

OREM Invites Community Input as it Details Plans for Proposed New On-Site Disposal Facility to Complete Cleanup at ORNL, Y-12

The U.S. Department of Energy (DOE) Oak Ridge Office of Environmental Management (OREM) is in the process of reviewing public comments about a proposed plan for its new on-site disposal facility, the Environmental Management Disposal Facility (EMDF).

The public comment period was just one part of an intensive OREM outreach effort that included information mailed to every household in Oak Ridge; site tours of the proposed EMDF site and the existing Environmental Management Waste Management Facility (EMWMF); and a series of discussions, presentations and public forums with local government officials, residents, and community organizations.

OREM released its proposed plan and design for a new 2.2-million-cubic-yard waste disposal facility in September and invited the public to share their views by mail, and at three public meetings hosted by OREM, along with a fourth at the local office of the Tennessee Department of Environment and Conservation (TDEC). OREM officials also attended public meetings of the Oak Ridge City Council and other local organizations. Originally, DOE planned to accept comments through Oct. 25, but later opted to extend the comment period through January 9 to allow time to address any questions as fully as possible.

OREM will review the public comments received to determine what changes to the proposed plan may be necessary before submitting the first draft of a Record of Decision (ROD)



David Adler, OREM acting deputy manager, presented the proposed EMDF project to an audience of more than 100 guests at OREM’s November information session at Y-12.

to TDEC and the U.S. Environmental Protection Agency (EPA) for evaluation.

Brian Henry, OREM’s Y-12 portfolio federal project director spoke at ORSSAB’s November meeting to provide an update on current waste capacity on the Oak Ridge Reservation (ORR) and discuss how the proposed facility would fit into OREM’s overall cleanup plan. He also led members on a tour of current waste disposal facilities on the reservation.

Currently, OREM operates four permitted landfills on the Oak Ridge Reservation, with each landfill using a distinct waste acceptance criteria, often referred to as WAC, to determine what type of waste is accepted for disposal.

The EMWMF, which began operations in 2002, is the only landfill designed to receive low-level

radiological and/or chemical soil and demolition debris, equipment, and other cleanup waste. It’s about 75 percent full and is expected to reach capacity in the mid-2020s.

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Reservation Update

DOE Awards \$92M Contract for Mercury Treatment Facility

APTIM-North Wind Construction JV, a joint venture between two engineering and environmental services firms, has been chosen to build the Outfall 200 Mercury Treatment Facility at Y-12 National Security Complex (Y-12). The four-year contract is valued at \$91,770,489.

The award follows the completion of a year's worth of site prep work by UCOR, Oak Ridge's lead cleanup contractor, and a subcontractor to reduce risks for the construction project. Crews routed mechanical and electrical utilities to the site, removed small abandoned structures, and installed two retaining walls. These walls will retain soils, control water seepage, and provide a deep, secure foundation for the water intake structure.

When complete, the new facility will allow for the safe demolition of Alpha-4, Alpha-5, and Beta 4 — large, deteriorated, former mercury-use facilities dating to the 1940s. The facility will limit and control potential mercury releases as crews take down those buildings and address the soils, which may disrupt the mercury-contaminated area on the west end of



Building crews constructed two secant pile retaining walls to retain soils, control water seepage, and provide a deep, secure foundation for the water intake structure.

Y-12. When operational, the facility will treat up to 3,000 gallons of water per minute and include a 2-million-gallon storage tank for stormwater.

Texas-based APTIM Corp. is a global firm offering engineering, program management, environmental services, facility maintenance, and construction services, among others. North Wind Construction is a subsidiary of the North Wind Group, which is

responsible for DOE's Transuranic Waste Processing Center through another subsidiary company.

UCOR Marks Next Step in Biology Complex Removal

One of the most iconic buildings in the Y-12 skyline is a step closer to demolition. OREM announced in November that the Tennessee Department of Environment and Conservation (TDEC) and Tennessee Historical Commission approved demolition of Buildings 9207 and 9210, which were part of the Biology Complex dating back to the Manhattan Project.

Two smaller buildings in the complex, the Radiation Source Building and another used for biological research, were demolished earlier this year.

More Poplar Creek Facilities Demolished at ETTP

OREM safely completed demolition of the K-1232 Chemical Recovery Facility at the East Tennessee Technology Park (ETTP) in early December.



Buildings 9207 and 9210 are two of the largest, most recognizable facilities at Y-12.

Crews began the teardown by bringing down a 74-foot-tall silo that was part of the facility. The stainless structure was shipped for recycling. Demolition of the main structure was completed in November. Workers continue to remove the structure's slab.

The facility was built in the early 1970s to recover chemicals resulting from site activities. The building's original recovery operations were shut down in 1982, and the facility was then used to treat wastewater from Y-12 until the early 1990s. K-1232 is the sixth Poplar Creek-area facility demolished to date

EM-1 Champions Cleanup Mission at Annual Meeting

Assistant Secretary Anne White promoted the use of cutting edge technology and advocated for a "sense of urgency" in the cleanup mission as she addressed participants at the 17th Annual Intergovernmental Meeting this fall. In addition to giving an overview of the state of the Environmental Management (EM) program, White detailed a new initiative to identify opportunities to complete cleanup work through more efficient, innovative or novel approaches over the next decade.

Site managers will identify opportunities for improved cleanup operations under three scenarios: current baseline, optimal activity on schedule, and a theoretical goal detailing

what would be needed to close each site in 10 years. This process will include several opportunities for meaningful input and public comment next year, she said.

Three Tons of Mercury Removed from Alpha-4

Workers completed demolition of the West Column Exchange (COLEX) equipment for the Alpha-4 building at Y-12 in November.

During the 18-month project, crews recovered nearly 6,500 pounds of mercury from the rusted and structurally degraded equipment. The teams also completed asbestos abatement; drained and removed more than 10,000 feet of mercury-contaminated piping; and removed tanks, condensers, heat exchangers, and a 1.6-million-pound mezzanine structure.

For workers, the project was a shift from dealing with uranium process hazards at ETTP to focusing on safely handling elemental mercury. The experience will help future workers better deal with cleanup of excess contaminated facilities at Y-12, where mercury is a key component, said Daniel Beckworth, UCOR's Y-12 cleanup enterprise program manager.



After crews finish removing the K-29 Building foundation slab in 2019, the Oak Ridge Office of EM will be set to transfer the area for industrial redevelopment.



Crews drained mercury from the West Column Exchange pipes and equipment before demolition.

K-29 Slab Removal Will Open Large Parcel to Development

This fall, workers began removing the nearly seven-acre foundation slab of the former K-29 gaseous diffusion uranium enrichment building at ETTP. Crews have already removed raised walkways and are also working to remove the retaining walls, asphalt, and concrete. The project is expected to be complete in 2019.

The asphalt comes from reuse of the site: while OREM completed the K-29 demolition in 2006, trailers were placed on the building slab to house cleanup personnel and project teams.

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Board Members Invited to Tour Current Waste Disposal Facilities

ORSSAB members joined DOE's Brian Henry for a tour of DOE's waste disposal facilities in November to learn more about what the proposed Environmental Management Disposal Facility (EMDF) would entail.

While DOE has several disposal sites for various types of waste, the Environmental Management Waste Management Facility (EMWMF) has served as the model for its planned successor facility, EMDF.

Board members saw how waste is received and tracked as it enters the facility, as well as how and where it's contained after it's received.

Facility staff also sat down with the group to discuss more about what day-to-day operations are like at the facility and what design and process protocols are in place to ensure the waste is safely contained from people and the environment.

One key takeaway from board members' discussions with facility staff was the significant water management efforts on the site.

"We're very aggressive in managing



ORSSAB members joined DOE's Brian Henry and TDEC liaison Brad Stephenson for a tour of environmental management program waste facilities in November.

our water," said Jeff Grindstaff, EMWMF Operations Manager for UCOR, as he spoke to the group.

He described how all the water that passes through the site is collected, sampled, and purified to ensure that all water leaving the site meets the appropriate standard.

"Water is sampled and must meet state release criteria before it can be released," said Grindstaff. "It's pretty unusual for any of our ponds not to meet the release limit [before treatment]."

Public Comment

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More than 90 percent of the total radioactive contamination resulting from building demolition and other cleanup operations goes to offsite disposal facilities. However, OREM needs additional onsite capacity to handle the low-level contaminated debris from future cleanup at Y-12 and ORNL.

Many of the facilities, foundations, and adjacent land are contaminated from decades of uranium enrichment during the Manhattan Project and Cold War era, as well as later scientific research, said Henry.

OREM has worked with regulators at TDEC and the EPA for years on a solution for disposal of anticipated wastes. Although the agencies studied

many options, ultimately, a new onsite waste disposal facility was deemed the best way forward — it's safer when hazardous wastes are not transported long distances on public roads, and there are significant cost savings, which leaves more funds available for cleanup.

The resulting plan outlines a preferred site — approximately 70 acres located within Central Bear Creek Valley — that is relatively flat and includes room for support systems such as a water treatment facility, wastewater management and/or storage, office space, utilities, and roads.

Technologically, the design of the facility would largely resemble EMWMF, with a multilayer base liner system to isolate the waste from the environment, including groundwater, and a multilayer cover installed over a stable, base-contouring layer to reduce infiltration and isolate the waste.

Waste acceptance criteria at EMDF would also closely match EMWMF: Soil, sediment, and demolition debris would be accepted, with demolition debris expected to account for just over two-thirds of the waste received.

Waste types that would be refused include free-flowing mercury, transuranic waste, liquid waste, and hazardous waste that does not meet land disposal restrictions.

OREM conducted extensive research into what has worked at EMWMF to inform the new facility's design and operational processes, and Henry said that research and collaboration will continue.

"It's important to me that the design team is listening to the guys at EMWMF," said Henry. "It's imperative that we get the lessons learned and the operating experience from them."

Milestones Reached in Efforts to Commemorate Oak Ridge History

New Museum Links Past, Future of Oak Ridge

On Oct. 18, government officials and local residents opened the doors to the new home for the American Museum of Science and Energy (AMSE), which explores Oak Ridge's legacy since the Secret City's start in the Manhattan Project 75 years ago.

The 18,000-square-foot facility replaces an outdated building that had hosted the museum since 1975. The facility boasts new interactive exhibits, hands-on activities, a lecture hall, and classroom facilities. The updated exhibits are spread through five main galleries. Each reflects a portion of Oak Ridge's history from its beginnings in the Manhattan Project to current security initiatives at Y-12, OREM's environmental restoration projects, and science and energy research at ORNL.

EM staff members created the Environmental Restoration gallery, which focuses on the cleanup mission and vision for Oak Ridge. The exhibits show how leaders at the site began environmental cleanup before EM was formed and helped lay the groundwork for the current regulatory framework. A space for rotating exhibits currently showcases historic photos by renowned photographer Ed Wescott and an educational display on TVA's role in powering the Manhattan Project.



The EM exhibit at AMSE educates visitors on the cleanup process and shows examples of cleanup equipment and gear.

Board Gets a Peek at K-25 Exhibits

In the past few months, designers have released concept images detailing exhibits to be created for the K-25 History Center as the project continues to develop.

As a signatory to the Memorandum of Agreement (MOA) creating the history center, ORSSAB remains involved in this process and members provided feedback on the draft images and informational displays planned for the facility.

The facility will include a theater area and several themed areas: A history section focusing on life in Happy Valley and Oak Ridge, the Manhattan Project, and development of the atomic bomb; an operations section, where visitors will learn about the day-to-day working of K-25; and finally, a section dealing with the legacy of the Manhattan Project, efforts during the Cold War, remediation, and improvements. There will also be digital archives, a study room, and a portion of the museum dedicated to a regularly changing showcase of related artifacts, images and other information.



This artist rendering shows exhibits detailing the operation of K-25 that offer insight into the day of a worker at the plant.

Crews are currently performing construction activities on the interior of the building. The museum is expected to open in Fall 2019

SSABs Meet New EM Leadership at Semi-annual Chairs Meeting

DOE's cleanup missions are receiving high levels of funding, but with this support comes an obligation to make those dollars count, according to DOE leadership. This was the message conveyed by officials at the Environmental Management Site-Specific Advisory Board (EM SSAB) Fall Chairs Meeting held Sept. 11 in Alexandria, Va.

ORSSAB's chair and vice chair joined officers from SSABs throughout the country as they gathered with DOE executives to learn more about current projects at the various sites.

The meeting was held in conjunction with the 2018 National Cleanup Workshop, a two-day event featuring presentations and panel discussions on topics related to the environmental management program's cleanup throughout the complex.

The Chairs meeting also marked the first time SSAB members met jointly with Environmental Management Advisory Board (EMAB) members. EMAB is also a DOE advisory organization, but it is filled with professional subject-matter experts rather than community representatives.

DOE's Office of Environmental Management (DOE EM) received \$7.1 billion in funding for the 2018 fiscal



During the Chairs Meeting, board officers Belinda Price and Dennis Wilson were able to meet with the new EM-1, Anne White (right)

year (FY), and Shari Davenport, acting associate principal deputy for corporate services, told attendees that the sites could expect to see similar levels of support for FY 2019.

"Our FY 19 marks look very much like [FY] 18, with a few exceptions," said Davenport, noting that Oak Ridge was one of the sites seeing increased support from both houses of Congress

She joined Paul Dabbar, DOE under secretary for science, in stressing the importance of efficiency in response to this level of funding.

"With a well-supported budget

comes a great obligation to produce results," said Dabbar. "It is not only EM's responsibility to the communities, but also to the taxpayers."

And while that includes operating as cost-effectively as possible, it also means completing projects, according to both Mark Gilbertson, associate principal deputy assistant secretary for regulatory and policy affairs, and Anne White, assistant secretary for EM.

Ken Picha, acting associate principal deputy assistant secretary of field

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Committee Officers Elected for FY 2019



Leon Shields

ORSSAB's Environmental Management & Stewardship Committee elected new officers for FY 2019 during the committee's September meeting.

Leon Shields,

of Lenoir City, will fill the chair position. Shields is the supervisor for field operations for the Lenoir City Utilities Board, where he has worked for more than 20 years. He is also

the owner of Instructional Concepts, which provides training in industrial, public, and private application firearms, explosives, vehicle extrication, and rescue operations. Shields has served with ORSSAB since 2017.



Ed Trujillo

Ed Trujillo, of Oak Ridge, will fill the Vice Chair position. Trujillo retired as a project manager from Bechtel Corporation in 2012. During his

35-year career, he worked on a wide variety of projects at DOE, the U.S. Air Force, and private sector facilities. Trujillo has served with ORSSAB since 2015.

The EM & Stewardship Committee will meet next at 6 p.m. January 23 at the DOE Information Center in Oak Ridge. Members will continue their discussion of the proposed new Environmental Management Disposal Facility and decide whether to draft a recommendation on the project for submission to the full board and, eventually, DOE.

Recent Recommendations

Following is a summary of the recommendations ORSSAB has recently approved and voted to send to DOE for consideration. The full text of the recommendation is available at www.energy.gov/orssab.

Recommendation 242: On SSAB Involvement in Enhancing Public Engagement

The EMSSAB believes that successful completion of DOE's cleanup mission must include community, public, and stakeholder education and engagement.

EMSSAB recommends that the individual site managers and advisory boards work together to determine what activities best suit their situation and respond to public needs.

The recommendation further noted that individual site-specific advisory boards are in the perfect position to help develop and recommend implementation strategies on each of the offered activities.

Board members, recognizing the variety of sites and different cleanup schedules, offered several potential activities that could fulfil each item in the recommendation.

Determine the additional needs for public information exchange and opportunities for engagement.

This could be accomplished through a Community Analysis or previously collected data from public meeting attendance, outreach efforts, etc. To determine the level of public interest, these activities may include far-reaching individual regional community analysis; polling selected public interest groups; polling advisory board members, etc.

Advisory Board members could provide specific recommendations to the site manager related to improving outreach efforts.

Prepare a handout of the site's information resources.

This should include videos, speakers, topics, websites, tour information, etc. Send it to each applicable Chamber of Commerce with a request to further provide to local civic and service organizations, as well as community institutions like churches, senior centers and libraries.

Develop a virtual reality tour.

Include clear, in-depth information that will help the public understand the

depth and breadth of cleanup decisions and activities.

Enhance educational outreach.

Develop a site-specific educational exhibit with handouts and educational tools to assist educators of all grade levels to discuss the history and legacy of the site.

Coordinate with local and regional school districts and relevant college departments to develop a relationship and inform them about educational resources and offer a site tour.

Develop displays in public libraries that provide in-depth information.

These could be 3-D or otherwise and cover one or more site subjects, such as upcoming cleanup decisions soliciting public comment, site successes/challenges, transportation routes, and identifying websites for more info, etc. These should be updated frequently.

Chairs

(Continued from page 6)

operations for EM, highlighted some of the recent successes seen throughout the complex, including the groundbreaking of Oak Ridge's Mercury Treatment Facility and the timely progress on cleanup at ETTP and Y-12.

The meeting also provided SSAB members the chance to share some of their boards' recent accomplishments.

ORSSAB Chair Dennis Wilson detailed the board's recent public outreach efforts, including the positive feedback received regarding the board's Facebook page. He also discussed efforts to make more information

available online, including new member training materials.

Wilson summarized recent ORSSAB recommendations, including one regarding the cleanup budget, one regarding waste disposal, and a third regarding groundwater issues.

In SSAB board business, members passed a recommendation about enhanced public engagement/community outreach. The recommendation suggested ways the site boards and EM offices could more effectively engage members of the communities they serve. Members agreed to bring the recommendation to their respective boards for ratification.

The next SSAB Chairs Meeting will be hosted by the Savannah River Site SSAB in South Carolina in the spring.



Join Us for an Evaluation of OREM's Ongoing Groundwater Efforts

6 p.m. Wednesday, Feb. 13
DOE Information Center
1 Science.gov Way
Oak Ridge, TN 37831

Several areas of the reservation have contaminated groundwater as a result of past activities. DOE officials will discuss current and future groundwater remediation, monitoring, and cleanup decisions. Expect an update on Y-12's Mercury Treatment Facility and the progress on final cleanup efforts at East Tennessee Technology Park, among other items.

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

ORSSAB Wants You! New Member Recruitment Closes January 16

Each year, ORSSAB seeks candidates to join the board and contribute to shaping DOE'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 not employed by the Federal Government.

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

Help shape DOE's cleanup and monitoring activities in Oak Ridge.

Some of the board's latest activities include recommendations on OREM budget priorities and a new waste disposal facility. Members recently toured ORNL and Y-12 for a first-hand look at excess contaminated facilities. The board encourages historic preservation efforts by DOE and has 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 3 hours per month, on average.

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

APPLY TODAY

To learn more about ORSSAB or how to become a member, visit us online or contact our board offices.

www.energy.gov/orssab

(865) 241-4584

orssab@orem.doe.gov



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
TDED 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, February 13
EM & Stewardship Committee: Wednesday, February 27

Oak Ridge Site Specific Advisory Board
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