



Many Voices Working for the Community

Oak Ridge Site Specific Advisory Board

2018 Annual Planning Meeting of the Oak Ridge Site Specific Advisory Board

APPROVED August 24, 2019, Meeting Minutes

The Oak Ridge Site Specific Advisory Board (ORSSAB) met for its 2019 Annual Planning Meeting at 9 a.m. on Saturday, August 24, 2019, at the Tremont Lodge & Resort Conference Center, 7726 E. Lamar Alexander Parkway, Townsend, TN.

Copies of referenced meeting materials are attached to these minutes.

Members Present

Leon Baker	Noah Keebler	Fred Swindler
Andrea Browning	Shell Lohmann, Vice Chair	John Tapp
Richard Burroughs	Harriett McCurdy	Ed Trujillo
Bill Clark	Marité Perez	Rudy Weigel
Sarah Eastburn	Georgette Samaras	Dennis Wilson, Chair
Amy Jones	Leon Shields	
Nannan Jiang	Bonnie Shoemaker	

Members Absent

Brooke Pitchers
Robert Whitaker

Liaisons, Deputy Designated Federal Officer, and Alternates Present

Dave Adler, Acting Deputy Manager, Department of Energy, Oak Ridge Office of Environmental Management (DOE-OREM)
Kristof Czartoryski, Tennessee Department of Environment and Conservation (TDEC)
Connie Jones, Environmental Protection Agency (EPA) Region 4
Melyssa Noe, ORSSAB Alternate DDFO, DOE-OREM

Others Present

Michael Higgins, TDEC
Shelley Kimel, ORSSAB Support Office
Sara McManamy-Johnson, ORSSAB Support Office

One member of the public was present.

Welcome and Opening Remarks

Board Chair Dennis Wilson opened the meeting by welcoming new and returning board members and introducing DOE liaisons and regulators.

Mr. Adler briefly introduced the new members appointed to the board in July 2019. New members present at the meeting were: Andrea Browning, Amy Jones, Noah Keebler and Georgette Samaras. Robert Whitaker was unable to attend.

DDFO Comments

Mr. Adler helped to orient new members to ORSSAB by providing a general introduction to the mission, vision, and goals of OREM's cleanup program in Oak Ridge. He discussed that OREM has cleanup operations at East Tennessee Technology Park (ETTP), Oak Ridge National Laboratory (ORNL), and Y-12 National Security Complex (Y-12). A list of past accomplishments in the cleanup program was shown. He also provided a summary of DOE's sites across the nation as well as locations of other advisory boards like ORSSAB.

His presentation outlined Vision 2020, OREM's current goal to complete major cleanup on the remaining portion of ETTP and reindustrialize the site. He said it was important to note that some soil cleanup and some groundwater challenges will still need to be addressed beyond 2020. He said the work at ETTP is more than 90 percent completed. Mr. Adler gave an overview of facilities that have been removed to date and what buildings remain. Some buildings, he said, would be particularly challenging due to the activities performed there and/or architectural issues.

Mr. Adler said OREM's main efforts over the next couple years will be transitioning cleanup efforts to ORNL and Y-12.

He also reviewed OREM's current near-term priorities:

- Complete planning for waste disposition and design of a new disposal facility
- Prepare excess facilities for future demolition, stabilize contaminated facilities, and maintain critical infrastructure
- Evaluate ongoing groundwater studies
- Complete cleanup of ETTP
- Complete construction of the Mercury Treatment Facility by December 2022
- Begin processing of Uranium-233 (U-233) at ORNL
- Complete contact- and remote-handled transuranic waste processing

He went on to give an overview of Oak Ridge's current EM budget. He said a significant amount of current funding comes from the Uranium Enrichment Decontamination and Decommissioning Fund (UED&D), established for very specific cleanup purposes at ETTP. Cleanup at other Oak Ridge sites will draw from the larger, but more competitive Defense Fund. He said Oak Ridge has a good reputation for spending cleanup dollars effectively, and the goal is to maintain that reputation to increase chances Congress will maintain Oak Ridge's supportive funding level during the transition to the Defense Fund.

Work Plan Topics and Discussion

DOE Topics

Mr. Adler presented DOE's suggested topics for board focus this year:

- Efforts to Assure Sufficient Waste Disposal Capacity
- Molten Salt Reactor Experiment (MSRE) Feasibility Study Update
- Processing of U-233 Material
- ETTP Main Plant Groundwater Remedy Selections
- Input on Reuse and Historic Preservation
- Input into the FY 2022 Budget

He emphasized the board is not limited solely to these topics and encouraged members to share any subjects they would like to see presented. The top issue before the board this year, he said, is planning for disposal of the waste to be generated by future cleanup efforts at ORNL and Y-12. A formal proposed plan for a new waste disposal facility, the Environmental Management Disposal Facility (EMDF), has already been released and public comments accepted on the plan, with comments ranging widely. He said OREM is close to making a final decision, with a draft Record of Decision (ROD) due to the State at the end of September. A tentative timeline for

the facility would put it operational in the early 2020s, which would allow a brief period of overlap during which the existing facility, the Environmental Management Waste Management Facility (EMWMF), would still have capacity to accept waste.

Mr. Adler moved on to discussion of MSRE, a defueled reactor containing radioactive material in Melton Valley. He said original plans for decommissioning this facility included disposing the material at the Waste Isolation Pilot Plant (WIPP), however, the salt tanks are proving challenging. Although the reactor fuel was removed, fission products and radionuclides producing intense radiation are still present in the salt in the tanks and that salt is a solid block of material at room temperature. He said DOE is considering whether final disposition at WIPP is still the best option or whether in-situ stabilization and monitoring would be better. DOE has done some internal studies to look at a few different alternatives and plans to seek ORSSAB's input on the issue soon.

Next, Mr. Adler said OREM would like to apprise ORSSAB on the U-233 disposition project progress, although a recommendation would likely not be necessary. He said OREM's goal with the project is to remove the material from ORNL, which would eliminate the associated security costs and make it easier for visiting international scientists to enter the facility.

Moving on to groundwater, Mr. Adler said OREM would like to select final solutions to groundwater issues at ETTP since that is the property closest to surface completion and property transfer to the private or public sector. DOE is working with EPA and TDEC to create a plan and conduct feasibility studies. DOE plans to submit a feasibility study for potential solutions to regulators in about November. Mr. Adler said it has been a while since ORSSAB has been asked to provide input on remedy selections, and groundwater at ETTP is an opportunity for this.

DOE also continues to desire the board's input into reuse and historic preservation activities at ETTP.

Regarding FY 2022 budget development, Mr. Adler said OREM would like to know what board members think OREM's priorities should be, as well as any items board members would like OREM to initiate.

After the presentation, board members raised the following questions:

- Ms. McCurdy asked whether waste shipping offsite goes to two different locations or just one location.
 - Mr. Adler said there are multiple sites that receive waste shipments, and the number varies depending on the type of waste, such as whether it's liquid waste.
- Mr. Weigel asked where Outfall 200 is located.
 - Mr. Adler said it's at Y-12 near the area that was used for mercury processing, Alpha 4, 5, and Beta 4. He said Outfall 200 is where all the stormwater from those facilities daylight.
- Mr. Jiang asked what the proposed capacity is for EMDF.
 - Mr. Adler said EMDF would be built in phases on an as-needed basis to meet capacity. It would be about 2 million cubic yards, but it could be slightly less if more material than anticipated can be sent to lower-hazard facilities.
- Mr. Jiang asked if the need for the second waste disposal facility was anticipated when the first facility, the Environmental Waste Management Facility (EMWMF), was built.
 - Mr. Adler said the OREM cleanup mission expanded after EMWMF was built, so a second facility was not anticipated.
- Mr. Clark asked when DOE will actively start cleaning up groundwater.
 - Mr. Adler said OREM has made decisions and taken actions for many areas. There are groundwater extraction systems, groundwater treatment systems, groundwater capture systems in every valley, including at ETTP. But there are some areas that have not been subject to decisions and actions, which OREM hopes to do within the next year.

- Mr. Burroughs asked if there is any place in the world where dense non-aqueous phased liquid (DNAPL) has been successfully remediated.
 - Mr. Adler said he's unaware of a site that had extensive DNAPL contamination where they have successfully cleaned up the site to a condition that would allow groundwater consumption.
- Mr. Trujillo asked what the timeline is for the proposed EMDF.
 - Mr. Adler said a draft document will be presented to the EPA and the State at the end of September if OREM meets its current schedule. He added that existing capacity at the EMWFMF is filling faster than anticipated because cleanup is progressing faster than anticipated due to extra money appropriated recently.
- Mr. Trujillo asked about future radioactivity at the MSRE.
 - Mr. Adler said there would still be radioactivity in that salt forever, so if it was left in place, it would also need to be isolated.
- Mr. Weigel asked what the cleanup impact would be if there were no new waste disposal facility.
 - Mr. Adler said if there were no new landfill to take the high-volume, low-hazard material, technically there would be the option of transporting it all out west, however, several provisions would need to align in order for it to be possible. He added that if OREM switched to that approach, which would require extended cleanup schedules and higher budgets, Oak Ridge may not be seen as investment-worthy as it has been previously.

TDEC Topics

Mr. Czartoryski provided TDEC's suggested topics:

- Future disposal for EM-generated waste
- Remediation of contaminant sources within Bear Creek Valley
- Mercury remediation
- Assessment of groundwater and remedy selection
- Processing and disposition of Transuranic (TRU) waste

On EMDF, Mr. Czartoryski said TDEC supports onsite disposal for the project. However, he said, the State still has some concerns regarding the proposal that they hope to resolve. The key concerns, he said, relate to mercury disposal, use of underdrains, waste acceptance criteria, and discharge limits for landfill wastewater. He added that data indicate the groundwater can seasonally go above the bottom of the proposed landfill, so TDEC recommended elevating the landfill. Regarding the use of underdrains, he said that although DOE has now removed the use of underdrains from the proposal, the State would want language included in the ROD to prevent underdrains from being added in the future.

Several sources of contamination exist within Bear Creek Valley, and although the DOE composite analysis for the valley indicates these sources will be remediated, it's unclear how or when they will be remediated. Mr. Czartoryski said TDEC would like to see actual cleanup commitments and funding for those commitments for the planned remediation activities in Bear Creek Valley.

Mr. Czartoryski said the Outfall 200 MTF is being built and it represents a win-win because DOE, the EPA and TDEC were able to work together and agree to a path forward. He added that TDEC would like MTF to be operational before OREM shifts its focus to Y-12 so it can serve as a safeguard if needed.

In Oak Ridge, groundwater cleanup comprises a large amount in the site's budget. However, Mr. Czartoryski emphasized that some of that is for treating plumes discharging from actual operations and some is for treating per the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) decisions. He said

not much money remains in the budget for investigating groundwater contamination or for treatability studies. He said TDEC would like OREM to concentrate on groundwater investigations to reach decisions on what remedies will be pursued.

Processing TRU sludge stored in tanks at ORNL was at one time the highest priority on the Oak Ridge Reservation (ORR), but priorities changed, said Mr. Czartoryski. The material is in a safe configuration in tanks, and it's being monitored, but "we cannot hold it forever," he said. Disposition can only happen in a steady fiscal environment. TDEC also remains concerned with removing and disposing of TRU waste in Trench 13 in Melton Valley, he said.

After the presentation, board members raised the following questions:

- Mr. Tapp asked if DOE expects that the groundwater table at EMDF is not going to rise to the levels that have been measured because no water will penetrate after the landfill is built.
 - Mr. Adler said DOE's commitment is that there will be no waste to groundwater. The site currently has some high ground roughly in the center, and under that elevated area, groundwater comes up. He said it's common for the groundwater table to roughly follow the topography of the surface. However, he said, construction activity will be cutting that mound down and an impermeable barrier will be added over the flat area created to prevent infiltration of groundwater into that area. He said DOE believes those two things will result in the groundwater table being below the flat area created.
- Ms. Shoemaker asked if DOE is set on the currently proposed EMDF site and whether regulators agree on the site also.
 - Mr. Czartoryski said TDEC's position is that it was the most promising site; it was the preferred alternative pending site investigation..
- Ms. Shoemaker asked about water quality criteria for the EMDF.
 - Mr. Czartoryski said that is currently being decided by the EPA administrator. He said that under the Federal Facility Agreement (FFA) rules, since it could not be decided at the lower levels, the EPA administrator is going to rule on water regulations limits on discharges to the waters.
- Ms. Shoemaker asked if there is a Sampling Analysis Plan and if they meet Clean Water Act standards.
 - Mr. Adler said yes, there is a Sampling Analysis Plan for the current landfill and it specifies standards for chemicals and radionuclides. They meet Clean Water Act standards.
- Ms. Eastburn asked what each agency's role is in the decision-making process.
 - Mr. Czartoryski said DOE is the responsible party and also in charge of cleanup. TDEC can comment and approve or disapprove of DOE's proposal, but DOE determines how its cleanup is prioritized. Mr. Adler added that if DOE, TDEC, and the EPA cannot come to a consensus, the EPA has the final decision.
- Mr. Trujillo asked if the new facility would operate under different criteria from the first facility.
 - Mr. Czartoryski said TDEC would like that to be the case because the first facility was built several years ago and lessons have been learned from the first facility.

EPA Topics

Ms. Jones presented the EPA's suggested topics:

- ETTP groundwater
 - Main Plant Area
 - K-31/K-33 Area
- Bear Creek Sentinel Wells
- EMWMF

- EMDF

Ms. Jones began by thanking DOE for requesting additional funding for groundwater. She said it's critical to look at not only the sources of contamination, but also the impacts to groundwater at ETTP since there is no further DOE mission at the site and the intent is to convert the property into a private industrial park.

Ms. Jones said that a groundwater feasibility study was completed for the Main Plant Area of the site and the data is being evaluated to see what remediation technologies might be useful. She said only the K-1401 plume, the site is one of thirteen plumes, but the only one that has been fully characterized and DOE will assess the technologies and alternatives based on generic source areas and plumes and use that information to assess what may work on the other plumes. She added that each plume must be fully characterized to define and contain. The Main Plant Area feasibility study is due to regulators by November 29, 2019, and she said the EPA would like ORSSAB to look at the data from that study and work with DOE to get a good understanding of what's going on at the site because it will be critical to understanding and evaluating what's done at the rest of ETTP.

At ETTP's K-31/K-33 Area, no residual soils from the cleanup exceed the requirements of the ROD, said Ms. Jones. She added that no groundwater impacts were found because of the footprints of the buildings; groundwater wells were located outside the building footprints evaluated under the Zone 2 ROD. She said the initial data wasn't thorough enough for TDEC to agree with DOE for a decision of No Further Action for groundwater in this area.

Next, Ms. Jones discussed DOE's planned Melton Valley/Bethel Valley sentinel wells. She said an active firing range in the area restricts potential locations for the wells, which will intercept limestone units that are most transmissive. Locations will be deliberately skewed to identify if contaminants have moved and whether contamination extends to the Clinch River. She said Superfund (another name for CERCLA) requires groundwater be restored to beneficial use wherever practicable. To accomplish this, the referenced the Groundwater Strategy Document developed collaboratively with TDEC, DOE, and EPA and finalized in 2014 was used. However, there is no mission for ETTP and will help with the ETTP Sitewide Feasibility Study. Each of the plumes on the reservation are included in Appendix C of the FFA, and each of those plumes are ranked.

Ms. Jones said EPA would like each plume identified and contained. She said EPA's position is that waste should not be allowed to migrate outside the boundary of that area of contamination, but the geology of the area is "like Swiss cheese" and has allowed material to move. She said the EPA's strategy is to take early actions as soon as possible. She said institutional controls cannot be the only source to control exposure. If restoration is technically impracticable, then there's the opportunity to propose a Technical Impracticability Waiver, but to be able to do that, plumes must first be characterized and active alternatives evaluated.

Regarding EMDF, Ms. Jones said four of six cells at EMWWMF are completely filled, a fifth cell is mostly filled, and a sixth cell just opened this year. EMWWMF will likely close in 2025. She said a focused feasibility study underway for EMWWMF wastewater management will impact the EMDF ROD and the entire ORR. She said an EPA administrator will meet with TDEC and DOE before issuing a decision, and that decision will also impact the path forward at ETTP in terms of discharging water from alternative water treatment sources, operations, and cleanup.

Ms. Jones said the EPA would like ORSSAB to evaluate the data in terms of available technologies and offer recommendations to help DOE with appropriate groundwater decisions. For EMDF, she said the information should be in the administrative record, and that data will help inform the landfill design, construction and operation.

After the presentation, board members raised the following questions:

- Mr. Trujillo asked whether the groundwater data will be provided to the board in an understandable

way.

- Mr. Adler said DOE will be responsible for providing the information in an understandable format. He said DOE will be getting data on groundwater quality at the K-31/33 site. At the Main Plant area is where the really difficult challenges are, he said. The data that will be provided will be data on the costs of various alternative cleanup plans and the performance.
- Mr. Wilson asked whether better characterizations would require 100 more monitoring wells for each characterization.
 - Ms. Jones said she couldn't say for certain, but what's important is having sufficient characterization and making sure that the wells are located in the most opportune way to gather that. Mr. Adler added that for the purpose of this feasibility study for this area, regulators identified the additional wells they would like to have and DOE installed those. He said data from all those wells form the Sampling Analysis Plan all three agencies agreed to.
- Ms. Shoemaker asked if the locations of all the plumes have been identified.
 - Ms. Jones said the plume locations have been identified, but they may not have all been characterized, so the feasibility study was focusing on one area.

Board Process and Plan for Issue Group Signup

Ms. Noe discussed the overall yearly work plan creation process. Each summer, the board chair sends a request to DOE, EPA, and TDEC to develop potential topics. Also at that time, new members come on to the board and are given a tour of the ORR and further education. The annual meeting provides an opportunity for DOE and regulators to discuss possible topics for the upcoming fiscal year and for ORSSAB members to make suggestions for DOE to consider in developing a work plan.

Following the annual meeting, DOE will develop the board's FY 2020 work plan and schedule of meetings, based on all of the input provided. The draft list of topics for FY 2020 should be available at the September board meeting, she added. The goal is for a work plan to be signed into effect, by both DOE and ORSSAB's chair, by the start of the fiscal year in October.

Ms. Noe explained that prior to the board meetings each month, the Executive Committee meets to review the scheduled work plan topic and discuss board business. On the second Wednesday of most months, ORSSAB holds a formal board meeting, which typically includes a presentation on the work plan topic to provide a general background and introduction for the board. Afterwards, a site tour is arranged to give board members "hands-on" experience with the issue. Following the site tour, the board's EM and Stewardship Committee meets, generally on the fourth Wednesday of the month, for more in-depth discussion.

Once the FY 2020 work plan has been established, board members will be asked to sign up for issue groups – members are each asked to join at least one issue group, but may sign up for more. She said the purpose of the issue groups is to look at the given topic and determine if there should be a recommendation and how that recommendation should be worded. The plan is for staff to distribute an email thread to issue group members at the beginning of the month when their topic is scheduled to be discussed. Group members will then have the opportunity to have discuss the topic in an email dialogue among themselves so they can have questions prepared before the board meeting, the site tour (if held), and the EM and Stewardship Committee meeting. Ms. Noe said if issue group members feel they need in-person issue group meetings, staff will help secure space at the DOE Information Center.

Ms. Noe said issue group topics are scheduled according to month so that board members can consider their commitments outside ORSSAB when signing up for an issue group. "You may be very interested in public outreach, but you may also know that month is not a month that you're not going to be able to be involved because you have a commitment outside of the board, so you might say, 'I'm really interested in that, I'm not going to be able to put the time in on that topic,' so you may choose another month," she said.

She suggested new members consider signing up for an issue group early in the year so they can watch the email dialogues and get an idea of how the process works and the types of questions from other members. Then, the new members would be more comfortable joining other topics they may have interest in. She added that the work plan, even after it's signed by DOE and ORSSAB's Chair, is a living document and can be changed as necessary. Issue group members can be added or leave groups if needed. The key, she said, is for issue group members to try to make sure to attend the board meeting when their topic will be presented, any associated tours, and the associated EM and Stewardship Committee Meeting.

After the presentation, members asked the following questions:

- Ms. Lohmann commented that she encouraged new members to attend every meeting they can, even if it does not touch on their issue.
 - Ms. Noe said members should not feel that they have to be active in every issue, but she does hope members will attend every meeting possible.
- Mr. Swindler asked when members could sign up.
 - Ms. Noe said initial issue group signups would be in September, but that members could sign up at any time by emailing DOE or staff. They could also drop from an issue group if they had conflicts or a change of interest.

Public Comment

- None.

Board FY19 Review

Mission and Accomplishments

Mr. Wilson reviewed the board's mission statement and gave members an overview of how a recommendation is made and mentioned changes made this year to the Recommendation Process Flowchart and referred members to the materials included in meeting packets.

Mr. Wilson discussed the board's accomplishments for FY 2019 as detailed in his presentation.

Results of Member Survey

Prior to the meeting, board members were asked to respond to a survey about board operations. Mr. Wilson provided summary points of the group's answers. Full results were included in meeting packets.

Board Business

Motions

1. Meeting Minutes

Mr. Burroughs presented the June 12, 2019 meeting minutes.

Motion 8/24/19.1

Mr. Weigel moved to approve. Ms. Shoemaker seconded. The motion passed with two abstentions.

2. Recommendation on EM's Review of Cleanup Milestones

Mr. Wilson presented the "Recommendations on EM's Review of Cleanup Milestones," developed by the EM SSAB Chairs for approval by the board.

Motion 8/24/19.2

Mr. Shields moved to approve the recommendation. Mr. Wilson seconded, and the motion passed with two abstentions.

3. Recommendation on EMDF

Mr. Wilson summarized the "Recommendations on Improving EM's Science and Technology Program,"

developed by the EM SSAB Chairs for approval the board.

Motion 8/24/19.3

Mr. Baker moved to approve the recommendation. Mr. Shields seconded, and the motion passed unanimously.

4. Recommendation on FY 2021 Budget Priorities

Mr. Wilson presented the "Recommendations on the FY 2021 OREM Program Budget," developed by the EMS Committee for approval by the board.

Motion 8/24/19.4

Mr. Weigel moved to approve the recommendation. Mr. Shields seconded, and the motion passed unanimously.

Election of FY 2020 Officers

Mr. Wilson thanked the Nominating Committee for its work and presented a slate of candidates for board officers for FY 2020 and asked for any nominations from the floor.

Chair: Michelle Lohmann

Vice-Chair: Leon Shields

Secretary: Fred Swindler and Bonnie Shoemaker

In voting for chair, Michelle Lohmann received a majority of votes and was elected chair.

In voting for vice chair, Leon Shields received a majority of votes and was elected vice chair.

In voting for secretary, Bonnie Shoemaker received a majority of votes and was elected secretary.

Closing remarks

Members were reminded to fill out and turn in the meeting evaluation. The meeting adjourned at 12:30 p.m.

I certify that these minutes are an accurate account of the August 24, 2019, meeting of the Oak Ridge Site Specific Advisory Board.



Michelle Lohmann, Chair
Oak Ridge
Site Specific Advisory Board

10/9/19



Bonnie Shoemaker, Secretary
Oak Ridge
Site Specific Advisory Board

ML/sbm