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UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF WASHINGTON

STATE OF WASHINGTON,  
  
                                          Plaintiff,  
  
      and  
  
STATE OF OREGON,  
  
                                          Plaintiff-Intervenor,  
  
      v.  
  
ERNEST MONIZ, Secretary of the  
United States Department of Energy,  
and the UNITED STATES  
DEPARTMENT OF ENERGY,  
  
                                          Defendants.

NO: 2:08-CV-5085-RMP  
  
AMENDED CONSENT DECREE  
BETWEEN DEPARTMENT OF  
ENERGY AND STATE OF  
WASHINGTON

BEFORE THE COURT are the Department of Energy’s and the State of Washington’s Motions to Amend Consent Decree, **ECF Nos. 76 and 75**. For the reasons set forth in the corresponding Opinion, the Court hereby orders that the

1 Consent Decree between the Department of Energy and the State of Washington,<sup>1</sup>  
2 **ECF No. 59**, be modified as follows:

3 **I. Part IV**

4 Part IV of the Consent Decree, ECF No. 59 at 4–9, is hereby **VACATED**  
5 and is **SUPERSEDED** by the following:

6 **IV. WORK TO BE PERFORMED AND SCHEDULE**

7 **A. Waste Treatment Plant (WTP) Construction and Startup.**

8 1. In accordance with Appendix A to this Decree, DOE shall achieve “Hot Start  
9 of Waste Treatment Plant” by December 31, 2033, and achieve “initial plant  
10 operations” of the WTP no later than December 31, 2036.

11 2. “Hot Start of Waste Treatment Plant” means the initiation of simultaneous  
12 operation of the Pretreatment (PT) Facility, High-level Waste (HLW) Facility  
13 and Low-activity Waste (LAW) Facility (including as needed the operations  
14

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15 <sup>1</sup> The State of Washington is also referred to as “Ecology,” shorthand for the  
16 Washington State Department of Ecology, throughout the following Consent  
17 Decree modifications. The Court refers to the State of Washington as “Ecology” so  
18 the following modifications remain consistent with the remaining, unmodified  
19 Consent Decree sections. *See* ECF No. 59. This footnote is for explanatory  
20 purposes only, and does not constitute part of the modified Consent Decree.

1 of the Analytical Laboratory (LAB) and the Balance of Facilities) treating  
2 Hanford tank wastes and producing a waste glass product.

3 3. “Initial plant operations” under this Decree is defined as, over a rolling period  
4 of at least 3 months leading to the milestone date, operating the WTP to  
5 produce high-level waste glass at an average rate of at least 4.2 Metric Tons  
6 of Glass (MTG)/day, and low-activity waste glass at an average rate of at  
7 least 21 MTG/day.

8 4. Each milestone set forth in Appendix A shall be completed by the specified  
9 date for that milestone in Appendix A. In the event that the State seeks to  
10 enforce an interim milestone in Appendix A, it shall be a defense to such  
11 enforcement (such that failure to meet the interim milestone by that date will  
12 not constitute a violation of the Consent Decree) if DOE demonstrates that it  
13 will (a) complete the interim milestone as soon as practicable and  
14 (b) notwithstanding the missed interim milestone date, achieve WTP hot start  
15 by December 31, 2033, and initial plant operations of the WTP no later than  
16 December 31, 2036, as required in paragraph 1 above.

17 **B. Single-shell Tank (SST) Waste Retrievals.**

18 1. In accordance with Appendix B, no later than March 31, 2024, DOE shall  
19 complete retrieval of tank waste from the three (3) remaining SSTs in Waste  
20 Management Area C for which waste has not yet been retrieved.

1 2. In accordance with Appendix B, no later than March 31, 2024, DOE shall  
2 complete retrieval of tank waste from nine (9) additional SSTs selected by  
3 DOE.

4 3. For purposes of paragraph 2 above, the tanks shall be selected by DOE after  
5 consultation with Ecology. The selected tanks shall include only 100 series  
6 tanks (excluding tank S-102), with consideration given to optimizing WTP  
7 waste feed blending and addressing tanks that pose a high risk due to tank  
8 contents, previous leaks, or the risk of future leaks. Once tanks have been  
9 selected, DOE may substitute alternative tanks, but such substitution shall be  
10 subject to the consultation and selection criteria of this paragraph.

11 4. In accordance with Appendix B, no later than December 31, 2020, DOE shall  
12 complete retrieval of five (5) SSTs selected by DOE from the remaining C,  
13 A, and AX-Farm SSTs. Should DOE fail, for whatever reason, to satisfy  
14 Milestone B-3, Washington may petition the Court to order DOE begin  
15 immediate construction of one or more new double-shell tanks (DST) to  
16 facilitate the remaining retrieval process. Should Washington so petition, the  
17 parties shall adhere to the following briefing schedule:

18 a. DOE will have fourteen (14) days from the filing of Washington's  
19 petition to file a responsive memorandum.

20 b. Washington will have seven (7) days from the filing of DOE's

1 responsive pleading to file a reply memorandum.

2 c. The Court will issue an order as expeditiously as possible concerning  
3 whether DOE, in recognition of DOE's noncompliance with Milestone  
4 B-3, will be required to construct additional DSTs.

5 5. To safeguard against a hypothetical two-year outage of the 242-A Evaporator,  
6 which would result in a minimum of a two-year delay in retrieval of remaining  
7 SSTs, DOE must purchase and have available by December 31, 2016, a spare  
8 A-E-1 reboiler for the 242-A Evaporator.

9 6. a. At least 180 days before DOE plans to initiate the installation of equipment  
10 for retrieval of waste from a tank or set of tanks covered by Section IV-B of  
11 this Decree, DOE shall submit to Ecology, for its approval, a Tank Waste  
12 Retrieval Work Plan (TWRWP) that sets out in a Part 1 and a Part 2 of the  
13 TWRWP the information required in Part 1 and Part 2 of Appendix C. The  
14 TWRWP shall be deemed approved if Ecology notifies DOE of its approval  
15 or if 60 days have elapsed after the date DOE submitted the TWRWP to  
16 Ecology and Ecology has not disapproved the TWRWP within that 60-day  
17 period.

18 b. In the event of a disapproval by Ecology, within 30 days of such  
19 disapproval, DOE shall submit a revised TWRWP for a tank or set of tanks  
20 covered by Section IV-B of this Decree addressing Ecology's comments.

1 If DOE and Ecology cannot resolve the concern(s) raised by Ecology within  
2 60 days of Ecology's initial disapproval, the Parties shall utilize Section IX of  
3 the Decree and the Court shall resolve their dispute under Section IX of the  
4 Decree regarding the disputed elements of Part 1 or Part 2 of the TWRWP.  
5 Once the TWRWP is established for a tank or set of tanks covered by Section  
6 IV-B (either by approval of Ecology or after dispute resolution by the Court  
7 under Section IX of the Decree), DOE may start and carry out tank waste  
8 retrieval activities for the tank(s) addressed by the TWRWP.

9 c. Notwithstanding the provisions of Section IX-C, any period of delay in  
10 resolving a dispute regarding approval of a TWRWP beyond 180 days after  
11 DOE submits a TWRWP for a tank or set of tanks covered by Section IV-B  
12 to Ecology shall extend by a corresponding period the affected milestones in  
13 this Decree, but only for that portion of time that this corresponding period  
14 extends beyond the date DOE planned to initiate the installation of equipment  
15 for tank waste retrieval from that tank or set of tanks covered by Section IV-  
16 B of the Decree. For purposes of this paragraph, "affected milestones" are  
17 defined as Section IV-B-1, Section IV-B-2, Milestone B-1 in Appendix B,  
18 Milestone B-2 in Appendix B, or Milestone B-3 in Appendix B, involving the  
19 tank or set of tanks addressed in the TWRWP. Ecology may petition the Court  
20 to argue that an extension under this default schedule adjustment should not

1 apply due to the delay in establishing a TWRWP (either by approval of  
2 Ecology or after dispute resolution by the Court under Section IX of the  
3 Decree). In any such petition, the Court should determine whether,  
4 notwithstanding the delay in establishing the TWRWP, DOE can still meet  
5 the scheduled date in the affected milestones by exercising reasonable  
6 diligence under the circumstances. The Court may consider any allegation  
7 concerning whether DOE or the State failed to exercise reasonable diligence  
8 in producing or reviewing the TWRWP and resolving any disputes.

9 d. Nothing in paragraph 4 shall affect DOE's right to relief under Section VI,  
10 VII, VIII, and IX of the Decree, to the extent such relief would otherwise be  
11 available.

- 12 7. When DOE completes retrieval of waste from a tank covered by this Decree,  
13 DOE will submit to Ecology a written certification that DOE has completed  
14 retrieval of that tank. For purposes of this Consent Decree, “complete  
15 retrieval” means the retrieval of tank waste in accordance with Part 1 of  
16 Appendix C and with the retrieval technology/systems that were established  
17 by Part 1 of the TWRWP either by approval of Ecology or after dispute  
18 resolution by the Court under Section IX of the Decree.

19 **C. Reporting.**

- 20 1. Quarterly Reports. DOE shall, on a quarterly basis, submit to Ecology a

1 written report documenting WTP construction and startup activities and tank  
2 retrieval activities that occurred during the period covered by the report. This  
3 written report shall provide the status of progress made during the reporting  
4 period and shall include:

- 5 a. A brief description of project accomplishments and project  
6 issues encountered during the reporting period and/or  
7 expected in the next three (3) months;
- 8 b. A definitive statement describing whether or not DOE has  
9 complied with milestones that have already come due as of  
10 the date of the report, and how any missed milestones may  
11 affect compliance with other milestones;
- 12 c. Where applicable, a description of actions initiated or  
13 otherwise taken to address any schedule slippage;
- 14 d. Budget/cost status;
- 15 e. Copies of written directives given by DOE to the  
16 contractors for work required by this Decree, if requested  
17 by Ecology;
- 18 f. A description of progress made towards resolving the five  
19 outstanding WTP technical issues; and
- 20 g. An accounting of total labor hours expended on SST



1 retrieval, specifying the total percentage of hours worked  
2 utilizing self-contained breathing apparatus.

3 h. If Ecology can demonstrate good cause for concluding  
4 that DOE has not been forthcoming in a Section IV-C-1  
5 quarterly report, Ecology may petition the Court for an  
6 immediate hearing.

7 a. If the Court finds that good cause exists for  
8 Ecology's request for a hearing under Section IV-  
9 C-1-h, the Court will schedule a hearing within  
10 thirty days of ruling on Ecology's request.

11 i. Ecology will serve Oregon with any request  
12 for a hearing under Section IV-C-1-h.

13 b. During the IV-C-1-h hearing, DOE will be subject  
14 to examination by Ecology and the Court in open  
15 court with a public record, on any issues raised by  
16 Ecology concerning the sufficiency of DOE's  
17 progress and the adequacy of the quarterly report.

18 2. Monthly reports. DOE shall, on a monthly basis, submit to Ecology a  
19 written summary report (*e.g.*, approximately 10 to 15 pages in length)  
20 documenting WTP construction and startup activities and tank retrieval

1 activities covered by this Decree. This report may be combined with the  
2 reports already provided by DOE to Ecology pursuant to Section 4 of the  
3 HFFACO Action Plan. The monthly report shall address: (a) cost and  
4 schedule performance (earned value management system graphs) for each  
5 major activity; (b) significant accomplishments during the prior month;  
6 and (c) significant planned activities for the next month.

7 3. In the event DOE determines that a serious risk has arisen that DOE may  
8 be unable to meet a schedule as required in Section IV, the following  
9 procedure shall be initiated:

10 a. DOE shall notify Ecology of the serious risk no later than fourteen  
11 days after the risk is identified, specifying the Section IV  
12 milestone(s) that are at risk, a detailed description of the factors  
13 constituting the serious risk, and a preliminary recovery plan for  
14 remedying the serious risk.

15 b. Within thirty days of receiving notice of a serious risk, Ecology may  
16 request a meeting with DOE Hanford Site personnel to answer any  
17 questions Ecology may have concerning the serious risk as well as  
18 to discuss mitigation options, cooperative solutions, and problem-  
19 solving opportunities.

20 i. If Ecology requests a meeting as described in Section IV-C-

1                   3-b, DOE will schedule and attend such a meeting within  
2                   thirty days of Ecology's request.

3                   ii. Ecology will serve the State of Oregon with any request for a  
4                   meeting under Section IV-C-3-b.

5                   c. If Ecology can demonstrate good cause for concluding that DOE or  
6                   DOJ personnel have not been forthcoming, either in the Section IV-  
7                   C-3-a report or Section IV-C-3-b meeting, Ecology may petition the  
8                   Court for an immediate hearing.

9                   i. If the Court finds that good cause exists for Ecology's request  
10                  for a hearing under Section IV-C-3-c, the Court will schedule  
11                  a hearing within thirty days of ruling on Ecology's request.

12                  ii. Ecology will serve Oregon with any request for a hearing  
13                  under Section IV-C-3-c.

14                  iii. During the IV-C-3-c hearing, DOE personnel will be subject  
15                  to examination by Ecology and the Court in open court with  
16                  a public record, on any issues raised by Ecology relating to  
17                  DOE's duties under the Consent Decree as well as address the  
18                  serious risk(s) as reported under Section IV-C-3 and any  
19                  allocation of funding and resources.

20

1 4. Applicability of Federal Rule of Evidence 408. Federal Rule of Evidence  
2 408 does not apply to the above reporting requirements as the reports are  
3 not an offer of compromise but instead constitute mandatory elements of  
4 a negotiated Consent Decree.

5 a. If Ecology can demonstrate good cause for concluding that DOE or  
6 DOJ have not satisfied the reporting requirements as described  
7 above on the basis of Federal Rule of Evidence 408, Ecology may  
8 petition the Court for an immediate hearing.

9 i. If the Court finds that good cause exists for Ecology's request  
10 for a hearing under Section IV-C-4-a, the Court will schedule  
11 a hearing within thirty days of ruling on Ecology's request.

12 ii. Ecology will serve Oregon with any request for a hearing  
13 under Section IV-C-4-a.

14 iii. During the IV-C-4-a hearing, DOE will be subject to  
15 examination by Ecology and the Court, in open court with a  
16 public record, on any refusal to comply with the mandatory  
17 Consent Decree reporting requirements on the basis of  
18 Federal Rule of Evidence 408 or any other rule of evidence.

1 **D. Regulatory Coordination**

2 For the matters covered by this Decree, the Parties shall ensure, to the  
3 maximum extent possible, that any existing or required permit, order, or  
4 approval associated with constructing and operating the WTP, SST waste  
5 retrieval, and reporting is consistent with the requirements of this Consent  
6 Decree.

7 **II. Appendix A**

8 Appendix A of the Consent Decree, ECF No, 59 at 27–32, is hereby  
9 **VACATED** and is **SUPERSEDED** by the following:

10 **APPENDIX A: WTP CONSENT DECREE**

11 **MILESTONES, SCHEDULE, ASSUMPTIONS**

12 **1. WTP Construction and Startup**

The milestones referred to in Section IV above are as follows:

Project	Description	Date
A-1	Achieve Initial Plant Operations for the Waste Treatment Plan	12/31/2036
A-2 Interim	HLW Facility Construction Substantially Complete	12/31/2030
A-3 Interim	Start HLW Facility Cold Commissioning	06/30/2032
A-4 Interim	HLW Facility Hot Commissioning Complete	12/31/2033
A-5 Interim	LAB Construction Substantially Complete	12/31/2012 (COMPLETED)
A-6 Interim	Complete Methods Validations	06/30/2032
A-7 Interim	LAW Facility Construction Substantially Complete	12/31/2020

1	A-8 Interim	Start LAW Facility Cold Commissioning	12/31/2022
2	A-9 Interim	LAW Facility Hot Commissioning Complete	12/31/2023
3	A-12 Interim	Steam Plant Construction Complete	12/31/2012 (COMPLETED)
4	A-13 Interim	Complete Installation of Pretreatment Feed Separation Vessels FEP-SEP-OOOO1A/1B	12/31/2031
5	A-14 Interim	PT Facility Construction Substantially Complete	12/31/2031
6	A-15 Interim	Start PT Facility Cold Commissioning	12/31/2032
7	A-16 Interim	PT Facility Hot Commissioning Complete	12/31/2033
8	A-17	Hot Start of Waste Treatment Plant	12/31/2033
9	A-18 Interim	Complete Structural Steel Erection Below Elevation 56' in PT Facility	12/31/2009 (COMPLETED)
10	A-19 Interim	Complete Elevation 98' Concrete Floor Slab Placements in PT Facility	12/31/2031
11	A-20 Interim	Complete Construction of Structural Steel to Elevation 14' in HLW Facility	12/31/2010 (COMPLETED)
12	A-21 Interim	Complete Construction of Structural Steel to Elevation 37' in HLW Facility	12/31/2012 (COMPLETED)

14 “Substantially complete”<sup>2</sup> means that the Start-up Organization has  
15 certified that the facility and its subsystems are ready to be turned over to the  
16 Start-up Organization.

17 <sup>2</sup> Because under Milestones A-5 and A-7, the LAW and LAB facilities must be  
18 substantially complete several years before “Hot Start of the Waste Treatment  
19 Plant” equipment in those facilities that might become obsolete or require upkeep  
20 if installed at that early time would be installed later, such as: Communications

1  
2 \_\_\_\_\_  
3 systems; Melter assembly and movement into the LAW building; Hi-purity piping  
4 tubing systems; Distributed control system (DCS); Selected instrumentation  
5 subject to damage or obsolescence; Penetration sealing and heating, ventilation,  
6 and air-conditioning (HVAC) balancing; Piping insulation; Selected architectural  
7 finishes/components subject to damage; Cable installation and other fire-load  
8 materials, which would cause the permanent plant fire protection systems to  
9 become required for fire protection; Fire detection system; Batteries; Master-slave  
10 Manipulators; Shield Windows; Carbon media in carbon bed adsorber; High-  
11 efficiency particulate air (HEPA) and other filters in HVAC systems. If DOE  
12 wishes to defer installation of equipment that is not substantially similar, then DOE  
13 shall seek approval from Ecology, with any dispute to be resolved under Section  
14 IX. The following items will not be considered substantially similar for purposes of  
15 delayed installation: All major civil, structural, piping, mechanical, and electrical  
16 power equipment installed and inspected; Electrical raceway installed except that  
17 required for systems/components not installed for obsolescence or maintenance  
18 considerations; All piping hydro-tested to confirm capability to meet design  
19 requirements; Buildings enclosed and weather-tight, as required by design; Interior  
20 partition walls completed except for penetrations and penetration sealing and  
caulking; Major instrumentation racks and associated tubing installed except for

1 “Start Cold Commissioning” means the introduction of feed simulants for the  
2 purpose of determining individual facility functionality.

3 “PT Facility Hot Commissioning Complete” means the point at which the PT  
4 Facility has demonstrated its ability to separate liquids from solids using radioactive  
5 materials to produce acceptable feed for high level waste (HLW) and low-activity  
6 waste (LAW) glass production.

7 “HLW Facility Hot Commissioning Complete” means the point at which the  
8 HLW facility has demonstrated its ability to produce immobilized HLW glass of  
9 acceptable quality.

10 “LAW Facility Hot Commissioning Complete” means the point at which the  
11 LAW facility has demonstrated its ability to produce immobilized LAW glass of  
12 acceptable quality.

## 13 **2. WTP Construction and Startup Concerns and Assumptions**

14 The milestones and schedule set forth in Section IV of the Decree and this  
15 Appendix thereto are based upon project planning that requires assumptions to be  
16 made and raises concerns about a broad range of circumstances and events, including  
17 unforeseen circumstances. Below is a non-exhaustive identification of some of the  
18 \_\_\_\_\_  
19 those portions subject to obsolescence or maintenance; Permanent lighting for the  
20 facilities complete.



1 concerns and assumptions for the circumstances and events. The identification in  
2 this Appendix of certain circumstances and events and certain concerns and  
3 assumptions regarding circumstances and events does not create a presumption  
4 that any particular circumstance, event, concern, or assumption described in this  
5 Appendix will provide the basis for a good cause extension in any particular  
6 case. These concerns and assumptions are subject to the requirements for  
7 establishing good cause under Section VII-D, including the requirement that  
8 DOE exercise reasonable diligence.

9 a. Unforeseen safety concerns that, because of the nature of the  
10 concerns and the time required to address them, may require that  
11 milestone dates and the schedule be extended. These concerns may  
12 include but are not limited to worker and public safety or impacts to  
13 the environment. Construction and start-up of the WTP involves  
14 unique characteristics and hazards including industrial, electrical,  
15 thermal, chemical, and radiological hazards.

16 b. Because of the highly complex nature of the WTP, the milestones  
17 and schedule cannot anticipate all of the requirement changes and  
18 unknown technical obstacles that may be encountered and that may  
19 require time to remedy. These include but are not limited to  
20 difficulties in achieving the Maximum Achievable Control

1 Technology standards during performance testing, difficulties in  
2 adoption of laser ablation technologies resulting in extended sample  
3 turn-around times, integrated control software obsolescence,  
4 formation of hazardous mercury compounds in the evaporators, or  
5 technical issues that result from unforeseen tank waste  
6 characteristics.

7 c. Although the milestones and schedule were developed assuming  
8 that equipment failures will occur and that time to respond will be  
9 required, these failures may take place more often and require more  
10 time to remedy than anticipated in development of the milestones  
11 and schedule. Examples may include but are not limited to  
12 components such as melters, agitators, compressors, material  
13 handling systems, crane systems, evaporators, and ultrafilters.  
14 Failures may occur during construction, testing, start-up, and  
15 operations. During WTP start-up and operations, failures in the Site  
16 infrastructure (e.g., Double-shell Tank system; 242-A Evaporator;  
17 Liquid Effluent Retention Facility, Effluent Treatment Facility,  
18 Integrated Disposal Facility, and the 222-S Laboratory) may occur.

19 d. Although the milestones and schedule were based upon nominal  
20 delivery timelines developed through DOE and contractor

1 experience, actual delivery times from suppliers of needed  
2 construction commodities and specialty equipment are affected by  
3 worldwide economic conditions and demand for the same or similar  
4 commodities and equipment; these conditions limit the ability of  
5 DOE and its contractors to secure required delivery dates to meet  
6 the milestones and schedule set forth above. Examples of these  
7 conditions include but are not limited to building steel, emergency  
8 diesel generators, piping and valves, and other commodities.

9 e. DOE's ability to meet the milestones and schedule is dependent  
10 upon multiple regulatory actions and can be adversely impacted by  
11 forces outside its control, including but not limited to, obtaining  
12 operating permits and decisions from regulatory agencies on a  
13 timely basis, or legal intervention by third-parties under existing  
14 agreements or statutory provisions.

15 f. DOE's ability to meet the milestones and schedule assume that  
16 required staffing levels can be achieved and sustained. The  
17 availability of skilled professionals and craft can be adversely  
18 impacted by competing projects in the nuclear, mining, chemical,  
19 oil and gas, refining and petrochemical industries, both domestic  
20 and international, and by local and regional projects, as well.

### III. Appendix B

Appendix B of the Consent Decree, ECF No, 59 at 33–36, is hereby **VACATED** and is **SUPERSEDED** by the following:

#### APPENDIX B:

##### 1. Tank Waste Retrievals

Project	Description	Date
B-1	Complete retrieval of tank wastes from the following remaining SSTs in WMA-C: C-102, C-105, and C-111.	3/31/2024
B-2	Complete retrieval of tank wastes from the following SSTs in Tank Farms A and AX: A-101, A-102, A-104, A-105, A-106, AX-101, AX-102, AX-103, and AX-104. Subject to the requirements of Section IV-B-3, DOE may substitute any of the identified 9 SSTs and advise Ecology accordingly.	3/31/2024
B-3	Of the 12 SSTs referred to in B-1 and B-2, complete retrieval of tank wastes in at least 5.	12/31/2020

##### 2. Tank Retrieval Milestones and Schedule Concerns and Assumptions

The milestones and schedule set forth in Section IV of the Decree and this Appendix thereto are based upon project planning that requires assumptions to be made and raises concerns about a broad range of circumstances and events, including unforeseen circumstances. Below is a non-exhaustive identification of some of the concerns and assumptions for the circumstances and events. The identification in this Appendix of certain circumstances and events and certain concerns and assumptions regarding circumstances and events does not create a presumption that any particular circumstance, event, concern, or assumption described in this Appendix will provide the basis for a good cause extension in

1 any particular case. These concerns and assumptions are subject to the  
2 requirements for establishing good cause under Section VII-D, including the  
3 requirement that DOE exercise reasonable diligence.

4 a. Unforeseen safety concerns that, because of the nature of the  
5 concerns and the time required to address them, may require that the  
6 milestones and schedule be extended. These concerns may include,  
7 but are not limited to, worker and public safety or impacts to the  
8 environment. The wastes contained within each tank have their own  
9 unique characteristics and hazards.

10 b. The wastes associated with each tank or group of tanks have their  
11 own unique characteristics. Because of this, the milestones and  
12 schedule cannot anticipate all of the requirement changes and  
13 technical obstacles that may be encountered and that may require  
14 time to remedy. These may include but are not limited to unknown  
15 physical, chemical, and radiological characteristics present in the  
16 wastes; differences between the assumed and actual configurations  
17 of the tanks and tank farms; changes to the hazardous waste  
18 management requirements; and significant changes in the nature and  
19 extent of assumed environmental contamination.

1 c. Although the milestones and schedule were developed assuming  
2 that equipment failures will occur and that will require time to  
3 respond to, these failures may take place more often and require  
4 more time to remedy than anticipated in the development of the  
5 milestones and schedule. Examples may include but are not limited  
6 to failures in the Single-shell Tank waste retrieval systems, tank  
7 farms, and supporting infrastructure (e.g., Double-shell Tank  
8 system; 242-A Evaporator; Liquid Effluent Retention Facility,  
9 Effluent Treatment Facility, Integrated Disposal Facility, and the  
10 222-S Laboratory).

11 d. Although the milestones and schedule were based upon delivery  
12 timelines developed through DOE and Contractor experience, actual  
13 delivery times from suppliers of needed construction commodities  
14 and specialty equipment are affected by worldwide economic  
15 conditions and demand for the same or similar commodities and  
16 equipment; these conditions limit the ability of DOE and its  
17 Contractors to secure required delivery dates to meet the milestones  
18 and schedule. Examples of these conditions include but are not  
19 limited to specialized waste retrieval systems and components,  
20 piping and valves, and spare parts for aging tank systems.

1 e. DOE's ability to meet the milestones and schedule is dependent  
2 upon multiple regulatory actions and can be adversely impacted by  
3 forces outside its control, including but not limited to, obtaining  
4 operating permits and decisions from regulatory agencies on a  
5 timely basis, or legal intervention by third-parties under existing  
6 agreements or statutory provisions.

7 f. DOE's ability to meet the milestones and schedule assume that  
8 required staffing levels can be achieved and sustained. The  
9 availability of skilled professionals and craft can be adversely  
10 impacted by competing projects in the nuclear, mining, chemical,  
11 oil and gas, refining and petrochemical industries, both domestic  
12 and international, and by local and regional projects, as well.

13 **IT IS SO ORDERED.**

14 The District Court Clerk is directed to enter this Order and provide copies to  
15 counsel.

16 **DATED** this 11th day of March 2016.

17 *s/ Rosanna Malouf Peterson*  
18 ROSANNA MALOUF PETERSON  
19 United States District Judge  
20