

Oregon Hanford Cleanup Board

Oregon Department of Energy

Salem, Oregon

Monday, August 7, 2017

Members in Attendance:

Kristen McNall, Chair
Ted Taylor, Vice-Chair
Mecal Seppalainen
Lori Brogoitti
Steve March
John Howieson, M.D.
Dave Ripma
Dan Solitz
Bryan Wolfe
Armand Minthorn, CTUIR
Justin Iverson (Oregon Water Resources Dept.)
Ken Niles (Oregon Department of Energy)
Senator Richard Devlin
Representative Greg Barreto

Oregon Department of Energy Staff

Mark Reese
Sara Lovtang

Tri-Party Agencies and contractors:

Tom Fletcher, U.S. Department of Energy,
Richland Office (DOE-RL)
Delmar Noyes, U.S. Department of Energy,
Office of River Protection (DOE-ORP)
Rich Buel, DOE-RL
Jennifer Copeland, CH2PRC
Moses Jaraysi, CH2PRC
Dieter Bohrmann, Northwind
Stephanie Schleif, Washington Dept. of Ecology

Public

Sharon Monteiro
Nancy Stevens
Norma Jean Germond
Henry Germond
Wayne Lei

Administrative

Chair Kristen McNall opened the meeting at 1:01 p.m. and welcomed Board members and guests.

After introductions, the April Board meeting minutes were approved with a minor change about public involvement and outreach.

Representatives Tawna Sanchez and Karin Power, and Umatilla County Emergency Manager Thomas Roberts are the newest members of the Cleanup Board. However, all three were not able to attend this meeting due to schedule conflicts.

DOE-ORP Update

Delmar Noyes, DOE-ORP, provided the Board with an update on a variety of issues related to the tank waste retrieval and treatment missions.

Single shell tank C-105 is the last of 16 tanks to be retrieved in C-Farm. Delmar said there is approximately 30,000 gallons of waste remaining in the tank. The final round of retrieval is expected to begin in August and will be completed in late 2017 or 2018.

The next single-shell tank farms slated to be emptied are the A and AX farms. Work is well underway to prepare for that work, with cleanout of eight waste transfer pits and removal of equipment from tanks AX-102 and AX-104.

Delmar said they are also field testing AX Tank Farm exhausters and ventilation systems. DOE has been evaporating water from tank T-111, to prevent further release of waste into the environment. Through use of an exhauster, DOE estimates it has removed 7,150 gallons of water – mostly from the sludge in the tank. That is equivalent to 10 years-worth of leakage (based on the 2014 leak rate of ~1.8 gallons per day.)

The first of two evaporator campaigns this summer was completed on July 15. The 16 day campaign created about 200,000 gallons of double-shell tank space.

Delmar said a comprehensive industrial hygiene control strategy was implemented to monitor and evaluate data and brief workers. The next campaign is set to begin mid-to late August and is expected to create an additional 280,000 gallons of tank space.

The Liquid Effluent Retention Facility (LERF), holds wastewater generated by the evaporator campaigns. Installation of a new fabric cover on one of three large liquid storage basins is almost complete. It is the first replacement of a basin cover since operations began at the facility in 1994. The plan is to replace the second basin cover in Fiscal Year (FY) 2018. Each LERF basin is permitted to hold ~7.8 million gallons of material.

Condensing tank vapors within the annulus of double-shell Tank AZ-101 is apparently to blame for a spot of contamination that was picked up by a crawler during a routine inspection. The condensation fell from the top part of the tank to a spot in the annulus 75 feet below. An inspection crawler rolled through that condensation and was the source of concern when contamination was detected on the crawler.

Waste retrievals have been completed from double-shell Tank AY-102, which had been leaking from its primary shell into the annulus. Delmar said 98 percent of the waste – more than 744,000 gallons – has been retrieved, leaving about 19,000 gallons of waste in the tank.

John Howieson, Board, asked whether the remaining 19,000 gallons of waste will remain in the tank permanently. Delmar said the decision about that material has not yet been made. It will go through a review process when a closure decision is made with Washington State. Standard and extended-reach sluicing systems were used to retrieve the waste in this tank.

Inspection with a high definition video camera was conducted of the tank interior in June. This video will help DOE determine whether it is possible to repair the tank or to move forward with closure.

Delmar said that managing chemical vapors from the underground tanks remains a challenge. The evaporator exhaust stack was extended from 63 feet to 111 feet above the ground prior to the start of the evaporator campaign.

DOE is also working with numerous contractors to test various detection and monitoring technologies and different air purifying respirator cartridge filters. The website www.hanfordvapors.com is a good source of information about the Chemical Vapor Management Program.

Progress continues toward the start of Direct-Feed Low-activity waste (DF-LAW).

In the Low-Activity waste vitrification facility, crews completed in June assembly of the first melter, which weighs 300 tons. Work is now progressing on assembly of the second melter. When operational, the two melters will combine to produce five containers of vitrified waste daily.

There is a proposed operating permit available for public comment regarding the Waste Treatment Plant Analytical Laboratory. This facility will provide processing information on waste feed to ensure efficient operations.

DF-LAW will utilize a new pretreatment system. Delmar said they have completed 60 percent design review as well as the preliminary safety design report. DOE-ORP is requesting DOE-HQ approval to begin site preparation and fabrication of selected equipment. Full construction is expected to start by mid FY 2019.

Delmar said that progress is still being made in resolving eight separate technical issues associated with the original pretreatment facility. DOE-ORP is striving to have all remaining technical issues resolved in 2018 and return the pretreatment facility to active design.

Board members raised several questions about the potential need and cost of building new waste storage tanks, due to the failure of one double-shell tank and concern with others. Tom Fletcher, who formerly was the tank farm manager before moving on to DOE-RL, responded that new estimates are \$80-120 million per tank, and multiple tanks would end up being built if that's the direction DOE chose to take. He emphasized that the goal is to manage the existing tanks until treatment can begin to reduce the volume of waste. DOE does not want to build more tanks.

PUREX Tunnel Incident

Tom Fletcher, DOE-RL Deputy Manager, provided the Board with an update on the PUREX tunnels.

Tom briefly reviewed the history of the two PUREX tunnels.

The two tunnels were built to store highly radioactive processing equipment from PUREX because their high dose rates could create risk for Hanford workers during transport to the burial grounds. The failed processing equipment, was put on rail cars and placed into the tunnels.

Tunnel 1 was constructed with creosote timbers and is about 360 feet long. It contains eight railcars and was sealed in 1965. Tunnel 2 was constructed with an arched roof with steel supports. It is 1,700 feet long and contains 28 rail cars, though there is room for 40. It was sealed in 1996. Both tunnels are covered with several feet of sand that acts as shielding.

On May 9, three workers were in the vicinity of the PUREX stack when they noticed a rise in the background levels on their radiation meters. They investigated and discovered a partial collapse of Tunnel 1. They made notifications which led to an Alert being declared on the site, which was later elevated to a Site Area Emergency.

A plan was developed over the next several hours to fill the hole with sand. That was completed late the following night.

On May 10, the Washington State Department of Ecology issued an Administrative Order directing DOE to take corrective actions.

On June 30, DOE submitted engineering evaluations to Ecology of both tunnels. These were based on 2012 International Building Code standards and used load and resistance factor design techniques.

Tunnels 1 and 2 do not meet current structural codes and standards. Tunnel 1 is overstressed and at risk of future collapse; near-term stabilization is needed to ensure safe storage of waste; the cause of partial collapse cannot be determined but was likely due to heavy rainfall and deterioration of the wood timber structure over more than 60 years.

Tunnel 2 also has overstressed design elements (at construction joints and external loading) and the potential for localized collapse. Structural stabilization is recommended as soon as possible.

On August 1, DOE submitted to Ecology its draft report detailing corrective actions to ensure safe storage of waste in Tunnels 1 and 2. A range of potential corrective actions for Tunnel 2 were identified.

A phased approach of enhanced surveillance and monitoring is being conducted at Tunnel 2 until a corrective response action is selected and implemented.

Tom said DOE will convene a panel to consider tunnel design, operating history, and waste inventory. This team of technical experts will look at the potential options for Tunnel 2 and potentially generate additional options.

A response action for Tunnel 2 will be selected following completion of the detailed alternative analysis.

The Tri-Party Agreement requires submittal of a draft remedial investigation/feasibility study (RI/FS) work plan to Ecology by September 30, 2020. This action will initiate the process for development of cleanup decisions for both tunnels.

A team including environmental, structural, construction and facility resources identified a range of options that could be implemented to ensure continued safe storage of waste in Tunnels 1 and 2.

Measures that involved removal of soil overburden, or personnel entry for internal inspection of the tunnels were not viewed as viable options.

.Tom said that on May 31, DOE notified Ecology of plans to fill Tunnel 1 with engineered grout. Grouting Tunnel 1 will improve tunnel stability, provide additional radiological protection, and increase durability while not precluding future remedial actions or final closure decisions.

Ecology approved the plan to grout Tunnel 1 as an interim response action.

Tom said the use of grout as void fill has been successfully used at the Hanford Site and can be implemented effectively and in a timely manner.

In the interim, surveillance and monitoring enhancements have been implemented including walk-downs seven days a week including holidays, and a video camera was installed to provide real-time observation of the tunnel surface.

Grouting operations are expected to be done by the end of calendar year 2017.

Potential options initially considered for Tunnel 2 include a high-density polyethylene cover; building a structure over the tunnel, such as a soft-surface or hard-surface tent or a pre-engineered building; injection of poly foam; injection of grout; controlled collapse in place; sand or clay void fill; or retrieving the waste from the tunnels. Most of these are not likely choices either because they do not do enough to reduce the hazard or they are simply too expensive (such as retrieving the waste) and time-consuming to do now.

Plutonium Finishing Plant Status

Tom also provided the Board with an update on the demolition work at the Plutonium Finishing Plant (PFP).

The Americium Recovery Facility, also known as the McCluskey Room and the ventilation stack are complete. The Fan House is 95 percent complete. The Plutonium Reclamation Facility is 44 percent complete; the main processing facility is only two percent demolished. TPA Milestone M-083-00A requires DOE to have the entire complex of facilities to slab-on-grade by September 30, 2017.

On June 8, a Continuous Air Monitor (CAM) alarm sounded during removal of a glovebox. PFP employees were instructed to take cover and go inside and turn off ventilation. The re-entry team conducted an evaluation of the area. The site was surveyed and a fixative was applied to any contamination found. An egress path free of contamination was established for employees.

Tom said that corrective actions have been taken since the incident. DOE has worked with its contractor to “re-sequence” the building demolition. Procedures have been revised to ensure water cannons are in the “mist” and not “full stream” mode. Temporary HEPA filtered ventilation exhausters units have been placed on the PRF canyon to draw a negative pressure on the remaining gallery glove boxes and canyon.

DOE RL and ORP Budget Briefing and Hanford Cleanup Priority Exercise

Tom and Delmar presented information about current and proposed funding levels for both DOE-RL and DOE-ORP.

Delmar listed the key cleanup priorities for DOE-ORP:

- Safe Nuclear Operations and Base Operations
- Direct Feed Low-Activity Waste Approach
 - Tank Farms upgrades to support Direct-Feed Low Activity Waste
 - Low Activity Waste Pretreatment System Facility (LAWPS)
 - Low Activity Waste Facility, Balance of Facilities, Analytical Laboratory
- Tank waste retrievals
- Waste Treatment and Immobilization Plant technical issues resolution
- Waste Treatment and Immobilization Plant HLW and PT Production Engineering.

Tom provided the DOE-RL budget priorities:

- Maintain safe, secure and compliant activities, facilities and operations
- Continue groundwater pump-and-treat operations and implement additional groundwater remedies
- Continue progress toward River Corridor cleanup
- Continue preparation to move sludge from 100 K Area Basin to interim storage in the Central Plateau
- Continue repackaging of large transuranic containers and waste drums
- Continue to maintain surplus nuclear facilities and site infrastructure.

The President’s proposed budget for Fiscal Year (FY) 2018 does provide a slight increase to DOE-ORP over FY 2017 funding. However, it proposes a significant cut of more than \$100 million to the DOE-RL budget.

Delmar and Tom then proceeded to explain in some level of detail the specific activities that both DOE offices have planned for the coming two years.

With this information in hand, Board members were then asked to provide their own priorities for each of the projects, by putting a ranking on 17 informational posters that were in the room – five for DOE-ORP, and 12 for DOE-RL. DOE then took this information as input on its budget process.

Public Comment/Adjourn

Sharon Montiero asked about the status of AY-102 and about the recent incident that resulted in exposure to plutonium during PFP demolition.

Kristen adjourned the meeting for the day at 5:13 p.m.

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Oregon Department of Energy
Salem, Oregon

Tuesday, August 8, 2017

Members In Attendance:

Kristen McNall, Chair
Ted Taylor, Vice-Chair
Lori Brogoitti
Bryan Wolfe
Steve March
John Howieson, M.D.
Dave Ripma
Dan Solitz
Armand Minthorn, CTUIR
Justin Iverson (Oregon Water Resources Dept.)
Ken Niles (Oregon Department of Energy)
Representative Greg Barreto
Senator Richard Devlin
Ruchi Sadhir (Governor Brown's Energy Policy
Advisor)
Michael Kaplan (Oregon Department of Energy)

ODOE Staff:

Mark Reese
Sara Lovtang
Rachel Wray
Jenny Kalez

Tri-Party Agencies:

Not present

Public:

Sharon Monteiro

Administrative

Chair Kristen McNall called the meeting to order at 8:33 a.m.

Board Member Training

Oregon Department of Energy Human Resource staff provided the Board with required annual training. The topic for training was Weapons in the Workplace, which is required now by state policy 50-010-05. Board members also signed policy acknowledgment letters.

Review of Activities/Events Since April Meeting

Ken Niles, Oregon Department of Energy (ODOE), provided a review of relevant Hanford and Board related activities since the Board's last meeting in April 2017.

Ken noted the retirement of longtime ODOE employee Dirk Dunning, who had spent 24 years working on Hanford issues on behalf of the agency and the state.

Ken provided some additional detail about the Hanford budget situation. As Tom Fletcher and Delmar Noyes noted the previous day, President Trump's proposed budget for fiscal year 2018 proposed a significant cut in funding at DOE-RL of more than \$100 million, and a slight increase for DOE-ORP.

Energy Secretary Rick Perry went before Congress to defend the budget. He was challenged by Washington Senator Maria Cantwell, among others. Cantwell said she's seen efforts time and again by Energy Secretaries to try and "do it on the cheap." To which she replied, "it can't be done."

Through the efforts of Senator Cantwell and others, both the House and Senate Appropriations Committees, in their version of the FY-2018 budget – did propose to restore much or all of the cuts. The full House has actually passed a budget bill – the full Senate has yet to act on the Appropriations Subcommittee recommendations. Eventually – any differences in the House and Senate version will have to be negotiated.

There were more changes at the head of DOE's environmental cleanup program. Sue Cange, who has been the acting Assistant Secretary for Environmental Management, was replaced by Jim Owendoff, who himself will serve in an Acting capacity as head of the cleanup. Owendoff has been around a long time – and has been acting Assistant Secretary on one or two occasions in the past. He was also promoted to Principal Deputy Assistant Secretary, which is the number 2 spot overseeing the cleanup.

As one of his first actions, Owendoff launched a full 45 day review of the Environmental Management program. His emphasis is on decision making, and the speed at which these decisions are made, as well as where those decisions should be made.

Owendoff also created an Office of Special Projects, with its initial focus on Hanford's Waste Treatment Plant. He said the office will work to "clear away any hindrances," and hoped direct-feed LAW could be operating as early as 2022.

The Waste Isolation Pilot Plant is back in operation and receiving waste from now four different sites, Idaho, Savannah River, Waste Control Specialists (where Los Alamos waste had been taken), and Oak Ridge. Hanford is still likely a long ways away from shipping. WIPP is only able to handle 2-4 shipments a week. Accepting higher shipment rates will also require constructing new ventilation shafts at the Waste Isolation Pilot Plant to improve ventilation.

Interior Secretary Ryan Zinke announced that the Hanford Reach National Monument in Washington State is no longer under review for possible modification. The monument was among 27 covered by President Trump's April executive order calling for a review of monuments created since 1996, calling them a "massive federal land grab." The Hanford Reach, which was designated as a national monument in 2000 by President Bill Clinton, covers 195,000 acres. With that concern now out of the way, some are looking to expand the Monument. The Lower Columbia Basin Audubon Society would like to add part of Hanford's interior at the southern end of the site to the Monument.

Hanford experimented with a webinar on April 12. Called Hanford Live – it was a substitute for regional in-person meetings – called "State-of-the-Site" meetings. Ken said it went better than many had

expected, but was not an adequate substitute for in-person meetings around the region. Kristen agreed that it did not provide the dialogue that you get when people are in the same room together.

Russell Jim of the Yakama Nation was honored for his decades of work as a strong advocate for cleaning up Hanford. He was awarded an honorary doctorate degree from Heritage University (Toppenish). During his career, Jim:

- helped block selection of Hanford as a high-level waste repository
- was instrumental in giving Northwest tribes a voice in nuclear cleanup
- was relentless in his efforts to protect the Columbia River's fish, plants and other resources — the basis of his people's existence since time immemorial
- not only holds the knowledge of his traditional teachings and cultural history, but also understands the science behind nuclear waste and its cleanup,

In awarding the degree, the University said that Jim speaks "for an injured land that couldn't speak for itself."

Following the partial collapse of one of the PUREX tunnels, there was acknowledgment from DOE-RL manager Doug Shoop that there are plenty of other things out there of a similar nature – not storage tunnels, but other facilities that are threatened by age. DOE is having its contractors develop a master list of these facilities.

Ken said one such facility mentioned to him by Dennis Faulk of the U.S. Environmental Protection Agency is the Z-9 crib. It was a liquid waste disposal site near the Plutonium Finishing Plant and it received a fairly plutonium-rich waste stream, which concentrated the plutonium in the soil. DOE already mined plutonium out of there many years ago. It consists of a concrete slab above 18 feet of open air with plutonium contaminated soil beneath it.

DOE has dropped plans to study the feasibility of deep-borehole disposal. That was the plan to drill a three mile deep hole and dispose of certain waste forms like Hanford's strontium and cesium capsules. DOE got rebuffed by four separate states. They were concerned that once the hole was dug, DOE would want to use it for actual waste disposal.

Ken next briefly reviewed some cleanup progress around the site that wasn't covered by the DOE speakers.

At the 324 building, which has concentrated radioactive waste beneath a hot cell, workers cleaned waste out of an airlock to access the hot cell. That waste was disposed in Hanford's Environmental Restoration Disposal Facility (ERDF).

At the K-West basin, work progresses on getting ready to move sludge out of that facility. DOE beat a Tri-Party Agreement milestone rather handily to have sludge transfer equipment installed in the K West basin by September 30 of this year. There is great expectation that the start of sludge removal will begin this year – again well before a TPA milestone of September of next year.

T Plant is where the sludge will be taken and stored. Work is also underway in T-Plant to prepare for the receipt of waste. Workers were simulating unloading a sludge transport cask.

At the 618-10 burial ground – excavation work is pretty well done not only at the main burial ground, but also at two much smaller adjacent waste sites.

At ERDF, workers have begun disposal of waste through a vertical expansion – piling waste on top of previous waste disposal cells.

And at the 200 West pump-and-treat facility, Ken said DOE is adding wells in the 200 West Area so that the plant can operate at higher flow rates.

Hanford Public Involvement

The Board continued its multi-meeting discussion about how to better engage with the public about Hanford. ODOE Communications Manager Rachel Wray and Jenny Kalez, an outreach coordinator on her staff, joined the discussion.

Kristen provided to Board members prior to the meeting an article that was sparking a lot of discussion on social media. It included comments from Hanford and U.S. Environmental Protection Agency officials that Hanford contaminants were “flowing freely” into the Columbia River. As a Columbia River Gorge resident and frequent windsurfer, Kristen said these types of stories generate a lot of concern by river users and she was looking for some ideas on how to counter this type of information.

There was a lengthy discussion about the issue, with Board members providing their perspectives.

Rachel said that the agency has been working to update its web site so that more useful information can be found more easily. It is better organized now and has a fresh look. Jenney has developed a pod cast series, and has interviewed Ken several times to tell portions of the Hanford story. The pod casts can be accessed from the agency website.

Ken said that it would be difficult to respond to most of the Hanford mis-information that is on social media, but the issue of Columbia River impacts and water quality is one which can be addressed. Ken said that ODOE has developed information in the past on Hanford’s impacts to the Columbia River. That information can be repackaged and made more prominent on the web site. It would be something that Board members could share.

Rachel and Jenny offered to compile a list of Hanford resources that are available on the ODOE web site. Ken said he would work with Rachel and Jenny to review these materials and see what we might do differently to provide some of the messages that were most frequently mentioned. He did expect that they would develop a specific page about Columbia River water quality.

NRDA Update

Sara Lovtang, ODOE staff, gave a presentation on the natural resource damage assessment being undertaken by the Trustee Council.

Sara discussed the basic purpose of a damage assessment, who is on the trustee council, the history of its formation and how the Hanford Natural Resource Trustee Council breaks down its work into about ten working groups.

Natural resource damage claims are brought by governments on behalf of the public for harm done to natural resources, and claims may come under state or federal statutes, or common law.

The Hanford Natural Resource Damage Assessment (NRDA) uses CERCLA guidelines, aimed at damages for injury resulting from release of hazardous substances – including physical damage caused by cleanup.

The Trustees are tasked with ensuring services that would have been provided by injured resources are restored to the public. They define the scope and scale of restoration required, and must document decisions and actions. The scope of the Hanford natural resources damage assessment is enormous, not only in scale and the number of facilities but it also stretches over a large amount of time.

The members of the Hanford Natural Resources Trustee Council are: Two states (Oregon and Washington); three Native American tribes (Confederated Tribes of the Umatilla Indian Reservation, Nez Perce Tribe, Yakama Nation); and three federal agencies (U.S. Department of Energy, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration). Decisions are by consensus, which may take longer but the decisions are more thoroughly vetted. In the end the Trustees will have a stronger case, and hopefully less litigation.

Sara gave an overview of a damage assessment an injury is an observable or measureable adverse change in a natural resource, or impairment of ecosystem services, and injury is measured compared to “baseline” condition.

Sara explained that damages are what the responsible party must do or pay, and include both 1) the cost to restore, replace or acquire the equivalent natural resources, and 2) the value of the services lost during recovery (lost use). This last part is important because it means the damages also cover the time since the release or the enactment of CERCLA and time into the future during which the natural resource is recovering.

In 2007, the Trustees decided to proceed with a phased NRDA approach and begin the Injury Assessment phase in parallel with ecological risk assessments. In 2012 HNRTC became more active after legal settlement establishes DOE funding for trustee organizations.

Sara then used the Aquatic Working Group as an example of how complicated the analyses can get and how progress is being made.

Studies funded by trustees for the Aquatic Working Group were: two lab studies on juvenile salmon exposure to contaminated groundwater seeping into Columbia River; a study on fall Chinook parr ability to detect/avoid chromium; and a lab study on Western pearl shell mussels.

The trustees also invited an expert panel to help them narrow the focus of their Aquatic Working Group. They also put pressure on DOE to test groundwater upwelling in the river, and were instrumental in pushing that work forward.

Currently, the focus of the Aquatic Working Group is on: modelling Chinook salmon population to assess impacts of historical chromium contamination; mapping habitat on the Hanford Reach; organizing and assessing decades of information in the existing literature, including sampling data and GIS layers; and doing monthly talks with a local fisheries biologist to educate trustees.

Sara explained that Oregon heads up a sub-group of the aquatic team working to do the mapping of habitat on the Hanford Reach. She showed the Board a series of maps that illustrate how river depth, substrate, and flow could be used to identify habitat.

Sara also showed GIS layers indicating the location of various groundwater contaminant plumes and contaminant upwelling into the river, in relation to salmon spawning habitat. The job of the trustees is to pull all of this information together into a coherent story that is well documented, has gone through quality assurance/quality control, and stands up under both scientific and legal examination.

The 2014 Project Execution Plan forecasts the approval of the NRDA Restoration Plan in 2024 – if the trustees receive full funding. The Project Execution Plan budget estimated the Natural Resources Damage Assessment would cost \$85 million, resulting in an annual average cost of \$8.5 million. Actual funding has averaged \$3.1 million/year.

Armand Minthorn, CTUIR, made a motion to the Board. He stressed the importance of making progress through the NRDA process. He suggested a letter from the Board addressed to DOE in support of fully funding NRDA. After some discussion, the Board decided not to go forward with such a letter.

Oregon Response to the PUREX Tunnel Emergency

Mark Reese, ODOE, explained ODOE's response to the May 9 PUREX tunnel collapse.

ODOE is the lead agency for coordinating and managing Oregon's response for any Hanford radiological emergency as well as any incident at the Columbia Generating Station, Trojan spent fuel storage installation, and the Oregon State University and Reed College research reactors. ODOE is also responsible nuclear waste transportation within the state.

Oregon participates in annual exercises with DOE, and also participates in nuclear emergency exercises related to the Columbia Generating Station nuclear plant. These exercises help keep ODOE staff and staff at supporting agencies (Oregon Health Authority, Oregon Department of Agriculture, and Morrow and Umatilla counties) prepared all year long.

Mark explained how Oregon is notified by DOE's Occurrence Notification Center in Richland when there is an incident on the site that could generate media interest, like a fire, or an accidental spread of contamination during cleanup. These types of incidents are classified as Abnormal Events, not an emergency event. ODOE participates in communication drills twice weekly through the state's Oregon Emergency Response System.

Emergencies are classified in order of increasing severity as Alerts, Site Area Emergencies, and General Emergencies. ODOE's procedures require it to activate the ODOE Agency Operations Center when Hanford declares a Site Area emergency or higher.

During an emergency, ODOE's goal is to get accurate information and convey that to Oregon residents that live in Morrow and Umatilla counties. If there is nothing that they need to do, that is still important information to provide. At the most severe emergency – a release of radioactive materials into the air that drifts into Oregon, Oregon may have to impose a quarantine on food products, and that would have to be conveyed quickly and accurately.

When the PUREX tunnel collapse was discovered on the morning of May 9, Ken was in Corvallis, Mark was in Portland, Dale was on vacation and Dirk and Sara were in the office. ODOE received the first notification from the Oregon Emergency Response System at about 8:30 a.m. that something had occurred at Hanford at the PUREX tunnels.

By 9:34 a.m., DOE had notified Washington and Oregon that an Alert level emergency was declared because they had confirmed there was a partial collapse in Tunnel 1.

At 10:00 a.m., Ken, back in Salem by this time, decided to activate ODOE's Agency Operation Center to begin monitoring the situation in case it escalated. Notifications were made to the agency Director, internal support staff, Oregon Health Authority and Oregon Department of Agriculture as well as Morrow and Umatilla counties.

At 10: 21 a.m., DOE advised both Washington and Oregon that a tunnel breach was confirmed and the ALERT had been elevated to a Site Area Emergency. Washington State had by then activated their Emergency Operations Center at Camp Murray. Benton and Franklin counties in the Tri-Cities had also activated their emergency centers for the incident.

As more information became available, it was clear that there was not any release of radiological material to the air and that Oregon would not be impacted. That was important information to share with Oregonians via our web site and through social media.

DOE also got information out quickly on social media to alleviate rumors and calm fears. Mark explained that this was the first time that social media was used effectively during a Hanford incident.

By 5 p.m. on the 9th, DOE was developing a plan to fill the hole with sand to mitigate the collapse. Ken decided that ODOE could de-activate the AOC and have key-staff monitor the situation and keep in contact with Hanford.

Shortly before midnight on May 10, DOE declared the situation under control and the emergency was terminated. They had successfully filled the tunnel hole with sand.

Mark explained that there were a lot of good lessons learned from this incident. One was that regular staff training paid off because staff quickly responded and filled their response positions in the AOC without hesitation.

Another lesson learned was the quick use of social media by both Hanford and ODOE to get accurate and timely information out to the public. ODOE communication staff reported that most posts about the incident on Facebook reached a lot of people quickly.

Board Business

The Board set its next meeting for November 27 & 28 in The Dalles at the Columbia River Discovery Center and Museum.

Public Comment/Adjourn

Sharon Montiero addressed the Board about several issues. She suggested the Board use a more formal process, such as Robert's Rules of Order to consider motions made by Board members. Sharon urged the Board to continue to engage DOE and monitor cleanup activities on behalf of the citizens of Oregon, including the Native American tribes.

Kristen adjourned the meeting at 1:20 p.m.