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ADVOCATE

Results from Melton Valley Monitoring Encouraging

It appears to be a success story in the making.

Only a year after remediation was finished in Melton Valley, data collected for the annual



Photograph of Solid Waste Storage Area 6 in Melton Valley shortly after remediation activities were finished in 2006.

Within a year of completion the results of ongoing monitoring are encouraging. An excerpt from the 2008 RER, which contains data collected in 2007, says “the effects of hydrologic isolation caps and groundwater collection systems are demonstrated by ... significant reductions in both contaminant concentrations and discharge fluxes in surface water. Surface water radiological contaminant fluxes measured in Melton Valley were the lowest on record since the onset of such monitoring in the early 1990s. Most of the groundwater levels in the hydrologically isolated areas in Melton Valley met the performance targets for effectiveness. Additionally, contaminant concentrations in most wells in the vicinity of the liquid low-level waste Seepage Pits and Trenches showed decreasing contaminant concentrations. These decreases are attributed primarily to the effects of remedial actions.”

The RER indicated that drought might have had some effect on the groundwater flow in Melton Valley, which, in turn, could have influenced the monitoring samples. “While we did have a drought, we also had normal rainfall during the winter of 2007-08 and all the components of the remedy worked according to design,” said Dick Kettle, the Bechtel Jacobs Co. manager for the Melton Valley remediation effectiveness project.

The Melton Valley Interim ROD laid out some timelines to reach remediation goals. One was a 10-year period to attain a classification for the Clinch River as a domestic water supply. Runoff from Melton Valley into White Oak Creek, which flows into the Clinch, affected the river’s water quality. “We’ve already attained that goal,” said

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Remediation Effectiveness Report (RER) indicate remediation goals are being attained faster than expected.

Melton Valley is an area of about 1,000 acres to the south and southwest of the Oak Ridge National Laboratory, in the White Oak Creek Watershed. About 20 percent of the area was used for many years to dispose of radioactive wastes. Following approval of the Melton Valley Interim Record of Decision (ROD) in 2000, the cleanup project took six years and \$360 million to remediate the area using a combination of capping and hydrologic isolation of burial sites, excavation of transuranic wastes, removal of contaminated sediments from waste ponds, grouting and abandonment of wells, and in situ treatment of liquid waste seepage trenches. The work was finished in September 2006.

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Melton Valley Monitoring

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Ketelle. “That occurred much more rapidly than we expected. It’s largely a combination of capping and downgradient groundwater seepage collection and treatment. We’ve halted the formation of leachate in the buried waste and we’re capturing the seepage that’s coming out.”

But while the news is good, victory will not be declared and the area ignored. Monitoring and sampling will be done annually. “The area will be monitored in perpetuity,” said Ketelle. “The intensity of the monitoring may be subject to change over time as comfort levels rise. We may tailor the monitoring to be less frequent at some point, but for the next five to 10 years the monitoring will remain intense.” The results of that monitoring will be reported each year in the RER.

Additionally, the 1,000 acres that make up Melton Valley cannot be considered for unrestricted use. “The radioactive levels are low enough that if you take appropriate precautions you can manage the risk,” said Ralph Skinner, DOE Oak Ridge Melton Valley project manager in 2006. “The public is not allowed in that area. Workers who go in to mow or do other maintenance work must use appropriate protective gear and be surveyed when they come out.”

The 2008 RER did identify an issue that an Oak Ridge National Laboratory working group is investigating. Monitoring results in some of the Melton Valley exit pathways noted elevated levels of alpha and beta activity. This is

cause for concern over possible migration of contamination across the DOE property boundary into the western portions of Melton Valley.

“We’re working with a group from Tennessee Department of Environment and Conservation to investigate exit pathway groundwater,” said Ketelle.



Excavating a ‘hot spot’ during the Melton Valley Remediation

“We continue to do intensive sampling, and we’re looking at some of the groundwater chemistry. We see unique and unusual groundwater chemistry that, while it might be related to site activities, could also be related to some odd regional geochemical anomalies that may be related to ancient processes that formed the nearby Sweetwater and Jefferson mineral districts. We’re looking into the detailed groundwater chemical fingerprint to see if it links more to a natural source or a man made source.” He said it will take several months to gather definitive results.

So overall, while the initial monitoring results are good, it must be pointed out that the actions taken in Melton Valley were from an interim ROD. A final decision must still be made. “The original intent for Melton Valley was to make a final ROD for all source units and media,” said Skinner. “But when it was studied closer the decision was made to address principal source threats, see

how the actions worked, and then address the remaining issues.”

Skinner said five areas still need attention:

- Groundwater
- The establishment of perpetual institutional controls
- Sediments in White Oak Creek and White Oak Embayment
- Long-lived constituents like transuranic wastes that were left behind
- Ecological protection from soil contamination throughout the Melton Valley floodplain

The time frame for that decision is 2015-16. “The interim ROD allowed for a period to see the results of installing the caps and the other remediation steps,” said Skinner. “But the early results from the RER indicate those goals are going to be met much sooner.”

“I’m very pleased that remediation is accomplishing what we set out to do,” said Ketelle.

Five Years Ago in Oak Ridge Cleanup History

In October 2003 DOE and Bechtel Jacobs, Co., agreed to a five-year \$1.8 billion contract to clean up contaminated areas on the Oak Ridge Reservation. The new contract provided for incentives for meeting deadlines ahead of schedule and completing work under budget. Conversely, DOE could levy penalties for missed milestones or work that goes over budget.

Board Reviews 2008, Develops Work Plan...

Each August ORSSAB holds its annual planning retreat to reflect on the past fiscal year's performance and chart a course for work in the coming months. This year's event was held Saturday, August 9, at Whitestone Country Inn outside Kingston. In reviewing FY 2008 performance, ORSSAB chair Lance Mezga noted that the board's



ORSSAB members Miranda Clower, left, Ron Murphree, center, and Steve Stow work on a small group project at the retreat.

primary accomplishments were, of course, its thirteen recommendations to DOE. Key this year were:

- “Independent Verification of Locations of Waste Sites in Melton Valley” and “Recommendation on Conducting Future Verifications

of Cleanup” because they will help assure the validity of DOE's cleanup actions on the ground and in the perceptions of the public and business leaders.

- “Historic Preservation of the K-25 Building” because the board's input and leadership on this issue will have a lasting effect on current and future cleanup actions. Over 150 people attended the public meeting on K-25 Building historic preservation sponsored by ORSSAB and the Local Oversight Committee on Feb. 19.

- “Oral History Program for the Oak Ridge Reservation”

because of the leadership the board showed in getting DOE and the community to work together to jointly take ownership of this important activity.

Topics that the board should look at in its FY 2009 work plan were proposed by board members, DOE, EPA, the Tennessee Department of Environment and Conservation, and the public, through the board's annual Stakeholder Survey. Top among the issues were:

- Prioritization and scheduling discussions for the Integrated Facility Disposition Project
- The FY 2011 budget request
- The Bear Creek Valley Burial Ground remedial investigation/feasibility study and proposed plan
- The long-term Federal Facility Agreement Appendix J strategic cleanup plan
- Plans to expand the Environmental Management Waste Management Facility
- Groundwater exit pathways

The retreat concluded at 4 p.m. and was followed by a short meeting to conduct business and elect FY 2009 officers.

...and Elects Officers for FY 2009

Steve Dixon, Ted Lundy, and John Coffman were elected ORSSAB chair, vice chair, and secretary during the board's annual planning retreat and meeting August 9.

Steve, a board member since 2004, is the owner of Spectra Environmental Group, which provides environmental services to more than a thousand small businesses in the region. He is a Louisville resident and an 18-year member of the Blount County Chamber of Commerce.

Ted, a member since 2006, retired in 2000 as director of Tennessee Tech's

Center for Manufacturing Research. He previously spent many years working at Oak Ridge National Laboratory in the Metallurgy Division, later known as



New officers for FY 2009 are, from left, John Coffman, secretary; Ted Lundy, vice chair; and Steve Dixon, chair

the Metals and Ceramics Division. Ted lives in Knoxville.

John is beginning his second year on the board. He is the president of DeNuke Services in Oak Ridge, which provides technical support services to contractors and subcontractors on DOE sites. John lives in Clinton and is a member of the Oak Ridge Chamber of Commerce, East Tennessee Environmental Business Association, the American Nuclear Society, and the Health Physics Society.

The new officers will serve through September 2009.

Reservation Update

FFA Dispute Resolved

The Oak Ridge Reservation Federal Facility Agreement (FFA) parties – DOE, the Environmental Protection Agency (EPA), and the Tennessee Department of Environment and Conservation – have resolved a dispute over cleanup milestones.

Dave Adler, DOE Liaison to ORSSAB, reported at the September board meeting that the agreement sets a path to establish a new set of milestones for work already in DOE's cleanup scope and includes additional work expected to come through the proposed Integrated Facility Disposition Project.

Adler said the details of the new agreement will be worked out by December and will be made available for public review as a major FFA milestone change.

Four disputed milestones at Y-12 National Security Complex beyond DOE's budget were not resolved and will be addressed at a later date.

Perma-Fix to take up where TSCAI leaves off

DOE is planning to close down the Toxic Substances Control Act Incinerator (TSCAI) at the end of the 2009 fiscal year. But that will leave a void for getting rid of wastes the incinerator has been burning for years.

Perma-Fix has submitted an application to EPA to use two of its existing facilities, DSSI (Diversified Scientific Services Inc.) and M&EC, to handle what TSCAI has been burning.

“What we're doing right now is adding a PCB permit to DSSI to take care of liquids associated with the PCB wastes,” said Larry McNamara, chief operating officer of Perma-Fix. The company, he said, is interested

in treating wastes from commercial nuclear facilities, as well as DOE sites.

If EPA approves the permit, the company could be ready to treat wastes as early as October, although the state of Tennessee also must concur with the changing waste operations in Oak Ridge. When the authorization is received DSSI will be able to treat DOE PCB contaminated waste oil or other PCB waste oil that falls within the waste acceptance criteria.

Preparatory Work Continues at Building 3019 for Dispositioning U-233

Preparations continue to be made by DOE and its contractor Isotek to ready uranium-233 (U-233) for eventual disposition at the Waste Isolation Pilot Plant in New Mexico. The material is stored in Building 3019 at Oak Ridge National Laboratory.

DOE's inspector general said earlier this year that the decision to dispose of the material should be reconsidered. But Gary Riner, the Oak Ridge DOE Federal Project Director overseeing the U-233 project, reminded the ORSSAB Environmental Management Committee in April that DOE is working under the direction of Congress to dispose of the material.

The DOE inspector general, as well as other advocates, says the U-233 disposition plans should be scrapped because thorium can be extracted from the material for medical use.

Chromium in Mitchell Branch Non-detectable

Samplings taken from Mitchell Branch at East Tennessee Technology Park (ETTP) in July and August indicate the groundwater recovery system to capture hexavalent chromium

is working as planned. Hexavalent chromium levels were non-detectable, which meets ambient water quality standards.

In December 2007 an action memorandum was signed by Steve McCracken, DOE-Oak Ridge Assistant Manager for Environmental Management, to install a grout barrier and groundwater collection system to intercept chromium contaminated water coming from the SD 170 outfall into Mitchell Branch.

Elevated levels of chromium in aquatic life in Mitchell Branch were first observed in 2006. While the levels were not significant, there were concerns that continued exposure would have a chronic effect on fish and aquatic life, and potentially to the public, if the hexavalent chromium releases were not mitigated. The source of the chromium is not known.

The time-critical removal action is an interim action. The final remedy for controlling chromium releases will be addressed in the upcoming sitewide remediation decision for ETTP.

Need a speaker for your group's meeting?



Call the ORSSAB offices at 241-4583 to have a member of our Public Outreach Committee speak to your group about environmental cleanup issues at DOE's Oak Ridge Reservation.

Recent Recommendations & Comments

Complete recommendation text can be found on the ORSSAB web site at www.oakridge.doe.gov/em/ssab/recc.htm.

Recommendation on the DOE Waste Information Management System

The Waste Information Management System (WIMS) created by Florida International University's Applied Research Center was developed to provide DOE Headquarters and site waste managers with the tools necessary to easily visualize, understand, and manage the vast volumes, categories, and problems of forecasted waste streams. The system is publicly accessible via <http://wims.arc.fiu.edu/wims/>.

At its March meeting, the ORSSAB Environmental Management Committee determined the system had exceptional capability, especially if properly maintained. The committee was particularly interested in using the system to identify waste streams with no or undetermined disposition pathways to determine if different facilities were consistent in their assumptions about availability of treatment and disposal options.

In its recommendation, ORSSAB commended DOE and Florida

International University for development of WIMS and strongly recommended that it be periodically updated and improved. The committee also made the following recommendations to increase the usability of the system.

- Provide current status of planned updates and known data gaps.
- Consider better ways to provide more information about the waste streams so that users of the system can better understand and even propose solutions to underlying technical challenges.
- Identify the commercial facilities treating DOE waste streams as soon as possible to promote awareness and greater acceptance of the activities by stakeholders.

Recommendation on Lessons Learned from Efforts to Preserve the K-25 Building North Tower for Historic Purposes

The huge K-25 Building was built in the 1940s to separate uranium-235 from uranium-238. Since operations ceased in 1964, the structure has deteriorated significantly, and the ongoing effort to demolish it

represents the highest hazard to onsite workers.

As a result of community concerns for historic preservation of K-25, DOE ratified a Memorandum of Agreement in 2005 that calls for retention of the north tower and implementation of other actions to explain K-25's historical significance.

In an attempt to prevent the loss of other buildings with historical significance, ORSSAB developed the following recommendations in July:

- DOE should maintain facilities to ensure historic preservation is an option, conduct a comprehensive facility assessment prior to entering into an memorandum of agreement for historic preservation of a facility, and develop a comprehensive Historic Interpretation Plan.
- DOE Headquarters should identify a liaison for implementation of the Historic Preservation Act for DOE Environmental Management activities and establish clear and assured funding baselines.
- DOE should seek feasible exemptions for historic structures from the current International Building Code at the appropriate time.

SSAB Chairs Meeting Offers Insight on IFDP, Site Concerns, and Welcomes New Board

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

At the meeting held September 16–17 in Washington, D.C., representatives learned, most for the first time, that

the Environmental Management (EM) program was planning to broaden its work scope by adding an additional 306 facilities to its already gargantuan program.

Paul Strider from DOE's Office of Management Analysis briefed the chairs on a recent DOE report to Congress on "potential unfunded liabilities

for the EM program." The majority of these liabilities are contained within Oak Ridge's Integrated Facility Disposition Project (IFDP) proposal to decontaminate and decommission some 222 facilities at Oak Ridge National Laboratory (ORNL) and the Y-12 National Security Complex. Another 84 facilities were added to the unfunded liabilities report by the DOE

Three New Members Join ORSSAB

Three new members took their seats for the first time at the July meeting. They are Betty Jones of Oak Ridge, Edward Juarez of Loudon, and Maggie Owen of Oak Ridge.

Jones is employed by B&W Technical Services Y-12 as a chemical operations relief supervisor at the Y-12 National Security Complex.

Juarez is a retired utility worker who was employed at the commercial Fermi 2 nuclear reactor site in Michigan for approximately 15 years as a trainer, outage management expeditor, and maintenance senior planner.



New members to ORSSAB are Maggie Owen, left, Edward Juarez, and Betty Jones.

Owen is employed by Safety and Ecology Corporation RADCON Alliance as a health physics supervisor at Oak Ridge National Laboratory and Y-12 National Security Complex.

For the last 13 years, she has worked on the Oak Ridge Reservation in deactivation and demolition of radiological facilities, surveillance and maintenance, emergency response, and as a health physics specialist assigned to the Melton Valley Closure Project.

“These folks bring a wide range of experience to the board,” said Steve McCracken, DOE-Oak Ridge Assistant Manager for the Environmental Management Program and the Deputy Designated Federal Officer for ORSSAB. “The work that this board performs for Oak Ridge and surrounding communities is important. It addresses a lot of subjects that are vital to DOE and the health and environment of the community.”

Adams and Bogard Honored for Service

The board and DOE said ‘thank you’ to four outgoing members at the June meeting.

Long-time board members Ben Adams and Rhonda Bogard completed three terms on the board and were presented wall clocks by Steve McCracken in appreciation for their years of service.

“Their service of three terms on the board is an illustration of the commitment they have to the work we do,” said McCracken. “This is an example of what environmental management is about. Individuals can have a powerful influence on the work we do. Individuals who come together in this kind of forum have an even more important influence. It’s what has made the EM program successful.”

“I will forever be grateful for the idea of long-term stewardship,” said

Adams, who served on the Stewardship Committee as a member and chair.

“And I’m also grateful to Steve (McCracken) who has helped us in our deliberations and been responsive to

our needs.” Adams also served on the Executive and Finance Committees during his time on the board.

“When I came on the board,” said Bogard, “I came to learn and what I’ve learned is what service means. There is no way to experience that unless you actively participate.”



Rhonda Bogard, left, and Ben Adams, right, were honored by Steve McCracken, DOE Oak Ridge Assistant Manager for Environmental Management, and all ORSSAB members at the June meeting for their long-time service. Rhonda and Ben served six years on the board.

Bogard served on the Environmental Management Committee, the Board Process Committee, and the Executive Committee. She also served one year as vice-chair of the board.

Also recognized at the June meeting were Mike Haygood, who completed one term on the board and chose not to seek a second appointment, and David Branch who completed an unexpired term.

Darryl Bonner Valuable Contributor to the Board

“I feel like I’m just now beginning to make a contribution,” says Darryl Bonner about his service on ORSSAB.

What an understatement! Darryl has been contributing since the day he was appointed to the board in 2005.

He was vice-chair of the Stewardship Committee his first year and became the chair the next. As chair of the Stewardship Committee he served



ORSSAB member Darryl Bonner and family, son Darryl Craig, wife Jeanne, a former ORSSAB member, and daughter Ethel.

on the Executive Committee and has represented the board at national SSAB Chairs’ meetings.

He also chaired a subcommittee that studied historic preservation issues related to the K-25 Building at East Tennessee Technology Park (ETTP). He currently chairs a subcommittee to develop a stewardship video, and he serves on the Stewardship Education Subcommittee. He has been involved in developing several recommendations to DOE-Oak Ridge.

And he plans to do more. “There’s always more to contribute. I hope to do more by being involved with making recommendations and studying issues of interest to the community. I feel like I’m part of something that has

an impact,” he says. “DOE looks to the board for guidance.”

Darryl applied to join the board with encouragement from his wife, Jeanne, a board member herself from 2001-03. “She thought it would be a good fit for me and it has been,” he said.

Darryl, a native of Houston, Texas, received a Bachelor of Science degree in chemical engineering from Washington University in St. Louis, Mo. He earned a Master of Science degree in public health from the University of Alabama-Birmingham.

He came to Oak Ridge in 1990 to work in the industrial hygiene department at ETTP where his focus was

on hazardous waste operations and emergency planning. In 1995 he went to work in the environmental compliance department responsible for generating monthly discharge monitoring reports.

He had brief stints as a subcontractor in pollution prevention and in facility management and then in September 2002 began work in his current job at Oak Ridge National Laboratory (ORNL) in emergency planning, hazard surveys, and hazard assessments, and providing support in emergency management.

When not on the job or working on ORSSAB business he spends as much time as possible with his family, which includes daughter Ethel, a senior at Oak Ridge High School, and son Darryl Craig, 9. Jeanne is also an engineer for UT-Battelle at ORNL. She and Darryl met as students at Washington University. They married in 1986.

In addition to his work with the board Darryl is involved with his Phi Beta Sigma fraternity, and he’s an active member of Faith Promise Church, where he has performed in several church programs.

But as an ORSSAB member spare time is sometimes hard to come by. “If you’re a member of the board you carve out time to do homework and read things. You can’t get it all at a board or committee meeting.”

Myrick Recognized for Work on High School Renovation

ORSSAB member Tim Myrick, right, with Cong. Zach Wamp at dedication ceremonies of the recently renovated Oak Ridge High School. Tim was acknowledged for the key role he played as a consultant in the design and construction of the project.



SSAB Chairs Meeting

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of Science and the National Nuclear Security Administration following submission of Oak Ridge's IFDP proposal. These facilities are located at nine other sites around the complex. Cost estimates for the total unfunded liabilities work scope range from \$3.7-\$9.2 billion. Approval of the plan is contingent upon a variety of factors, such as increased Congressional budget allocations and/or internal DOE EM reprioritization of its work scope.

At each chairs meeting the advisory boards present the top three issues of concern for their sites. ORSSAB's three issues were the Building 3019 Project at ORNL, the impact of historic preservation on the Oak Ridge Reservation, and funding and the impact on cleanup milestones. Concerning Building 3019, the board is concerned that uranium is being stored in a deteriorating building that is the

oldest operating Hazard Category 2 facility in the United States.

New this year was the opportunity for each site to present their major accomplishments. ORSSAB felt its leadership in public involvement was its most important achievement.

Making their debut at the chairs' meeting were representatives from the newly formed SSAB at Portsmouth, Ohio. Val Francis and Richard Snyder, co-chairs of the board, reported that interest in the community for forming a board was very high, and DOE received 60 applications for the 20-member board this summer. The board has yet to hold its first meeting, and much work has yet to be done in setting up the board's structure.

Attending the chairs meeting for the last time were two people who have

played key roles in the EM SSAB: James Rispoli, Assistant Secretary for EM, and Doug Frost, the SSAB's Designated Federal Officer. Frost, who is retiring, will be replaced Cate Brennan. Rispoli, who is a political appointee, will presumably be replaced by the new administration taking over the nation's helm in January 2009.

The chairs circulated a letter for signature by the eight local SSABs recognizing Rispoli for his support of the board and for several specific efforts that have come to fruition under his leadership.

The next chairs meeting will be hosted by the Savannah River Site board in March 2009.

Oak Ridge Site Specific Advisory Board
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JOIN US FOR OUR PUBLIC MEETINGS

Board Meetings

- Oct. 8, 6:00 pm – Project Baseline Summaries and the Budget Formulation Process
- Nov. 12, 6:00 pm – To be determined

Committee Meetings

- Oct. 15, 5:30 pm – Environmental Mgmnt.
- Oct. 21, 5:30 pm – Stewardship
- Nov. 18, 5:30 pm – Stewardship
- Nov. 19, 5:30 pm – Environmental Mgmnt.

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