



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

January 9, 2014

14-NWP-001

Mr. Kevin W. Smith, Program Manager
Office of River Protection
United States Department of Energy
PO Box 450, MSIN: H6-60
Richland, Washington 99352

Mr. L. David Olson, President & Project Manager
Washington River Protection Solutions
PO Box 850, MSIN: H6-04
Richland, Washington 99352

Re: Removing Waste from Double-Shell Tank 241-AY-102 – Ecology's comments on
Letter 13-TF-0049, and the attached *241-AY-102 Pumping Plan*, RPP-PLAN-55220

1220793

References: See page 4

Dear Mr. Smith and Mr. Olson:

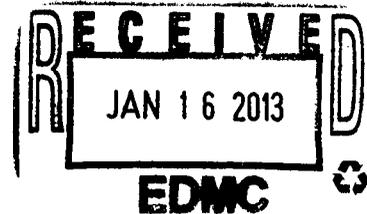
This letter provides the Department of Ecology's (Ecology) general comments on the "241-AY-102 Pumping Plan" you submitted on June 14, 2013 (reference 1). In short, we are deeply disappointed.

Your proposal, as we understand it, is to monitor the leaking Tank AY-102 and take no action to remove its waste until conditions get worse. This is unacceptable. You have known for more than a year that Tank AY-102 is leaking into its secondary containment and what the regulations require in response. The leak's cause is unknown, and you are unable to inspect it without emptying the tank.

The U.S. Department of Energy and Washington River Protection Solutions need to work collaboratively with Ecology to establish a plan for pumping the waste from Tank AY-102. This must occur immediately. The plan must also address any issues that need to be resolved before beginning pumping.

Ecology's general concerns with the current pumping plan are expressed below. We will arrange a meeting with you in January to go over our more specific comments, with the expectation of preparation of an acceptable plan by February 15, 2014.

In Attachment 1 to letter 13-TF-0024 (reference 2), you stated, "the bottom of the tank is covered by waste in the tank, the exact location of the leak is currently not known and visual inspection will not be possible until the waste (both sludge and supernatant) can be removed."



The state dangerous waste regulations require you to inspect the tank to determine the cause of the leak [40 CFR 265.196(a)], removing as much of the waste as necessary to allow for the inspection, if not within 24 hours, then at the earliest practicable time [40 CFR 265.196(b)(1)].

Currently, you do not know:

- The location of the leak.
- The rate of leakage.
- The conditions at the leak site.
- What effect changes in temperature will have on the leak.
- When or how the leak might worsen.

These unknowns are highlighted by two documents relating to management of supernatant levels in Tank AY-102:

1. RPP-RPT-53901, Rev 2, *Management of Supernatant Level in Tank 24 I-AY-102* (reference 3).
2. November 1, 2013, letter from the Defense Nuclear Facility Safety Board to Secretary of Energy Moniz (reference 4).

Both documents emphasize that leaked materials traveling via the refractory underneath the tank have the potential to clog ventilation channels, undermining your ability to moderate the heat of this high-heat tank and potentially leading to greater corrosion of the tank bottom.

You appear to have no plan for what to do if the ventilation channels do clog, whether before or during removal of waste. Nor can you predict how long the secondary containment will maintain integrity. Indeed, the integrity of the secondary containment might be compromised already. If these unknowns must be addressed prior to removing the waste, then you need a plan to address them, so that we may get to waste removal. But Ecology insists that you must remove the waste as soon as is practicable.

You committed to working with Ecology “to establish a schedule for removal of the waste from Tank 241-AY-102 such that a decision to repair or close the tank can be made” (reference 2). We requested such a schedule from you (reference 5). We expected the schedule would provide for removing all waste from the primary tank and would show that the schedule accomplishes removal at the earliest practicable time.

The “241-AY-102 Pumping Plan,” was your response (reference 1). The pumping plan asserts that, “safety issues, equipment requirements and technical limitations ... make removal of the waste at this time impracticable,” and that “ORP does not believe removal is prudent at this time.”

On the strength of these assertions, you propose to monitor the leak and to proceed with equipment procurement and planning so that you will be in a position to remove the waste if conditions change to a degree that warrants removal. We do not understand how you determined that removal requires preparatory planning, equipment procurement, and technical problem solving, but you conclude that removal need not be done at all until conditions worsen.

We accept that you were unable to remove the waste at the time that this "Pumping Plan" was issued, and that it might be imprudent to remove the waste prior to resolving safety issues, procuring and placing necessary equipment, and overcoming technical limitations. However, this does not relieve you from the regulatory requirement to remove it at the earliest practicable time.

If there are indeed safety issues, equipment needs, and technical limitations that stand in the way, you must address each of these issues in a timely manner, so that the waste can be removed at the earliest practicable time. We cannot support merely waiting for conditions to worsen before taking action.

You propose that the supernatant not be removed until you begin removing the sludge, because some amount of overburden needs to remain to moderate heat in the tank. You also list many planning and technical challenges that must be dealt with before pumping the supernatant:

- A waste compatibility assessment to ensure that the waste transfer would comply with myriad regulatory, programmatic, operational, and safety rules.
- Seven weeks of transfer paperwork.
- Technical challenges associated with the tank-to-tank transfers.
- Additional modeling and evaporator campaigns required to manage the double-shell tank space.

However, none of these tasks and challenges prevent putting forward a work plan to prepare for and carry out removal of as much supernatant as possible, taking into account what is needed for heat-moderating overburden. Also, if there are technical challenges, they should be addressed as soon as possible.

You begin your cover letter to the "Pumping Plan" with a commitment "to continue to work collaboratively in addressing this situation and our collective path forward" (reference 1). Collaborative progress was, of course, the purpose of the Integrated Project Team. At the beginning of 2013, that team recommended that the waste be removed at the earliest practicable time.

We recommend that we re-establish this collaboration no later than January 15, 2014, to produce, no later than February 15, 2014, a workable plan for pumping the waste from Tank AY-102.

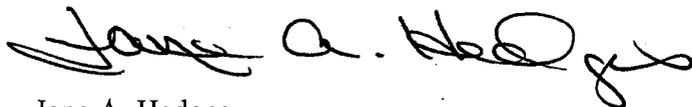
Mr. Smith and Mr. Olson
January 9, 2014
Page 4

14-NWP-001

Jeff Lyon will contact appropriate staff to arrange the meeting to discuss our specific comments and work on an acceptable pumping plan.

Thank you for your attention to this critical issue. Please contact me if you have any questions regarding this letter.

Sincerely,



Jane A. Hedges
Program Manager
Nuclear Waste Program

References:

- 1220793
1. Letter 13-TF-0049, dated June 4, 2013, from Kevin W. Smith, USDOE-ORP, to Jane A. Hedges, Ecology, "Submittal of the 241-AY-102 Pumping Plan"
 - 1220448 2. Letter 13-TF-0024, dated May 6, 2013, from Kevin W. Smith and Michael D. Johnson to Jane A. Hedges, "Analysis of 40 CFR 265.196 Requirements for Double-Shell Tank (DST) System Tank 241-AY-102, and Discussion of Double-Shell Tank Emergency Pumping Guide, HNF-3484, Revision 10"
 3. Report RPP-RPT-53901, Rev. 2, *Management of Supernatant Level in Tank 241-AY-102*
 4. Letter dated November 1, 2013, from Defense Nuclear Facilities Safety Board Chairman Peter Winokur to Secretary of Energy Ernest J. Moniz, regarding potential safety implications of removing a portion of the liquid radioactive waste stored in a damaged double-shell tank at Hanford
 - 1220569 5. Letter 13-NWP-056, dated May 24, 2013, from Jane A. Hedges to Kevin W. Smith and Michael D. Johnson, "Ecology Response to Letter 13-TF-0024, "Analysis of 40 CFR 265.196 Requirements for Double-Shell Tank (DST) System Tank 241-AY-102, and Discussion of Double-Shell Tank Emergency Pumping Guide, HNF-3484, Revision 10"

cc: David Gutowski, DNFSB
Robert Quirk, DNFSB
Mary Beth Burandt, USDOE-ORP
Lori Huffman, USDOE-ORP
Jeremy Johnson, USDOE-ORP
Wyatt Clark, WRPS
Rob Gregory, WRPS
Steve Killoy, WRPS

David Little, WRPS
John McDonald, WRPS
Tony Miskho, WRPS
Jeffrey Vogt, WRPS
Administrative Record: 241-AY-102
Environmental Portal
WRPS Correspondence Control

cc: electronic
Jeff Lyon, Ecology

USDOE-ORP Correspondence Control