



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
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May 29, 2019

The Honorable Anne White
Office of Environmental Management
U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

Re: Tank Waste Retrieval and Treatment Pathway at Hanford

Dear Assistant Secretary White:

I am writing to open a frank discussion with you and your Hanford team about the repeated challenges the U.S. Department of Energy (USDOE or Energy) has had, and continues to have, to meet milestones for tank waste retrievals and treatment as set forth in the amended consent decree in *Washington v. Perry* (E.D. Wash, No. 2:08-CV-5085-RMP [Amended Consent Decree]) and the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement or TPA).

Background

In 2007, the Department of Ecology (Ecology) and Energy began negotiating extensions to TPA milestones related to the Hanford tank waste mission when it became clear that USDOE would be unable to meet deadlines to complete waste retrieval from all single-shell tanks (SSTs) by September 30, 2018; complete hot commissioning of the Waste Treatment and Immobilization Plant (WTP) by January 31, 2011; and complete treatment of all Hanford tank waste by December 31, 2028. These negotiations failed, and in 2008 Washington State filed a lawsuit based on the missed and to-be-missed milestones. The parties settled that lawsuit with two agreements that took effect in 2010. The first was the Consent Decree with milestones for WTP construction and initial operation, and near-term milestones for 16 SST retrievals. The second was a series of amendments to the TPA addressing the remainder of the tank waste mission. These included:

- “No later than” deadlines for USDOE to retrieve all SSTs (by 2040) and treat all the tank waste (by 2047, including providing for “supplemental vitrification”).
- A joint “System Plan” process for the parties to evaluate progress on the tank waste missions, look for ways to optimize those missions, and initiate contingency actions to mitigate delays.

This two-part settlement met the State’s regulatory needs, as it mapped out a path forward with deadlines for all aspects of tank waste retrieval and treatment.

Within 13 months of the court entering the 2010 Consent Decree, USDOE informed Ecology that nearly all milestones under the Consent Decree were “at risk,” due in part to technical issues



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affecting the Pretreatment (PT) and High-Level Waste (HLW) facilities. We could not come to an agreement after close to three years of negotiations to amend affected milestones. We ended up litigating a Consent Decree modification, which left the federal judge to decide what milestone changes were appropriate.

The deadlines in the 2016 Amended Consent Decree pushed out hot commissioning of the Low-Activity Waste (LAW) facility by three years to 2023; PT and HLW facilities hot commissioning by 14 years to 2033; and WTP initial operations by 14 years to 2036. The judge based the deadlines for construction and operation of the PT and HLW facilities on the assumption that the technical issues with the PT and HLW facilities would be resolved by December 31, 2019.¹

In establishing these new deadlines, the judge rejected Energy's attempt to rewrite the decree to allow USDOE greater authority to dictate its own actions and schedule. The judge was critical of USDOE's unilateral actions in shifting course from the provisions of the 2010 decree.

In the meantime, this litigation delayed the parties' first System Plan negotiations. These negotiations are supposed to occur every 6 years, with USDOE and Ecology negotiating enforceable schedules for upcoming waste retrievals and treatment using information set forth in the System Plan. The first negotiations were supposed to be complete by April 30, 2015; however, the "2015" negotiations did not officially begin until January 2018, following the release of System Plan 8 in October 2017. At your request, the System Plan negotiations were re-initiated in October 2018. Those negotiations are now due to end on May 31, 2019.

Current Status

LAW Facility

Ecology appreciates the progress USDOE has made toward achieving LAW hot commissioning through the Direct Feed Low Activity Waste (DFLAW) project. However, Ecology has had concerns that USDOE could be at risk to meet the Consent Decree milestone requiring hot commissioning of the LAW facility by December 31, 2023. In an October 19, 2017, meeting Ecology was informed that:

- USDOE headquarters had concerns about cost growth and risks to the delivery schedule for the LAW Pretreatment System (LAWPS).
- USDOE's 80% confidence level date for LAWPS start-up was in the 2024 time frame.
- USDOE's Office of River Protection (DOE-ORP) requested permission from the USDOE Under Secretary for Management & Performance for a limited shutdown of design and construction at LAWPS.

In 2018, USDOE made the unilateral decision to shut down the planned construction of the LAWPS facility and shelved its design. USDOE shifted its focus to design of a Tank Side Cesium Removal (TSCR) system to provide similar functionality. The scaled down, skid-mounted TSCR technology

¹ See *States of Washington and Oregon v. Moniz*, Third Order Modifying Consent Decrees, at 27, 11.14-16 (March 11, 2016). The Court based its assumption that the technical issues would be resolved by the end of 2019 on the parties' representations to that effect, as well as some additional time "as a buffer." *Id.*

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is intended to provide enough feed to begin DFLAW operations by 2023, with multiple additional TSCR units needed to sustain DFLAW operations at levels required by the Consent Decree.

PT/HLW Facility

The Consent Decree requires USDOE to complete hot commissioning of the PT facility by December 31, 2030, and HLW Facilities by December 31, 2031. USDOE has now resolved, or will have resolved by September of this year, all of the PT/HLW technical issues. Nonetheless, it appears DOE unilaterally decided to place the HLW and PT facilities in an asset preservation and maintenance state while DFLAW is commissioned. To our understanding, DOE is pursuing only limited design work for the HLW Facility at this time.

While USDOE's FFY19 budget request included "Resume High-Level Waste Facility full authorization for procurement and construction," it also sought to "Complete HLW rebaseline and support contract modification." The FFY20 budget request removes any reference to PT and HLW Facilities and instead describes the need to advance HLW Facility "engineering design," while initiating HLW and PT Facilities "rebaseline" and supporting "contract modification."

Further, in August of 2018, you provided me with a U.S. Army Corps of Engineers evaluation that indicated USDOE cannot meet the 2030 and 2031 "Construction Substantially Complete" Consent Decree deadlines to complete construction of either or both the HLW and PT facilities with the current funding level of approximately \$690 million per year.

In October 2018, given that the PT Facility is so far over budget and so far behind schedule USDOE came to the Nuclear Waste Program (NWP) to discuss the HLW treatment mission at Hanford. Technical staff from the USDOE-Office of River Protection (ORP) and NWP started weekly "HLW optimization" meetings to discuss how USDOE could begin vitrifying HLW by the current Consent Decree deadline, given the significant challenges with the PT Facility. Around the same time, USDOE initiated an internal Analysis of Alternatives (AoA) process under DOE Order 413.3B to analyze alternatives to completing construction of the PT Facility.

The Nuclear Waste Program agreed to engage in these technical discussions in good faith with the understanding that the Consent Decree and TPA set forth the legally enforceable path forward. I reiterate that participation of Ecology staff in the HLW optimization meetings and AoA process (in whatever capacity), does not indicate the State is conceding to, accepting, or acquiescing in any alternative path forward that is different than what has been agreed to in the TPA and Amended Consent Decree between our two agencies.

Tank Retrievals

We also believe that USDOE will be unable to meet the TPA deadlines for completing tank retrievals (2040) and waste treatment (2047) if funding remains at current levels. USDOE faces mounting challenges and constraints with SST retrievals at Hanford. The longer waste stays in tanks, the harder it is to retrieve, and the tanks get further and further past their useful lives.

We are also concerned that the double-shell tanks (DSTs) do not provide enough storage capacity currently to keep retrievals going until the WTP treatment throughput is sufficient to maintain

adequate storage space. The TSCR system will also take out some DST storage capacity because DSTs will be used to stage feed while awaiting hot commissioning of DFLAW. In addition, USDOE has not been consistently following the process laid out in the TPA for tank retrievals and closures, which is causing additional uncertainties as we try to move forward to close tank farms.

Despite having two court orders that set forth the path forward for tank waste retrieval and treatment, USDOE once again already has, or is poised to take, unilateral actions to divert resources away from the path forward dictated by the Amended Consent Decree and TPA. While we appreciate the challenge of this difficult mission, the state of Washington needs to be assured that USDOE will comply with the Federal Facility Compliance and Resource Conservation and Recovery Acts and follow through on its obligations to clean up Hanford tank waste pursuant to these federal laws. Unless and until the parties agree otherwise, USDOE's required path forward remains as documented in legally enforceable agreements between USDOE and the State, including the TPA and Amended Consent Decree.

We are willing, in good faith, to work with you to collectively identify a holistic and realistic path forward for Hanford's tank waste, one that addresses all aspects of the tank waste mission and, ideally, does not need to be revisited every few years.

After over a year of negotiations, the System Plan negotiations are set to expire on May 31, 2019. Ecology's initial proposed milestone package was comprehensive and addressed topics set forth in TPA Milestone M-062-45, including tank waste retrieval sequencing, contingency actions, and milestones for provision of immobilized HLW canister storage capacity.

USDOE disagreed with Ecology's proposal to establish U Farm as the next tank farm to retrieve after A/AX, and instead presented a flow chart associated with A/AX tank farm retrievals. Our respective teams reached agreement on TPA milestones associated with operation of DFLAW and immobilized HLW canister storage capacity, and we are waiting for USDOE to respond to our latest proposal for milestones associated with the DST System.

Ecology's proposed package also included milestones designed to provide for contingency actions in the event of a delay in retrievals or WTP start up or other missed TPA or Consent Decree deadlines. USDOE and Ecology agreed to the placement of barriers over the tank farms; however, USDOE rejected Ecology's proposed milestones establishing a process for selective liquid removal for SSTs and proposed to perform a study of such a program instead.

In addition, our teams have been unable to reach agreement on the design, permitting, and construction of RCRA-compliant tanks that will expand capacity for storage of tank waste. At a minimum, design and permitting of such tanks are necessary to ensure that USDOE can complete retrievals as required. With design and permitting in place, USDOE could also be prepared in the event of another DST or SST leak.

State Proposal

Given the imminent conclusion of the System Plan negotiations and the upcoming System Plan 9 and associated negotiations, the State presents a two-part proposal. First, we propose completing the

current System Plan negotiations as outlined below. Second, considering that USDOE's AoA process (expected to conclude in November 2019) and upcoming System Plan 9 (expected to be released in October 2020) could provide important information about the future of the tank waste mission, the State proposes entering into a period of finite negotiations that will last no later than 6-9 months and put us on a holistic path forward that addresses all of Hanford's tank waste through to completion of treatment.

For the first part of the proposal, the State proposes that Ecology and USDOE conclude the System Plan negotiations with an agreement that includes:

- (a) The already-agreed to milestones associated with the A/AX tank farm, DFLAW, selective liquid waste removal study, immobilized HLW and ion exchange storage, and tank farm barriers.
- (b) Milestones that will require USDOE to complete design and permitting of RCRA-compliant storage tanks that will support continued SST retrievals in accordance with the Consent Decree and TPA and without any significant breaks. This will give the State some comfort that contingency measures are underway during additional negotiations and in the event USDOE does not meet its obligations under the Consent Decree and TPA. We hope that we can reach this Agreement by the end of negotiations on May 31.

For the second part of the proposal (negotiating a new holistic path forward), any such proposal must meet following State needs:

1. The DFLAW treatment facility must be completed and operational on the current timeframes set out in the Consent Decree.
2. HLW treatment must commence on a time frame as close to current Consent Decree deadlines as possible.
3. SST retrievals must continue without any significant breaks.
4. All SSTs and DSTs must undergo RCRA compliant closure.
5. All tank waste disposed of at the Hanford Site must be treated to the previously-agreed upon "as good as glass" standard and pursuant to agreements set forth in the Letter from C.J. Paperiello, USNRC, to J. Kinzer, USDOE, Classification of Hanford Low Activity Tank Waste Fraction, dated June 9, 1997.
6. Interim measures must be established as needed to ensure safe storage/management of tank waste pending completion of retrievals and treatment.

We understand there are funding constraints that will impact all of the above, in addition to space constraints in the DSTs that impact these goals. We are committed to addressing these and other challenges as we work towards a new, agreed upon path forward.

In the meantime, the State will not agree to changes in Consent Decree or tank waste-related TPA milestones, other than through the current System Plan negotiations as outlined above, until we come to agreement on a mutually acceptable holistic path forward that the parties have reduced to writing.

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If USDOE chooses not to accept both parts of the State's proposal, or if we get to the end of the negotiation period without a mutually acceptable path for Hanford's tank waste cleanup mission, we reserve our right to notify the Court of USDOE's anticipated breaches of Amended Consent Decree milestones. We also reserve our right to take enforcement actions for missed TPA milestones, including imposing all milestones Ecology initially proposed pursuant to the current System Plan negotiations.

We recognize the challenge we are laying out for our respective teams, but believe we are at a critical juncture in cleanup. If we agree to change the pathway for Hanford's tank waste, we need to be sure the new path is thoughtful, meets the State of Washington's and USDOE's needs, and does not need to be revisited every few years.

Please feel free to have your staff work directly with Alexandra Smith, our Nuclear Waste Program Manager, to schedule further discussions on this issue. She can be reached at alex.smith@ecy.wa.gov or (509) 372-7905.

Sincerely,



Maia D. Bellon
Director

cc: Bob Ferguson, Attorney General
Alex Smith, Ecology