

# Creative Thinking, Cooperation, and Negotiation Have Helped Rid Oak Ridge of Challenging Waste

The Department of Energy's (DOE) Oak Ridge Office of Environmental Management is responsible for cleanup of the Oak Ridge Reservation, which requires managing a diverse range of waste streams with multiple disposition pathways. These waste streams include hazardous and toxic waste, liquid and solid low-level waste, transuranic waste, and liquid and solid mixed waste. This is a challenging job that has been underway since 1989. But some waste streams have been more challenging than others.

At the May meeting of the Oak Ridge Site Specific Advisory Board (ORSSAB) two DOE waste management experts talked about how some of these

challenges have been resolved. Brian DeMonia, Safety, Security, and Waste Management Chief for the Oak Ridge

Office of

Conservation (TDEC), and UCOR, OREM's cleanup contractor.

One of the no path waste streams was legacy mercury that had been treated previously and was stored in 34 drums, but DeMonia said the drums failed treatment standards for PCBs and heavy metals. UCOR solicited bids to re-treat the material. Only one bid was submitted for \$4.7 million, and the retreatment method would have resulted in a 300 percent increase in volume.

OREM petitioned EPA for a variance from the hazardous waste treatment standards. It proposed to macro encapsulate six of the drums that failed the treatment standards for PCBs and heavy metals and to direct dispose the

Innovative solutions for legacy waste and newlygenerated waste while partnering with EPA and TDEC have resulted in identifying cost effective paths for waste disposition.

Environmental Management (OREM), said that at the beginning of fiscal year 2012 there were eight waste streams that had no path for disposal. Additionally, there were other waste streams that were considered too difficult or too expensive to address. Since that time OREM has dispositioned all but one of the original no path waste streams.

DeMonia talked about some of the waste streams that required creative problem solving and cooperation among DOE, the Environmental Protection Agency (EPA), the Tennessee Department of Environment and remaining 28 that failed for PCBs only. All were to be disposed at the Nevada National Security Site (NNSS).

EPA agreed with OREM's proposal and the waste was disposed for only \$160,000.

DeMonia noted another successful project to dispose of 4,000 cubic yards of contaminated soil considered too difficult/too expensive to address. The soil did not meet the waste acceptance criteria for the onsite Environmental Management Waste Management Facility (EMWMF). The only option, he said, was to send the soil for

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treatment prior to disposal at NNSS.

"We decided to re-sample the soil to see if we could declare a 'no longer contains' designation, which would allow us to dispose at EMWMF," he said. "We had to determine that it was no longer a hazardous waste and it no longer contained solvents that prevented disposal in EMWMF." OREM did

> the sampling and submitted the data to EPA and TDEC, which agreed that the material could be disposed on site. "The original estimate to treat and send out it west was \$121 million. The new estimate is \$3 million," said DeMonia.

The last no path waste stream that is yet to be dispositioned is 60 containers

of dioxin/furan. This waste was treated previously and yielded 51 containers of aqueous waste and nine of solid waste, but until recently there were no facilities permitted to treat them. "Our strategy was to research the original documentation to determine if the codes truly applied to this waste," said DeMonia. "On our first pass we were able to eliminate 34 containers of aqueous waste, which were sent for incineration." DeMonia said DOE HQ sponsored a treatability study for

(Continued on page 2)

# Advacate

# OREM Works No Path and TRU Waste Backlogs

the remaining 17 drums containing aqueous waste that has been successful to date. However, even though the treatment has been successful, the hazardous waste regulations required additional treatment prior to disposal. "We found a local contractor, DSSI, that has indicated that they can treat the 17 containers via incineration that will allow for final disposition of the waste. That will eliminate our last no path legacy waste," DeMonia said. The nine containers of solid waste will be sent west for treatment and incineration.

OREM generates much scrap metal through building demolition. Because the scrap is generated under the Comprehensive Response, Compensation, and Liability Act (CERCLA) recyclers must have EPA authorization to receive non-contaminated scrap. Most recyclers do not have that authorization. "We wanted to remove recyclable scrap from under CERCLA so it could be sent to recyclers that do not have the CERCLA offsite authorization," said DeMonia. "We negotiated an agreement with TDEC and EPA and so far we have recycled more 5,200 cubic yards of scrap."

DeMonia said ÔREM with has dispositioned all but two legacy mixed waste streams, which now have paths to disposal. He said all legacy mixed waste streams should be addressed by this time next year.

"These solutions were achieved through partnerships with TDEC, EPA, and UCOR," said DeMonia. "Our current policy of shipping waste as we generate it will prevent accumulation of legacy waste in the future."

Bill McMillan, DOE Portfolio Federal Project Director, gave an update on the disposition of transuranic (TRU) waste from the Oak Ridge Reservation. TRU wastes are long-lived radioactive wastes that require disposal in a deep geologic repository. That repository is the Waste Isolation Pilot Plant (WIPP) near Carlsbad, N.M.

TRU waste is processed in Oak Ridge at the Transuranic Waste Processing Center (TWPC) operated by Northwind Solutions, LLC. The TRU waste left in Oak Ridge is classified as either contact-handled (CH) or remote-handled (RH). CH waste can be directly worked in a hands-on fashion through gloveboxes or by wearing personal protective equipment. RH has a higher dose rate and is handled in a shielded enclosure with mechanical manipulators.

TWPC has been operating since 2004. McMillan said 95 percent of the approximately 1,580 cubic meters of



gloveboxes to process. Our contractor at TWPC is focused on preparing facilities that can process it."

In addition, McMillan said that TWPC had to acquire shielded containers to use in disposal of high neutron waste and mechanical tools had to be developed to remove RH soils from boxes to place in shipping containers that WIPP can accept.

In February 2014 two incidents occurred at WIPP that forced DOE to suspend operations until the issues were resolved. WIPP recently re-opened, but even while WIPP was closed TWPC continued to process TRU waste, which has resulted in a backlog of waste ready

for shipment. "We came up with some pretty ingenious storage techniques that allowed us to continue processing, which was especially important with RH waste," said McMillan. Fortunately, there is sufficient space available at TWPC and nearby UCOR facilities to stage all processed waste.

McMillan said there is only enough space at TWPC to store 19 canisters of RH waste. To enable processing to continue, DOE developed shielded overpack containers to store processed RH canisters. The overpack containers can then be at LICOP weta storage facilities

stored at UCOR waste storage facilities. Currently DOE and TWPC are preparing to resume shipments of CH waste to WIPP this summer. Processing of waste continues. McMillan said DOE

of waste to wIPP this summer. Processing of waste continues. McMillan said DOE and Northwind expect to be finished processing CH and RH TRU waste in 2019.

By means of creative thinking, ingenuity, cooperation, and negotiation OREM has managed to rid Oak Ridge of a number of bothersome waste streams while it continued to process and store hazardous TRU waste in preparation for final disposal. The work has made Oak Ridge a safer place to live and work, and millions have been saved in the process.



Workers at the TWPC wear protective 'bubble suits' while working with contact-handled TRU waste.

CH waste has been processed and 66 percent has been sent for disposal. Of the approximately 671 cubic meters of RH waste, TWPC has processed 85 percent and shipped 26 percent for disposal. McMillan said not all of the waste was sent to WIPP. During processing some of it was determined to be low-level waste and sent to NNSS.

McMillan said the remaining inventory is a small volume of difficult to process waste. "We're down to the more challenging material where we have to develop technologies to handle it," he said. "For example, we have high fissile and pyrophoric chemical waste, some plutonium metals and oxides, and lithium that we have to put in inert-gas

## EM SSAB Representatives Travel to Paducah for Semiannual Meeting

The semiannual SSAB chairs meetings provide representatives from the eight local SSABs across the DOE complex an opportunity to get updates from DOE-Headquarters on cleanup-related topics, share common issues of concern, and develop joint recommendations about those concerns.

The meetings rotate among the eight SSAB sites, and this spring the hosting duties were performed by the Paducah, Ky., board, which held the meeting on May 9-11.

Oak Ridge attendees included ORSSAB Chair Belinda Price, Vice Chair Dennis Wilson, and Secretary Dave Hemelright, who represented ORSSAB during the meeting discussions, and Ben Williams, Public Affairs Specialist with the Oak Ridge EM program.

Copies of all meeting presentations are available on the EM SSAB chairs website maintained by DOE Headquarters at https://energy.gov/em/ services/communication-engagement/ em-site-specific-advisory-board-em-ssab.

The meeting featured:

- a presentation by Acting Assistant Secretary for EM Sue Cange;
- a round robin presentation of the eight SSABs' topics, activities, or accomplishments;
- a field operations update by Stacy Charboneau, Associate Principle Deputy Assistant Secretary for Field Operations;
- a discussion of communicating EM progress and performance by Steve Trischman, Director of Budget and Planning, and Kristen Ellis, Director of the DOE Office of

- External Affairs;
- "DOE-HQ News and Views" by Dave Borak, EM SSAB Designated Federal Officer; and
- a waste disposition update by Douglas Tonkay, Director for Waste Disposal. 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." The first recommendation

advises seeking further efficiencies in the WIPP program in order to streamline, expand, and accelerate waste disposition. It also recommends that DOE prepare information on the expected benefits and costs of this proposed addition to the WIPP facility in terms of more efficient operation of WIPP, an overall reduction of risk around the DOE complex from an increased rate of disposal of waste, and the impact of the cost of this facility on other DOE facilities. The second recommendation advises that EM:

• revise its performance metrics so the public can better understand the status of cleanup projects across the



ORSSAB members, from right to left: Dennis Wilson, Belinda Price, Dave Hemelright.

complex in the near-term;

- utilize existing resources and simple, visual examples within EM and other U.S. government agencies;
- identify successfully completed projects as benchmarks;
- communicate crucial, high-level performance indicators that clearly show if schedules are being compromised; and
- · identify key project assumptions and

project risks that are crucial to each individual project and the complexwide schedule.

Both recommendations were distributed to the individual boards after the meeting to put forth to their membership for approval.

The next chairs meeting will be hosted by the Hanford site on October 17-19 in Hanford, Washington.



# Advocate

# **Reservation Update**

#### WIPP Receives First Shipment of Waste Since 2014 Accident

WIPP received its first shipment of TRU waste in April since the facility was closed down in February 2014. The first shipment came from Idaho and was an important milestone for WIPP and DOE sites that have had to store TRU waste when WIPP suspended operations because of a truck fire and unrelated radiological release. ing was used to separated uranium in the mid-1940s.

#### UCOR Completes Characterization of Biology Complex at Y-12

UCOR, OREM's primary cleanup contractor, finished characterizing the Biology Complex at Y-12 in May.

Jay Mullis, OREM Acting Manager, said completion of the characterization work allows demolition of the Biology Complex to begin when funds become available.

Mullis said it was important to finish



The first shipment of waste arrives at WIPP since February 2014.

The facility plans to receive two shipments a week, ramping up to four shipments a week by the end of 2017. Oak Ridge expects to resume shipments later this year (see story on page 1)

#### Large Amounts of Mercury Recovered from COLEX Equipment at Y-12

Workers inspecting and cleaning the pipes and column exchange (COLEX) equipment on the west side of Alpha 4 at Y-12 National Security Complex have tapped and drained more than 2,100 feet of the 5,700 feet of piping, retrieving large amounts of mercury.

This work, part of DOE's Excess Contaminated Facilities initiative, enables demolition and disposal of the massive mercury-contaminated equipment to begin. The project has prevented mercury releases and risks stemming from rusted, structurallydegraded equipment, clearing the way for Alpha 4's eventual demolition, a major cleanup goal at Y-12. The buildthe characterization before the working environment became too hazardous.

#### Soil Remediation Project Completed at ETTP

UCOR completed the comprehensive remediation and final closure of a former pond at East Tennessee Technology Park (ETTP) in April.

Workers removed a layer of clean topsoil, which had been placed over the area more than 30 years ago, allowing them to address the contaminated soil beneath it. Crews dug up the soil, classified as low-level radioactive waste and hauled it to the Environmental Management Waste Management Facility near Y-12.

UCOR removed and disposed more than 10,000 cubic yards of contaminated soil from the site.

The soil remediation efforts at ETTP are helping prepare the site for transfer to the private sector and future commercial industrial use.

# EM Advisory Board Meets in Oak Ridge

The Environmental Management Advisory Board (EMAB) held a two-day public meeting in Oak Ridge in April in which participants discussed excess facilities and potential infrastructure opportunities.

EMAB and DOE EM and contractor staff toured Building 3010, a former research reactor facility at Oak Ridge National Lab. During the tour, OREM staff discussed excess facilities at the site and showed the board members examples of ongoing and completed risk reduction work.

EMAB is similar to ORSSAB, but it provides advice and recommendations directly to the DOE Assistant Secretary for EM. EMAB membership differs from ORSSAB and other SSABs in that its membership includes individuals from governmental and non-governmental entities, private industry, and scientific and academic communities. Members of ORSSAB



ORSSAB Chair Belinda Price participated in the EMAB meeting held in Oak Ridge in April.

and other SSABs are appointed by DOE to reflect a diversity of occupations, interests, gender, and race of persons living near DOE EM sites.

Acting EM Assistant Secretary Sue Cange and EM Associate Principal Deputy Assistant Secretary for Field Operations Stacy Charboneau attended the meeting. ORSSAB Chair Belinda Price also participated in the meeting.

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### ORSSAB and OREM Say 'Thank You and Farewell' to Student Reps

ORSSAB and OREM bade farewell to Lara Manning and Gabrielle McAllister at the May meeting for completing their terms of service as the board's student representatives for 2016-2017.

Jay Mullis, OREM Acting Manager and ORSSAB's Deputy Designated Federal Officer, presented the pair with plaques of recognition and congratulated the students on their recent accomplishments. "On behalf of the Department of Energy and the advisory board, I thank you both for your service and participation during this past year," said Mullis.

They also received thank you letters from ORSSAB Chair Belinda Price. "On behalf of the Oak Ridge Site Specific Advisory

Board, I wish to thank you for your contributions to the board as a student representative during the 2016-2017 academic year," wrote Ms. Price, who was unable to attend the May meeting (see article on EM SSAB Chairs meeting, page 3).

"We know the meetings you attended required time you could have devoted to other activities and interests, especially during your senior year. Your



OREM Acting Manager Jay Mullis presented plaques of appreciation to ORSSAB student representatives Lara Manning, left, and Gabrielle McAllister.

commitment to our board has been greatly appreciated. Your dedication and enthusiasm made working with you an enjoyable experience, and we know these assets will serve you well in your future endeavors."

Lara graduated from Oak Ridge High School and will be attending the University of Tennessee-Chattanooga in the fall as a music major and minoring in psychology. She received a

performance scholarship at UTC for voice and cello. She plans to attend graduate school for music cognition.

During her senior year she was a member of the National Honor Society and spent much of her time working with Youth Leadership Oak Ridge as a board member.

Gabrielle graduated with honors from Hardin Valley Academy. She was a member of the National Honor Society and was on the Hardin Valley bowling team that won the regional

competition. In the summer and fall of 2016 she did an internship with Tremont and the University of Tennessee science department.

Gabrielle will also attend UTC majoring in environmental science on a path that will help protect the environment.

# And Two New Students Are Seated on the Board Valley Academy. He is interested in

Each year ORSSAB seats two nonvoting student representatives from area high schools to engage the perspectives of local students on environmental issues. Chloe Nussbaum of Oak

Ridge High School was introduced to the board at the May meeting and Cameron Niemeyer was introduced at the June meeting.

Chloe will be a senior at Oak Ridge High School in the fall. She is a member



Chloe Nussbaum

of the Key Club and she enjoys playing soccer and basketball, as well as traveling and learning about other cultures. Chloe has been a student of the month and is on the honor roll.

This summer she will be in Jordan for six weeks and Thailand for three days to help Syrian refugees settle and create businesses in Jordan. As part of the trip she will attend a conference in Thailand to talk about the work.

When she was 16, she raised enough money to build a house in Guatemala and for buying food and a stove for a family she met in Guatemala when she went there as a freshman.

Chloe wants to work in a missionsbased field, so in college she plans to major in counseling and specialize in helping people who suffer with posttraumatic stress disorders. Cameron will be a senior at Hardin Valley Academy. He is interested in biology, especially marine biology.



He is in the Science, Technology, Engineering, and Math Academy currently with a 4.41 grade point average.

Cameron Niemeyer

He's a two-year varsity letterman on the Hardin Valley

Academy soccer team, and he is member of the National Honor Society.

Cameron plans to attend college and perhaps continue playing soccer after high school. He says learning about local environmental problems is very important, especially in Oak Ridge.

# Advecate

# Five ORSSAB Members Complete Terms of Service

ORSSAB and OREM said 'thank you' to five members of the board who completed their terms of service in June. ORSSAB Alternate Deputy Designated Federal Officer Dave Adler presented them with plaques recognizing their contributions to the board. They also received thank you letters from board chair Belinda **Howard Holmes** was appointed to three terms and was a member of the EMS Committee.

**Greg Paulus** was also a six-year member and served as chair of the Board Finance & Process Committee from 2012-2015 and was a member of Executive Committee during that **Dave Hemelright** was board chair for 2014 and 2015, vice chair in 2012 and 2013, and board secretary in 2016 and 2017. During his six years he served on the former Stewardship Committee, Public Outreach, Board Finance & Process Committees, the former EM Committee, the combined EMS

Committee, and the

Dave attended

variety of meetings,

conferences, and

ORSSAB at the

and participated in a

tours. He represented

national SSAB Chairs

meetings, presented

a paper at the 2016

Waste Management

the 2015 Perma Fix

Waste Management

cleanup at OREM's

Public Community

Budget Workshops

ORSSAB booth at

and staffed the

Forum. He presented

ORSSAB priorities for

Forum, and attended

Executive Committee.

Price. ORSSAB members are appointed by DOE to serve a two-year term and they can be reappointed for

two additional

terms. **Mike Ford** served one term on the board and was a member of the Environmental Management/ Stewardship (EMS) Committee.

#### Mary

**Smalling** served two-terms and served on the EMS, Public Outreach, and Nominating Committees and staffed the ORSSAB booth at Oak Ridge Earth Day celebrations.



Dave Adler, ORSSAB's Deputy Designated Federal Officer, second from left, presented plaques of appreciation to outgoing board members Mike Ford, left, Dave Hemelright, and Greg Paulus, right. Howard Holmes and Mary Smalling were unable to attend.

period. He was also a member of the EM Budget & Prioritization Committee in 2012 and the EMS Committee from 2014-2017.

Earth Day. Although they are no longer members of ORSSAB the five can continue to participate in OREM cleanup and stewardship activities as public members of the EMS Committee.

### **OREM Receives \$27 Million Increase in FY 2017 Appropriations**

When Congress approved the FY 2017 federal budget earlier this year the Oak Ridge Environmental Management Program received increased funding over the FY 2016 appropriation. Total OREM funding for FY 2017 is \$497 million, \$27 million more than FY 2016.

OREM has three main accounts for its various projects.

The Defense Fund is used for projects like transuranic waste operations, uranium-233 disposition, excess

facilities disposition, surveillance and maintenance, and groundwater work. For FY 17 the Defense Fund received \$278 million, a \$26 million increase over FY 16.

The Uranium Enrichment Decontamination and Decommissioning Fund used in the cleanup of East Tennessee Technology Park received \$213 million, a \$1 million increase.

The Non-Defense Fund, which is used for historic preservation remained the same at \$6 million.

The federal government operated well into FY 2017 under what's known as a continuing resolution. Congress kept the government running with FY 2016 appropriations until it agreed on the FY 2017 budget. Consequently OREM operated with the same amount of money it received in FY 2016 until the new budget was passed.

OREM's FY 2018 budget request has already been submitted to DOE HQ, and it's currently developing its FY 2019 request.

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### **Recent ORSSAB Recommendations**

Following are recommendations that ORSSAB approved at its May 2017 meeting and voted to send to OREM for consideration. The full text of the recommendations are available on the ORSSAB website at: <u>https:// www.energy.gov/orem/listings/orssabrecommendations-responses</u>

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

Following a 2015 audit by the Government Accountability Office (GAO), DOE's excess contaminated facilities came under increased scrutiny. These deteriorating structures pose risks to workers and the environment, and carry the burden of high maintenance costs. Some of the worst of these facilities are located in Oak Ridge. There are approximately 350 excess contaminated facilities located on the Oak Ridge Reservation (ORR), and nearly half of those are classified as high risk.

Increased attention from the GAO audit contributed to funding "plusups" in FY 2016. OREM received \$28 million for excess contaminated facilities and has used those funds to help stabilize structures for long-term stewardship until decontamination and decommissioning (D&D) begins.

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

ORSSAB members participated in a tour of some of the excess facilities that included the Biology Complex at Y-12 (exterior only) in November 2016, and took part in detailed discussions with DOE personnel during the November 2016 Environmental Management/ Stewardship Committee meeting. Based on the information regarding the Biology Complex provided during these interactions, the following issues were reviewed:

- The upfront activities being done at the complex should continue to be planned and implemented in a limited scope.
- The upfront activities might include additional tasks, such as planning for actual removal of miscellaneous equipment and items that are not grossly contaminated and developing a plan for creating a pathway to safe and effective access and egress within the complex.
- Since the timing for D&D 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:

- 1. 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 noncontaminated and minimally contaminated interior equipment.
- 2. 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.
- 3. Since funding for the Biology Complex may now be used only for activities to avoid or eliminate risk, redirect additional funding plus-ups for the proposed upfront

activities at the complex and the recommendations delineated above.

#### 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 the EPA formed a Groundwater Strategy Team, which held a series of workshops to develop a groundwater strategy (DOE/OR/01-2628) that identified a number of strategy objectives 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, and if a plume was moving, especially if it might migrate off the reservation. The team identified 36 potential projects to address the 35 plumes.

ORSSAB has been interested in the status of groundwater on and around the ORR for a number of years, and during that time DOE and contractor experts have provided several presentations on groundwater (Continued on page 8)

# Advecate

# Recent Recommendations (cont.)

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

ORSSAB recommends diligent and continued efforts to monitor for potential offsite migration and to implement appropriate actions to mitigate or prevent offsite migration in areas such as Melton Valley and White Oak Creek if the need should arise. The board requests additional surveillance monitoring to establish a monitoring framework in Bethel Valley and annual reports of results to the board.

ORSSAB recommends that DOE should continue to prioritize based on the highest risk to lowest risk. In addition, ORSSAB urges DOE to include a five-year review of the groundwater strategy to revisit the ranking of plumes to ensure that highest-risk plumes are addressed expeditiously and to adjust priorities and budgets as needed.

ORSSAB recommends placing a high priority on 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.

#### (Continued from page 7)

ORSSAB recommends that DOE should 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.

ORSSAB recommends that DOE 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.



#### Oak Ridge Site Specific Advisory Board P.O. Box 2001, EM-90

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#### **UPCOMING MEETINGS**

All meetings are held at the DOE Information Center, 1 Science.gov Way, Oak Ridge, Tenn., unless noted otherwise.

#### **ORSSAB** Annual Meeting

Saturday, August 19, 9 a.m. Tremont Lodge, Townsend, Tenn.

#### ABBREVIATIONS

- DOE Department of Energy
- EM Environmental Management
- EPA Environmental Protection Agency
- ETTP East Tennessee Technology Park
- OREM Oak Ridge Environmental Management
- ORR Oak Ridge Reservation
- ORSSAB Oak Ridge Site Specific Advisory Board
- TDEC —Tennessee Dept. of Environment and Conservation
- Y-12 Y-12 National Security Complex
- WIPP Waste Isolation Pilot Plant



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