



# Oak Ridge Site Specific Advisory Board

## 2022 Annual Report

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*The East Tennessee Technology Park in Oak Ridge, Tenn. was once a shuttered uranium enrichment complex. EM's cleanup has transformed the site into a multi-use industrial park for the community with private businesses, conservation areas, and a national park.*

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# Our Mission

The Oak Ridge Site Specific Advisory Board (ORSSAB) is a federally appointed citizens' panel that provides independent recommendations to the Department of Energy's (DOE) Oak Ridge Environmental Management (OREM) Program.

The board provides advice to the DOE EM program regarding environmental restoration, waste management, long-term stewardship, land use, and economic development.

Recommendations regarding environmental justice, health and safety issues, historic preservation, and other concerns may also be developed at the request of the DOE assistant secretary for EM or the OREM manager. ORSSAB is one of eight site specific boards across the nation that comprise the EM SSAB and may also participate in joint recommendations with that organization.

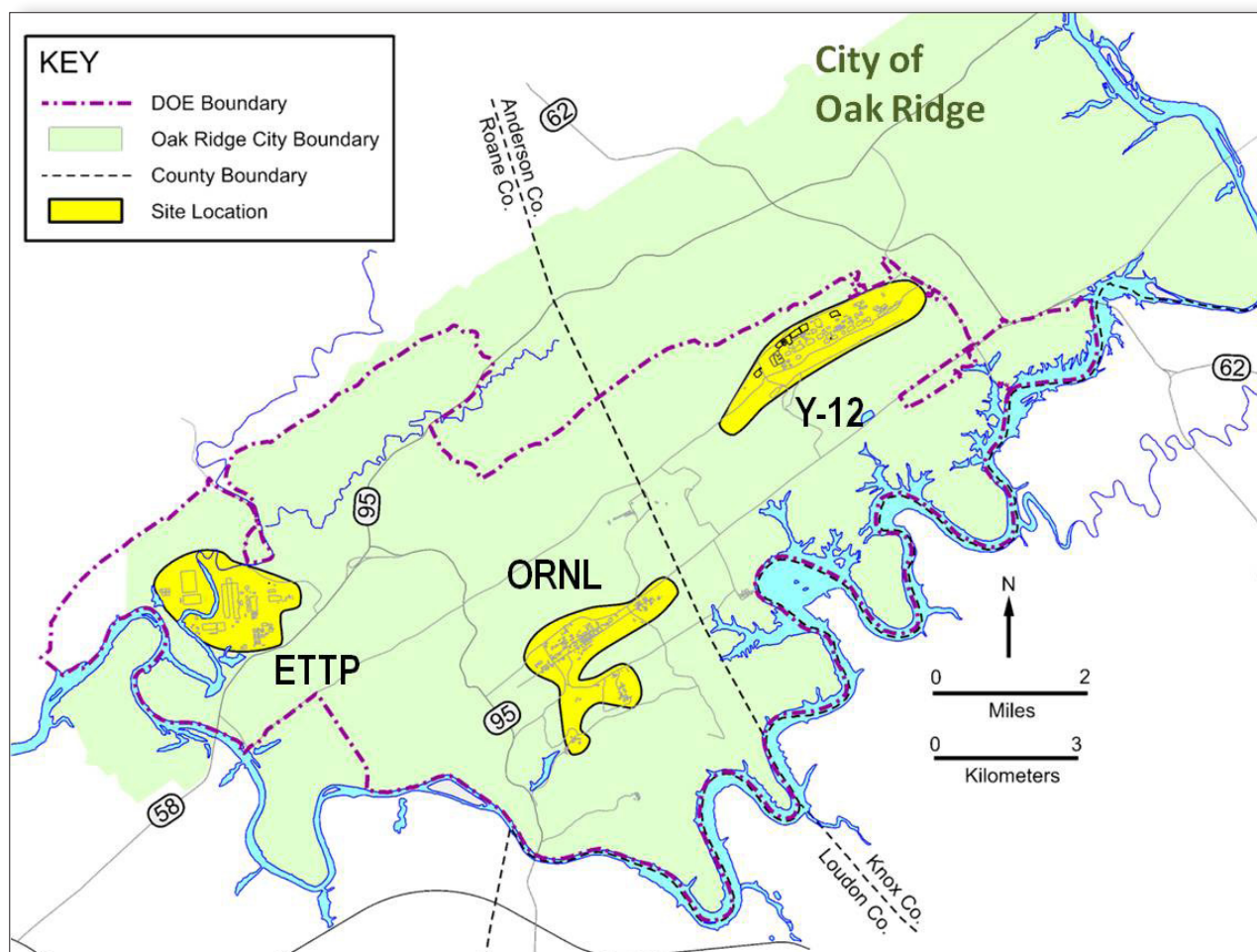
The board is committed to reflecting the concerns of the communities impacted by EM activities on the Oak Ridge Reservation (ORR) and serving as a communications link

between the public and relevant government agencies, including local governments.

ORSSAB provides several avenues for the public to learn about and express views on OREM's cleanup work. All board and committee meetings are open to the public and are announced in the Federal Register, newspaper advertisements, on our website, and various social media outlets.

Meetings are held at the DOE Information Center in Oak Ridge at 1 Science.gov Way and may also be attended virtually via Zoom on request. Recordings are uploaded to YouTube at [www.youtube.com/user/ORSSAB](http://www.youtube.com/user/ORSSAB).

The board maintains a web site at [www.energy.gov/orssab](http://www.energy.gov/orssab). Information is also available by calling the ORSSAB support office at 865-241-4583 or 865-241-4584 or email us at [orssab@orem.doe.gov](mailto:orssab@orem.doe.gov).



Unlike most other DOE facilities, the ORR is almost entirely within the city limits of Oak Ridge. It contains three main facilities: East Tennessee Technology Park, Oak Ridge National Laboratory, and the Y-12 National Security Complex.



ORSSAB was chartered under the Federal Advisory Committee Act in 1995. The board is composed of up to 22 members, chosen to reflect a diversity of gender, race, occupations, views, and interests of persons living near the ORR. Members are appointed by DOE and serve without compensation. Members may serve up to three two-year terms.

At the close of the year, the board consisted of 20 voting members from Anderson, Campbell, Knox, Loudon, Morgan, and Roane counties. More about members who served, including some who exited the board mid-year, can be found in the “Members” section starting on **Page 14**.

Non-voting participants include liaisons from DOE, the U.S. Environmental Protection Agency Region 4 (EPA), and the Tennessee Department of Environment and Conservation (TDEC), which advise the board on their agencies’ policies and views.

### FY2022 Board Officers

ORSSAB officers for FY2022 were Leon Shields, chair; Amy Jones, vice chair; and Shell Lohmann, secretary. Michael Sharpe was chair of the EM & Stewardship Committee, and Harriett McCurdy was co-chair.

### Board Meetings

The board meets the second Wednesday of most months at 6 p.m. in Oak Ridge to hear presentations by EM personnel

working on relevant projects, listen to and discuss input from concerned citizens, consider recommendations to DOE, and conduct other business. In October, an annual meeting was held to evaluate the board’s work during the year and plan activities for the next year. For 2022, meetings were held virtually via Zoom and as hybrid in-person and through Zoom.

The board conducts its deliberations under ORSSAB bylaws and Robert’s Rules of Order and strives to consider all relevant positions in reaching decisions.

### Committees

General business is handled at the monthly Executive Committee meeting, which is composed of the elected officers of the board and the chair of the EM & Stewardship Committee. This committee holds general administrative authority to set board agendas, coordinate the work of other committees, and transact business as necessary.

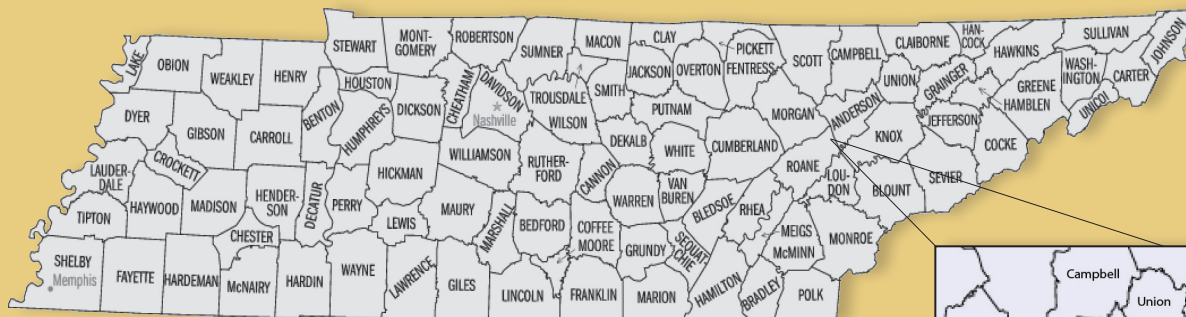
The EM & Stewardship Committee is responsible for monitoring the major cleanup activities on the ORR as well as stewardship requirements for areas of the reservation that have been remediated, but remain contaminated long-term. It originates recommendations to be considered at full board meetings. All board members are part of this committee.

Committees usually meet monthly, and all meetings are open to the public.



*The Oak Ridge Site Specific Advisory Board*

# REPRESENTING NINE COUNTIES IN EAST TENNESSEE



## Board members from each county at the close of 2022:

Anderson - 5  
Knox - 6  
Loudon - 2

Roane - 4  
Campbell - 1

## Join the Board

A broad spectrum of backgrounds and viewpoints is desired for board membership; technical expertise is not required. Applications for membership are accepted at any time and are actively solicited through a variety of media during specific recruitment periods.

Residents from the counties affected by DOE operations are encouraged to apply. These counties include Anderson, Blount, Campbell, Knox, Loudon, Meigs, Morgan, Roane, and Union.

Applications may be obtained by emailing the ORSSAB support offices at [orssab@orem.doe.gov](mailto:orssab@orem.doe.gov) or visiting our website at [www.energy.gov/orssab](http://www.energy.gov/orssab).

## Abbreviations

CAB	Citizens Advisory Board	ORNL	Oak Ridge National Laboratory
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	ORR	Oak Ridge Reservation
DDFO	Deputy Designated Federal Officer	ORSSAB	Oak Ridge Site Specific Advisory Board
DOE	U.S. Department of Energy	TDEC	Tennessee Department of Environment and Conservation
EM	Environmental Management	TRU	Transuranic
EMDF	Environmental Management Disposal Facility	TWPC	Transuranic Waste Processing Center
EMWMF	Environmental Management Waste Management Facility	WIPP	Waste Isolation Pilot Plant
EPA	U.S. Environmental Protection Agency	Y-12	Y-12 National Security Complex
ETTP	East Tennessee Technology Park		
OREM	Oak Ridge Office of Environmental Management		



# The Year's Top News

*The beginning, middle and end: An aerial look at the progress of the teardown of the Bulk Shielding Reactor in the central campus of Oak Ridge National Laboratory from start to finish. EM Oak Ridge crews safely completed the demolition ahead of schedule, reducing risks at the laboratory and opening land for reuse at the site.*



## First-Ever Demolition of a Former Reactor at ORNL

EM crews in 2022 completed the first-ever demolition of a reactor in the central campus area at ORNL.

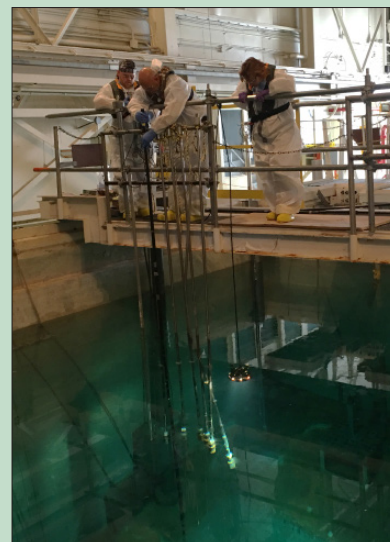
OREM cleanup contractor UCOR safely took down the Bulk Shielding Reactor, also known as Building 3010.

The Bulk Shielding Reactor complex was built in the 1950s for radiation shielding studies as part of the federal Aircraft Nuclear Propulsion Program. It included a 27-foot-deep reactor pool filled with water to shield the radioactive components contained in the pool. Its mission changed to a general-purpose research reactor in 1963 and was shut down permanently in 1991.



*This 27-foot pool in Building 3010 housed irradiated items from the former research reactor.*

One of the most important pre-demolition activities involved removing and disposing irradiated components from the reactor pool. After those tasks, workers drained the 130,000 gallons of the water from the pool and sent it to an onsite treatment facility. Then the pool area was decontaminated and filled with a concrete mixture to close it.



*Employees with OREM contractor UCOR characterized this pool at Building 3010 prior to demolition.*

In addition to stabilizing the reactor pool, workers removed asbestos and other waste from the facility.

The Bulk Shielding Reactor was one of more than a dozen research reactors constructed at ORNL over multiple decades. Each contributed to ORNL's reputation as a world leader in cutting-edge nuclear research and development. The facility was one of 16 inactive research reactors and isotope facilities EM is addressing at ORNL.





*EM crews make progress tearing down the former Criticality Experiment Laboratory. The teardown began this past summer after months of deactivation activities.*

## Former Criticality Experiment Lab at Y-12 Removed

EM crews at Oak Ridge have cleared another excess contaminated facility, opening land for reuse at the Y-12 National Security Complex.

They successfully completed the demolition of the former Criticality Experiment Laboratory after working this past summer to bring down the dilapidated 1940s-era facility, also known as Building 9213.

“Removal of this facility is another sign of our steady progress transforming DOE’s Oak Ridge Reservation,” said Laura Wilkerson, acting manager for DOE’s Oak Ridge Office of EM.

More than 50 percent of the facilities throughout the National Nuclear Security Administration complex, which includes Y-12, are more than 40 years old. The Criticality Experiment Laboratory is one of them.

Built in 1949, the two-story, 24,000-square-foot laboratory was used to conduct experiments with fissile uranium isotopes for nuclear reactor designs. Employees performed more than 9,700 experiments there in its first decade, and the facility later supported the Oak Ridge National Laboratory’s High Flux Isotope Reactor program. The building has been closed since 1992.

With the building down, crews are working to remove waste and debris. They expect to move an estimated 525 truckloads of it in coming weeks.

Workers spent significant time deactivating the facility leading up to its teardown. They removed nearly 1,500 linear feet of asbestos-insulated piping, 300 linear feet of process piping and 8,500 square feet of other asbestos-containing material.



*Work to demolish the former Criticality Experiment Laboratory began in May, when crews began removing ancillary structures around it.*



## Secretary Granholm Honors Oak Ridge Vision 2020 Project Team With Achievement Award



*Oak Ridge before-and-after views: At left is the Oak Ridge Gaseous Diffusion Plant when it was closed in the late 1980s, and at right is a view of the site today, known as the East Tennessee Technology Park.*

Energy Secretary Jennifer Granholm honored an EM team from Oak Ridge with the Secretary's Achievement Award during a January virtual ceremony for successfully removing a former uranium enrichment complex — a historic first that cleared 13 million square feet of deteriorated, contaminated structures from the site.

The award honors a group or team of DOE employees and contractors who accomplish significant achievements on behalf of the Department, demonstrating cooperation and teamwork in attaining their goals. The award was given to the Oak Ridge Vision 2020 Project Team based on its achievements from 2020.

Members of the Vision 2020 Project Team include Brad Adams, Gary Chandler, Steve Clemons, Heather Cloar, Jim Daffron, Tracie Jackson, Dan Macias, Dawn Mills, Mike Mills, Mark Posey, Gary Riner, Ken Whittle and Chad York.

The historic feat resulted from Vision 2020, a decades-long effort to clean and transform the former Oak Ridge Gaseous Diffusion Plant, now known ETTP. The site originally produced enriched uranium to power weaponry that ended World War II, and it went on to produce uranium for defense and commercial purposes. Those operations continued until the mid-1980s, and the site was shut down permanently in 1987.

The complex's closure left behind hundreds of contaminated facilities that had to be remediated, demolished and disposed — among them five massive gaseous diffusion enrichment buildings, including the mile-long K-25 Building.

The Vision 2020 Project Team was selected for the prestigious award for what it accomplished in both scale and performance. Crews deactivated and demolished more than 500 deteriorated and contaminated structures — an area that could cover 225 football fields.

EM and cleanup contractor UCOR completed the effort four years ahead of schedule and \$80 million under budget, avoiding \$500 million in costs to taxpayers.

The team helped transform ETTP from a liability into a community asset that serves as a multi-use industrial hub, national park and conservation area.

Oak Ridge has transferred nearly 1,300 acres of land at ETTP back to the community for economic development, and it recently signed an agreement with the state of Tennessee to transfer 3,500 acres for conservation and recreational reuse. Additionally, EM and UCOR constructed and opened the K-25 History Center and set aside another 100 acres for historic preservation as part of the Manhattan Project National Historical Park.

## February

### ORNL Molten Salt Reactor Experiment Upgrades Enhance Safety, Save Taxpayer Dollars

EM in February was upgrading a historic reactor at Oak Ridge to keep the facility in a safe mode until its demolition is scheduled.

The improvements to the Molten Salt Reactor Experiment (MSRE) were needed for safe continued operations and will also support the facility's eventual transfer from maintenance to deactivation, which will save approximately \$5 million in annual operating costs.

MSRE, located at ORNL, is one of more than 200 facilities in Oak Ridge that no longer support ongoing missions. OREM and its contractor UCOR are tasked with keeping many of these facilities in a safe, stable condition, and together they examine ways to reduce costs without compromising safety as these facilities await deactivation and demolition.

Since MSRE is still classified as an active nuclear facility with a deactivated nuclear reactor, numerous upgrades are



*Workers installed a new roof over a portion of the Molten Salt Reactor Experiment to ensure the facility remains safe, protected and in good condition to minimize potential risks.*

*(Continued on page 7)*



needed to keep critical systems safe until the facility is torn down. UCOR has been making upgrades and modifications that minimize maintenance costs, reduce risks of injury and exposure to personnel, provide reliable electric service to key systems, and eventually eliminate the need for personnel to work at the facility.

Tank headspace-gas pressure builds up from fluorine gases in tanks inside the facility. A new continuous purge system, scheduled to begin operation in 2023, will provide safe continuous off-gassing instead of allowing the pressure to build up. This project is also reducing risks by replacing an old reactive gas removal system, which has exceeded its operational life expectancy.

Workers also installed a new roof over a portion of the facility to protect key systems such as the reactor and containment ventilation systems. Additionally, UCOR relocated employees stationed in MSRE to nearby offices to further reduce the possibility of hazards.

Construction of MSRE began in 1962. Test runs began in 1965 using uranium-235 as fuel. The reactor reached full power in 1966. Two years later, scientists added uranium-233 to demonstrate the design's flexibility, making it the first reactor in the world to operate with uranium-233. Famed scientist Glenn Seaborg, discoverer of plutonium and creator of uranium-233, came to ORNL to start the reactor.

The facility was inspired by a short-lived effort to develop a nuclear-powered aircraft in the 1950s. After that initiative was canceled, focus shifted to using MSRE technology to generate electricity. Concerns about long-term uranium supplies made this concept more attractive because of its ability to function as a "breeder," producing more fuel than it consumed.

MSRE was shut down in 1973 in favor of a sodium-cooled fast breeder reactor that was planned for construction - but never built - in Oak Ridge.

## March

### Oak Ridge Contractor Highlights EM Cleanup at STEM Night for Local Middle School Students

Employees from OREM contractor Isotek in March supported a local middle school's Science, Technology, Engineering, and Mathematics (STEM) Night, which attracted hundreds of students and their family members.

The annual STEM Night has been a major attraction since Jefferson Middle School began hosting it in 2019. The event increases students' awareness of STEM technologies and careers, and provides hands-on learning activities. It also gives local companies and organizations a unique opportunity to engage with students.

About 500 people attended this year's STEM Night. Isotek was one of more than 20 local groups that set up interactive learning exhibits.



*Isotek employees volunteer to support student learning at Jefferson Middle School's annual Science, Technology, Engineering, and Mathematics (STEM) Night.*

Isotek's exhibition allowed students to experience how the company's employees conduct processing operations in gloveboxes. Middle school students dressed in protective suits and put their hands in a glovebox designed for practice and training. The experience showed how gloveboxes are used to handle radiological material in a controlled setting.

Isotek also demonstrated how its employees control nuclear material, weigh material and extract rare medical isotopes that support cancer treatment research.

Isotek is responsible for processing, downblending and eliminating the inventory of uranium-233 material stored at ORNL, which is OREM's highest priority at the site. Through a partnership with nuclear innovation company TerraPower, the contractor is also extracting thorium-229 to support cancer treatment research.

## April

### Crews Continue Progress on COLEX and Mercury Treatment Facility, Eliminating Risks at Y-12

EM crews in April continued progress on key projects eliminating risks at Y-12. Crews prepared the East Column Exchange (COLEX) equipment at Oak Ridge for demolition following deactivation work that involved retrieving mercury from the deteriorating structures to prevent a potential environmental release.

COLEX equipment was installed in 1955 on the east, west and south sides of the massive four-story, 500,000-square-foot Alpha-4 building. The equipment used large amounts of mercury as part of its operations. Although workers drained most of the mercury from the equipment when operations ceased in 1962, recoverable amounts of it remained in aging lines and equipment that had rusted and deteriorated over the decades.

In 2018, EM Oak Ridge contractor UCOR recovered 4.19 tons of mercury before demolishing the West COLEX. By

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*The exterior of the column exchange processing structure on the east side of the Alpha-4 facility at the Y-12 National Security Complex. Removing this deteriorated equipment will eliminate risks and move Alpha-4 closer to demolition.*

deactivating the East COLEX and performing cleanup work in Alpha 4, UCOR retrieved another 2.3 tons, bringing the total amount of mercury recovered to 6.49 tons.

Construction also progressed on the Mercury Treatment Facility, which is the linchpin for EM's cleanup strategy at Y-12. This vital piece of infrastructure will enable EM to begin demolition on large mercury-contaminated buildings and subsequent soil remediation at Y-12.

The facility will provide a mechanism to capture and safeguard against potential mercury releases into the Upper East Fork Poplar Creek that could occur during cleanup operations. When operational in 2025, the facility will be able to treat up to 3,000 gallons of water per minute.

## May

### UCOR Transitions to New Cleanup Contract, Focus Shifts to ORNL and Y-12

A new era of cleanup began in May as UCOR undertook the \$8.3 billion Oak Ridge Reservation Cleanup Contract.

UCOR has been a familiar name in Oak Ridge since 2011. As an Amentum-led partnership with Jacobs, it successfully closed out the ETTP cleanup contract more than \$100 million under budget. Now, with an additional partner, Honeywell, the newly configured UCOR is positioned to continue its successful performance at Y-12 and ORNL.

DOE's Oak Ridge Reservation contains three main sites: Y-12, ORNL, and ETTP (the former Oak Ridge Gaseous Diffusion Plant). The previous UCOR contract focused mainly on cleanup at ETTP, a former uranium enrichment plant that was closed in 1987.

OREM and UCOR achieved the first-ever cleanup of an enrichment complex in 2020 when crews finished all demolition at the site.

The new contract focuses on the removal of unneeded and contaminated buildings at ORNL and Y-12, but it will

also continue soil and groundwater remediation efforts at ETTP. Together, ORNL and Y-12 contain DOE's largest inventory of high-risk excess contaminated facilities, and under this contract UCOR will eliminate significant risks by demolishing many of these structures.

Reinforcing this contract, OREM and UCOR signed a partnering agreement this week that details project goals and reinforces a collaborative work arrangement. The agreement focuses on safely delivering beneficial end states—in alignment with stakeholders and with full transparency—with a commitment to sustainability, climate management, environmental justice, and diversity.

## June

### McCracken Bridge Dedication Ceremony in Oak Ridge Honors Historic Career



*Former Oak Ridge cleanup manager Steve McCracken and his wife Pam are shown at a ceremony dedicating the Haul Road bridge in Oak Ridge in McCracken's honor.*

Friends, family and former co-workers gathered in June to celebrate with retired Oak Ridge cleanup manager Steve McCracken and to dedicate the bridge he helped build.

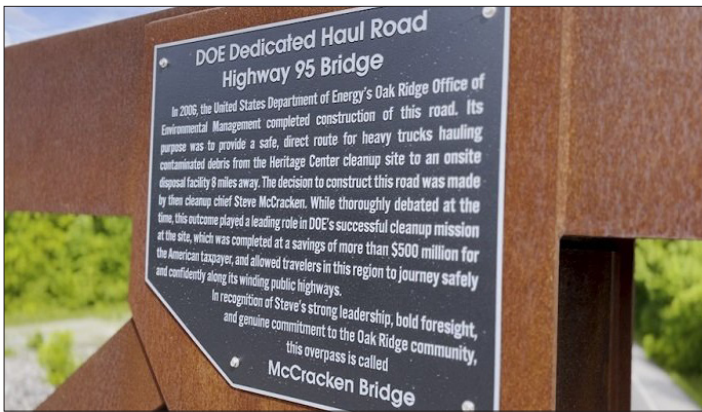
McCracken began working in environmental programs with DOE in 1980 until he retired in 2010. Over that span he led major EM cleanup efforts at Oak Ridge as well as sites in Missouri and Ohio. After retiring from DOE, he continued adding to his resume by leading the Tennessee Valley Authority's cleanup of a major coal ash spill.

During his tenure as Oak Ridge's manager, one of his many influential decisions was constructing the private eight-mile Haul Road. That road gives drivers carrying debris from cleanup projects a direct path to disposal facilities without using commercial roads through town. That decision has allowed the Oak Ridge Office of Environmental Management to safely move more than 100,000 truckloads of waste for disposal to date.

McCracken's decision to build the road was instrumental in Oak Ridge completing demolition at ETTP four years

*(Continued on page 9)*





*DOE installed a plaque on the newly named McCracken Bridge to tell the story of the bridge and honor Steve McCracken.*

ahead of schedule and avoiding \$500 million in costs to taxpayers. It keeps the community safer and helped the site become the first in the world to remove a former enrichment complex.

## July

After a two-year pause due to the COVID pandemic, DOE's public bus tour at Oak Ridge officially kicked off a new tour season with a new attraction thanks to OREM.

Tours began running again on July 11 with plans to continue running through November. The program is a longtime staple in the community, helping educate residents and visitors about the site's rich history and current missions. Since it began in 1996, the tour program has attracted tens of thousands of visitors with representation from all 50 states.

The three-and-a-half-hour tour, which departs from the American Museum of Science and Energy (AMSE) allows visitors to see all three DOE sites on the Oak Ridge Reservation, including ORNL, Y-12 and ETTP.

This year's tour was the first to feature the newly constructed K-25 History Center. The facility, an OREM project, opened only weeks before the COVID pandemic began. It offers 250 original artifacts on display. Nearly 1,000



*DOE's public bus tour program at Oak Ridge restarted on July 11 after a two-year pause. Buses depart from the American Museum of Science and Energy for a tour that has attracted tens of thousands of visitors from around the world since 1996.*

oral histories were collected from former Manhattan Project and Cold War-era workers that museum professionals used to develop the exhibits and interactive galleries inside.

OREM is currently advancing plans to complete its historic preservation commitments, which includes constructing the K-25 viewing platform and wayside exhibits around the K-25 Building.

Among the other stops, visitors on the bus tour go inside the Graphite Reactor at ORNL. The national historic landmark is a key component of the Manhattan Project National Historical Park. It houses the world's oldest reactor and served as the pilot plant that led to the first production of plutonium.



*A rendering of the historic preservation related projects the Oak Ridge Office of Environmental Management is slated to complete at the East Tennessee Technology Park in coming years. The K-25 History Center, right, is already open to visitors.*

## August

### Deputy Energy Secretary Turk Sees Impact, Progress of Partnerships during Oak Ridge Visit

During his visit to Oak Ridge last week, Deputy Energy Secretary David Turk saw firsthand the impact and progress of EM's strong partnerships at Oak Ridge.

Turk visited the Oak Ridge National Laboratory (ORNL) and Y-12 National Security Complex (Y-12), where he learned about the latest developments in scientific research, national security and environmental cleanup missions.

At ORNL, Turk was joined by Deputy Defense Secretary Kathleen Hicks. They celebrated the dedication of Frontier — a supercomputer that is the world's fastest and the first to break into an unprecedented level of computing performance known as exascale, a threshold of a quintillion calculations per second. Turk also learned how researchers are developing more efficient, safe and compact batteries.

Next, Turk traveled to Y-12 and met with National Nuclear Security Administration Principal Deputy Administrator

*(Continued on page 10)*



*Deputy Energy Secretary David Turk, center, tours an area of ORNL containing former research reactors, including the Low Intensity Test Reactor shown in the background.*

Frank Rose. Together, they toured production facilities helping keep the nation safe and secure.

At ORNL and Y-12, Turk had the opportunity to see important environmental cleanup projects helping protect the investments at those sites. OREM Acting Manager Laura Wilkerson and UCOR President and CEO Ken Rueter accompanied Turk during the visit. UCOR is EM's cleanup contractor at Oak Ridge.

In addition to eliminating risks and enhancing safety, EM's cleanup projects at ORNL and Y-12 are clearing land to enable modernization and mission growth. That was on display during Turk's Oak Ridge tour.

At ORNL, Turk got an up-close perspective of former research reactors, one of which is only weeks away from being torn down. Demolition begins in September on the Bulk Shielding Reactor, known as Building 3010. Next is the knockdown of the Low Intensity Test Reactor, known as Building 3005, by the end of the year.

Those structures are located in the heart of ORNL, and their demolition will eliminate risks, clear land for research missions and enhance access to the Oak Ridge portion of the Manhattan Project National Historical Park. The park also has locations at the Hanford Site in Washington state and Los Alamos, New Mexico.

While at Y-12, EM leaders discussed large cleanup projects underway and several more on the horizon that will significantly transform the site.

The tour at Y-12 included a stop at the award winning Biology Complex demolition project. In 2021, EM finished taking down that complex's 11 structures covering an 18-acre footprint.

## September

### Crews Begin Deactivating Alpha-4 Facility at Y-12, Mercury Treatment Facility to Aid Cleanup

EM crews in September began taking the first steps to bring the massive Alpha-4 facility at Y-12 to the cold-and-dark stage, a process in which they remove all utility sources to the building as a precursor to demolition.

This project moves EM closer to addressing one of the largest high-risk buildings at the site. It also marks the third former enrichment facility at Y-12 where EM has initiated deactivation work. Other crews were preparing the Alpha-2 and Beta-1 facilities for teardown.

OREM contractor UCOR began sampling and marking potential hazards and removing combustible materials from Alpha-4 last month. Workers were then due to begin isolating the structure from any potential hazardous energy sources, an early step in the deactivation process.

The four-story Alpha-4 spans more than 500,000 square feet across 13 acre of land. The deactivation and demolition project is challenging not only due to the facility's size, but also its mercury contamination.

The facility was used for uranium separation from 1944 to 1945. A decade later, workers finished installing COLEX equipment on the west, east, and south sides of Alpha-4 for lithium separation, a process requiring large amounts of mercury.

A significant amount of mercury was lost into the equipment, building and surrounding soils during those operations. Mercury cleanup is one of EM's top priorities at Y-12.



*A view of the Alpha-4 facility at the Y-12 National Security Complex at Oak Ridge. EM crews are in the early stages of removing all utility sources to the building prior to tearing down the facility.*

*(Continued on page 11)*



Although employees drained the majority of materials from the equipment at Alpha-4 when operations ended in the 1960s, recoverable amounts of mercury remained in aging lines and equipment that had rusted and deteriorated over the decades.

UCOR crews have retrieved more than 6.5 tons of mercury from the COLEX equipment to date, demolished the equipment on the west side of Alpha-4 and finished deactivating the equipment on the east side of the building earlier this year.

Two other pivotal projects are underway that will enable removal of Alpha-4. The first is construction of the Mercury Treatment Facility. The facility will capture and treat mercury releases entering a nearby creek caused by crews and big machinery tearing down Alpha-4 and other large, mercury-contaminated buildings in the area.

Other critical work is the National Nuclear Security Administration's West End Protected Area Reduction Project. That effort is rerouting portions of the high-security area at Y-12 around Alpha-4 and the other mercury-contaminated buildings, allowing enhanced access for cleanup crews and significantly reducing cleanup costs.

Deactivation work at Alpha-4 is expected to continue for several years.

## October

### OREM Launches U-233 Processing Campaign, Achieving EM 2022 Priority



*Workers spent months practicing & preparing before processing the first canister of the high-dose uranium-233 inventory in October.*

EM contractor Isotek in October began processing the remaining inventory of U-233 stored at ORNL, attaining a 2022 priority for the cleanup program.

Starting processing operations moves EM closer to achieving its highest cleanup priority at ORNL: safe and secure disposal of the Cold War legacy nuclear material stored in the world's oldest operating nuclear facility, Building 3019.

Crews began the campaign by transferring a canister of U-233 oxide from Building 3019 into an adjacent, newly upgraded hot cell facility for downblending processing.

Using the hot cells, which are heavily shielded rooms, workers are protected from radiation exposure as they handle the radioactive nuclear material. Employees open canisters inside the hot cells, strip the transuranic material – which has a higher atomic number than uranium – from the U-233, and mix it with depleted uranyl nitrate.

This downblending lessens the enrichment of the U-233 material, converting the material into a form safe for transportation and permanent disposal. Downblended uranyl nitrate is solidified onsite and transported off site for disposal.

EM and Isotek's work to safely process this Cold War-era nuclear material will reduce risks and eliminate costs to taxpayers of keeping the material safe and secure in storage.

U-233 was created as an alternative nuclear fuel source in the 1950s and 1960s. However, due to its trace amounts of U-232, a highly unstable radioactive isotope, it was too difficult to use. Eventually, it was sent to ORNL for storage.

EM and Isotek completed an earlier phase of the project in 2021. Together, they successfully finished processing and disposing the low-dose inventory of U-233. That two-year effort eliminated a portion of the site's legacy nuclear material and provided rare nuclear isotopes for next-generation cancer treatment research.

The U-233 processing campaign is expected to continue the next few years. By the end of the campaign, about 90 percent of the original nuclear inventory in Building 3019 will be dispositioned.

## November

### OREM Transfers Cleared Biology Complex Land, Completing EM 2022 Priorities

OREM in November completed the transfer of the former Biology Complex footprint at Y-12 back to the National Nuclear Security Administration, marking the completion of the goals laid out for the Oak Ridge Reservation in EM's 2022 priorities.

Crews had worked throughout the year to remove building slabs and backfill the area.

The parcel was under the temporary responsibility of OREM for crews to conduct deactivation and demolition, remove building slabs, and address any impacted soil to prepare the 18-acre area for reuse. This land is of particular importance because it's the planned location for the Lithium Processing Facility that will support national security missions.

*(Continued on page 12)*



*Oak Ridge workers spent much of 2022 tearing up and removing building slabs left behind from the Biology Complex demolition, as shown at top.*

The Biology Complex, which dates back to the 1940s, was originally comprised of 11 buildings. It was initially constructed for recovering uranium from process streams, but it was later used for research that led to strides in understanding genetics and the effects of radiation.

The complex was shut down in 2002 and later categorized as containing high-risk excess facilities due to their deteriorated structural condition. OREM tore down a number of the facilities in 2010 using American Recovery and Reinvestment Act funds and began demolition on the remaining buildings a decade later.

Those 2020 demolitions included the massive six-story, 255,000-square-foot Building 9207 and the three-story, 65,000-square-foot Building 9210. That work was completed by OREM cleanup contractor UCOR in 2021.

## December

### Oak Ridge Advances Waste Disposal Facility as Public Outreach Continues

OREM officials reached an important milestone in fall 2022 in preparing for a new onsite disposal facility by signing a record of decision with the EPA and TDEC.

The recently signed document allows OREM and its contractor UCOR to move forward with a final design for the facility and begin activities to prepare for its construction.

The EMDF is key to providing the waste disposal capacity needed to continue cleanup efforts at Y-12 and ORNL. OREM's current waste disposal facility is at 83 percent capacity.

While all high-level radioactive waste is shipped out of state for disposal, OREM needs the new onsite disposal facility for low-level waste, such as soil and building rubble, generated from cleanup projects.

As the EMDF project enters a new phase following the record of decision, OREM is maintaining its commitment to keep the community informed about the project as it progresses. OREM hosted an information session in December as the most recent effort to continue public outreach.

The two-hour open house style event on Dec. 8 featured posters with new information on the next phase of the project, upcoming site preparation activities and the Groundwater Field Demonstration project. That study will help OREM and regulators understand how groundwater well levels adjust, informing the final EMDF design.

Site preparation activities, scheduled to begin in summer 2023, will involve moving roads and utilities and developing an area to support future construction crews. The Groundwater Field Demonstration project is expected to begin late next year.

Top subject matter experts from the project were on hand at the Dec. 8 event to discuss updates and answer questions from attendees.

OREM will continue sharing the latest developments about the project at the next information session scheduled for next summer.

The Dec. 8 event follows two public comment periods, formal meetings, information sessions and numerous presentations since 2018.



*OREM's Roger Petrie discusses updates regarding the EMDF during a public poster session at the Scarboro Community Center in Oak Ridge.*



# Key Issues

In FY 2022, ORSSAB sent one locally generated recommendation to DOE and endorsed two recommendations developed by the chairs of the eight site specific advisory boards.

Full text of the recommendations and responses is available on the ORSSAB website at [energy.gov/orem/listings/orssab-recommendations-responses](https://energy.gov/orem/listings/orssab-recommendations-responses).

## Recommendations on FY2024 OREM Budget

Each year the U.S. Department of Energy (DOE) Environmental Management (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 9, 2022, the OREM program presented on its FY 2024 budget formulation process to ORSSAB. This presentation provided content and discussions that ORSSAB used to draft its recommendations.

In creating its recommendations for the FY 2024 OREM budget, ORSSAB focused on general near-term and long-term cleanup priorities identified by OREM:

- **Closure of ETTP**
  - ◇ Complete remediation of slabs and soils and other activities required to close ETTP and transfer long-term stewardship to Legacy Management
- **Demolish excess contaminated facilities at ORNL and Y-12**
  - ◇ Continue pre-demolition, deactivation, and remediation activities
- **Progress infrastructure to enable cleanup**
  - ◇ Mercury Treatment Facility
  - ◇ New CERCLA waste disposal facility (EMDF)
  - ◇ Continue mercury technology development
- **Disposition ORNL uranium-233 inventory**
  - ◇ Complete uranium-233 direct disposition campaign
  - ◇ Conduct down-blending operations and dispose of remaining uranium-233 inventory
- **Disposition ORNL transuranic waste inventory**
  - ◇ Complete disposition of transuranic debris waste
  - ◇ Complete construction of the Sludge Processing Facility

- **Maintain and operate facilities at ORNL and Y-12**
  - ◇ Continued safe operation of waste disposal and treatment facilities
  - ◇ Continue activities to extend life of aging facilities.

## Recommendations

ORSSAB supports OREM's Program Plan and recommends fully funding the activities that are currently supported by that Plan for FY 2024. In addition, ORSSAB has identified the following priorities for Oak Ridge Reservation cleanup.

The board recommends that the FY 2024 OREM budget request reflect adequate funding to maintain or accelerate these projects. In addition, when extra funds from suitable plus-ups and savings become available, we recommend that these funds be targeted for the following projects, in no particular order of priority:

- The expansion of ORNL's Aquatic Ecology Laboratory provides a vital resource to the EM complex. Future requests should continue funding support for research into mercury and methyl-mercury pollution and prioritize designing and testing new and improved remediation technologies.
- Provide adequate funding to construct and operate the urgently needed new onsite disposition facility to allow uninterrupted cleanup progress at Oak Ridge National Laboratory (ORNL) and Y-12 National Security Complex (Y-12).
- Increase funding where possible to ensure the Mercury Treatment Facility meets the operational date of 2025 as presented to the community and ORSSAB. In addition, consider using plus-ups or surplus funds to upgrade equipment and technology that may have improved since the original schedule was developed.
- Provide adequate funds to maintain or upgrade infrastructure
- Complete transfer of all applicable land parcels at ETTP for productive purposes. Continue working with community partners to fully realize the economic development potential of reindustrialization after transfer.

## Recommendations on the EM SSAB Membership Appointment Process

The work of the EM SSAB is in support of Department of Energy (DOE) programmatic missions focused on environmental cleanup of post-war nuclear and chemical contamination. At each of our respective sites, that work has been substantially and adversely impacted over the course of the past few years, in part, because of the length of time it is now taking to get appointment letters approved for individual Board members to participate. It has hamstrung Board abilities, at each site, to fulfill DOE goals for development and incorporation of public policy advice concerning the nature of cleanup and many other issues. For example, often potential members apply and later withdraw their applications due to extended delays in the appointment process. Boards have had to delay providing advice or recommendations due to a lack of membership, coupled with the loss of Board or Committee chair leadership while they wait for appointment approval. Reduced Board membership has also limited the development of institutional knowledge, so necessary at sites whose cleanup missions will extend decades into the future. In some cases, experienced and informed members are handicapped by a year or longer gap between their terms because they lack the special and immediate access to information on emerging issues that active members receive. More significantly, the extended approval process, which has often resulted in depleted Board rosters, has reduced Board legitimacy, and eroded public confidence in the DOE, including attracting complaints from community organizations and negative media coverage.

## Recommendations

The EM SSAB believes that DOE should substantially revise the membership approval process to ensure that the continuity of Board and Committee activities is protected and remains intact such that there is no disruption of stakeholder involvement and input as per each Board's respective chartering agreements and operating rules.

While the larger effort to comprehensively revise the SSAB membership approval process is pursued by the Designated Federal Officer for the EM SSAB and in order to further enable stakeholder participation at their respective sites during this endeavor, the EM SSAB recommends:

1. The membership review and approval process should include all reasonable activities necessary to prevent lapsed memberships. A lapsed membership is defined as: a membership held by a member in good standing whose term has expired but has not reached the six-year limit.
2. The site manager should be empowered to temporarily extend the terms of lapsed members in good standing or to temporarily appoint other qualified members to replace lapsed members until a new membership package is approved.
3. The DOE should publish the review and appointment process and then take feedback from the public and EM SSAB members. The published information should identify which elements are required by the Federal Advisory Committee Act, the General Services Administration, and the EM SSAB charter, and which elements are internal to the DOE, as well as where those DOE policies and procedures can be found

## Recommendations on Strategic Vision Stakeholder Communication

On October 7, 2021, the Chairs and Vice-Chairs of the EM Site-Specific Advisory Board (SSAB) passed the following recommendation concerning best practices for stakeholder and community interaction at EM sites. This recommendation was subsequently approved by all eight local boards of the EM SSAB.

The EM SSAB was tasked with identifying EM SSAB expectations and guiding principles to be used as a complex-wide framework for DOE EM's interactions with stakeholders and communities. The process included each board documenting their expectations and suggestions for how DOE EM should interact with local stakeholders and communities to reach EM's 10-year strategic vision. These

results from the individual boards were presented at the EM SSAB Chairs Meeting in April 2021.

The EM SSAB then formed a subcommittee to develop a compilation of guiding principles. The EM SSAB recommends that DOE EM consider these important principles when communicating with the public.

## EM SSAB Expectations and Guiding Principles for Stakeholder Communication

### 10 Year Strategic Plan Development:

1. DOE should hold 10 year Strategic Vision public meetings every year, at each site, in order to share the next iteration of programmatic goals, including discussions of successes, roadblocks, course changes, new scopes of cleanup and recognition of potential

*(Continued on page 15)*



uncertainties. Public tutorial meetings should be held two weeks in advance of the beginning of any formal Public Comment period in order to build a common knowledge base.

2. EM Sites have the commonality of specific, near-term, three to five year, plans. These specific site plans should all trigger public involvement campaigns, outlining yearly updates on their next respective, goals. Site near-term plans should be aligned with 10 year Strategic Plan goals such that near-term plans can be used iteratively to benchmark programmatic progress.
3. Regarding the Strategic Vision, in addition to reducing jargon and allowing for a quicker means of identifying or getting to information pertinent to a specific site, the document needs a better explanation of how the priorities are established. What criteria are used with regard to public health, environmental risks, local economies, cost to complete, land transfers, etc.? Not details for each site, but an overall explanation of the process. This might help people understand why some sites have larger budgets or seem to be more active. Local SSABs are probably knowledgeable about planning for their sites, but each board should have some education on national priorities.

#### **Communication:**

1. DOE should put forth a concerted effort to define terminology so that FACA Boards and the public understand what is being considered and asked for, from them, within the decision matrix to be discussed. DOE needs to clearly communicate the boundaries of what is being considered. Additionally, DOE should articulate, in what manner, public policy advice can be successfully received by DOE-EM in order to see it incorporated into DOE's pending decisions. Lastly, DOE must convey how they will respond to public comments.
2. Utilize the strength of the SSAB Board's experiences and longevity by having them help to facilitate public meeting design, timing and locations. DOE-EM SSABs are now long-standing. They are formed from broad representation of the communities they represent and as such have the ability to help DOE regionalize presentations.
3. Evaluation of SSAB effectiveness should be based on several factors. This should include development of, but not limited to, guidance on when and what types of recommendations are needed. Although less objective, evaluative assessments from community stakeholders, DOE, DOE contractors, regulatory personnel and the SSABs themselves should be incorporated.
4. Activities at some sites are long term and have reached the stage where little change is seen during the tenure of a typical SSAB member. Hence, the need for major

decisions and recommendations is less or non-existent. Maintaining SSAB member interest is difficult. In this situation, DOE should consider ways to involve the SSABs in less consequential decisions and public outreach. DOE should also consider what types of education might provide a better background for recommendations, decisions, community outreach that will occur in the future.

5. Written communication produced by DOE and the SSABs that is intended for the general public should be reviewed by site Public Affairs to verify that the use of jargon or uncommon terminology is understandable to a non-technical audience.

#### **Public Involvement:**

1. DOE should embrace the tenet that institutional knowledge and transparency in all aspects of the cleanup program is an essential component of building informed, useful and supportive public policy advice from the SSAB Boards, Tribes and the public. By engaging the public early and often, DOE can utilize the SSAB Boards and their operating structures such that they help prepare future generations of Board members and the public for informed engagement.
2. DOE should support STEM program development for local schools and colleges with curriculum development. Efforts should include supporting development of trained people for trade-focused careers.
3. DOE should actively provide opportunities for informational engagement and coordinate with the EM SSAB meeting schedule to the extent possible.
4. DOE should hold public tutorial meetings in order to share DOE interactions with regulatory bodies and formally convened scientific panels. Building a collective, scientific basis for remediation pathway development that incorporates informed public policy recommendations should be the goal.
5. SSAB membership should be consistent in reflecting community educational levels, proximity, racial and cultural diversity, and income levels. An exact mirror of the community is not necessarily beneficial. Interest and commitment are most important. Including actual stakeholders affected by public health or environmental risks or community economic and political factors is more important than simply looking at the community demographics. Also, having people that can contribute to SSAB decisions because of experience, education, and connections in the community is important. One criterion that should be emphasized is a member's willingness and ability to communicate with the general public.

*(Continued on page 16)*

6. Introductory training for new board members appears to be inconsistent. Site tours and in-person instruction should be required. These should be supplemented by online or other virtual resources. In addition to DOE and/or contractor personnel, current SSAB members should be involved in the tours and training. Introductory training can be spread out over time, but should be separate from SSAB meetings. A more formal schedule of when new SSAB members are added should be established to allow for a better introductory training schedule and to reduce the need for continual repetition of information that has already been addressed by longer term SSAB members.
7. Because of COVID, virtual meetings have become routine. Although these meetings allow for participation of people geographically distant or

with health issues, they are not as effective regarding communication within and between SSAB, DOE, regulatory personnel, DOE contractors, and the general public. Virtual meetings allow for a lessened commitment among participants. SSAB in-person meetings should be prioritized, with hybrid meetings as needed.

#### **Risk Communication:**

1. DOE should address the Boards and the public on how risk assessments affect prioritization and decision making.
2. Training should be provided to Board members on communications surrounding high-profile or sensitive issues.

## **Recommendations on Outreach**

The EM SSAB understands that successful completion of the DOE-EM mission must include a significant community, public and stakeholder outreach. While DOE-EM has been engaging in public outreach from the beginning we believe that the effectiveness can be improved by any of several different approaches described in this document taking into consideration the complexity and uniqueness of each of the cleanup sites managed by DOE-EM.

Because of the challenges represented by the complexity and variety of sites with correspondingly different cleanup schedules, we are presenting a suite of potential activities that can be implemented by DOE EM and the SSABs at each of the sites but are applicable to all sites in some form. Individual site-specific advisory boards are in the perfect position to help develop and recommend implementation strategies because of our inherent connections within our respective communities. Advisory board involvement on DOE EM outreach would help by providing advice related to specific targeted areas based on feedback from actual communities and individuals who live near or are potentially impacted by site activities.

### **Recommendations**

We recommend that the individual site managers/designees and their advisory boards work together to discuss and determine which activities best suit their circumstances and respond to public needs. The detail, depth, and implementation plan should result from this collaborative effort. The following thematic areas of improvement were agreed upon by the Chair Public Outreach Committee and are offered as recommendations to DOE EM, as well as some specific recommendations within each thematic area.

1. Develop an optimal design and platform for virtual and hybrid meetings and make the most of virtual opportunities. Not only does this allow us to make the

most of the change that COVID-19 brought to the world but allows access by members of the public that might not be able to travel to SSAB meetings.

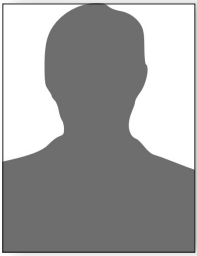
- ◇ Utilize social media to quickly disseminate important information to the public, State and local governments, and stakeholders.
2. Maintain efforts for in-person outreach.
    - ◇ Make site tours for board members a requisite, and include the public, stakeholder groups, and the media whenever possible.
    - ◇ Utilize local museums to house displays for preserving site history or virtual museums to tell the story of the site using online format that can be accessed at any time.
  3. Outreach should be a mechanism for effective two-way communication between DOE-EM and the general public. DOE-EM outreach should seek to increase (1) the general public's awareness and understanding of DOE-EM activities as well as (2) actionable feedback from the general public regarding past, current, and future DOE-EM activities.
    - ◇ Engage the public early and often. Have interactive conversations with the public that allow the public to ask questions and get answers about complex subjects.
    - ◇ Share how public input has shaped or influenced cleanup decisions.
    - ◇ Ensure open and transparent decision making.
    - ◇ Promote success and planning ahead by incorporating and educating the public on strategic vision plans that cover at least the next 10 years.
  4. Continue to support and improve informational outreach products to engage the public.

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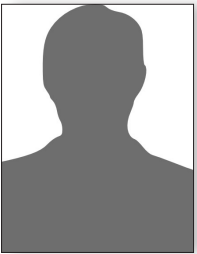
- ◇ Utilize existing digital media outlets (i.e., YouTube channels, papers, blogs, and newsletters) to broadcast timely information about current events and upcoming activities at a site.
  - ◇ Create videos, animations, and diagrams to use at public presentations or posted on websites to present engaging content the public would be interested in.
  - ◇ Create a listing of historical articles and books relevant to each site that could be accessed through each site's website. Consider providing hyperlinks for the public to view these documents. EM sites provide databases or libraries of the technical reports produced for EM cleanup actions. The aforementioned historical articles and books would not duplicate the EM libraries but rather provide information that is less scientifically complex and technical for interested but perhaps less informed members of the public.
  - ◇ Messaging regarding the cleanup of environmental impacts from nuclear development and research at the sites should be prioritized and increased relative to other, non-cleanup messaging.
5. Continue seeking ways to support and improve the impact of DOE's Site Specific Advisory Boards
- ◇ Educate/inform the public, stakeholders, local and state officials and other appropriate entities on the purpose and responsibilities of the SSAB/CAB Boards in membership, through news releases, speaker presentations, social media, newsletters and other communication methods. When new leadership has been selected or new members have joined the Board, also announce the changes using similar methods as previously mentioned.
  - ◇ When DOE-EM officials visit EM sites, plan an opportunity to visit informally with local SSAB/CAB Board members in order to develop a relationship with its membership and to show that they are valued.
6. Facilitate and support cross-site sharing of activities and public outreach resources. Outreach efforts should be informed and motivated by relevant professional expertise and related quantitative and qualitative metrics. To ensure ongoing progress, outreach efforts should be reviewed periodically by recognized experts in the field of government public outreach, and the outreach efforts should be adjusted as appropriate.

# Members & Liaisons



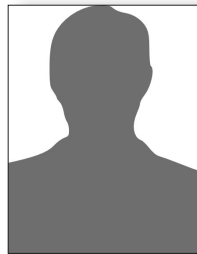
*Atilio Anzelotti*

**Atilio Anzelotti** is a senior scientist with PETNET Solutions and a resident of Oak Ridge. He would bring a unique perspective to the board as he has dual citizenship (US and Venezuela). His B.S. and M.S. degrees in chemistry were received in Venezuela from the University of Los Andes and the Venezuelan Institute for Scientific Research, respectively. He received a Ph.D. in chemistry from Virginia Commonwealth University. Mr. Anzelotti is active in the community and is a member of the American Chemical Society and the Oak Ridge Environmental Quality Board. He is interested in environmental and public health issues.



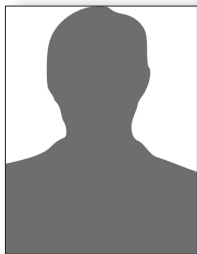
*Kris Bartolomew*

**Kris Bartolomew** is the owner of Turn Key Plumbing and Construction, a small family-owned business. He has a high school education and completed some college courses, but instead went on to receive licensures related to his trade. Those include general contractor (BC-b(sm), plumbing/mechanical (CMC-A), and subsurface sewage installer licenses. He is interested in environmental and public health issues. He lives in Lenoir City.



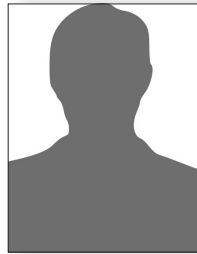
*Mary Butler*

**Mary Butler** is a former staff pharmacist with Aurora Pharmacy. She received a B.S. in pharmacy from the University of Wisconsin. She retired to Rockwood in 2020 and is eager to engage in the community here as she was previously active in several organizations in her native Wisconsin. Accordingly, Ms. Butler is interested in civic and educational issues.



*Paul Dill*

**Paul Dill** retired in 2018 as a project manager with Project Enhancement Corp. He received a B.S. in industrial engineering/technology management from Roger Williams University and an M.A. in psychology from Ashford University. Mr. Dill also earned a Master Project Manager certification from the American Academy of Project Management. He is currently an associate member of the American Psychological Association and a member of the Society for Personality and Social Psychology. Mr. Dill lives in Oliver Springs, which includes portions of Anderson, Roane, and Morgan counties. He is interested in environmental and public health issues.



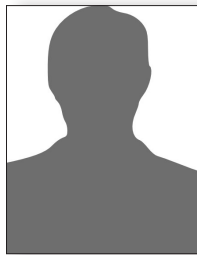
*Thomas Geissberger*

**Thomas Geissberger** is a recent college graduate who works at the Knoxville Area Rescue Mission and was previously employed as a team director for the Tennessee Clean Water Network nonprofit since 2019. He graduated with a B.S. in Geology and Environmental Studies from the University of Tennessee in 2020 and received an A.A. in General Studies from Pellissippi State Community College. He is a member of the Phi Sigma Theta National Honor Society and Phi Kappa Phi Honor Society, completed the tnAchieves Program, and was selected for the Oak Ridge Associated Universities Higher Education Research Experience Program during his time as a student. He is interested in environmental and public health issues and lives in Knoxville.



*Rosario Gonzalez*

**Rosario Gonzalez** is a returning board member who served from 2016 through 2018. She recently retired as cafeteria manager of St. Mary's Catholic Church Cafeteria in Oak Ridge. She completed her secondary education in Mexico and received her GED from Pellissippi State. She lives in Oak Ridge and is interested in environmental and minority issues.



*Chris Hampel*

**Chris Hampel** owns and operates a small business, Pressure Washing Solutions, which he formed in 2016. He previously worked at Energy Solutions, which is a contractor to DOE in Oak Ridge. He has a high school education and trade skill training related to his work experience. He is interested in minority and business issues. He lives in Kingston.

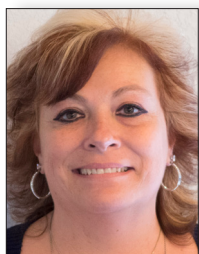


*Lorna Hollowell*

**Lorna Hollowell** has served as the assistant director of education and development in the Office of Equity and Diversity at the University of Tennessee, Knoxville since September 2019. She holds an M.S. in education from the University of Minnesota, Duluth and a B.S. in Organizational Management from Oakland City University. She is currently pursuing a Ph.D. in Higher Education Administration from the University of Tennessee and expects to graduate in 2026. She is interested in educational issues and minority issues. She lives in Knoxville.

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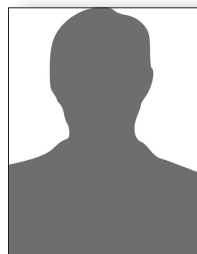




*Amy Jones*

**Amy Jones** is the national business manager of InvoPeo, a workers' compensation and payroll service, and she is also a licensed insurance agent for Madison Insurance Group and a real estate agent at Stephenson Realty & Auction. She also owned her own business, Double J Enterprises of TN, in Rocky Top, Tennessee until mid-2018.

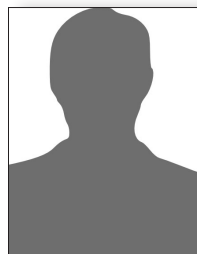
A high school graduate, Amy has also received her real estate license and insurance license. She is active in a variety of community organizations, including serving as vice chair for: the Anderson County Republican Party, the Anderson County Headstart Policy Council, and Chairman for the State of Tennessee Order of Amaranth Diabetes Charity. She is a committeewoman on the State Executive Committee for the Tennessee Republican Party, chair of the Women's Ministry Banquet at Main Street Baptist, and president of two groups in the Order of the Eastern Star. Amy is interested in environmental and economic development issues. She lives in Briceville.



*Greg Malone*

**Gregory (Greg) Malone** is retired medical products development consultant. He operated Malone & Associates independent consulting firm until 2018. He received a B.S. in engineering with a welding and manufacturing concentration from The Ohio State University. He is a member of the Oak Ridge Sportsmen's Association and a volunteer for the

Great Smoky Mountains National Park. He is interested in environmental and economic development issues. He lives in Rockwood.



*Mike Mark*

**Michael (Mike) Mark** is a former first responder and hazmat professional. He earned a high school diploma and has many certifications related to his career. He lives in Harriman and is interested in environmental and economic development issues.



*Noah Keebler*

**Noah Keebler** is a nuclear electronics technician with Ametek, which is a manufacturer of electronic instruments and electromechanical devices. Prior to that he was a radiological instrumentation specialist with Perma-fix Environmental Services. Mr. Keebler received an A.S. in Electrical Engineering from Roane State Community College. He holds a

certification in Instrumentation from Ludlum Measurements and several other work-related certifications. Noah has Occupational Safety and Health Administration training, electrical safety experience and radiation worker training and is a member of the East Tennessee Chapter of the Health Physics Society. He has an interest in environmental issues. He lives in Knoxville.



*Thomas McCormick*

**Thomas McCormick** is the city manager for the Town of Oliver Springs, which includes portions of Anderson, Roane, and Morgan counties. He received a B.S. in political science from Middle Tennessee State University. He also has numerous certifications from the State of Tennessee, including as a water and wastewater treatment plant operator. He lives in Oliver Springs and is interested

in city/county government and environmental issues.



*Harriett McCurdy*

**Ann (Harriett) McCurdy** retired in 2014 after more than 40 years as a teacher for middle- and high-school students both in the United States and abroad, with a focus on the sciences. Most recently she served as a teacher of science and biology for grades 6-10 at Yangon Academy in Yangon, Myanmar. Prior to that, she taught a variety of science courses and

environmental studies courses in China, Morocco, Kuwait, and Ecuador. Harriett received an M.A. in teaching biology and her teaching certificate from Washington University and a B.A. in biology from Earlham College. She is president of the Oak Ridge League of Women Voters and a member of Tennessee Citizens for Wilderness Planning, which is dedicated to achieving and perpetuating protection of natural lands and waters by means of public ownership, legislation, or cooperation of the private sector with a focus on the Cumberland and Appalachian regions of Tennessee. Harriett lives in Oak Ridge and is interested in educational and environmental issues.



*Shell Lohmann*

**Michelle (Shell) Lohmann** is the human resources director for U.S. Cellular. Previously, she was the program manager for the University Recruiting and Graduate Education Programs for Oak Ridge National Laboratory/University of Tennessee in Knoxville. Shell is a member of the United Way of Greater Knoxville and has an interest in labor and environmental issues. A high school

graduate, Shell lives in Lenoir City.

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**Marité Pérez**

**Marité Pérez** is a mortgage loan officer at First Community Mortgage. Previously, she worked with Latin and Haitian communities in the Dominican Republic as a Community Economic Development Advisor through the Peace Corps. She has also worked a Business Development Manager for a solar firm. Marité is a volunteer with Centro Hispano of

East Tennessee, which promotes empowerment and civic participation of the multicultural community. She has a B.A. in International Affairs/International Business from Florida State University and an M.B.A. in Global Social Sustainable Enterprise from Colorado State University. Marité lives in Knoxville.



**Georgette Samaras**

**Georgette Samaras** is director of community outreach for the local hospital system Covenant Health. She has also served as an adjunct instructor of Psychology at Pellissippi State Technical Community College since mid-2018. She is pursuing a Doctorate in Educational Leadership and Organizational Development, received an M.S. in Behavioral Psychology from

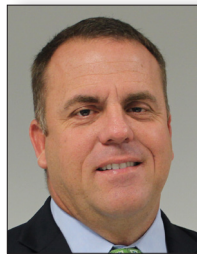
Walden University, and a B.S. in Molecular, Cellular, and Developmental Psychology from the University of Colorado. She is also a certified mind-body instructor through the Center for Mind Body Medicine. She is a volunteer with the USA Track and Field Federation and the Cancer Support Community. She is interested in environmental issue and lives in Clinton.



**Michael Sharpe**

**Michael Sharpe** is a SharePoint administrator and performs other technology- and web-based tasks for Oak Ridge Associated Universities, which manages the Oak Ridge Institute for Science and Education for DOE. It provides science, education, workforce development, and health services that include some OREM areas such as

decontamination verifications to support cleanup. He received a B.S. in business administration from Tusculum University and an A.S. in computer programming from ITT Technical Institute. He is interested in civic and environmental issues and lives in Lenoir City.



**Leon Shields**

**Leon Shields** is the supervisor for field operations for the Lenoir City Utilities Board. He is also the owner of Instructional Concepts, which provides training in industrial, public, and private application of firearms, explosives, vehicle extrication, and rescue operations. He is a firearms instructor/deputy for the Loudon County Sheriff's Office, an

instructor/third party examiner for the State of Tennessee, a firefighter director with Loudon County Fire Rescue, Chairman of the Lenoir City Planning Commission/Board of Zoning Appeals, a Commissioner with the Lenoir City Housing Authority/Rural Development, and a Commissioner with the Loudon County Regional Planning Commission. A high school graduate, Leon is a member of a number of civic organizations, including the Boys and Girls Clubs of Tennessee Valley, Lenoir City High School Technical Advisory Board, the local chamber of commerce, and others. Leon lives in Lenoir City and has an interest in civic issues.



**Bonnie Shoemaker**

**Bonnie Shoemaker** retired in 2008 after 34 years at the DOE East Tennessee Technology Park and ORNL working in a variety of capacities, including chemical laboratory analyst, environmental compliance specialist, plant shift superintendent, emergency management specialist, and engineering technician. She is the recipient of two

awards for operations and technical support in environmental compliance and emergency management. Bonnie received her B.S. in Biology from UT. She has an interest in environmental and public health issues. Bonnie lives in Clinton. She was appointed to the board in June 2017.



**Fred Swindler**

**Fredric (Fred) Swindler** retired as a vice president and consultant for quality assurance and regulatory affairs with IsoRay Medical, Inc. in Richland, Washington. He was previously employed as a vice president for quality assurance and regulatory affairs with two other medical manufacturing companies. Fred received a B.S. in Biomedical Engineering

from Rose Hulman Institute of Technology in Terre Haute, Indiana, and an M.B.A. from the University of Evansville, Indiana. He is a senior member of the American Society for Quality and has an interest in environmental and public health issues. Fred lives in Rockwood.

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*John Tapp*

**John Tapp** is a civil and environmental engineer with nearly 50 years of experience in all areas of environmental protection and restoration, including private and public utility management, civil and environmental engineering, strategic planning, budgeting, and project development. John has recently worked as a Technical Assistance Consultant for

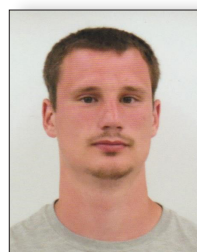
FEMA in the water and wastewater field with deployments to the US Virgin Islands and the California Camp Wildfire. Prior work included HDR-ICA Engineering, where he provided consulting in a broad range of areas, including environmental permitting and interaction with state and federal regulatory agencies, and work with the Kentucky Infrastructure Authority, where he managed the statewide planning effort for the Authority. He spent the majority of his career as a founding partner in Commonwealth Technology, an environmental and engineering consulting firm, and previously worked with the Kentucky Division of Water, the EPA, and the U.S. Public Health Service. John received his B.S. and M.S. degrees in Civil Engineering and his Ph.D. in Agricultural Engineering from the University of Kentucky. He has published more than 50 publications and papers. John has an interest in environmental and economic development issues. He is a member and past president of the Kentucky-Tennessee Water Environment Association, and a member of the Water Environment Federation, the Karns Community Club, and the Enhance Powell Committee. John lives in Powell.



*Rudy Weigel*

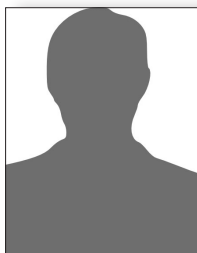
**Rudolf (Rudy) Weigel** is a retired industrial hygienist who most recently worked for Concurrent Technologies Corporation in Arlington, Virginia, conducting industrial hygiene surveys at various Army installations in support of the Army Public Health Command until 2015. From 2002 to 2011 he served as a senior industrial hygienist/safety

and health representative with Bechtel Jacobs Company in Oak Ridge. His 36-year career has included work as a bioenvironmental engineer, environmental scientist, and hazardous waste program coordinator. Rudy received a B.S. in Occupational Health and Safety from Utah State University, and an M.S. from East Tennessee State University. He was a member of the American Conference of Governmental Industrial Hygienists. He has an interest in environmental and decontamination and decommissioning issues. Rudy lives in Oak Ridge.



*Zachary Wilkins*

**Zachary Wilkins** is a senior industrial hygiene technician with Value Added Solutions, which provides professional services to support the cleanup and reindustrialization efforts at Oak Ridge. He received an A.S. in environmental health from Roane State Community College. He is interested in environmental issues and lives in Wartburg.



*Thomas Tuck*

**Thomas Tuck** is a banking executive with TNBank. He served as president of the bank since 1995 and in March of 2020 transitioned to part-time employment as part of a leadership transition/retirement. He received a B.S. in business and marketing from the University of Tennessee and is a Certified Banker through the School of

Banking of the South. He is a member of boards of directors for local organizations including the Oak Ridge Chamber of Commerce, Oak Ridge Heritage & Preservation Association, and the East Tennessee Economic Council. He is a member of the Y-12 Community Relations Council. He is interested in civic issues and economic development. He lives in Knoxville.

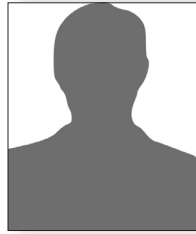
## Agency Liaisons

These individuals serve as points of contact between the board and their respective agencies. A DOE liaison must be present at all board meetings. TDEC and EPA liaisons are often on hand to contribute to discussion and answer board member questions.



*Laura Wilkerson*

**Laura Wilkerson** is the Acting Manager of the Department of Energy's Oak Ridge Office of Environmental Management (OREM). She was selected to this position in October 2021. She is responsible for safely executing the environmental cleanup of the 32,400-acre Oak Ridge Reservation.



*Samantha  
Urquhart-Foster, EPA*

**Samantha Urquhart-Foster** represents the Environmental Protection Agency. She is part of the Superfund Division in the agency's Region 4 Office, which covers the Southeast.



*Kristof Czartoryski  
TDEC*

**Kristof Czartoryski** is an environmental consultant with the Tennessee Department of Environment and Conservation. He is part of the agency's Division of Remediation in Oak Ridge.



*David Adler*

**David Adler** served as the Deputy Designated Federal Officer for ORSSAB through his retirement at the end of March 2022. He was the director of the Quality and Mission Support Division for OREM.



*Melyssa Noe*

**Melyssa Noe** took over as the board's Deputy Designated Federal Officer in April 2022. Previously, she served as the board's Alternate Deputy Designated Federal Officer. She is branch chief of program support in the Quality and Mission Support Division for OREM.



*Roger Petrie*

**Roger Petrie** serves as the board's Alternate Deputy Designated Federal Officer. He is the Federal Facility Agreement Project Manager for OREM.