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ADVOCATE

Teachers Become Students to Learn About Stewardship

A group of area high school teachers spent some time recently as students learning how to use a new teaching resource called the Stewardship Education Resource Kit. The kit is designed to educate students about the science, history, and cleanup of contaminated areas around Oak Ridge where work was done in nuclear weapons development and research.



DOE-Oak Ridge Assistant Manager for Environmental Management, Steve McCracken, welcomes workshop participants on February 9.

A great deal of hazardous and radioactive material was generated over four decades of work. Some of that waste must be left in place to be protected and monitored for decades to

come. The kit explains why long-term stewardship of those areas is important and how it is achieved.

The kit was developed by the Oak Ridge Site Specific Advisory Board (ORSSAB), an independent group of citizens that provides recommendations and advice to the Oak Ridge Office of the Department of Energy on its cleanup activities on the Oak Ridge Reservation.

Two dozen ecology and environmental science teachers representing public and private high schools in Knox and Anderson County spent a Thursday evening and a snowy Saturday in early February learning how to use the kit in the classroom. Workshop leaders explained

how to use each lesson, showed videos included with the kit, and demonstrated the use of support materials and related Internet websites.

The teachers participated in group activities and listened to a panel discussion on stewardship that included representatives from ORSSAB, the Department of Energy, and the Tennessee Department of Environment and Conservation.

The kit has five lessons and an appendix. Lecture notes allow teachers to become familiar with the material before presenting it. Each lesson includes support materials to keep the topic interesting, such as crossword puzzles and maps.

The kit also includes two videos. "The White Hole" is a thought-provoking animated film about unforeseen consequences of waste disposal. "The Manhattan Project" is a documentary of the effort to build the first atomic bomb, in which Oak Ridge played a pivotal role.

The appendix provides additional resources, including a glossary, a CD of historical photographs, a list of acronyms, a list of Internet sites related to long-term stewardship, a presentation explaining the need for stewardship, and several games and puzzles.

At the conclusion of the workshop almost all of the participants said they would begin using the kits in their classrooms. "I think you should continue to do this and expand it beyond just ecology and environmental science into other subject areas, like history and social studies," one teacher remarked.

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photos on pages 2 & 3*

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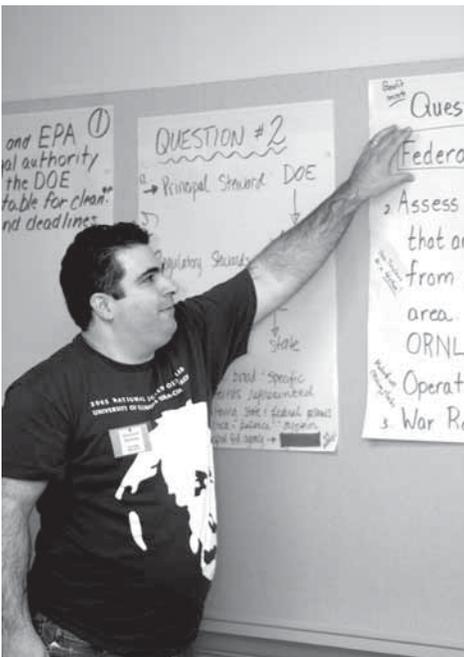
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The Advocate is a publication of the Oak Ridge Site Specific Advisory Board (ORSSAB)—an independent, nonpartisan, volunteer citizens panel providing recommendations and advice to DOE's Environmental Management Program



Stewardship Education Workshop

February 9 & 11
Pollard Auditorium





Clockwise from top left page: Ralph Skinner with the DOE-Oak Ridge Environmental Management Program presents the historical background of the cleanup program. One of the several breakout sessions. The online Internet research exercise. A teacher presents the results of her breakout group discussion. The online Internet research exercise. Members of the stewardship panel discussion: (from left) John Owsley, (Tennessee Department of Environment and Conservation) Norman Mulvenon and Kerry Trammell (ORSSAB), Ralph Skinner (DOE), Tyler Johnson (ORSSAB Stewardship Committee). Workshop facilitator Mike McKinney. One of the three case study breakout groups. A teacher reports the results of his breakout group discussion. A breakout group at work.



Changes Proposed for Cleanup at the Molten Salt Reactor Experiment

Located in Melton Valley near Oak Ridge National Laboratory, the Molten Salt Reactor Experiment (MSRE) operated from 1965 to 1968 to test the practicality of the molten salt reactor concept. The reactor was shut down in 1969, and because of concerns about a release of contamination or a possible nuclear criticality, a remediation project was begun in 1994 that continues today.

Now changes have been proposed to the project's Record of Decision (ROD), which was signed by DOE, the State, and EPA in 1998. At the March 8 ORSSAB meeting, the Board and the public got an update on MSRE remediation and the proposed changes to the ROD from DOE Project Manager Mike Jugan.

Jugan explained that an Explanation of Significant Difference has been prepared by DOE to change the ROD so that the reactor's uranium is transferred to Building 3019 at Oak Ridge National Laboratory for interim storage instead of being converted to a stable oxide.

"The plan is to process the MSRE uranium with a larger batch of uranium already in storage at Building 3019," said Jugan. "When the ROD was originally written there was no plan for the uranium, so we were going to store it for an indeterminate amount of time."

The ROD also calls for the reactor's fuel and flush salts to be removed

and stored in Solid Waste Storage Area 5 in Melton Valley. DOE is currently reviewing the requirements for shipping the spent fuel and salt to the Waste Isolation Pilot Plant in New Mexico.

Jugan said that while work continues on the project 24 hours a day, there have been some problems with transferring some of the fuel salts from the storage tanks. A plugged transfer line and a number of equipment

dismantlement of everything above ground, then covering and grouting everything below grade. The site would be restored by capping and grading.

Another alternative is to institute a surveillance and maintenance program for a period of about 10 years and leave the facility largely intact.

The third alternative is partial demolition of the facility with above-grade material being sent to a disposal cell and everything below grade remaining onsite and covered over.

The fourth alternative would be a complete demolition of the facility with everything being disposed offsite.

At ORSSAB's request, DOE generated a fact sheet about the Explanation of Significant Difference to inform the public about the proposed changes. The fact sheet became the subject of an ORSSAB recommendation at the March 8 Board meeting.



Molten Salt Reactor Experiment site in Melton Valley.

failures have slowed work on the drain tanks. DOE and its contractor, Bechtel Jacobs, are attempting to work around the plugged line to get the fuel salts moving again.

The final chapter of the MSRE will be its eventual decontamination and decommissioning. Jugan said that a feasibility study will be prepared considering several alternatives.

The preferred alternative is partial demolition of the facility with onsite disposal. This would include

In the recommendation, the Board is asking DOE to remove or revise some of the highly technical language so the document is more appropriate for the general public (see the "Recent Recommendations and Comments" on Page 5). When published, the fact sheet will be available at the DOE Information Center on Oak Ridge Turnpike (865-241-4780).

Recent Recommendations & Comments

Complete text of all ORSSAB recommendations and comments, and DOE responses can be found on our web site at www.oakridge.doe.gov/em/ssab/recc.htm.

Recommendation on the Fact Sheet for the ESD for the Molten Salt Reactor Experiment Interim Record of Decision

As a result of a recommendation by the Board in October 2001, DOE adopted a process whereby the Board could review Explanation of Significant Difference (ESD) fact sheets to ensure they are easily understood by the general public.

In January 2006 DOE issued a draft fact sheet on the ESD for proposed changes to the Molten Salt Reactor Experiment Interim Record of Decision. The purpose of this document is to alter how fuel and flush salts from the reactor would be handled. DOE is now proposing interim storage of the spent uranium fuel in lieu of conversion to a stable oxide form.

After reviewing the fact sheet, the Board recommended that it be rewritten to be more understandable to the lay person, while retaining sufficient technical information to explain the details of the change for the benefit of the scientific community. The Board specifically recommended a revision of the cost and schedule discussions to explain changes in project attributes over the duration of the project.

The Board also recommended that information be included as to how the ESD will affect current remediation activities at Building 3019 at Oak Ridge National Laboratory, where material from the Molten Salt Reactor

Experiment would be stored, and how the ESD would impact that cleanup project's schedule.

Permit Modification for the Waste Isolation Pilot Plant

In November 2005, the New Mexico Environment Department announced its intent to approve a modification to the Hazardous Waste Facility Permit for the Waste Isolation Pilot Plant to allow for the disposal of remote-handled transuranic waste. The department asked for public comment on the proposed modification.

In January 2006 ORSSAB sent a comment letter to the New Mexico Environment Department endorsing the modification of the permit. The Oak Ridge Reservation has the largest inventory of remote-handled transuranic waste in the DOE complex, and the Board has been waiting for some time for approval of this modification, which is an important step toward the removal and safe long-term care of this waste category.

Independent Verification of Cleanup at ETTP

ORSSAB feels that the success of reindustrialization at East Tennessee Technology Park (ETTP) will be largely contingent on the assurance that DOE provides regarding the suitability of the property for use as a business park and that the site is a safe work environment. The Board believes that independent verification of site cleanup will provide another level of assurance as to the viability and safety of ETTP for new development.

The Board also believes that independent verification greatly enhances public credibility because

third-party verification provides an unbiased assessment of the decontamination and decommissioning process.

In March 2006 the Board recommended that DOE conduct independent verification at ETTP and hire a contractor, or contractors, experienced in performing cleanup verification of sites with both residual radiological and hazardous contamination. It also asked for periodic updates on the status of the verification process.

The Board pointed out that independent verification is not without precedent on the Oak Ridge Reservation. The process was employed to validate cleanup of East Fork Poplar Creek; at the recent decontamination and decommissioning of Buildings K-29, K-31, and K-33 at ETTP; and at the David Witherspoon sites cleanup project in Knoxville.

DOE Response to ORSSAB Recommendation on the Use of Standardized Language in Land Records

In July 2005 the Board recommended to DOE that it use standardized language when submitting land parcel notices of contamination to local land record authorities (registers of deeds, property assessors, etc.). The recommendation also suggested the use of a standard cover sheet when transmitting environmental notations.

In February 2006 DOE responded by saying it endorsed the idea of using standardized language and the suggested cover sheet and that it would institute quality control procedures to determine if the environmental notations have been properly recorded.

Reservation Update

DOE Transfers Two More Buildings at ETTP to CROET

The Department of Energy (DOE) has transferred two more buildings at East Tennessee Technology Park (ETTP) to the Community Reuse Organization of East Tennessee (CROET).

Building K-1036, comprising 80,000 square feet, was built in 1945 and served as a warehouse. K-1400 is a 13,000-square-foot office building. Both are currently occupied by private sector companies.

CROET had been leasing the buildings from DOE. The ownership transfer is part of the overall effort to reindustrialize the site under the banner of the Heritage Center.

DOE has now transferred six buildings at ETTP to CROET, as four office buildings were transferred in June 2005.

Who Knows What Secrets Lie in the Heart of EMWMF?

Classified junk coming from ETTP is going into the Environmental Management Waste Management Facility (EMWMF).

Bechtel Jacobs Company, DOE's prime cleanup contractor, confirmed recently that shipments of classified waste from cleanup operations at ETTP began in January to EMWMF.

The gaseous diffusion technology used at K-25, now ETTP, is still classified, so anything being thrown away that was used in that process is classified material. How much material is being disposed and exactly where it is going in the waste cell is classified as well.

TSCAI No Health Hazard

The Toxic Substances Control Act Incinerator (TSCAI) does not present a public health hazard to nearby

residents, according to a report by the Agency for Toxic Substances and Disease Registry (ATSDR).

A public health assessment of the incinerator conducted last year by ATSDR determined that while the incinerator does release trace levels of contaminants they are far below levels associated with health effects. ATSDR said TSCAI has a highly sophisticated design that surpasses state and federal regulations to protect human health and the environment.

The final version of the assessment is available at public libraries in Oak Ridge, Harriman, Rockwood, and Kingston; the Oak Ridge Civic Center; Roane State Community College; and the DOE Information Center. It's also on the web at www.atsdr.cdc.gov.

Cleanup Report Available

The latest edition of "Cleanup Progress: Annual Report to the Oak Ridge Community" is now available.

The report is available at the DOE Information Center or can be viewed online at www.bechteljacobs.com/pdf//CleanProg2005.pdf.

EM Budget Remains Stable for FY 2007

While the overall budget request for DOE-Oak Ridge actually increased a little, the line item for the Environmental Management program remained at the FY 2006 allotment of \$509 million.

DOE-Oak Ridge Manager Gerald Boyd said the proposed FY 2007 budget released in February was \$2 billion for Oak Ridge, which is a just over a \$100 million increase from 2006. The increases are proposed for Advanced Scientific Computing, the international fusion experiment, the Spallation Neutron Source, nuclear nonproliferation,

and other research projects. Nuclear energy and defense programs, along with Environmental Management, have stable funding proposals.

Funding Shortfalls, Other Changes Affect Milestones

The DOE-Oak Ridge Office has notified the Environmental Protection Agency and the Tennessee Department of Environment and Conservation that milestones in Appendix E of the Federal Facility Agreement will be impacted by FY 2006 budget shortfalls. The notification is to seek approval to change the milestones currently in the Appendix E for FY 2006–2008.

Milestones affected are submission dates for various documents, such as waste handling plans, phased construction completion reports, and removal action reports.

Other Appendix E milestones identified this year within this notification were affected by previous year funding shortfalls that were absorbed by the cleanup program by slowing or delaying field work without affecting close-out document milestones. This was not the case this year, and those milestone impacts have been noted. Additional milestones were identified that have been affected by changes over the last three years through increased project and program scope.

Milestones affected as a result of technical implications, most notably the remedial investigation/feasibility study for the ETTP site-wide Record of Decision, have been identified but will have to be submitted individually to obtain regulatory approval. The ETTP sitewide feasibility study was originally due in March 2006, but now is proposed for June. This delay will directly affect the release of the Record of Decision for this important phase of the cleanup work at ETTP.



Each month the ORSSAB Public Outreach Committee reaches out to the community with briefings and presentations. Top photo: Lance Mezga (left) and Norman

Mulvenon (far right) brief Representative Jim Hackworth on Environmental Management Program issues in a meeting at the Oak Ridge National Laboratory cafeteria on December 8. Board member Heather Cothron participated in the briefing as well. Bottom photo: the ORSSAB display set up by member Steve Douglas at the Perma-Fix Mixed Waste User's Forum, held December 5–8 at the Opryland Hotel in Nashville.



Teachers Workshop

continued from page 1

“This workshop was the first public rollout of the kit” said ORSSAB member Heather Cothron. “Our goal was to introduce the teachers to the kit and provide a tool to help students understand how history, science, and citizenship are interrelated.”

ORSSAB member Donna Campbell said, “The importance of conveying information about the nature, extent, and location of contamination to future generations is essential to proper handling of the contaminated land now and in the future. It’s our generation that must take responsibility to ensure this process is in place.”

“The Department of Energy’s Environmental Management Program in Oak Ridge couldn’t be happier with the success of the kit and the teacher’s workshop,” said Pat Halsey, the Board’s Federal Coordinator. “We totally support this concept and encourage its incorporation into the local school systems’ curricula.”

ORSSAB to Host National Chairs Meeting

The Spring 2006 meeting of the nine Site Specific Advisory Boards (SSABs) from across the DOE complex has been set for April 26–28 in Knoxville.

ORSSAB will host the approximately fifty participants, including Chairs and members of the SSABs and representatives from DOE-Headquarters. Assistant Manager for Environmental Management, Jim Rispoli, has been invited to address participants on the opening day of the meeting.

Participants will tour the DOE Oak Ridge Reservation on Wednesday, April 26, before getting down to business for a whole-day session on Thursday, April 27, and a half-day session on Friday, April 28.

The agenda includes an update on the DOE Waste Disposition Strategy, lessons learned from the SSABs at DOE closures sites, and a discussion of the FY 2007 Environmental Management Program budget.

Since 1998 the Chairs of the SSABs from across the DOE complex have met twice yearly to discuss issues of mutual concern, work on joint recommendations to DOE, hear presentations from DOE-Headquarters personnel, and learn about the host DOE site.

The Fall 2006 meeting has already been set for September 6–8 in Santa Fe, New Mexico.

Based on interest from those who attended, the Board plans to gather a focus group of workshop teachers in the near future to learn how the kit is being used in the classroom.

The lessons in the kit are not just for teachers and students; they’re available to everyone. Individuals can access the kit materials on the ORSSAB website (<http://www.oakridge.doe.gov/em/ssab/stewardship-kit/kit.htm>). Organizations that have an interest in stewardship and the environment may request a version of the kit created for general distribution.

More information about the kit and ORSSAB is available at the Board’s web site at www.oakridge.doe.gov/em/ssab or by calling (865) 576-1590.

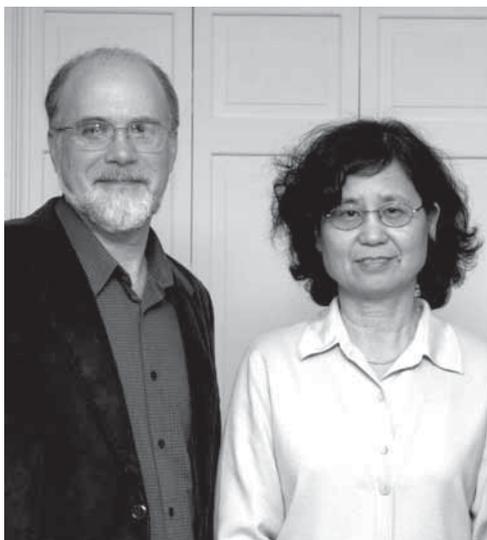
ORSSAB Welcomes Two New Members

Gloria Mei and David Wesolowski were appointed to ORSSAB in January to fill vacancies in the Board's membership with the resignation of members Amy DeMint and Linda Grandage.

Gloria is a radiation safety specialist at Oak Ridge National Laboratory, where she manages and conducts program activities in radiological design and radiation control. She received a doctorate in nuclear engineering from Kansas State University.

She is the recipient of the Fermi Hatchet Award at Kansas State, a diplomate of the American Board of Health Physics, and an adjunct associate professor of the Nuclear Engineering Department at the University of Tennessee.

Gloria is a resident of Oak Ridge and belongs to several organizations,



David Wesolowski and Gloria Mei.

including the American Nuclear Society, the Health Physics Society, and Women in Nuclear.

David is a geochemist with UT-Battelle in the Chemical Sciences Division at

Oak Ridge National Laboratory. He received a doctorate in geochemistry and mineralogy from Pennsylvania State University and has authored more than 100 publications in scientific literature.

He is the Associate Editor of "Geochimica et Cosmochimica Acta" and an editorial board member of "Chemical Geology." David, who lives in Kingston, is a member of several professional societies and civic organizations, including the Boy Scouts of America and the Appalachian Trail Conference.

"It is an honor for me to welcome these new members to the ORSSAB," said Steve McCracken, DOE Oak Ridge Assistant Manager for Environmental Management, at the Board's January meeting. "What is done here is a benefit to the community and I welcome you as part of it."

Oak Ridge Site Specific Advisory Board
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Oak Ridge, Tennessee 37831

JOIN US FOR OUR APRIL MEETINGS

Monthly Board Meeting – April 12, 6:00 p.m.

The meeting presentation will feature a preview of the new DOE document "Oak Ridge Reservation Planning – Integrating Multiple Land Uses."

Committee Meetings

April 18, 5:30 p.m.	Stewardship
April 19, 4:45 p.m.	Board Process
April 19, 5:30 p.m.	Environmental Mgmt.
April 25, 5:30 p.m.	Public Outreach

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