

**Oregon Hanford Cleanup Board
City of Troutdale's Kellogg Meeting Room**

Troutdale, Oregon

Monday, July 15, 2019

Members In Attendance:

Dan Solitz, Acting-Chair
Lori Brogoitti
Jürgen Hess
Steve March
Bryan Wolfe
John Howieson
Erica Elliott
Tom Roberts
Kristen McNall
Justin Iverson, Oregon Water Resources
Janine Benner, Oregon Dept. of Energy

ODOE Staff:

Ken Niles
Mark Reese
Tom Sicilia
Jeff Burrigh
Erica Euen

Tri-Party Agencies:

John Price, Washington Dept. of Ecology
Randy Bradbury, Washington Dept. of Ecology

Public

Marylou Schnoes
Sharon Monteiro

Link to meeting materials:

<https://www.oregon.gov/energy/safety-resiliency/Pages/OHCB-Meetings.aspx>

Administrative

Acting Chair Dan Solitz opened the meeting at 1 p.m.

After introductions, the minutes from the March 2019 meeting were approved.

Link to opening of meeting: [Board opening and discussion](#)¹

¹ <https://soundcloud.com/odoe/oregon-hanford-cleanup-board-1#t=0:01>

Review of Activities / Events since July Meeting

Ken Niles, ODOE, gave the Board a review of Hanford-related activities since the last meeting in March.

[Review of activities](#)²

He mentioned several memorable anniversaries this year – the 30th year since the creation of the U.S. Department of Energy’s Environmental Management program; also, the 30th anniversary of the signing of the Tri-Party Agreement; and the 20th anniversary since the first shipment of transuranic waste was received at the Waste Isolation Pilot Plant.

Energy Secretary Rick Perry appeared before Congressional budget committees to defend proposed cuts in the Hanford cleanup budget. He was challenged by Washington Senator Patty Murray, who questioned whether DOE could meet its legal obligations with the budget that was being proposed.

The head of DOE’s cleanup program, Assistant Secretary for Environmental Management Anne White, resigned her job – reportedly because of disagreements with her boss, Energy Undersecretary Paul Dabbar. Ike White, an executive with DOE’s National Nuclear Security Administration, will fill that role.

DOE did move forward with its new interpretation of the definition of the term “high-level waste.” Dabbar said that it had no plans at this time to use this interpretation at Hanford, though Washington, Oregon and others remain skeptical.

Ken also mentioned a series of letters between Washington and DOE, which indicated disagreements related to permitting, lack of consultation, and other disagreements. The two parties do appear to agree with a proposal from Ecology Director Maia Bellon for a new period of negotiation to “collectively identify a holistic and realistic path forward for Hanford’s tank waste...(that) ideally, does not need to be revisited every few years.”

Ken said President Trump has issued an Executive Order requiring all federal agencies to terminate at least one third of their Federal Advisory Committee Act boards by September 30. The Hanford Advisory Board is a FACA Board, but Ken said there has been no indication it will be targeted for elimination.

Public Comment Opportunity

Acting Chair Solitz offered the public an opportunity to make comments or ask questions. There were none.

² <https://soundcloud.com/odoe/oregon-hanford-cleanup-board-1#t=51:17>

Upcoming Meeting Focus-River Corridor

Board, Jeff Burrigh, Tom Sicilia, ODOE

[Focus River Corridor](#)³

Jeff and Tom led an interactive discussion to focus Board discussions about the cleanup priorities for the fall meeting. They took the Board on a Google Earth tour along Hanford's river corridor: outlined cleanup objectives; provided case studies of soil and groundwater remediation actions; and described the anticipated site conditions and restrictions following the cessation of active cleanup. During this "big picture" discussion, the Board was encouraged to ask any and all questions relevant to the river corridor cleanup specifically or Columbia River safety in general.

The attachment at the end of this meeting summary contains information discussed during this topic, as well as "Parking Lot" questions raised by the Board that could not be answered during the meeting. ODOE will work with DOE to address these questions at the November meeting.

National Academies Study

Jeff Burrigh, ODOE

[National Academies Study](#)⁴

Jeff informed the Board about recent work of a National Academies of Sciences committee that is examining the potential of using grout and other treatment methods for a large amount of the Hanford tank waste. Based on the most recent system plan, the existing Low Activity Waste (LAW) vitrification facility is expected to only have sufficient capacity to treat approximately 50 percent of the total amount of LAW. DOE has not yet selected the method of treatment for the other half of the waste, so the study commissioned by Congress is evaluating the risks, benefits, costs, schedules, compliance with applicable standards, and other obstacles associated with three different technologies: vitrification, steam reforming, and grout.

The study is still ongoing, but the available draft documents suggest that grout could be a viable and more cost-effective form for this waste, disposed either at Hanford or off-site at a commercial low-level waste facility in Texas. Jeff took the Board through the major findings of the study, highlighted some of the remaining uncertainties associated with grout, and discussed the potential implications for the future of the tank waste treatment mission. He also solicited Board input on the information provided, to help guide Oregon's formal response to the study.

³ <https://soundcloud.com/odoe/oregon-hanford-cleanup-board-1#t=1:40:20>

⁴ <https://soundcloud.com/odoe/ohcb-15july2019#t=2:50:01>

Public Comment / Adjourn for the Day

Acting Chair Solitz offered the public an opportunity to comment or ask questions.

Sharon Monteiro thanked the Board for continuing the discussions about Hanford cleanup. She also thanked the Board for having a meeting close to Portland.

Acting Chair Solitz adjourned the meeting for the day at 5:15 p.m.

Final

Tuesday, July 16, 2019

Members In Attendance:

Dan Solitz, Acting-Chair
Lori Brogoitti
Jurgen Hess
Bryan Wolfe
Steve March
John Howieson
Erica Elliott
Tom Roberts
Kristen McNall
Justin Iverson, Oregon Water Resources Dept.
Ken Niles, Oregon Dept. of Energy

ODOE Staff:

Mark Reese
Tom Sicilia
Jeff Burrigh
Erica Euen

Tri-Party Agencies:

John Price, Washington Dept. of Ecology
Mark Pakula, Washington Dept. of Ecology
Randy Bradbury, Washington Dept. of Ecology
Theresa Howell, Washington Dept. of Ecology
Tom Teynor, U.S. DOE Richland Operations Office
Jolynn Garcia, U.S. DOE Richland Operations Office
Ben Harp, U.S. DOE Office of River Protection
Jennifer Copeland, CH2M Plateau Remediation

Public

Sharon Monteiro
Marylou Schones
Simone Anter
Irina Phillips
Jeff Breckel

Administrative

Acting Chair Solitz opened the meeting at 8:30 a.m.

Link to opening of meeting: [Board opening and discussion](#)⁵

⁵ <https://soundcloud.com/odoe/board-business-tuesday#t=0:06>

DOE Office of River Protection Update

[Office of River Protection update](#)⁶

Ben Harp provided the Board with an update from the U.S. Department of Energy's Office of River Protection.

Ben emphasized that the entire site is working towards the start of Direct-Feed LAW, to occur within the next several years. He provided a 90-day look ahead at the various activities underway on this project.

DOE does expect to begin retrieval of waste from the AX tank farm yet this year. Ben mentioned new retrieval tools that are being developed to help retrieve hard-packed wastes from both leaking and non-leaking single-shell tanks. One real challenge ahead is retrieving waste from tank A-105, which experienced a steam eruption in 1965 and caused an 8 ½ bulge in the bottom of the tank. DOE believes that there is likely waste beneath the tank.

Ben also shared photos taken from beneath double-shell tank AN-102, obtained through development of tools to access the under-tank air slot region with cameras. There was no evidence of leaks, but there was evidence of spotty pitting and corrosion, typical of humid air corrosion.

In discussing the budget, Ben said that costs for Waste Treatment Plant Commissioning need to grow from \$15 million in fiscal year 2019, to about \$450 million by 2022.

DOE Richland Office Update

[RL update](#)⁷

Tom Teynor provided the Board with an update on the current cleanup activities for DOE's Richland Office.

Tom said DOE is carefully watching Congressional work on the fiscal year 2020 budget, as the President's request would severely impact cleanup at Hanford. The President's proposed budget of \$718 million cut FY 2019 funding by \$236 million.

The grouting of PUREX Tunnel 2 was completed this spring. Tom said workers are making good progress in moving sludge out of the K-West basin and should meet their Tri-Party Agreement milestone to complete that by the end of this calendar year.

⁶ <https://soundcloud.com/odoe/mtng-start-harp#t=2:31>

⁷ <https://soundcloud.com/odoe/teynor-7-16-19#t=0:16>

Work is also progressing on demolition of the Plutonium Finishing Plant. Higher-risk demolition work should resume in August.

Summary of Board Discussion on River Corridor Fall Meeting

River Corridor discussion summary

Tom recapped the previous day's discussion about a fall meeting focus on the River Corridor cleanup.

Update from Ecology on tank-waste related issues

[Ecology update](#)⁸

John Price, Washington Department of Ecology, provided the Board with information about five Tri-Party Agreement change packages recently presented by Ecology to DOE related to the tank waste mission. DOE accepted three of the five proposals. DOE's acceptance establishes new milestones related to an assessment of selective liquid removal from single-shell tanks; establishing closure milestones for waste management area A/AX; and direct-feed low-activity support activities. DOE did not agree to a proposal to establish milestones for the design and permitting of new, compliant storage tanks. Instead, DOE proposed that the topic be included in the new period of negotiations that DOE and Ecology have tentatively agreed to conduct. DOE also did not agree with proposed milestones offered by Ecology related to interim barrier construction over additional single-shell tank farms.

Radioactive Material Transport

[RAD Transport](#)⁹

Ken provided the Board with an informative and historical overview of Oregon's radiological material transportation program, which began in 1981. He noted that the number of shipments has been dramatically reduced through the years, though we still experience 250-400 shipments annually. Shipments related to Hanford have all but been eliminated, as there is a moratorium on sending waste shipments to Hanford for disposal, and shipments of transuranic waste out of Hanford to WIPP are not expected to resume until the mid-to-late 2020s.

⁸ <https://soundcloud.com/odoe/price-07-16-19#t=0:25>

⁹ <https://soundcloud.com/odoe/ken-niles-tuesday-7-16-19#t=0:11>

Board Business

[Board business discussion](#)¹⁰

With Ted Taylor's recent departure, an election was held for Chair and Vice-Chair pursuant to the Bylaws.

Steve March was elected as the new Board Chair and Dan Solitz will remain the Vice Chair.

The Board set its next meeting for November 4 and 5 in Astoria, OR

Public Comment / Adjourn

The public was afforded an opportunity to make comments.

Sharon Monteiro thanked the Board for meeting closer to Portland.

The meeting was adjourned at 1 p.m.

¹⁰ <https://soundcloud.com/odoe/board-business-tuesday#t=0:03>

Attachment: Outputs from the July 15 River Corridor Topic Discussion

Problems	Objectives	Remedies	What will be left over
	General: 300 Area to Commercial/Industrial; rest of River Corridor to residential standards		
Reactors (6 cocooned, 2 to be cocooned, 1 national park)	Decommission & Demolish (D&D) buildings when safe	75 years of decay, then dismantle and dispose in Environmental Restoration Disposal Facility (ERDF)	Waste in ERDF
324 Building, Cesium/Strontium under basement	D&D building achieve residential standards for soil	Dig through basement, then D&D building	Grouted Cs/Sr to ERDF
Contaminated soil sites	<ul style="list-style-type: none"> • <15 ft: (based on typical basement depth), achieve direct exposure residential standards based on regulatory values for risk and hazard. • >15 ft: No direct exposure pathway. Remediate if groundwater risk only (determined by known plume source, leach tests, or modeling). Achieve drinking water standard or aquatic protection standard for surface water 	Excavate, dispose majority to ERDF	<ul style="list-style-type: none"> • Deep soil sites not a risk to groundwater Deed restrictions in perpetuity or until decay • Shallow sites close to reactors (inaccessible): deed restriction for industrial exposure (<200 yrs)
Burial Grounds <ul style="list-style-type: none"> • 618-11 • Burial grounds close to reactors 	Dig to bottom or only to 15 feet? (if 618-10 is an indication, they'll dig to the bottom)	Excavate, dispose low-level waste to ERDF and TRU to WIPP	Potentially deed restrictions to prevent well drilling
Ancillary equipment (tanks, cribs, pipelines)	prevent direct human exposure	Cap some with institutional controls, excavate others	Caps and deed restrictions
Cribs	Same as soil sites	Excavate and perform observational sampling >15 ft to determine groundwater source risk	<ul style="list-style-type: none"> • Deep soil sites not a risk to groundwater Deed restrictions in perpetuity or until decay
Groundwater Plumes	Achieve drinking water standard or aquatic protection standard for surface water	<ul style="list-style-type: none"> • Apatite Barrier for strontium at the aquifer interface • Pump & Treat (~25 yrs active pumping + 100 yrs monitoring) • Uranium sequestration – “time release capsule” at the aquifer interface 	<ul style="list-style-type: none"> • Loaded apatite barrier at aquifer for < 300 yrs. Well restriction • Loaded polyphosphate (U) at aquifer line, essentially forever. Well restriction • Monitored natural attenuation with restriction (no drink). 70 yrs for Sr in 100 B/C. General limit on Institutional Controls is 70-125 yrs

Parking Lot Questions from the River Corridor Topic Discussion:

- Contaminants on the other side of the river? Can they be going under? How much is daylighting into the river?
- Has there been sampling in Oregon agricultural areas? Both soil and groundwater.
- River sediment concentrations? (both river bank and behind dams)
- Strontium-90 connection to multiple myeloma? (local prevalence)
- Rate of movement for I-129 in the central plateau?
- Basis for the I-129 Maximum Contaminant Level (MCL) for groundwater? (radioactivity compared against I-131)
 - I-129 MCL = 1 pCi/L; I-131 MCL = 3 pCi/L
- Is Iodine-129 bioaccumulation a problem?
- How will the 200-Area Central Plateau plumes factor into the river corridor cleanup?
- Co-mingling of groundwater plumes? How do they behave/combine and what does that do for risk?
- For what duration do we model wastes disposed to ERDF?
- How has a Cascadia quake been incorporated into river corridor risk/cleanup decisions?
- What is the potential for shifts in river flow over time to erode new sediments and migrate contaminants?
- Map of all soil contamination remainders deeper than 15 feet? (i.e., map of future deed restrictions)