

ORSSAB Receives Overview of Cleanup Projects and Topics to Consider for FY 2015

At its annual planning meeting in August the Oak Ridge Site Specific Advisory Board (ORSSAB) learned that in the coming months a number of important decisions will need to be made, and the Department of Energy (DOE) will welcome ORSSAB and public input on them.

Mercury Treatment Plant

One of DOE’s near-term priorities is the construction of a mercury water treatment plant at Y-12 National Security Complex.

Mercury lost during processes years ago is under some buildings and it makes its way to East Fork Poplar Creek, which runs through populated areas of Oak Ridge. The amount of mercury leaving Y-12 in the creek is above state guidelines and DOE must reduce the levels to acceptable levels.

Dave Adler, the board’s alternate Deputy Designated Federal Officer, said a first draft of a proposed plan for the project has been sent to the Environmental Protection Agency (EPA) and the Tennessee Department of Environment and Conservation (TDEC) for review. “When their comments are received a second draft will be provided to ORSSAB and the public to review and offer comments or recommendations,” he said.

Second On-site Disposal Facility

A second decision to be made is whether to build a second on-site disposal facility on the Oak Ridge Reservation (ORR).

The existing facility, the Environmental Management Waste Management Facility in Bear Creek Valley near Y-12 has been expanded

to its final limits of 2.2 million cubic yards of capacity. But that will not be enough to receive all the waste expected to be generated over the years to complete cleanup of the ORR.

Adler said there are two central issues to consider. “Should another disposal facility be built and if so where should it go?” He said ORSSAB should offer input on the issue, and he expects there be considerable public comment as well.

Soils Remediation at ETTP

A decision on soils remediation, land use controls, water use, and development in Zone 1 of East Tennessee Technology Park (ETTP) needs to be made in FY 2015.

ETTP is divided into two zones. Zone 1 is an area of about 1,400 acres that surrounds the main industrial complex of ETTP. “DOE expects to issue a proposed plan for cleanup of Zone 1 in 2015,” said Adler, and

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ORSSAB can offer comments or recommendations on that plan.

Remediation of Trench 13

DOE would like ORSSAB’s help with selection of a remediation strategy for Trench 13 in Melton Valley.

When remediation of Melton Valley was nearing completion in the mid-2000s, workers excavating Trench 13

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ORSSAB Chair Dave Hemelright and Secretary Lisa Hagy listen to presentations at the board’s August annual meeting.

ORSSAB Holds Annual Meeting (Continued from page 1)

encountered some glass containers holding pyrophoric materials. When the excavators broke one of the vessels there was a brief flare up. Work was suspended immediately, and soon after Trench 13 was stabilized and covered. Adler said DOE would like to receive a recommendation from the board on the future management of the material.

Groundwater

EPA and TDEC requested that the board should continue to consider groundwater issues. Kristof Czartoryski, TDEC's liaison to the board, said there is some indication that contaminants related to the ORR may be in groundwater on the west side of the Clinch River beyond the boundary of the ORR. He said he hoped the board would engage in efforts to assess the situation. Connie Jones, EPA's liaison to the board, said EPA would like for DOE to evaluate other groundwater plumes on-site for remediation.

TRU Waste Disposition

Another near-term cleanup goal for DOE is preparation of transuranic (TRU) sludge processing. It is working with TDEC to establish a path forward for disposition of the TRU sludge stored in tanks in Melton Valley. The TRU waste in Melton Valley would need to be processed in the TRU Waste Processing Center before final disposition. DOE and TDEC said input from ORSSAB on these waste streams would be useful in increasing public awareness of TRU waste disposition.

DOE EM Budget Request

Each year DOE Oak Ridge requests input from the board on its budget request to DOE Headquarters and related project prioritization. Adler said while there is general consensus among DOE, EPA, and TDEC on cleanup priorities, it's helpful to get input from ORSSAB. "With a renewed understanding of projects perhaps there

would be consideration of whether to continue with current priorities."

In addition to discussing the need for input on upcoming decisions, Susan Cange, Acting Manager of the DOE Oak Ridge Environmental Management (EM) Program and the board's Deputy Designated Federal Officer, provided an overview of the



Susan Cange, DOE EM Oak Ridge Acting Manager, talked about cleanup projects and the importance ORSSAB plays in DOE's work on the ORR.

program and talked about short-term and long-term cleanup plans for the ORR.

She said EM work is organized by portfolios at ETTP, Oak Ridge National Laboratory (ORNL), and Y-12 National Security Complex. Each of the portfolios has its own risks. "Life-cycle cost is the primary risk at ETTP," she said. "It costs about \$60 million annually to maintain safe operations and essential services. That's a huge drain on our budget."

At ORNL the risk is radiological where more than 26 million curies of radioactive material is stored

near billions of dollars' worth of investments.

She said mercury is the principle risk at Y-12.

Cange reviewed DOE's near-term and long-term cleanup goals:

Near term:

- Complete the demolition of Buildings K-27 and K-31 at ETTP
- Construct and operate a mercury water treatment system at Y-12
- Dispose half of the uranium-233 inventory at ORNL and prepare for processing the remaining inventory
- Continue processing TRU debris
- Prepare for TRU sludge processing
- Continue planning for a new disposal cell

Long-term:

- Complete TRU debris processing (-2018)
- Complete construction of the mercury treatment facility at Y-12 (-2020)
- Complete cleanup of ETTP (-2022)
- Begin demolition of mercury contaminated buildings at Y-12 (-2023)
- Complete uranium-233 disposition (-2024)
- Begin operation of a new disposal facility (-2024)
- Complete TRU sludge processing (-2026)
- Begin demolition of central campus buildings at ORNL (-2027)

Cange said while other cleanup sites across the nation may have one or two primary projects, Oak Ridge has several different complex projects that compete for priority and funding. "Sometimes there are more projects than available funding, so we have to make difficult decisions."

She assured board members that ORSSAB's work is important and provides a valuable service to DOE and the community. She asked that the board continue to provide recommendations on high-level

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EM SSAB Leadership Gather in Idaho for Semiannual Meeting

Representatives of the eight SSABs across the country that comprise the national EM SSAB gathered in Idaho Falls, Idaho, in September for their fall semiannual meeting. DOE officials briefed the SSAB leadership on several topics related to cleanup of DOE sites.

Mark Whitney, Acting Assistant Secretary for EM, said the DOE EM program faces a number of challenges. "Budget is a challenge and will continue to be a challenge," said Whitney. "Budget allocations of about \$5.6 billion can be expected for the next few years." Even though that amount is less than previous years, Whitney said it is still a "substantial budget and a lot can be done with that funding."

Whitney said another challenge is the Waste Isolation Pilot Plant (WIPP) where separate incidents forced the shutdown of the transuranic (TRU) waste disposal facility temporarily. "WIPP is vital to work across the complex," he said. "It is a priority for DOE, and the goal is to resume operations in about 18 months, but we will not compromise safety."

With all of the challenges facing EM, Whitney said the many successes across the complex should be celebrated. He mentioned the completion of the K-25 project in Oak Ridge as one of those successes.

Whitney said priorities for FY 2015 include waste disposition with particular concentration on WIPP and consideration of on-site disposal



Chair Dave Hemelright and member Corkie Staley represented ORSSAB at the Fall 2014 EM SSAB Chairs' meeting in Idaho.

options. He said it is important to make sure that DOE priorities align with community priorities. Increasing community involvement is something DOE supports he said.

Connie Flohr, Acting Deputy Assistant Secretary for Program Planning and Budget, said the President's budget request to Congress for DOE EM was \$5.622 billion. At the time of the meeting both the House and Senate had passed 'marks' above the President's request, but a final budget had not been approved.

Frank Marcinowski, Deputy Assistant Secretary for Waste Management, briefed the group on the status of waste disposition across the complex. He reviewed the incidents at WIPP saying a number of corrective actions have been drafted to address the two events that caused closure of the facility.

Marcinowski said more than 800 experiments have been conducted to try to recreate the incident that caused a storage drum to rupture and release some radiation. An effort called Project Reach is being readied to conduct video mapping of the area where the rupture occurred to gather more information about what happened.

Marcinowski said DOE wants sites to continue to process TRU waste to be ready for disposal when WIPP reopens. EM has initiated a TRU Waste Management Assessment to evaluate generator site programs to ensure there are no vulnerabilities before waste disposal containers are disposed.

Marcinowski said EM will have to work on appropriate sequencing to work off TRU backlogs, particularly at Oak Ridge and Idaho National Laboratory.

On the second day of the meeting, SSAB leadership drafted a recommendation asking DOE to consider preparing above ground storage areas at WIPP so TRU waste can be shipped to the site and stockpiled prior to WIPP being reopened.

ORSSAB Annual Meeting

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programmatic decisions and project implementation.

Cange concluded her presentation by challenging members to consider ways to make ORSSAB more productive. "Think about ways to make the meetings more interactive, be more beneficial, and to generate more interest in the community."

Board Operations

Board members had a general discussion related to Cange's challenge to rethink how the board operates.

One discussion was on the number of meetings the board has each year. ORSSAB in recent years has had about 10 meetings, including the annual meeting. She said the

board could consider having monthly activities but perhaps not a full board meeting. One idea was to take board members on tours of project sites.

Board Chair Dave Hemelright said some of the other boards take their meetings to different locations, and he suggested ORSSAB consider taking meetings to other venues in the counties around Oak Ridge.

Ideas will be considered at Executive Committee meetings and recommendations will be brought to the full board for discussion.

Cange said whatever the board decides "DOE will support because you provide a service to DOE." 🍃

Reservation Update

K-25 Project Officially Ends

Demolition of the K-25 Building at ETPP was completed late last year, but that was not the end of the project. Many other tasks had to be accomplished before the project could be officially declared complete, and DOE and UCOR

completed all the necessary steps in June. UCOR is DOE's prime cleanup contractor.

"The project doesn't end when the final wall comes down," said Susan Cange, Acting Manager for the Oak Ridge Office of EM. "A lot of work had to take place before we could truly consider the project complete.

"For example, we had to remove and dispose of all demolition debris. That's a crucial part of completing this project, but much more had to be done to ensure that the site was left stabilized and safe."

Some of the other necessary tasks included terminating subterranean utilities, removing all ancillary support facilities, removing the remaining retaining walls, and dispositioning the inventory in the segmentation shop where remaining uranium deposits were mined from components.

In addition, DOE and UCOR had to address several difficult-to-dispose-of waste streams stored around the K-25 facility.

Under UCOR's contract the project was completed ahead of schedule and \$225 million under budget.

Workers Make Progress at Waste Isolation Pilot Plant

Work continues at WIPP and entries into the underground facility are more frequent as radiological control personnel survey and sample for airborne contamination.

WIPP is the repository for DOE's transuranic waste, some of which

comes from Oak Ridge. The facility was closed in February after two unrelated incidents. The first was a truck fire, and the second was a release of radiation after a storage drum burst from a chemical reaction.

Sampling has indicated workers can enter certain areas of the facility without

breathing apparatus, but protective equipment is needed as they approach contaminated areas.

The facility has been divided into zones and each will be sampled to determine which ones can be accessed without protective equipment.

DOE is working on a recovery plan to clean up the affected areas and resume operations.

Consultants Study Potential Impacts of Second Disposal Facility in Bear Creek Valley

A team of consultants hired by the City of Oak Ridge toured the DOE waste disposal facility in Bear Creek Valley recently as part of an effort to determine potential impacts of a second facility nearby.


The group also met with local stakeholders to gather comments.

DOE has proposed to build a new low-level waste disposal facility to receive additional waste generated by cleanup operations on the ORR.

The city has said the impact study by the consultants is due in January 2015 and will include a technical review of studies of environmental impacts.

TDEC Appoints Chris Thompson Deputy Director for Remediation

Chris Thompson has been appointed TDEC's deputy director for the Division of Remediation and will play a lead role in the DOE Oversight Office in Oak Ridge. She most recently served as director of external affairs for TDEC's Knoxville field office.

She will fill the role previously held by John Owsley, who will serve as a senior advisor in the DOE Oversight Office. 



Wendy Cain has been named portfolio federal project director for cleanup of ETPP. She's with the former director Jim Kopotic at a recent celebration of the completion of the K-25 project.

Snapshot in History

July - September 1943

During July 1943 there was encouraging progress on electromagnetic process construction and research.

When Oppenheimer warned that three times more fissionable material than originally estimated would be required for an atomic bomb, a new plant was authorized, the Y-12 Extension with Alpha and Beta buildings, that doubled the size of the electromagnetic complex.

Through the fall of 1943 as equipment deliveries began, 5,000 operating and maintenance personnel were hired and trained.

DOE Responds to Recent ORSSAB Recommendations

DOE Oak Ridge EM has responded to recommendations made recently by ORSSAB. Complete text of the following recommendations and responses can be found on the ORSSAB website at energy.gov/orssab.

Recommendation on Additional Off-site Groundwater Migration Studies

In May, ORSSAB recommended that DOE conduct additional groundwater studies to address any potential off-site migration of chemicals or radioisotopes from the ORR. The recommendation focuses on developing information that fosters a better understanding of potential impacts of groundwater contamination related to risk mitigation, groundwater remediation, and long-term stewardship.

In 2013, DOE, EPA, and TDEC held a series of workshops to prioritize groundwater pathways on the ORR. The agencies created a groundwater strategy document that describes the potential for releases from waste disposal sites and storage areas. The document also prioritized known groundwater plumes, contaminants of concern, concentration of contaminants, and potential health risks.

ORSSAB recommended additional baseline funding to perform interpretive analysis to better understand potential plume migration and effects on off-site receptors.

ORSSAB members believed the plume rankings were subjective and suggested the development of process knowledge documents for each plume. The board continued that the ranking methods should be reviewed to confirm or revise the rankings.

In its response, DOE said it has proceeded with the off-site groundwater migration studies working in cooperation with EPA and TDEC.

DOE has planned budgets for three years for the project studies, and it has

planned budgets for follow-on years for additional activities that may result from the studies.

DOE acknowledged the plume rankings may be subjective, but said they were agreed to by the three agencies and will remain unless conclusions from the additional studies warrant revision of the rankings.

Recommendations on Additional Waste Disposal Capacity on the ORR

Also in May, ORSSAB recommended that DOE continue to plan for additional on-site waste disposal capacity on the ORR for low-level radioactive and chemically hazardous waste.

DOE currently operates the Environmental Management Waste Management Facility (EMWMF), a low-level radioactive waste disposal facility in Bear Creek Valley near Y-12. When the facility began accepting waste in 2002 it was expected to handle all projected low-level waste from cleanup operations on the ORR. However, EM's scope of work has increased over the years and additional disposal capacity on-site is needed.

DOE has conducted a study to develop, screen, and evaluate alternatives for an additional waste disposal facility, with a working name of EM Disposal Facility (EMDF). ORSSAB's recommendation asked DOE to continue working toward adding disposal capacity and proposed recommendations for a new facility.


ORSSAB encouraged DOE to minimize the need for additional on-site capacity when possible. In its response, DOE said it was examining the final cover design of the EMWMF to allow for extended capacity. The waste acceptance criteria for other so-called 'sanitary landfills' on Chestnut Ridge are being evaluated for possible modifications to allow a wider variety of waste.

DOE also said it has practices in place to minimize disposal volumes. The agency uses a hierarchy for dispositioning waste that includes reusing or recycling where possible, followed by the use of the sanitary landfills, the EMWMF, and off-site disposal facilities.

ORSSAB also recommended that the EMDF have sufficient capacity to accept all future waste generated by DOE cleanup of the ORR. DOE's planning for the EMDF includes projected future remediation waste, plus an additional 25 percent contingency for any uncertainties in volume projections.

The board recommended that the proposed disposal area be engineered to operate safely and block migration of contaminants into adjacent groundwater, soil, and air. DOE said the facility design will undergo modeling and third-party review to demonstrate regulatory compliance and provide the necessary protection of the environment and human health.

ORSSAB asked that the facility be located in proximity to existing waste burial sites. DOE said the proposed site is near EMWMF and other waste burial grounds. It said locating the EMDF near other disposal areas consolidates the burial sites for long-term stewardship purposes, improves cost benefits, and maintains current greenfield land for unrestricted use.

Finally, the board requested that DOE establish a trust fund for the EMDF similar to one in place for EMWMF. DOE said the expense of a trust fund for long-term stewardship is incorporated in the feasibility study for the facility's life-cycle. The continuation of the trust fund concept is contingent on TDEC accepting such an agreement, but DOE will be responsible for the long-term stewardship of EMDF either through a trust fund or independently by DOE. 

ORSSAB is Now Recruiting New Members for Appointment in 2015

What is the Oak Ridge Site Specific Advisory Board?

ORSSAB is one of the eight local Site Specific Advisory Boards that were developed at major DOE sites to involve the public more directly in the DOE environmental cleanup process.

ORSSAB provides DOE with advice and recommendations concerning environmental remediation, waste management, monitoring and surveillance of legacy waste, and other issues.

The board meets monthly to hear from DOE personnel about the status of the cleanup program, discuss recommendations on cleanup issues, and conduct board business. Monthly

committee meetings serve as a forum for more in-depth presentations and informal discussions on cleanup topics. Members of the public are encouraged to join our committees and actively participate and vote on committee business.

The board meets

on the second Wednesday of the month from 6:00 to 8:00 p.m. Committees meet later in the month on Tuesday or Wednesday evening for one or two hours.



What are Member Responsibilities?


Board members attend the ORSSAB monthly meetings and serve on one of the standing committees. They draft recommendations to DOE on environmental cleanup issues. And they help keep the public informed about the board and the DOE cleanup program through the activities of the ORSSAB Public Outreach Committee.

Who Serves on ORSSAB?

The board comprises 22 members and two non-voting student representatives, chosen to reflect the diversity of gender, race, occupation, and interests of persons living near the ORR. Technical expertise is not required for membership, as a broad range of backgrounds and viewpoints is preferred.



Interested in Becoming a Member?

Call the ORSSAB offices at (865) 241-4583 or e-mail osbornepl@oro.doe.gov. Or visit our website at www.energy.gov/orssab for additional information about the board. 

Board Member Howard Holmes Is Impressed by the Commitment of Fellow Board Members

"I'm impressed by the personal interest of board members and their continued commitment as a volunteer group," says ORSSAB member Howard Holmes. He knows about commitment. As a physician he must be committed to his practice and his patients.

Howard is a medical doctor specializing in internal medicine practicing at Tennova Primary Care Loudon County located in Lenoir City.

He was born in Corpus Christi, Texas, and as a youngster moved with his family to Venezuela where his father was an oil well drilling supervisor for Sinclair Oil. When the country nationalized the oil industry the family moved to Searcy, Ark.

After high school Howard attended the University of Arkansas where he earned a bachelor of science degree in microbiology and a master of science in natural sciences.

In the fall of 1974 he entered the Navy as an officer candidate at



Board member Howard Holmes in this office in Lenoir City with one of his pictures of famous World War II combat aircraft.

Newport, R.I., but U.S. involvement in Vietnam ended the following spring. As a result, Howard went into the Naval Reserve and was honorably discharged in 1976.

He began medical training at St. George's University in Grenada in 1979, and in 1981 he transferred to Florida International and then on to residency training at the Quillen College of Medicine at East Tennessee State University in 1983.

"I worked seven years as an emergency room doctor in ERs all over East Tennessee," he said. "I came to Lenoir City in 1992 to set up my own practice and have been here ever since." Howard owned and operated Physicians Clinic until the practice was acquired by Mercy Health System, now Tennova, in 2010.

His interest in ORSSAB came about, in part, through his friendship with ORSSAB Chair Dave Hemelright. "I saw an ad in the newspaper about ORSSAB and thought it would be an interesting project. I talked with Dave about it and we came to some of the meetings. I'm impressed the board has taken on the challenge of following what DOE is doing and making recommendations on that work."

Howard's interest in aviation is evident in his office where he is surrounded by pictures of famous World War II aircraft. "I enjoy flying and had a plane for a while, but I was too busy with my practice to fly."

He is also interested in biofuels and has been working on getting grants to develop ways to use methane gas as fuel to generate electricity.

Howard joined the board in July 2011 and serves on the Public Outreach Committee. 🍃

DOE Appoints New Member to ORSSAB

DOE has appointed Wanfang Zhou to ORSSAB for a two-year term. He was introduced at the board's annual meeting in August.

Wanfang, a Knoxville resident, is a hydrogeologist with ERT, Inc., a company that provides information technology, cyber security, program support, and engineering and environmental services to federal and state government agencies.

He received his doctorate in water resources and environmental engineer-

ing from the University of London's Imperial College of Science, Technology, and Medicine. He is a certified professional geologist by the American Institute of Professional Geologists and a registered professional geologist in five southern states.

Wanfang is a member and former president of the East Tennessee Chinese Association and a member and former vice president of the Tennessee Chapter of the American Institute of Professional Geologists. 🍃



ORSSAB Elects Officers for FY 2015

ORSSAB elected officers for FY 2015 at its September meeting.


Re-elected for second terms are Dave Hemelright, chair, and Lisa Hagy, secretary. Jan Lyons was elected vice-chair.

Hemelright, of Lenoir City, has been a member of the board since July 2011 and served as vice-chair for FY 2013. He is the K-12 Facilities Specialist for Kaatz, Binkley, Jones &

Morris Architects, Inc., specializing in Tennessee public school planning, design and construction. He serves on the board of the Tennessee School Plant Management Association.

Hagy was appointed to the board in January 2012 and has served on the Stewardship Committee, Budget & Process, and Executive committees.

An Alcoa resident, she is a financial services representative with First Tennessee Bank.

Lyons, of Oak Ridge, is a former adjunct professor of risk management at Southern Methodist University in Dallas, Texas. Previously, she was employed by Lockheed Martin Corporation as a staff systems engineer, cost research manager, risk oversight manager, and information technology manager. 



Lisa Hagy



Dave Hemelright



Jan Lyons



Oak Ridge Site Specific Advisory Board

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ABBREVIATIONS

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

UPCOMING MEETINGS

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

ORSSAB Board meeting
October 8, 6 p.m.

Committee Meetings
EM & Stewardship — October 15, 6 p.m.

