Advocate

A publication of the Oak Ridge Site Specific Advisory Board – a federally appointed citizens panel providing independent recommendations and advice to DOE's Environmental Management Program

Spring Chairs' Meeting Offers National EM Perspective

Oak Ridge Site Specific Advisory Board (ORSSAB) board officers joined other Environmental Management Site-Specific Advisory Board (EM SSAB) leadership, and U.S. Department of Energy (DOE) staff at the annual EM SSAB Spring Chairs' Meeting April 30-May 3 in Chillicothe, Ohio.

Each spring and fall, officers from SSABs across the country join to meet with DOE officials to discuss the latest happenings around the EM complex. This year's Spring Chairs' Meeting was hosted jointly by the Portsmouth (Ohio) SSAB and the Paducah (Kentucky) Citizens Advisory Board (CAB).

DOE Principal Deputy Assistant Secretary Jeff Avery was on hand to discuss progress across the EM Complex, EM's safety performance and recent EM accomplishments.

"In Oak Ridge, we've made great progress as we continue to move forward to wrap up the East Tennessee Technology Park (ETTP) project," said Avery. "Already, we're seeing tremendous opportunity for reuse and reindustrialization as part of that effort, and we're now getting great progress as we shift our focus to demolition activities at Oak Ridge National Laboratory (ORNL) and Y-12 National Security Complex (Y-12)."

Participants in the 2024 EM SSAB Spring Chairs' Meeting, held April 29-May 3 in Chillicothe, Ohio, toured DOE's Portsmouth Site, which is the site of a former uranium enrichment facility.

ORSSAB Vice Chair Kris Bartholomew, left, and Chair Amy Jones joined discussions with other EM SSAB Chairs and DOE leadership at the Spring Chairs' Meeting in Chillicothe, Ohio.

He also discussed EM efforts toward recruiting and retaining its workforce.

"Over the next five years alone, we are going to need thousands and thousands of workers pretty much across every functional area you can think of," said Avery.

The meeting also featured presentations and discussions with DOE leadership on such topics as EM's waste and transportation process, DOE's consent-based siting process, how DOE is addressing polyfluoroalkyl substances (PFAS) and DOE's Cleanup to Clean Energy initiative.

Justin Marble, director of the DOE EM National Transuranic Program, gave members a waste and transportation update that included an overview of radioactive waste classifications, waste disposal considerations, waste disposal options, and challenges in waste

*(See **Chairs** on page 7)*

Issue 94 • July 2024

IN THIS ISSUE

Advocate

Reservation Update

Early site preparation activities for Oak Ridge's Environmental Management Disposal Facility were completed this spring. One of the major tasks involved moving Bear Creek Road and Haul Road.

Waste Disposal Facility Enters Next Phase of Construction

OREM and contractor UCOR recently initiated the second phase of construction for the Environmental Management Disposal Facility (EMDF).

OREM's current onsite disposal facility is nearing full capacity after 20 years of safe operations. However, hundreds of buildings are slated for demolition in the future at the Y-12 National Security Complex and Oak Ridge National Laboratory.

The EMDF project is essential because it provides the waste disposal capacity necessary to complete cleanup at those sites.

The initial phase of construction, early site preparation, started in August, and those activities were completed in May. The work involved moving Bear Creek Road and Haul Road.

The second construction phase focuses on a groundwater field demonstration study subproject. It involves tree felling, which began in recent weeks, earthwork and groundwater monitoring for two wet seasons.

The purpose of the subproject is to allow OREM to confirm its modeling by providing real-world data of how groundwater levels will adjust when EMDF's construction begins. OREM and UCOR will use data captured from the study to inform and make any adjustments needed on the facility's final design.

The concluding phase of this project will include completing the final design and constructing the facility's first two disposal cells. There will be four disposal cells in total.

With oversight from the U.S. Environmental Protection Agency and Tennessee Department of Environment and Conservation, OREM will incorporate numerous engineering features into EMDF's design to ensure the waste remains isolated from the environment. Additionally, OREM will continue sending all highly contaminated waste out of state for disposal.

Upgrades Ensure Reliable Waste Treatment Operations

OREM and contractor UCOR recently completed an extensive piping replacement project to extend the life of the Liquid and Gaseous Waste Operations (LGWO) system at ORNL.

Replacing the piping and completing other upgrades alleviates the recurring need for maintenance and repair of aging infrastructure built many decades ago and ensures the system's reliability. Portions of the piping had corrosion that needed to be addressed.

LGWO contains three waste treatment systems that collect, treat and reduce the volume of liquid and gaseous waste across the laboratory. LGWO encompasses more than 60 facilities and 27 miles of piping that process waste generated from cleanup operations, research and development laboratories, and active and deactivated nuclear reactors.

The two-year, $18 million project replaced nearly two miles of above-ground piping and valves at the 3608 Process Waste Treatment Complex, making the system more efficient and reliable and helping avoid the possibility of disrupting ongoing ORNL operations. The LGWO system is critical to ORNL's ongoing missions, and any outage would result in immediate impacts at the site.

Over the span of the project, employees safely executed 132 critical lifts — a much larger number compared

Issue 94 • July 2024

STAFF

Editor: Shelley Kimel

Writer: Sara McManamy-Johnson

Designer: Sara McManamy-Johnson

Review Board: Leah Alexander, Kris Bartholomew, Mary Butler, Harold Conner, Jr., Abby Hill, Amy Jones, Harriett McCurdy, Melyssa Noe, Roger Petrie, Ben Williams

Oak Ridge crews installed approximately 5,500 feet of new piping as part of a project at the Liquid and Gaseous Waste Operations system. The work required 5,000 hours of welding to complete the nearly two miles of welded lines.

to typical lifts done in Oak Ridge cleanup projects. The lifts for the piping replacement project were crucial due to increased risk from lifting large, heavy fabricated piping loads over the system's critical infrastructure.

During the project, crews disposed of 115,000 pounds of waste, installed approximately 5,500 feet of new piping, conducted heat tracing to maintain the proper temperature of the piping, and installed insulation. The work required 5,000 hours of welding to complete the nearly two miles of welded lines.

UCOR completed the project three months ahead of schedule and $900,000 under budget. The work is the latest of several modernization efforts of LGWO facilities.

Most recently, workers completed replacement of the Distributed Control System, which controls LGWO's instrumentation.

Other efforts included installing a new pretreatment facility that treats low-level liquid waste and allows it to be diverted from storage tanks directly to the Process Waste Treatment System, and replacing a diesel generator that powers critical pumping stations and valve boxes if power is interrupted.

Crews Finish ORNL Reactor Demolition Site Cleanup

Crews have completed cleanup associated with the demolition of a major reactor at ORNL.

Workers finished the teardown of the Low Intensity Test Reactor and disposition of rubble and debris from the facility last fall, achieving an EM priority that year. However, the reactor vessel remained on the building's footprint until it could be shipped for final disposition offsite.

Known as Building 3005, the reactor was built in 1949 as a criticality testing facility that used highly enriched fuel with water as a coolant. It operated until 1968. Researchers used the reactor in numerous experiments through the years, and the core was often reconfigured to perform those experiments.

EM cleanup contractor UCOR characterized and sampled the reactor, employing multiple modeling software programs to develop the final characterization. That enabled employees to identify how to safely transport and dispose of the reactor.

Workers backfilled the pit where the vessel was removed and completed repairs needed on the footprint.

Crews Prepare Former Waste Treatment Facility for Demo

Crews recently took the first step toward preparing a former waste treatment facility for demolition at ORNL.

Workers at the LGWO's Process Waste Treatment Plant, known as Building 3544, are isolating all potential energy sources to the building so deactivation crews can safely enter and perform work inside the facility.

Through coordination with UT-Battelle, ORNL's management and operations contractor, workers completed all utility deactivations, including steam, electrical, and potable water. Electricians removed permanent power and installed temporary power to the complex for future deactivation work.

Crews excavated areas and installed foundations to support utility reroutes. They placed concrete forms and rebar, installed structural steel, and wrapped and insulated 500 feet of potable water piping. Workers also rerouted steam lines and installed a new steam station.

Constructed in 1976, Building 3544 had exceeded its design life and posed one of the biggest risks to operations at LGWO.

LGWO previously had two Process Waste Treatment Complexes. Building 3608 treated non-radiological wastewater, while Building 3544 treated radiological wastewater. However, recent installations and upgrades consolidated all treatment into a single facility at Building 3608.

Recent Recommendations

Work is currently underway at the Mercury Treatment Facility (MTF) at Y-12. MTF is one of the projects for which ORSSAB members listed support in its recommendations to DOE on OREM's FY 2026 budget priorities.

Recommendation 256: On FY 2026 OREM Budget Priorities

Each year the DOE-EM Program develops its budget request for the fiscal year (FY) two years beyond the current year, including requests from DOE field offices to develop the EM Program budget request to the president.

DOE-EM Headquarters typically issues guidelines to the field offices advising them how much funding they should reasonably expect when developing their FY+2 budget requests. The field offices then brief the public, the regulatory agencies, and the respective site-specific advisory boards and seek input from each regarding budget requests.

On March 13, 2024, representatives from the OREM program presented information about its FY 2026 budget formulation process to the Oak Ridge Site Specific Advisory Board (ORSSAB). This presentation provided content and discussions that ORSSAB used to draft its recommendations.

In creating its recommendations for the FY 2026 OREM budget, ORSSAB focused on general near-term and long-term cleanup priorities identified by OREM. Project-specific objectives provided additional details for discussions that took place at the March 27, 2024, EM & Stewardship Committee meeting.

The board referred to the OREM 10-year Program Plan, the EM Strategic Vision, the current EM Budget Request, and the board's previous Recommendations for additional guidance on budget recommendations.

Recommendations

ORSSAB supports OREM's Program Plan and recommends fully funding the activities that are currently supported by that Plan for FY 2026, broadly understood as follows:

- Complete remediation and transfer all potential property at ETTP for closure, including cleanup of physical debris/ structures in Poplar Creek and along its shoreline.
- Continue demolition of excess contaminated facilities at ORNL and Y-12.
- Continue to develop infrastructure to enable future cleanup at ORNL and Y-12.
    - Mercury Treatment Facility, including mercury remediation technology development.
    - CERCLA waste disposal facility, EMDF.
- Continue disposition of U-233 material.
- Continue disposition and processing of legacy transuranic debris and sludges, including contact-handled (CH) and remote-handled (RH).
- Maintain and operate facilities at ORNL and Y-12.

With this support, ORSSAB recommends funding the FY 2026 budget to include all activities necessary to complete these cleanup priorities in an effective, timely and safe manner.

ORSSAB is also concerned about spending federal dollars in an effective, timely, and responsible manner. It believes OREM, with its contractors, have recently demonstrated an effective cleanup rate that leads the nation among federally funded facilities over a significant period of time; therefore, ORSSAB recommends OREM use this record of performance as a shining example of effective project management and as leverage to request additional funding beyond what is necessary to support the FY 2026 Program Plan above.

Further, ORSSAB recommends this additional federal funding be used

*(See **Recommendation** on page 6)*

ROD Signings Usher in Final Cleanup Phase at ETTP

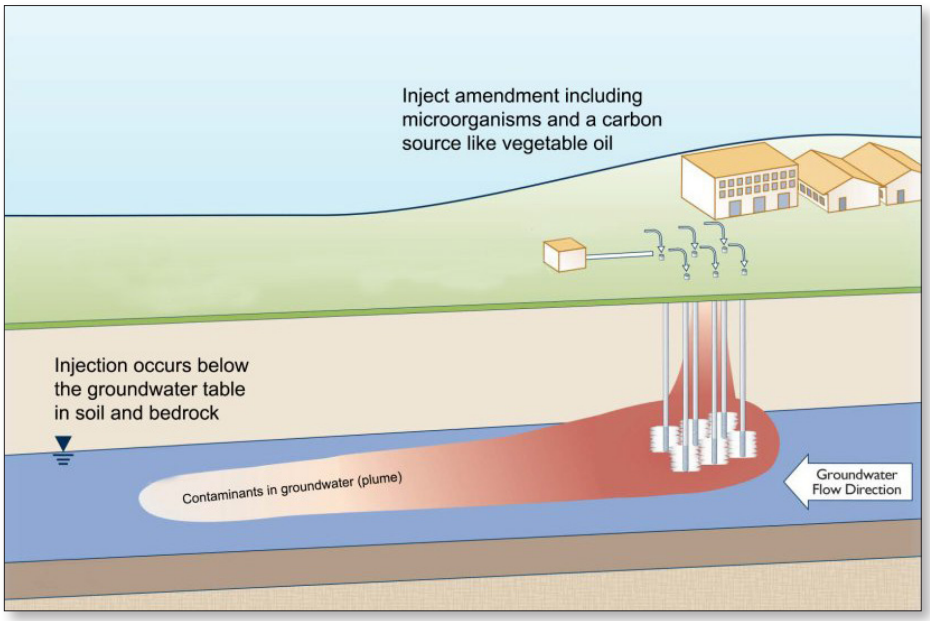
With crews set to finish remediating soil at the East Tennessee Technology Park (ETTP) this year, the Oak Ridge Office of Environmental Management (OREM) is shifting focus to groundwater — the final phase of cleanup there.

That work can now move forward with the recent signing of two records of decision between OREM, the U.S. Environmental Protection Agency and Tennessee Department of Environment and Conservation.

The formal regulatory documents, shared with the public for input last spring, provide guidance and the approved, agreed-upon remediation methods to conduct the work.

"One of our program's guiding principles is always pursuing progress and completing the work we start," OREM Manager Jay Mullis said. "The partnership and collaboration displayed with our regulators is allowing us to do just that. With these signings, we can move forward with completing our mission at the East Tennessee Technology Park."

OREM and contractor UCOR completed building demolition at ETTP in 2020. That concluded a two-decade effort that removed more than 500 facilities, including five massive uranium enrichment buildings, with a combined footprint that could span 225 football fields.



This graphic shows the Oak Ridge Office of Environmental Management's remediation approach, known as enhanced in-situ bioremediation, for groundwater plumes in the Main Plant Area. Employees will inject microorganisms into the ground capable of reducing the contaminants.

Since then, they've been steadily completing soil remediation projects across the site — an EM 2024 priority.

"The site cleanup and soil remediation successes are paving the way for a brighter future at a site that once housed deteriorated, contaminated buildings," said Ken Rueter, UCOR president and CEO. "This final phase of remediation would not have been possible without all the hard work, expertise and partnering successes that allowed us to successfully and safely complete this work."

Employees have conducted extensive sampling across the East Tennessee Technology Park to identify any areas with groundwater plumes that need to be addressed or remediated.

ETTP is divided into three sections for groundwater remediation planning. One section is the Main Plant Area, which encompasses most of the operations area at the former enrichment complex. Another section is the area where the large K-31 and K-33 uranium enrichment buildings once stood. The third section is called Zone 1, which is the area immediately

*(See **ROD** on page 6)*

Employees have conducted extensive sampling across the East Tennessee Technology Park to identify any areas with groundwater plumes that need to be addressed or remediated.

ORSSAB Tours Aquatic Ecology Lab

ORSSAB members toured the Aquatic Ecology Laboratory at ORNL in April to learn more about the work being done for mercury remediation technology development.

ROD

(Continued from page 5)

surrounding the Main Plant and K-31 and K-33 areas.

The two records of decision recently signed are for the Main Plant Area and the K-31 and K-33 Area.

The groundwater remediation approach in the Main Plant Area is called enhanced in-situ bioremediation. A widely used technology for treating contaminated waste, it involves injecting microorganisms and a carbon source, such as vegetable oil, into the ground. The microorganisms reduce or detoxify the contaminants.

For the K-31 and K-33 Area, OREM will use a process called monitored natural attenuation. Monitored natural attenuation relies on natural processes that reduce contaminant concentrations in groundwater. Using this process as the remedial action involves monitoring groundwater conditions with land use controls limiting potential exposures.

A future record of decision will detail groundwater remediation activities for Zone 1.

OREM's projects have transformed the former uranium enrichment complex into a private industrial park that benefits the community. Crews have cleared away all the former buildings, addressed impacted soil and transferred more than 1,700 acres of land to the community to attract new economic development. To date, 25 businesses are located there, with more expected soon.

-Contributor: Wayne McKinney

Leadership

(Continued from page 8)

complex, and finishing demolition of Portsmouth's X-326 uranium process building, a two-story structure covering 56 acres that was critical in the cleanup and transformation of the Gaseous Diffusion Plant.

During White's tenure, EM developed and implemented its annual Priorities Scorecard summarizing achievements and engaged Tribal Nations, stakeholders, and communities to define a 10-year Strategic Vision outlining planned accomplishments over the next decade.

Recommendation

(Continued from page 4)

to develop new knowledge and new technologies to effectively clean up transuranic waste, debris, and sludges – legacy, current, and future – starting in FY 2026 rather than waiting for an undetermined date in the future. ORSSAB believes that if Oak Ridge is to play a leading role in the nation's future nuclear renaissance, this is a reasonable recommendation and one where federal dollars will be wisely spent in the interests of our nation.

Join Us for ORSSAB's Annual Planning Meeting for FY 2025

6 p.m. Wednesday, August 14
1 Science.gov Way and
Virtually via Zoom

Representatives from DOE, the EPA and TDEC will discuss their respective organizations' priorities for the OREM cleanup program to offer input as ORSSAB begins planning topics to address during the board's FY 2025 year.

Questions? Want to attend virtually? Contact us at 865-241-4584 or orssab@orem.doe.gov

OREM representatives joined in tours during the 2024 EM SSAB Spring Chairs' Meeting, held April 29-May 3 in Chillicothe, Ohio.

Chairs

(Continued from page 1)

disposal.

Juan Uribe, Consent-Based Siting Senior program manager in the DOE Office of Nuclear Energy Office of Integrated Waste Management, discussed DOE's consent-based siting process. He gave members an overview of the current status of spent nuclear fuel, as well as the goals of consent-based siting, which is a process that prioritizes the needs and concerns of people and communities. He further discussed the process DOE uses for consent-based siting and the participants involved.

April Kluever, acting director of DOE EM Subsurface Closure, discussed PFAS and recent DOE actions related to them, and Kristen Ellis, DOE EM associate principal deputy assistant secretary for the Office of Regulatory and Policy Affairs discussed DOE's Cleanup to Clean Energy initiative, which aims to repurpose underused DOE land to generate clean energy.

Kelly Snyder, EM SSAB's Designated Federal Officer (DFO), also took the opportunity to give members an overview of lifetime EM SSAB recommendation statistics. She said 1,786 recommendations have been provided to EM, with 68 percent fully accepted and 17 percent partially accepted. She said all Chairs' recommendations since 2018 were either partially accepted or fully accepted, and she discussed the status of each recommendation submitted since 2018.

Board members also discussed community awareness, board recruitment, and website archival timelines, with the website discussion resulting in a Chairs' recommendation drafted jointly among all the members during the meeting.

The multiple-day event also featured a variety of tours, including DOE's Portsmouth (PORTS) site, which is the site of a former uranium enrichment facility. The tour included discussion on the site's decontamination and decommissioning (D&D) of legacy buildings and air monitoring measures implemented, trichloroethylene (TCE) plume soil remediation activities, and Portsmouth's on-site waste management facility.

Additionally, participants toured the Ohio State University Endeavor Center to learn about current agricultural and aquatic research. Next, participants visited a local cultural landmark, the Hopewell Culture National Historic Park, a world heritage site featuring ancient Native American earth mounds used for feasts, funerals, rituals, and rites of passage.

Lastly, participants traveled to tour the Fernald Preserve, which is the site of a Cold-War-era uranium processing facility.

The next EM SSAB Chairs Meeting will be held Sept. 24-26 in Oak Ridge.

EM SSAB Spring Chairs' Recommendation

EM SSAB Chairs Board members drafted the following recommendation during the board's 2024 Spring Chairs' Meeting in Chillicothe, Ohio. ORSSAB members unanimously approved support of the recommendation during the June full board meeting.

As DOE Headquarters endeavors to update its website, the EM Site Specific Advisory Board (SSAB) has been requested to provide input for the EM SSAB website and its content.

In order to educate and inform future board members, interested community groups, and the public in general, we want to maintain a detailed archive of board activities that is easily accessible from the website.

Recommendation: The board recommends that the EM SSAB website maintain and keep documents related to board activities in perpetuity. The documents shall be in a searchable archival online location available to the public. These documents include, but are not limited to, recommendations, responses, and minutes.

Advocate
Oak Ridge Site Specific Advisory Board
July 2024

Leadership Changes See Robertson Named to EM-1 Spot

Candice Robertson

DOE recently named Candice Robertson to head EM as Senior Advisor for EM.

The move followed the President's recent nomination of William "Ike" White to serve on the Defense Nuclear Facilities Safety Board (DNFSB).

Robertson has over 20 years' experience in radioactive waste management and is well versed in EM's mission, previously serving as the EM Principal Deputy Assistant Secretary and as an Associate Principal Deputy Assistant Secretary, as well as DOE's Chief Human Capital Officer, and as a Chief of Staff at the Nuclear Regulatory Commission.

"I would like to thank Ike White for his leadership, mentorship, and unwavering commitment to our mission and to making EM a great place to work," stated Robertson. "I aim to continue in his model of steady and empowering leadership to enable us to build on the successes we have achieved."

Prior to federal service, Robertson served as an elected Nye County Commissioner in Nevada, which hosts the Nevada National Security Sites.

Under White's leadership, EM made significant progress advancing liquid waste treatment systems, including reaching agreement with the state of Washington and the U.S. Environmental Protection Agency on a realistic and efficient path forward for Hanford Site's tank waste mission, completing construction of the facilities supporting Hanford's Direct Feed Low-Activity Waste treatment approach and beginning the first large-scale treatment of radioactive and chemical tank waste at the Tank-Side Cesium Removal System at Hanford, as well as beginning operations at the Savannah River Site's Salt Waste Processing Facility, completing demolition at Oak Ridge's East Tennessee Technology Park, making it the first site in the world to remove an entire uranium enrichment

*(See **Leadership** on page 6)*

ABBREVIATIONS

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund
DOE – Department of Energy
EM – Environmental Management
EMWMF – Environmental Management Waste Management Facility
ETTP – East Tennessee Technology Park
OREM – Oak Ridge Environmental Management
ORNL – Oak Ridge National Laboratory
ORR – Oak Ridge Reservation
ORSSAB – Oak Ridge Site Specific Advisory Board
TDEC – Tennessee Department of Environment & Conservation
UCOR – United Cleanup Oak Ridge
Y-12 – Y-12 National Security Complex

UPCOMING MEETINGS

Meetings are 6 p.m. at 1 Science.gov Way, Oak Ridge & virtually via Zoom. Email orssab@orem.doe.gov to attend virtually.

Board: Annual Planning Meeting August 14, 2024
EM & Stewardship Committee: October 23, 2024

Oak Ridge Site Specific Advisory Board
P.O. Box 2001, EM-90
Oak Ridge, Tennessee 37831
www.energy.gov/ORSSAB
orssab@orem.doe.gov

Like us on Facebook
YouTube™