



2017 Annual Report

Oak Ridge Site Specific Advisory Board
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Message from the Chair



Dennis Wilson

It is my pleasure as chair of the Oak Ridge Site Specific Advisory Board to present the board's 2017 Annual Report.

The board's mission is to provide independent advice and recommendations to the Department of Energy on its environmental cleanup program to remedy the Oak Ridge Reservation of hazardous and radioactive wastes leftover from the Manhattan Project and the Cold War era.

In 2017 the board built upon the momentum of the accomplishments of our previous year. With strong leadership from the Environmental Management and Stewardship Committee, it developed and submitted four recommendations to DOE. You'll find summaries of these key topics starting **on page 10**. They focused on protecting groundwater resources; the

Biology Complex at Y-12 National Security Complex; the proposed EM Disposal Facility; and budget priorities for cleanup operations.

Board members participated in both of the semiannual SSAB chairs meetings: in the spring in Paducah, Ky. and the fall in Hanford, Wa. Part of the work product from these meetings was the two chair's recommendations dealing with DOE communications and operation of the reopened Waste Isolation Pilot Plan, which you'll find **on page 14**. Further, a primer on "Effective Recommendations" was produced and brought back to the ORSSAB as a key learning tool. The board also took part in the DOE EM Community Workshop; became a consulting party on the historic preservation activities at East Tennessee Technology Park; and celebrated the groundbreaking of the Outfall 200 Mercury Treatment Facility—a key step in the transition to environmental clean-up at Y-12.

The board experienced the retirement of several senior board members this last year. Some of them continue to contribute through their active participation in the EM and Stewardship Committee. They help to guide newer members through the in-depth discussions and editing of recommendation drafts. The advancements made to the board's review process by previous leadership will continue to guide the timely review of the priorities of DOE's environmental management mission. The contribution of this year's new board members will be enhanced due to the process refinements as the board tackles DOE's 2018 priorities:

- Support for offsite groundwater monitoring across the Oak Ridge Reservation
- Excess facilities disposition at the Y-12 and Oak Ridge National Laboratory sites
- Ensuring future waste disposal capacity for future clean-up activities

I hope you find this report informative and helpful in your understanding of the board and its place in the decision-making process for DOE in its cleanup and stewardship responsibilities for the Oak Ridge Reservation. We always welcome input from members of the public on environmental management and stewardship activities on the Oak Ridge Reservation and offer a public comment period at each meeting. The board meets the second Wednesday of most months at 6 p.m. at the DOE Information Center, 1 Science.gov Way, Oak Ridge, Tenn.

Join us!

A handwritten signature in black ink that reads "Dennis Wilson". The signature is written in a cursive, flowing style.

Dennis Wilson

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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 among other topics.

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.

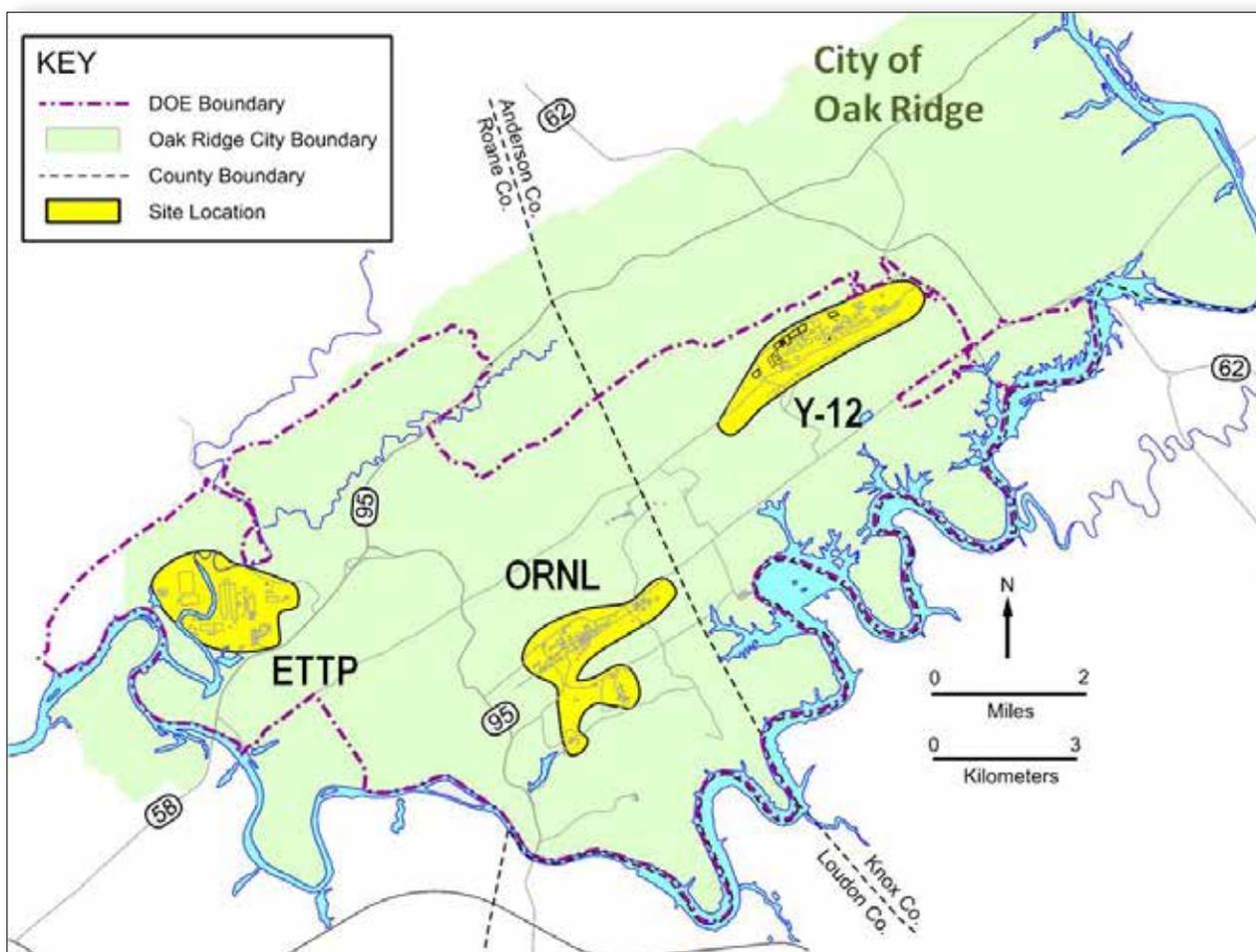
The board is committed to reflecting the concerns of the communities impacted by EM activities on the Oak Ridge

Reservation (ORR) and serving as a communications link between the public and relevant government agencies, including local governments.

ORSSAB provides a number of 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, unless noted otherwise. The first hour of board meetings is filmed and broadcast on local cable TV stations and uploaded to YouTube at www.youtube.com/user/ORSSAB.

The board maintains a web site at 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.



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 2017, the board consisted of 20 voting members from Anderson, Knox, Loudon, and Roane counties. More about them can be found in the “Members” section starting on Page 21.

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, as well as two high school student representatives.

FY 2017 Board Officers

ORSSAB officers for the year were Belinda Price, chair; Dennis Wilson, vice chair; and Dave Hemelright, secretary. Ed Trujillo was chair of the EM & Stewardship Committee.

Board Meetings

The board meets most months 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 August, an annual meeting is held to evaluate the board’s work during the year and plan activities for the next year.

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 board 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.

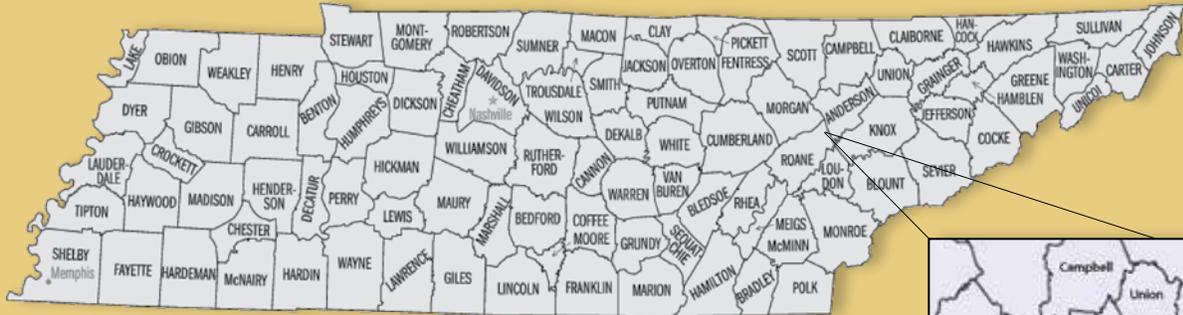
The EM & Stewardship Committee is responsible for monitoring the major cleanup activities on the ORR as well as stewardship requirements for areas of the reservation that have been remediated, but remain contaminated long-term. It originates recommendations to be considered at full board meetings. All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

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



The 2017 Oak Ridge Site Specific Advisory Board

REPRESENTING NINE COUNTIES IN EAST TENNESSEE



Board members from each county at the close of 2017:

Anderson - 7
Knox - 8

Loudon - 2
Roane - 3

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 or visiting our webpage at 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



A shipment of waste leaves Oak Ridge for permanent disposal at WIPP near Carlsbad, N.M.

Heading West

In 2017, the Waste Isolation Pilot Plant (WIPP) resumed accepting waste for the first time since 2014. This summer, Oak Ridge was able to send its first shipment of treated transuranic waste to the facility since 2012. In the interim, waste processed by the Transuranic Waste Processing Center (TWPC) had to be stored in Oak Ridge, which was not ideal. As of early December, 13 contact handled waste shipments had been transported for permanent disposal.

OREM also completed its Uranium-233 (U-233) Direct Disposition Campaign, which removed half of the legacy waste materials containing U-233 that were stored at Oak Ridge National Laboratory (ORNL).

Employees at Oak Ridge's Transuranic Waste Processing Center celebrate the site's first shipment to WIPP since 2012.





GEM Tech President Michael Evans, UCOR President Ken Rueter, U.S. Rep. Chuck Fleischmann, Deputy Energy Secretary Dan Brouillette, U.S. Sen. Lamar Alexander, Tennessee Deputy Governor Jim Henry, OREM Manager Jay Mullis, and Principal Deputy Assistant Secretary for Environmental Management Jim Owendoff break ground on the new Mercury Treatment Facility.

Preparing for the Next Big Cleanup

Breaking ground on the new Mercury Treatment Facility was a major step toward transitioning OREM's cleanup mission from East Tennessee Technology Park (ETTP) to Y-12 National Security Complex (Y-12). Having the facility in place before demolition and cleanup of Y-12 buildings begins will minimize the amounts of mercury released due to those operations.

The facility is expected to reduce mercury in water leaving Y-12 through Upper East Fork Poplar Creek by about 84 percent. When operational, the facility will be able to treat 3,000 gallons of water per minute and include a storage tank capable of collecting two million gallons of stormwater.

The facility will aid in meeting regulatory limits set by EPA and the State of Tennessee and provide critical infrastructure needed to achieve DOE's next long-term goal: Vision 2024, which entails complete cleanup of Y-12 by that date.

January

DOE Plans to Form an EM National Lab Network

Then-EM Acting Assistant Secretary Sue Cange charged Savannah River National Laboratory, EM's corporate lab, with establishing and leading a new EM National Laboratory Network. It will be chaired by the Savannah lab director and co-chaired by the director of the Pacific Northwest National Laboratory at the Hanford Site. The Oak Ridge, Los Alamos and Idaho national labs are also part of the network.

Creation of the network is the result of recommendations from the Commission to Review the Effectiveness of the National Energy Laboratories to make the best use of the labs' know-how in environmental cleanup.

February

DOE Completes Demolition of K-731 at ETTP



Building K-731 during demolition.

DOE and its cleanup contractor UCOR completed the demolition of the K-731 Building at ETTP. Built in 1944, Building K-731 powered the K-27 and K-29 process buildings. The facility contained three floors measuring 31,350 square feet each, including two above-ground floors and a basement.

The work marked a step toward DOE's Vision 2020 to complete cleanup of ETTP and continue transforming the site into a private industrial park.

March

ETTP Airport Layout Plan Moves Forward

The General Aviation Committee of the Metropolitan Knoxville Airport Authority recommended that an Airport Layout Plan for a general aviation airport in Oak Ridge be submitted to the Federal Aviation Administration. The plan for the airport, proposed to be built along Tennessee Highway 58 fronting ETTP, includes a 5,000-foot runway, a parallel taxiway, and about 40 hangars.

Pending approvals construction could begin in late 2018 or early 2019. Estimated cost for the airport is \$35 million to \$40 million with funding from several government agencies.

OREM Project Director, Team Receive Awards

Energy Secretary Rick Perry (right) presents Wendy Cain with DOE's Federal Project Director of the Year award for 2016.



Energy Secretary Rick Perry honored OREM's Wendy Cain as Federal Project Director of the Year for 2016. Cain, who oversees the cleanup portfolio at ETTP, earned the award by demonstrating exceptional leadership and project management acumen while overseeing the demolition of a former uranium enrichment facility.

Under her leadership, OREM completed the \$40 million K-31 demolition project ahead of schedule and about \$4 million under budget. Perry also presented the Oak Ridge K-31 Facility Demolition Team with the Department's Achievement Award.

April

EM Advisory Board Meets in Oak Ridge



The EM Advisory Board met in Oak Ridge this spring.

DOE's Environmental Management Advisory Board met in Oak Ridge in April. It is similar to the SSABs, but it provides independent advice and recommendations directly to the Assistant Secretary for EM.

Like the SSABs, it is chartered under the Federal Advisory Committee Act, but its membership includes individuals from governmental and non-governmental entities, private industry, and scientific and academic communities.

The two-day meeting included a tour of the ORR and a public meeting at the DOE Information Center that featured an update on EM activities nationwide provided by Sue Cange, then acting assistant secretary for EM. The board also received information about the cleanup of Y-12 and ORNL, specifically related to the DOE's Excess Contaminated Facilities initiative.

OREM Holds Public Workshop on Budget



ORSSAB members attended the annual budget workshop.

Each spring OREM holds a public workshop on the budget development process and priorities for Oak Ridge cleanup that go into the local budget request to DOE EM headquarters in Washington, D.C..

Alan Stokes, OREM associate director for planning and execution, explained the federal budget development process and ultimate appropriations for federal programs and the local cleanup budget. Jay Mullis, OREM acting manager, laid out Oak Ridge's near and long term priorities and how appropriations are made for various projects.

ORSSAB used the information provided to develop a recommendation on OREM's budget request to EM headquarters, which is summarized on page 13.

WIPP Gets First Shipment Since 2014 Closure

The WIPP facility in New Mexico received its first shipment of TRU waste since the facility was shut down in February 2014. A truck fire and unrelated radiological event caused the closure. The shipment from Idaho was an important milestone for WIPP and DOE sites like Oak Ridge that had to store TRU waste while the facility was closed.

DOE Completes Soil Remediation Project

OREM and its primary cleanup contractor UCOR completed the remediation and final closure of a former pond known as Exposure Unit 29 at ETTP.

Workers removed a layer of clean topsoil and the low level contaminated soil it was protecting. All of the soil, more than 10,000 cubic yards, was disposed at the Environmental Management Waste Management Facility (EMWMF).

Completion of the project moved OREM a step closer to completing cleanup of ETTP by 2020.

May

Site Cleanup Removes Potential Mercury Threat

Workers inspecting and cleaning the pipes and column exchange equipment on the west side of Alpha 4 at Y-12 have tapped and drained more than 2,100 feet of the 5,700 feet of piping at the site.

The project prevents mercury releases and risks stemming from rusted, structurally degraded equipment, clearing the way for Alpha 4's eventual demolition, a major cleanup goal at Y-12. Workers have retrieved 1,000 pounds of mercury.

Energy Secretary Visits Y-12, ORNL



Jay Mullis, front center, then-acting manager of OREM, talks about federal site cleanup work in Oak Ridge during a visit by Energy Secretary Rick Perry, left.

Secretary of Energy Rick Perry in May visited ORNL and Y-12 for the first time during his tenure. During his visit, Perry pledged to be a "strong advocate" for DOE.

"...What DOE is involved with, particularly on the economic development side, plays a vital role not only in the security of America, but in the economic well-being of this country," he said.

Analysis Paves Way for Biology Complex Removal



A technician surveys a pipe inside one of the buildings in the Biology Complex for contamination.

UCOR, OREM's primary cleanup contractor, finished characterizing the Biology Complex at Y-12 in May, identifying contaminants before proceeding with planned demolition and waste disposition.

"Our goal is to eventually take down this 1940s-era complex, which will eliminate safety risks and provide land for Y-12 to continue its important national security missions," said Jay Mullis, then-OREM acting manager.

Members Travel for Spring Chairs Meeting



The Spring Chairs Meeting brought together SSAB representatives from across the DOE complex.

The Paducah, Ky. SSAB hosted the Spring Chairs Meeting in May. Oak Ridge attendees included ORSSAB Chair Belinda Price, Vice Chair Dennis Wilson, and Secretary Dave Hemelright, as well as Ben Williams, public affairs specialist for OREM.

Two recommendations were approved by the group during the meeting: "Above Ground Storage at the Waste Isolation Pilot Plant (WIPP)" and "Cleanup Performance Road Map and Communication Strategy" are summarized on **Page 14**.

June

DOE Awards \$49M Contract for OREM Work

DOE awarded Pro2Serve a contract to provide continued technical support services to OREM. The five-year contract has a maximum value of \$49 million.

Pro2Serve is responsible for reviewing and evaluating the cost, schedule, and technical approach for cleanup projects.

DOE Appoints Owendoff to EM-1 Position

James Owendoff was named principal deputy assistant secretary in the Office of Environmental Management. He will also serve as the acting assistant secretary for EM until a presidential nominee is submitted and confirmed.



James Owendoff

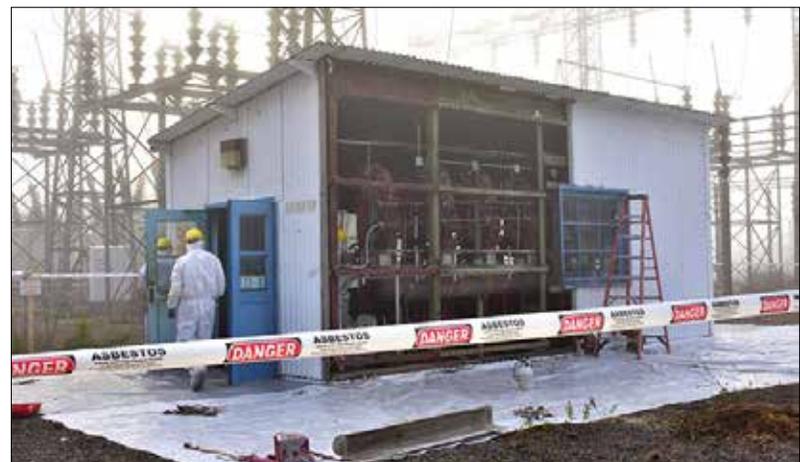
As one of his first actions, Owendoff initiated a program review to identify opportunities to improve the waste cleanup program.

Oak Ridge Firms Receive Awards from DOE

Two Oak Ridge companies involved in federal cleanup work received small business awards from DOE. Restoration Services Inc. was named the Small Business of the Year during the 16th Annual DOE Small Business Forum and Expo in Kansas City, Mo. Scientific Sales Inc. was named the 8(a)/Small Disadvantaged Business of the Year.

July

K-732 Switchyard Cleanup Complete



CTI workers clean up the K-732 switchyard

OREM and cleanup contractor CTI & Associates completed demolition of the K-732 switchyard, which was built in 1944 to support the Manhattan Project. The five-acre site will be transferred from government ownership as part of the planned ETTP industrial park.

Demolition of Poplar Creek Facilities Underway



Workers tear down the K-832 Cooling Water Pumphouse.

Crews in July demolished two of the 11 buildings and related structures that make up the Poplar Creek facilities: the K-832-H Cooling Tower and the K-832 Cooling Water Pumphouse. Both supported uranium enrichment work.

The buildings are some of the most contaminated remaining at the site, according to DOE, and are a significant milestone in the transformation of ETTP.

August

OR Sends First TRU Waste Shipment Since 2014

Oak Ridge's TWPC in August made its first shipment to WIPP in New Mexico since a string of accidents shut down the facility in 2014.

OREM expects to make multiple shipments per month to reduce its stored waste inventory.

September

Cleanup Contractor Recognized for Safety Efforts

UCOR, OREM's cleanup contractor, has received a 2017 Industry Leader Award for safety performance from the National Safety Council. It's the latest in a string of accolades for the company this year, including the VPP Innovation Award and the Safety and Health Outreach Award from the Voluntary Protection Program Participants' Association, and an Innovation Award in Environmental Health & Safety from Verdantix.

October

DOE Shares Plans for K-25 History Center

During the city of Oak Ridge's 75th anniversary events, DOE representatives showed a preview of the K-25 History Center at ETTP. The center's exhibits will include oral histories and original artifacts that commemorate the work of K-25 and provide historical context.

Transfers Include Some of Biggest Parcels to Date

Land previously home to the K-31 and K-33 sites at ETTP is now in the hands of the Community Reuse Organization of East Tennessee. The parcel totals nearly 200 acres and represent the largest single piece of land at the site.

Nearby, the transfers of Duct Island and the Powerhouse Area are underway, which will open another 200 acres.

November

Mullis Named OREM Cleanup Manager

DOE this month named Jay Mullis the manager of OREM. He had served as OREM acting manager since 2016 and deputy manager since 2015.

Mullis said his top priority is to make sure the cleanup program maintains its momentum. That means pushing forward to complete cleanup at ETTP on schedule, preparing for new work at Y-12 and ORNL, and continuing to focus on eliminating Oak Ridge's waste inventory.

Contractor Removes U-233 Waste from ORNL

After two years of effort by Isotek Systems workers, half of legacy waste materials containing U-233 have been removed from Building 3019 at ORNL.

The remaining waste will undergo processing in nearby Building 2026, which OREM recently acquired from the DOE Office of Science. The building will be modified for this purpose and operations should start in 2019.

DOE Assessment Prioritizes Five OREM Projects

Five Oak Ridge EM cleanup projects were highlighted as part of a complex-wide analysis by DOE headquarters that was designed to identify high-priority projects with an accelerated return on investment potential.

Projects include establishing a path forward for non-radiologically contaminated elemental mercury; pursuing benefits of in-cell macro encapsulation; an evaluation of long-term in-place stabilization of waste in the Molten Salt Reactor; accelerated retrieval of medical isotopes from U-233 wastes; and implementation of remote-handled waste overpacks to enable disposal of ORNL TRU waste at WIPP.

December

Agencies Agree to Move Forward on EMDF

DOE, EPA, and TDEC this month reached agreement on some disputed provisions of plans for a new waste disposal facility for OREM. The parties are working together to draft an approved proposed plan to present to the public for comment.

OREM's preferred alternative is a site in Central Bear Creek Valley and it is planning for characterization efforts there as well as building temporary access roads.

Key Issues

Over the past year, the board sent four locally generated recommendations to DOE. In addition it endorsed two recommendations developed by the chairs of the eight site specific advisory boards on supplemental environmental projects

Full text of the recommendations and responses is available on the ORSSAB website at energy.gov/orem/listings/orssab-recommendations-responses.

Recommendations on the Proposed Environmental Management Disposal Facility for Oak Ridge

Wastes from OREM cleanup activities are largely disposed in the Environmental Management Waste Management Facility (EMWMF) – a dedicated disposal facility in Bear Creek Valley operating since 2002. The site will be full by approximately 2023. DOE estimates that it will need additional space for approximately 2.5 million cubic yards of waste through the year 2046.

DOE first announced that additional CERCLA waste disposal capacity on the ORR would be necessary in December 2010 due to the expansion of OREM's scope in the years since construction of EMWMF. Need for additional capacity is primarily due to: (1) the availability of American Recovery and Reinvestment Act funds that allowed OREM to accelerate clean-up projects, and (2) expansion of the OREM program in recent years to include removal of outdated facilities at ORNL and Y-12.

ORSSAB began discussing the need for additional CERCLA waste disposal capacity on the ORR at its December 2010 EM & Stewardship Committee meeting and has continued to follow developments. It issued previous recommendations to DOE on EMDF in 2011 and in 2014.

DOE has since proposed a new disposal area, named the Environmental Management Disposal Facility (EMDF). In May 2016, DOE provided ORSSAB with an update on planning for CERCLA waste disposal capacity at its monthly meetings. The following recommendations were generated from those discussions.

Recommendations

ORSSAB supports onsite disposal of Oak Ridge EM CERCLA wastes that meet the onsite waste acceptance criteria. In addition to its prior recommendations, ORSSAB wishes to include the following:

- Continue with planning for additional on-site disposal capacity for low-level radioactive and chemically hazardous contaminated waste.
- Continue efforts to minimize the need for additional on-site capacity by using lessons learned and operational and disposal efficiencies from operation of

EMWMF. This should consider all volume reduction possibilities.

- Consider using contaminated soils authorized for disposal at the EMDF as fill instead of clean fill, which decreases disposal capacity for contaminated materials.
- Consider methods for expanding EMWMF capacity as a way to assure the smallest possible footprint for the new disposal facility.
- Ensure that the proposed disposal facility will have sufficient capacity to accept all appropriate future generated waste from DOE activities through cleanup of the ORR.
- Ensure that the proposed facility is engineered to operate safely and that migration of contaminants into adjacent groundwater, soil, and air does not exceed environmental regulatory limits.
- Locate the facility in proximity to existing waste burial grounds, if technically feasible, such that contaminated areas are consolidated on the ORR. Sites in Zone 2 and 3 at Y-12 are acceptable as options because they fit this criteria and are favorable in terms of transporting waste. The board does not support greenfield intrusion (e.g., Zone 1).
- Ensure that a trust fund for long-term stewardship is established for any future disposal facility similar to that for EMWMF.



Several onsite disposal location options for EMDF were considered.

Recommendations on Biology Complex Facilities at Y-12 National Security Complex

Following a 2015 audit by the Government Accountability Office, DOE's excess contaminated facilities came under increased scrutiny. Deteriorating structures pose risks to workers and the environment, and carry high maintenance costs. There are approximately 350 excess contaminated facilities located in Oak Ridge and half of those are classified as high risk.

Increased attention from the audit contributed to funding "plusups" in FY16. OREM received \$28 million and has used those funds to help stabilize structures for long-term stewardship until decontamination and decommissioning.

At the November 9, 2016 ORSSAB meeting, DOE federal portfolio project directors provided a presentation on excess contaminated facilities at Y-12 and ORNL. The presentation gave an overview of risk-reduction and stabilization activities made possible with the extra funding for excess contaminated facilities.

Board members participated in a tour of some of the excess facilities, including the Biology Complex at Y-12, and took part in detailed discussions with DOE personnel at the EM & Stewardship Committee meeting later that month.

Based on the information regarding the Biology Complex provided during these interactions, the following issues were reviewed:

- Upfront activities at the complex should continue to be planned and implemented in a limited scope.
- Those activities might include additional tasks, such as planning for removal of equipment and items that are

- not grossly contaminated and developing a plan for safe and effective access and egress within the complex.
- Since the timing for deactivation & decommissioning of excess facilities is out to FY 2025 and beyond, concentrating particular effort on the Biology Complex would prove to the community that these facilities are also consequential.

Recommendations

The disposition of excess facilities is important to ORSSAB, as these facilities represent a continuing risk to the environment and the health and safety of workers and the community.

ORSSAB provided the following recommendations:

- Continue to work on upfront activities at the Biology Complex with the addition of others such as the decontamination, if required, removal, and disposal of non-contaminated and minimally contaminated interior equipment.
- Develop a personnel access plan for the various sections of the complex, with the purpose of moving items within the complex to establish safe pathways, strengthen structural sections/members to avoid potentially catastrophic conditions. ORSSAB recommends having this plan ready prior to initiating actual D&D activities within the complex.
- Redirect additional funding plus-ups for the proposed upfront activities at the complex and the recommendations delineated above.



Above: An aerial view of the Biology Complex identifies several of its facilities.

Top right: External disrepair includes tiles fallen from the façade of Building 9211. **Bottom right:** A Crew prepare samples from inside complex for shipment to the laboratory for analysis.



Recommendations on Groundwater Investigations on the ORR

As a result of past research and industrial activities on the ORR, groundwater beneath several areas of the reservation has become contaminated. Groundwater investigations have been done on and adjacent to the ORR since the 1980s, but a dedicated effort began in 2013 to sample numerous offsite locations and identify near-term onsite groundwater remediation projects.

OREM, TDEC, and EPA formed a Groundwater Strategy Team, which held a series of workshops to develop a groundwater strategy (document DOE/OR/01-2628) to guide the path forward for groundwater remediation on the ORR. Those objectives include:

- Identify and address potential threats to offsite public health from exposure to groundwater contaminated by ORR sources.
- Pursue selected remedial actions as necessary to prevent unacceptable risk and groundwater degradation and to restore groundwater to beneficial use where practicable.
- Achieve final ORR cleanup, including final groundwater decisions.

The strategy team discussed all of the known contaminated groundwater plumes located on the ORR and placed them in a hazard ranking system based on the size of the plumes, contaminant concentrations, whether a plume was moving, and risk of migration off the reservation. The team identified potential projects to address 35 plumes.

ORSSAB has been interested in the status of groundwater on and around the ORR for a number of years; during that time DOE and contractor experts have provided several

presentations on groundwater conditions and possible consequences of contaminated groundwater migrating offsite. With information gathered from presentations, the strategy document, and groundwater tours ORSSAB developed the following recommendations.

Recommendations

- Diligent and continued efforts to monitor for and address potential offsite migration in areas such as Melton Valley and White Oak Creek if needed.
- Additional surveillance monitoring to establish a monitoring framework in Bethel Valley and annual reports of results.
- Continued prioritization based on risk and creation of a five-year review of the groundwater strategy to revisit the ranking of plumes and to adjust priorities and budgets as needed.
- Site specific modeling in the Melton Valley area to include installation of additional monitoring wells (if needed) and the implementation of treatability and/or pilot-scale options as funding allows.
- Fully fund and schedule preliminary planning, study, and technology demonstrations so that full-scale final cleanup efforts can begin no later than 2025. In order to achieve this, the board recommends considering refocusing available money from plus-ups, surpluses, etc., toward the groundwater effort. The board requests that DOE provide updates to the board as strategies are developed to allow for comment.
- Maintain communications with offsite groundwater users, especially in Melton Valley and Bethel Valley, as necessary to remain cognizant of planned usage that may pose an unacceptable risk.



Employees collect samples to record mercury levels in the East Fork Poplar Creek ecosystem.

Recommendations on FY19 Oak Ridge EM Program Budget Priorities

In April, the Oak Ridge EM program held its annual Community Budget Workshop to discuss the FY 2019 budget formulation as part of the larger process by headquarters to submit a final budget request to the president. Annual budget requests are normally developed two years in advance.



Board members attend the April 2017 Community Budget Workshop.

ORSSAB focused on general cleanup priorities identified at the Community Budget Workshop to create its recommendations for the FY 2019 Oak Ridge EM budget. These priorities are associated with general program “visions,” including one that is finished: Vision 2016, Vision 2020, and Vision 2024.

Project-specific objectives spelled out in the Community Budget Workshop provided additional details for discussions by the board’s EM & Stewardship Committee.

Recommendations

From its study, ORSSAB identified five priorities for ORR cleanup. It recommended full funding for these projects and suggested they be prioritized for any future excess funds.

Offsite Groundwater Monitoring

- Assessment of offsite groundwater quality and public health impacts
- Evaluation of potential offsite plume migration pathways
- Continued monitoring of offsite groundwater

Future Waste Disposal Capacity

- Plan for sufficient capacity at a proposed new onsite disposal facility
- Maintain a trust fund for long-term stewardship of future onsite disposal facilities

Excess Facilities Disposition

- Continue planning and implementing of upfront activities
- Removal/decontamination of equipment not grossly contaminated
- Developing an access plan to establish safe means for access and egress from facilities under consideration

Mercury in East Fork Poplar Creek

- Continue technology development to support the Mercury Cleanup Strategy
- Continue mitigation of mercury methylation in East Fork Poplar Creek

Residual Debris at ETPP.

- Plan and implement cleanup of remaining debris and unwanted items at ETPP for uncomplicated transfers to potential tenants

An OREM presentation slide outlines current and future cleanup priorities. Vision 2016 was accomplished when the last of the Gaseous Diffusion Process buildings was removed from ETPP. Ongoing transfers of remediated land at the site back to the community are on track for Vision 2020, and OREM is establishing plans to move its workforce to Y-12 in the coming years.

ORSSAB was one of the SSABs at the Fall Chairs Meeting in October to jointly endorse the following two items, which were initially written at the Spring Chairs Meeting in May. More information about the other boards organized under the EMSSAB umbrella can be found at energy.gov/emssab.

Recommendations on Above Ground Storage at the Waste Isolation Pilot Plant

The EMSSAB chairs said adding temporary storage capacity has the potential to make the TRU waste disposal process at WIPP more efficient. The recommendation was related to DOE's submittal of a modification to its Class 3 Hazardous Waste Disposal Permit with the state of New Mexico.

Recommendations

Board members were concerned with the lack of available information on the cost of this facility, expected benefits to be derived by more efficient operation of the WIPP facility, or the reduction in risk around the DOE complex.

As such, their recommendations were:

- DOE should seek further efficiencies in the WIPP TRU waste program in order to streamline, expand and accelerate TRU waste disposition.
- DOE should prepare for public review information on the expected benefits and costs of this proposed addition to the WIPP facility in terms of more efficient operation, overall reduction of risk around the DOE complex from an increased rate of disposal of TRU waste, and the impact of the cost of this facility on other DOE facilities.

Further, the boards agreed that allowing nearly a one-year buffer of TRU waste inventory to be safely stored above ground at WIPP for a period of up to one year, would be an appropriate time frame.

Other boards to sign the recommendation were: Idaho National Laboratory Site EM Citizens Advisory Board (CAB), Nevada SSAB, Paducah CAB, Savannah River Site CAB, and Northern New Mexico CAB.



ORSSAB members were last able to tour WIPP in 2012.

Recommendations on an EM Cleanup Performance Road Map and Communication Strategy

This recommendation came from a request by DOE for the EMSSABs to provide ideas for ways to better identify project accomplishments, risks and challenges associated with cleanup activities to the public.

Recommendations

Board members eventually decided that two visual roadmaps were needed, not just a text document or outline – one that depicts each site's schedule and key milestones and another showing DOE EM's key cleanup milestones overall.

As a complex-wide communication metric, the members recommended DOE EM identify successfully completed projects as benchmarks (e.g., Fernald and Rocky Flats cleanup sites) when developing performance metrics for similar remediation projects. These metrics might help the public to better understand the project lifecycles and the application of performance metrics used to measure successful project completion.

Members also included a number of suggestions on how DOE should develop these resources:

- Revise metrics so the public can better understand the status of cleanup projects across the complex in the near-term with the intent to quantify and build transparency into the status of specific projects as they move along the continuum of meeting agreements and legally binding dates for cleanup completion.
- Utilize existing resources and simple, visual examples within the department and other government agencies (e.g., U.S. Geological Survey, National Oceanic and Atmospheric Administration).
- Include complex-wide and individual site matrices, information, and success data.
- Communicate crucial, high-level performance indicators that clearly show if schedules are being compromised. In particular, members suggested removing "Safeguards and Securities" and hotel costs from the budget bundle and giving them their own line items to clearly identify significant costs that are not actual cleanup actions.
- Identify key project assumptions and project risks that are crucial to each individual project and the complex-wide schedule.
- Share the challenges and situational realities involved in projects to demonstrate and communicate that DOE understands and acknowledges the difficulties inherent to these complex cleanup missions.

Board Meetings

January

Dennis Mayton, DOE, updated the board on OREM's groundwater strategy for the ORR since his last appearance before the board in February 2016.

Mayton said the first large-scale groundwater remediation decisions will be made at ETTP, but a record of decision for that work is not scheduled until 2023.

He also discussed some potential future groundwater projects including the Melton Valley/Bethel Valley Exit Pathway Investigation to fill in groundwater behavior data gaps. Another possible project is the 7000 Area Trichloroethylene Plume Remediation Project at ORNL that would employ bioremediation as a cleanup method.

February



OREM has several landfills located near Y-12 to handle various types of wastes produced during cleanup.

Brian Henry returned in February to talk about landfill operations and waste disposal capacity on the ORR. He said that the ORR has a suite of landfills that support all of OREM's cleanup programs.

Henry said some of the landfills on the ORR can only accept 'clean' waste such as construction debris, while others can accept classified or low-level contaminated waste. Waste that exceeds the acceptance criteria for those landfills are shipped offsite for disposal.

March

The board did not meet in March.

April

The board did not meet in April. Instead, ORSSAB members were encouraged to attend the annual public workshop on the proposed OREM FY 2019 budget request to DOE EM Headquarters. (See page 14 for the recommendation that was developed on this topic.)

May



While WIPP was shut down, workers at the Transuranic Waste Processing Center came up with ways to store the backlog of treated waste until it could be disposed of safely.

At the May meeting two OREM waste management experts, talked about creative ways that were used to dispose of some problematic waste streams that included hazardous and toxic waste, liquid and solid low-level waste, transuranic waste, and liquid and solid mixed waste.

Brian DeMonia, OREM's safety, security, and waste management chief, said at the beginning of fiscal year 2012 there were eight waste streams that had no path for disposal. Some other waste streams that were considered too difficult or too expensive to address. Working with EPA and TDEC, DeMonia said OREM has dispositioned all but one of the original no path waste streams.

Bill McMillan, DOE Portfolio Federal Project Director, gave an update on the disposition of TRU waste from the ORR.

McMillan said 95 percent of the approximately 1,580 cubic meters of contact-handled TRU waste has been processed and 66 percent has been sent for disposal. Of the approximately 671 cubic meters of remote-handled waste, 85 percent has been processed and 26 percent has been shipped for disposal.

June

David Borak, the designated federal officer for the EM SSAB, visited Oak Ridge from Washington, D.C., and spoke with ORSSAB members about the Federal Advisory Committee Act, which establishes advisory boards like the EM SSABs and how the act governs the way the local advisory boards operate.

July

The board did not meet in July.

August



David Adler presents DOE's suggested board topics for fiscal year 2018 to attendees at the ORSSAB Annual Meeting.

Board members and liaisons traveled to Townsend, Tenn., to the Tremont Lodge and Resort for the board's annual meeting. Attendees also included five of the board's six new members for the year.

Liaisons from DOE, EPA and TDEC offered their respective agencies' suggested topics for the board to consider in its annual workplan.

OREM leadership gave a detailed overview of the local cleanup budget and the recommendation process.

Connie Jones, the board's liaison from EPA, gave an overview of ongoing groundwater discussions among the agencies and reiterated that groundwater restoration and protection are the EPA's priorities during and after cleanup of the ORR.

Kristoff Czartoryski, the board's liaison from TDEC, shared four topics his agency would like addressed: future waste disposal, processing and disposition of TRU waste, assessment of groundwater, and mercury remediation.

September

Online



In Print



OREM's outreach efforts cover a variety of methods, from direct outreach in person or on social media to working with members of area news outlets or colleagues throughout the DOE complex.

Ben Williams, DOE public affairs officer, joined ORSSAB at its September 2017 meeting to share the diversity of effort DOE puts into communicating progress and plans for cleanup on the Oak Ridge Reservation to stakeholders.

He stressed the importance of timely communications to the success of the cleanup mission's future success and noted that OREM must juggle the needs of the public, employees, local and state officials, as well as federal decision-makers at DOE headquarters and in Congress.

October



David Branch



Michelle Lohmann



Leon Shields



Bonnie Shoemaker



John Tapp



Tara Walker

As the first meeting of the new fiscal year, DDFO David Adler introduced new members: David Branch, Michelle Lohmann, Leon Shields, John Tapp, and Bonnie Shoemaker. Tara Walker was unable to attend.

For his presentation, Adler updated the board on the newest milestones in “*Vision 2020: Planning for the Future of ETTP Including Reuse, Historic Preservation and Stewardship.*”

The ultimate goal, he said, is for the empty land to be filled with manufacturing facilities that generate jobs, Manhattan Project Historic Park facilities, and conservation/recreation areas. A significant amount of soil removal is ongoing and the work that remains to be done at ETTP is to tear down a number of buildings, including the centrifuge test facilities.

However, several of the sites largest properties have now been, or are in process of being transferred back to the community. Those include land previously home to the K-31 and K-33 sites and the Duct Island parcel.

Of the 14 or so items OREM has chosen to pursue, Mullis’ presentation addressed five involving fieldwork that directly affect Oak Ridge.

1. Establish a path forward for non-radiologically contaminated elemental mercury.
2. Pursue benefits of in-cell macro encapsulation.
3. Evaluate long-term in-place stabilization for some TRU waste at the Molten Salt Reactor at ORNL.
4. Accelerate retrieval of medical isotopes from U-233 waste material.
5. Implement use of remote-handled waste overpacks to enable disposal of ORNL remote-handled TRU waste at WIPP.

November

Jay Mullis, OREM manager, reported on findings of the DOE EM headquarters’ 45-Day Review at the ORSSAB November 2017 meeting.

In a bid to accelerate cleanup goals and position sites for success, OREM Acting Assistant Secretary Jim Owendoff launched a review process in June.

December

The board did not meet in December.

Looking Ahead: 2018 ORSSAB Workplan Topics

Board recommendations are based on topics presented by DOE at the board’s monthly meetings. The board meets the second Wednesday of most months at the DOE Information Center, 1 Science.gov Way, Oak Ridge. Changes to the schedule will be noted on our website, social media and other advertisements.

In-depth discussion follows in the EM & Stewardship Committee meeting on the fourth Wednesday of most months, which also takes place at the information center.

If a recommendation is deemed appropriate, initial research will be performed by members of an issue group focused on the topic. The draft document will then be produced by the EM&Stewardship Committee before being sent to a full board vote.

February

DOE representatives will present an Overview of DOE’s Excess Contaminated Facilities in Oak Ridge.

March

DOE representatives will present Ongoing Efforts to Assure Waste Disposal Capacity for Future Cleanup Operations.

April

DOE representatives will discuss the FY2020 Budget Formulation and Prioritization of Projects/Baseline.

May

The board will not officially meet in May. Instead, members and the public are encouraged to attend the DOE Community Budget Workshop.

June

DOE representatives will present an Update on Ongoing Groundwater Protection and Remediation Efforts.

July

There will be no meeting in July. New board members will participate in training with board staff and DOE’s liaisons.

August

The board will hold its annual planning meeting at an offsite location to be announced. It will hear from agency liaisons on suggested topics and discuss its workplan topics.

September

DOE representatives will present *Vision 2020: Planning for the Future of ETTP Including Reuse, Historic Preservation and Stewardship*

Other Activities



Two tours of the ORR were organized this year for the board's six new members and two new student representatives. Attending the July tour were (back, L-R) DDFO David Adler, student Cameron Niemeyer, members Leon Shields, John Tapp, David Branch, (front L-R) Bonnie Shoemaker, and Michelle Lohmann. A new staff member, Shelley Kimel, also joined the tour.

Understanding the Mission

ORSSAB members are expected to actively educate themselves about OREM's projects at Oak Ridge facilities.

One of the first activities for all new members is a comprehensive tour of the ORR. A guide, usually one of the board's designated federal officers, explains the impact of previously completed projects, gives an overview of current work, and an outline of where future remediation activities will take place.

Likewise, current board members regularly tour areas relevant to the board's mission of providing advice to DOE in its cleanup mission. They also represent ORSSAB at related events such as the announcement of new projects or completion celebrations.

Belinda Price represented ORSSAB at the ground-breaking of the Mercury Treatment Facility at Y-12.





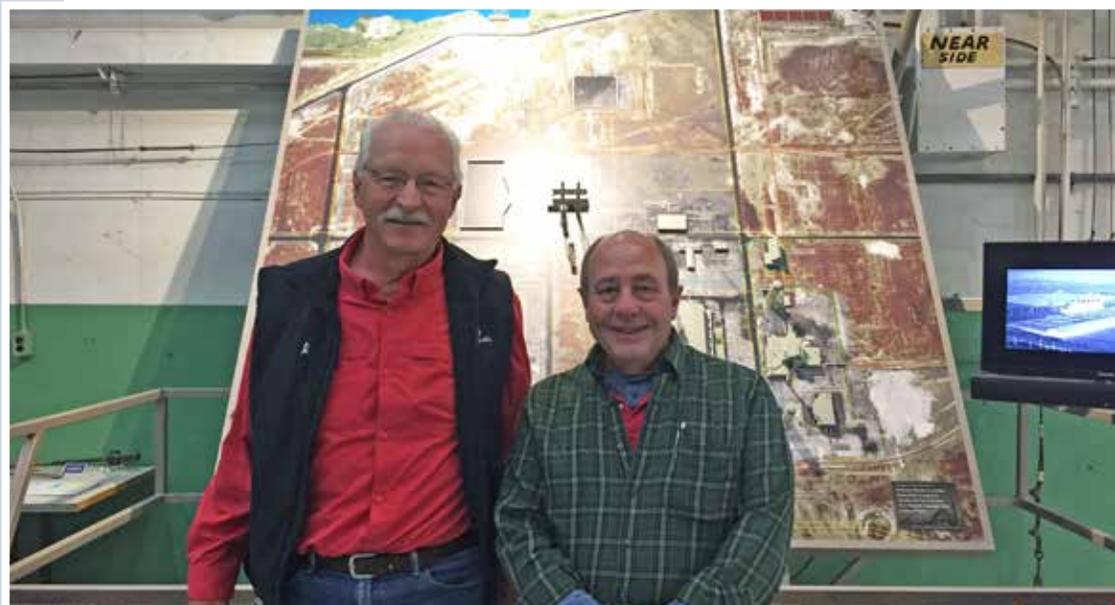
Attending the 2017 Spring Chair's Meeting in Paducah, Ky. were (clockwise from back left) David Hemelright, Ben Williams, Belinda Price, and Dennis Wilson

Working Better Together

Oak Ridge's SSAB is not alone in its mission. An umbrella organization, the EM SSAB, links Oak Ridge with boards at eight other DOE cleanup sites around the country.

Each board regularly hosts events designed to let the boards collaborate on recommendations, share best practices, hear updates from DOE headquarters officials and understand the unique challenges faced by the other sites.

ORSSAB's Dennis Wilson and Richard Burroughs toured the Hanford Site's B Reactor Museum as a precursor to the Fall Chair's Meeting held in nearby Kennewick, Wa.





Members Venita Thomas, Martha Deaderick, Rosario Gonzalez, and Kathryn Bales toured the Transuranic Waste Processing Center.

Making Progress

On tours this year board members were able to see firsthand some of the risk-reduction and stabilization work completed with a \$28-million funding plus-up in FY16 earmarked for excess contaminated facilities.

Board members observed roofing repairs on Alpha 4 at Y-12 and examined future work scope on the Biology Complex and related equipment. At ORNL, the group visited “isotope row,” a district of non-operational hot cell facilities on the central campus, and also examined Building 7500 to learn about completed and planned remedial actions.

Members explored how OREM handles waste management with a visit to disposal sites and discussed potential future waste disposal options. A visit to the Transuranic Waste Processing Center allowed members to see how hazardous materials are disposed of safely. They also visited groundwater sampling wells to understand OREM’s longterm commitment to clean water.

Members & Liaisons

The following are members and student representatives who served during all or part of FY 2017.



Leon Baker

Leon Baker is a health physicist with ARS, Inc., which supports DOE's Office of Environmental Management in its cleanup efforts. He was previously employed as a senior radiation protection technician with Spectra Tech Contracting Services, which supports multiple building decontamination and decommissioning projects at DOE facilities. Prior to that he was a logistics coordinator with DOW Chemical. He worked at Oak Ridge Associated Universities in Oak Ridge and also worked at the Savannah River Site for almost 20 years.

Leon received an MBA from Brenau University in Gainesville, Ga.; a master's in education from South College in Knoxville; a bachelor's in health care management from Southern Illinois University in Carbondale, Ill.; and an associate's in science and mechanical engineering technology from Pellissippi State Community College in Knoxville. He is presently completing his bachelor's in industrial engineering at East Tennessee State University in Johnson City.

Leon lives in Oak Ridge and is a member of the National Society of Black Engineers, Sigma Alpha Lambda, Phi Kappa Phi, NAACP Oak Ridge Chapter, the National Health Physics Society and its local chapter, Habitat for Humanity Selection Board, and the Oak Ridge Education Board. He is a Knoxville Area Rescue Ministries volunteer and a youth mentor and tutor.



Kathryn Bales

Kathryn Bales is an intern at the Center for Radiation Protection Knowledge at ORNL.

She recently received her bachelor's in nuclear engineering from the University of Tennessee and is a member of the national and local chapters of the Health Physics Society.

She plans to attend graduate school to pursue a career in medical physics. Kathryn lives in Knoxville.



Christopher Beatty

Christopher Beatty is a quality assurance engineer with Innovative Design Inc., which provides support for the U.S. International Thermonuclear Experimental Reactor project at ORNL. He has also served as a senior systems engineer on the project.

Before that he was employed with Jacobs Technology as a team lead for the Risk Management and Systems Engineering Planning Team and the System Integration Functional Analysis Team for NASA in Huntsville, Ala.. He has also worked with the U.S. Space Army and Missile Defense Command in Huntsville and the University of Tennessee Space Institute in Tullahoma, Tenn.

Christopher received a master's in physics from Clark Atlanta University and a bachelor's in physics from the Georgia Institute of Technology. He is the current president of the local chapter of the National Society of Black Engineers and a member of 100 Black Men of America, the American Society of Mechanical Engineers, the Project Management Institute, and the International Council of Systems Engineers. He is a resident of Knoxville.



David Branch

David Branch was a rural letter carrier for the U.S. Postal Service in Knoxville for 20 years until his retirement in 2013.

He was previously employed in the health care field and studied nursing at Walter State Community College in Morristown. He lives in Knoxville.



Richard Burroughs

Richard Burroughs has served as the chief of staff in the Anderson County mayor's office since 2012. Prior to that post, his professional experiences were related to his background as a registered professional geologist with extensive hydrogeological expertise in aquifer characterizations and remediation in soil and groundwater environments.

His employment history includes 25 years working primarily with Resource Conservation Recovery Act and CERCLA projects in a variety of states.

Richard received his bachelor's and master's in geology from Southern Illinois University and the University of Arkansas, respectively. He is a resident of Oak Ridge.



Martha Deaderick

Martha Deaderick is a retired educator from Kingston who worked for the city school system in Oak Ridge from until 2004, where she specialized in English, social studies, Tennessee history, and special education.

She received her bachelor's in education and a Special Education Certification from the University of Tennessee. She is a member of the Roane County Environmental Review Board, the Tennessee Citizens for Wilderness Planning, and Oak Ridge Schools Retired Teachers.

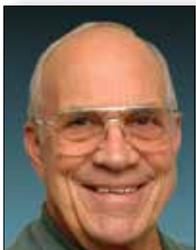


Rosario Gonzalez

Rosario Gonzalez is the cafeteria manager at St. Mary's Catholic Church in Oak Ridge, where she has been employed since 1986.

She previously worked as a secretary in Toureon, Mexico, where she received her Secretarial Academy Certification.

Rosario received her GED from Pellissippi State Community College in Knoxville. She lives in Oak Ridge.



David Hemelright

Dave Hemelright is the K-12 Facilities Specialist for Kaatz, Binkley, Jones & Morris Architects Inc., specializing in Tennessee public school planning, design and construction and maintenance.

He serves on the board of the Tennessee School Plant Management Association, American Truck Historical Society, and has served on the Loudon County Planning Commission. He received his B.A. in American history from Hobart College. Dave lives in Lenoir City.



Eddie Holden

Eddie Holden is a retired transportation logistics manager who most recently worked with OREM. Before that he worked for 31 years as a transportation logistics manager with Yellow Freight and served in various locations across the United States.

He received a bachelor's in transportation logistics from UT in Knoxville, Tenn. A native Oak Ridger, he is now a resident of Knoxville.



Michelle Lohmann

Michelle Lohmann is a human resources director for U.S. Cellular. Previously she was the program manager for the University Recruiting and Graduate Education Programs for ORNL in collaboration with the University of Tennessee, Knoxville.

Michelle supports several local not-for-profit organization chapters, including the United Way of Greater Knoxville, Mobile Meals, the American Heart Association, and Volunteer East Tennessee, as well as several national charitable foundations. She lives in Lenoir City.



Belinda Price

Belinda Price is a senior hydrogeologist with Alliant Corp. She has more than 30 years of experience in environmental investigation and environmental remediation as a geologist, hydrogeologist, and project manager.

She is a licensed Professional Geologist in several states and is a member of the Geological Society of America. She is a past Associate Editor of Groundwater, the flagship journal of the National Groundwater Association.

Belinda received her master's in hydrogeology from University College London and her bachelor's in geology from the University of Bristol in the U.K. She lives in Knoxville.



Leon Shields

Leon Shields is the supervisor for field operations for the Lenoir City, Tenn. 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 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 fire fighter 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.

He 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, Loudon County Chamber of Commerce, Demolay International, and the Fraternal Order of Police. Leon lives in Lenoir City.



Bonnie Shoemaker retired in 2008 after 34 years at ETPP and ORNL, working in a variety of capacities, including chemical laboratory analyst, environmental compliance specialist, plant shift superintendent, emergency management specialist, and engineering technician.

Bonnie Shoemaker

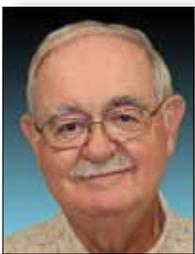
She is the recipient of two awards for operations and technical support in environmental compliance and emergency management. She received her bachelor's in biology from the University of Tennessee. Bonnie lives in Clinton.



Deni Sobek lives in Oak Ridge and is a teacher with Oak Ridge Schools.

Deni Sobek

She received her bachelor's in botany from Iowa State University and a teaching certification in science from Texas Tech University. She is a member of the National Science Teachers Association and the Tennessee Teachers Association.



Fred Swindler retired as the vice president of IsoRay Medical Inc. He continues to act as a consultant in regulatory affairs for the Washington-based company, which provides innovative approaches to cancer treatment and diagnosis through proprietary medical isotope technologies.

Fred Swindler

He was previously employed as a vice president for quality assurance and regulatory affairs with two other medical manufacturing companies.

He received an MBA from the University of Evansville, Ind. and a bachelor's in biomedical engineering from Rose Hulman Institute of Technology in Terre Haute, Ind. Fred lives in Rockwood.



John Tapp is a retired civil/environmental engineer. He began his career in the federal government as a Commissioned Officer in the U.S. Public Health Service and with the EPA. He co-founded and helped grow a Kentucky environmental and engineering consulting firm. After his first retirement from consulting, he

John Tapp

managed a municipal water, wastewater and stormwater utility and managed statewide water and wastewater planning for the Kentucky Infrastructure Authority.

He has served on the board of several civic and professional organizations including as president of the Kentucky-Tennessee Water Environment Association and a member of the University of Kentucky Engineering Alumni Association and the Kentucky Society of Professional Engineers.

He has doctoral, master's and bachelor's degrees in engineering from the University of Kentucky with specialization in soil and water resources. He has over 50 publications and papers presented. John lives in Powell.



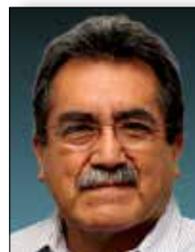
Venita Thomas

Venita Thomas is an occupational safety and health specialist with Alliant Corp., which provides services for the Safety Services Division of ORNL. She is certified as a Registered Environmental Manager. Venita was previously an environmental compliance consultant for Navarro Research and Engineering at the DOE Savannah River Site in Aiken,

S.C. Her career includes work as an environmental and safety specialist with South Carolina Electric and Gas and as a senior environmental engineer and radiological control/health physics inspector with Westinghouse Savannah River

She received a master's in occupational safety and health/environmental management from Columbia Southern University in Orange Beach, Ala. and a bachelor's in chemistry from Columbia College in Columbia, S.C.

She is a member of the Tennessee Valley Section - American Industrial Hygiene Association, the Oak Ridge Chapter of Delta Sigma Theta Sorority and the Knoxville Chapter of Jack & Jill of America. She is a graduate of Leadership North Augusta. Venita lives in Knoxville.



Ed Trujillo

Ed Trujillo retired as a project manager from Bechtel Corp. in 2012. He most recently managed the engineering and construction of a maintenance facility for heavy duty mining equipment in Chile in 2011-2012. From 2008 until 2011, he managed three environmental projects for Bechtel at ETPP.

During his 35-year career, he has worked on a wide variety of projects for DOE, the U.S. Air Force, and private sector facilities. He received a bachelor's in engineering from the University of Wisconsin. Ed lives in Oak Ridge.



Tara Walker

Tara Walker graduated with an associate's degree in May 2016 from Pellissippi State Community College. She is currently pursuing a bachelor's in chemical engineering from Tennessee Technological University. She is an assistant teacher at Starting Points Day Care in Knoxville and has also served as a supplemental instructor at Pellissippi State and an intern at ORNL.

Her volunteer efforts include time as a Tennessee Promise Mentor to incoming freshmen at Pellissippi State, a Tennessee Achieves ambassador, a soccer coach, and a volunteer peer tutor.

She finished first in the Tennessee Mathematical Association of Two-Year Colleges competition at Pellissippi State, and received the Tennessee Space Grant Consortium for women in engineering, funded by NASA. Tara lives in Knoxville.

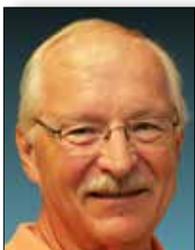


Rudy Weigel

Rudy Weigel is a retired industrial hygienist who most recently worked for Concurrent Technologies Corp. in Johnstown, Penn. conducting industrial hygiene surveys at various U.S. Army installations in support of the Army Public Health Command. From 2002 to 2011 he served as a senior industrial hygienist/safety and health representative providing safety and

health oversight during hazardous waste site remediation and D&D activities at ORNL and ETTP with Bechtel Jacobs. He also provided industrial hygiene oversight of the Waste Management Division at Y-12 for LMES. His 36-year career has included work as a bioenvironmental engineer with the U.S. Air Force, environmental scientist, and hazardous waste program coordinator.

He received a master's in environmental health from East Tennessee State University and a bachelor's in occupational health and safety from Utah State University. Rudy lives in Oak Ridge.



Dennis Wilson

Dennis Wilson is a retired technology manager. He served as director of technology and intellectual property at Johnson Diversey Products (now Sealed Air) until 2009. While much of his 39-year career was focused on technology and intellectual property management, his early career included work as a resin and polymer chemist, for which he was awarded seven global patents.

He received a doctorate and master's in material science from the University of Connecticut, a bachelor's in chemistry from the University of Wisconsin - Parkside, and has certifications in a wide range of technology and management courses. Dennis lives in Rockwood.



Phil Yager

Phil Yager is the Anderson County commissioner for District 8 in Oak Ridge. He is a retired investment services manager who worked as a vice president for Goelzer Investment Management in Indianapolis, Ind.

He is an active volunteer and community leader who serves on the Oak Ridge Industrial Development Board as well the Oak Ridge Board of Building and Housing Code Appeals. Phil is also treasurer of the Emory Valley Center and volunteers his time with many civic organizations. He lives in Oak Ridge.

Agency Liaisons



Jay Mullis
OREM manager



Dave Adler
OREM division director



Melyssa Noe
OREM branch chief



Connie Jones
EPA



Kristof Czartoryski
TDEC

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