



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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January 29, 2014

14-NWP-023

Mr. Matthew S. McCormick, Manager
Richland Operations Office
United States Department of Energy
P.O. Box 550, MSIN: A7-50
Richland, Washington 99352

John C. Fulton, President and
Chief Executive Officer
CH2M HILL Plateau Remediation Company
P.O. Box 1600, MSIN: H7-30
Richland, Washington 99352

Re: Copy of signed Agreed Order and Stipulated Penalty, Docket No. DE 10156, Hanford Solid Waste Operations Complex

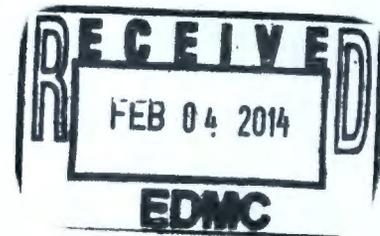
Dear Mr. McCormick and Mr. Fulton:

Enclosed is a copy of Agreed Order and Stipulated Penalty, Docket No. DE 10156, Hanford Solid Waste Operations Complex, signed by Matthew McCormick, John Fulton, and Jane Hedges. The original signed Order will be maintained in the Nuclear Waste Program resource center.

If you have any questions, you may call me at 509-372-7905.

Sincerely,

Jane A. Hedges
Program Manager
Nuclear Waste Program



Enclosure
cc w/enc:

Cliff Clark, USDOE-RL
Doug Shoop, USDOE-RL
James Lynch, USODE-ORP
Rob Piippo, MSA
Judy Vance, MSA
Stuart Harris, CTUIR
Gabriel Bohnee, NPT
Russell Jim, YN
Steve Hudson, HAB

Administrative Record: CWC, WRAP, T Plant
Environmental Portal

cc electronic w/enc:

Jack Boller, EPA
Scott Downey, EPA
Dennis Faulk, EPA
Ken Niles, ODOE
Correspondence Control - USDOE-RL

TS-2-4
T-2-7



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

In the Matter of an Enforcement Action
against:

UNITED STATES DEPARTMENT
OF ENERGY and
CH2M HILL PLATEAU
REMEDIAION COMPANY

AGREED ORDER AND STIPULATED
PENALTY

No. DE 10156

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EXHIBIT B	Dangerous Waste Management Units (DWMUs)
EXHIBIT C	Dangerous Waste Violations

I. INTRODUCTION

1.1 In order to avoid the expense of litigation, and to settle any administrative or judicial claims or causes of action the Department of Ecology (Ecology) may have against them related to the violations described in Exhibit C, the United States Department of Energy (USDOE) and CH2M Hill Plateau Remediation Company (CHPRC), without admitting fault or liability, enter into the following Agreed Order and Stipulated Penalty (Order). The exhibit to this Order is an integral and enforceable part of the Order.

1.2 This Order and its exhibits fully resolve all issues arising from the conditions and events identified by, and pursuant to, the Ecology inspections conducted at the Central Waste Complex (CWC) on March 7, 8, 14, and 15, 2012, and at the Waste Receiving and Processing (WRAP) facility on May 20, July 27, and September 17, 2012, or referred to in Ecology reports on those inspections. In addition to addressing the CWC and WRAP dangerous waste Treatment, Storage or Disposal (TSD) unit groups, Exhibit A also includes actions for another TSD unit group within the Solid Waste Operation Complex (SWOC), the T-Plant TSD unit, in order for that TSD unit to implement actions similar to ones being taken at the WRAP and CWC TSD units. The TSD unit groups consist of the Dangerous Waste Management Units listed in Exhibit B.

1.3 This Order does not in any way limit Ecology's authority to pursue or issue other penalties or enforcement actions for violations of the Dangerous Waste regulations or for Dangerous Waste regulations that are not addressed herein. Furthermore, the entry into this Order will not constitute a defense or excuse for any Dangerous Waste violation not described herein or any subsequent violation of the Dangerous Waste regulations.

1.4 CHPRC has been under contract with USDOE to operate the WRAP, CWC, and T-Plant since October 1, 2008, and continues to do so at the time of execution of this Agreed

Order, with its contract reaching completion on September 30, 2018. CHPRC does not own the WRAP, CWC, or T-Plant TSD units, nor the dangerous waste located or managed at those TSD units. The obligations of CHPRC for operation of WRAP, CWC, T-Plant, and for performance of the corrective actions described in Exhibit A hereto, are pursuant to its contractual relationship with, and funding provided by, USDOE, and those obligations will devolve upon the successor(s) to CHPRC when the contract ends.

II. AUTHORITY

2.1 Ecology's Nuclear Waste Program has authority to enter into this Order under Chapter 70.105 RCW (Hazardous Waste Management Act) and Chapter 34.05 RCW (Administrative Procedure Act).

2.2 RCW 70.105.130 authorizes Ecology to implement the federal Resource Conservation and Recovery Act (RCRA), and establish a permit system for owners or operators of facilities that treat, store, or dispose of dangerous waste. The permit system is established in the Dangerous Waste Regulations, Chapter 173-303 Washington Administrative Code (WAC).

2.3 Ecology issued Permit No. WAD WA7890008967 (Permit) for USDOE's Hanford facility (Facility). The Permit became effective August 1994 and was not appealed. The Permit has undergone several revisions, the latest being Revision 8c.

2.4 Revision 8c of the Permit currently applies to the operation of and corrective actions taken, or to be taken, at this Facility. Pursuant to Part I.A of the Permit, Revision 8c, the standards used to evaluate compliance for this enforcement are the interim status facility standards in WAC 173-303-400 and the regulations incorporated into the interim status standards by reference. This only includes properly authorized units at the Hanford Facility. WAC 173-303-600 provides the authority to impose final facility standards for units that are outside of the scope of the Dangerous Waste Permit Revision 8c.

2.5 WAC 173-303-283 provides general performance standards for designing, constructing, operating, and maintaining dangerous waste facilities. These general performance standards include, among others, standards for the prevention of the degradation of ground water, air, and surface water, and for the prevention of the endangerment of the health of employees or the public near a facility.

III. WAIVER

3.1 By entering into this Order, USDOE and CHPRC waive any right of administrative or judicial review or appeal on the underlying merits of the violations of the Dangerous Waste regulations and agree not to appeal this Order.

3.2 USDOE and CHPRC have entered into this Order to resolve Ecology's allegations asserted herein. Nothing in the Order, or in the execution and implementation of this Order, shall be taken as an admission of liability by USDOE or CHPRC and USDOE and CHPRC neither admits nor denies the specific factual allegations contained herein. For the purpose of avoiding litigation between the Parties, however, USDOE and CHPRC agree to the requirements identified in Exhibit A and section IV of the Order.

IV. PENALTY ASSESSMENT AND SETTLEMENT

4.1 Ecology is assessing a penalty of \$261,000.00 against USDOE and CHPRC for violations of Chapter 173-303 WAC and 40 CFR Part 265, as incorporated by reference in Chapter 173-303 WAC. Those violations are described in Exhibit C (Dangerous Waste Violations). USDOE and CHPRC do not agree with or admit to the violations, factual assertions, or any legal conclusions listed in Exhibit C.

4.2 The parties agree that USDOE will pay a penalty amount of \$15,000.00 and Ecology shall suspend \$246,000.00 on condition of completion of the actions set forth in the

schedule in section 4.6 of this Order. The suspended portion of the penalty shall be apportioned in accordance with the schedule in section 4.6 of this Order.

4.3 To suspend the penalty amount of \$246,000, USDOE and CHPRC must take the actions listed in the schedule in section 4.6 of this Order in accordance with RCW 70.105.095. USDOE and CHPRC are required to take these actions at the dangerous waste management units within the Solid Waste Operations Complex (SWOC) Unit Groups. The SWOC Unit Groups, for purposes of this Agreed Order, include the CWC Treatment, Storage, or Disposal (TSD) Unit Group, the WRAP TSD Unit Group, and the T-Plant Unit Group.

4.4 In accordance with section 4.6, USDOE will present to Ecology documentation of the implementation of each of the actions listed in section 4.6. Within 15 calendar days Ecology will determine whether each action has been implemented as required by the schedule in section 4.6 of this Order. For each action listed in section 4.6 which Ecology determines has been implemented, the allocated portion of the suspended penalty shall be revoked and will no longer be in effect. For each action which Ecology determines has not been implemented in accordance with the schedule in section 4.6 of this Order, the allocated portion of the suspended penalty shall be due and payable within 30 days after the determination has been received by USDOE.

4.5 USDOE or CHPRC must make and Ecology must receive USDOE's or CHPRC's payment of the reduced penalty amount of \$15,000.00 within 30 calendar days of the effective date of this Order. If the 30th day falls on a holiday or weekend, payment shall be due on the next business day. USDOE or CHPRC shall make the payment by check or money order directly payable to "Department of Ecology" and make reference to Agreed Order and Stipulated Penalty No. DE 10156, and shall send the payment to:

Department of Ecology
Attn: Cashiering Unit
P.O. Box 47611
Olympia, WA 98504-7611

Should USDOE or CHPRC fail to comply with this Order (including the requirements found in Exhibit A), Ecology may impose at its discretion either the remaining suspended penalty amount or a portion of the remaining suspended penalty to be due within 30 calendar days notice to USDOE and CHPRC that the terms of the Order have been violated.

4.6 The schedule for the reduction of the penalty will be as follows:

4.6.1 When the requirements of section 1.5.2 of Exhibit A are met, the suspended penalty amount of \$246,000.00 will be reduced by ten percent (10 %). Completion of this requirement requires the following: USDOE and CHPRC will train appropriate facility employees on the notification and reporting criteria set forth in section 1.2 of Exhibit A within 60 calendar days of the effective date of this Order; and USDOE will deliver to Ecology the training material provided to the appropriate facility employees (e.g., training notes, agendas and written training materials) and the training roster(s) (which will include the training attendees' job positions and names).

4.6.2 When the requirements of section 1.7.4 of Exhibit A are met, the suspended penalty amount of \$246,000.00 will be reduced by ten percent (10 %). Completion of this requirement requires the following actions to be taken within 60 calendar days of the effective date of this Order: USDOE and CHPRC personnel, who conduct designation sampling, will be trained on performing sampling procedures as required by the test method and SWOC Unit Group Waste Analysis Plan; and USDOE will deliver to Ecology the training material provided to the personnel required to conduct designation sampling (e.g., training notes, agendas and written training materials) and the training roster(s) (which will include the training attendees' job positions and names).

4.6.3 When the requirements of section 1.8.5.1 of Exhibit A are met, the suspended penalty amount of \$246,000.00 will be reduced by twenty percent (20 %). Completion of this requirement will be accomplished by USDOE, within one year of the effective date of this Order, meeting with Ecology and jointly reviewing with Ecology information previously used to develop the process knowledge documentation of the Retrievably Stored Waste (RSW) packages and delivering to Ecology the attendance roster for that joint review (which will include the attendees' job positions and names).

4.6.4 When the requirements of section 1.10.1 of Exhibit A are met, the suspended penalty amount of \$246,000.00 will be reduced by twenty percent (20 %). Completion of this requirement requires the following actions to be taken by USDOE and CHPRC within 30 calendar days of the effective date of this Order: conducting inspections at the SWOC in accordance with the requirements of WAC 173-303-320 and -630(6), taking the necessary steps to ensure that containers at the SWOC receive complete and thorough inspections; and delivering to Ecology four weeks of weekly inspection records.

4.6.5 When the requirements of section 1.11.1.1 of Exhibit A are met, the suspended penalty amount of \$246,000.00 will be reduced by twenty percent (20 %). Completion of this criteria will be accomplished by USDOE and CHPRC, within 30 calendar days of the effective date of this Order, instituting a process to label, and maintain labels in good condition for all dangerous waste containers or their protective covers in the CWC Outside Storage Area A; and delivering to Ecology a copy of the written process for labeling, and maintaining

labels in good conditions for all DW containers or their protective covers in the CWC Outside Storage Area A.

4.6.6 When the requirements of section 1.11.2 of Exhibit A are met, the suspended penalty amount of \$246,000.00 will be reduced by twenty percent (20 %). Completion of this requirement will be accomplished by USDOE and CHPRC, within 150 calendar days of the effective date of this Order, applying protective covers to Retrievably Stored Waste (RSW) containers stored outside at the CWC Outside Storage Area A that cannot be placed into a building(s) (pursuant to WAC 173-303-630(7)(d)); and delivering to Ecology a copy of photographic and other documentation that establishes that the protective covers are in place for those RSW containers that are stored at the CWC Outside Storage Area A that cannot be placed into a building(s).

V. REPORTING

5.1 No later than 180 calendar days and again one calendar year from the final signature date of this Order USDOE and CHPRC will submit progress reports on the status of compliance with this Order and show any remaining items not yet accomplished. For any remaining or uncompleted requirement in this Order or Exhibit A, USDOE and CHPRC will include a proposed schedule for completion.

5.2 The reports will be submitted to Ecology in accordance with section VI of this Order.

VI. EXTENSIONS AND SUBMITTALS

6.1 USDOE will submit any requests for extensions to deadlines in this Order in writing at least 10 calendar days prior to the due date. Such written requests shall include a detailed explanation for the extension request. The request must be delivered in writing to the

attention of Jane Hedges at (509) 372-7950, or a designated representative, via hardcopy, facsimile, or email.

6.2 All plans and reports submitted by USDOE and CHPRC to comply with this Order will be submitted to Jane Hedges, Washington Department of Ecology, Nuclear Waste Program, at Ecology's Richland office. An extension request shall not provide a basis for delay of any activities required in this Order, unless Ecology agrees in writing to the schedule extension.

6.3 Submittals to Ecology required by this Order will include the following certification statement, and will be signed by a person authorized to commit resources on behalf of USDOE as owner and operator of the WRAP and CWC:

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.

6.4 The signature block underneath each certification statement will include signed as well as printed name, title, and organization.

VII. REMEDIES

7.1 In the event that USDOE or CHPRC violate the terms of this Order, Ecology may pursue all remedies available by law. However, USDOE and CHPRC do not waive the right to contest whether violations of this Order have occurred.

7.2 Ecology shall be entitled to recover its costs, including attorney fees, in any action brought in superior court to enforce this Order in which Ecology is a prevailing party.

VIII. VENUE

8.1. USDOE and CHPRC agree that the venue for any judicial action to enforce this Order shall be in Benton County Superior Court.

IX. RELEASE OF LIABILITY

9.1 USDOE and CHPRC and its assigns, or other successors in interest, agree to release and discharge Ecology and its officers, agents, employees, agencies and departments from any damages and causes of action of any nature arising out of the incidents that gave rise to this Order.

X. EFFECTIVE DATE

10.1 This Order shall become effective when signed by Ecology and USDOE and CHPRC.

XI. SIGNATURES AUTHORIZED

11.1 The undersigned representatives for Ecology and USDOE and CHPRC certify that they are fully authorized by the party whom they represent to enter into the terms and conditions of this Order and to legally bind such party thereto.

XII. WITHDRAWAL OF ORDER REQUIREMENTS

12.1 The terms and requirements of this Order and Exhibit A are not a binding precedent for, and do not determine or limit, the terms, and conditions of Revision 9 of the Hanford Dangerous Waste Permit. The obligation of USDOE and CHPRC to implement each action prescribed in Exhibit A shall continue, until such action is incorporated and expressly superseded by, modifications to the Hanford Dangerous Waste Permit, or other superseding agreement or legal action. Ecology may withdraw requirements at any time by notifying USDOE and CHPRC at least two calendar weeks in advance of withdrawal. USDOE and CHPRC may submit a request in writing to Ecology for the withdrawal of a requirement of the

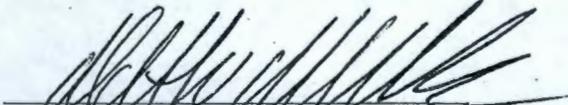
Order or Exhibit A. Such a request will be directed to the Ecology Division of the Attorney General's Office and Ecology's Nuclear Waste Program. A requirement from this Order or Exhibit A will be deemed withdrawn upon USDOE's and CHPRC's receipt of written notification from Ecology.

XIII. DURATION OF ORDER

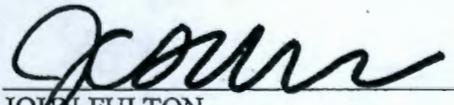
13.1 The obligation of USDOE and CHPRC to implement each action prescribed in Exhibit A shall continue, until such action is incorporated and expressly superseded by, modifications to the Hanford Dangerous Waste Permit, or other superseding agreement or legal action. This Order shall remain in effect until USDOE and CHPRC have received written notification from Ecology that all of the requirements in this Order and Exhibit A either have been withdrawn by Ecology or have been expressly superseded by modifications to the Hanford Dangerous Waste Permit.

XIV. EXECUTION

14.1 This document may be executed in counterparts and may be executed by facsimile, and each executed counterpart shall have the same force and effect as the original instrument.


MATTHEW MCCORMICK
Manager, USDOE Richland Operations

Date: 1/24/14


JOHN FULTON
President, CHPRC

Date: 1/24/14


JANE HEDGES
Program Manager, Nuclear Waste Program
Washington Department of Ecology

Date: 1/24/14

EXHIBIT A

Required Actions Under Chapter 173-303 WAC

INTRODUCTION

The Central Waste Complex (CWC) Treatment, Storage, or Disposal (TSD) Unit Group, the Waste Receiving and Processing (WRAP) TSD Unit Group, and the T-Plant Unit Group (not including Low-Level Burial Grounds) are groups of Dangerous Waste Management Units (DWMUs) that are operating under interim status standards pursuant to condition I.A of the Dangerous Waste Permit WA 7 89000 8967, Revision 8C. These three TSD Unit Groups are collectively referred to in this Order as the Solid Waste Operations Complex (SWOC).

This Exhibit to Agreed Order and Stipulated Penalty No. DE 10156 (Order) requires actions that apply to the SWOC DWMUs.

REQUIRED ACTIONS

1.1 United States Department of Energy (USDOE) and CH Plateau Remediation Company (CHPRC) will immediately undertake the following specified actions at all DWMUs within the SWOC, including the buildings, load/unload areas, staging areas, storage pads, and individual storage structures at those locations where dangerous waste is managed.

1.1.1 USDOE and Ecology agree that requirements in the context of this Agreed Order will not set a precedent for requirements in the Hanford RCRA Permit Revision 9.

1.1.2 By January 30, 2015, USDOE will submit to Ecology a Class 2 permit modification request. The permit modification request will include two changes. One change will be to the Permit Applicability Matrix (Permit Attachment 9) to make "Facility Contingency Plan" applicable to Interim Status TSD Units (the SWOC units are operating to Interim Status Standards). The second change will be to Appendix A of DOE/RL-94-02, Hanford Emergency Management Plan (Permit Attachment 4), to describe how each requirement of WACs 173-303-340, -350, -355, and -360 are met for TSD units operating to Interim Status Standards. USDOE's submitted Class 2 permit modification required by this subsection will not be subject to enforcement under this Order. Ecology's review process of USDOE's permit modification will be in accordance with the applicable requirements of WAC 173-303-830. Until the permit modification is approved by Ecology and incorporated into the Hanford Facility Dangerous

Exhibit A: Required Actions Under Chapter 173-303 WAC

Waste Permit (Site-Wide Permit), specific reporting criteria and emergency procedures required in Sections 1.2 and 1.3 will apply only to the SWOC TSD units. After the permit modification is incorporated into the Site-Wide Permit, the applicable requirements identified in Appendix A of the HEMP will supersede the requirements of Sections 1.2 and 1.3.

1.2 Spill Notification and Incident Reporting

1.2.1 For spill notification and incident reporting at the Hanford Facility (Facility), USDOE and CHPRC must comply with the notification and response requirements from WAC 173-303-145 and -360. Such notification and response requirements include, but are not limited to, the following:

1.2.2 Notification. The requirements of this sub-section apply: (1) when any dangerous waste or hazardous substance is intentionally or accidentally spilled or discharged into the environment (unless otherwise permitted) such that human health or the environment is threatened; (2) in the event of an emergency situation (WAC 173-303-360(2)(a)(ii)); or (3) when the Contingency Plan has been implemented. USDOE and CHPRC will immediately notify Ecology and the appropriate local authorities for the following situations:

1.2.2.1 In the event of a spill subject to 1.2.1 or 1.2.2, or that triggers formal notification to USDOE related to dangerous waste spills, non-permitted release, or discharge of a dangerous waste or hazardous substance onto the ground or into surface water or groundwater, regardless of the quantity of dangerous waste or hazardous substance.

1.2.2.2 In the event of a spill, release, or other discharge originating from a damaged shipment that has arrived at a dangerous waste unit or TSD Unit Group in such condition.

1.2.2.3 In the event of a spill, release or other discharge of a dangerous waste or hazardous substance that is greater than 100 pounds (12 gallons) or the "reportable quantity" established in the most recent version of 40 CFR Part 302, Table 302.4

Exhibit A: Required Actions Under Chapter 173-303 WAC

(whichever is less) when any portion of the release extends beyond secondary containment.¹

1.2.2.4 In the event of an imminent or actual release, fire, or explosion which could threaten human health or the environment, as required by WAC 173-303-360(2)(d)(ii).

1.2.3 For spills or discharges that result in emissions to the air, USDOE and CHPRC notify all local authorities in accordance with the local emergency service coordinator (local emergency plan) and the fire department to determine all notification responsibilities under the local emergency plan. Also, USDOE and CHPRC will notify Ecology as the delegated local air authority for Hanford.

1.2.4 Emissions to the air from a spill, release, or other discharge (including to secondary containment) of a dangerous waste or hazardous substance require notification to Ecology when: (a) the spill or release is greater than 100 pounds (12 gallons) or a "reportable quantity" in the most recent version of 40 CFR Part 302, Table 302.4 (whichever is less); and (b) a constituent not specifically listed in Appendix VI in 40 CFR Part 265 list of compounds known to have a Henry's Law constant value less than the cutoff level, or volatile organic compound detected by SW 846 6260B.

1.2.5 For spills or discharges of a dangerous waste or hazardous substance onto the ground or into groundwater or surface water, notify all local authorities in accordance with the local emergency plan. If necessary, check with the local emergency service coordinator and the fire department to determine all notification responsibilities under the local emergency plan.

1.2.6 For all of the circumstances listed in sub-sections 1.2.2.1-1.2.2.4, immediately notify the Ecology Central Regional Office 24-hour emergency number at (509) 575-2490.

1.2.7 Mitigation and Control. When a spill or non-permitted discharge occurs, USDOE and CHPRC shall take appropriate immediate action to protect human health and the environment

¹ Secondary containment means a constructed pad or engineered device with an impervious surface and berms designed to hold a spill or release of dangerous waste.

Exhibit A: Required Actions Under Chapter 173-303 WAC

consistent with the performance standards of WAC 173-303-145(3) and consistent with WAC 173-303-283(3).

1.3 Contingency Plan and Emergency Procedures (WAC 173-303-350, -360)

The Hanford Emergency Management Plan (HEMP, DOE/RL-94-02) contains the Hanford facility Dangerous Waste contingency plan, consistent with the WAC 173-030-350(2) allowance for one contingency plan that meets all regulatory requirements.

1.3.1 USDOE and CHPRC will immediately implement emergency procedures and the HEMP in compliance with the Dangerous Waste Regulations if any of the following described incidents occur:

1.3.2 Any fire or explosion at the SWOC, and any fire or explosion that could spread to or otherwise affect operations at the SWOC.

1.3.3 Release of dangerous waste, mixed dangerous waste, or hazardous substance, which includes, but is not limited to the following:

1.3.3.1 Any sudden or non-sudden spill, release, or other discharge of a dangerous waste, mixed dangerous waste, or hazardous substance that poses a threat to human health or the environment, regardless of quantity.

1.3.3.2 A spill, release, or other discharge that has the potential for contamination of soil, surface water, or groundwater that poses a threat to human health or the environment, regardless of size.

1.3.3.3 An uncontrolled spill, release, or other discharge originating from a damaged shipment that has arrived at a dangerous waste unit or TSD Unit Group.

1.3.3.4 A spill, release, or other discharge of a dangerous waste or hazardous substance greater than 100 pounds (12 gallons) or the "reportable quantity" established in the most recent version of 40 CFR Part 302, Table 302.4 (whichever is less) when any portion of the release extends beyond secondary containment.²

² Secondary containment means a constructed pad or engineered device with an impervious surface and berms designed to hold a spill or release of dangerous waste.

Exhibit A: Required Actions Under Chapter 173-303 WAC

1.3.3.5 A release of gas to the air originating from an unplanned reaction of dangerous waste, mixed dangerous waste, or hazardous substance.

1.3.3.6 Emissions to the air from a spill, release, or other discharge (including to secondary containment) of a dangerous waste or hazardous substance when (a) the spill or release is greater than 100 pounds (12 gallons), (b) a "reportable quantity" in the most recent version of 40 CFR Part 302, Table 302.4 (whichever is less), or (c) a constituent not specifically listed in Appendix VI in 40 CFR Part 265 list of compounds known to have a Henry's Law constant value less than the cutoff level, or volatile organic compound detected by SW 846 6260B.

1.3.3.7 A spill, release, or other discharge or potential for release of dangerous waste or hazardous substance caused by a natural disaster including, but not limited to, earthquake or severe flooding conditions that damage equipment, foundations, structures, or tanks; severe storm involving high winds or lightning that damage or overturn tanks, containers, or other equipment; damaged or unacceptable waste shipments arriving at the facility that present a hazard to public health and the environment; a shipment that cannot be transported because the containers are damaged or in such poor condition to such an extent that presents a hazard to workers, public health, or the environment in the process of further transportation.

1.3.3.8 A release of a dangerous waste, mixed dangerous waste, or hazardous substance that prompts an evacuation of all or part of a SWOC unit.

1.4 Documentation Required (WAC 173-303-145(4), -360(2)(e), (j), (k), -390(3))

1.4.1 Within 15 days of an incident triggering the RCRA contingency plan, USDOE or CHPRC must submit a report to Ecology's Richland Field Office to the contact identified in Section IX (Submittals) of the Order. WAC 173-303-360(2)(k).

1.4.2 USDOE and CHPRC must record spills and releases of dangerous waste, mixed dangerous waste, or hazardous substance in a spill log as part of the operating record as required by WAC 173-303-380. This includes incidents that do not meet the criteria for notification or

Exhibit A: Required Actions Under Chapter 173-303 WAC

reporting in this Order, for example small spills or releases to containment systems that do not exceed the thresholds listed above.

1.5 Contingency Plan

1.5.1 USDOE and CHPRC will train all appropriate facility employees (including SWOC emergency coordinators) on the updated HEMP required in section 1.1.2, and any subsequent revisions no later than 14 calendar days after the revisions become effective, or for new employees, within 28 days of reporting to SWOC. New employees must be supervised by a person knowledgeable in dangerous waste management procedures as required by WAC 173-303-330(1)(a) until all required training has occurred.

1.5.2 Until the HEMP is revised, appropriate facility employees (including SWOC emergency coordinators) responsible for notification and reporting within the SWOC will be trained on the notification and reporting criteria in section 1.2 of this Exhibit within 60 days of the effective date.

1.6 Waste Designation

1.6.1 USDOE and CHPRC shall designate waste in accordance with the procedures in WAC 173-303-070 and -170. Dangerous waste will be managed in accordance with the risks and hazards identified by the designation process. Characterization may result in additional waste codes being applied. USDOE and CHPRC will manage the redesignated waste in accordance with the new risks and hazards associated with the new waste codes.

1.6.2 For designation under WAC 173-303-080, -081, and -082 (lists), once a listing is applied to a dangerous waste, all waste derived from the original waste will carry the original wastes' listings codes unless the waste is re-evaluated through the designation procedures of WAC 173-303-070 and -170. Changes to designation, and the supporting information for the change, will be documented in the operating record.

1.6.3 Ecology may require chemical, physical, or biological analysis be performed on a waste or waste stream as provided under WAC 173-303-070(4). If required, USDOE and CHPRC will comply with this requirement by submitting a written proposal for conducting the required

Exhibit A: Required Actions Under Chapter 173-303 WAC

sampling of the waste stream in compliance with the requirements of WAC 173-303-110. Ecology will review and comment on the proposal.

1.6.3.1 Liquids identified by NDE in mixed low level waste (MLLW) will be sampled per WAC 173-303-070.

1.6.3.2 Waste identified by NDE that does not meet the definition of debris will be sampled per WAC 173-303-070.

1.6.3.3 Documentation of the results of the sampling and analysis will be placed in the operating record.

1.7 Sampling and Analysis for Designation and Characterization

1.7.1. USDOE will conduct NDE on all future retrieved drums (approximately 12,000 containers) and non-drum containers (approximately 150) that can be done using existing capabilities to identify non-conforming waste items (NCW).³ USDOE will open and sample (at T-Plant or other acceptable facility) all MLLW drums that contain liquid NCW (e.g. containerized liquid, free liquids in excess of 1% of the drum volume). USDOE may request Ecology approval of reduced sampling frequency once USDOE can demonstrate that adequate characterization/sampling has established reliable waste profiles.

1.7.1.1 USDOE and CHPRC will conduct sampling and analysis of waste received or stored at the SWOC units for NCW waste identified in section 1.7.1 when testing is required in accordance with WAC 173-303-070 and -170. To meet this requirement, USDOE and CHPRC must use an Ecology-approved waste stream-specific sampling and analysis plan (SAP). Until USDOE and CHPRC submit to Ecology a permit modification request for the SWOC Unit Groups, including Waste Analysis Plans (*see* Exhibit section 1.12.1), USDOE and CHPRC will incorporate SAPs into the existing RCRA interim status standards Waste Analysis Plans for SWOC Unit Groups.

³ A non-conforming waste is a waste that does not match the shipping document (WAC 173-303-370(5)), does not match the designation or characterization for the waste (WAC 173-303-300(3)), or both.

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1.7.2 Samples obtained for the purpose of waste designation, determination of RCRA regulatory status, and determining the applicability of landfill disposal restrictions (LDR) requirements must be representative of the waste stream and be taken in accordance with the SWOC unit WAP. Samples taken for the purposes of radiological constituent determinations or industrial hygiene screening are outside the scope of this order.

1.7.3 Sample methods for volatile organic compounds require that samples be placed in an appropriate bottle type as specified in the procedures and techniques recommended in EPA publication SW-846, entitled *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*.

1.7.4 All personnel required to conduct designation sampling will be trained to perform the procedures as required by the test method and of the applicable SWOC Unit Group Waste Analysis Plan within 60 days of the effective date of the Order. New employees will be trained before they conduct any designation sampling.

1.7.5 Documentation will be kept in the TSD operating group-specific operating record as training records (WAC 173-303-330(3)) for all personnel conducting sampling for the purpose of designation. A copy of the training course curriculum, or a detailed description, will be kept with the training record.

1.8 General Waste Analysis for Treatment, Storage, and/or Disposal Activities

The SWOC units are TSDs that provide container storage and treatment for dangerous and/or mixed waste, including the retrievably stored mixed transuranic waste being retrieved from the Hanford Facility Low-Level Burial Grounds. SWOC units manage both retrieval waste, as well as newly generated waste. The waste received and processed by SWOC has been generated both on and off the Hanford Site.

SWOC waste management processes include the following:

- Assessment and evaluation of the waste stream information. This process ensures conformance with SWOC waste acceptance requirements prior to acceptance of the waste at the SWOC unit.

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- Completion and submittal of a waste stream data package.
- Receipt and acceptance of dangerous and/or mixed waste.
- Management of the accepted waste for storage and/or treatment.
- Generation of new dangerous or mixed waste during processing.

SWOC units manage these types of waste: 1) newly generated waste from both on-site and off-site of Hanford, 2) waste transferred between SWOC units, 3) retrieval waste, and 4) SWOC unit generated waste.

1.8.1 SWOC units shall maintain a current WAP that complies with WAC 173-303-300. Until USDOE and CHPRC submit to Ecology a permit modification request for the SWOC Unit Groups, including Waste Analysis Plans (see Exhibit section 1.12.1), USDOE and CHPRC will notify Ecology of any revisions to the existing RCRA interim status standards Waste Analysis Plans for SWOC Unit Groups.

1.8.2 USDOE will document in the SWOC WAP a process for confirming the each type of waste managed meets WAC 173-303-300 requirements. This process will include a performance evaluation of the generator's record of conformance to the WAP. The process must include the following:

- 1) a waste stream approval process
- 2) a waste transfer approval process
- 3) a verification process

1.8.3 USDOE and CHPRC shall perform characterization confirmation on Retrievably Stored Waste (RSW) drums in accordance with the detailed requirements below (1.8.3.1 through 1.8.3.4). USDOE will complete the characterization confirmation for drums and NDE capable boxes no later than the dates specified in milestones M-091-42 and M-091-43 in the Hanford Federal Facility Agreement and Consent Order (HFFACO), as amended. In the event that USDOE and CHPRC fail to complete the requirements in section 1.8.3 and subsections 1.8.3.1-

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1.8.3.2 of this Exhibit by the milestone dates for M-091-42 and/or M-091-43, then the sole remedy for Ecology shall be assessment of HFFACO stipulated penalties.

1.8.3.1 For all 55-gal drums of RSW, each package will be verified by means of physical waste confirmation methods (e.g., opening the drum and inspecting the waste) or by non-intrusive waste confirmation methods (e.g., non-destructive evaluation (NDE) using radiography). The waste will be examined to identify any NCW items in the drum. Waste verifications can be performed at the Low-Level burial grounds, excluding Trenches 31, 34, and 94, upon retrieval, or at a SWOC unit.

1.8.3.2 USDOE will perform NDE on the approximate 1,000 RSW drums currently in storage at SWOC for which NDE has not yet been performed prior to shipment off site, or processing on-site.

1.8.3.3 Drummed waste without liquid NCW items can be shipped offsite for processing.

1.8.3.4 Drummed waste containing one or more NCW items cannot be shipped offsite for processing until the NCW items have been characterized and/or dispositioned onsite at a SWOC unit. "Dispositioned" would include the opening the drums and removing NCW. It could include other activities (e.g., repackaging or over-packing) and some treatment (e.g., solidification).

1.8.4 USDOE shall perform characterization confirmation on RSW boxes per the following requirements:

1.8.4.1 Each box of RSW for which non-intrusive waste confirmation capability (e.g., NDE using radiography) is available at a SWOC unit at the time this Agreed Order becomes effective (nominally a box up to 9'x5'x5' in size), will be so examined. The box contents will be examined for NCW items in the box. Waste verifications can be performed at the Low-Level retrieval burial grounds, excluding Trenches 31, 34, and 94, upon retrieval, or at a SWOC unit.

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1.8.4.2 Such NDE capable RSW boxes that have been confirmed to not contain any NCW items can be shipped offsite for processing.

1.8.4.3 Such NDE capable RSW boxes containing one or more NCW items can be shipped offsite for processing provided the additional knowledge obtained from the NDE verification is recorded in the waste package operating record, and the additional knowledge is transmitted to the receiving offsite facility prior to shipment of the waste to the facility.

1.8.5 For any box of RSW for which non-intrusive waste confirmation capability (e.g., NDE using radiography) is not available at a SWOC facility at the time of this agreed order (nominally a box greater than 9'x5'x5' in size), the waste record for the waste box will be reviewed and investigated to determine the probable contents inventory. This review and investigation shall be documented in the SWOC unit operating record. If the waste package is to be shipped offsite for processing, all available process knowledge about the contents will be provided to the offsite facility prior to shipment.

1.8.5.1 Within 1 year of the effective date of this Order, USDOE and Ecology will meet and jointly review available information previously used to develop the process knowledge documentation of the RSW packages currently being stored outdoors at CWC closing TSDs. USDOE and Ecology will work to identify a subset of these boxes having sufficient knowledge to reliably comply with an offsite facility's waste acceptance criteria and radioactive material license (RML). USDOE will work with Ecology to assess the feasibility of initiating processing some of these large boxes offsite in FY2014 and/or FY2015.

1.8.5.2 For those RSW packages having insufficient knowledge, USDOE will continue to identify additional means to obtain reliable characterization information, to allow processing of these waste packages offsite as necessary. USDOE will complete the characterization confirmation for those RSW packages no later than the dates specified in milestones M-091-42 and M-091-43 in the Hanford Federal Facility Agreement and

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Consent Order (HFFACO), as amended. In the event that USDOE and CHPRC fail to complete the characterization requirements in this subsection by the milestone dates for M-091-42 and/or M-091-43, then the sole remedy for Ecology shall be assessment of HFFACO stipulated penalties.

1.8.5.3 Additional waste characterization knowledge obtained during the processing of a box of RSW at such an offsite facility shall be reviewed by USDOE to determine if it should amend the waste designations for other boxes or drums from the same waste stream that remain at the Hanford site.

1.8.6 USDOE and CHPRC will document in the operating record all records required by WAC 173-303-380, including the following:

- 1) the waste acceptance and confirmation process for each waste accepted;
- 2) the results of all tests and samples; and
- 3) Analytical results, including QA/QC results.

1.8.7 The existing interim status standards Waste Analysis Plans for SWOC Unit Groups identify steps to document and manage conformance issues identified during waste confirmation. When a NCW is found the following actions will be taken to meet the requirements of WAC 173-303-300:

1.8.7.1 Determine whether the waste cannot be managed safely at the SWOC due to process or safety limits, and must be moved to an alternate facility.

1.8.7.2 Evaluate whether the waste fits another existing designation or characterization description and has been misidentified, and therefore it can be accepted at the facility.

1.8.7.3 Characterize or re-characterize the waste stream, and document the changes in the operating record as required by WAC 173-303-300 and -380.

1.8.7.4 Report to Ecology if the discrepancy cannot be resolved within 15 days, as required by WAC 173-303-370(5)(c).

1.8.8 Confirmation and/or characterization by USDOE and CHPRC will include the following:

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The WAP will specify for each waste type accepted into SWOC (newly generated, transferred waste, RSW waste, and waste generated during SWOC operations) a process for confirming the dangerous waste characteristics of the waste. This process could include representative sampling and analysis, chemical screening, NDE or visual verification to help ensure that the contents of the container match the knowledge about the waste stream. For direct testing, testing parameters and required methods must be in accordance with WAC 173-303-110 as specified in the WAP.

1.9 Container Management

1.9.1 USDOE and CHPRC will immediately take the following steps to care for and maintain containers of dangerous waste or MLLW at all of the SWOC DWMUs:

1.9.2 USDOE and CHPRC must maintain containers of dangerous waste in good condition.

“Good condition” means:

- 1) Containers must be free of excessive dents and corrosion.
- 2) Containers must not have appearance of other deterioration or excessive pressure (bulging or swelling)
- 3) Containers must have no structural defects.
- 4) Where containers are equipped with seals, gaskets, or other closure sealing devices, they must be in good condition, and sufficient to prevent both spills/leaks of the container contents, and prevent the intrusion of precipitation.

If any container is found not to be in good condition, the waste must be transferred from that container to a container in good condition, or the container placed in a suitable overpack container. Containers must be compatible with their contents.

1.9.3 USDOE and CHPRC must not store incompatible waste streams in the same secondary containment area, place waste in a container that may cause corrosion or decay of that primary containment, or commingle waste with other waste streams which produce unexpected or uncontrolled reactions as required by WAC 173-303-630(9).

1.9.3.1 Containers of incompatible waste must be separated from other wastes by means of a berm, wall, dike, spill pallet, or other physical barrier. Spill pallets used for

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segregating incompatible wastes must be maintained in good condition, inspected weekly, and deficiencies noted on the weekly inspection checklist.

1.9.4 A container holding dangerous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak. For dangerous waste in operating DWMUs that has not been confirmed to be free of liquids, USDOE and CHPRC will store such dangerous waste in secondary containment and in DWMUs that are designed to be protective of the container type as required by WAC 173-303-630(4), (7).

1.9.5 Loading and unloading of mixed waste containing known liquids at the SWOC DWMU will occur only within compliant secondary containment that meets the standards of WAC 173-303-395(4), or USDOE/CHPRC will use temporary measures (e.g. portable berms and/or spill pallets) to provide compliant secondary containment.

1.10 Inspections

The following requirements shall be followed within 30 days of the effective date of this Order:

1.10.1 USDOE and CHPRC shall conduct inspections at the SWOC in accordance with the requirements of WAC 173-303-320 and -630(6). USDOE and CHPRC shall take necessary steps to ensure that containers at the SWOC, including containers with covers or that have restricted access due to radiological controls in DWMUs, receive complete and thorough inspections.

1.10.2 For problems or unsatisfactory conditions found during inspections, USDOE and CHPRC shall remedy those problems or unsatisfactory conditions as follows:

1.10.2.1 On an on-going basis, as required by WAC 173-303-320(3), remedy the condition revealed by the inspection on a schedule which prevents hazards to the public health and environment.

1.10.2.2 Track problems resulting from malfunctions and deterioration, operator errors, and discharges (WAC 173-303-320(1)) or necessary repairs or remedial actions (WAC 173-303-320(2)(d)) including the remedy and date of the remedy, keep this information in the operating record, and provide the record upon request (WAC 173-303-380).

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1.10.2.3 Work orders or directives to correct problems resulting from malfunctions and deterioration, operator errors, and discharges (WAC 173-303-320(1)) or necessary repairs or remedial actions (WAC 173-303-320(2)(d)) will be acted upon on a schedule that reflects the risk or hazard (WAC 173-303-320(3)). Roof leaks of dangerous waste storage buildings, if observed, will be identified by required inspections. In addition to weekly inspections, ad hoc tours by operations personnel may be used to identify roof leaks and damage to/deterioration of Dangerous Waste storage buildings. All leaks will be tracked in unit operating records. Leak repair priority will be determined by the risk of the leak to stored waste containers and as allowed by weather conditions; but shall occur on at least a yearly frequency.

1.10.2.4 Immediately upon the effective date of the Order, respond to all imminent or actual hazards at the time they are observed (WAC 173-303-320(3) and -145(3)).

1.10.3 The Dangerous Waste Regulation (DWR) inspection frequency will be weekly for all DWMUs as required by WAC 173-303-630(6). Daily inspections will take place when specific conditions described in WAC 173-303-320(2)(c) exist in the specific unit for areas that are subject to spills. For example, on/off load areas are subject to daily inspections when being used to handle containers with known free liquids.

1.10.3.1 The DWR required inspections will identify and evaluate on a weekly basis the condition of containers, container covers, and evidence of leaks, spills, or releases.

1.10.3.2 For mixed waste boxes that are stored in a radioactive contamination area, or where access might be time limited by radiation dose, so that inspection access is limited, the inspection schedule will include alternative means to conduct a dangerous waste inspection.

1.10.3.3 For waste packages stored at the CWC in Outside Storage Area A, USDOE and Ecology agree that in addition to the weekly DWR inspections identified in the existing DWR interim status standards inspection plans, USDOE performs the

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following additional surveillances which provide an additional degree of confidence about safe storage of the waste containers at the CWC Outside Storage Area A:

- 1) During performance of the weekly radiological survey routines, Radiological Control Technicians (RCTs) observe containers and container covers for signs of deterioration. Any abnormal conditions will be reported to their supervisor and/or Operations management.
- 2) During performance of the normal (on standard operating days only) safety drive-through at the CWC, Operations management notes any abnormal conditions within the storage area (e.g. torn covers, blown-off protective covers, missing labels).
- 3) On a monthly basis, the tops of the waste packages or package covers are visually checked to determine if there are tears or holes significant enough to allow precipitation to degrade the waste package.
- 4) Additionally, the following monthly surveillances/inspections are performed at the CWC which puts personnel out in the field who are cognizant in identifying degrading conditions associated with the waste packages:
 - a) Discrepant container reviews;
 - b) Combustible loading surveillances;
 - c) Housekeeping inspections;
 - d) Fire extinguisher inspections.

1.11 Care and Maintenance During Closure at CWC Outside Storage Area A

1.11.1 USDOE and CHPRC must ensure that dangerous waste containers stored at the CWC are labeled with the information as required by WAC 173-303-630(3) and -395(6) to make sure that workers know and understand the risks associated with the wastes to be managed or stored.

1.11.1.1 Within 30 days of the effective date of the Order, USDOE and CHPRC will institute a process to label, and maintain labels in good condition for all DW containers or their protective covers in the CWC Outside Storage Area A. The label information

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required will be present, maintained, and will not become obscured, removed, weathered, or otherwise unreadable for the purposes of inspection.

1.11.1.2 Personnel conducting the DW container inspections will verify the appropriate labeling on each container or covered container and inspect the condition of the labels during daily and weekly inspections. Missing or obscured labels will be corrected on the day they are discovered missing or damaged.

1.11.2 For RSW containers that are stored outside at the CWC Outside Storage Area A that cannot be placed into a building(s), USDOE and CHPRC shall apply protective covering within 150 calendar days of the effective date of the Order. USDOE and CHPRC will ensure that such covers provide an equivalent level of protection from the elements, including infiltration of precipitation, that would otherwise be obtained if it were technically practicable to place such containers in a building pursuant to WAC 173-303-630(7)(d).

1.11.3 Immediately upon the effective date of the Order, USDOE and CHPRC will cease accepting any new mixed waste containers in CWC Outside Storage Area A. Dangerous waste containers with known liquids may only be stored in DWMUs that meet the secondary standards required by WAC 173-303-630(7).

1.12 Facility Expansions

1.12.1 Within fourteen months after Ecology's transmittal of the Conceptual Agreement Packages to USDOE, USDOE agrees to submit to Ecology a Class 3 permit modification request to incorporate the SWOC Unit Groups into the Hanford Dangerous Waste Permit.

1.12.2 Until Ecology receives the USDOE request to incorporate the SWOC Unit Groups into the Hanford Dangerous Waste Permit, expansions to a DWMU, or the construction or addition of any new DWMU, must occur in accordance with WAC 173-303-830. USDOE and CHPRC will do the following when proposing to expand any of the DWMUs within the SWOC Unit Groups:

1.12.3 Immediately upon the effective date of the Order, and prior to implementing a change to any DWMU within any of the SWOC Unit Groups, USDOE and CHPRC will submit to Ecology

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all planned Class 2 and 3 modifications described in WAC 173-303-830 in accordance with the three-tiered modification classification system.

1.12.4 In accordance with WAC 173-303-810(14)(a), USDOE and CHPRC must provide notice to Ecology as soon as possible of any planned physical alterations or additions to any DWMU within the SWOC Unit Groups. Such physical alterations or additions must be in compliance with the requirements and standards of the dangerous waste regulations. No dangerous waste may be managed in any new or modified DWMU within the SWOC Unit Groups until:

1.12.4.1 A permit modification has been submitted to Ecology and approved by, or temporary authorization has been obtained from, Ecology for the physical change; and

1.12.4.2 A letter has been submitted to Ecology by certified mail or hand delivery signed by USDOE, CHPRC, and a registered professional engineer that states the new waste management area has been constructed or modified in compliance with the authorized permit modification and either:

- 1) Ecology has inspected the modified or newly constructed waste management area and finds it in compliance with the permit, or
- 2) Ecology has not provided notice of its intent to inspect within 15 days of receipt of the letter.

1.13 Recordkeeping and Access to Operating Record

1.13.1 RCW 70.105.109 provides authority to Ecology to regulate mixed hazardous waste that is composed of both radioactive and hazardous components. RCW 70.105.130 provides authority to require records be kept, and to access regulated facilities for the purpose of inspection. USDOE and CHPRC shall provide access to Ecology as intended by these authorities and in accordance with WAC 173-303-380(3). The following actions are required under this exhibit:

1.13.2 All operating records required by WAC 173-303-380 must be available to Ecology upon request during site inspections at the time of the site visit, or within 24 hours thereafter with written approval for the extension from Ecology.

1.13.3 Electronic records will be retrievable at the time of the site visit and provided in hard copy upon request for on-site review.

1.14 Schedule

The following submittals are listed as requirements in the subsections above, and are repeated here to summarize the schedule of compliance:

1.14.1 Dangerous Waste Permit Modification request, for a revision to the HEMP:

1.14.1.1 Schedule in accordance with section 1.1.2.

1.14.2 Appropriate facility employees responsible for notification and reporting within the SWOC will be trained on the notification and reporting criteria in this Agreed Order:

1.14.2.1 Within 60 days of the effective date of this Order (Section 1.5).

1.14.3 USDOE and Ecology will jointly review available information for large RSW boxes:

1.14.3.1 Schedule in accordance with section 1.8.5.1.

1.14.4 Implement surveillances at CWC Outside Storage Area in addition to weekly Dangerous Waste Regulations inspections (Section 1.10):

1.14.4.1 Within 30 days of the effective date of this Order.

1.14.5 Submit to Ecology a Class 3 Permit modification request to incorporate the SWOC Unit Groups into the Hanford Dangerous Waste Permit:

1.14.5.1 Schedule in accordance with section 1.12.

EXHIBIT B

DANGEROUS WASTE MANAGEMENT UNITS

CENTRAL WASTE COMPLEX (CWC)

- Flammable and Alkali Metal Waste Storage Modules
- 2402-W series waste storage buildings: WB through WF, and WH through WL
- 2403-W series waste storage buildings: WA through WC
- 2403-WD Waste Storage Building
- CWC Tank D-10 Outside Storage Area (CWC Outside Storage Area F)
- CWC East Outside Storage Area (CWC Outside Storage Area D)
- CWC Shipping and Receiving Area (CWC Outside Storage Area E)
- 2402-WG Waste Storage Building

DWMUs Closing at CWC

- CWC Outside Storage Area A
- CWC Outside Storage Area B
- CWC 2401W Waste Storage Building

WASTE RECEIVING AND PROCESSING FACILITY (WRAP)

- 2336-W Building Process Area
- 2336-W Building NDA/NDE Area
- 2336-W Building Shipping and Receiving Area
- 2336-W Building Room 152
- 2404-WA Waste Storage Building
- 2404-WB Waste Storage Building
- 2404-WC Waste Storage Building
- HERTR and Super HENC Waste Outdoor Storage Area

T-PLANT DANGEROUS WASTE MANAGEMENT UNITS

- 221-T Canyon Deck
- 221-T Cells
- 221-T Railroad Tunnel
- 221-T Head End
- 221-T Operations Gallery Storage
- 221-T BY Storage Area
- 2706-T Building
- 2706-TA Building
- 2706-T Yard (Including HS-030 and HS-032 Storage Modules)
- 2706-T Asphalt Pad
- 243-T Covered Storage Pad
- 214-T Building
- 211-T Cage

DWMUs Closing at T-Plant

- 271-T Cage
- 211-T Pad
- 221-T Sand Filter Pad
- 221-T R5 Waste Storage Area
- 277-T Outdoor Storage Area
- 277-T Building
- 2706-TB Tank System
- 221-T Railroad Cut
- 221-T Pipe Gallery Storage
- 221-T Tank System

EXHIBIT C

DANGEROUS WASTE VIOLATIONS

Based on the facts provided below, Ecology determined that the following violations occurred at the Waste Receiving and Processing Facility (WRAP) and the Central Waste Complex Operating Unit Group (CWC) of the Hanford Site. For the purposes of this Order, CWC consists of storage units and closure units.

A. WRAP

Inspections by Ecology occurred at WRAP on May 20, July 27, and September 17, 2012. Based on Ecology's inspection and investigation, it found the following violations:

1. Failure to timely notify Ecology of a release to the environment. Any person who is responsible for spills or nonpermitted discharges which result in emissions to the air must immediately notify all local authorities in accordance with the local emergency plan and the local regional office of Ecology. WAC 173-303-145(2)(b) Spill Notification.

WRAP personnel failed to recognize a release to the air and timely notify Ecology. On April 26, 2011, WRAP personnel discovered liquid on the floor at the base of a drum located at WRAP 2404WB building. It was later determined that a release from a drum of mixed waste had occurred in the 2404WB building. According to the original designation, the contents of the leaking drum were solid hazardous debris. However, the drum contained plutonium in addition to nitric acid, beryllium, and sulfuric acid, which are extremely dangerous to workers as an inhalation hazard.

2. Failure to timely implement a Contingency Plan. The provisions of the contingency plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous constituents which could threaten human health or the environment. 40 CFR 265.51(b) incorporated by reference in WAC 173-303-400(3) as an applicable standard for facilities required to comply with the interim status requirements.

In responding to the April 26, 2011 discovery of liquid at the 2404WB building, USDOE and CHPRC failed to implement the Contingency Plan and properly notify Ecology of an

emergency circumstance. Documents obtained through an Ecology information request state that a human health hazard was present during the time of the release. The instruction for building personnel to move to the door is an evacuation, an indicator of a threat to workers. Both factors should have triggered Contingency Plan implementation.

3. Failure to designate waste according to required procedures. A person is responsible for designating their waste as dangerous waste or extremely hazardous waste in accordance with the process provided in the dangerous waste regulations. WAC 173-303-070(3) and 170(1)(a) Requirements for generators of dangerous waste.

The leaking drum discovered at the 2404WB building was one of seventeen drums associated with the Hanford Engineering Development Laboratory (HEDL) wastestream. These drums were incorrectly designated. Dangerous waste numbers D004-D011, D022, D027-D030, D034, D037, D043, F001-F005, and a number of toxicity characteristic waste numbers were applied to the wastestream on the basis of Acceptable Knowledge documentation for the Richland Mixed Building 325 Debris ("RLM325D") mixed debris waste stream. The appropriate waste code of D002 was not applied until the drum leak occurred and the liquid from the drum was found to have a pH below 2. The leaking drum's contents were identified as an acid less than 2 pH on the WRAP glovebox table three months before the drum leak yet no D002 waste code was applied to the drum.

4. An owner or operator must confirm knowledge about a dangerous waste before it is treated, stored, or disposed. Detailed chemical, physical, and/or biological analysis of a dangerous waste must be obtained prior to storage, treatment, or disposal. The purpose for the analysis is to ensure that a dangerous waste is managed properly. WAC 173-303-300(1), (2) General waste analysis. WAC 173-303-300 applies to a facility owner or operator and is incorporated by reference, in WAC 173-303-400(3)(a)(i).

USDOE and CHPRC failed to correctly confirm knowledge of the drums from the HEDL wastestream prior to accepting it into the WRAP facility for storage. Chemical analysis was not obtained prior to acceptance into the facility.

The information package used by WRAP as acceptable knowledge to designate and characterize the waste for safe management was not sufficient or reliable to substitute for laboratory analysis. Acceptable knowledge packages consolidate multiple waste-streams from various processes into one "designation." The variability of the wastestream between containers and within containers was not considered adequate in characterizing the waste and the hazards associated with managing the waste. USDOE and CHPRC failed to make sure the acceptable knowledge package information was accurate, complete, and representative of the wastestream in order to ensure proper waste management.

5. An owner or operator must inspect his facility to prevent malfunction and deterioration, operator errors, and discharges which may cause or lead to the release of dangerous waste constituents to the environment, or a threat to human health. WAC 173-303-320(1). WAC 173-303-320(1) is incorporated by reference as an interim status standard in WAC 173-303-400(3)(a)(i).

USDOE failed to perform dangerous waste weekly inspections for four weeks in May 2011 for the 2404WB building at the WRAP. The release discovered at the 2404WB building on April 26, 2011, did not excuse USDOE from conducting weekly inspections at that building.

6. Failure to take immediate remedial action when a hazard was imminent or had already occurred. Where a hazard is imminent or has already occurred, remedial action must be taken immediately. WAC 173-303-320(3). WAC 173-303-320 is incorporated by reference as an interim status standard in WAC 173-303-400(3)(a)(i).

WRAP personnel failed to timely respond and correct deterioration of the 2404WB building's leaking roof structure. WRAP personnel knew from prior inspections and a CHPRC WRAP drum leak Root Cause Analysis Report (August 8, 2011) that there was an on-going issue of leaks in the roof of the 2404WB building. These leaks compromised the ability of waste management personnel to promptly and effectively identify liquids on the floor of the storage building as a spill or release from a container as opposed to being accumulated rainwater.

7. Failure to record on an inspection log or summary the date and notations of observations made and the date and nature of repairs or remedial actions taken to note and repair leaking roofs, and failure to place the information into the operating record. The owner or operator of a facility must keep a written operating record at their facility that includes the records and results of inspections as required by WAC 173-303-320(2)(d). WAC 173-303-380(1)(e), Facility recordkeeping. WAC 173-303-380 is incorporated by reference as an interim status standard in WAC 173-303-400(3)(a)(i).

Ecology USDOE and CHPRC notified on September 13, 2012 that the one of the purposes of Ecology's September 17, 2012 site visit was to review WRAP operating records. When Ecology field staff arrived as arranged, the dangerous waste inspection records were not readily available, and were provided instead on September 25 and October 2, 2012, by USDOE and CHPRC. Ecology noted that the radiological records contained general information about the roof leaks and repairs, but the dangerous waste inspection records did not contain specific information as is required by WAC 173-303-320(2)(d).

8. Failure to adequately label containers with the major risk, and/or to maintain identification of containers. The owner or operator must ensure that labels are not obscured, removed, or otherwise unreadable in the course of inspections required under WAC 173-303-320. WAC 173-303-630(3) Identification of containers. WAC 173-303-630(3) is incorporated by reference as an interim status standard in WAC 173-303-400(3)(a)(ii).

Labels on the HEDL wastestream containers failed to identify corrosivity as one of the major risks associated with the waste. Dangerous waste labels with "corrosive - D002, acid, solid/liquid" were placed on the containers twenty (20) days after the drum leaked and was confirmed to contain a corrosive liquid.

9. Compatibility of waste with containers. The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to

contain the waste is not impaired. 40 CFR 265.172 incorporated by reference in WAC 173-303-400(3)(a) as an applicable standard for facilities required to comply with interim status requirements. *See also* WAC 173-303-630(4).

The contents inside the drum that leaked at the 2404WB building were (1) misdesignated, (2) mischaracterized as solid hazardous waste, and (3) had not been verified. The contents were not solid debris. The drum was later discovered to contain corrosive wastes that had not been neutralized. Placement of wastes with a pH of less than 2 into a steel one-trip drum not designed to be fully chemical resistant constitutes placement of waste in a container that is incompatible.

10. Failure to protect containers. The owner or operator must protect their containers from the elements by means of a building or other protective covering to prevent a release of waste or waste constituents due to the nature of the waste or design of the container. WAC 173-303-630(2), (7)(d) Containment. WAC 173-303-630 is incorporated by reference for interim status facilities in WAC 173-303-400(3)(ii).

Deterioration of the 2404WB building, specifically the leaking roof structure, has compromised its ability as part of the containment system to protect containers and the system from the elements. As noted earlier, WRAP personnel failed to conduct weekly inspections during four weeks in May 2011. The on-going issue of leaks in the roof of the 2404WB building compromised the ability of waste management personnel to identify liquids on the floor of the storage building as a spill or release from a container as opposed to a found liquid assumed as being accumulated rainwater.

B. CWC

Inspections occurred on March 7, 8, 14, and 15, 2012, at the CWC. Based on Ecology's inspection and investigation, it found the following violations:

1. Failure to timely notify Ecology of an imminent or actual emergency situation or a release which could threaten human health or the environment. Whenever there is an imminent or actual emergency situation, including a release that poses an imminent threat

to human health and the environment, notification is required by WAC 173-303-360(2)(a)(ii), (d)(ii).

The original release from box 231-Z-DR-11 was discovered through routine radiation monitoring that resulted in the identification of a contaminated area on December 20, 2011. According to radiological technicians, alpha radiation is present when there is waste present. Alpha radiation was discovered on the outside of box 231-Z-DR-11 on December 20, 2011, therefore a release of dangerous waste was discovered on this date. USDOE and CHPRC should have contacted Ecology with this information on December 20, 2011, but did not notify Ecology of the release until February 7, 2012 (50 days after the initial discovery of the spill/discharge).

2. Failure to take appropriate and immediate mitigation and control actions after a spill or discharge. The person responsible for a spill or nonpermitted discharge must take appropriate immediate action to protect human health and the environment. WAC 173-303-145(3) Mitigation and Control.

Personnel at the CWC are responsible for taking immediate actions to mitigate spills or discharges of dangerous waste or hazardous substances at CWC. For the release from box 231-Z-DR-11, when liquid was observed on February 6 the CWC did not have spill containment pans available immediately for mitigating the release. Spill containment pans were not deployed for three days after the spill was identified, from February 6, 2012 until February 9, 2012 at box 231-Z-DR-11.

3. Failure to designate waste according to required procedures. A person is responsible for designating their waste as dangerous waste or extremely hazardous waste in accordance with the process provided in the dangerous waste regulations. WAC 173-303-170(1)(a) Requirements for generators of dangerous waste; WAC 173-303-070(3) Designation procedures.

As regulated generators of dangerous waste, USDOE and CHPRC are required to designate its waste in accordance with WAC 173-303-070 and -170. USDOE and CHPRC failed

to designate the waste in the drums holding liquids collected from box 231-Z-DR-11. Wastes derived from listed waste must be designated with the associated listed waste codes.

4. Failure to obtain samples in accordance with procedures designed to yield representative analytical results of an acceptable quality required by the analytical methods. Ecology will consider a sample to be a representative sample when it is obtained using any of the applicable sampling methods described in WAC 173-303-110(2) Representative samples. Quality control procedures specified by the testing method or an approved equivalent method must be followed for the analytical result to be considered valid for designation and test procedures. WAC 173-303-110(1), (3) Test procedures. Compliance with representative samples and analytical test procedures is required when testing is utilized to comply with WAC 173-303-170(1) and by reference, WAC 173-303-070(3) for designation, or to comply with WAC 173-303-300 for characterization.

Samples obtained of the release from box 231-Z-DR-11 in February 2012 by operations staff at CWC were placed in a Nalgene bottle and not the appropriate sample bottles for collecting representative sampling as specified by the methods for volatile organic compounds. CWC operations staff collected samples on their own initiative (initial sample collection), and then collected split samples (later sample collection) when Ecology requested samples. Operations staff collecting the initial samples did not follow established test methods, protocols, analytical and quality control procedures, or the required sample collection method.

5. An owner or operator must confirm knowledge about a dangerous waste before it is treated, stored, or disposed. Detailed chemical, physical, and/or biological analysis of a dangerous waste must be obtained prior to storage, treatment, or disposal. The purpose for the analysis is to ensure that a dangerous waste is managed properly. WAC 173-303-300(1), (2) General Waste Analysis. WAC 173-303-300 is included in the final facility standards in WAC 173-303-600(1).

USDOE and CHPRC failed to confirm the contents of box 231-Z-DR-11 after the box arrived at CWC. USDOE and CHPRC relied solely on acceptable knowledge packages

containing historical information to determine how to manage box 231-Z-DR-11 at the CWC. Decisions were made to place the box in the outdoor expansion area based on assumptions that the information about the box contents was sufficient and reliable. The box was identified as containing hazardous debris solids that does not contain any free liquids. The box leaked liquid that contains hazardous constituents into the environment. The acceptable knowledge package should have been confirmed by obtaining chemical, physical, and/or biological analysis prior to storage.

6. Failure to inspect adequately to detect deterioration of a container. The owner or operator must inspect his facility to prevent malfunction and deterioration, operator errors, and discharges which may cause or lead to the release of dangerous waste constituents to the environment, or a threat to human health. WAC 173-303-320(1) General inspection. WAC 173-303-320 is included in the final facility standards in WAC 173-303-600(1).

USDOE and CHPRC failed to perform dangerous waste inspections at the CWC expansion area so as to prevent malfunction, deterioration, and discharges. The malfunction or deterioration of box 231-Z-DR-11 caused a release of dangerous waste constituents to the environment.

7. Failure to conduct daily inspections of areas subject to spills. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment. Areas subject to spills must be inspected daily when in use. WAC 173-303-320(1), (2)(c) (emphasis added). WAC 173-303-320 is included in the final facility standards in WAC 173-303-600(1).

USDOE and CHPRC were only conducting inspections of the CWC expansion area on a weekly basis. Based on USDOE's and CHPRC's experience with non-conforming boxes and containers from the waste retrieval project trenches, USDOE or CHPRC should have been performing daily dangerous waste inspections at the CWC expansion area. The expansion area does not have a containment system capable of preventing liquids from entering underlying soils.

In addition, box 231-Z-DR-11 is aging (at least 30 years old) and is not intended for long term outdoor storage.

8. Failure to immediately remedy problems revealed during the inspection of box 231-Z-DR-11. An owner or operator must remedy any problems revealed by inspections and on a schedule which prevents hazards to the public (human) health and the environment. Where a hazard is imminent or has already occurred, remedial action must be taken immediately. WAC 173-303-320(3). WAC 173-303-320 is included in the final facility standards in WAC 173-303-600(1).

CWC personnel failed to timely respond and take remedial action in response to the release from box 231-Z-DR-11. Given the observation of elevated radiation levels on December 20, 2011, and the observation of visible dripping liquid to the ground from box 231-Z-DR-11 on February 6, 2012, remedial actions such as providing secondary containment should have occurred without delay.

9. Failure to provide, or maintain spill control equipment in dangerous waste storage areas. All facilities must be equipped to avoid or mitigate unplanned sudden or nonsudden release of dangerous waste, which includes spill control equipment. WAC 173-303-340(1)(c) Preparedness and prevention.

The CWC outdoor expansion area has no secondary containment, roof cover, or adequate container covers. The CWC did not have spill containment pans available immediately. Spill containment pans were not deployed until February 9, 2012, at box 231-Z-DR-11.

10. Failure to provide operating records upon request from Ecology. The owner or operator of a facility must keep a written operating record at their facility. WAC 173-303-380(3)(a) Facility recordkeeping.

USDOE denied Ecology access to CWC operating records on multiple occasions; i.e., February 7, 8, and 21, April 19, and May 23, 2012. The denial of access to records caused Ecology delays in completing the release investigation.

11. Failure to maintain containers in good condition. If a container holding dangerous waste is not in good condition or if it begins to leak, the owner or operator must transfer the dangerous waste from the container to a container that is in good condition or manage the waste in some other way that complies with the requirements of chapter 173-303 WAC. WAC 173-303-630(2) Condition of containers.

Box 231-Z-DR-11 is constructed of a steel frame with concrete walls, floor, and lid. The box shows signs of severe rust and deterioration. The box is not adequately stored for a container of this type. Once learning of the poor condition of box 231-Z-DR-11, CWC staff failed to transfer the waste in that box to a container in good condition or manage the waste in compliance with the Dangerous Waste regulations.

12. Failure to adequately label containers with the major risk, and/or to maintain identification of containers. Containers must be labeled in a manner which adequately identifies the major risk(s) associated with the contents of the containers for employees, emergency response personnel, and the public; the owner or operator must ensure that labels are not obscured, removed, or otherwise unreadable in the course of inspection required under WAC 173-303-320. WAC 173-303-630(3) Identification of containers.

Box 231-Z-DR-11 was not labeled properly so that a facility operator conducting the dangerous waste (DW) weekly inspection could see the label at one end or another without stepping in between boxes. Required DW labels were placed on the box after the leaking incident began.

The drums containing leaked waste from box 231-Z-DR-11 should have been labeled with the waste codes from the originating box as waste derived from listed waste.

13. Failure to properly store box 231-Z-DR-11. A container holding dangerous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak. WAC 173-303-630(5)(b) Management of containers.

Box 231-Z-DR-11 is stored in the open subject to extreme weather conditions and without cover or containment. The box has deteriorated to the point of leaking to the environment.

14. Failure to provide an adequate secondary containment system. The owner or operator must have a containment system that is capable of collecting and holding spills and leaks. WAC 173-303-630(7) Containment. WAC 173-303-630(7) is included in the final facility standards in WAC 173-303-600(1).

Box 231-Z-DR-11 was transferred from the low level burial grounds and stored at the CWC outdoor expansion area in 2009 according to USDÖE records. The CWC outdoor expansion area is a graveled surface area that does not have a secondary containment system. In addition, the CWC expansion area did not have a system to protect containers from the elements by means of a building or other protective covering. Box 231-Z-DR-11 had not been confirmed to contain no free liquids.

Childers, Heather M

From: Zelen, Benjamin J
Sent: Thursday, February 13, 2014 3:08 PM
To: Childers, Heather M
Subject: RE: 14-NWP-023

*back up information
as to why page count
is off.*

Ecology made a mistake with the page numbering.

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From: Childers, Heather M
Sent: Thursday, February 13, 2014 3:05 PM
To: Zelen, Benjamin J
Subject: RE: 14-NWP-023

Mine reads 11 of 12 so I am a bit confused.

From: Zelen, Benjamin J
Sent: Thursday, February 13, 2014 3:04 PM
To: Childers, Heather M
Cc: Piippo, Robert E
Subject: RE: 14-NWP-023

There is no 12th page, it should read 11 of 11

Benjamin Zelen
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From: Childers, Heather M
Sent: Thursday, February 13, 2014 2:50 PM
To: Zelen, Benjamin J

Cc: Piippo, Robert E
Subject: 14-NWP-023

Ben:

I received the above letter, 14-NWP-023 and it looks to be missing page 12 of 12 on Exhibit C. So before I process just trying to make sure my copy is complete.

Thank you,

Heather Childers