Respondent State of Washington, Department of Ecology (Ecology), represented by Attorney General Robert W. Ferguson and Assistant Attorneys General Lee Overton and Dorothy Jaffe; appellant Washington River Protection Solutions (WRPS), represented by attorneys Stephen Cherry and Gloria Johnson; and appellant U.S. Department of Energy (USDOE), represented by attorneys Mark Silberstein and Scott Stubblebine, submit this Settlement Agreement (Agreement) to the Pollution Control Hearings Board (Board) as a full and final settlement of the above-referenced appeal, and request that the Board dismiss the appeal with prejudice.

I. BACKGROUND

Ecology regulates hazardous waste under the Hazardous Waste Management Act, RCW 70.105 (HWMA) and the regulations implementing it, WAC 173-303. Ecology is
authorized by the United States Environmental Protection Agency to implement the HWMA in lieu of the federal Resource and Conservation Recovery Act (RCRA), 42 U.S.C. §§ 69001, et seq. RCW 70.105.109 states that Ecology may regulate all hazardous wastes, including those composed of both radioactive and hazardous components, to the extent it is not preempted by federal law. USDOE regulates certain radioactive materials, including the radioactive component of mixed hazardous waste at Hanford, pursuant to the Atomic Energy Act of 1954, 42 U.S.C. §§ 2011, et seq (AEA). Any Ecology “approvals” as described in this Agreement shall be predicated solely upon Ecology’s authorities under the HWMA and RCRA subject to, and to the extent such approvals are not inconsistent with, USDOE’s authority under the AEA.

On March 21, 2014, Ecology issued Administrative Order No. 10618 (Order) requiring WRPS and USDOE to conduct actions related to and including the removal of waste from double shell Tank 241-AY-102 which, since at least August 2012, has been leaking from its primary tank into its secondary containment. A copy of the Order is attached hereto as Exhibit A. USDOE and WRPS appealed the Order to the Board on April 21, 2014 and, shortly thereafter, moved for a stay. Ecology opposed the motion in briefing, and USDOE and WRPS withdrew their motion.

USDOE and WRPS timely completed requirements 1, 8, 9, 10, and 14 of the Order. Ecology, USDOE, and WRPS now agree to resolve the appeal of the Order through the settlement outlined below, which settles the remaining requirements in the Order.

II. SETTLEMENT AGREEMENT

The parties desire to resolve the dispute herein and avoid the cost and time associated with further litigation. The parties, without admitting fault or liability, therefore stipulate and agree as follows:

SETTLEMENT AGREEMENT

ATTORNEY GENERAL OF WASHINGTON
Ecology Division
PO Box 40117
Olympia, WA 98504-0117
(360) 586-6770
A. SCOPe

This Agreement constitutes the entire agreement between the parties to this appeal, and settles all issues and alleged violations raised by the Administrative Order. Ecology agrees to deem the Order satisfied upon USDOE’s and WRPS’s satisfactory and timely completion of its obligations under this Agreement. This Agreement applies only to Administrative Order No. 10618 issued on March 21, 2014, and does not in any way limit Ecology’s authority to issue other administrative orders or enforcement actions for dangerous waste violations that are not addressed in Administrative Order No. 10618.

B. RESOLUTION OF ADMINISTRATIVE ORDER

USDOE and WRPS agree to conduct the following actions, within the deadlines indicated:

1. Provide Report on Integrity Implications of Decanting Liquid

   USDOE and WRPS timely completed requirement 1 of the Order. No further action required.

2. Isolate Tank 241-AY-102

   No later than February 4, 2016: Complete isolation of Tank 241-AY-102 as described in RPP-PLAN-59931, Rev. 2, Work Plan, Attachment A, Section 2.1.1, p. A-20. Until Tank 241-AY-102 is completely isolated:

   a. Keep in place a temporary drain plug in the AY-02A pit to prevent drainage back into Tank 241-AY-102 during transfer of waste external to Tank 241-AY-102; and

   b. Conduct video monitoring of the AY-02A pit during any waste transfers.

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1 The numbering scheme of the settlement requirements (1-14) aligns with the numbering of the requirements in Order No. 10618.
3. **Complete Construction, Install Equipment, and Begin Supernatant Retrieval**

   No later than March 4, 2016: Complete procurement, construction and installation of all equipment necessary for waste removal, and begin retrieving supernatant from Tank 241-AY-102.

4. **Begin Sludge Retrieval**

   Begin retrieving sludge upon completion of supernatant retrieval from Tank 241-AY-102 consistent with AY-102 Recovery Project Waste Retrieval Work Plan, RPP-PLAN-59931, Rev. 2.²

5. **Complete Waste Retrieval and Provide Waste Retrieval Status Report**


   b. Within thirty-five (35) days after reaching the limit of two initial sludge retrieval technologies, conducted in accordance with AY-102 Recovery Project Waste Retrieval Work Plan, RPP-PLAN-59931, Rev. 2, Section 2, but no later than April 9, 2017, provide Ecology with a written status report which will include: (1) an estimate of the amount of waste remaining on the floor of the primary tank; and (2) a determination either that conditions allow for inspection, or that the remaining waste prevents such inspection.

   c. If USDOE determines that conditions allow for inspection, within sixty (60) days of completing an inspection of the tank to determine the cause of the leak, provide a report to Ecology describing the results of the inspection. This

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² The AY-102 Recovery Project Waste Retrieval Work Plan, RPP-PLAN-59931, Rev. 2, may be subsequently amended by written agreement of the parties. Any proposed extension of a deadline in section II.B of the Agreement is subject to the provisions in section II.G (Extension of Deadlines Set Forth in Section II.B).
report shall either describe the process that will be used to repair the tank or report USDOE’s decision to close the tank.

d. If USDOE determines that remaining waste prevents inspection, within thirty (30) days of making such a determination, submit a revised workplan for Ecology’s approval documenting additional retrieval technology to be used, the expected limits of that technology, and a schedule for implementation; or provide a report documenting USDOE’s decision to close the tank.

e. Within sixty (60) days of reaching the limit of the additional retrieval technology or completing use of that technology, provide Ecology with a written status report which will include: (1) an estimate of the amount of waste remaining on the floor of the primary tank; and (2) USDOE’s determination either that conditions allow for inspection, or that the remaining waste prevents such inspection and the tank is to be closed.


Notify Ecology within twenty-four (24) hours of confirming any safety issue, and provide a detailed description of the specific safety issue. Submit a recovery plan within thirty (30) days of providing this notice to Ecology. If the event creating a safety issue occurs during waste retrieval operations, and the proposed solution is to cease retrieval operations, the recovery plan shall include a schedule for correcting and resuming retrieval operations at the earliest practicable time.

7. Submit Contingency Plan and Monitoring Plan

a. Within thirty (30) days after execution of this Agreement, provide a revised contingency plan for Ecology review and approval, for safely managing any worsening conditions indicated by inspections and monitoring.

i. This plan will, at a minimum, specifically address indications of worsening leak rates from the primary tank, indications of loss of secondary...
liner integrity, plugging of the ventilation channels, or failure of ventilation system components. The plan must include specific criteria (numerical where appropriate) for establishing response action(s), the decision process for action, equipment needed, and schedule for response actions. The plan must also include the bases for the action criteria. The plan must show that the equipment needed is available and staged, and that pre-planned work packages are in place and ready for response actions.

ii. The contingency plan will cover the period of design and procurement for Tank 241-AY-102 retrieval. Thirty (30) days before beginning construction activities, USDOE and WRPS will submit a revised contingency plan for Ecology review and approval. Similarly, thirty (30) days before beginning tank pumping operations, USDOE and WRPS will submit a revised contingency plan for Ecology review and approval. The beginning of the construction phase will be the start of physically removing the existing primary transfer pump from Tank 241-AY-102. The beginning of the tank pumping operations will be the start of pumping of supernatant from the primary tank.

iii. Any other new issues not identified in the contingency plan such as those that arise as a result of construction or tank pumping operations, shall result in a revision to the Contingency Plan which will be provided to Ecology within thirty (30) days.

b. Within sixty (60) days of the date of execution of this Agreement, submit to Ecology for approval a revised monitoring plan for annulus inspection, waste temperature monitoring, and annulus ventilation monitoring, including a schedule for calibration of the continuous air monitors (CAMs) and Enraf-Nonius Series 854 (ENRAF) equipment.
8. **Continue to Provide Any Additional Published Reports on Integrity of Secondary Containment**

USDOE and WRPS timely completed requirement 8 of the Order. However, any further DST secondary containment system corrosion testing or evaluations which estimate the propensity for any leaked waste to corrode the secondary liner, must be reported in a revision of RPP-RPT-57774, *Evaluation of Tank 241-AY-102 Secondary Containment System*. Should USDOE and WRPS revise RPP-RPT-57774, or issue another report further developing or interpreting data in RPP-RPT-57774, a copy of the subsequent report(s) shall be provided to Ecology within thirty (30) days of its finalization.

9. **Submit a Detailed Waste Retrieval Workplan**

USDOE and WRPS timely completed requirement 9 of the Order. No further action required.

10. **Submit Supporting Documentation Justifying Proposed Schedule**

USDOE and WRPS timely completed requirement 10 of the Order. No further action required.

11. **Sample the Leak Detection Pit**

   a. To address a potential leak to the environment, test the liquid for pH and measure the level of the liquid in the leak detection pit monthly. Include test results in the report that is submitted as part of item 12 below.

   b. Sample the liquid from the Tank 241-AY-102 annulus leak detection pit whenever the leak detection pit is pumped or there is a significant change in the pH and at a minimum, using inductively coupled plasma/mass spectrometry (ICP/MS), analyze this sample for metals, radionuclides, and pH, and provide the preliminary results to Ecology within fifteen (15) days of taking the sample. Submit the final results to Ecology within sixty (60) days of taking the sample.
12. Monitor and Inspect for Leaks
   a. Every two months: Conduct video inspections of the entire annulus or at least 95 percent of the annulus space.
   b. Every two weeks: Conduct video inspections of all currently known waste accumulations in the Tank 241-AY-102 annulus and, as they are discovered, all newly discovered waste accumulations.

13. Report on Leak Inspections
    Monthly: Provide written reports to Ecology on all Tank 241-AY-102 annulus inspection and monitoring results conducted according to the Monitoring Plan (provided under requirement B.7 above) and the SY Settlement Agreement. These documents shall include reporting on annulus ventilation performance and status, images of the annulus, CAM readings, ENRAF readings, CAM and ENRAF calibration results, sample analysis results, waste heat monitoring results, including any interpretations and conclusions based on the results.

14. Submit Documentation
    USDOE and WRPS timely completed requirement 14 of the Order. No further action is required.

C. STIPULATED PENALTIES
    If USDOE or WRPS violate the terms of this Agreement, subject to the procedures set forth below, Ecology may assess and impose a penalty based on the stipulated penalty amounts listed in the table below.

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<table>
<thead>
<tr>
<th>Violation</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td>1. n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2. Failure to complete isolation of Tank 241-AY-102 by February 4, 2016, in accordance with requirement 2 of this Agreement.</td>
<td>$1,000 per day of delay past the deadline.</td>
</tr>
<tr>
<td>3. Failure to complete construction, install equipment, and begin supernatant retrieval by March 4, 2016, in accordance with requirement 3 of this Agreement.</td>
<td>$5,000 for the first week of delay past the deadline, and $7,500 for each week thereafter.</td>
</tr>
<tr>
<td>4. Failure to begin sludge retrieval immediately upon completion of supernatant retrieval, in accordance with requirement 4 of this Agreement.</td>
<td>$5,000 for the first week of delay, and $7,500 for each week thereafter.</td>
</tr>
<tr>
<td>5.a. Failure to complete sludge retrieval by March 4, 2017, in accordance with requirement 5.a of this Agreement.</td>
<td>$5,000 for the first week of delay past the deadline, and $7,500 for each week thereafter.</td>
</tr>
<tr>
<td>5.b. Failure to provide Waste Retrieval Status Report, in accordance with requirement 5.b of this Agreement.</td>
<td>$500 per day of delay.</td>
</tr>
<tr>
<td>5.c. Failure to provide a timely inspection report, in accordance with requirement 5.c of this Agreement.</td>
<td>$500 per day of delay.</td>
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<td>5.d. Failure to provide a timely workplan for further technology or a decision to close the tank, in accordance with requirement 5.d of this Agreement.</td>
<td>$1,000 per day of delay.</td>
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<td>5.e. Failure to provide a timely status report following cessation of an additional technology, in accordance with requirement 5.e of this Agreement.</td>
<td>$500 per day of delay.</td>
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<td>6. Failure to give timely notification of safety issues, or failure to provide a timely recovery plan, in accordance with requirement 6 of this Agreement.</td>
<td>$500 per day of delay.</td>
</tr>
<tr>
<td>7.a.i. Failure to timely submit an initial contingency plan meeting specifications in agreement, in accordance with requirement 7.a.i of this Agreement.</td>
<td>$1,000 for the first week of delay, and $2,500 for each week thereafter.</td>
</tr>
<tr>
<td>7.a.ii. Failure to timely submit a revised contingency plan prior to construction, in accordance with requirement 7.a.ii of this Agreement.</td>
<td>$1,000 for the first week of delay, and $2,500 for each week thereafter.</td>
</tr>
<tr>
<td>7.a.iii. Failure to timely submit a revised contingency plan prior to retrieval, in</td>
<td>$1,000 for the first week of delay, and $2,500 for each week thereafter.</td>
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</table>
1. accordance with requirement 7.a.iii of this Agreement.

2. 7.b. Failure to timely submit a monitoring plan meeting specifications in agreement, in accordance with requirement 7.b of this Agreement. $500 for the first week of delay, and $1,000 for each week thereafter.

3. 8. Failure to provide additional published reports on secondary containment integrity, in accordance with requirement 8 of this Agreement. $500 for the first week of delay, and $1,000 for each week thereafter.

4. n/a

5. n/a

6. Failure to provide timely and complete report on inspection and monitoring results, in accordance with requirement 13 of this Agreement. $500 for each missed report.

7. n/a

8. n/a

9. 11. Failure to sample leak detection pit or provide report according to required schedule, per requirement 11 of this Agreement. $500 for each missed sampling event or report.

10. 12.a. Failure to conduct monthly video inspections, in accordance with requirement 12.a of this Agreement. $500 for each missed inspection.

11. 12.b. Failure to conduct biweekly video inspection, in accordance with requirement 12.b of this Agreement. $500 for each missed inspection.

12. 13. n/a

13. 14. n/a

Prior to issuing a Notice of Penalty Incurred and Due to USDOE and WRPS that assesses stipulated penalties, Ecology shall notify USDOE and WRPS, in writing, of its intention and allow USDOE and WRPS ten (10) calendar days to submit new information solely on the question of whether the violation(s) giving rise to the stipulated penalties occurred. Ecology in its sole discretion may, at USDOE’s and WRPS’s request, or upon its own initiative, extend this ten (10) day period.

Ecology shall issue its final determination within fifteen (15) days of USDOE’s and WRPS’s submittal of new information. If Ecology issues a penalty to USDOE and WRPS that assesses stipulated penalties, USDOE and WRPS may appeal to the Board solely on the
question of whether the violation occurred. USDOE and WRPS may not challenge the
reasonableness of stipulated penalty amounts as specified in the table above.

Stipulated penalties assessed pursuant to this Agreement shall be payable to, by check,
money order, or as otherwise agreed to by the parties, “Department of Ecology” and shall
make reference to this Agreement, and the payment shall be sent to:

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

D. REMEDIES

In the event that USDOE and WRPS violate the terms of this Agreement, Ecology may
pursue all remedies available by law. Where Ecology seeks any remedy beyond judicial
enforcement of the stipulated penalties enumerated herein, USDOE and WRPS reserve all
applicable rights and defenses available by law. Ecology shall be entitled to recover its costs,
including attorney fees, in any action brought to enforce this Agreement in which Ecology is a
prevailing party.

E. VENUE

USDOE and WRPS agree that the venue for any judicial action to enforce this
Agreement shall be in Benton County Superior Court. However, USDOE reserves any and all
rights it may have to remove any such action to an appropriate federal court.

F. SERVICE

In the event Ecology pursues any remedy in Benton County Superior Court, USDOE
and WRPS agree to accept service of the summons and complaint by United States mail in lieu
of personal service, at Ecology’s option. Service by mail shall be deemed complete upon the
third day following the day the summons and complaint are placed in the mail. The current
addresses that Ecology has for USDOE and WRPS are:
G. EXTENSION OF DEADLINES SET FORTH IN SECTION II.B

The parties recognize that events can occur that cause delays and that, depending on the nature of the event, an extension of the deadlines set forth in section II.B above, may be justifiable. As such, provisions for an extension of the deadlines are as follows:

1. An extension of the deadlines set forth in section II.B above shall be granted only when a request for an extension is submitted in a timely fashion, generally at least thirty (30) days prior to expiration of the deadline for which the extension is requested or within thirty (30) days after USDOE and WRPS determine that an extension will be necessary, whichever is earlier, and good cause exists for granting the extension. All extensions shall be requested in writing to the attention of Jane Hedges, Nuclear Waste Program Manager. The request shall specify:

   a. The deadline that is sought to be extended;
   b. The length of the extension sought;
   c. The reason(s) for the extension;
d. Any deadline for required work in part B that would be affected if the extension were granted; and

e. For any request to extend the deadlines for requirements B.3 (Complete Construction, Install Equipment, and Begin Supernatant Retrieval) and B.5 (Complete Waste Retrieval and Provide Waste Retrieval Status Report), a showing that the proposed deadline provides for completing the tasks at the earliest practicable time.

2. The burden shall be on USDOE and WRPS to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. Good cause may include, but is not limited to:

a. Circumstances beyond the reasonable control and despite the due diligence of USDOE and WRPS, including but not limited to delays caused by unrelated third parties or Ecology, such as (but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by USDOE and WRPS; or

b. Acts of God or terrorism, including fire, seismic event, flood, blizzard, extreme temperatures, storm, or other unavoidable casualty.

However, for purposes of this Agreement, neither increased costs of performance of the terms of this Agreement nor changed economic circumstances shall be considered good cause for granting an extension. The parties may confer whether circumstances beyond the reasonable control of USDOE and WRPS but having some relation to economic circumstances, such as a shutdown of the federal government, may justify extension of the deadlines set forth in section II.B above.

USDOE reserves its right to argue that the obligations under this Agreement are subject to the provisions of the Anti-Deficiency Act, 31 U.S.C. § 1341.

3. Ecology shall act upon any written request for extension in a timely fashion and not later than fifteen (15) calendar days. Ecology shall give USDOE and WRPS written
notification of any extensions granted pursuant to this Agreement. A requested extension shall
not be effective until approved by Ecology.

4. An extension shall only be granted for such period of time as Ecology
determines is reasonable under the circumstances. Ecology may grant deadline extensions
exceeding ninety (90) days only as a result of circumstances deemed exceptional or
extraordinary by Ecology.

H. WAIVER OF APPEAL RIGHTS TO THE POLLUTION CONTROL
HEARINGS BOARD
USDOE and WRPS understand that they have the right to contest the Order by
presenting evidence at a Board hearing. USDOE and WRPS voluntarily waive their right to a
Board hearing upon signature and acceptance of this Agreement by representatives for
USDOE, WRPS, and Ecology.

I. DISMISSAL OF APPEAL
The parties consent to the submission of this Agreement to the Board and request that,
based upon a full and final settlement having been reached, the Board dismiss this appeal with
prejudice. Both parties further agree to bear their own costs and attorneys' fees associated with
this appeal.

J. EFFECTIVE DATE
This Agreement shall become effective upon issuance of the Board's order dismissing
the appeal.

K. SIGNATORIES AUTHORIZED
The undersigned representatives for Ecology, USDOE, and WRPS certify that they are
fully authorized by the party whom they represent to enter into the terms and conditions of this
Agreement and to legally bind such party thereto.

L. DURATION OF THE AGREEMENT
This Agreement shall be in effect until USDOE and WRPS have received written
notification from Ecology of the timely and satisfactory completion of the requirements set
forth in section B.5 of this Agreement, or as mutually agreed to otherwise, in writing, by the
parties.

M. EXECUTION

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

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Maia Bellon
Director

Dated: 9/29/14

U.S. DEPARTMENT OF ENERGY
Office of River Protection

Kevin Smith
Manager

Dated: 9/24/2014

ROBERT W. FERGUSON
Attorney General

Lee Overton, WSBA #38055
Dorothy H. Jaffe, WSBA #34148
Assistant Attorneys General
Attorneys for Respondent
(360) 586-6770

Dated: 9/29/14

ROBERT M. CAROSINO
Chief Counsel

Mark D. Silberstein
Scott D. Stubblebine
Office of Chief Counsel
Attorneys for Appellant
(509) 376-2380

Dated: 9/24/2014

WASHINGTON RIVER PROTECTION
SOLUTIONS

L. David Olsen
President and Project Manager

Dated: 9/24/14

Gloria J. Johnson
Stephen B. Cherry
General Counsel
Attorneys for Appellant
(509) 372-9142

Dated: 9/24/2014