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

Crews Complete K-25 Interpretive Center Construction

The U.S. Army Corps of Engineers and its construction contractor, Geiger Brothers, have completed construction on the K-25 Interpretive Center. The facility will help visitors understand the size and scope of the former Manhattan Project and Cold War-era uranium enrichment complex.

Crews have completed construction of the K-25 Interpretive Center through a partnership among the Oak Ridge Office of Environmental Management (OREM), U.S. Army Corps of Engineers (USACE), and contractor Geiger Brothers.The American Museum of Science and Energy (AMSE) plans to host a ribbon cutting August 23.

When the facility opens this summer, it will provide a venue for visitors to visualize the size and scope of the former Manhattan Project and Cold War-era uranium enrichment complex.

The center features an elevated viewing platform with floor-to-ceiling, wraparound glass windows that provide a sweeping, panoramic view of one of World War II's most historically significant sites.

The K-25 Building was constructed as part of the Manhattan Project and was tasked with enriching uranium for the first nuclear weapon, which helped end the war and positioned Oak Ridge as a world leader in innovation and discovery. The building spanned 44 acres and was the largest in the world at the time of its construction.

"It's impressive. Visiting this site gives you a sense of the vast footprint of what the facility once was. The historical significance of this place and the scale of the facilities really convey the importance of what used to be here,"

*(See **K-25** on page 6*

Issue 96 • July 2025

IN THIS ISSUE

Reservation Update

Oak Ridge workers address mercury contamination outside the Alpha-4 building at the Y-12 National Security Complex.

OREM Launches Innovative Mercury Training Program

OREM and contractor UCOR have developed a first-of-its-kind training program for workers supporting cleanup at mercury-contaminated facilities.

The program is designed to ensure protection of workers as they perform decontamination and deactivation in Manhattan Project and Cold War-era facilities to be demolished at the Y-12 National Security Complex (Y-12). Officials believe it can also be adapted at other sites dealing with mercury across the DOE complex.

Large amounts of mercury were used in Y-12's operations during the 1950s and 1960s. Over the years, large amounts leaked from equipment into buildings and the surrounding soil and surface water. The largest concentrations are in three massive buildings slated for demolition — Alpha-4, Alpha-5 and Beta-4.

Mercury presents a unique hazard because it is a metal in liquid form that emits vapors, especially in high-temperature environments. Workers must be protected from contacting mercury or breathing its vapors because it can result in acute health effects.

The multifaceted program trains workers on measures to protect against mercury vapors.

UCOR, with OREM's support, created the program using a team of safety, industrial hygiene, environmental scientists, and training personnel, working closely with laborers and construction trades responsible for performing tasks around mercury residues in the buildings undergoing cleanup prior to demolition.

UCOR's industrial hygiene group developed a hands-on mercury worker-training program to better educate the workforce on what mercury is, where it's found, the hazards associated with it and control strategies to reduce hazards.

The training program consists of a two-hour classroom portion and two hours of hands-on scenarios where trainees dress in personal protective equipment and perform tasks in mock scenarios based on their work.

In addition, UCOR engineers developed a robust ventilation design and validation process for vapor mitigation and control strategies. Another element of the program involves a medical surveillance program operated by UCOR's health clinic. Crews working in areas with potential for mercury exposure are required to get a baseline test for mercury exposure, and then they are tested every six months or annually based on test results.

OREM and UCOR anticipate the program will minimize the hazards of working in mercury contaminated facilities and provide crews with the knowledge needed to protect themselves and their coworkers.

Groundwater Milestone Reached for Disposal Facility

OREM and contractor UCOR completed an essential step to prepare for construction of a new onsite disposal facility: groundwater monitoring during the first of two wet seasons.

The Environmental Management Disposal Facility (EMDF) will provide the waste disposal capacity needed to continue OREM's large scale cleanup projects at Y-12 and Oak Ridge National Laboratory (ORNL).

Monitoring groundwater levels is part of a groundwater field demonstration study. This work allows OREM and UCOR to gather information about how groundwater elevations change, providing valuable information for the landfill's final design.

Gathering data during the wet season is important because that's when groundwater levels are highest. There is more rain, and plants without foliage absorb less water. In east Tennessee, the wet season typically runs from December through March.

Prior to the start of monitoring, workers installed an impermeable geomembrane over an approximately 1.3 million square-foot area, simulating the effect the disposal facility liner system will have on groundwater elevations.

Results from the first wet season showed groundwater elevations steadily declined over this first wet season by preventing precipitation from infiltrating the future EMDF disposal cell area.

Groundwater elevation monitoring is a requirement listed in the project's record of decision approved by DOE, U.S. Environmental Protection Agency (EPA) and Tennessee Department of Environment and Conservation (TDEC).

The team, which includes subcontractor CTI, also finished

installing utilities at the site to support future EMDF construction activities and operations.

The utility extensions will provide the EMDF site with water and power. Workers installed more than 1,800 feet of waterline and more than 1,300 feet of electrical power line, and they removed roughly 2 miles of previously abandoned power line from the project footprint.

Groundwater elevation monitoring will continue for a second wet season from this December through March next year to provide the data necessary to finalize the facility's design before construction begins.

Crews Begin Final Demolition Phase for Former Lab

Demolition is underway on the last remaining hot cell structure at the former Radioisotope Development Laboratory at ORNL — an OREM priority for 2025.

Removing the structure will complete demolition of the former laboratory, eliminate a significant risk, enable modernization at ORNL, and open space to support ongoing research and science missions at the site.

Preparing this structure for teardown required years of planning and deactivation by OREM and cleanup contractor UCOR due to the levels of radioactivity inside.

Workers collected samples, conducted deactivation tasks, and performed extensive analysis to get the final hot cell structure from the former Radioisotope Development Laboratory ready for demolition.

Issue 96 • July 2025

STAFF

Editor: Shelley Kimel

Writer & Designer: Sara McManamy-Johnson

Review Board: Kris Bartholomew, Harold Conner, Jr., Amy Jones, Harriett McCurdy, Charles Moore, Melyssa Noe, Ben Williams

Crews demolished the facility's outer structure and the other five hot cells in the former laboratory, known as Building 3026, in previous years.

The cells were heavily shielded concrete rooms that provided researchers protection from radioactive material as they conducted research. The laboratory was built in 1945 to support isotope separation and packaging and was later used to examine irradiated reactor fuel experiments and components.

Latest Land Transfer Brings ETTP Total to 1,800 Acres

OREM in May transferred a 32-acre parcel of land at ETTP to the Industrial Development Board of Oak Ridge for private sector use.

The transfer, facilitated by OREM and cleanup contractor UCOR's cleanup of the former uranium enrichment, is the latest in a years-long project to promote reindustrialization of the site and boost econmic development in the region. The remediated land provides a large open area of flat terrain, which is hard to find in East Tennessee, and has already attracted interest from businesses.

The transferred land was formerly home to the K-27 and K-29 buildings, which were both gaseous diffusion plant facilities built between 1945 and 1951 as part of the Manhattan Project. The last building was removed in 2016.

It is the latest in a string of announcements at the site. An adjacent 3.5 acre property is also planned for transfer, and a previously announced transfer of nearly 700 acres will soon be finalized as the future home of Orano USA, a French-owned firm that plans to build a facility to enrich uranium for the nuclear energy industry.

Work Underway Prepares for Next Wave of Demolitions

While OREM crews are busy with their largest demolition yet at Y-12, other team members are forging the way for the next batch of major teardowns in Oak Ridge.

OREM and cleanup contractor UCOR are deactivating more than 400,000 square feet of Manhattan Project and Cold War-era facilities — equaling nearly 10 acres — at Y-12 and ORNL.

The deactivation phase readies structures for demolition. It involves environmental sampling, utility disconnections, asbestos and hazardous waste removal, and other tasks to ensure the buildings are safe to demolish.

At ORNL, former research reactors and isotope production labs totaling 102,000 square feet are in various stages of deactivation. Around 300,000 square feet of facilities are being deactivated at Y-12, including Beta-1, a Manhattan Project-era uranium enrichment facility.

UCOR General Foreman Juli Foster and her team have been working on deactivation related work for more than a year at ORNL's Building 3517, the former Fission Project Development Laboratory. Teams are drilling access points into the building's contaminated hot cells for remote camera inspection.

Greg Buckner, UCOR's Y-12 deactivation and demolition characterization field lead, has worked 20 years with safety, industrial hygiene and radiological control teams on complex deactivation work. His more recent projects involve Alpha-2, now being demolished, and ongoing deactivation work at Beta-1 and Alpha-4.

The work happening now is removing risks and laying the groundwork for numerous demolitions on the horizon at Y-12 and ORNL.

The deactivation underway will enable the near-term removal of the Radioisotope Development Laboratory, Oak Ridge Research Reactor, Graphite Reactor support facilities, and Isotope Row facilities in the heart of ORNL to clear space for research missions, and the removal of Beta-1 at Y-12 to enable modernization.

Secretary Wright Visits Oak Ridge Cleanup Projects

Energy Secretary Chris Wright, center, speaks with U.S. Sen. Bill Hagerty, right, and U.S. Rep. Chuck Fleischmann at the East Tennessee Technology Park in Oak Ridge.

During his recent visit to Oak Ridge, Energy Secretary Chris Wright observed cleanup projects that are helping modernize one of the nation's most important national security sites and opening land for next-generation nuclear companies.

Wright's visit with the Oak Ridge Office of Environmental Management (OREM) began at the Y-12 National Security Complex, where he saw the crucial work underway to protect the nation. However, Y-12's ongoing missions are happening near many deteriorated, contaminated facilities dating to the Manhattan Project and Cold War.

Leadership from OREM and cleanup contractor UCOR detailed how U.S. Department of Energy Office of Environmental Management cleanup efforts are removing those structures to eliminate hazards and provide space for new infrastructure supporting national security missions.

"As a fan of history, this is a critical area for the Manhattan Project, it's a critical area for winning WWII and it will be a critical area for our future," said Wright. "Seeing the people, seeing the buildings, seeing the infrastructure, and hearing the bold plans, I'm energized."

OREM has already torn down the former Biology Complex to make way for the Lithium Processing Facility. Y-12 is a supplier of lithium materials to support U.S. defense missions, and it's the only DOE and National Nuclear Security Administration facility with lithium processing and production capabilities.

Meanwhile, crews are demolishing Alpha-2, a massive former enrichment facility categorized as "high risk" due to its condition and contents.

Preparations are also underway to demolish other sprawling former enrichment facilities at Y-12. These projects will continue enhancing safety and clearing land to support missions at the site.

Wright also gathered with congressional and business leaders at Oak Ridge's East Tennessee Technology Park (ETTP). The meeting highlighted OREM's efforts to return government-owned land it has cleaned back to the community to attract new economic development.

Those transfers have been successful in bringing next-generation nuclear companies and significant private investments to Oak Ridge.

OREM has transferred 1,800 acres, and it will continue adding to that total in the months ahead. That land is home

*(See **Secretary** on page 5)*

Energy Secretary Chris Wright was joined by U.S. Sen. Bill Hagerty, U.S. Rep. Chuck Fleischmann, Tennessee Department of Economic and Community Development Commissioner Stuart McWhorter and others to discuss how transferred land at Oak Ridge's East Tennessee Technology Park is helping attract nuclear industry to the region.

Board Remembers Former Member Bonnie Shoemaker

Bonnie Shoemaker, second from left, joined DOE and community officials in 2020 at the ribbon cutting for the K-25 History Center. She worked at the K-25 Plant, later the ETTP Site, for more than 30 years.

"A mentor... A teacher... An amazing woman." These are just a few of the ways ORSSAB members recalled Bonnie Shoemaker, who served on the board from 2017-2023, when asked to speak after her passing earlier this year.

She was a dedicated board member that displayed that commitment by actively serving the maximum six years allowable with the board. During that time she touched the lives of many others on the board. The board and OREM are greatful for her generosity sharing her time and she will be greatly missed.

While a board member, Bonnie was a champion of historic preservation efforts and served as a veritable library of history on the Oak Ridge site thanks to her background. She came to Clinton, Tenn. at age four when her father was assigned to work in Oak Ridge and put down deep roots in the community.

Bonnie brought to the board 34 years of experience at the East Tennessee Technology Park and Oak Ridge National Laboratory in several capacities. While she started work as a lab analyst, she moved in 1988 to her "dream job" in environmental management working in Clean Water Act compliance.

"Bonnie and I were in the Technical Division of the K-25 site together ... She was helpful in the site success for meeting all uranium enrichment goals and later, in the shift superintendent office, was resposible for maintaining the health and safety of the site. We will miss her dedication to the Oak Ridge Community," said current board member and former K-25 site manager Harold Conner.

Bonnie was the first woman to work in the shift superintendent's office at the K-25 Plant at ETTP. She would eventually serve as plant shift superintendent for eight years.

She was always willing to share stories and advice from her time working at the sites, which often informed the board when members wrote recommendations on various topic to the Department of Energy.

Secretary

(Continued from page 4)

to businesses making a projected capital investment of $7 billion, and they expect to generate 1,700 private-sector jobs.

"Our goal is to unleash American energy, and one of the key pillars of that is next-generation nuclear," said Wright. "We want to get nuclear launched again, and I see that energy, that activity, that land, that willingness to do it right here. I think the nuclear renaissance could begin right here."

OREM completed major field work at ETTP last year, culminating more than 20 years of cleanup. Along the way, Oak Ridge became the first site in the world to remove a former enrichment complex, and the first DOE site to pursue reindustrialization.

OREM's cleanup and transfers have transformed ETTP from a government-owned, shuttered uranium enrichment complex into a privately owned industrial park that has become a hub for nuclear energy development.

"It's a perfect example of unleashing American Energy, taking federal resources with a legacy use, cleaning them up and getting them ready, and turning them over to the private sector to invest private dollars and innovation to grow energy," Wright added.

-Contributor: Ben Williams

Lt. Col. Robert Green, commander of the U.S. Army Corps of Engineers Nashville District, speaks about the significance of the K-25 Interpretive Center project. The agency built the K-25 Gaseous Diffusion Plant, and oversaw construction of the facility dedicated to preserving its history.

K-25

(Continued from page 1)

said Lt. Col. Robert Green, commander of the USACE's Nashville District.

The project holds particular importance for the USACE because it brings the agency's involvement there full circle — from building the K-25 Gaseous Diffusion Plant at the start of U.S. involvement in the war to managing construction of the new facility dedicated to preserving its significant history.

The center is one of the final components of a multiproject agreement OREM signed in 2012 as a remedy under the National Historic Preservation Act. The agreement recognizes the importance of commemorating the history of the former Oak Ridge Gaseous Diffusion Plant, where the K-25 Building was located. OREM completed the other elements of the agreement in previous years, including constructing the K-25 History Center and preserving the historic Alexander Inn.

Uranium enrichment operations ceased at the site in 1985, and it was permanently shut down in 1987. Afterward, the U.S. Department of Energy (DOE) committed to a large-scale environmental cleanup effort to transform the site into a multiuse industrial park to support economic growth in the region. That effort involved tearing down five massive enrichment facilities, including K-25, and 500 other structures that supported operations at the site.

OREM and UCOR completed teardown of the K-25 Building in 2013 and all other demolition at the site in 2020. Additionally, soil remediation at the site wrapped up last year.

The transformed site, now called the East Tennessee Technology Park, already has numerous private businesses onsite, and is emerging as home to the long-awaited American nuclear renaissance, a key DOE priority.

Additionally, the K-25 Building footprint is part of the Manhattan Project National Historical Park, a unit of the National Park Service that also includes Los Alamos, New Mexico, and Hanford, Washington, sites.

"I hope the community appreciates and enjoys this project as much as I do," Green added. "This is a special place for our country and the region, and I hope they come out and experience it."

-Contributor: Wayne McKinney

Join Us for a Discussion on ETTP Main Plant Groundwater Remedies

6 p.m. Wednesday, September 10
1 Science.gov Way and Virtually via Zoom

OREM staff will provide updates on the enhanced in-situ bioremediation project that was begun following the most recent interim Record of Decision reached by DOE and partner agencies EPA and TDEC.

Results of the project, along with land-use controls, will be used to select final actions for six CVOC plumes present at the site.

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

Latest EM Achievements Highlight Spring Chairs' Meeting

Oak Ridge Site Specific Advisory Board (ORSSAB) board officers joined other Environmental Management Site-Specific Advisory Board (EM SSAB) leadership, and DOE staff for the annual EM SSAB Spring Chairs' Meeting on April 23.

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 virtually by the Nevada Site Specific Advisory Board (NSSAB).

DOE EM Associate Principal Deputy Assistant Secretary for Field Operations Greg Sosson was on hand to discuss progress across the EM Complex and recent EM accomplishments. He discussed the Oak Ridge site's role dating back to the Manhattan Project through today and the site's impact on U.S. jobs, energy and national security.

The meeting also featured presentations and discussions with DOE leadership on a variety of topics, including EM's waste disposal process, an EM budget update, polyfluoroalkyl substances (PFAS) and more.

Justin Marble, Director of the DOE EM National Transuranic Program, gave members a transportation update that included an overview of radioactive waste classifications, waste disposal considerations, waste disposal options, and challenges in waste disposal. He said DOE waste management oversight is rigorous and statutory and regulatory requirements are well-established.

Kristen Ellis, Associate Principal Deputy Assistant Secretary for Regulatory and Policy Affairs, discussed current DOE measures related to beneficial reuse of certain waste streams, such as nickel, and ongoing land transfers at various EM sites.

Steve Trischman, Deputy Assistant Secretary for Resource Management, and Marianna Du Bosq, Director for Budget and Planning, gave members a comprehensive budget update that included discussion on the annual budget request and the enacted budget.

DOE EM's April Kluever discussed PFAS and recent related DOE accomplishments.

In board business, the Chairs drafted a welcome letter to send to the incoming Secretary of Energy.

The next EM SSAB Chairs Meeting will be held virtually in October.

Questioning Attitude Leads to Oak Ridge Project Savings

OREM contractor Isotek Systems found savings of more than $10,000 annually thanks to the initiative and questioning attitude of its employees.

Isotek leads OREM's highest priority cleanup project at Oak Ridge National Laboratory, which involves processing and disposing of the nation's inventory of uranium (U)-233 stored in the world's oldest operating nuclear facility.

Processing this material not only generates U-233-related waste, but the contractor's operations also create a wide variety of other waste streams that take time and money for disposal. One of the waste streams generated by operations is used batteries — and lots of them.

"We go through a few hundred batteries every year," said Shane Kilby, Isotek waste management specialist. "Some of them, like the lead acid batteries, need special handling to properly dispose of, so it can cost a lot of money."

Using his previous experience as a supervisor at a recycling plant, Kilby believed there could be a more affordable solution for recycling lead batteries at a lower cost than subcontracting a company to pick up large containers of the batteries for recycling. The lead acid batteries are similar to those found in cars.

He did the research and found a local company that not only takes lead acid batteries but also pays for them. Instead of incurring $10,000 in costs annually, Isotek is now receiving funds from battery removal.

"I applaud Shane's questioning attitude," said John Garrity, Isotek deputy project manager. "Isotek has a lot of really innovative people on this project, and it's because of them that we are able to continually improve."

Isotek is also saving money disposing of alkaline batteries. Tabatha Montgomery, Isotek waste management database administrator, researched different recycling services for other kinds of batteries.

Isotek Waste Management Specialist Shane Kilby, right, provides guidance for an upcoming waste shipment at Oak Ridge.

"I found that we could save a significant amount of money if we used different packaging and shipped the batteries ourselves rather than having a contractor come pick them up," she said.

The prior method of disposing of alkaline batteries cost around $3,000 per year, but the recent change reduces that cost to only $400 annually.

Advocate
Oak Ridge Site Specific Advisory Board
July 2025

Board Seeks Volunteer Members to Fill Open Positions

ORSSAB will have several open seats on the board for 2026 and is seeking volunteers to serve a two-year term as board members. All adults in the multi-county area surrounding Oak Ridge are welcome to apply. The board generally draws from Anderson, Blount, Campbell, Knox, Loudon, Meigs, Morgan, Roane and Union counties

Board members need only be interested in the operations of the Oak Ridge Office of Environmental Management. Technical expertise is not required and a broad spectrum of backgrounds and viewpoints from the community is desireable.

Members will learn more as they serve, starting with an orientation and tour of cleanup projects at ETTP, ORNL and Y-12.

To apply: send us a copy of your resume and tell us a little bit about yourself and why you are interested in serving on the board. ORSSAB staff can be reached at orssab@orem.doe.gov; or send mail to Oak Ridge SSAB, P.O. Box 2001, EM-942, Oak Ridge, TN 37831; by calling toll free at (800) 382-6938, option 4, or directly at 865-241-4584.

Board membership will take some time — about three hours in months the board meets, and there are additional optional tours or educational travel opportunities that may vary.

Recommendations from the board have helped shape the final form of many projects from green spaces and trails at the Heritage Center and ETTP, to the creation of museums like the K-25 History Center. The board historically weighed in on the land transfer program that now helps bring employers like Kairos Power and Ultra Safe Nuclear Corp. to Oak Ridge. Whether you were born and raised in the area or recently decided to call East Tennessee home, we invite you to join us as we continue to contribute.

Examples of training can be found on our site: https://www.energy.gov/orem/orssab-new-member-education or by scanning this QR code.

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

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: Full Board Monthly Meeting, September 10, 2025
EM & Stewardship Committee: September 24, 2025

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

Like us on Facebook
YouTube