area Effluent Treatment Facility</td>
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<td>HFFACO</td>
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<td>GW</td>
<td>Ground Water</td>
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<td>HPADS</td>
<td>Hanford Patrol Academy Demolition Site</td>
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<td>HSWA</td>
<td>Hazardous and Solid Waste Amendments of 1984</td>
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<td>Acronym</td>
<td>Description</td>
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<td>HWMA</td>
<td>Hazardous Waste Management Act</td>
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<tr>
<td>ID</td>
<td>Identification</td>
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<td>IRM</td>
<td>Interim Remedial Measure</td>
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<td>Land Disposal Restrictions</td>
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<td>105-DR Large Sodium Fire Facility</td>
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<td>MTCA</td>
<td>Model Toxics Control Act</td>
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<td>OSWER</td>
<td>Office of Solid Waste and Emergency Response</td>
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<td>PNNL</td>
<td>Pacific Northwest National Laboratory</td>
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<td>QA</td>
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<td>RPP</td>
<td>RCRA Past Practice</td>
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<td>SAP</td>
<td>Sampling and Analysis Plan</td>
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<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act of 1986</td>
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<td>Simulated High Level Waste Slurry</td>
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<td>Standard Operating Procedure</td>
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<td>Solid Waste Management Unit</td>
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<td>TCLP</td>
<td>Toxicity Characteristic Leaching Procedure</td>
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<td>TSD</td>
<td>Treatment, Storage, and/or Disposal</td>
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<td>United States Department of Energy</td>
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<td>Washington Administrative Code</td>
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<td>WAP</td>
<td>Waste Analysis Plan</td>
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<td>Washington River Protection Solutions, LLC</td>
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<td>183-H</td>
<td>183-H Solar Evaporation Basins</td>
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<td>242-A Evaporator</td>
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<td>300 Area Process Trenches</td>
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<td>305-B</td>
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<td>325 HWTUs</td>
<td>325 Hazardous Waste Treatment Units</td>
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<td>616-NRDWSF</td>
<td>616 Nonradioactive Dangerous Waste Storage Facility</td>
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PART I  STANDARD CONDITIONS

I.A  Effect of Permit

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

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

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

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

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

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

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

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

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

I.A.2 Coordination with the HFFACO

Each TSD unit will have an application for a final status Permit or closure/post-closure plan submitted to Ecology in accordance with the schedules identified in the HFFACO Milestone M-20-00 or in accordance with WAC 173-303-830. After completion of the Permit application or closure/post-closure plan review, a final Permit decision will be made pursuant to WAC 173-303-840. Specific Conditions for each TSD unit will be incorporated into this Permit in accordance with the Class 3 Permit modification procedure identified in Permit Condition I.C.3.
I.B Personal and Property Rights
This Permit does not convey property rights of any sort, or any exclusive privilege; nor does it authorize any injury to persons or property, or any invasion of other private rights, or any violation of federal, state, or local laws or regulations.

I.C Permit Actions
I.C.1 Modification, Revocation, Reissuance, or Termination
This Permit may be modified, revoked and reissued, or terminated by Ecology for cause per WAC 173-303-810(7) as specified in WAC 173-303-830(3), (4), and (5).

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

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

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

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

I.D Severability
I.D.1 Effect of Invalidation
The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance is contested and/or held invalid, the application of such provision to other circumstances and the remainder of this Permit will not be affected thereby. Invalidation of any state statutory or regulatory provision which forms the basis for any Condition of this Permit does not affect the validity of any other state statutory or regulatory basis for said Condition.

I.D.2 Final Resolution
In the event that a Condition of this Permit is stayed for any reason, the Permittees will continue to comply with the related applicable and relevant interim status standards in WAC 173-303-400 until final resolution of the stayed Condition, unless Ecology determines compliance with the related applicable and relevant interim status standards would be technologically incompatible with compliance with other Conditions of this Permit, which have not been stayed, or unless the HFFACO authorizes an alternative action, in which case the Permittees will comply with the HFFACO.
I.E. Duties and Requirements

I.E.1 Duty to Comply

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

I.E.2 Compliance Not Constituting Defense

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

I.E.3 Duty to Reapply

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

I.E.4 Permit Expiration and Continuation

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

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

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

I.E.6 Duty to Mitigate

In the event of noncompliance with the Permit, the Permittees will take all reasonable steps to minimize releases to the environment, and will carry out such measures as are reasonable to minimize or correct adverse impacts on human health and the environment.
I.E.7  Proper Operation and Maintenance

The Permittees will at all times properly operate and maintain all facilities and systems of treatment and control, which are installed or used by the Permittees, to achieve compliance with the Conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of backup or auxiliary facilities, or similar systems only when necessary to achieve compliance with the Conditions of the Permit.

I.E.8  Duty to Provide Information

The Permittees will furnish to Ecology, within a reasonable time, any relevant information which Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittees will also furnish to Ecology, upon request, copies of records required to be kept by this Permit.

I.E.9  Inspection and Entry

The Permittees will allow Ecology, or authorized representatives, upon the presentation of Ecology credentials, to:

I.E.9.a  During operating hours, and at all other reasonable times, enter and inspect the Facility or any unit or area within the Facility, where regulated activities are located or conducted, or where records must be kept under the Conditions of this Permit;

I.E.9.b  Have access to, and copy, at reasonable times, any records that must be kept under the Conditions of this Permit;

I.E.9.c  Inspect at reasonable times any portion of the Facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and,

I.E.9.d  Sample or monitor, at reasonable times, for the purposes of assuring Permit compliance, or as otherwise authorized by state law, as amended, for substances or parameters at any location.

I.E.10  Monitoring and Records

I.E.10.a  Samples and measurements taken by the Permittees for the purpose of monitoring required by this Permit will be representative of the monitored activity. Sampling methods will be in accordance with WAC 173-303-110 or 40 CFR 261, unless otherwise specified in this Permit, or agreed to in writing by Ecology. Analytical methods will be as specified in the most recently published test procedure of the documents cited in WAC 173-303-110(3)(a) through (h), unless otherwise specified in this Permit, or agreed to in writing by Ecology.

I.E.10.b  The Permittees will retain at the TSD unit(s), or other locations approved by Ecology, as specified in Parts III, V, and/or VI of this Permit, records of monitoring information required for compliance with this Permit, including calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of reports and records required by this Permit, and records of data used to complete the application for this Permit for a period of at least ten (10) years from the date of the sample, measurement, report, or application, unless otherwise required for certain Conditions.
information by other Conditions of this Permit. This information may be retained on
electronic media.

I.E.10.c The Permittees will retain at the Facility, or other approved location, records of all
monitoring and maintenance records, copies of all reports and records required by this
Permit, and records of all data used to complete the application for this Permit, which are
not associated with a particular TSD unit, for a period of at least ten (10) years from the
date of certification of completion of post-closure care, or corrective action for the
Facility, whichever is later. This information may be retained on electronic media.

I.E.10.d The record retention period may be extended by request of Ecology at any time by
notification, in writing, to the Permittees, and is automatically extended during the course
of any unresolved enforcement action regarding this Facility to ten (10) years beyond the
conclusion of the enforcement action.

I.E.10.e Records of monitoring information shall include:

I.E.10.e.i The date, exact place and time of sampling or measurements;

I.E.10.e.ii The individual who performed the sampling or measurements and their affiliation;

I.E.10.e.iii The dates the analyses were performed;

I.E.10.e.iv The individual(s) who performed the analyses and their affiliation;

I.E.10.e.v The analytical techniques or methods used; and,

I.E.10.e.vi The results of such analyses

I.E.11 Reporting Planned Changes

The Permittees will give notice to Ecology, as soon as possible, of any planned physical
alterations, or additions to the Facility subject to this Permit. Such notice does not
authorize any noncompliance with, or modification of, this Permit.

I.E.12 Certification of Construction or Modification

I.E.12.a The Permittees may not commence treatment, storage, or disposal of dangerous wastes in
a new or modified portion of TSD units subject to this Permit until:

I.E.12.b The Permittees have submitted to Ecology, by certified mail, overnight express mail, or
hand delivery, a letter signed by the Permittees, and a registered professional engineer,
stating that the TSD unit has been constructed or modified in compliance with the
Conditions of this Permit; and,

I.E.12.c Ecology has inspected the modified or newly constructed TSD unit, and finds that it is in
compliance with the Conditions of this Permit; or

I.E.12.d Within fifteen (15) days of the date of receipt of the Permittees’ letter, the Permittees have
not received notice from Ecology of its intent to inspect, prior inspection is waived, and
the Permittees may commence treatment, storage, and disposal of dangerous waste.

I.E.13 Anticipated Noncompliance

The Permittees will give at least thirty (30) days advance notice to Ecology of any
planned changes in the Facility subject to this Permit, or planned activity which might
result in noncompliance with Permit requirements.

If thirty (30) days advance notice is not possible, then the Permittees will give notice
immediately after the Permittees become aware of the anticipated noncompliance. Such
notice does not authorize any noncompliance with, or modification of, this Permit.
I.E.14 Transfer of Permits

I.E.14.a This Permit may be transferred to a new owner/operator only if it is modified, or revoked and reissued, pursuant to WAC 173-303-830(3)(b). Unit-specific portion may be transferred to a new Co-operator as a Class 1 modification with prior approval of the Department’s director.

I.E.14.b Before transferring ownership or operation of the Facility during its operating life, the owner/operator will notify the new owner/operator in writing, of the requirements of WAC 173-303-290(2), -600 and -806, and this Permit.

I.E.15 Immediate Reporting

I.E.15.a The Permittees will verbally report to Ecology any release of dangerous waste or hazardous substances, or any noncompliance with the Permit which may endanger human health or the environment. Any such information will be reported immediately after the Permittees become aware of the circumstances.

I.E.15.b The immediate verbal report will contain all the information needed to determine the nature and extent of any threat to human health and the environment, including the following:

I.E.15.b.i Name, address, and telephone number of the Permittee responsible for the release or noncompliant activity;

I.E.15.b.ii Name, location, and telephone number of the unit at which the release occurred;

I.E.15.b.iii Date, time, and type of incident;

I.E.15.b.iv Name and quantity of material(s) involved;

I.E.15.b.v The extent of injuries, if any;

I.E.15.b.vi An assessment of actual or potential hazard to the environment and human health, where this is applicable;

I.E.15.b.vii Estimated quantity of released material that resulted from the incident; and,

I.E.15.b.viii Actions which have been undertaken to mitigate the occurrence.

I.E.15.c The Permittees will report, in accordance with Permit Conditions I.E.15.a and I.E.15.b, any information concerning the release, or unpermitted discharge, of any dangerous waste or hazardous substances that may cause an endangerment to drinking water supplies, or ground or surface waters, or of a release, or discharge of dangerous waste, or hazardous substances, or of a fire or explosion at the Facility, which may threaten human health or the environment. The description of the occurrence and its cause will include all information necessary to fully evaluate the situation and to develop an appropriate course of action.

I.E.15.d For any release or noncompliance not required to be reported to Ecology immediately, a brief account must be entered within two (2) working days, into the TSD Operating Record, for a TSD unit, or into the Facility Operating Record, inspection log, or separate spill log, for non-TSD units. This account must include: the time and date of the release, the location and cause of the release, the type and quantity of material released, and a brief description of any response actions taken or planned.

I.E.15.e All releases, regardless of location of release, or quantity of release, will be controlled and mitigated, if necessary, as required by WAC 173-303-145(3).
I.E.16 Written Reporting

Within fifteen (15) days after the time the Permittees become aware of the circumstances of any noncompliance with this Permit, which may endanger human health or the environment, the Permittees will provide to Ecology a written report. The written report will contain a description of the noncompliance and its cause (including the information provided in the verbal notification); the period of noncompliance including exact dates and times; the anticipated time noncompliance is expected to continue, if the noncompliance has not been corrected; corrective measures being undertaken to mitigate the situation, and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

I.E.17 Manifest Discrepancy Report

I.E.17.a For dangerous waste received from outside the Facility, whenever a significant discrepancy in a manifest is discovered, the Permittees will attempt to reconcile the discrepancy. If not reconciled within fifteen (15) days of discovery, the Permittees will submit a letter report in accordance with WAC 173-303-370(4), including a copy of the applicable manifest or shipping paper, to Ecology.

I.E.17.b For dangerous waste which is being transported within the Facility (i.e., shipment of on-site generated dangerous waste), whenever a significant discrepancy in the shipping papers (see Permit Condition II.Q.1) is discovered, the Permittees will attempt to reconcile the discrepancy. If not reconciled within fifteen (15) days of discovery, the Permittees will note the discrepancy in the receiving unit’s Operating Record.

I.E.18 Unmanifested Waste Report

The Permittees will follow the provisions of WAC 173-303-370 for the receipt of any dangerous waste shipment from off-site. The Permittees will also submit a report in accordance with WAC 173-303-390(1) to Ecology within fifteen (15) days of receipt of any unmanifested dangerous waste shipment received from off-site sources.

I.E.19 Other Noncompliance

The Permittees will report to Ecology all instances of noncompliance, not otherwise required to be reported elsewhere in this Permit, at the time the Annual Dangerous Waste Report is submitted.

I.E.20 Other Information

Whenever the Permittees become aware that they have failed to submit any relevant facts in a Permit application, closure plan, or post-closure plan, or submitted incorrect information in a Permit application, closure plan, or post-closure plan, or in any report to Ecology, the Permittees will promptly submit such facts or corrected information.

I.E.21 Reports, Notifications, and Submissions

All written reports, notifications or other submissions, which are required by this Permit to be sent, or given to the Director or Ecology, should be sent certified mail, overnight express mail, or hand delivered, to the current address and telephone number shown below. This address and telephone number may be subject to change.

Washington State Department of Ecology
Nuclear Waste Program
3100 Port of Benton Blvd
Richland, Washington 99354
Telephone: (509) 372-7950
Telephonic and oral reports/notifications also need to be provided to Ecology’s Richland Office.

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

I.E.22 Annual Report

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

I.F Signatory Requirement

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

I.G Confidential Information

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

I.H Documents to be Maintained at Facility Site

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

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

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

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

II.A  Facility Contingency Plan

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

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

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

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

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

II.B  Preparedness and Prevention

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

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

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

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

II.B.5  Based on the arrangements with local authorities required by WAC 173-303-340(4) documented in Permit Attachment 4, Table 3-1, the Permittees will maintain the Memorandums of Understanding to comply with WAC 173-303-350(4)(b). The Hanford Facility Memorandums of Understanding with local authorities provides emergency
planning and coordination equivalent to submittal of the contingency plan to local authorities

II.C Personnel Training

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

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

II.C.2.a Description of emergency signals and appropriate personnel response;
II.C.2.b Identification of contacts for information regarding dangerous waste management activities;
II.C.2.c Introduction to waste minimization concepts;
II.C.2.d Identification of contact(s) for emergencies involving dangerous waste; and
II.C.2.e Familiarization with the applicable portions of the Hanford Emergency Management Plan.

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

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

II.D Waste Analysis

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

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

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

II.D.3.a The parameters for which each dangerous waste will be analyzed, and the rationale for selecting these parameters; (i.e., how analysis for these parameters will provide sufficient information on the waste properties to comply with WAC 173-303-300(1), (2), (3), and (4);
II.D.3.b The methods of obtaining or testing for these parameters;
II.D.3.c The methods for obtaining representative samples of wastes for analysis (representative sampling methods are discussed in WAC 173-303-110(2);
II.D.3.d  The frequency with which analysis of a waste will be reviewed, or repeated, to ensure that the analysis is accurate and current;

II.D.3.e  The waste analyses which generators have agreed to supply;

II.D.3.f  Where applicable, the methods for meeting the additional waste analysis requirements for specific waste management methods, as specified in WAC 173-303-140(4)(b), WAC 173-303-395(1), WAC 173-303-630 through 173-303-670, and 40 CFR 264.1034, 264.1063, 284(a), and 268.7, for final status facilities;

II.D.3.f.i  For off-site facilities, the procedures for confirming that each dangerous waste received matches the identity of the waste specified on the accompanying manifest, or shipping paper. This includes at least:

II.D.3.f.i.a  The procedure for identifying each waste movement at the Facility; and,

II.D.3.f.i.b  The method for obtaining a representative sample of the waste to be identified, if the identification method includes sampling.

II.D.3.f.ii  For surface impoundments exempted from Land Disposal Restrictions (LDR) under 40 CFR 268.4(a), incorporated by reference in WAC 173-303-140(2), the procedures and schedules for:

II.D.3.f.iii  The sampling of impoundment contents;

II.D.3.f.iv  The analysis of test data; and

II.D.3.f.v  The annual removal of residues that are not delisted under 40 CFR 260.22, or which exhibit a characteristic of hazardous waste and either;

II.D.3.f.v.a  Do not meet applicable treatment standards of 40 CFR Part 268, Subpart D; or

II.D.3.f.v.b  Where no treatment standards have been established:

II.D.3.f.v.b.1  Such residues are prohibited from land disposal under 40 CFR 268.32, or RCRA Section 3004(d); or

II.D.3.f.v.b.2  Such residues are prohibited from land disposal under 40 CFR 268.33(f); and

II.D  Should waste analysis be required by this Permit at a location on the Facility, other than at a TSD unit, a SAP will be maintained by the Permittees, and made available upon request from Ecology. Any SAP required by this Permit, not associated with a particular TSD unit, will include the elements of Permit Conditions II.D.3.a.

II.E  Quality Assurance/Quality Control

II.E.1  All WAPs and SAPs required by this Permit will include a quality assurance/quality control (QA/QC) plan, or equivalent, to document all monitoring procedures to ensure that all information, data, and resulting decisions are technically sound, statistically valid, and properly documented in accordance with HFFACO Action Plan §6.5, Quality Assurance, and reported/made available in accordance with HFFACO Action Plan §9.6, Data Access and Delivery Requirements.

II.E.2  The level of QA/QC for the collection, preservation, transportation, and analysis of each sample required for implementation of this Permit may be based upon an Ecology-approved Data Quality Objective (DQO) for the sample. These DQOs will be approved by Ecology in writing or through incorporation of unit plans and Permits into Parts III, V, and/or VI of this Permit.
II.F  Groundwater and Vadose Zone Monitoring

The Permittees will comply with the ground water monitoring requirements of WAC 173-303-645. This Condition will apply only to those wells the Permittees use for the ground water monitoring programs applicable to the TSD units incorporated into Parts III, V, and/or VI of this Permit. Where releases from TSD units subject to this Permit have been documented or confirmed by investigation, or where vadose zone monitoring is proposed for integration with ground water monitoring, the Permittees will evaluate the applicability of vadose zone monitoring. The Permittees will consult with Ecology regarding the implementation of these requirements. If agreed to by Ecology, integration of ground water and vadose zone monitoring, for reasons other than this Permit, may be accommodated by this Permit. Results from other investigation activities will be used whenever possible to supplement and/or replace sampling required by this Permit.

II.F.1  Inspection and Training Requirements

Inspection and training requirements for groundwater monitoring wells are discussed in Permit Attachment 8, *Training and Inspection Requirements for Groundwater Monitoring Wells*. Individual unit groups with groundwater monitoring plans and activities must comply with these requirements.

II.F.2  Purge Water Management

Purge water will be handled in accordance with the requirements set forth in permit Attachment 10, *Purge Water Management Plan*.

II.F.3  Well Inspection and Maintenance

The Permittees will inspect the integrity of active resource protection wells as defined by WAC 173-160-410(13), subject to this Permit, at least once every five (5) years as specified in the *Hanford Well Maintenance and Inspection Plan* (Permit Attachment 8). These inspections will be recorded in the Operating Record.

II.F.3.a  The Permittees will evaluate resource protection wells subject to this Permit according to Permit Attachment 8 and Permit Attachment 7, *Hanford Well Maintenance and Inspection Plan* (Permit Attachment 8) and the *Policy on Remediation of Existing Wells and Acceptance Criteria for RCRA and CERCLA, June 1990* (Permit Attachment 7). The Permittees will submit a permit modification request to Ecology to decommission or maintain wells as necessary to ensure compliance with WAC 173-303-645(8)(c). This permit modification request will include a schedule of compliance, which may incorporate by reference applicable schedule(s) in HFFACO Milestone M-24. For Wells to be decommissioned, this permit modification must also include a request for installation of replacement wells, if necessary, to ensure compliance with WAC 173-303-645 requirements.

II.F.3.b  Ecology will receive a notice of intent (NOI) in writing at least seventy-two (72) hours before the Permittees decommission (excluding maintenance activities) any well subject to this Permit.

II.F.3.c  For wells subject to this Permit, the Permittees will achieve full compliance with WAC 173-160, *Minimum Standards for Construction and Maintenance of Wells* Chapter 173-160 WAC and Chapter 18.104 RCW by replacing non-compliant wells subject to the permit with new wells under the schedule in HFFACO Milestone M-24, as amended, incorporated by reference into this Permit.
Well Construction

All wells constructed pursuant to this Permit will be constructed in compliance with WAC 173-160Chapter 173-160 WAC.

Siting Criteria

The Permittees will comply with the applicable notice of intent and siting criteria of WAC 173-303-281 and WAC 173-303-282, respectively.

Recordkeeping and Reporting

The provisions of WAC 173-303-620 are not applicable to the Hanford Facility because the USDOE is both owner and operator of the Hanford Facility.

Facility Operating Record

The Permittees will maintain a written Facility Operating Record until ten (10) years after post-closure, or corrective action is complete and certified for the Facility, whichever is later. Except as specifically provided otherwise in this Permit, the Permittees will also record all information referenced in this Permit in the Facility Operating Record within seven (7) working days after the information becomes available. A TSD unit-specific Operating Record will be maintained for each TSD unit at a location identified in Parts III, V, and VI of this Permit. This information may be maintained on electronic media. Each TSD unit-specific Operating Record will be included by reference in the Facility Operating Record. Information required in each TSD unit-specific Operating Record is identified on a unit-by-unit basis in Part III, V, or VI of this Permit. The Facility Operating Record will include, but not be limited to, the following information.

A description of the system(s) currently utilized to identify and map solid waste management units and their locations. The description of the system(s) is required to include an identification of on-site access to the system’s data, and an on-site contact name and telephone number. In addition to, or as part of, this system(s), the Permittees will also maintain a list identifying active ninety (90)-day waste storage areas, and dangerous waste satellite accumulation areas and their locations. The list will identify the location, the predominant waste types managed at the area, and a date identifying when the list was compiled. Maps will be provided by the Permittees upon request by Ecology;

Records and results of waste analyses required by WAC 173-303-300;

An identification of the system(s) currently utilized to generate Occurrence Reports. The identification of the system(s) is required to include a description, an identification of an on-site location of hard-copy Occurrence Reports, an identification of on-site access to the system’s data, and an on-site contact name and telephone number;

Copies of all unmanifested waste reports;

The Hanford Emergency Management Plan, as well as summary reports, and details of all incidents that require implementing the contingency plan, as specified in WAC 173-303-360(2)(k);

An identification of the system(s) currently utilized and being developed to record personnel training records and to develop training plans. The identification of the system(s) is required to include a description, an identification of on-site access to the system’s data, and an on-site contact name and telephone number;
Part I Standard and Part II General Facility Conditions

II.I.1.g Preparedness and prevention arrangements made pursuant to WAC 173-303-340(4) and documentation of refusal by state or local authorities that have declined to enter into agreements in accordance with WAC 173-303-340(5);

II.I.1.h Reserved Condition;

II.I.1.i Reserved Condition;

II.I.1.j Documentation (e.g., waste profile sheets) of all dangerous waste transported to or from any TSD unit subject to this Permit. This documentation will be maintained in the receiving unit’s Operating Record from the time the waste is received;

II.I.1.k An identification of the system(s) currently utilized to cross-reference waste locations to specific manifest document numbers. The identification of the system(s) is required to include a thorough description, an identification of an on-site location of a hard-copy data report, an identification of on-site access to the system’s data, and an on-site contact name and telephone number;

II.I.1.l Reserved Condition;

II.I.1.m Annual Reports required by this Permit;

II.I.1.n An identification of all systems currently utilized to record monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation. The identification of systems will include a description of the systems. The descriptions will include a confirmation that the criteria of Permit Condition LE.10 is provided by the utilization of the system. The identification of the systems will also include an identification of on-site access to the system’s data, an on-site contact name and telephone number;

II.I.1.o Reserved Condition;

II.I.1.p Summaries of all records of ground water corrective action required by WAC 173-303-645;

II.I.1.q An identification of the system(s) currently being utilized and being developed to evaluate compliance with the Conditions of this Permit and with Chapter 173-303 WAC. The identification of the system(s) will include a description of the system(s), an identification of on-site access to the system’s data, and an on-site contact name and telephone number. The description of the system(s) will also include a definition of which portion(s) of the system(s) is accessible to Ecology;

II.I.1.r All deed notifications required by this Permit (to be included by reference);

II.I.1.s All inspection reports required by this Permit; and

II.I.1.t All other reports as required by this Permit, including design change documentation and nonconformance documentation.

II.J Facility Closure

II.J.1 Final closure of the Hanford Facility will be achieved when closure activities for all TSD units have been completed, as specified in Parts III, IV, V, or VI of this Permit. Completion of these activities will be documented using either certifications of closure, in accordance with WAC 173-303-610(6), or certifications of completion of post-closure care, in accordance with WAC 173-303-610(11).

II.J.2 The Permittees will close all TSD units as specified in Parts III, V, and/or VI of this Permit.
II.J.3 The Permittees will submit a written notification of, or request for, a Permit modification in accordance with the provisions of WAC 173-303-610(3)(b), whenever there is a change in operating plans, facility design, or the approved closure plan. The written notification or request must include a copy of the amended closure plan for review, or approval, by Ecology.

II.J.4 The Permittees will close the Facility in a manner that:

II.J.4.a Minimizes the need for further maintenance;

II.J.4.b Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated run-off, or dangerous waste decomposition products, to the ground, surface water, ground water, or the atmosphere; and

II.J.4.c Returns the land to the appearance and use of surrounding land areas to the degree possible, given the nature of the previous dangerous waste activity.

II.J.4.d Meets the requirements of WAC 173-303-610(2)(b).

II.K Soil/Ground Water Closure Performance Standards

II.K.1 For purposes of Permit Condition II.K, the term "clean closure" shall mean the status of a TSD unit at the Facility which has been closed to the cleanup levels prescribed by WAC 173-303-610(2)(b), provided certification of such closure has been accepted by Ecology.

II.K.2 The Permittees may close a TSD unit to background levels as defined in Ecology approved Hanford Site Background Documents, if background concentrations exceed the levels prescribed by Permit Condition II.K.1. Closure to these levels, provided the Permittees comply with all other closure requirements for a TSD unit as identified in Parts III, V, and/or VI of this Permit, shall be deemed as "clean closure".

II.K.3 Except for those TSD units identified in Permit Conditions II.K.1, II.K.2, or II.K.4, the Permittees may close a TSD unit to a cleanup level specified under Method C of Chapter 173-340 WAC. Closure of a TSD unit to these levels, provided the Permittees comply with all other closure requirements for the TSD unit as specified in Parts III, V, and/or VI of the Permit, and provided the Permittees comply with Permit Conditions II.K.3.a through II.K.3.c, shall be deemed as a "modified closure".

II.K.3.a For "modified closures", the Permittees shall provide institutional controls in accordance with WAC 173-340-440 which restricts access to the TSD unit for a minimum of five (5) years following completion of closure. The specific details and duration of institutional controls shall be specified in Parts III, V, and/or VI of this Permit for a particular TSD unit.

II.K.3.b For "modified closures", the Permittees shall provide periodic assessments of the TSD unit to determine the effectiveness of the closure. The specific details of the periodic assessments shall be specified in Parts III, V, and/or VI of this Permit. The periodic assessments shall include, as a minimum, a compliance monitoring plan in accordance with WAC 173-340-410 that will address the assessment requirements on a unit-by-unit basis. At least one (1) assessment activity shall take place after a period of five (5) years from the completion of closure, which will demonstrate whether the soils and ground water have been maintained at or below the allowed concentrations as specified in Parts III, V, or VI of this Permit. Should the required assessment activities identify contamination above the allowable limits as specified in Parts III, V, and/or VI,
the TSD unit must be further remediated, or the requirements of II.K.4 must be followed. Should the required assessment activities demonstrate that contamination has diminished, or remained the same, the Permittees may request that Ecology reduce, or eliminate the assessment activities and/or institutional controls.

II.K.3.c For "modified closures", the Permittees shall specify the particular activities required by this Condition in a Post-Closure Permit application.

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 closure option, closing the TSD unit as a landfill may be selected. Closure and post-closure of the TSD unit as a landfill, must follow the procedures and requirements specified in WAC 173-303-610.

II.K.5 The cleanup option selected shall be specified in Parts III, V, and/or VI of this Permit, and shall be chosen with consideration of the potential future site use for that TSD unit/area. Definitions contained within Chapter 173-340 WAC shall apply to Permit Condition II.K. Where definitions are not otherwise provided by this Permit, the HFFACO, or Chapter 173-303 WAC.

II.K.6 Deviations from a TSD unit closure plan required by unforeseen circumstances encountered during closure activities, which do not impact the overall closure strategy, but provide equivalent results, shall be documented in the TSD unit-specific Operating Record and made available to Ecology upon request, or during the course of an inspection.

II.K.7 Where agreed to by Ecology, integration of other statutorily or regulatory mandated cleanups may be accommodated by this Permit. Results from other cleanup investigation activities shall be used whenever possible to supplement and/or replace TSD unit closure investigation activities. All, or appropriate parts of, multipurpose cleanup and closure documents can be incorporated into this Permit through the Permit modification process. Cleanup and closures conducted under any statutory authority, with oversight by either Ecology or the EPA, which meet the equivalent of the technical requirements of Permit Conditions II.K.1 through II.K.4, may be considered as satisfying the requirements of this Permit.

II.L Design and Operation of the Facility

II.L.1 Proper Design and Construction

The Permittees will design, construct, maintain, and operate the Facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous substances to air, soil, ground water, or surface water, which could threaten human health, or the environment.

II.L.2 Design Changes, Nonconformance, and As-Built Drawings

II.L.2.a After completing the Permit modification process in Permit Condition I.C.3, the Permittees will conduct all construction subject to this Permit in accordance with the approved designs, plans and specifications that are required by this Permit, unless authorized otherwise in Permit Conditions II.L.2.b or II.L.2.c. For purposes of Permit Conditions II.L.2.b and II.L.2.c, an Ecology construction inspector, or TSD unit manager, are designated representatives of Ecology.

II.L.2.b During construction of a project subject to this Permit, changes to the approved designs, plans and specifications will be formally documented. All design change documentation will be maintained in the TSD unit-specific Operating Record and will be made available...
to Ecology upon request or during the course of an inspection. The Permittees will
provide copies of design change documentation affecting any critical system to Ecology
within five (5) working days of initiating the design change documentation.
Identification of critical systems will be included by the Permittees in each TSD
unit-specific dangerous waste Permit application, closure plan or Permit modification, as
appropriate. Ecology will review a design change documentation modifying a critical
system, and inform the Permittees in writing within two (2) working days, whether the
proposed design change documentation, when issued, will require a Class 1, 2, or 3
Permit modification. If after two (2) working days Ecology has not responded, it will be
considered as acceptance of the design change documentation by Ecology.

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

II.L.2.d Upon completion of a construction project subject to this Permit, the Permittees will
produce as-built drawings of the project which incorporate the design and construction
modifications resulting from all project design change documentation and
nonconformance documentation, as well as modifications made pursuant to
WAC 173-303-830. The Permittees will place the drawings into the Operating Record
within twelve (12) months of completing construction, or within an alternate period of
time specified in a unit-specific Permit Condition in Part III or V of this Permit.

II.L.2.e Facility Compliance
The Permittees in receiving, storing, transferring, handling, treating, processing, and
disposing of dangerous waste, will design, operate, and/or maintain the Facility in
compliance with all applicable federal, state, and local laws and regulations.

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

II.N Receipt of Dangerous Wastes Generated Off-Site
II.N.1 Receipt of Off-Site Waste
The Permittees will comply with Permit Conditions II.N.2 and II.N.3 for any dangerous
wastes which are received from sources outside the United States, or from off-site
generators.

II.N.2 Waste from Sources Outside the United States
The Permittees will meet the requirements of WAC 173-303-290(1) for waste received from outside the United States.

**II.N.3 Notice to Generator**

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

**II.O General Inspection Requirements**

**II.O.1** The Permittees will inspect the Facility to prevent malfunctions and deterioration, operator errors, and discharges, which may cause or lead to the release of dangerous waste constituents to the environment, or threaten human health. Inspections must be conducted in accordance with the provisions of WAC 173-303-320(2). In addition to the TSD unit inspections specified in Parts III, V, and/or VI, the following inspections will also be conducted:

**II.O.1.a** The 100, 200 East, 200 West, 300, and 400 areas will be inspected annually.

**II.O.1.b** The Permittees will inspect the banks of the Columbia River, contained within the Facility boundary, once a year. The inspection will be performed from the river, by boat, and the inspectors will follow the criteria in Permit Condition II.O.1.c.

**II.O.1.c** The Permittees will visually inspect the areas identified in Permit Conditions II.O.1.a and II.O.1.b for malfunctions, deterioration, operator errors, and discharges which may cause or lead to the release of dangerous waste constituents to the environment, or that threaten human health. Specific items to be noted are as follows:

**II.O.1.c.i** Remains of waste containers, labels, or other waste management equipment;

**II.O.1.c.ii** Solid waste disposal sites not previously identified for remedial action;

**II.O.1.c.iii** Uncontrolled waste containers (e.g., orphan drums);

**II.O.1.c.iv** Temporary or permanent activities that could generate an uncontrolled waste form; and

**II.O.1.c.v** Unpermitted waste discharges.

**II.O.1.d** The Permittees will notify Ecology at least seven (7) days prior to conducting these inspections in order to allow representatives of Ecology to be present during the inspections.

**II.O.2** If the inspection by the Permittees, conducted pursuant to Permit Condition II.O.1, reveals any problems, the Permittees will take remedial action on a schedule agreed to by Ecology.

**II.O.3** The inspection of high radiation areas will be addressed on a case-by-case basis in either Part III of this Permit, or prior to the inspections required in Permit Condition II.O.1.

**II.P Manifest System**

**II.P.1** The Permittees will comply with the manifest requirements of WAC 173-303-370 for waste received from off-site and WAC 173-303-180 for waste shipped off-site.

**II.P.2** Transportation of dangerous wastes along roadways, if such routes are not closed to general public access at the time of transport, can be manifested pursuant to an alternate tracking system as allowed by WAC 173-303-180(5). The alternate tracking system can
be a paper system or an electronic system. The roadways addressed by this condition are
a public or private right-of-way within or along the border of contiguous property where
the movement is under control of the USDOE. The alternate tracking system will consist
of documentation between the offering Hanford Facility location and the receiving
Hanford Facility location containing the following information:

II.P.2.a Hanford Facility offeror name, location, and telephone number;
II.P.2.b Hanford Facility receiver name, location, and telephone number;
II.P.2.c Description of waste;
II.P.2.d Number and type of containers;
II.P.2.e Total quantity of waste;
II.P.2.f Unit volume/weight;
II.P.2.g Dangerous waste number(s) or U.S. Department of Transportation hazard class; and
II.P.2.h Special handling instructions including emergency contacts.

II.P.3 The Hanford Facility offeror and receiver will resolve any discrepancies of information
found related to Permit Conditions II.P.2.a through II.P.2.h.

II.P.4 If the discrepancies cannot be resolved at the Hanford Facility receiving location, a new
Hanford Facility receiver location will be agreed upon, or the dangerous waste will be
returned to the offeror location. The documentation accompanying the movement of
dangerous waste will be updated to reflect the new receiving location.

II.Q On-Site Transportation
II.Q.1 Documentation must accompany any on-site dangerous waste which is transported to or
from any TSD unit subject to this Permit, through or within the 600 Area, unless the
roadway is closed to general public access at the time of shipment. Waste transported by
rail or by pipeline is exempt from this Condition. This documentation will include the
following information, unless other unit-specified provisions are designated in Part III or
V of this Permit:
II.Q.1.a Generator’s name, location, and telephone number;
II.Q.1.b Receiving TSD unit’s name, location, and telephone number;
II.Q.1.c Description of waste;
II.Q.1.d Number and type of containers;
II.Q.1.e Total quantity of waste;
II.Q.1.f Unit volume/weight;
II.Q.1.g Dangerous waste number(s); and
II.Q.1.h Any special handling instructions.
II.Q.2 All non-containerized solid, dangerous waste transported to or from TSD units, subject to
this Permit, will be covered to minimize the potential for material to escape during
transport.
II.R Equivalent Materials

II.R.1 The Permittees may substitute an equivalent or superior product for any equipment or materials specified in this Permit. Use of equivalent or superior products will not be considered a modification of this Permit. A substitution will not be considered equivalent unless it is at least as effective as the original equipment or materials in protecting human health and the environment.

II.R.2 The Permittees will place in the Operating Record (within seven [7] days after the change is put into effect) the substitution documentation, accompanied by a narrative explanation, and the date the substitution became effective. Ecology may judge the soundness of the substitution.

II.R.3 If Ecology determines that a substitution was not equivalent to the original, it will notify the Permittees that the Permittees’ claim of equivalency has been denied, of the reasons for the denial, and that the original material or equipment must be used. If the product substitution is denied, the Permittees will comply with the original approved product specification, or find an acceptable substitution.

II.S Land Disposal Restrictions

Unless specifically identified otherwise in the HFFACO, the Permittees will comply with all LDR requirements as set forth in WAC 173-303-140.

II.T Access and Information

To the extent that work required by this Permit must be done on property not owned or controlled by the Permittees, the Permittees must utilize their best efforts to obtain access and information at these locations.

II.U Mapping of Underground Piping

II.U.1 Reserved

II.U.2 Reserved

II.U.3 The Permittees will maintain piping maps for existing, newly identified, and/or new dangerous waste underground pipelines (including active, inactive, and abandoned pipelines, which contain or contained dangerous waste subject to the provisions of Chapter 173-303 WAC) at the Hanford Facility. The maps will identify the origin, destination, direction of flow, size, depth and type (i.e., reinforced concrete, stainless steel, cast iron, etc.), of each pipe, and the location of their diversion boxes, valve pits, seal pots, catch tanks, receiver tanks, and pumps, and utilize Washington State Plane Coordinates, NAD 83(91), meters. If the type of pipe material is not documented on existing drawings, the most probable material type will be provided. The maps will also identify whether the pipe is active, inactive, or abandoned. The age of all pipes requiring identification pursuant to this Condition will be documented in an Attachment to the submittal. If the age cannot be documented, an estimate of the age of the pipe will be provided based upon best engineering judgment. These maps need not include the pipes within a fenced tank farm or within a building/structure. These maps will be compiled using documented QA/QC control methods and procedures outlined in DOE/RL-96-50, Hanford Facility RCRA Permit Mapping and Marking of Dangerous Waste Underground Pipelines Report, September 1996. These maps and any Attachments will be maintained in the Facility Operating Record and be updated annually as required by Permit Condition II.U.4.
II.U.4 Permittees will maintain current all maps required by Permit Condition II.U.3. These maps will be updated to incorporate new or revised information available by March 30th of each year. By September 30th of each year, the Permittees will submit to Ecology a list of maps that have been updated. The updated maps (including any Attachments) and the annual list submitted to Ecology will be maintained in the Facility Operating Record.

II.V Marking of Underground Piping
The Permittees will maintain marking of underground pipelines located outside the 200 East, 200 West, 300, 400, 100N, and 100K Areas. These pipelines will be marked at the point they pass beneath an area fence, at their origin and destination, at any point they cross an improved road, and every 100 meters along the pipeline corridor where practicable. The markers will be labeled with a sign that reads "Buried Dangerous Waste Pipe" and will be visible from a distance of fifteen (15) meters.

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

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

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

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

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

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

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

II.Y.1 Compliance with Chapter 173-340 WAC

In accordance with WAC 173-303-646, the Permittee must conduct corrective action as necessary to protect human health and the environment. To ensure that corrective action will be conducted as necessary to protect human health and the environment, except as provided in Permit Condition II.Y.2, the Permittee must conduct corrective action in a manner consistent with the following provisions of Chapter 173-340 WAC:

II.Y.1.a As necessary to select a cleanup action in accordance with WAC 173-340-360 and WAC 173-340-350 State Remedial Investigation and Feasibility Study.

II.Y.1.b WAC 173-340-360 Selection of Cleanup Actions.

II.Y.1.c WAC 173-340-400 Cleanup Actions.


II.Y.1.e WAC 173-340-420 Periodic Site Reviews.

II.Y.1.f WAC 173-340-440 Institutional Controls.; and

II.Y.1.g WAC 173-340-700 through -760 Cleanup Standards, except that to the extent that Ecology seeks to impose corrective action with respect to radionuclides regulated under the provisions of the Atomic Energy Act, as amended, 42 U.S.C. § 2011 et seq., the Permittees may challenge Ecology’s authority to impose such corrective action through a timely appeal of the Permit modification issued by Ecology without argument from Ecology that such right has been waived by a failure to fully litigate that issue through an appeal taken within thirty (30) days of the issuance of this Permit, and without argument from the Permittee that such requirement fails to satisfy a cause for Permit modification under WAC 173-303-830(3)(a).

II.Y.2 Acceptance of Work Under Other Authorities or Programs and Integration with the HFFACO.

Corrective action is necessary to protect human health and the environment for all units identified in Appendix B and Appendix C of the HFFACO. Notwithstanding Permit Condition II.Y.1, work under other cleanup authorities or programs, including work under the HFFACO, may be used to satisfy corrective action requirements, provided it protects human health and the environment.

II.Y.2.a For past practice units identified in Appendix C of the HFFACO, as amended, as CPP Units, Ecology accepts work under the HFFACO, as amended, and under the CERCLA program, as satisfying corrective action requirements to the extent provided for in, and subject to the reservations and requirements of, Permit Conditions II.Y.2.a.i through II.Y.2.a.iv.

II.Y.2.a.i For any past practice unit identified in Appendix C of the HFFACO as a CPP unit, the Permittee must comply with the requirements and schedules related to investigation and
cleanup of the CPP unit(s) developed and approved under the HFFACO, as amended. The requirements and schedules related to investigation and cleanup of CPP units currently in place under the HFFACO, as amended, and in the future developed and approved under the HFFACO, as amended, are incorporated into this Permit by this reference and apply under this Permit as if they were fully set forth herein. If the Permittee is not in compliance with requirements of the HFFACO, as amended, that relate to investigation or cleanup of CPP unit(s), Ecology may take action to independently enforce the requirements as corrective action requirements under this Permit.

II.Y.2.a.ii For any past practice unit identified in Appendix C of the HFFACO as a CPP unit, in the case of an interim Record of Decision (ROD), a final decision about satisfaction of corrective action requirements will be made in the context of issuance of a final ROD.

II.Y.2.a.iii If EPA and Ecology, after exhausting the dispute resolution process under Section XXVI of the HFFACO, cannot agree on requirements related to investigation or cleanup of CPP unit(s), Ecology will notify the Permittees, in writing, of the disagreement and impose, in accordance with the permit modification procedures of WAC 173-303-830, a requirement for the Permittees to conduct corrective action for the subject unit(s) in accordance with Permit Condition II.Y.1. The Permittees may challenge Ecology’s authority to impose such corrective action requirements through a timely appeal of such Permit modification, without argument from Ecology that the Permittee’s right to raise such challenge has been waived by a failure to fully litigate that issue through an appeal taken within thirty (30) days of the issuance of this Permit, and without argument from the Permittee that such requirement fails to satisfy a cause for Permit modification under WAC 173-303-830(3)(a). Within 60 days of receipt of the above Permit modification, or within some other reasonable period of time agreed to by Ecology and the Permittees, the Permittees must submit for Ecology review and approval, a plan to conduct corrective action in accordance with Permit Condition II.Y.1 for the subject unit(s). The Permittee’s plan may include a request that Ecology evaluate work under another authority or program. Approved corrective action plans under this Permit Condition will be incorporated into this Permit in accordance with the Permit Modification Procedures of WAC 173-303-830.

II.Y.2.a.iv The Permittees must maintain information on corrective action for CPP units covered by the HFFACO in accordance with Sections 9.0 and 10.0 of the HFFACO Action Plan. In addition, the Permittees must maintain all reports and other information developed in whole, or in part, to implement the requirements of Permit Condition II.Y.2.a, including reports of investigations and all raw data, in the Hanford Facility Operating Record in accordance with Permit Condition III. Information that is maintained in the Hanford Site Administrative Record may be incorporated by reference into the Hanford Facility Operating Record.

II.Y.2.b For past practice units identified in Appendix C of the HFFACO, as amended, as R-CPP units, Ecology accepts work under the HFFACO, as amended, as satisfying corrective action requirements to the extent provided for, and subject to the reservations and requirements of, Permit Conditions II.Y.2.b.i through II.Y.2.b.ii.
II.Y.2.b.i For any past practice unit identified in Appendix C of the HFFACO, as amended, as an R-CPP unit, the Permittees must comply with the requirements and schedules related to investigation and cleanup of R-CPP units developed and approved under the HFFACO, as amended. The requirements and schedules related to investigation and cleanup of R-CPP units currently in place under the HFFACO, as amended, and in the future developed and approved under the HFFACO, as amended, are incorporated into this Permit by this reference and apply under this Permit as if they were fully set forth herein. If the Permittee is not in compliance with requirements and schedules related to investigation and cleanup of R-CPP units developed and approved under the HFFACO, as amended, Ecology may take action to independently enforce the requirements as corrective action requirements under this Permit.

II.Y.2.b.ii The Permittees must maintain information on corrective action for R-CPP units covered by the HFFACO, as amended, in accordance with Sections 9.0 and 10.0 of the HFFACO Action Plan. In addition, the Permittees must maintain all reports and other information developed in whole, or in part, to implement the requirements of Permit Condition II.Y.2.b, including reports of investigations and all raw data, in the Hanford Facility Operating Record in accordance with Permit Condition III. Information that is maintained in the Hanford Site Administrative Record may be incorporated into the Hanford Facility Operating Record by reference.

II.Y.2.c For each TSD unit, when the Permittees submit a certification of closure or a certification of completion of post-closure care, or at an earlier time agreed to by Ecology and the Permittees, the Permittees must, at the same time, either:

II.Y.2.c.i Document that the activities completed under closure and/or post-closure satisfy the requirements for corrective action; or

II.Y.2.c.ii If the activities completed under closure and/or post-closure care do not satisfy corrective action requirements, identify the remaining corrective action requirements and the schedule under which they will be satisfied, if remaining corrective action requirements will be satisfied by work developed and carried out under the HFFACO provisions for R-CPP units or CPP units, a reference to the appropriate R-CPP or CPP process and schedule will suffice.

II.Y.2.c.iii Ecology will make final decisions as to whether the work completed under closure or post-closure care satisfies corrective action, specify any unit-specific corrective action requirements, and incorporate the decision into this Permit in accordance with the permit modification procedures of WAC 173-303-830.

II.Y.2.d Notwithstanding any other condition in this Permit, Ecology may directly exercise any administrative or judicial remedy under the following circumstances:

II.Y.2.d.i Any discharge or release of dangerous waste, or dangerous constituents, which are not addressed by the HFFACO, as amended.

II.Y.2.d.ii Discovery of new information regarding dangerous constituents or dangerous waste management, including but not limited to, information about releases of dangerous waste or dangerous constituents which are not addressed under the HFFACO, as amended.

II.Y.2.d.iii A determination that action beyond the terms of the HFFACO, as amended, is necessary to abate an imminent and substantial endangerment to the public health, or welfare, or to the environment.

II.Y.3 Releases of Dangerous Waste or Dangerous Constituents Not Covered By the HFFACO:
II.Y.3.a The following solid waste management units are not covered by the HFFACO:


II.Y.3.a.i.a US Ecology, Inc., SWMU 2-13: Low-Level Radioactive Waste Trenches 1 through 11A.


II.Y.3.a.ii Selected solid waste management units identified in Permit Condition II.Y.3.a.i are currently being investigated by US Ecology in accordance with the Comprehensive Investigation US Ecology – Hanford Operations Workplan. Following completion of this investigation and any closure required of such solid waste management unit under the authority of the Washington State Department of Health, or within one year of the effective date of this Permit Condition, whichever is earlier, Ecology will make a tentative decision as to whether additional investigation or cleanup is necessary to protect human health or the environment for the solid waste management units identified in Permit Condition II.Y.3.a.i, and publish that decision as a draft permit in accordance with WAC 173-303-840(10). Following the associated public comment period, and consideration of any public comments received during the public comment period, Ecology will publish as final Permit conditions under WAC 173-303-840(8) either:

II.Y.3.a.ii.a A decision that corrective action is not necessary to protect human health or the environment;

II.Y.3.a.ii.b An extension to the schedule established under Permit Condition II.Y.3.a.ii, or

II.Y.3.a.ii.c A decision, that corrective action, in accordance with Permit Condition II.Y.1, is necessary to protect human health or the environment.

II.Y.3.a.iii If Ecology decides under Permit Condition II.Y.3.a.ii that corrective action is necessary to protect human health or the environment, the Permittees may challenge Ecology’s authority to impose such corrective action requirements through a timely appeal of such permit modification, without argument from Ecology that the right to raise such challenge has been waived by a failure to fully litigate that issue through an appeal taken within 30 days of the issuance of this Permit, and with argument from the Permittees that such requirement fails to satisfy a cause for permit modification under WAC 173-303-830(3)(a). Within 180 days of receipt of the above Permit modification, the Permittees must submit, for Ecology review and approval, a plan to conduct corrective action in accordance with Permit Condition II.Y.1. Approved corrective action plans under this condition will be incorporated into this Permit in accordance with the Permit Modification Procedures of WAC 173-303-830.

II.Y.3.b Newly Identified Solid Waste Management Units and Newly Identified Releases of Dangerous Waste or Dangerous Constituents.

The Permittees must notify Ecology of all newly-identified solid waste management units and all newly-identified areas of concern at the Facility. For purposes of this condition, a ‘newly-identified’ solid waste management unit or a ‘newly-identified’ area of concern is a unit or area not identified in the HFFACO, as amended, on the effective date of this condition and not identified by Permit Condition II.Y.3.a.

Notification to Ecology must be in writing and must include, for each newly-identified unit or area, the information required by WAC 173-303-806(4)(a)(xxiii) and WAC 173-303-806(4)(a)(xxiv). Notification to Ecology must occur at least once every calendar year, in January, and must include all units and areas newly identified since the
last notification, except that if a newly identified unit or area may present an imminent and substantial endangerment to human health or the environment, notification must occur within five days of identification of the unit or area. If information required by WAC 173-303-806(4)(a)(xxiii) or WAC 173-303-806(4)(a)(xxiv) is already included in the Waste Information Data System, it may be incorporated by reference into the required notification.

II.Z Waste Minimization

In accordance with WAC 173-303-380(1)(q), and Section 3005(h) of RCRA, 42 U.S.C. 6925(h), the Permittee must place a certification in the Hanford Facility Operating Record, Unit-Specific Files on an annual basis that:

II.Z.1.a A program is in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and,

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

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

II.AA Air Emission Standards for Process Vents

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

II.BB Air Emission Standards for Equipment Leaks

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

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

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

PART III UNIT-SPECIFIC CONDITIONS FOR FINAL STATUS OPERATIONS

Operating Unit 2, PUREX Storage Tunnels
Operating Unit 3, Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility
Operating Unit 4, 242-A Evaporator
Part I Standard and Part II General Facility Conditions

1. Operating Unit 5, 325 Hazardous Waste Treatment Units
2. Operating Unit 10, Waste Treatment and Immobilization Plant
3. Operating Unit 11, Integrated Disposal Facility
4. Operating Unit 16, 400 Area Waste Management Unit

**PART IV UNIT SPECIFIC CONDITIONS FOR CORRECTIVE ACTION**
5. Corrective Action Unit 1, 100-NR-1

**PART V UNIT-SPECIFIC CONDITIONS FOR UNITS UNDERGOING CLOSURE**
6. Closure Unit 6, Waste Encapsulation and Storage Facility Hot Cells A through F

**PART VI UNIT-SPECIFIC CONDITIONS FOR UNITS IN POST-CLOSURE**
7. Post Closure Unit 1, 300 Area Process Trenches
8. Post Closure Unit 2, 183-H Solar Evaporation Basins

**UNITS RETIRED FROM THE PERMIT**
9. 100 D Ponds (Closed 8/9/99)
10. 105-DR Large Sodium Fire Facility (Closed 7/1/04)
11. 100-NR-2 Operable Unit (9/30/09)
12. 200 West Area Ash Pit Demolition Site (Closed 11/28/95)
13. 2101-M Pond (Closed 11/28/95)
14. 216-B-3 Expansion Ponds (Closed 7/31/95)
15. 218-E-8 Borrow Pit Demolition Site (Closed 11/28/95)
16. 224-T Transuranic Waste Storage and Assay Facility (Closed 11/12/08)
17. 241-Z Treatment and Storage Tanks (Closed 2/22/07)
18. 2727-S Nonradioactive Dangerous Waste Storage Facility (Closed 7/31/95)
19. 300 Area Solvent Evaporator (Closed 7/31/95)
20. 300 Area Waste Acid Treatment System (Closed 10/30/2005)
21. 303-K Storage Facility (Closed 7/22/02)
22. 303-M Oxide Facility (Closed 6/15/06)
23. 304 Concretion Facility (Closed 1/21/96)
24. 305-B Storage Facility (Closed 7/2/07)
25. 3718-F Alkali Metal Treatment and Storage Facility Closure Plan (Closed 8/4/98)
26. 4843 Alkali Metal Storage Facility Closure Plan (Closed 4/14/97)
27. Hanford Patrol Academy Demolition Site (Closed 11/28/95)
28. Plutonium Finishing Plant Treatment Unit (Closed 2/8/05)
29. Simulated High Level Waste Slurry Treatment and Storage Unit (Closed 10/23/95)
30. FS-1 Outdoor Container Storage Area (Closed 10/25/2016)
31. 616 Non-Radioactive Dangerous Waste Storage Facility (Closed 9/5/01)
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<th></th>
<th>Facility Description</th>
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<td>1</td>
<td>331-C Storage Unit (Closed 7/22/11)</td>
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<td>2</td>
<td>207-A South Retention Basin (Closed 5/18/17)</td>
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<td>3</td>
<td>1324-N Surface Impoundment &amp; 1324-NA Percolation Pond (Closed 4/25/2017)</td>
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<td>4</td>
<td>1706-KE Waste Treatment System Facility (Closed 1/11/18)</td>
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<tr>
<td>5</td>
<td>600 Area Purgewater Storage and Treatment Facility (Closed 2/16/18)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1301-N Liquid Waste Disposal Facility (Closed 11/28/18)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1325-N Liquid Waste Disposal Facility (Closed 11/28/18)</td>
<td></td>
</tr>
</tbody>
</table>