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

Board passes 3 recommendations, sets FY 2020 priorities at annual planning meeting with DOE, EPA, TDEC

ORSSAB held its Annual Planning Meeting August 24, 2019 in Townsend, Tenn.

Each August, ORSSAB members gather with agency liaisons from the Department of Energy's (DOE) Oak Ridge Office of Environmental Management (OREM), EPA, and the Tennessee Department of Environment and Conservation (TDEC) to review the current year's progress and begin planning for the coming year.

The board also conducts some routine business. This year, it welcomed four new members to their first official meeting — learn more bout them on page 5. Three recommendations were approved at the meeting: EMSSAB Chairs Recommendations on increasing transparency for EM's cleanup milestones and on improving EM's science and technology program; and a local recommendation on OREM's fiscal year (FY) 2021 budget request — more on those on page 6. Board members also voted on new officers — see page 7.

However, the majority of the meeting is given to representatives of each agency to present topics it wants the board to consider at future meetings and potentially provide a recommendation. While they often agree on broad goals — groundwater protection, mercury remediation, etc. — the presentations allow each agency to share its unique viewpoint for priorities in the cleanup mission of the Oak Ridge Reservation.

DOE Topics

Ongoing efforts to assure sufficient waste disposal capacity, which will allow OREM to transition cleanup efforts from East Tennessee Technology Park (ETTP) to Oak Ridge National Laboratory (ORNL) and Y-12 national Security Complex (Y-12) without interruption.

The Molten Salt Reactor Experiment (MSRE) feasibility study where OREM has made progress in reducing the surveillance and maintenance requirements of the facility.

Processing of Uranium-233 that will soon be underway at ORNL so it can be safely shipped offsite for permanent disposal.

ETTP Main Plant groundwater remedy selections to inform the establishment of a Record of Decision (ROD) for the site. A feasibility study for the decision will be submitted in November 2019.

Reuse and historic preservation activities at ETTP, where completion of site cleanup is expected to present opportunities for land transfer and site redevelopment, including new facilities to interpret and communicate the history of the site.

Development of the FY 2022 budget request, particularly with a focus on establishing program priorities for projects that are underway. OREM also requests board participation in the annual public budget workshop.

(See Planning on page 4)

Issue 76 • October 2019

IN THIS ISSUE

Reservation Update

Contractor Develops Next Generation of Cleanup Workers

EM's cleanup contractor at the Oak Ridge Site is helping develop the next generation of workers by leading or collaborating on numerous programs to ensure future cleanup is met with a capable, safety-conscious workforce.

The company has invested more than $150,000 in local elementary, middle, and high schools to fund science, technology, engineering, and math (STEM) education projects in classrooms.

UCOR partnered with United Steelworkers to offer hazardous waste operations and emergency response training to high school students in the region, providing the students credentials that will help them find work in the hazardous waste cleanup industry.

At the collegiate level, UCOR collaborated with the University of Tennessee's nuclear engineering department to offer the first nuclear decommissioning and environmental management minor degree at a university or college in the U.S. UCOR has hired several recent graduates with that minor degree. UCOR also is collaborating with Roane State Community College on a chemical operators program.

A collaborative effort with the North America's Building Trades Unions and the Cooperative Agreement of Labor and Management led to the East Tennessee Apprenticeship Readiness Program. UCOR sponsored the program's inaugural classes, and the 48 graduates were offered employment in the Oak Ridge area, many by UCOR.

UCOR has invested more than $150,000 in local classrooms to support science, technology, engineering, and math (STEM) education.

Demolition Reduces Risk at Oak Ridge Building

EM workers have torn down the west end of Building 3017 at the Oak Ridge National Laboratory after more than a decade of challenges, evaluations, and repairs to the structure.

The building was used for office space by Isotek, the contractor responsible for processing and disposing of the site's inventory of uranium-233.

The east end of Building 3017 dates back to 1951, when it was used for the Oak Ridge School of Reactor Technology. At the time, it was the only location in the world offering a yearlong curriculum to train engineers and scientists in the field of reactor theory and technology. Nearly 1,000 students graduated from the school before it closed in 1965. The east end was used for laboratory work, while the west end was added in 1967 to provide office space. Isotek moved into the building in 2007.

A 2016 structural evaluation report showed that the structural integrity of Building 3017 was compromised, and a permanent solution was needed to ensure the area remained safe.

Working together, OREM and Isotek decided demolition of the west portion was the best path since it could not be structurally secured in a cost effective manner. They developed a demolition plan, carefully divided the two sections, and then conducted the teardown.

With this risk eliminated, Isotek can focus on preparing Building 2026 for processing operations to address the remaining inventory of uranium-233. Those operations are scheduled to begin later this year.

Crews Demolish Largest Standing Structure at ETTP

Cleanup at ETTP recently gained headway with the completion of demolition of the K-1037 Building—the largest and one of the most challenging facilities still standing there.

Crews began tearing down the building in February and safely completed the project almost four months ahead of schedule.

Built in 1945, the structure grew through the years with additions that brought its square footage to approximately 380,000 square feet. As one of the earliest structures at the site, K-1037 was originally a warehouse, but it was later used to produce barrier material used in the gaseous diffusion process until 1982.

OREM cleanup contractor UCOR spent almost two years preparing the facility for safe demolition. K-1037

posed a unique challenge because it contained classified materials. Employees safely removed those materials, and the building was declassified before the teardown began.

Workers cleared away equipment and waste, conducted asbestos abatement, and disconnected all utilities prior to demolition. They also got rid of the building's asbestos-containing panels.

The site will eventually become a grassy field available for economic development.

Since major cleanup began at ETTP in the late 1990s, OREM has taken down 12 million square feet of buildings and transferred nearly 1,300 acres from government ownership in its goal to convert the site into a privately owned and operated multi-use industrial park.

OREM is working to complete all major building demolitions at ETTP by the end of next year as part of Vision 2020. The area also boasts a 3,000-acre conservation easement, and work is underway to open the K-25 History Center this fall. The center preserves and shares the site's history during World War II's Manhattan Project.

Soil Disposal Project Finished $75 Million Under Estimates

OREM coordinated with regulators and partnered with small businesses to complete a soil disposal project for $1.2 million — nearly $75 million under its original estimated budget.

EM crews disposed 4,071 cubic yards of soil that had been in storage since 1989, resulting from the closure of oil retention ponds. The ponds were constructed decades earlier to collect oils, preventing them from seeping from below ground waste sites to nearby surface streams.

Issue 76 • October 2019

STAFF

Editor: Shelley Kimel

Writer: Sara McManamy-Johnson

Review Board: Richard Burroughs, Shell Lohmann, Melyssa Noe, Leon Shields, Ben Williams, Dennis Wilson

Equipment removes more than 4,000 cubic yards of soil for disposal from an Oak Ridge Site facility where it had been stored since 1989.

OREM awarded a contract to Cherokee National Environmental Solutions to complete the soil disposal project.

During the closure project in 1989, the soil from the oil retention ponds was labeled as containing solvents based on the contents of the below ground waste sites near the soil retrieval location. The presence of solvents would require treatment and disposal offsite, a significant cost reflected in the original budget.

Years later, reviews of the original sampling data revealed the need for new samples and analysis to determine the appropriate path to address the soil. OREM contracted with small business Alliant Corporation to conduct that work. Results of the sampling revealed that the soil, spanning a facility the size of an Olympic-sized swimming pool, did not contain solvents.

The EPA and TDEC agreed with OREM's technical basis for eliminating the previous requirements to treat the soil, and allowed OREM to safely dispose most of it onsite.

In February this year, workers finished disposing 4,050 of the 4,071 cubic yards of soil onsite. The remaining 21 cubic yards of soil did not meet the site's waste acceptance criteria for onsite disposal. Workers packaged and shipped that portion offsite for disposal.

The removal of soil paves the way for OREM to reuse the building where the soil was stored. Workers conducted sampling to confirm the facility is safe for future projects. OREM expects to use the facility for research on waste treatment and cleanup at the Y-12 National Security Complex.

Demolitions Lead to Another Chapter Closed at ETTP

EM's latest cleanup progress in Oak Ridge has brought the end of an era at ETTP.

With the recent demolition of K-131 and K-631, there are no longer any buildings that conducted or supported gaseous diffusion uranium enrichment operations at ETTP for the first time since 1943.

Eleven of ETTP's support facilities were housed in an area adjacent to Poplar Creek and known as the Poplar Creek facilities. With the completion of K-131 and K-631, crews have taken down all Poplar Creek facilities since the effort began two years ago.

Once all cleanup is complete, that area and the adjacent footprint of the former Building K-29 will undergo a regulatory approval process to enable the land to be transferred to the community for economic development.

Excavation work underway for Outfall 200 Mercury Treatment Facility

Construction on the new Outfall 200 Mercury Treatment Facility (MTF) is progressing well, according to Brian Henry, DOE federal project coordinator for Y-12.

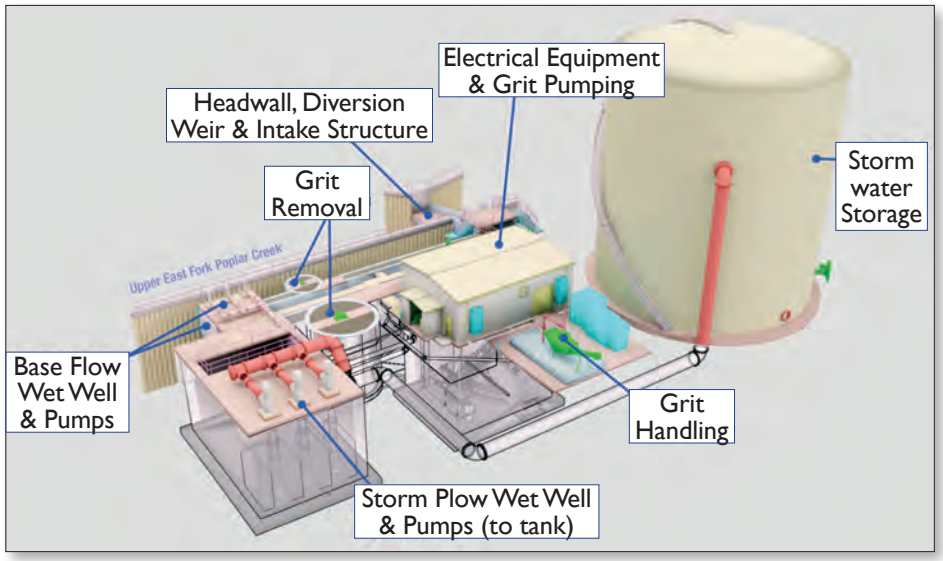
"Some people may bemoan the fact that we're having 90-plus degree days in September," said Henry during ORSSAB's September monthly meeting. "I'm actually liking that because it is really good for a construction project."

He said crews at the headworks site of the facility were in the process of excavating wet wells 30 to 40 feet below grade.

"Dry conditions are actually good for us in getting that work done," said Henry.

The goal, he said, is to complete that excavation by November so crews can install concrete before winter weather arrives.

After completion, the Outfall 200 MTF will be comprised of two components — a headworks facility and a treatment plant connected by a pipeline. The headworks facility will capture creek flow on the west end of Y-12, store excess stormwater collected during large rainfalls, remove the grit, and pump water through the pipeline to the treatment plant on the east side of Y-12. The treated water will then flow into the East Fork Poplar Creek.



A rendering of above- and below-ground schematics for the Mercury Treatment Facility.

Henry said DOE has committed to completion by the end of September 2025, but recent funding plus-ups from Congress make earlier completion likely.

"I would say the likely finish date is mid-2024," said Henry. "If we keep getting good weather and we get good performance out of our contractor, we could be up sooner."

Planning

(Continued from page 1)

EPA Topics

EPA also felt that waste disposal and particularly the **proposed Environmental Management Disposal Facility** (EMDF) deserved more consideration by the board. EPA's presentation, delivered by board liaison Connie Jones, urged continued engagement by board members and the public as the three agencies continue resolving issues related to EMDF, such as discharge limits for wastewater and other design and construction particulars. Second, she detailed the EPA's interest for the board's view in several groundwater projects on the Oak Ridge Reservation: Ongoing **groundwater sampling and cleanup of the K-31/K-33 Area** at ETTP, a planned feasibility study report on **technologies that could be used to remediate groundwater** contamination at ETTP; and an upcoming project to install several **new wells in Bear Creek Valley** adjacent to the Clinch River.

TDEC Topics

Kristof Czartoryski presented five topics on behalf of TDEC:

Like the other agencies, TDEC placed importance on current efforts to reach **consensus on the proposed EMDF**. In related issue, TDEC suggested the board look at planned **remediation of existing contaminant sources within Bear Creek Valley**, which is where the current preferred disposal facility would be built. At Y-12, the agency focused on **mercury remediation** and asked the board to consider ongoing **plans for safely demolishing facilities in the West End Mercury Area** and disposing of the resulting waste.

Czartoryski noted the Mercury Treatment Facility would be needed prior to demolition of buildings Beta 4, Alpha 5, and Alpha 4. TDEC's presentation continued with discussion of **additional assessment of groundwater contamination and remedy selection**. It was suggested that ORSSAB could make this issue part of its regular input into the OREM budget request. Lastly, TDEC requested that ORSSAB provide input on the **processing and disposition of Transuranic (TRU) waste**, which is currently safely contained in Melton Valley storage tanks.

Download the FY 2020 Work Plan: www.energy.gov/orem/downloads/orssab-bylaws-and-work-plan

New member tour provides insights into OREM cleanup mission

DOE has appointed five new members to ORSSAB. In July, David Adler, OREM's director of quality and mission support, led an orientation and training day for them that included a tour of OREM's cleanup projects and other efforts across the Oak Ridge Reservation.

"ORSSAB is a key component of OREM's commitment to community engagement and transparency," said Adler. "The board is a unique resource for the cleanup program to gather insight and recommendations from the public."

Joining ORSSAB are Andrea Browning, Amy Jones, Noah Keebler, Georgette Samaras, and Robert Whitaker, as well as a new student representative, Avigail Duke from Oak Ridge High School. Harriet McCurdy, who was appointed this spring, also joined.

Browning is from Loudon County and works in human resources with ORNL Federal Credit Union; Jones is in sales and accounting with InvoPeo and lives in Anderson County; Keebler is a nuclear electronics technician at Ametek from Knox County; Samaras, also of Anderson County, is director of outreach for Covenant Health and adjunct instructor at Pellissippi State Technical Community College; and Whitaker comes from Anderson and is a subsidy specialist for the Tennessee Department of Children's Services.

As all members are volunteers from the region from a variety of backgrounds, OREM makes an effort several times a year to conduct tours of its ongoing projects to provide first-hand experience of cleanup challenges.

The group visited the three main areas of the ORR: Y-12 National Security Complex (Y-12), Oak Ridge National Laboratory (ORNL), and East Tennessee Technology Park (ETTP).

At Y-12 members experienced the strict safety and security standards required to enter these vital federal facilities. Adler was able to show them

New ORSSAB members Georgette Samaras, Amy Jones, Noah Keebler, Harriett McCurdy, Andrea Browning, and Robert Whitaker visited the historic Graphite Reactor at Oak Ridge National Laboratory during new member orientation in July. The reactor is being preserved and included in the Manhattan Project National Historical Park via agreement between DOE and the National Park Service.

EM's progress on decommissioning of the Biology Complex and construction of the Mercury Treatment Facility, as well as discuss the various ways EM safely categorizes, treats, and disposes of most cleanup wastes in onsite facilities like the EM Waste Management Facility, while hazardous material is shipped elsewhere for isolation and disposal.

At ORNL members learned how some of that hazardous material is being securely stored in Building 3019 and will be processed for shipment off-site once EM finishes renovations to Building 2026 on campus. They were able to tour the historic Graphite Reactor, formerly known as X-10, which has been decommissioned and preserved through DOE agreements with the U.S. National Park Service and will be included in the Manhattan Project National Historical Park. The tour also passed the beginnings of construction on the lab's recently announced Translational Research Capability Facility, which was made possible after OREM removed two

(See Tour on page 7)

Retiring members leave legacy of leadership

Members of ORSSAB serve two-year terms and may serve up to three terms, for a total of six years on the board. The board's two student representatives serve one-year terms. As the board welcomes new members for FY 2020, it also says farewell to others who have helped shape its work. Four members and two student representatives were recognized at the June meeting.

David Branch completed one term and also served another partial term.

Martha Deaderick completed two terms. During her time on the board, she served as the lead on activities relating to historic preservation.

Eddie Holden served two terms. As a retired OREM professional, he brought special insight into the cleanup program.

Belinda Price served three terms. She was active in board outreach and presented several papers about citizen involvement at national conferences. She also served as chair and vice chair during her tenure.

Recent Recommendations

Following are recommendations that ORSSAB approved at its August Annual Planning meeting and voted to send to OREM for consideration. The full text of the recommendations are available on the ORSSAB website, www.energy.gov/orssab. Hardcopies are available from the DOE Information Center in Oak Ridge.

Board approves two EM SSAB Chairs recommendations

ORSSAB at its annual meeting in August formally voted to approve and join the EM SSAB Chairs Recommendations -- one on EM's Review of Cleanup Milestones and a second on Improving EM's Science and Technology Program. Both were summarized in the July Advocate and are now posted in full on the board's website:

Recommendation 243: EM's Review of Cleanup Milestones supports a report by the U.S. Government Accountability Office (GAO) published earlier this year, "DOE Should Take Actions to Improve Oversight of Cleanup Milestones" (GAO-19-207). The Chairs also suggested two specific actions for DOE to consider.

Recommendation 244: Improving EM's Science and Technology Program supports the National Academies of Sciences' (NAS) report, "Independent Assessment of Science and Technology for the Department of Energy's Defense Environmental Cleanup Program" (2019).

The EM SSAB Chairs agree to the need for a formal, open, transparent, quantifiable and integrated S&T program that is accessible by everyone – scientists, regulators and the public as well as the need for an aggressive, cohesive S&T program that can verify the success of selected remediation pathways.They also provided four items for further consideration by DOE.

Recommendation 245: On FY 2021 OREM Budget Priorities

Each year the OREM develops its budget request for the fiscal year two years beyond the current fiscal year, which is then included to include in the EM Program budget request to the president.

On June 12, 2019, OREM presented on its FY 2021 budget formulation process to ORSSAB. The meeting was attended by several EM portfolio project directors who gave specifics on their projects. This presentation provided content and discussions that ORSSAB used to draft its recommendations.

ORSSAB focused on general near-term and long-term cleanup priorities identified by OREM: Complete ETTP cleanup; Complete all demolition and remedial action consistent with CERCLA agreements; Implement reindustrialization and historic preservation activities at ETTP; 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; Begin construction of the Sludge Processing Facility; Address Y-12 mercury contamination; Ensure proper planning for future mercury cleanup; and Reduce mercury in surface water exiting Y-12.

Project-specific objectives provided additional details for discussions that took place at the June 26, 2019, EM & Stewardship Committee meeting. The board referred to the OREM 10-year Program Plan FY 2014-2024, the DOE Plan for Deactivation and Decommissioning of Nonoperational Defense Nuclear Facilities, and the board's previous Recommendations for additional guidance on budget recommendations.

Recommendations

ORSSAB supports OREM's Program Plan and recommends fully funding the activities that are currently supported by that Plan for FY2021. In addition, ORSSAB has identified three priorities for Oak Ridge Reservation cleanup.

The board recommends that the FY 2021 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 these projects:

1. Continued testing and implementation of measures to stabilize and control mercury-contamination in the banks and bottom of East Fork Poplar Creek to prevent the spread of contamination and minimize recontamination.

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

3. Provide continued support for activities leading to the selection and implementation of final groundwater and soil remedies at ETTP.

ORSSAB members elect new board leadership for Fiscal Year 2020

ORSSAB members recently elected a new slate of officers for the 2019-2020 year, effective October 1.

Michelle Lohmann will succeed Dennis Wilson as chair of the board, Leon Shields will replace Lohmann as vice chair, and Bonnie Shoemaker will succeed Richard Burroughs as secretary. Each officer will serve a one-year term and may serve two consecutive terms in the same office.

The three officers all joined the board in 2017. Lohmann spent the last year as vice chair. Shields previously led the board's EM & Stewardship Committee, which is responsible for development of recommendations to DOE. A new committee chair will be elected at the next meeting on September 25. Shoemaker recently took responsibility for the board's historic preservation efforts including keeping abreast of developments with the K-25 History Center and the Manhattan Project National Historical Park.

Both Burroughs and Wilson will remain active on the board and provide stability during the leadership transition as they finish their third terms with ORSSAB. Wilson served two terms as chair and one term as vice chair. Burroughs served two terms as secretary.

Following its annual election of officers at the annual meeting, board members gathered for the FY 2020 board photo.

Tour

(Continued from page 5)

Manhattan Project-era buildings from the site.

While few buildings are now in evidence, driving the perimeter of the ETTP site gave tour participants some idea of the scope of work required to bring down the majority of former gaseous diffusion process facilities that were located there during World War II. Workers on one street were pulling up parts of the massive slab of the K-25 building – the centerpiece of the site – while only a few yards away, others continued renovation of the site's firehouse, part of which will house a history museum dedicated to the massive effort East Tennessee contributed to the Manhattan Project. It should open later this year. The entire K-25 area will eventually be the main attraction of the Manhattan Project National Historical Park in Oak Ridge.

This year's tour also included visitors from DOE-EM Headquarters in Washington, D.C. Alexandra Gilliland, a program analyst and public participation specialist, brought four university students who are currently serving in the D.C. office as interns to broaden their understanding of EM field operations: Alexa Dombrowski, a rising senior at the University of Florida studying economics and environmental science; Jaclyn Zidar, a rising senior at the University of Maryland studying environmental engineering; Corey Flynn, who is pursuing a degree in environmental management at University of Maryland-University College; and Jasmin Melara, a Ph.D. student at the University of Virginia studying civil and environmental engineering.

Join Us for a Discussion on Progress toward Final Remedies for Groundwater at ETTP

6 p.m. Wednesday, October 9
DOE Information Center
1 Science.gov Way
Oak Ridge, TN 37831

As demolition and final disposal of buildings and equipment at ETTP comes to a close, OREM is turning to cleanup needs for groundwater underlying the site.

Learn about OREM's feasibility study for the Main Plant area and sampling taking place for the K-31/K-33 area to determine final actions needed.

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

Advocate
Oak Ridge Site Specific Advisory Board
October 2019

ORSSAB Wants You! Annual Member Recruitment Drive Underway

Each year, ORSSAB seeks candidates to join the board and contribute to shaping the Department of Energy's environmental cleanup, monitoring, and stewardship activities in Oak Ridge.

Apply online. Tell us a bit about yourself and why you would be a good candidate. You must be a legal resident or U.S. Citizen and not a Federal employee. Contractors are eligible.

No technical expertise is necessary. Members are chosen to reflect the diversity of gender, race, occupations and interests of people living near reservation. Training is provided both onsite and through sponsored opportunities to attend related events.

Help ensure a safe, healthy future for your community. Some of the board's latest activities include recommendations on OREM budget priorities and waste cleanup technology. Members recently toured ORNL and Y-12 for a first-hand look the cleanup mission. The board encourages historic preservation efforts by DOE and suggested topics and displays for the K-25 History Center.

Your voice matters. DOE seeks interested residents of the multi-county area surrounding the Oak Ridge Reservation. As an active member, you will volunteer just 4 hours per month, on average. We are especially interested this year in representation of Scarboro.

Apply now. Potential members can help recruit: Share this opportunity with a friend, family member, or colleague!

APPLY TODAY

Learn more about ORSSAB membership and download an application on the website or contact our office:

www.energy.gov/orssab
orssab@orem.doe.gov
865-241-4584

Like us on Facebook | YouTube™

ABBREVIATIONS

DOE – Department of Energy
EM – Environmental Management
EMDF – Environmental Management Disposal Facility
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 – URS | CH2M Oak Ridge
WIPP – Waste Isolation Pilot Plant
Y-12 – Y-12 National Security Complex

UPCOMING MEETINGS

Meetings are held at 6 p.m. in the DOE Information Center, 1 Science.gov Way, Oak Ridge, TN, unless noted otherwise.

Board: Wednesday, October 9
EM & Stewardship Committee: Wednesday October 23

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