Oak Ridge Site Specific Advisory Board Monthly Meeting



Wednesday, October 9, 2019, 6 p.m.

DOE Information Center 1 Science.gov Way Oak Ridge, Tennessee

The mission of the Oak Ridge Site Specific Advisory Board (ORSSAB) is to provide informed advice and recommendations concerning site specific issues related to the Department of Energy's (DOE's) Environmental Management (EM) Program at the Oak Ridge Reservation. In order to provide unbiased evaluation and recommendations on the cleanup efforts related to the Oak Ridge site, the Board seeks opportunities for input through collaborative dialogue with the communities surrounding the Oak Ridge Reservation, governmental regulators, and other stakeholders.



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Oak Ridge Site Specific Advisory Board



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Deadline December 31

The Oak Ridge Site Specific Advisory Board (ORSSAB) is a federally chartered volunteer citizens' advisory board to the U.S. Department of Energy's (DOE) Oak Ridge Environmental Management (OREM) program.

Members are chosen to reflect the diversity of gender, race, occupations and interests of people living near the DOE Oak Ridge Reservation.

No technical expertise necessary

The board meets at 6 p.m. on the 2nd & 4th Wednesdays of most months.









Oak Ridge Site Specific Advisory Board Wednesday, October 9, 2019, 6:00 p.m. DOE Information Center 1 Science.Gov Way, Oak Ridge, TN 37831

AGENDA

I.	Welcome and announcements (S. Lohmann)	6:00–6:15
II.	Comments from federal and state agency representatives (D. Adler, K. Czartoryski, C. Jones)	6:15–6:20
III.	Presentation: Update on Groundwater Remediation at ETTP (D. Adler) Issue Group: Burroughs, Clark, Eastburn, Jones, Lohmann, Pitchers, Samaras, Shiele Shoemaker, Swindler, Tapp, Wilson	
	 Questions regarding the presentation/speaker only i. Board members ii. Guests - Please use the microphone so questions about the presentation can be doct the meeting record. 	
IV.	 Public comment period (A. Duke) i. Comments on other topics or concerns for DOE or the board - <i>Please use the micr comments for the board or DOE can be documented for the meeting record.</i> 	
V.	 Call for additions/approval of agenda (S. Lohmann) A. Requests for new action Items B. Next meeting – Wednesday, November 13 Presentation: MSRE Project Initiatives (B. McMillan) Issue group: Keebler, Lohmann, McCurdy 	
	This ends the presentation portion of the meeting – presenters and subject experts may a	lepart ——
		1
VI.	 Board Business. A. Motion to Approve: August 24, 2019 Meeting Minutes (B. Shoemaker) B. Voting for FY 2020 EM & Stewardship Committee officers (L. Shields) - <i>carryover committee meeting</i> 	7:05–7:15
	A. Motion to Approve: August 24, 2019 Meeting Minutes (B. Shoemaker)B. Voting for FY 2020 EM & Stewardship Committee officers (L. Shields) - <i>carryover</i>	7:05–7:15 r from 9/25
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VII. VII	 A. Motion to Approve: August 24, 2019 Meeting Minutes (B. Shoemaker) B. Voting for FY 2020 EM & Stewardship Committee officers (L. Shields) - <i>carryovel committee meeting</i> Responses to recommendations & alternate DDFO's report (M. Noe) A. Response to Recommendation 245 on the OREM FY 2021 Budget Request I. Committee reports A. EM/Stewardship (L. Shields) 	7:05–7:15 r from 9/25 7:15–7:20 7:20–7:25

Dave Adler Bio

David Adler serves as the director of the Quality and Mission Support Division for the Oak Ridge Office of Environmental Management.

In his more than 25 years at DOE, he has focused primarily on activities related to contaminated site cleanup, waste management and disposition, and most recently, on efforts to reindustrialize the former K-25 facility in Oak Ridge.

Adler holds a bachelor's degree in biology from Rutgers University and a master's degree in toxicology from the University of Michigan.

Dennis Mayton Bio

Dennis is the Groundwater Program Project Manager for the Oak Ridge Environmental Management office. He has been with DOE for 3.5 years.

He previously spent more than 13 years managing groundwater projects for the Department of Defense as part of the U.S. Army Corps of Engineers. Part of his service was as the Environmental Restoration Manager at the Holston Army Ammunition Plant in Kingsport, Tennessee.

Dennis has a Bachelor of Science degree in Geology from the University of Tennessee, Knoxville. He also served in the U.S. Air Force for four years.





East Tennessee Technology Park Groundwater Update

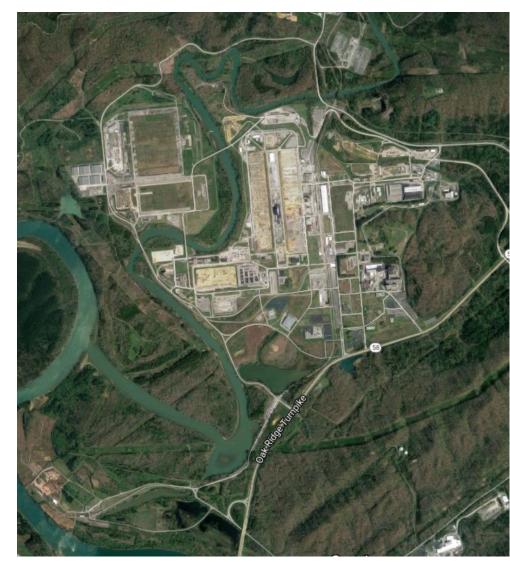
David Adler, Quality & Mission Support Division Director Oak Ridge Office of Environmental Management

October 9, 2019

We will require groundwater decisions soon at ETTP



- K-31/K-33 groundwater additional sampling:
 June 2020
- Main plant groundwater decision
 - Feasibility Study Milestone: November 29, 2019
 - Proposed Plan:April 14, 2021
 - Record of Decision: January 8, 2022
- Zone 1 groundwater after path forward for K-31/K-33 finalized
- Final Sitewide ROD: Remaining Surface Water, Sediment and Ecological



OREM has completed numerous investigations and continues to monitor media at East Tennessee Technology Park

- 471 groundwater monitoring wells currently installed at ETTP:
 - o Main Plant: 355
 - o Zone 1: 95
 - K31/33: 21 wells
- 2019 annual monitoring sampling:
 - o Groundwater: 413
 - Surface water: 51
 - o Biota: 41
 - Compliance: 1,115







There are thirty years of groundwater investigations at K-31/K-33



- 1987-1989: 21 permanent monitoring wells installed
- 1987-2017: Wells sampled 336 times
- December 2017: DOE, EPA and TDEC meet to identify wells needing sampled before submitting report
- May 2019: DOE submit D2 Report recommending No Further Action
- May 2019: TDEC and EPA request additional sampling
- June 2019: DOE agrees to collect two more rounds of sampling along with additional analytes
- July 2019: 1st round completed; Analytical Parameters included Metals, Anion, Polychlorinated biphenyl (PCBs), Semi Volatile Organic Compounds (SVOCs), Volatile Organic Compounds (VOCs), Radiological (gross alpha/beta, Tc-99, U-233/234, U-235/236, and U-238)



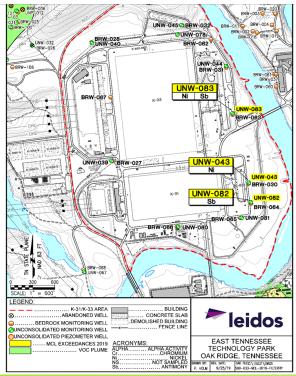
K-31/K-33 first round indicates no significant impact



- Chromium:
 - Two unfiltered samples
 - > Maximum Contaminant Level (MCL)
 - Filtered samples below MCL
- Nickel:
 - Three unfiltered samplesState MCL
 - Two filtered samples slightly exceeded State MCL
- Antimony:
 - Three unfiltered samplesMCL
 - Two filtered samples slightly exceeded MCL

		(mg/L)		July Resample at UNV	
		Unfiltered Filtered		Unfiltered	Filtered
Antimony	BRW-027	0.00671	0.00595		
MCL 0.006 mg/L	UNW-082	0.00624	0.00649		
	UNW-083	0.00633	0.00622	ND	ND
Chromium	UNW-039	2.14	0.00405		
MCL 0.1 mg/L	UNW-083	0.116	0.0199	0.0214	0.0179
					-
Nickel	UNW-039	0.677	0.0886		
MCL 0.1 mg/L	UNW-043	0.195	0.195		
	UNW-083	0.195	0.146	0.163	0.154

Filtered MCL Exceedances in 2019



Majority of contaminated groundwater is localized to main plant area





DOE has conducted twenty years of groundwater evaluation at the main plant area

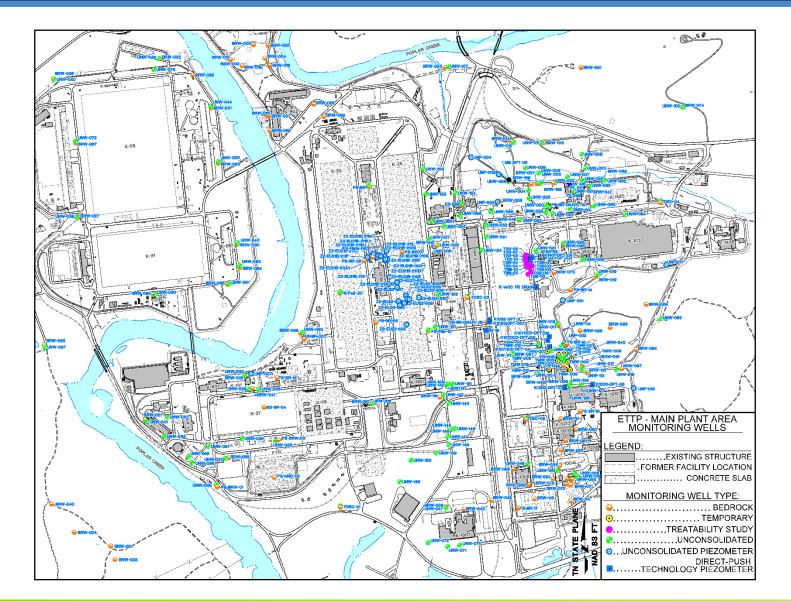


- Groundwater remedial investigation began 1997-1998
- 355 existing permanent monitoring wells in Main Plant Feasibility Site Area (471 wells for entire ETTP site)
 - 96 new wells in
 2017/2018 as part of treatability study design for K-1401
 - 31 new wells in
 2018/2019 to
 support Feasibility
 Study



Extensive network of wells in place at East Tennessee Technology Park main plant





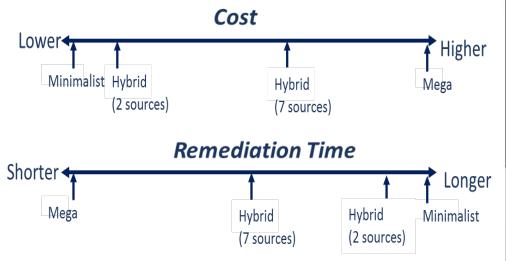


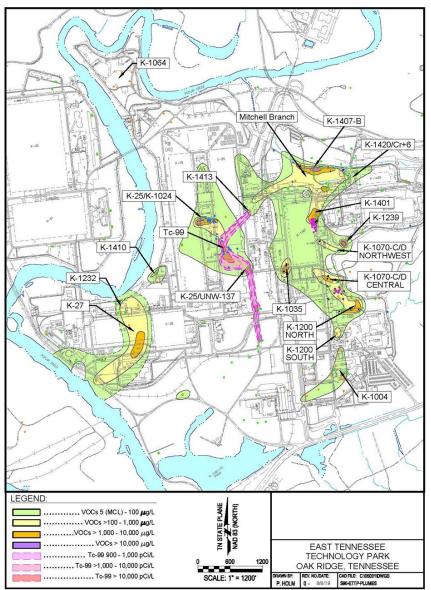
		Major Component						
TMA	Alternative	Unconsolidated Zone	Bedrock					
CVOC	S 1	In situ thermal treatment	In situ thermal treatment					
Sources	S2	Subgrade biogeochemical treatment unit	Enhanced in situ bioremediation					
	S3	In situ soil mixing with zero valent iron and bentonite	Enhanced in situ bioremediation					
	S4	Monitored natural attenuation	Monitored natural attenuation					
	S5	Pump & Treat – extraction wells with above ground treatment system	Pump & Treat – extraction wells with above ground treatment system					
CVOC	P1	Enhanced in situ bioremediation	Enhanced in situ bioremediation					
Plumes	P2	Monitored natural attenuation	Monitored natural attenuation					
	P3	Pump & Treat – extraction wells with above ground treatment system	Pump & Treat – extraction wells with above ground treatment system					
Tc-99	Tc1	Subgrade biogeochemical treatment unit						
Plume	Tc2	Monitored natural attenuation	NA – no significant contamination in					
	Tc3	Funnel and gate	bedrock					
	Tc4	Pump and treat						
Unique	BG1	Permeable reactive barriers at K-1070 C/D	Monitored natural attenuation					
Areas	Cr1	Continued operation of Chromium Water Treatment System	Monitored natural attenuation					
	CW1	Constructed wetlands at Mitchell Branch	Monitored natural attenuation					

We are working with TDEC and EPA to establish final Record of Decision for main plant groundwater to enable reindustrialization



- Full range of groundwater cleanup approaches under evaluation with DOE, EPA, and TDEC
 - Monitored Natural Attenuation
 - Aggressive high-cost extensive treatment of both high and low concentration area
 - Combination of above





OREM has collected a tremendous amount of data to allow for remediation decisions



- OREM has completed multiple investigations and has a vast monitoring network that provides an immense amount of data
- We have spend millions over the past several years collecting additional groundwater data
- Crews have installed all of the wells requested by EPA/TDEC
- We have collected enough information to work with regulators on developing final decisions



- Range of technologies and alternatives evaluated in Feasibility Study
- Decisions needed to finalize groundwater management approach



Questions?

12 · energy.gov/OREM



Department of Energy

Oak Ridge Office of Environmental Management P.O. Box 2001 Oak Ridge, Tennessee 37831

September 24, 2019

Mr. Dennis Wilson, Chair Oak Ridge Site Specific Advisory Board Post Office Box 2001 Oak Ridge, Tennessee 37831

Dear Mr. Wilson:

RESPONSE TO RECOMMENDATION 245: ON THE FISCAL YEAR 2021 DOE OAK RIDGE ENVIRONMENTAL MANAGEMENT BUDGET PRIORITIES

Reference: Letter from Dennis Wilson to Jay Mullis, *Recommendation 245: On the FY2021* Oak Ridge Environmental Management Budget Priorities, dated August 28, 2019

I would like to express my appreciation for the interest the Board has taken in the fiscal year 2021 budget formulation effort. Thank you for your recommendation. We will submit your recommendation to the Environmental Management Federal Advisory Committee Act Designated Federal Officer.

In addition, I am providing a response to each of the Board's recommendations below:

 Continued testing and implementation of measures to stabilize and control mercurycontamination in the banks and bottom of East Fork Poplar Creek to prevent the spread of contamination and minimize recontamination. In consideration of the unusually high amount of rainfall that the Oak Ridge Reservation has received in the last few years, and the resulting stormwater runoff, ensuring the banks of East Fork Poplar Creek are stable is of utmost importance.

Response: Oak Ridge Office of Environmental Management (OREM) has included \$3.0 million in the FY 2021 budget request to continue mercury remediation technology development activities.

2. Address delays in building and operational dates for the Mercury Treatment Facility due to funding and/or procurement delays. Increase funding wherever possible to ensure the Mercury Treatment Facility meets the original operational date of 2022 as presented to both the community and ORSSAB.

Response: OREM received a significant plus up in 2019 in this construction line item project. OREM FY 2021 budget request includes adequate funding to fully fund the construction contract that was awarded this year. The current construction contract schedule has physical construction of the facilities completed in 2022, however, after adding schedule contingency, start up, and commissioning, the facility is not scheduled to be operational until 2025 which is consistent with the approved Critical Decision-2/3.

Mr. Dennis Wilson

September 24, 2019

RESPONSE TO RECOMMENDATION 245: ON THE FISCAL YEAR 2021 DOE OAK RIDGE ENVIRONMENTAL MANAGEMENT BUDGET PRIORITIES

3. Provide continued support for activities leading to the selection and implementation of final groundwater and soil remedies at East Tennessee Technology Park.

Response: OREM has included adequate funding in its FY 2021 budget request to keep East Tennessee Technology Park on track to be completed in FY 2024. OREM FY 2021 budget request includes \$2.0 million to continue Groundwater Investigation.

If you have questions, or if we can be of further assistance, please contact me at 576-0742, or Dave Adler at 576-4094.

Sincerely. John A. Mullis II Manager

cc:

Terry Frank, Anderson County Mayor Connie Jones, EPA, Region 4 Mark Watson, Oak Ridge City Manager Ron Woody, Roane County Executive Kristof Czartoryski, TDEC, Oak Ridge Chris Thompson; TDEC, Oak Ridge David Borak, EM-3.2, FORS Dave Adler, EM-94 Melyssa Noe, EM-942

Travel Opportunities

					Deadline to Submit
Meeting/Event	Dates	Location FY 2020	Cost	Website	Requests
2019 Fall Chairs Meeting Requests: Lohmann, Shields, Shoemaker	Oct. 28-30, 2019	Sun Valley, Idaho	NA		
Perma-Fix Nuclear Waste Management Forum Requests:	Dec. 2-4, 2019	Nashville, TN	\$500	<u>https://ir.perma-</u> fix.com/upcoming-events	TBD October
EPA National Brownfields Conference Requests: Trujillo, Samaras	December 11-13, 2019	Los Angeles, CA	\$200	https://brownfields2019.org/	
Waste Management Symposium Requests: none	March 8-12, 2020	Phoenix	\$1,235	www.wmsym.org	September 13
National Environmental Justice Conference & Training Requests:	April 22-25, 2020	Washington, D.C.	NA	http://thenejc.org	TBD
EPA Community Involvement Training Requests:	TBD		none	www.epa.gov/superfund/comm unity-involvement-training- program-0	TBD
2020 Spring Chairs Meeting Board officers preferred	TBD		NA		
ORSSAB Annual Meeting All members invited to attend	TBD August 2020		NA		
RadWaste Summit Requests:	September 8-10, 2020		\$625	http://www.radwastesummit.co m/	
DOE National Cleanup Workshop Requests:	TBD	Alexandria, VA	\$425	www.cleanupworkshop.com	
Shaded trips are closed					



FY 2019 Incoming Correspondence

#	Date	То	From	Description	DOEIC, Notified board officers of receipt
293	9/4/2019	Japp, DOE	Young, TDEC	TDEC Comments on DOE FFA Milestone Extension Request for the EMDF ROD and Follow-On Documents	DOEIC, Notified board officers of receipt
294	9/9/2019	Japp, DOE	Young, TDEC Report for the U.S. Department of		DOEIC, Notified board officers of receipt
295	9/10/2019	Japp, DOE	Jones, EPA	EPA Comments Addendum 4 (Exposure Unit Z2-44 Post TOSCA Incinerator Demolitions) to the FY07 Phased Construction Completion Report for the Soils, Slabs & Subsurface Structures at ETTP (DOE/OR/01-2723&D2/A4)	DOEIC, Notified board officers of receipt
296	9/11/2019	Japp, DOE	Young, TDEC	2019 Update of the Public Involvement Plan for CERCLA Activities at ORO (DOE/OR/01- 2823&D1)	DOEIC, Notified board officers of receipt
297	9/13/2019	Jones, EPA; Young, TDEC	Daffron & Japp, DOE	7034 Final Transmittal of the Final Phased Construction Completion Report for Poplar Creek High-Risk Facilities Demolition at the East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01- 2826&D1)	DOEIC, Notified board officers of receipt
298	9/13/2019	Jones, EPA; Young, TDEC	Daffron & Japp, DOE	7003 Final Transmittal of the Exposure Unit Z2-25 Sampling and Analysis Plan, East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01-2813&D2)	DOEIC, Notified board officers of receipt
299	9/13/2019	Mullis, DOE	Salyers, TDEC	TDEC Response to DOE Letter Regarding DOE Obligations Regarding Anticipated Mercury Mixed Waste Streams	DOEIC, Notified board officers of receipt



Many Voices Working for the Community

Oak Ridge Site Specific Advisory Board

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

DRAFT 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.

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

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 daylights.
- 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 EMWMF 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
- o Bear Creek Sentinel Wells
- o EMWMF

o 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 EMWMF are completely filled, a fifth cell is mostly filled, and a sixth cell just opened this year. EMWMF will likely close in 2025. She said a focused feasibility study underway for EMWMF 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 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.

Richard Burroughs, Secretary

Dennis Wilson, Chair Oak Ridge Site Specific Advisory Board DW/sbm M/DD/YY



#	Date	То	From	Description	DOEIC, Notified board officers of receipt
300	9/23/2019	Jones, EPA; Young, TDEC	Daffron & Japp, DOE	Transmittal of the Addendum for Remediation of Powerhouse Vaults to the RAWP for Dynamic Verification Strategy, Zone 1, ETTP (DOE/OR/01- 2182&D4/A1/R1)	DOEIC, Notified board officers of receipt
301	9/24/2019	ORSSAB	Mullis, DOE	Response to Recommendation 245:On the FY2021 OREM Budget Priorities	DOEIC, Notified board officers of receipt
301	9/25/2019	Jones, EPA; Henry & Japp, Young, TDEC DOE		Final Submission of the Fiscal Year 2019 Phased Construction Completion Report for the Oak Ridge Reservation Environmental Management Waste Management Facility (DOE/OR/01-2818&D2)	DOEIC, Notified board officers of receipt
302	9/26/2019	Jones, EPA; Young, TDEC	Daffron & Japp, DOE	Submittal of the Phased Construction Completion Report for Exposure Unit Z2-15 in Zone 2, ETTP (DOE/OR/01- 2821&D1)	DOEIC, Notified board officers of receipt
303	9/26/2019	Jones, EPA; Young, TDEC	Daffron & Japp, DOE	Transmittal of an Erratum to the Amendment for Final Soil Response Actions to the Record of Decision for Interim Actions in Zone 1, ETTP (DOE/OR/01-2817&D1)	DOEIC, Notified board officers of receipt
304	9/26/2019	Jones, EPA; Young, TDEC	Henry & Japp, DOE	Federal Facility Agreement Milestone Extension Request for Environmental Management Disposal Facility Record of Decision and Follow-on Documents	DOEIC, Notified board officers of receipt
305	9/26/2019	Jones, EPA; Young, TDEC	Daffron & Japp, DOE	Final Transmittal of the Addendum 1 to the Waste Handling Plan – Part 2 for Centrifuge Equipment (K- 1210/1220) of the Remaining Facilities Demolition Project at the East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01- 2226&D1/A1)	DOEIC, Notified board officers of receipt



#	Date	То	From	Description	DOEIC, Notified board officers of receipt
306	9/26/2019	Jones, EPA; Young, TDEC	Daffron & Japp, DOE	7066 Final Transmittal of the Addendum to the Waste Handling Plan for the Consolidated Soil and Waste Sites Within Zone 2 at the East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01- 2328&D1/A1)	DOEIC, Notified board officers of receipt
307	9/30/2019	Jones, EPA; Young, TDEC	Henry & Japp, DOE	Transmittal of Phase 3 Borrow Area Characterization Report for the Environmental Management Disposal Facility (DOE/OR/01-2832&D1)	DOEIC, Notified board officers of receipt
308	9/30/2019	Jones, EPA; Young, TDEC	Japp, DOE	7088 Final Submittal of the Proposed Changes to the Oak Ridge Reservation Federal Facility Agreement Appendix C and Appendix B	DOEIC, Notified board officers of receipt
309	10/1/2019	Jones, EPA; Young, TDEC	Daffron & Japp, DOE	7062 Final Transmittal of the Remedial Design Report/Remedial Action Work Plan for the Zone 1 K- 770 Area at the East Tennessee Technology Park, Oak Ridge, Tennessee (DOE/OR/01-2713&D1)	DOEIC, Notified board officers of receipt
310	10/1/2019	Jones, EPA; Young, TDEC	Henry & Japp, DOE	7056- FINAL- Transmittal of the Phased Construction Completion Report for DARA Soils Removal and Disposal Y-12, Oak Ridge, TN DOE-OR- 01-2836-D1	DOEIC, Notified board officers of receipt

EM Project Update

ETTP	August	September
Final ETTP Main	The Addendum to the Supplemental SAP (ETTP Residual	
Plant Area	Contamination) for the K-31/K-33 Area was submitted to the	
Groundwater ROD	regulators for review/approval.	
Zone 1 Interim ROD	The Zone 1 ROD Amendment for the Soil Response Actions was	The PCCR for the Powerhouse Duct Bank was approved by the
	submitted to the regulators for review/approval.	regulators.
Zone 2	The Technetium-99 project is 75 percent complete.	The Technetium-99 project is 82 percent complete.
	Crews continue removing and shipping concrete debris for the K-	Crews continue removing and shipping concrete debris for the K-
	1037 facility. Approximately 55 percent of the slab is removed and	1037 facility. Approximately 90 percent of the slab is removed and
	approximately 38 percent of the related debris is disposed in local	approximately 48 percent of the related debris is disposed in local
	landfills.	landfills.
		The WHP Addendum for Consolidated Soil and Waste Sites was
		submitted to the regulators for review/approval.
		Remediation activities were initiated in Exposure Unit Z2-37.
		The PCCR for Exposure Unit Z2-15 was submitted to the regulators
		for review/approval.
Remaining Facilities	Hazardous/universal waste removal is 75 percent complete on	ACM abatement is 83 percent complete on the Centrifuge Building K-
	Centrifuge Building K-1200, and ACM abatement is 83 percent	1200.
	complete.	
	Centrifuge machine disassembly is 10 percent complete and	Centrifuge machine disassembly is 13 percent complete and
	shipping is 6 percent complete in Building K-1210.	shipping is 6 percent complete in Building K-1210.
	Hazardous/universal waste removal is 95 percent complete.	
	Centrifuge machine disassembly and shipping are complete in	Miscellaneous classified equipment removal is 95 percent complete
	Building K-1220.	in Building K-1220.
	Building demolition is complete and crews continue processing and	Crews continue processing and shipping demolition debris at
	shipping demolition debris at Building K-1423. Approximately 30	Building K-1423. Approximately 95 percent of demolition waste
	percent of demolition waste disposal is complete.	disposal is complete.
	Mechanical and electrical isolations are complete in Building K-1006.	Completed 40 percent of required sampling, 61 percent of universal
	Completed 33 percent of required sampling and 20 percent of	waste removal, and two percent of internal asbestos abatement in
	universal waste removal.	Building K-1006.
		Began demolishing the Building K-631/K-131 slabs. Approximately
		15 percent of the slabs are demolished.
		The WHP Addendum for Centrifuge Equipment (K-1210/1220) was
		submitted to the regulators for review/approval.
		The PCCR for Poplar Creek Facilities was submitted to the
		regulators for review/approval.

EM Project Update

ETTP	August	September
ETTP Historic Preservation	Completed fire caulking and inspection of west chase; construction of enclosure around the chase; installation of HVAC duct inside the building; insulating HVAC duct on the roof; installation, priming, and painting of gallery gate steel; installation of emergency exit door; pouring concrete for bus turnout steps; startup of HVAC roof-top units; installation of carpet in Galleries 3, 4, 5, 5.2, and 6, installation of ceiling tile; installation and inspection of structural steel canopy and roof decking; painting natural gas piping; installation and adjustment of sprinkler heads; and installation of sprinkler system vent valve and spool piece. Re-energized lights along Enrichment Street.	Completed the following building construction activities: installation of resin flooring and installation of bathroom fixtures. Tested fire alarm system. Evaluated, approved, and initiated the use of a mechanical glass handling device for installing glass panels and doors. Continued installation of interior storefronts. Initiated installation of wood doors and hardware. Completed the following site improvement activities: Installation of storm sewer equipment; rough grading; and installation of planters. Initiated excavation, forming, and pouring of sidewalks/curbs; excavation and installation of electrical duct banks; excavation and installation of light pole bases; and installation of light poles.
ORNL	August	September
	Completed the pump-down activities for the scheduled removal of the generated gas from the MSRE salt tanks, and the facility was returned to stand by mode.	It was determined that facility upgrades to the MSRE facility would be prudent to maintain office space for future D&D work at ORNL.
	Efforts will continue in designing a continuous purge system that will eliminate the need for the pump-downs and reduce the hazards at the reactor site.	Completed the packaging and shipping of the MSRE probe glovebox to a disposal facility. Drain Tank Pit waste was prepared for shipment in the next few weeks.
U-233 Disposition	Progress continues toward commencing the Oak Ridge Oxide Processing (OROP) campaign in Building 2026. Received approval of the OROP waste profile submitted to the NNSS Waste Acceptance Review Panel to allow disposal of the solidified waste from the OROP processing campaign.	Initiated the Contractor Readiness Assessment for the OROP Campaign. This campaign will safety and securely disposition a portion of the uranium inventory currently stored in the Building 3019 Complex by dissolving, diluting, and solidifying those oxides in Building 2026 for low-level waste disposal.
ORNL Facilities D&D	An RAWP and Technical Memo (Attachment Q) for the ORNL Soils & Sediments concerning Buildings 3009, 3010-A, 3026-D, 3080, 3083, and 3107 was submitted to the regulators for review/approval.	Attended the field demonstration for the unmanned aerial vehicle drone that will perform an inspection of the 3039 Stack at the Liquid and Gaseous Waste Operations (LGWO) facility.
		The Solid Waste Storage Area (SWSA) 6 Equipment Storage Project progresses. It consists of preparing a fenced, level area where equipment, no longer needed at ETTP, can be safely stored until needed for ORNL D&D work. The storage area has received the first 10 loads of small equipment.
Y-12	August	September
Outfall 200 Mercury Treatment Facility	The DOE construction contractor is continuing work at both the treatment plant and headworks areas. The excavation contractor has begun shoring activities to support the deep excavation at the headworks site.	Initiated collection of groundwater from the headworks excavation for sampling and analysis to support treatment or direct discharge determination. Specification-required submittals and requests for information continue to be received and processed.

EM Project Update

Y-12	August	September
Y-12 Facilities D&D	Asbestos abatement and universal waste removal continue in the Biology Complex. Interior and exterior preparations for construction elevator installations continue.	Asbestos abatement is 42 percent complete and universal waste removal is 25 percent complete in the Biology Complex. Interior construction elevator preparation is complete and exterior installation is in progress.
	Temporary power/utilities isolation in the Biology Complex is complete. Mobilization is 99 percent complete, deactivation hazard abatement is 38 percent complete and deactivation waste is 22 percent complete.	Deactivation hazard abatement is 42 percent complete and deactivation waste is 25 percent complete in the Biology Complex.
	An Addendum to the Y-12 Facilities D&D RmAWP concerning the Building 9720-22 structure demolition was submitted to the regulators for review/approval.	The Addenda for the Building 9201-5 Dust Collector and for the Building 9404-4,-4A, and 9720-92 demolition were approved by the regulators.
Off-Site Cleanup/Waste Management	August	September
Transuranic Waste Processing Center (TWPC)	The TDEC Annual Air Pollution Control Permit Inspection was completed with no issues identified.	
EMWMF		The FY 2019 PCCR D2 was completed and submitted to the regulators for approval.
EMDF		The Ph. 3 (Borrow Area) Characterization Report was submitted to the regulators for review/approval.
WRRP	Completed draft responses to comments on the D1 FY 2019 RER. Comment responses were sent to TDEC and EPA. Comment resolution meetings with EPA do not fit into the D2 RER schedule. Additional time to accommodate meetings with EPA was formally requested.	
	Road repair work was completed to accommodate the installation of the three on-site exit pathway wells in Bethel Valley near the Clinch River.	
Public Involvement Plan		An Update to the Public Involvement Plan was submitted to the regulators.

Abbreviations/Acronyms List for Environmental Management Project Update

- AM action memorandum
- ACM asbestos containing material
- ARARs Applicable or Relevant and Appropriate Requirements
- ARRA American Recovery and Reinvestment Act
- BCV Bear Creek Valley
- BG burial grounds
- BV Bethel Valley
- CARAR Capacity Assurance Remedial Action Report
- CART carbon steel casing dollies
- CBFO Carlsbad Field Office
- CERCLA Comprehensive Environmental Response, Compensation and Liability Act
- CEUSP Consolidated Edison Uranium Solidification Project
- CD critical decision
- CH contact handled
- **CNF** Central Neutralization Facility
- COLEX column exchange
- CS construction start
- CY calendar year
- D&D decontamination and decommissioning
- DARA Disposal Area Remedial Action
- DNAPL Dense Non-Aqueous Phase Liquids
- DOE Department of Energy
- DSA documented safety analysis
- DQO data quality objective
- EE/CA engineering evaluation/cost analysis
- EFPC East Fork Poplar Creek
- EM environmental management
- EMDF Environmental Management Disposal Facility
- EMWMF Environmental Management Waste Management Facility
- EPA Environmental Protection Agency
- EQAB Environmental Quality Advisory Board
- ETTP East Tennessee Technology Park
- EU exposure unit
- EV earned value
- FACA Federal Advisory Committee Act
- FCAP Facilities Capability Assurance Program
- FFA Federal Facility Agreement
- FFS Focused Feasibility Study
- FPD federal project director
- FY fiscal year
- GIS geographical information system

GW – groundwater

- GWTS groundwater treatability study
- HQ Headquarters
- HRE Homogenous Reactor Experiment
- IROD Interim Record of Decision
- ISD In-Situ Decommissioning
- LEFPC Lower East Fork Poplar Creek
- LGWO Liquid and Gaseous Waste Operations
- LLW low-level waste
- MLLW mixed low-level waste
- MSRE Molten Salt Reactor Experiment
- MTF Mercury Treatment Facility
- MV Melton Valley
- NaF sodium fluoride
- NDA non-destructive assay
- NEPA National Environmental Policy Act
- NNSS Nevada National Security Site (new name of Nevada Test Site, formerly NTS)
- NPDES National Pollutant Discharge Elimination System
- NPL National Priorities List
- OR Oak Ridge
- ORGDP Oak Ridge Gaseous Diffusion Plant
- OREIS Oak Ridge Environmental Information System
- OREM Oak Ridge Office of Environmental Management
- ORNL Oak Ridge National Laboratory
- ORO Oak Ridge Office
- **OROP** Oak Ridge Oxide Processing
- **ORR** Oak Ridge Reservation
- ORRR Oak Ridge Research Reactor
- ORRS operational readiness reviews
- PaR trade name of remote manipulator at the Transuranic Waste Processing Center
- PCB polychlorinated biphenyls
- PCCR Phased Construction Completion Report
- PM project manager
- PP Proposed Plan
- PPE Personal Protective Equipment
- QAPP Quality Assurance Project Plan
- RA remedial action
- RAR Remedial Action Report
- RAWP Remedial Action Work Plan
- RCRA Resource Conservation Recovery Act
- RDR Remedial Design Report
- RDWP Remedial Design Work Plan
- **RER Remediation Effectiveness Report**

RFI – Request for Information RGRS - Reactive Gas Removal System RH – remote handled RI/FS – Remedial Investigation/Feasibility Study **RIWP – Remedial Investigation Work Plan** RmAR – Removal Action Report RmAWP – Removal Action Work Plan ROD – Record of Decision **RSE** – Remedial Site Evaluation RUBB - trade name of a temporary, fabric covered enclosure S&M – surveillance and maintenance SAP – sampling analysis plan SEC – Safety and Ecology Corp. SEP – supplemental environmental project STP - site treatment plan SW – surface water SWSA – solid waste storage area Tc – technetium TC – time critical TDEC – Tennessee Department of Environment and Conservation TRU – transuranic TSCA – Toxic Substances Control Act TWPC – Transuranic Waste Processing Center U – uranium UEFPC – Upper East Fork Poplar Creek **UPF** – Uranium Processing Facility URS/CH2M – (UCOR) DOE's prime cleanup contractor VOC – volatile organic compound VPP - Voluntary Protection Plan WAC – waste acceptance criteria WEMA – West End Mercury Area (at Y-12) WHP – Waste Handling Plan WIPP – Waste Isolation Pilot Plant WRRP – Water Resources Restoration Program WWSY – White Wing Scrap Yard Y-12 – Y-12 National Security Complex ZPR – Zero Power Reactor



October

Topic – Groundwater Update

Issue group – Burroughs, Clark, Eastburn, Jones, Lohmann, Pitchers, Samaras, Shields, Shoemaker, Swindler, Tapp, Wilson

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2 Executive Committee meeting 5 p.m.	3	4	5
6	7	8	9 Board meeting 6 p.m.	10	11	12
13	14 Columbus Day ORSSAB office closed	15	16	17	18	19
20	21	22	23 EM/Stewardship Committee meeting 6 p.m.	24	25	26
27	28	29	30	31		

Meetings are at the DOE Information Center, Office of Science and Technical Information, 1Science.gov Way, Oak Ridge unless noted otherwise.

ORSSAB Support Office: (865) 241-4583 or 241-4584 DOE Information Center: (865) 241-4780 ORSSAB Conference Call Line: (866) 659-1011; enter the participant code when prompted: 3634371#

Board meetings on cable TV and YouTube					
Knoxville: Charter Channel 6, Comcast Channel 12	Sundays at 8 p.m.				
Lenoir City: Charter Cable Channel 193	Wednesdays, 4 p.m.				
Oak Ridge: Channel 12	Fourth Mondays, 7 p.m.				
Oak Ridge: Channel 15	Monday, Wednesday, Friday, 8 a.m. & noon				
YouTube	http://www.youtube.com/user/ORSSAB				



November (draft)

Topic – Project Initiatives at MSRE

Issue group – Keebler, Lohmann, McCurdy

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6 Executive Committee meeting 5 p.m.	7	8	9
10	11	12	13 Board meeting 6 p.m.	14	15	16
17	18	19	20	21	22	23
24	25	26		28 Thanksgiving Day ORSSAB office closed	29 ORSSAB office may be closed TBD	30

2019

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Oak Ridge: Channel 12	Fourth Mondays, 7 p.m.				
Oak Ridge: Channel 15	Monday, Wednesday, Friday, 8 a.m. & noon				
YouTube	http://www.youtube.com/user/ORSSAB				

FY 2020 ORSSAB Work Plan/Schedule

·			
Executive meeting	Monthly meeting	Site tour	EM/Stewardship meeting

Date	Event	Торіс		Prese	nter	Issue Group		Location
OCTOBER 2019								
Wed., 10/2	Executive	General Business					DO	EIC
Wed., 10/9	Monthly meeting	Eastbu Pitche Shoem		ughs, Clark, DOEIC urn, Jones, Lohmann, ers, Samaras, Shields, naker, Swindler, Wilson		DOEIC		
	Site Tour	(No site tour)						
Wed., 10/23	EM/Stewardship	Groundwater Update		Mayton			DOI	EIC
		NOVEMBER	2019					
Wed., 11/6	Executive	General Business					DOF	EIC
Wed., 11/13	Monthly meeting			Keebler, Lohmann, McCurdy, Weigel	DOEIC			
TBD	Site tour	On-site tour/Q&A		McMilla William				
Wed., 11/27	EM/Stewardship	(No meeting due to the Thanksgiving Holiday)						
		DECEMBER	2019					
Wed., 12/4	Executive	(No meeting)						
Wed., 12/11	Monthly meeting	(No meeting)						
	Site tour	(No site tour)						
Wed., 12/25	EM/Stewardship	(No meeting)						
		JANUARY 2	2020					
Wed., 1/1	Executive	(No meeting)						
Wed., 1/8	Monthly meeting	(No meeting)						
	Site tour	(No site tour)						
Wed., 1/22	EM/Stewardship	TBD						

Date	Event	Торіс		Presenter		Issue Group	Location	
		FEBRUARY 20)20					
Wed., 2/5	Executive	General Business					DOEIC	
Wed., 2/12	Monthly meeting	Processing of Uranium-233 Bo Material		Bolon		Browning, Keebler, Perez, Samaras, Shields	DOEIC	
	Site tour	(No site tour)						
Wed., 2/26	EM/Stewardship	TBD						
		MARCH 202	0					
Wed., 3/4	Executive	General Business					DOEIC	
Wed., 3/11	Monthly meeting	Input on Reuse and Historic Preservation Activities at the East Tennessee Technology F (ETTP)		Cooke		Shields, Shoemaker, Tapp		
TBD	Site tour	On-site tour/Q&A		Cooke / Williams				
Wed., 3/25	EM/Stewardship	Input on Reuse and Historic Cooke Preservation Activities at the East Tennessee Technology Park (ETTP)						
		APRIL 2020	0					
Wed., 4/1	Executive	General Business					DOEIC	
Wed., 4/8	Monthly meeting	Sufficient Waste Disposal McCu Capacity Pitch Shoe		er, Browning, Curdy, Perez, hers, Shields, emaker, Swindler p, Trujillo	DOEIC			
TBD	Site tour	On-site tour/Q&A		Henry/ Williams				
Wed., 4/22	EM/Stewardship	Ongoing Efforts to Assure He Sufficient Waste Disposal Capacity detailed discussion		Henry			DOEIC	
		MAY 2020						
Wed., 5/6	Executive	General Business					DOEIC	
Wed., 5/8	Monthly meeting	FY 2022 Budget Development/ Mullis/Stoke		kes	Lohmann, McCurdy, Shields, Trujillo, Wilson	DOEIC		
	Site tour	(No site tour)						
Wed., 5/22	EM/Stewardship	FY 2022 Budget Development/prioritization input detailed discussion		Thompson			DOEIC	

Date	Event	Торіс	Presenter	Issue Group	Location
		JUNE 2020			
Wed., 6/3	Executive	General Business			DOEIC
Wed., 6/10	Monthly meeting	East Tennessee Technology Park Main Plant Groundwater Remedy Selections	Adler/Mayton	Burroughs, Clar Eastburn, Jones Lohmann, Pitch Samaras, Shield Shoemaker, Sw Tapp, Wilson	, ers, S,
TBD	Site tour	On-site tour/Q&A	Adler/Mayton /Williams		
Wed., 6/24	EM/Stewardship	East Tennessee Technology Park Main Plant Groundwater Remedy Selections detailed discussion and finalize FY 2022 Budget Development/ prioritization recommendation.	Mayton		DOEIC
		JULY 2020			
TBD	Site tour	New member training & tour	Adler/ Williams		DOEIC, ETTP, ORNL, Y-12
Wed., 7/1	Executive	(No meeting)			DOEIC
Wed., 7/8	Monthly meeting	(No ORSSAB monthly meeting due to new member training)			
Wed., 7/22	EM/Stewardship	(No meeting)			DOEIC
		AUGUST 2020			
Wed., 8/5	Executive	Annual Planning Meeting			DOEIC
TBD	Annual meeting	FY2020 review and planning for FY2021	DOE/ EPA/ TDEC		TBD
Wed., 8/12	Monthly meeting	(No ORSSAB monthly meeting due to Annual meeting)			
	Site tour	(No site tour)			
Wed., 8/26	EM/Stewardship	(No meeting)			

SEPTEMBER 2020							
Wed., 9/2	Executive	General Business			DOEIC		
Wed., 9/9	Monthly meeting	TBD			DOEIC		
TBD	Site tour	TBD					
Wed., 9/23	EM/Stewardship	TBD			DOEIC		