

Oak Ridge Site Specific Advisory Board

**FY 2011
Annual Report**

October 2010 - September 2011

A Message from the Chair



If you could sum up 2011 for the Oak Ridge Site Specific Advisory Board and the Oak Ridge Environmental Management (EM) program in two words, those words would have to be ‘progress’ and ‘change’. Both the board and EM experienced an abundance of both as we worked together during this 16th year of the board’s existence to make the Department of Energy’s Oak Ridge Reservation a cleaner, safer place.

The board’s biggest accomplishments relate directly to its mission to provide independent advice and recommendations to the Oak Ridge EM program. We issued nine recommendations to DOE this year on some very complicated and important issues, such as mitigation of contamination in Bear Creek Burial Grounds, the process for siting a second onsite waste disposal facility, and salt removal at the Molten Salt Reactor Experiment.

We also weighed in on some of the long-term stewardship issues that will have far-reaching impacts at DOE sites both here and across the nation. In particular, our “Recommendation to Establish a Site Transition Process Upon Completion of Remediation at Ongoing Mission Sites” was aimed at helping all the DOE sites like Oak Ridge tackle the challenge of addressing stewardship in the midst of continuing mission activities.

As for the ‘change’ I mentioned earlier, the board created a new standing committee this year, EM Budget & Prioritization, which will be the primary committee charged with reviewing and drafting the board’s recommendations on the annual EM budget request. We also conducted a highly successful membership campaign to recruit potential candidates, and we increased the authorized membership of the board from 20 to 22 members.

For EM, 2011 marked steady progress in its mission to protect the region’s health and environment, make clean land available for future use, and ensure DOE’s missions of science, energy, and national security. EM completed 15 of its 20 Recovery Act projects, accomplishing close to \$330 million in work at the three main Oak Ridge sites: East Tennessee Technology Park, Oak Ridge National Laboratory, and Y-12 National Security Complex. Even more importantly, these projects were completed nearly \$100 million under budget, which allowed DOE to reinvest those savings in projects to remove contaminated soil from the lab and Y-12.

The big change for EM was of course its new primary cleanup contractor for the Oak Ridge Reservation: URS | CH2M Oak Ridge (UCOR), which took over from Bechtel Jacobs on August 1. Indications from initial interactions the board has had with UCOR liaisons are that this new partnership will prove to be of great benefit in accomplishing our shared goal of completing the cleanup mission in Oak Ridge.

I hope you’ll take a moment to read through the other highlights of ORSSAB’s accomplishments and activities this year in the following pages of this annual report. Complete details of EM’s year can be found in the *2011 Cleanup Progress—Annual Report to the Oak Ridge Community*, which is available online at www.ucor.com/CleanProg2011.pdf.


Maggie Owen, Chair

Contents

INTRODUCTION 2

KEY ISSUES 4

THE YEAR'S TOP NEWS 8

MILESTONES & SPECIAL EVENTS 10

BOARD MEETINGS 12

MEMBERS & LIAISONS 15

COMMITTEES 20

ABBREVIATIONS 25

MISSION STATEMENT

The mission of the Environmental Management (EM) Site Specific Advisory Board at Oak Ridge, Tennessee, is to provide meaningful opportunities for collaborative dialogue among the diverse multicultural communities surrounding the Oak Ridge Reservation, EM, and the U.S. Department of Energy Oak Ridge Office (ORO). The Board is chartered under the EM Site Specific Advisory Board Charter. At the request of the Assistant Secretary, the ORO Manager, or the ORO Assistant Manager for EM, the Board may provide informed advice and recommendations concerning the following EM site-specific issues: cleanup standards and environmental restoration, waste management and disposition, stabilization and disposition of non-stockpile nuclear materials, excess facilities, future land use and long-term stewardship, risk assessment and management, and cleanup science and technology activities. The Board may also be asked to provide advice and recommendations on any other EM project or issue. The Board ensures early, ongoing community access to information (and its interpretation and implications) and dialogue that improves the quality of the decision-making process of EM and ORO.

Introduction

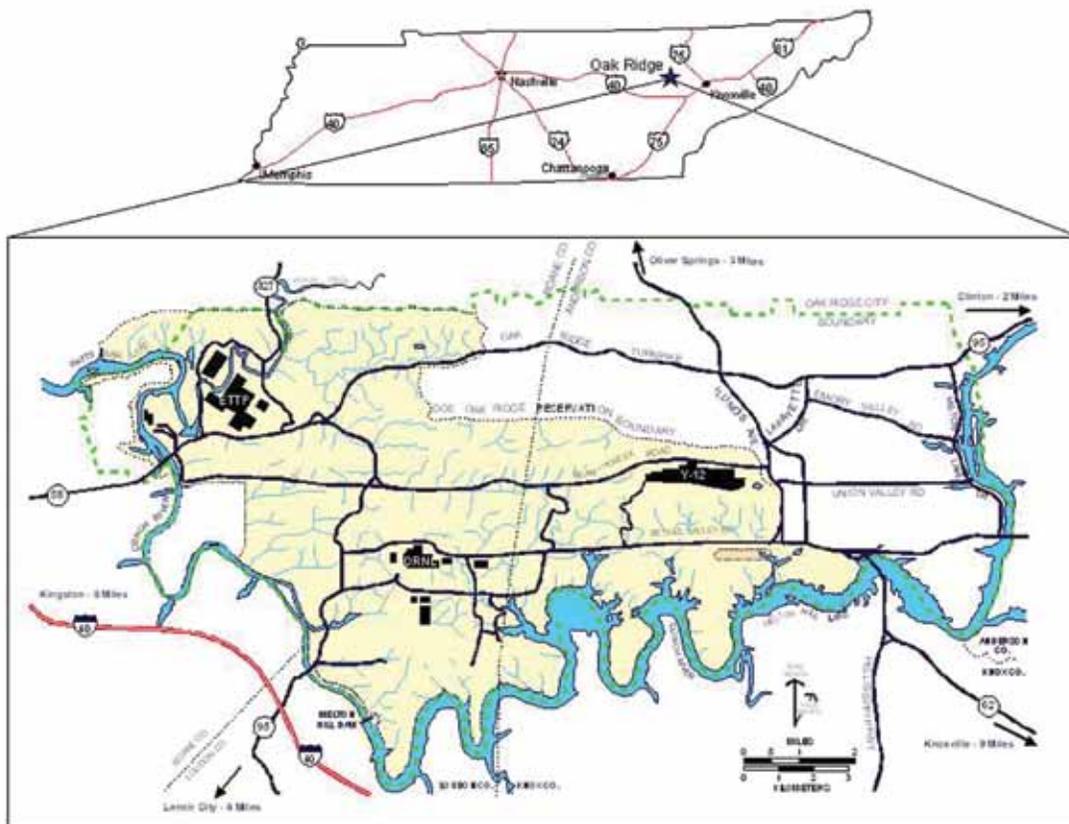
The Oak Ridge Site Specific Advisory Board (ORSSAB) is a federally appointed citizens' panel that provides independent advice and recommendations to the Department of Energy (DOE) on its Oak Ridge Environmental Management (EM) Program. Chartered under the Federal Advisory Committee Act, the board began its work in 1995. DOE Oak Ridge considers ORSSAB its primary source for community input on decisions related to the cleanup of the Oak Ridge Reservation (ORR).

The board provides informed recommendations and advice to the DOE EM program regarding environmental restoration and waste management, as well as long-term stewardship, land use, and economic development of contaminated areas.

Recommendations regarding environmental justice, health and safety issues, historical preservation, and other issues may be developed at the request of the DOE Assistant Secretary for EM, Manager of the DOE Oak Ridge Office, or Oak Ridge Manager for EM.

The board is committed to reflecting the concerns of the communities impacted by EM activities on the ORR and to serving as a communications link between the public and relevant government agencies, including local governments.

The board is composed of up to 22 members, chosen to reflect the diversity of gender, race, occupations, views, and interests of persons living near the ORR. Members are



Map of the Oak Ridge Reservation showing East Tennessee Technology Park, Oak Ridge National Laboratory, and Y-12 National Security Complex.

appointed by DOE and serve on a voluntary basis, without compensation. At the close of Fiscal Year (FY) 2011, the board consisted of 19 voting members from four counties: Anderson, Knox, Loudon, and Roane.

Non-voting liaisons include representatives from DOE, the U.S. Environmental Protection Agency Region 4 (EPA), and the Tennessee Department of Environment and Conservation (TDEC). These liaisons advise the board on their agencies' policies and views.

ORSSAB provides a number of avenues for the public to learn about and express views on DOE Oak Ridge EM work. All board and committee meetings are open to the public and are announced in newspaper advertisements and at the DOE Information Center in Oak Ridge (865-241-4780). Board meetings are also advertised in the *Federal Register* and are video recorded and broadcast on local cable television stations. Copies of the meeting videos are available at the Information Center.

The board maintains a web site at www.oakridge.doe.gov/em/ssab. Information is also available by calling the ORSSAB support office at 865-241-4583 or 865-241-4584.

Board Meetings

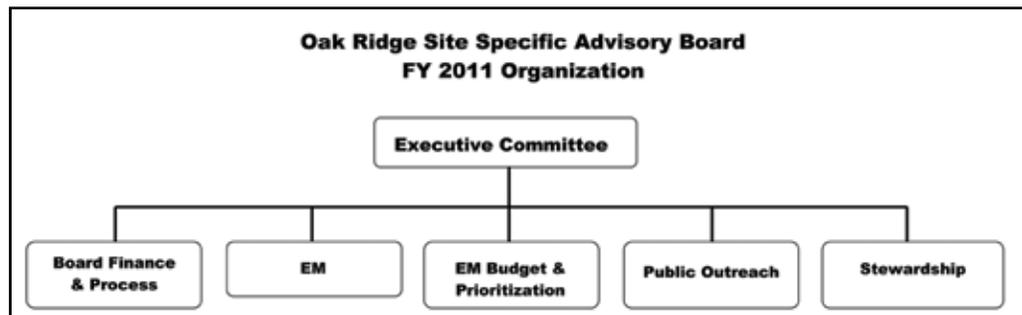
The board meets each month to hear presentations by personnel working on relevant EM topics, listen to and discuss input from concerned citizens, consider recommendations to DOE developed by the various ORSSAB committees, and conduct other business. Each August, board members

have an annual meeting to evaluate the board's work for the year and plan activities for the next fiscal 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

The accompanying diagram shows the board's structure. General board business is handled at the monthly Executive Committee meeting. This committee, which is composed of the elected officers of the board and the standing committee chairs, holds general administrative



authority to set board agendas, coordinate the work of committees, and transact business as necessary.

Most ORSSAB committees meet monthly, and all meetings are open to the public. Each ORSSAB committee creates its own work plan to guide its activities during the year, and these work plans are updated continually as the board year progresses. Information about ORSSAB committees can be found in the "Committees" section of this report.

FY 2011 Board Officers

ORSSAB officers for the year were Ron Murphree, Chair; Kevin Westervelt, Vice Chair; Ed Juarez, Secretary.

Key Issues

In FY 2011, the board sent nine locally generated recommendations to DOE on topics ranging from waste management and long-term stewardship to historic preservation. The board also signed off on three recommendations developed by the eight local boards that make up the EM Site Specific Advisory Board.

Full text of the recommendations and responses are available on the ORSSAB website at <http://www.oakridge.doe.gov/em/ssab/recc.htm>.

Recommendation 195 on Mitigation of Contamination in Bear Creek Burial Grounds

From 1955 to 1993 the Bear Creek Burial Grounds received depleted uranium and other industrial waste from production activities at nearby Y-12 National Security Complex.

Disposal of the waste resulted in contamination in adjacent Bear Creek. Remediation efforts have significantly reduced concentration of contamination, but levels still exceed those agreed to in a 1999 record of decision.

The board recognized that technical risks and budget limitations make final remediation any time soon impractical. It suggested more moderate actions in the interim. The board recommended that DOE compile in tabular form possible remedial actions to mitigate releases into Bear Creek with the ultimate goal of compliance with the record of decision.

DOE agreed with the recommendation and at the time of this report was working on analyses of possible actions.

Recommendation 196 on Alternatives to Memorialize the K-25 Building at East Tennessee Technology Park (ETTP) and Manhattan Project Exhibits in Oak Ridge

Various methods to commemorate the historical significance of the K-25 facility during the Manhattan Project and ensuing years have been the subject of discussion and debate for several years.

In 2008 the board supported preserving at least a portion of the north end of the building. In 2009, though, when it appeared the North Tower was too structurally unstable to save, the board said the building should come down and an interpretive center be built in its place.

DOE later commissioned two additional studies to determine structural integrity and the viability of an expanded historical interpretive effort that went beyond K-25 to include Oak Ridge National Lab (ORNL) and Y-12.

In light of the two studies ORSSAB re-affirmed its stance that the North Tower should be razed and an unmanned interpretive center be built. But the board recognized public support of retaining a portion of the building and it said if DOE determined it was 'technologically and fiscally feasible' the board would support an unmanned interpretive center inside a preserved portion of the North Tower.

In October 2011, DOE submitted a preferred mitigation plan to interpret the historic significance of K-25.

The new plan does not call for retention of any of the original building. The plan does call for designation of the building's former footprint and the establishment of a K-25 History Center located nearby.

The signatories of a memorandum of agreement on K-25 will provide comments on the plan before signing off on it.

Recommendation 197 on the FY 2013 DOE Oak Ridge EM Budget Request

The DOE EM Program develops its budget request annually for the fiscal year two years beyond the current fiscal year. It uses budget requests from the various DOE field offices in developing the EM Program budget request to the President. Each year ORSSAB is given an opportunity to provide input on the Oak Ridge EM budget request.

In FY 2011 DOE Oak Ridge developed a computer program called a Dynamic Planning Model that can provide insight on various cleanup scenarios based on available budget or sequencing. The board set up a new standing committee, the EM Budget & Prioritization Committee, to evaluate various scenarios generated by the Dynamic Planning Model. The committee then drafted a recommendation based on the scenarios.

The committee's draft, which was approved by the board at its June meeting, recommended that DOE should prioritize several projects based on the impact they could have on the current projects on the reservation, including the Uranium-233 Removal Project at ORNL; the demolition of Building 3019 where the uranium-233 is stored, and the deactivation of the central stack at ORNL.

The board also recommended that remediation of Trench 13 in Melton Valley be completed before the closure of the Transuranic Waste Processing Center.

The board asked DOE to consider the consequences of not undertaking a project, for instance leaving a duct bank in place at ETTP that could hamper reindustrialization. DOE Oak Ridge responded saying it had included the board's recommendations in its budget request to headquarters.

Recommendation 198 to Establish a Site Transition Process Upon Completion of Remediation at Ongoing Mission Sites

ORSSAB has long been interested in stewardship of DOE lands after cleanup is completed, especially areas where contamination has been remediated in place. DOE has established stewardship policies for remediated sites that have been permanently closed, but the department does not have similar policies in place for sites such as Oak Ridge where contamination remains at remediated sites and EM returns the land to its original landlords when cleanup is complete.

As a result of an earlier recommendation from ORSSAB, DOE appointed a point of contact for long-term stewardship in the Office of EM. The appointee, Letitia O'Connor, attended the February 2011 Stewardship Committee meeting and brought materials with her that related to stewardship and long-term surveillance and maintenance. The most useful document was a fact sheet prepared by the DOE Office of Legacy Management that described the process for transferring remediated land from the Office of EM to Legacy Management for long-term stewardship.

The board recommended that a similar fact sheet be developed by EM describing the process for transferring cleaned up property back to its original landlords at DOE ongoing mission sites.

DOE EM agreed with the recommendation and developed a draft fact sheet for the Stewardship Committee to review.

Recommendation 199 to Remove Uncontaminated Areas of the ORR from the National Priorities List

In 1989 the ORR was placed on the EPA National Priorities List (NPL), identifying that the reservation was to be cleaned up under the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The ORR encompasses about 34,000 acres, but only about 15 percent of the reservation has contamination from

work that has been done over the years since the 1940s.

In 2009 a white paper was developed that described the process for changing NPL boundaries to include only contaminated areas of the reservation. The physical boundaries of the reservation would not change, only the NPL boundaries indicating contaminated areas.

The board recommended that DOE work with EPA to change the NPL boundaries of the reservation, noting that the change would be beneficial in explaining to the public that Oak Ridge is not as contaminated as is generally perceived.

DOE responded saying it had initiated activities to delineate areas of the reservation that have no history of industrial activity or evidence of contamination.

Recommendation 200 on the Decision Process for Siting a Second CERCLA Waste Disposal Facility

Since 2002 the large low-level waste disposal facility in Bear Creek Valley, known as the EM Waste Management Facility, has been accepting waste from all over the ORR, with most of it coming from demolition activities at ETP. The facility has been expanded several times over the years until it reached its maximum space allowed of 2.2 million cubic yards in 2011.

But even with that expansion it's anticipated more disposal capacity will be needed to handle all the waste generated by activities across the reservation.

The board recommended that DOE begin looking for a suitable site for a second facility. It also made recommendations for a number of steps to follow, including involving the public in the decision making process.

DOE responded saying it would consider the board's recommendations in the focused

feasibility study to investigate a second waste disposal site.

Recommendation 201 on the Liquid Low-Level Waste Pipelines Northern Characterization Study Area

In the central campus of ORNL is the Liquid Low-Level Waste Pipeline Northern Characterization Study Area. Pipes transferred waste from Buildings 2026, 3019, and 3019B to the North and South Tank Farms.

In 2005 the Bethel Valley Groundwater Engineering Study identified soil contamination in the Northern Characterization Study Area. It was suspected that the waste line to Tank W-1A may have leaked causing radiological contamination in the soil.

ORSSAB's EM Committee was briefed on the planned cleanup of the liquid low-level waste pipelines and adjacent soils. The plan presented to the committee was to grout the out-of-service pipelines in place, but the committee felt it would be prudent to remove the unused pipelines wherever they are exposed by excavation of contaminated soils.

The board sent a recommendation to DOE to that effect, but DOE responded saying budget limitations would not allow near-term excavation of soils and the pipelines, and the work would be done with later soils excavation in the ORNL Central Campus.

Recommendation 202 on Salt Removal at the Molten Salt Reactor Experiment

The Molten Salt Reactor Experiment at ORNL tested the concept of using salts to carry uranium fuel through the reactor chamber rather than using fuel rods. When the project was shut down, the uranium was removed from the salts. The salts were drained into three storage tanks and allowed to cool and solidify. DOE and its regulators would like to dispose of the radioactive salts, but the question has been how to do it safely and effectively.

DOE conducted an engineering study concluding that, for now, the best thing to do would be to leave the salts in the tanks until sufficient funding is available to address the problem. The study said the salts could remain in the tanks for up to 50 years.

ORSSAB's EM Committee was concerned that waiting too long might cause DOE to miss a window of opportunity to dispose of the salts in the Waste Isolation Pilot Plant in New Mexico. The board recommended that DOE make sure the disposal facility would be open long enough with sufficient space to take the salts at a later date. The board also recommended that DOE look for an alternate disposal path just in case.

DOE's response indicated it was confident that the New Mexico facility would be open with sufficient space to take the salts at a later date. It also said a remediation strategy will consider alternate disposal paths for the salt.

Recommendation 203 on the U-233 Project Re-Examination

The Building 3019 Complex at ORNL was built during the Manhattan Project and has been used for storage of uranium-233 (U-233) since 1962. Long-term storage of U-233 in 3019 is a significant financial burden to DOE and disposition of U-233 is projected to be very expensive as well, estimated to be almost as much as Oak Ridge's entire annual EM budget. In March 2011 the board received a briefing on proposed alternatives to disposition the U-233 that would reduce the scope and cost of the project.

In a subsequent recommendation the board supported the alternatives analysis, but suggested supplemental funding from DOE be provided to ensure other environmental cleanup activities weren't affected. The

board also suggested a summit meeting of responsible and interested parties to discuss decisions regarding U-233.

At the time of this report DOE had not responded to the recommendations.

EM SSAB Recommendations

In addition to locally generated recommendations, ORSSAB concurred with the other seven SSABs across the country on three recommendations that were sent directly to DOE EM Headquarters.

The combined SSABs first recommended that unique assets in the DOE complex be identified to avoid being discarded or demolished.

The second related recommendation asked DOE to identify items that may have cultural or historic significance and transfer those items to the proper organizations for preservation.

A third EM SSAB recommendation asked DOE to give more consideration to rail transport for moving waste across the country for disposition. The boards considered rail transport to be a safer way to move waste and would help ease truck traffic on the nation's highways.

In November 2011 DOE Acting Assistant Secretary for EM David Huizenga responded to the recommendation on using rail transportation saying DOE had, in the past, successfully used rail for waste disposition and would continue to evaluate use of railways for disposing of future wastes.

DOE had not responded to the other two EM SSAB recommendations when this report was published.

The Year's Top News

October 2010

DOE began working with EPA and TDEC to identify uncontaminated areas of the ORR and change the NPL boundaries of the reservation to include only areas of the reservation that have contamination.

When the ORR was identified for cleanup all of its 34,000 acres were placed on the NPL, but only about 15 percent of the reservation has contamination. It is those areas of the ORR that will be defined as part of the NPL and not the entire reservation. The process does not change the physical boundaries of the reservation. It only changes the boundaries of the NPL.

The board endorsed the process by recommending that DOE work to change the NPL boundaries of the reservation to indicate only areas of contamination (see Key Issues, Recommendation 199).

December 2010

Work to improve the stability of White Oak Dam on Highway 95 was completed in December 2010.

An inspection of the dam by the Federal Energy Regulatory Commission had identified five potential problems that could have compromised the structure.

Modifications included grouting the box culvert under the south end of the embankment, reducing the slope on the upstream and downstream faces of the dam, and armoring the slopes to protect against erosion and overtopping.

March 2011

In Spring 2011 two reports were sent to DOE related to historic preservation of the K-25 Building at ETTP. The first was an engineering

study that gave four options to preserve portions of the K-25 North Tower.

A second report suggested a more inclusive interpretation of historical significance of Oak Ridge to include Y-12, ORNL, and K-25.

The reports were provided to the signatories of a 2005 memorandum of agreement for site interpretation at ETTP for comments. DOE used those comments to develop a final plan related to historic preservation. DOE submitted a proposed mitigation plan for K-25 in October 2011.

April 2011

Gerald Boyd announced that he was retiring from DOE as manager of the Oak Ridge Office. Paul Golan was named acting manager through the end of September.

May 2011

URS, CH2M Hill, and Restoration Services, Inc. form a consortium known as UCOR, which was selected as the new prime cleanup contractor to finish work at ETTP. As part of the contract UCOR also has some surveillance



and maintenance responsibilities at Y-12 and ORNL.

The estimated value of the contract is \$2.24 billion over five years, with an option for an additional four years. Sixty percent of the contract is to be subcontracted, and half of that is to go to small businesses.

UCOR took over from Bechtel Jacobs, Co. on August 1.

In May DOE announced that the Central Characterization Project was leaving the Transuranic Waste Processing Center temporarily. As a result there would be no inspecting and certifying of transuranic waste

Oak Ridge would 'speak with one voice' at DOE Headquarters.

Eschenberg also reported that Oak Ridge's cleanup budget was expected to be about \$400 million for the next few years. He said ways must be found to operate more efficiently with less money.



Members of the board and its EM Committee visited the Transuranic Waste Processing Center in February 2011.

for shipment to the Waste Isolation Pilot Plant in New Mexico.

Project personnel are not scheduled to return to Oak Ridge until 2014. Waste processing at the center will continue, but no shipments will be made until project personnel return.

June 2011

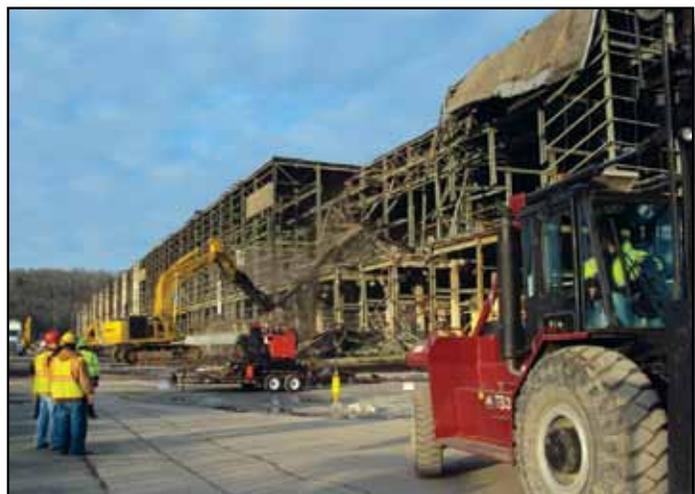
John Eschenberg, DOE Oak Ridge Assistant Manager of EM, reported that program managers for EM, Science, and Nuclear Fuel Supply in Oak Ridge would report directly to DOE Headquarters in Washington rather than to the Oak Ridge Office manager. He said even though the program managers would report to Washington they would continue to work with the Oak Ridge Office manager to make sure they were mutually supportive of each other and that DOE

July 2011

It was announced that Inés Triay, DOE's Assistant Secretary for EM had resigned. At about the same time it was learned that the Office of EM would be placed under the Office of Nuclear Security. A short time later David Huizenga was appointed Acting Assistant Secretary for EM.

September 2011

On the last day of the fiscal year, DOE announced that it had completed the demolition of the K-33 Building at ETTP. The project was completed five months ahead of schedule at a cost of \$51 million. During the nine-month project, 164,000 tons of debris, 13,000 shipments, were disposed at the EM Waste Management Facility on Bear Creek Road near Y-12.



Demolition of the massive K-33 Building at ETTP was completed ahead of schedule in September 2011.

Milestones & Special Events

Five-year Review Site Visits

Every five years DOE Oak Ridge is required to prepare an extensive and comprehensive report that evaluates how well cleanup remedies are working. The report is known as the CERCLA Five-year Review. It provides DOE, EPA, TDEC, and the public with information on the effectiveness of cleanup work, if there is new information about protectiveness, and if a remedy remains appropriate under current conditions.

Before the report is published members of the public are invited to visit remediated sites for a briefing about what was done and how well the remedies are working.

Board members David Martin and Maggie Owen went on several of the visits.

Long-term Surveillance and Maintenance Conference

In November several board members attended the three-day Long-term Surveillance and Maintenance Conference in Grand Junction, Colo.

Sponsored by the DOE Office of Legacy Management, the conference provided education and technical information on long-term stewardship of remediated areas. ORSSAB was invited to

participate after submitting a recommendation to DOE EM to sponsor a similar workshop.

Board Chair Ron Murphree made a presentation at the conference that focused on ORSSAB's concern about stewardship of waste remediated in place at ongoing mission sites, like ORNL and Y-12, or is turned over to a private entity, such as is being done at ETPP.

Oak Ridge EM Budget Workshop

ORSSAB helped DOE Oak Ridge EM organize a public meeting in February at the American Museum of Science and Energy on the

federal budget process and how allocations are made to EM for cleanup work on the ORR.

Speakers included DOE Oak Ridge Assistant Manager for EM John Eschenberg, the Oak Ridge Chief Financial Officer Judy Penry, and the federal project directors for ORNL, Y-12, and ETPP.



Board member David Martin attended one of several site visits for the Five-year Review. This site was the White Oak Dam embayment near Highway 95.



ORSSAB helped organize a public meeting on the federal budget process at the American Museum of Science and Energy in February 2011.

EPA and TDEC representatives also discussed their respective agencies' positions on what DOE should focus on in years to come. Members of the public were allowed to make comments as well.

EM SSAB Chairs Meeting

The semiannual SSAB chairs meetings provide representatives of the eight local SSABs across the DOE complex an opportunity to hear from DOE Headquarters on the status of a number of cleanup-related issues.

ORSSAB Chair Ron Murphree and board member (and former chair) Steve Dixon attended the spring meeting in Las Vegas, Nev.

Presentations were made on waste disposition activities, cleanup budget, and groundwater issues and remediation. The chairs of the eight local boards also approved three recommendations to DOE.

The fall chairs meeting was conducted as a video conference in October.

ORSSAB Recruiting Campaign

FY 2011 came with the realization that in June the board was going to lose a vast amount of experience, probably the most at one time since the board's inception.

Four members, Darryl Bonner, Steve Dixon, Lance Mezga, and Bob Olson were term-limited. Ted Lundy and Kevin Westervelt had notified DOE that they chose not to accept a third appointment.

The board also had changed its bylaws allowing for 22 members. As a result the board needed to fill eight of 22 positions, about a third of the available seats.

So the board launched an extensive recruiting campaign in Anderson, Blount, Knox, Loudon, and Roane Counties. The result was 63 applicants. From those applications eight new members were seated at the July meeting, again the most ever since the board was chartered in 1995.



Deputy Designated Federal Officer John Eschenberg, center, recognized six retiring members in June. From left are Ted Lundy, Darryl Bonner, Lance Mezga, Steve Dixon, Kevin Westervelt, and Bob Olson. Bonner, Mezga, Dixon, and Olson all had completed six years on the board, the maximum allowed by ORSSAB bylaws.

Board Meetings

ORSSAB meetings are held the second Wednesday of each month at 6 p.m., at the DOE Information Center, 475 Oak Ridge Turnpike, Oak Ridge, Tenn. Each meeting features a presentation like the ones described below. Board meetings also include regular business items, such as approval of recommendations and status reports from DOE, EPA, TDEC, and the various ORSSAB committees. The public is always welcome to attend and participate.

October

The new fiscal year began with a presentation by Dave Adler, the board's DOE liaison. His presentation was a discussion about cleanup priorities for the ORR. The board used the information at this meeting and later meetings to develop a recommendation to DOE on its FY 2013 budget request to DOE Headquarters.

November

Dave Adler's presentation at the November meeting was an update on the Central Gaseous Waste System at ORNL. The system is more than 60 years old and will be replaced eventually by ventilation systems for individual buildings.

December

Sid Garland, Bechtel Jacobs, Co., discussed plans for a final record of decision (ROD) for Zone 1 at ETPP. Original plans were to have a sitewide ROD to include both Zones 1 and 2, but because of long-term groundwater issues in Zone 2 the plan now is to have a final ROD for Zone 1 and another final ROD later for Zone 2 when groundwater issues are under control.



Bechtel Jacobs' Sid Garland discussed the ETPP final record of decision at the December 2010 meeting.

January

Inclement weather caused cancellation of the January meeting.

February

Dave Adler made a second presentation on how a budget request for cleanup is formulated and submitted to DOE Headquarters.

He told the board about a computer program called a Dynamic Planning Model that can run scenarios on different funding schemes to help set cleanup priorities.

March

John Krueger, DOE project manager for the Uranium-233 Project at ORNL, told the board about a new proposal to dispose of the material stored at the lab in Building 3019.

Krueger said an alternatives analysis indicated programmatic use for some of the material, while some of it can be disposed directly at the Nevada National Security Site. The remaining portion could be downblended for later disposal. While the project is still an expensive undertaking, the alternatives analysis would see some savings from the original plans to downblend and dispose all of the U-233.



DOE's John Krueger discussed alternatives for disposing of uranium-233 at ORNL at the March meeting.

April

Dave Adler had another discussion with the board about information that had been gathered to help in the preparation of a recommendation on DOE's FY 2013 cleanup budget request. He said developing a budget request involves input

from EPA and TDEC, as well as from ORSSAB and other stakeholders.

He reviewed cleanup priorities across the reservation, which include mercury remediation at Y-12, removal of Tank W-1A and surrounding contaminated soil at ORNL, and demolition of gaseous diffusion facilities at ETPP.

May

In May Dave Adler and Dick Ketelle, Bechtel Jacobs, Co., teamed up to talk about groundwater management strategies for the ORR.

They reviewed contaminated groundwater plumes, priorities to protect human health and offsite water supplies, decision strategies for groundwater management, and remediation goals.



Dick Ketelle, Bechtel Jacobs, Co., right, and Dave Adler, DOE, handled the presentation at the May meeting.

In closing Adler said some groundwater problems may not be solved because large amounts of solvents in bedrock are difficult to extract.

June

Dick Ketelle returned in June to talk about the annual Remediation Effectiveness Report. The report assesses progress of remedial actions toward a stated goal and compliance with long-term stewardship requirements. The report describes the status of ongoing actions, monitoring results, effectiveness of remedies, and stewardship activities. The report identifies new issues that have arisen since the previous report and makes recommendations to address those issues or change current procedures.

July

In July Dave Adler gave an overview of ORSSAB, how it is structured, and what issues it addresses. The presentation had a two-fold purpose: to provide an orientation for nine new members to the board and refresh the public's understanding of what the board is and what it does.

August

The board had its annual planning meeting at the Whitestone Country Inn near Kingston, Tenn.

John Eschenberg, the board's Deputy Designated Federal Officer and Assistant Manager for EM in Oak Ridge, said the challenge for Oak Ridge EM will be reduced budget allocations for cleanup work.

Because of the smaller budgets EM will have to shift priorities.

He said there are three main areas of risk on the ORR:

1. Radiological risk at ORNL
2. Environmental risk of mercury at Y-12
3. Life cycle costs at ETTP – about half of the lifecycle cost at ETTP goes toward surveillance and infrastructure.

His challenge to the board was to think strategically about how to balance those risks.

The board reviewed suggested topics by DOE, EPA, and TDEC to consider in FY 2012. The board made some general decisions about which topics to pursue and what committees should be responsible.

September

The board was introduced to the head of DOE's new cleanup contractor. Leo Sain, President and Project Manager for UCOR, explained the partnership of URS, CH2M Hill, and Restoration Services, Inc. to form UCOR.

He said UCOR's primary scope of work in Oak Ridge is to complete the demolition of the K-25 and K-27 Buildings at ETTP and the removal of Tank W-1A and surrounding contaminated soil at ORNL. UCOR's scope also includes some surveillance and maintenance activities at ORNL and Y-12, including the operation of the EM Waste Management Facility, the low-level waste disposal site in Bear Creek Valley.

Mark Ferri, UCOR Project Operations Manager for K-25/K-27, provided additional information on the demolition activities of the two buildings. He said a section of the remaining east wing of the K-25 Building had been taken out to isolate the southern end of the wing from the rest of the building. The southern end is contaminated with

technetium-99 and was isolated so demolition can proceed on the northern expanse of the wing while characterization continues on the contaminated section.

He said UCOR is looking into ways to fix residual contamination in process equipment in K-27 rather than foaming, which was used by the previous contractor. Ferri said foaming was expensive and a fire hazard.



At the September meeting President and Project Manager for UCOR, Leo Sain explained the company's mission in Oak Ridge and updated the board on work being done at the K-25 Building at ETTP.

ORSSAB meetings are televised the first Monday after the meeting on Knox County Cable Charter Channel 6 and Comcast Channel 12. Meetings are also televised the first Tuesday after the meeting on Oak Ridge Cable Channel 12 and on Wednesdays at 4 p.m. on Charter Cable Channel 3 in Lenoir City.

Members & Liaisons

The following members and student representatives served during all or part of FY 2011.



Jimmy Bell provides consulting services to Egan, Fitzpatrick, Malsch & Lawrence, PLLC, a legal firm involved in environmental issues. Previously, he worked as a chemist at ORNL from 1963 to 1995. He received his

Bachelor of Science degree in chemistry from Berry College and his doctorate in physical chemistry from the University of Mississippi. Jimmy lives in Kingston.



Darryl Bonner works at ORNL as the emergency management task lead. He is an engineer with experience in facility management, pollution prevention, and industrial hygiene. Darryl

resides in Oak Ridge. He rotated off the board in June 2011 after six years of service.



John Coffman is the president of DeNuke Services in Oak Ridge, which provides technical support to DOE contractors. He is a Certified Health Physicist and has worked in

radioactive waste management and remediation activities for more than 25 years. John lives in Clinton. His term ended in June 2011 after four years of service.



Steve Dixon is the owner of Spectra Environmental Group and has worked as the director of management for the Metro Knoxville Airport Authority and as the finance director for the Knoxville Community

Development Corp. Steve lives in Louisville. He rotated off the board in June 2011 after six years of service.



Jenny Freeman has worked with citizen groups since the early 1980s when she was employed under a grant from EPA to educate communities impacted by hazardous and radioactive waste. Throughout the years, she has consulted with environmental organizations on issues such as clean air, hazardous waste laws and regulations, and land use planning.



Brianna Goodlin was one of two student representatives to the board for 2010-11. She graduated from Hardin Valley Academy, where she participated on the Dance Team and was active in more than 10 clubs, including the Earth Club, Debate Club, and Scholar's Bowl.



Janet Hart is an environmental engineer with the Knox County Department of Air Quality Management, where she has worked since 2004. She received Bachelor of Science degrees in civil

engineering and education and a Master of Science in environmental engineering from the University of Tennessee-Knoxville. She is a member of the American Society of Civil Engineers and an Engineer-in-Training for the State of Tennessee. Janet resides in Andersonville.



Bob Hatcher is a research scientist in the Department of Earth and Planetary Sciences at the University of Tennessee-Knoxville and holds the position of Distinguished Scientist and Professor. He

worked 14 years under a joint appointment between the university and ORNL as part of

the UT/ORNL Distinguished Scientist Program. Bob lives in Oak Ridge.



David Hemelright is the marketing director for Alliance Corporation, which provides construction services, primarily to school systems. Hemelright has 20 years of construction management experience in

commercial, retail, and food service construction, and 10 years in maintenance management for retail and K–12 public schools. He received his Bachelor of Arts in American history from Hobart College. David lives in Lenoir City.



Howard Holmes is a physician with Mercy Primary Care of Lenoir City. He was the owner/operator of Physician's Clinic, PC, in Lenoir City from 1993 to 2010. He has worked in the medical field since

completing his internship/residency in 1986. Howard received his bachelor's degree in microbiology and his master's in natural sciences from the University of Arkansas. He received medical training in general medicine from St. George's University and internal medicine from East Tennessee State University. He resides in Lenoir City.



Charles Jensen is the owner and manager of Diversified Technologies, which manufactures, designs, and services wastewater treatment systems for nuclear power plants. He has founded three

technology companies and is operating a third. He has authored several technical papers regarding waste processing in the commercial nuclear industry. Charles lives in Knoxville.



Betty Jones lives in Oak Ridge and is employed by B&W Technical Services Y-12 as a Chemical Process Supervisor. She holds an associate's degree in Applied Science in Environmental Health

Technology from Roane State and a Bachelor of Science in Organizational Management from Tusculum College.



Edward Juarez lives in Loudon and is a retired utility worker who was employed at the commercial Fermi 2 nuclear reactor site in Michigan for 15 years as a trainer, outage

management expeditor, and senior maintenance planner. He holds degrees in sociology and criminal justice.



Ted Lundy taught in the University of Tennessee College of Engineering and then joined the ORNL Metallurgy Division in 1957. Upon retirement from the lab, he joined Tennessee Tech's

Center for Manufacturing Research and became its director in 1989, retiring in 2000. A Knoxville resident, Ted resigned from the board after five years of service.



David Martin is a self-employed engineer who has worked on a wide range of power engineering assignments worldwide. He resides in Harriman, where he operates his family's farm, which is part of the Tennessee Century Farms Program.



Fay Martin retired in 1996 from ORNL, where she worked as an environmental toxicologist. She received her bachelor's degree in chemistry/botany/zoology from the University College of the West

Indies, a master's degree in biology from MacMaster University, and her doctorate in environmental toxicology from the University of Tennessee. She is also a member of the Citizens Advisory Panel of the Local Oversight Committee. Fay resides in Oak Ridge.



Scott McKinney is the vice president of Petroleum Services with Groundwater & Environmental Services, Inc., which provides environmental assessment and remediation services. He has 20 years of experience performing all phases of project management, from site characterization through remediation and closure. Scott received his Associate of Engineering Technology degree from the State Technical Institute in Knoxville and his bachelor's degree in civil engineering from the University of Tennessee. Scott lives in Knoxville.



Kasey McMaster is a student representative on the board for 2011-12. Kasey is a senior at Oak Ridge High School, where she participates on the volleyball team year-round. This is her first experience into a discipline involving the environment, but she became interested through her advanced placement Environmental Science class. She enjoys playing sports, spending time with friends, and reading. She plans to major in business in college.



Steve Mead is Senior Staff Technical Advisor at Y-12. He has extensive experience with nuclear criticality safety, hazardous material storage and transfer, and emergency management. Steve is on the Anderson County Commission, serves as a lieutenant colonel in the Tennessee State Guard, and lives in Oak Ridge. Steve resigned from the board in February 2011 after four years of service.



Gloria Mei is a Senior Technical Staff at ORNL, where she manages and conducts program activities in radiological control and design. She is a diplomate of the American Board of Health Physics and is an adjunct associate professor in the Nuclear Engineering Department at the University of Tennessee. Gloria is an Oak Ridge resident.



Lance Mezga lives in Knoxville and is employed by UT-Battelle as the project manager for environmental integration for new facilities development at ORNL. He has more than 30 years experience in environmental and waste management. Lance has served as a technical expert to national and international agencies. Lance rotated off the board in June 2011 after six years of service.



Josh Monroe was one of the student representatives to the board for 2010-11. He graduated from Oak Ridge High School, where he participated in the Engineering Club and Tennessee's annual Envirothon competition. He also worked with the Clinch River Environmental Studies Organization during the summers.



Ron Murphree is a professional engineer and certified professional estimator with 25 years of construction-related experience. Since 1996 he has been the chief estimator for Denark Construction Co., in Knoxville, where he lives.



Bob Olson is a retired nuclear engineer who lives in Oak Ridge. He worked at the Savannah River Laboratory as an experimental physicist and probabilistic risk analyst and as a nuclear licensing engineer for Sargent and Lundy. Bob rotated off the board after six years of service.



Maggie Owen is a field radiological engineer for the K-25/K-27 Project at ETTP. She received her bachelor's degree from Francis Marion University in South Carolina and is certified by the National Registry of Radiation Protection Technologists. She is a member of the East Tennessee Chapter of the Health Physics Society, the Down Syndrome Awareness Group of East Tennessee, and the Oak Ridge Toastmasters Club.



Greg Paulus retired as the president/owner of Metalite Industries, Inc., which produces and modifies products for persons with mobility disabilities. He is retired from the U.S. Air Force, where he was a lieutenant colonel. He received his bachelor's degree in mechanical engineering

from Marquette University and his Master of Business Administration from Central Michigan University. Greg is a resident of Rockwood.

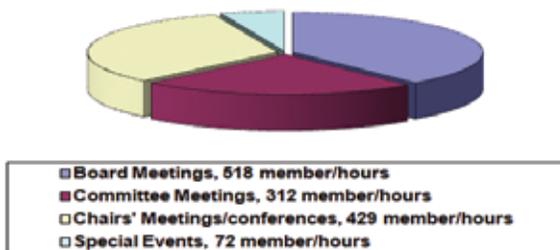


George Roberts is retired from Precision Disc Corporation, where he worked until 1990 as a plant engineer. He served in the U.S. Air Force for 22 years, achieving the rank of captain. He worked as a radio maintenance technician, a nuclear power plant operator/maintenance technician, a radar maintenance officer, and a squadron commander of a 1,000-man unit. George lives in Heiskell.



Amira Sakalla is a student representative on the board for 2011-2012. Amira is a senior at Hardin Valley Academy where she participates on the tennis team, as captain and first seed, and is active in clubs such as National Honor Society and French Club. She volunteers as a Sunday school teacher and with the American Youth Soccer Organization as a referee on weekends. Amira plans to major in pre-med and eventually become a pediatrician.

Time Spent by ORSSAB Members on Board Work



This graphic shows that ORSSAB members spent more than 1300 hours in FY 2011 working on the board's mission of providing informed advice and recommendations to DOE. This does not include time spent away from meetings studying DOE-related material or writing recommendations. All board members and student representatives serve without compensation.



Sondra Sarten is the owner of RS Construction and Fabrication in Lenoir City, which provides metal products and construction services to a variety of organizations, including DOE. Sondra, who lives in Lenoir City resigned from the board in November 2010 after four years of service.



Steve Stow is retired from UT-Battelle, where he worked as director of the American Museum of Science and Energy in Oak Ridge. He is the author or coauthor of more than 70 publications and reports and has been involved with remediation and land use issues on the ORR for 25 years. He has been actively involved in environmental restoration activities throughout the reservation for many years. Steve lives in Knoxville.



Tom Valunas retired in 2009 from Mid-America Renewable Fuels, Inc., where he served as chief financial officer. He previously served in a similar capacity for several companies. He received his Bachelor of Science in economics and his Master of Business Administration from Wharton School at the University of Pennsylvania. He lives in Oak Ridge.



Kevin Westervelt is the civil/structural engineering department manager at Mesa Associates in Knoxville. He is a member of the Tennessee Structural Engineers Association and has more than 25 years of experience in civil/structural engineering as well as experience relating to site environmental compliance. Kevin lives in Knoxville. He resigned from the board after four years of service.

ORSSAB's FY 2011 Agency Liaisons



Pat Halsey, ORSSAB Federal Coordinator; Dave Adler, DOE Liaison; John Eschenberg, DOE Deputy Designated Federal Officer; John Owsley, TDEC Liaison, and Connie Jones, EPA Liaison.

Committees

Board Finance & Process

This committee has overall responsibility for budget prioritization for the board, including setting budget targets for each type of expenditure, proposing general budget guidance, and reviewing monthly costs. The committee also serves as the board's forum for initial discussion on issues involving the ORSSAB Bylaws and Operating Procedures, annual meeting planning, and preparation of the board's annual work plan.



The Board Finance & Process Committee is responsible for managing the board's budget and expenses and is the initial forum for discussion of bylaws revisions, operating procedures, and the annual planning meeting (above).

Executive

General board business is handled by the Executive Committee, which is composed of the elected officers of the board and the standing committee chairs. The committee holds authority to set board agendas, coordinate the work of the committees, and transact business as necessary between regular board meetings.

Environmental Management Budget & Prioritization

Each year ORSSAB is asked to provide input to DOE Oak Ridge EM regarding the development of its annual budget request to headquarters for operations two years beyond the current fiscal year.

In FY 2011 ORSSAB established this new standing committee for the sole purpose of drafting a recommendation for the full board to consider on EM's budget request. In years past that task had been delegated to either the Board Finance & Process or EM Committee. This was also the first year that DOE Oak

Ridge used a computer program called a Dynamic Planning Model to generate various scenarios for cleanup projects on the ORR. The scenarios were based on available dollars, sequencing of projects, dates of completion, and so on.

The program can generate any number

of scenarios, but six were provided to ORSSAB for consideration. The EM Budget & Prioritization Committee studied the six proposals in drafting its recommendation (See Key Issues, Recommendation 197).

Environmental Management

The EM Committee is interested in a wide range of cleanup activities on the ORR.

In FY 2011 the committee received briefings on the following topics:

Tank W-1A Removal

Tank W-1A in the Central Campus of ORNL received liquid radioactive wastes from Buildings 2026 and 3019. The transfer line separated from the tank at some point causing



Workers practice methods of removing Tank W-1A.

extensive soil contamination. The committee received a briefing on how the tank, adjacent contaminated soil, and associated transfer lines are to be removed and disposed.

Bear Creek Valley

DOE, EPA, and TDEC are trying to find an acceptable solution for elevated levels of contamination in Bear Creek that are coming from waste disposed in the Bear Creek Burial Grounds near Y-12.

Expansion of the Onsite CERCLA Waste Disposal Facility

Commonly known as the EM Waste Management Facility, the unit has been expanded to its maximum capacity of 2.2 million cubic yards. Studies are being done to determine the best place to locate a second disposal site to handle all the waste expected to be generated until cleanup is complete.

Remaining Salts in the Molten Salt Reactor Experiment

The uranium fuel was removed from the reactor several years ago, but the salt that carried the uranium through the reactor chamber remains in three underground storage tanks.

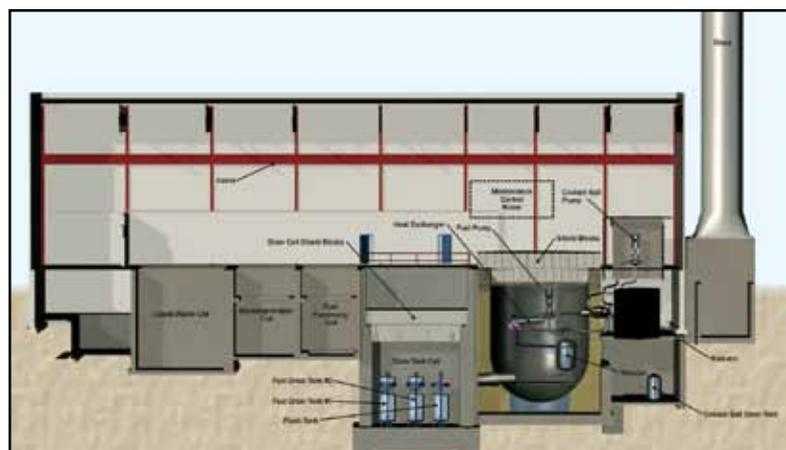
The committee received a briefing on an engineering study that was done to evaluate final disposal alternatives for the salt. Primarily because of budget constraints, DOE proposes leaving the salt in safe storage for several years.

Offsite Groundwater Monitoring

There are concerns that contamination from buried waste in Melton Valley may be moving in groundwater from the reservation, under the Clinch River, and onto private property on the other side of the river. DOE has installed a line of monitoring wells on the west side of the river to determine if contamination is moving off the reservation. In a briefing to the committee, DOE representatives said initial findings are inconclusive. The committee will continue to receive briefings.

Uranium-233

A significant amount of fissile uranium-233 is stored in Building 3019 at ORNL. It's a difficult and expensive project to dispose of the material. The committee heard a presentation from the federal project director who is working on a plan that would be less expensive and would reduce, but not eliminate, much of the dissolution of the material to a more stable form. As a result of that presentation, the committee



One of the many projects on the ORR the EM Committee is interested in is the removal of remaining radioactive salt in the Molten Salt Reactor Experiment near ORNL.

drafted a recommendation endorsing the alternative plan for disposing of the material, ensuring any dissolution be done safely, and encouraging DOE to request sufficient funding for the project.

Public Outreach

The goal of ORSSAB outreach is to achieve the board's mission as it relates to community involvement. To do this, ORSSAB invites public participation in a variety of board activities.

Meetings/Presentations

- Notices are placed in the *Federal Register*, *Oak Ridger*, and *Oak Ridge Observer* to inform the public of board and committee meetings.
- Monthly board meetings begin with a relevant EM-related presentation. This portion of the meeting is broadcast later on local public access cable stations.

Publications/Reports/Presentations

- The ORSSAB annual report is distributed to state legislators, government agencies, and local media and organizations to promote awareness of the board's mission.
- The board's *Advocate* newsletter is distributed quarterly to inform



ORSSAB member Steve Stow addressed the Oak Ridge League of Women Voters at their February 2011 meeting.



ORSSAB student representative Kasey McMaster, center, talks with former ORSSAB member Tim Myrick following his presentation to her Oak Ridge High School Advanced Placement Environmental Sciences class in May 2011. Presentations to area high schools about ORSSAB and the Oak Ridge EM program have been an element of the board's outreach program for many years.

stakeholders about recent board activities and EM cleanup issues.

- Presentations are made by board members to local civic, educational, and government organizations to inform the public about board and DOE cleanup activities.
- News releases are sent to local newspapers on board activities and members.

Special Events/Exhibits/Internet

- Members represent the board at events such as festivals and expos, where informational brochures and ORSSAB logo items are distributed to interested individuals.
- Educational materials, including teacher resources, are prepared to aid public understanding of cleanup and post-cleanup issues.
- Board members participate in high-profile events such as the Secret City Festival and the Oak Ridge EM Budget Workshop, and plan new ways to reach out to the community.
- A toll free number (1-800-382-6938) and website (www.oakridge.doe.gov/em/ssab) provide avenues for information.
- ORSSAB maintains a permanent exhibit at the American Museum of Science & Energy

in Oak Ridge, featuring touch-screen kiosks, posters, and displays to tell the Oak Ridge story.

Stewardship

What is stewardship as it relates to cleanup of radioactive/hazardous waste on the ORR? Simply put, areas where contamination has been left in place after remediation must be continually monitored and protected to make sure the contamination does not escape its confines or that humans do not disturb the area that could lead to harmful personal or environmental exposure.

Appropriately, the ORSSAB Stewardship Committee has been a champion for all things related to stewardship of remediated lands and water, not only in Oak Ridge, but throughout the DOE complex.

In recent years, the committee has been particularly concerned about stewardship of waste remediated in place at DOE sites with ongoing missions, like ORNL or Y-12. While DOE has the Office of Legacy Management for sites that have been closed, there currently is no comparable mechanism to ensure stewardship of remediated areas at ongoing mission sites.

In November 2010 several members of the committee attended the Long-term Surveillance and Maintenance Conference in Grand Junction, Colo. At the conference, which was sponsored by the DOE Office of Legacy Management, ORSSAB Chair Ron Murphree gave a presentation discussing the committee's concerns about stewardship activities at ongoing mission sites.

A result of the conference and the committee's efforts has been the naming of a point of



Melton Valley is a large area near ORNL that was a waste repository for many years. Long-term stewardship for areas like Melton Valley is important to protect human health and the environment for many years to come.

contact in the Office of EM. That contact, Letitia O'Connor, formerly of Legacy Management, has taken initial steps to address the committee's concerns by developing a fact sheet that describes the steps of site transition from cleanup completion to long-term stewardship at ongoing mission sites.



ORSSAB Chair Ron Murphree, second from right, participates in a panel discussion on stewardship at the Long-term Surveillance and Maintenance Conference in Grand Junction, Colo., in November 2010.

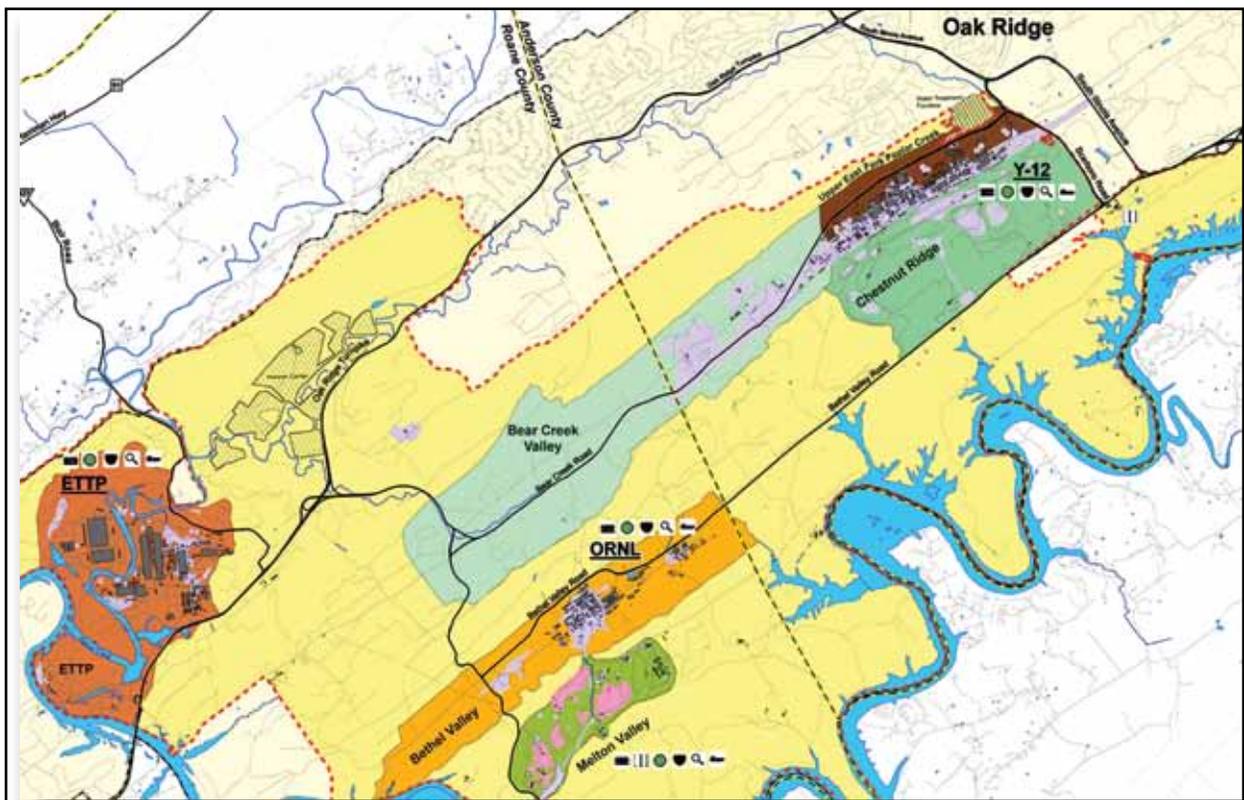
Members of the committee also took an active interest in the development of the Five-year Review. The report is required by CERCLA to document if selected remedies are working as expected

and if the remedy is still appropriate under current conditions. Preparation of the report includes site visits to see first-hand if remedies are performing as planned. Site visits are open to the public and members of the Stewardship Committee went on several.

In FY 2011 the committee generated two recommendations. One was a recommendation to establish a site transition process upon completion of remediation at ongoing mission sites (see Key Issues, Recommendation 198).

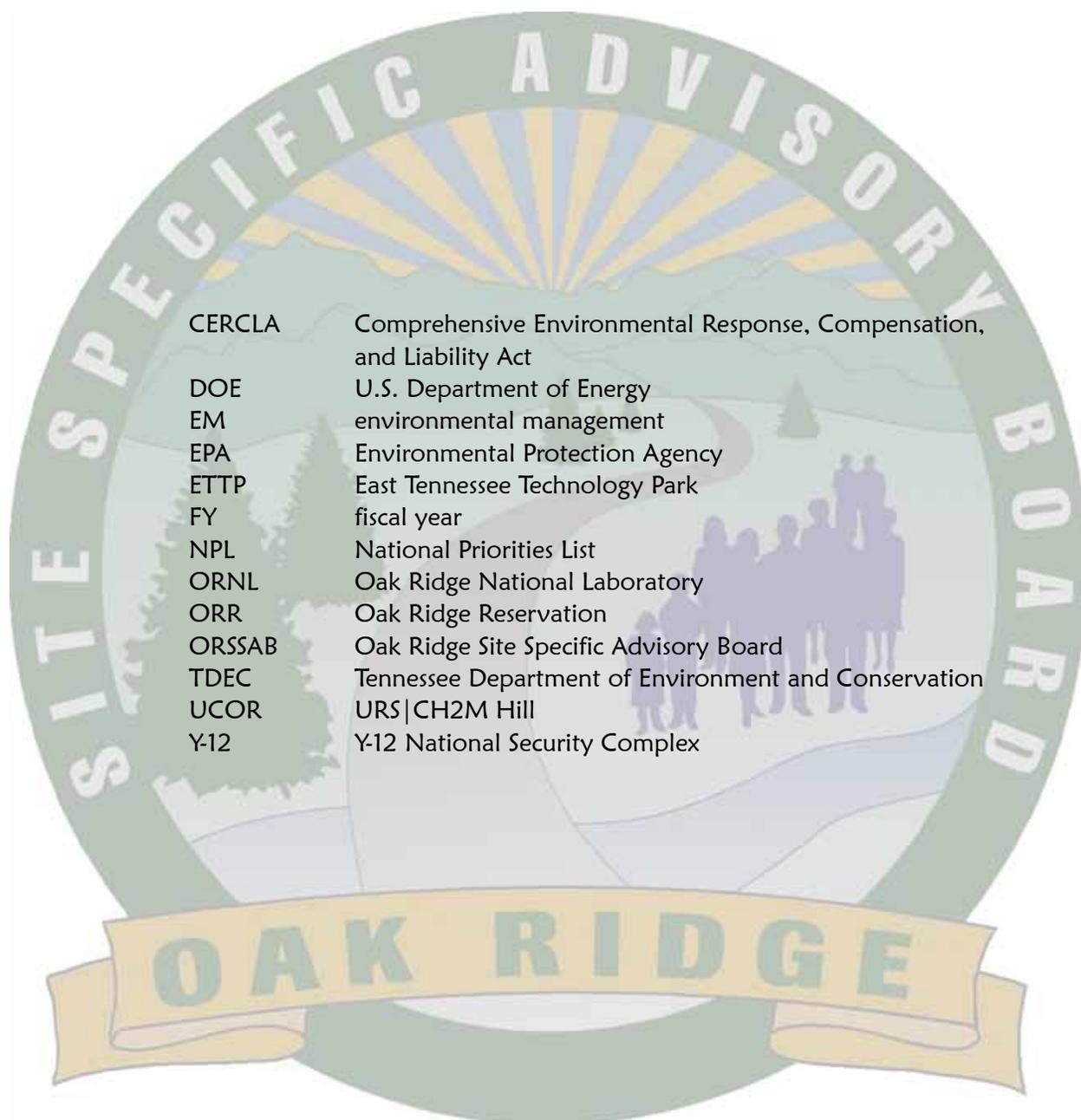
The other had to do with the ORR's designation on EPA's NPL. When the reservation was placed on the NPL for cleanup it indicated that the entire reservation had elements of contamination (see Key Issues, Recommendation 199). In fact only about 15 percent of the reservation has contamination. The committee recommended that the NPL boundaries be changed to reflect only contaminated areas.

DOE and EPA have begun that process. The physical boundaries of the reservation will not change.



This map developed by the Stewardship Committee shows areas of residual contamination on the ORR (light lavender). Changes in the NPL boundaries would include only those areas, not the entire reservation.

Abbreviations



CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOE	U.S. Department of Energy
EM	environmental management
EPA	Environmental Protection Agency
ETTP	East Tennessee Technology Park
FY	fiscal year
NPL	National Priorities List
ORNL	Oak Ridge National Laboratory
ORR	Oak Ridge Reservation
ORSSAB	Oak Ridge Site Specific Advisory Board
TDEC	Tennessee Department of Environment and Conservation
UCOR	URS CH2M Hill
Y-12	Y-12 National Security Complex