

## New Groundwater Strategy Designed to Address Potential Risks On and Off ORR

The Department of Energy (DOE) has produced a groundwater strategy document for the Oak Ridge Reservation (ORR) that outlines a path forward for managing contaminated groundwater on or adjacent to the reservation.

The Oak Ridge Site Specific Advisory Board (ORSSAB) received a

U.S. Geological Survey who acted as a liaison for ORSSAB at the workshops, briefed the board on the workshops and made a number of suggestions for recommendations the board could make on the strategy document.

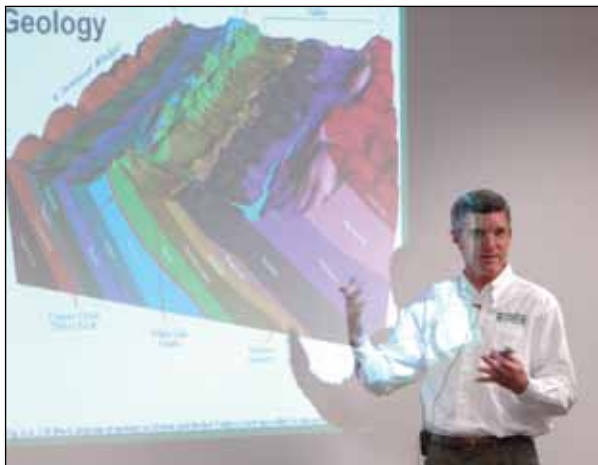
Goode said the agency representatives met in six workshops to identify contaminated groundwater plumes, rank the plumes, develop conceptual models, and decide on near-term actions and groundwater use restrictions.

He said the workshop participants reached consensus on a number of groundwater issues, including selection of a near-term off-site, monitoring project to assess potential risks adjacent to the reservation and to continue an ongoing ORR groundwater program to prioritize and investigate groundwater plumes and data gaps.

The group also developed a number of recommendations that DOE should implement. Those recommendations were:

- There should be additional baseline funding for the ORR Groundwater Program,
- An off-site groundwater quality assessment project should be implemented in FY 2014-16, and
- Identified plumes should be ranked for future long-term remediation strategies.

Goode explained the recommendation for additional baseline funding is



*Dan Goode, U.S. Geological Survey, explains the geology around the ORR during his presentation to ORSSAB on groundwater at the November meeting.*

briefing on the strategy document at its November meeting.

Several areas of the reservation have contaminated groundwater as a result of past activities. During 2013 representatives of DOE, the Environmental Protection Agency (EPA), and the Tennessee Department of Environment and Conservation (TDEC) participated in several workshops to discuss groundwater problems and possible solutions.

At the November meeting, Dan Goode, a research hydrologist with the

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to reinvigorate the interpretation and analysis of monitoring data that are collected. “Since the mid-1990s there hasn’t been much of that,” he said. “There has been some, but it should be strengthened and be added as part of the recognized effort that needs to be done. It’s not just about collecting data and seeing if concentrations are above or below, but using the data to understand what is happening.”

The first activity as part of that effort is to conduct an off-site groundwater quality assessment project within the next two years. “The focus of the project is on the southwest side of the reservation where questions have been asked if contaminants have moved off the reservation,” said Goode. There have been sporadic, low-concentration detections of radionuclides and volatile organic compounds (VOCs) in off-site sampling locations in Melton Valley.

The project will do additional sampling and analyzing of off-site

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## Groundwater Strategy

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groundwater to determine if contaminants unique to the ORR are present and if there is a public health threat. After data collection is complete, the results will be evaluated to determine if additional actions are needed and what the next emphasis of the groundwater program will be. “The three parties agree this is something that is plausible and may have occurred already and needs further investigation. The additional monitoring data can be used to understand the potential for future transport off-site,” said Goode.

Goode explained how the 30-40 identified plumes on the reservation were ranked. The plume score was a total of a pathway score and a hazard score. The pathway was based on the direction of a plume and potential receptors. The hazard score included toxicity, the amount of contaminant, and the longevity of the contaminant.

The plume ranking in the strategy document is sorted by the total pathway score. “The issue that was raised to me initially was ‘should we be

focused on off-site migration?’ Sorting by the pathway score gives you that focus. What are the pathways that are going off-site?”

The plumes identified with the highest pathway score combined with the highest hazard score are in Melton Valley, Bear Creek Valley, Bethel Valley, and the East End VOC Plume at Y-12 National Security Complex.

The area with the highest hazard score was at the site of hydrofracture injections of radioactive waste in Melton Valley. “Measurements of strontium in monitoring wells above the hydrofracture suggest there may be migration of contaminants away from the disposal area,” said Goode.

He said there are records related to the hydrofracture project that “may vanish if not properly cared for. The hydrofracture disposal area is not going away. It’s not going to be remediated, so we really need to make sure we have the best information possible about what is there.”

Susan Cange, the DOE Oak Ridge

Deputy Manager for Environmental Management (EM), clarified for the board that the plume rankings are not the rankings for cleanup decisions, which will determine the plumes that will be addressed. “The purpose of the groundwater strategy was to come up with an agreed-to path forward for additional investigation to allow for future cleanup decisions,” she said. “There will be decisions made under the Comprehensive Environmental Response, Compensation, and Liability Act whether plumes will be remediated or not. The ranking system developed as part of the groundwater strategy is not intended to be the system to decide what may or may not be remediated.

“The rankings are to guide us in where we want to collect additional data in order to support cleanup decisions,” she said.

As a liaison for ORSSAB, Goode made a number of suggestions for recommendations the board might make to DOE on the groundwater strategy. He said ORSSAB could consider recommending that DOE:

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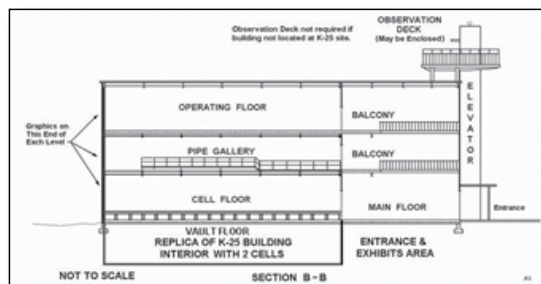
## Proposals Submitted for Historic Interpretation Work Commemorating K-25; Ground Breaking Signals Beginning of Alexander Inn Renovation

Karen Doughty, DOE K-25 Historic Preservation Coordinator, briefed members of the Oak Ridge Heritage and Preservation Association on November 14 on the status of historic preservation efforts for the K-25 Building, the first full-scale gaseous diffusion plant for enriching uranium.

She said five companies have submitted proposals to design an equipment building that will replicate a portion of the building, a history center, and an observation deck at East Tennessee Technology Park (ETTP) near the site of the original building.

DOE and a number of concurring signatories signed a

memorandum of agreement in August 2012 that committed DOE to a number of stipulations to ensure the historic interpretation of K-25 after it’s gone (see Reservation Update, page 3).




*A cutaway conceptual drawing of the Equipment Building that will replicate a portion of K-25. The observation deck may be part of the building or stand alone depending on the final design.*

One of the stipulations is to hire a design team and museum professional to design the equipment building, history center, and observation deck. DOE is evaluating the proposals.

Another stipulation was for DOE to provide \$500,000 toward the purchase and renovation of the Alexander Inn near Jackson Square in Oak Ridge. First known as the Guest House, the inn was where many important people associated with the Manhattan Project stayed.

DOE has provided the funds and ground was broken the same day as Doughty’s briefing.

The inn is being converted to an assisted living facility and is expected to open in mid-2014. 



## Reservation Update

### Last Standing Portion of K-25 Demolished

The last small section of the K-25 Building at ETTP came crashing down a few minutes after 11 a.m. on December 19. The event marked a major milestone for the cleanup of the site and came five years, almost to the day, after demolition began in 2008.

Jim Kopotic, the DOE Federal Project Director, gave the final order. “Blow the building,” he radioed to the heavy equipment operator who used his machine to grab an upper corner of the building and pull it to the ground.

A number of dignitaries were on hand to witness the final demolition, including Deputy Secretary of Energy Daniel Poneman; DOE EM Senior Advisor David Huizenga; and Principal Deputy Assistant Secretary for EM Tracy Mustin, who all came from Washington, DC. Also attending were U.S. Rep. Chuck Fleischmann and several local government officials.

“Today marks a tremendous accomplishment for the American people – advancing our commitment to the safe and complete cleanup of former Manhattan Project sites,” said Secretary Poneman.

Although the building is gone, final disposition of the debris to the on-site disposal facility in Bear Creek Valley will continue until the summer.

The next project will be the demolition of the nearby K-27 Building.

### 3026 Hot Cells Stabilization Completed at ORNL

UCOR, DOE’s prime cleanup contractor for the ORR, has completed installation of permanent electrical

equipment at the 3026 hot cells facility at Oak Ridge National Lab. This action completes all scheduled tasks under the 3026 Hot Cells Transition and Stabilization Phase.

The stabilization activities were conducted to expedite the downgrade of the facility from a Hazard Category 3 nuclear facility to a radiological facility. The downgrade will make the hot cells less costly to maintain.

### DOE Officials Try to Ease Fears About U-233 Disposal at Nevada National Security Site

DOE representatives from Oak Ridge and Washington, DC, traveled to Nevada in November to try to allay fears by Nevada officials and citizens

1961. “The site conditions are ideal for a low-level waste facility,” he said. “It’s an arid environment, there’s little rainfall, there’s a high evaporation rate, there’s deep groundwater at 750 feet. There’s really no groundwater pathway to transport radionuclides to the accessible environment.”

Mark Whitney, the DOE Oak Ridge Manager for EM, said 20 to 25 percent of the mass of the shipping canisters is nuclear absorption material to prevent a criticality accident. Marcinowski said the canisters are shipped in casks that go through rigorous testing to ensure no radioactive leakage occurs in case of an accident.

But according to news reports some of the attendees at the meeting were skeptical. “The material is 76 percent uranium-235 and 10 percent uranium-233,” said one person. “The material in the Hiroshima bomb was about that concentration of U-235. This by any definition of low-level nuclear waste is not that. It’s weapons grade material.”

DOE classifies the material as low-level waste, even though it generates a high radiation dose. Marcinowski said if it’s not high-level waste, spent nuclear fuel, transuranic waste, or a by-product material, it’s classified as low-level nuclear waste. “They are defined by how they are produced,” he said.



*The last standing section of the K-25 Building is pulled to the ground signalling the final demolition of the old building.*

about shipping and disposing canisters containing uranium-233 from Oak Ridge at the Nevada National Security Site.


DOE plans to send more than 400 canisters of the material over about a three-year period to the site, but Nevada representatives and citizens have expressed strong opposition to the plan.

At a public meeting in Pahrump, Nevada, DOE Deputy Assistant Secretary for Waste Management Frank Marcinowski told a group of about 120 people that nuclear waste has been disposed at the site since

### WIPP Could Stay Open Until 2055 According to Managers

The Waste Isolation Pilot Plant (WIPP) in New Mexico could remain open until 2055 say DOE and plant managers.

Farok Sharif, president and project manager of WIPP for Nuclear Waste Partnership, and Joe Franco, the DOE Carlsbad Field Office manager, say continuing defense missions could extend the life of the facility.

WIPP currently receives transuranic waste from sites in New Mexico, Idaho, Illinois, and South Carolina. Oak Ridge will resume shipments of transuranic waste in 2014. 

## EM SSAB Leadership and DOE Officials Gather for Chairs' Meeting

The leadership of the eight boards around the country that comprise the EM SSAB met with DOE representatives in November for the semiannual EM SSAB Chairs' meeting.

The meeting was held at the inn of the Deer Creek State Park near Mt. Sterling, Ohio, southwest of Columbus.

The chairs meet regularly to receive updates on various topics from DOE officials and to discuss common issues they share at their respective sites.

Representing ORSSAB at their first Chairs' meeting were Vice Chair Bruce Hicks and member Corkie Staley.

"On the whole, a very productive meeting," said Bruce.

"It provided opportunities for discussion with EM officials and with other SSAB chairs and members, concerning common issues among the various sites," said Corkie. "The

program updates were informative and provided a clear view of the current DOE EM status and priorities."



*DOE representatives Cate Alexander, Alice Williams, and Christine Gelles, left to right, discussed a number of topics with EM SSAB leadership at the Fall 2013 Chairs' meeting in Ohio.*

Alice Williams, Associate Principal Deputy Assistant Secretary for EM, gave an update on the DOE EM program nationwide.

Christine Gelles, Associate Deputy Assistant Secretary for Waste

Management, talked about the current status of waste disposition.

Always of interest to the chairs are appropriations from Congress for cleanup at their sites. Terry Tyborowski, Deputy Assistant Secretary for Program Planning, provided an outlook for FY 2014. At the time, she said the total EM budget request to Congress was for \$5.622 billion. Oak Ridge's portion of that request was \$413 million.

Recently Congress agreed on an FY 2014 budget resolution that provides top level funding for all appropriations, but doesn't specify individual appropriations. The Oak Ridge EM appropriation should be known in mid-January.

The chairs also deliberated three draft recommendations to send to

*(Continued on page 8)*

## DOE Working to Ease Restrictions on Recycling Scrap Metal

Recycling of materials has been a topic of interest for the EM SSAB chairs for a number of years. A proposed change in DOE policy regarding recycling uncontaminated scrap metal in radiological areas at DOE sites was welcome news for the chairs at their November meeting.

One of the speakers at the meeting was Richard Meehan, National Nuclear Security Administration. He said a final programmatic environmental assessment (PEI) on the proposed change is being reviewed by DOE senior management.

In 2000 DOE suspended the release of scrap metal stored in radiological areas until DOE could develop criteria ensuring the material had no detectable levels of radioactivity.


In 2011 former Energy Secretary Chu issued an action memorandum proposing a change in the suspension policy. It would allow DOE undersecretaries to approve reuse of uncontaminated materials if they could demonstrate implementation of performance improvements consistent with benchmarks agreed upon at a 2010 department-wide workshop on the issue, according to Meehan.

After the action memo was issued, the PEI was released for public comment in December 2012. Meehan said when the public comment period closed in February 2013, almost 23,000 comments had been received, virtually all expressing concerns about the protectiveness of radiological clearance standards. However, Meehan

said 96 percent of the responses "appear to be computer generated and express a standard set of concerns."

He said senior management review of the PEI must conclude with a finding of no significant impact to implement the policy change.

In his closing comments, Meehan said public sensitivities must be considered, but the current policy is "confusing, costly, and provides no tangible benefit to the environment or public health."

He said changing the suspension policy would align DOE with domestic and international commercial standards, but periodic third party review should be considered to maintain performance standards. 



## EM and Stewardship Committees Merge

After several joint committee meetings and discussions, members of ORSSAB's EM and Stewardship Committees voted to merge the two committees.

For many years ORSSAB has had EM and Stewardship Committees with separate missions. EM is interested in DOE's planning and implementation of environmental restoration projects on the ORR and on the treatment, storage, transportation, and disposal of wastes generated by remediation work.

Stewardship is interested in the long-term monitoring and protection of hazardous or radioactive waste that has been remediated in place to ensure contamination does not escape its confines, which could cause harm to humans or the environment.

Dave Adler, ORSSAB's Alternate Deputy Designated Federal Officer,

first proposed the possibility of merging the committees with Stewardship members at their June meeting and at the EM Committee meeting the following evening.

He said the idea was proposed because "there needs to be a viable, enduring program for stewardship,"



*This graphic shows the organization of all the ORSSAB committees for FY 2014.*


because in the last few years member participation in the committee had been dwindling. "That's perhaps to be expected," said Adler. "The committee did much important work in the early years of the board, but since the early policy development has

been completed, stewardship on the reservation is in the implementation stage, and, as a result, member participation has waned.

"There is no intent on the part of DOE to diminish the focus of stewardship," he said, "but there is a concern that the current committee structure may not be the way to ensure a viable, enduring stewardship focus."

He noted that there are common areas of interest between the two committees, such as effectiveness of remedies implemented, long-term disposal of waste, and potential additional disposal sites that will require long-term stewardship.

Merging the committees also eliminates duplication of effort and provides more board members a better understanding of how EM and stewardship are linked.

At the first meeting of the new EM & Stewardship Committee in September, Bob Hatcher, chair of the former EM Committee, and Corkie Staley, former Stewardship chair, were elected co-chairs. 

## ORSSAB has a Legacy of Stewardship

ORSSAB has a long history of stewardship activities, and in a number of areas, set the standard for stewardship across the DOE complex.

It all began with the formation of the End Use Working Group (EUWG).

In 1996 DOE asked ORSSAB to initiate a process to gain a better understanding of what the community wanted regarding future use of contaminated areas of the ORR.

ORSSAB formed the EUWG in 1997 to consider the possibilities. Sixteen months later, the group of about 20 community volunteers submitted its report.

The EUWG recognized that if DOE implemented its recommendations, significant amounts and levels of radioactive and chemical contaminants would have to be managed in place, and as a result the EUWG could not endorse any remediation program without

assurance of long-term care for waste remediated in place. That led to the formation of a Stewardship Committee



*Oak Ridge and Roane County high school students prepared a summary of the two Stakeholder Reports on Stewardship that clearly explains how stewardship should be conducted on the ORR.*

to develop detailed stewardship recommendations. That committee produced two *Stakeholder Reports on Stewardship* for the ORR in 1998 and 1999.

In October 1999, ORSSAB hosted a national workshop on stewardship that included DOE stakeholders and SSABs across the country. The goal was to enhance participants' understanding of stewardship and how it applies at DOE sites.

The workshop resulted in "Ten Next Steps for Stewardship" that included dedicated funding for stewardship at DOE sites, development of site-specific stewardship plans, and the establishment of stewardship information systems.

In early 2005, ORSSAB and its Stewardship Education Subcommittee released the Stewardship Education Resource Kit. The kit was developed to help high school science teachers educate their students on the importance of stewardship.

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## ORSSAB Completes New Interactive Waste Management Display

What are the lifespans of various nuclear wastes, and how long does DOE intend to manage them? What's the best way to manage high-level radioactive wastes? Where is Oak Ridge shipping its wastes?

Answers to these and many other questions can be found in ORSSAB's interactive and fun display at the American Museum of Science and Energy in Oak Ridge.

This new addition to the board's permanent exhibit focuses on waste management activities and challenges for the EM program. It features five programs designed to educate and engage the public: Building the Weapons Complex, Categorizing Nuclear Waste, The Lifespan of Nuclear Waste, Waste Management Challenges, and Transporting Radioactive Waste.

The display complements an already robust exhibit of touch-screen kiosks, displays, and posters that tell the story of the Oak Ridge cleanup program.


Touch-screen displays have proven popular with museum visitors since the board first started using them in its exhibit in 2005. In 2010 ORSSAB



*An interactive displays sits atop a replica waste container at the ORSSAB museum exhibit.*

debuted a new three-sided kiosk incorporating touch-screen monitors that lead visitors through key aspects of the EM program: site cleanup activities, history, and long-term stewardship. Each monitor allows museum visitors to explore these aspects in depth with detailed programs and videos.

Located on the second floor of the museum, the ORSSAB exhibit also features a scale model of the EM Waste Management Facility in Bear Creek Valley and one of the remotely controlled planes that used infrared photography to survey waste disposal sites on the ORR.

The museum is located at 300 S. Tulane Avenue in Oak Ridge. Hours are Monday-Saturday: 9 a.m. - 5 p.m. and Sunday 1 - 5 p.m. The museum is open daily except New Year's Day, Thanksgiving, Christmas eve, and Christmas day. 

## Why the Environmental Survey is Important to ORSSAB and You

by Scott McKinney  
Chair, ORSSAB Public  
Outreach Committee

The members of ORSSAB are making available an opportunity for you to be heard. Starting this month we are undertaking a public survey to gain feedback on how effectively we represent the citizens of the region on the work being done by DOE's EM Program.

The responses from the eight-question survey will help us assess the community to evaluate the level of interest, identify interested parties, and determine the nature of potential concerns. Specific areas that your feedback could impact include:


- Understand the issues that are important to you!
- Measure the public awareness of the board's monthly meetings. The board's public participation program ensures that our community has an opportunity to actively participate in the decision-making process. Statute and policy mandate

a community involvement program that creates a dialog with the public when we are overseeing cleanup at hazardous waste sites.

- Measure the awareness of the various publications and outreach, including the ORSSAB annual report, the *Advocate* newsletter, newspaper advertisements,

commercials, and social media, including Facebook.

- Gain insight on how effectively the board is representing the overall interests of the community's natural resources and economy.

The survey is available on the web at the address shown. 

### Your Opinion Matters!

Public comment is vital to the SSAB, so we would like to hear your concerns and opinions about environmental cleanup issues at the DOE Oak Ridge Reservation. Please take a moment to fill out our easy seven question on-line survey. If you need help, call our office at (865) 241-4583 or 241-4584.

**Public Environmental Survey**



**Log on to the survey at:**  
[www.surveymonkey.com/s/WDFWPHS](http://www.surveymonkey.com/s/WDFWPHS)



## Annual Report Reviews FY 2013 Recommendations, Accomplishments

by Dave Hemelright  
ORSSAB Chair



In FY 2013 it was my privilege to serve as the vice chair of ORSSAB. The previous year was something of a rebuilding time for the board because we had nine

new members join our ranks – 40 percent of our available seats. But by FY 2013 those new members settled in quickly and became active participants in board and committee activities.

Our current makeup of members may be the most diverse the board has ever had. That diversity is key in our ability to represent the public at large in matters related to the cleanup of the ORR.

The board's primary mission is to provide independent advice and recommendations to DOE on its environmental cleanup program to remedy the reservation of hazardous and radioactive wastes left over from

the Manhattan Project and the Cold War era.

In FY 2013 the board approved and sent five recommendations to the Oak Ridge DOE EM Office, and it signed off on three recommendations crafted


by the leadership of the eight SSABs nationwide that comprise the EM SSAB.

We received monthly briefings on the various projects underway on the reservation, such as progress on work at ETPP, the status of legacy waste disposition, an overview of the national DOE EM Program, and a refresher on the importance of long-term stewardship, to name a few.

And after many years of having separate EM and Stewardship Committees, the two merged in August 2013.

The details of all these topics and more are found in our FY 2013 Annual Report, which is available on our website at [www.oakridge.doe.gov/em/ssab/annualreports.html](http://www.oakridge.doe.gov/em/ssab/annualreports.html). You may request an electronic copy by calling our support office at 865-241-4583 or 241-4584.

Our board meetings are always open to the public. We meet the second Wednesday of each month at 6 p.m. at the DOE Information Center, 1 Science.gov Way, Oak Ridge, Tenn.

We hope you'll join us. 

### ORSSAB FY 2013 Annual Report



*The ORSSAB annual report is available on our website at [www.oakridge.doe.gov/em/ssab/annualreports.html](http://www.oakridge.doe.gov/em/ssab/annualreports.html). You may receive an electronic copy by calling 865-241-4583 or 241-4584.*

## DOE Appoints New Member to ORSSAB

DOE has appointed Carmen DeLong to ORSSAB for a two-year term.


Carmen has worked in the nuclear industry since 1991, starting with human health risk assessments and health physics related projects at various DOE organizations such as Oak Ridge National Lab; Fernald and Portsmouth, Ohio; and Rocky Flats, Colo.

She later worked on the decontamination



and decommissioning of Buildings K-29, K-31, and K-33 at ETPP, which housed over 1,500 converters used to enrich uranium. The Three


Building Project was the single largest nuclear decontamination and decommissioning project in the history of the United States at the time.

Her experience includes system designs and modifications for utility and waste management projects. 

## Former Student Rep Featured in Article

Hubert Gibson, an ORSSAB student representative in 2007-2008, was featured in a recent issue of *Archaeology* magazine.

Hubert, a graduate student at Georgia Southern University, was part of an archaeological team excavating a Confederate prisoner of war site, Camp Lawton, located in Magnolia Springs State Park about 200 miles southeast of Atlanta.

Hubert's work focused on excavating trenches that were dug by prisoners and slaves to accommodate the prison's stockade. 

## Groundwater

(Continued from page 2)

- Proceed with the off-site groundwater quality assessment project;
- Secure additional baseline funding for interpretive analysis to obtain maximum benefit of monitoring data and other information;
- Adopt the plume rankings for management of site-wide groundwater remediation; and
- Collect, review, and archive records associated with hydrofracture disposal.

The two-volume Groundwater Strategy for the Oak Ridge Reservation (DOE/OR/01-2628) is available at the DOE Information Center, 1 Science.gov Way, in Oak Ridge or online at [www.oakridge.doe.gov/external/Home/PublicActivities/DOEInformationCenter/tabid/126/Default.aspx](http://www.oakridge.doe.gov/external/Home/PublicActivities/DOEInformationCenter/tabid/126/Default.aspx).

## Chairs' Meeting

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DOE. The topics were:

- EM funding should be a top priority,
- DOE should develop a graphic representation of waste disposition paths, and
- DOE should establish a comprehensive and structured recycling program to address volumetrically contaminated waste.

The three recommendations will be reviewed by the eight boards for concurrence.

After an educational presentation of public input on DOE practices, another recommendation was suggested. "I was charged with drafting a recommendation to improve education of the public of DOE successes for consideration at the Spring 2014 meeting at Hanford," said Bruce.

## Stewardship

(Continued from page 5)

An important piece of the kit that is still useful is *Student Summary of the Stakeholder Report on Stewardship*. As the Stewardship Committee developed the kit, it asked students of Oak Ridge and Roane County high schools to prepare easily understandable summaries of the Stakeholder Reports.

In 2008 the committee worked with DOE to develop a Stewardship Map that shows areas of the ORR that have contamination and the various land use controls associated with those areas.

Coupled with all of these major undertakings, the Stewardship Committee continued to monitor stewardship activities on the ORR. Since 1996 the committee issued almost 50 stewardship-related recommendations and comments to DOE.



## Oak Ridge Site Specific Advisory Board

P.O. Box 2001, EM-90  
Oak Ridge, Tennessee 37831

### UPCOMING MEETINGS

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

#### Board meeting

January 8, 6 p.m., topic: Sufficient Waste Disposal Capacity for the ORR.

#### Committee Meetings

See our website at [www.oakridge.doe.gov/em/ssab](http://www.oakridge.doe.gov/em/ssab) for dates and meeting topics.

### ABBREVIATIONS

DOE — Department of Energy  
EM — Environmental Management  
EM SSAB — EM Site Specific Advisory Board  
EPA — Environmental Protection Agency  
ETTP — East Tennessee Technology Park  
ORR — Oak Ridge Reservation  
ORSSAB — Oak Ridge Site Specific Advisory Board  
TDEC — TN Dept. of Environment and Conservation

