Advocate

A publication of the Oak Ridge Site Specific Advisory Board – an independent, nonpartisan, volunteer citizens panel providing recommendations and advice to DOE's Environmental Management Program

Two Studies on Historic Preservation Offer Suggestions for K-25/Oak Ridge Reservation

Historic preservation of the K-25 Building at East Tennessee Technology Park has been a topic of discussion for several years. The mammoth building, constructed in about 18 months during World War II, was the first building to enrich uranium. It operated until the mid-1960s then sat dormant for the next 40 years.

When the decision was made to turn ETTP into a modern industrial park it was determined that most of K-25 would be torn down. But since it was recognized as being a historically significant structure, a memorandum of agreement was signed to preserve the so-called North Tower, the section that connected the two 'legs' of the U-shaped building.

As worked progressed, however, DOE felt that the North Tower of the building was structurally unsound and couldn't be saved, and some other means of memorializing the building should be considered.

There were enough people who argued that the North Tower, or at least a portion of it, was important enough to save that DOE contracted with an independent engineering firm to evaluate the North Tower's structural integrity and suggest possibilities for historical interpretation based on their findings. Degenkolb Engineers, a well-respected firm in California, was contracted for the job.

At the same time, DOE contracted a separate study by Informal Learning Experiences, a Washington, D.C., consulting firm, to do an analysis of two commemoration and interpretation approaches. One would include the three signature facilities of the Oak Ridge Reservation: K-25, the Graphite Reactor, and the Beta 3 Calutrons. The other approach was focused on K-25 alone.

Both reports were transmitted to DOE in December, which then provided them for review and comment to the signatory parties of the original 2005 memorandum of agreement and other consulting parties (groups that provided input to the memorandum of agreement but did not sign the document).

The Degenkolb report suggests four ideas or 'schemes' for K-25 interpretation.

Scheme 1 would retain about a third of the west side of the North Tower and would contain eight cells of processing equipment (converters, compressors, and motors). The basement level would be used to display artifacts and educational displays. The process equipment would be taken out of the building, decontaminated, and reinstalled, but components that are still classified would be removed.

Scheme 2 is a smaller version of Scheme 1, where only about a twelfth of the North Tower, the northwest section, would be saved, with just two cells.

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Conceptual sketch of Scheme 1 from the Degenkolb report.

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Historic Preservation Reports

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Under Scheme 3, the entire building would be demolished, and converters and other artifacts would be displayed under a covered, open-air enclosure

Conceptual sketch of Scheme 2 from the Degenkolb report.

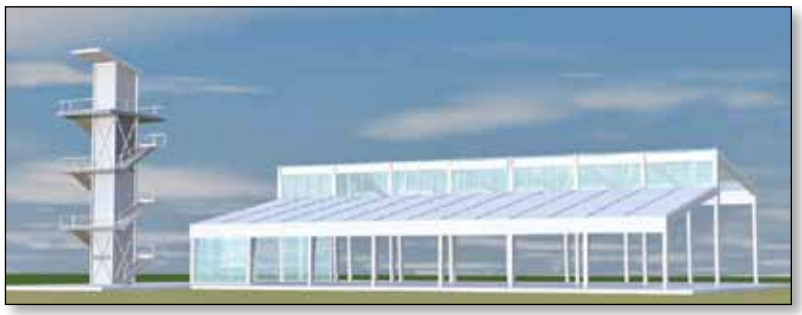
located anywhere within the footprint of the old building. Adjacent to the display area would be a 60-foot viewing tower that would look out over the site, which would be marked with poles to show the footprint of the demolished building.

Scheme 4 would only save an L-shaped portion of the northwest corner of the North Tower. Degenkolb says the idea is to save a minimal portion of K-25 'while trying to give a flavor of what the building was all about.' The area would be partially enclosed and would contain a display of a converter. An exhibit area similar to but smaller than the one in Scheme 3 would be next to the L-shaped corner section.

Estimated costs for the three schemes range from about $4 million for Scheme 3 to almost $25 million for Scheme 1. The estimates do not include so-called 'soft costs,' such as final engineering and architectural designs, construction administrative costs, new exhibits, fixtures, and equipment.

In its recommendations, Informal Learning Experiences said that Manhattan Project interpretation should include the signature facilities plus the Spallation Neutron Source at ORNL, the pilot plant at Y-12, and Portal 4 at K-25, which is the old main entrance to the plant. The report said, "…it makes little or no sense to do interpretation at K-25 without careful linkage to other Oak Ridge Reservation sites."

The study also said historic interpretation in Oak Ridge should include the city of Oak Ridge and the region, with links to other Manhattan Project sites in Los Alamos, Hanford, the Trinity Site, and other related locations across the nation.



Conceptual sketch of Scheme 3 from the Degenkolb report.

The study endorsed the 'hub and spoke' approach for historic interpretation in Oak Ridge. The American Museum of Science and Energy would act as the 'hub,' with exhibits and information about all the historical sites in the area, and the 'spokes' would be site interpretive exhibits at the signature facilities and any other locations deemed historically significant.

The study referenced work being done by the National Park Service to set up a Manhattan Project National Park, which might include Oak Ridge, Los Alamos, Hanford, and other sites. The study said if such a park is established, it would be an extraordinary opportunity for Oak Ridge since a national park identity would provide additional credibility to local historic preservation efforts.

Conceptual sketch of Scheme 4 from the Degenkolb report.

So what happens next? DOE gave the signatory parties until March 16 to study the documents and provide comments. DOE is now considering those as it develops its own final mitigation plans related to K-25. Once a decision is reached, DOE will call a meeting of the signatory parties and the consulting parties and present its plan. From that meeting will likely come a final memorandum of agreement regarding K-25 and any approach regarding reservation-wide historic interpretation.

DOE EM Holds Workshop to Gather Input on FY 2013 Budget & Prioritization

About 75 people attended the workshop on the FY 2013 EM program budget and prioritization.

Interest in the FY 2013 EM budget request brought about 75 people to a meeting held February 24 to discuss the budget process and solicit comments from the public. The workshop, as it was billed, was held in the main auditorium of the American Museum of Science and Energy.

Speakers included the DOE Oak Ridge assistant manager for EM, the chief financial officer, federal project directors for cleanup work at the three DOE sites, and representatives of the state and EPA.

John Eschenberg, DOE Oak Ridge Assistant Manager for EM, began by saying that "I've heard from my counterparts at EPA and TDEC, from ORSSAB, and the Local Oversight Committee that there needs to be more transparency in the process of the federal budget formulation. There is a notion that cleanup prioritization in Oak Ridge is set by Headquarters. In some regards that is true. This year we wanted to do it differently and that is to get everybody involved and get your input.

"Are we focused on the right problems? Do we have the right prioritization? Are we moving in the right direction? These are the questions I'd like for all of us to ask and think about. We have significant challenges with the federal budget, so we want to be very smart in what we clean up and what the sequence is."

Judy Penry, DOE Oak Ridge Chief Financial Officer, explained the process for developing the federal budget and how Oak Ridge makes its budget request to DOE Headquarters. Budgets are developed two years in advance, and it takes a year to complete the process.

The federal project directors for cleanup at ETTP, ORNL, and Y-12, Jim Kopotic, Laura Wilkerson, and Ralph Skinner, respectively, talked about cleanup at the sites, what has been done, and what is left to be done.

EPA representative Jeff Crane and Chuck Head of TDEC presented their agencies' positions on what DOE should focus on in years to come. Attendees were also allowed an opportunity to make comments.

In his closing remarks, Eschenberg said, "Through this process, what I'd like to end up with is a list that shows what we can do with $600 million worth of work in FY 2013. We'll work collaboratively with the state, EPA, and other stakeholders to do that. Our challenge is how we integrate the key work areas and set the priorities within that integration. I know we can do that volume of work in Oak Ridge. We have the infrastructure, we have trained and qualified workers, we have a community that's wonderful to work with. We have everything we need to do that volume of work. Our challenge is how do we sell it to Washington that we should get $600 million?"

ORSSAB has been working closely with DOE in reviewing priorities for cleanup by examining a number of different cleanup scenarios. Those scenarios are generated by a computer program. ORSSAB and the regulators will analyze the results and submit their recommendations to DOE. As far as is known, this is the first time such a method has been used at any of the DOE Oak Ridge sites to help formulate a budget request.

The DOE Oak Ridge EM budget request and any recommendations on the budget by ORSSAB, the state, EPA, and the public are to be sent to DOE Headquarters at the end of April.

Copies of the workshop presentations can be found on the ORSSAB website at www.oakridge.doe.gov/em/ssab/EMbudgetworkshop.pdf or by calling the ORSSAB offices at (865) 241-4584.

Membership Drive Nets Record 63 Applicants

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DOE Reviewing Applications

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The December 2010 membership drive to fill current and upcoming vacancies on ORSSAB was a resounding success. The problem for DOE now is how to fill just 5 current vacancies on the board and 7 others that will come open when several long-serving members retire at the end of June.

DOE is evaluating the applications, and a decision is expected by April 1. All applicants will be notified regarding the disposition of their application. Those not appointed will form a pool of candidates from which appointments can be made in the future as vacancies arise.

Recent Board Recommendations

The Board Asks DOE for a Table of Alternatives on Bear Creek Valley Remediation

In a February 9 recommendation, ORSSAB asked DOE for a listing of actions that can be taken, at various levels of funding, to mitigate releases of contamination in Bear Creek at the site of the Bear Creek Burial Grounds. The board specifically asked for a table of possible remedial actions, with the goal of achieving compliance for release limits into Bear Creek.

Bear Creek Burial Grounds was a disposal site for depleted uranium and other industrial wastes from operations at Y-12. The burial grounds were closed in 1993. A number of cleanup efforts in other Bear Creek Valley areas have been done since then and have significantly reduced the concentrations and quantity of uranium and other contaminants in Bear Creek.

But releases of uranium into the creek at the burial grounds site still exceed cleanup goals for the zone that includes the Burial Grounds set by a record of decision signed in 2000 for the first phase of cleanup actions in Bear Creek.

A number of possible actions have been identified in a feasibility study to address the issue. The board recognized that budget limitations and technical challenges preclude any final remediation of the Bear Creek Burial Grounds at this time, but it suggested that DOE identify more modest actionable ideas.

The possible remedial actions named in the feasibility study range from additional caps on the burial grounds to groundwater treatment to partial excavation.

The board said a table that compares cost, contaminants to be remediated, and duration of mitigation actions could help the board better understand relative costs and effectiveness, which will allow it to make a subsequent recommendation on a final remediation plan.

The Board Updates Its Recommendations on Historic Preservation

In response to two recent reports on historic preservation of the K-25 building and other Oak Ridge Reservation landmarks (see page 1 story), ORSSAB resubmitted some previous recommendations and added some new ones at its March 9 meeting.

In 2009, after hearing from DOE that it seemed unlikely that the North Tower of K-25 could be saved, the board recommended that it be torn down and an unmanned interpretive center be built on site. It also recommended that DOE should determine who would own and operate the center and develop a business plan for it, and that Manhattan Project exhibits at the American Museum of Science and Energy be expanded.

With the submission of the two new reports, ORSSAB re-visited those recommendations and made some modifications.

The board still recommends demolition of the North Tower but indicated it would favor an interpretive center, inside a saved portion of the structure, if it was 'technologically and fiscally feasible.'

The board followed a suggestion in one of the reports that the museum act as a 'hub' of historic preservation exhibits in Oak Ridge, with 'spokes' at ETTP, ORNL, and Y-12.

The board said DOE should work with the National Park Service to develop a Manhattan Project National Park, with appropriate emphasis on Oak Ridge.

The last of the board's recommendations was that historic preservation efforts should include relevant information on pre-Manhattan Project history for the Oak Ridge Reservation and post-Manhattan Project emphasis on science and technology.

Reservation Update

Oak Ridge Manager Retiring

In March DOE announced that Gerald Boyd, the manager of the DOE Oak Ridge Office, will retire from DOE, effective April 3. Robert Brown, who had been the deputy manager, retired in February. John Eschenberg, who manages the Oak Ridge EM program, will act as deputy manager until the manager and deputy manager positions are filled.

Data Coming in from Wells Across from Melton Valley

DOE says that data have been received from the new monitoring wells placed across the Clinch River from Melton Valley. One DOE sample from a well near the river indicates 1-2 picocuries per liter of strontium, which is slightly over laboratory detection limits. Another well farther away from the river had a low level indication of technetium. In both cases levels are well below drinking water standards. Samples taken by the state from both wells immediately afterwards did not show any indications of contamination.

To be cautious, DOE has decided to provide water to residents in the area farther away from the river, about 1000 thousand feet. Another 15 homeowners have been asked to stop using their wells so groundwater flow will be stabilized, allowing the new monitoring wells to provide better data. It would also eliminate any concerns any residents might have about their drinking water.

County Asks for Assistance with American Nuclear Site

DOE says that EM officials met recently with the law director of Anderson County on a site known as American Nuclear, which is across the Clinch River from the Oak Ridge marina. American Nuclear operated

(Continued on page 6)

Betty Jones' Interest in Environment Led Her to the Board

ORSSAB member Betty Jones has had an interest in the environmental sciences for a long time, and she found a way to pursue that interest as a member of the board. "I wanted to be a part of the board to gain additional knowledge about DOE's Environmental Management Program. I had studied environmental science and wanted to learn more about what was going on in Oak Ridge," she said.

Betty has lived in the area all her life, growing up in the Solway community and attending Karns High School. She moved to Oak Ridge in 1970 and went to work at the Y-12 National Security Complex in 1980 and has been there ever since. "I started out as a machine cleaner and then worked as a chemical operator from September 1998 to October 2005. I went back to school and earned an associate's degree from Roane State Community College and a bachelor of science degree in organizational management from Tusculum College. After I got my degree I became a manager as an operational support specialist."

Betty learned about ORSSAB through an advertisement on Y-12's Y-Source intranet system. With her interest in the environment, she applied for a spot on the board. "Because I live in Oak Ridge I'm concerned about making sure the environment stays clean and no more contaminants are put in the environment here. Oak Ridge is my home, and I plan on being here forever."

She joined the board in July 2008 and first served on the Board Finance & Process Committee and later moved over to the ORSSAB EM Committee. "I knew what was going on in the EM program at Y-12 since I work there, but that was limited to Y-12. I didn't have a lot of knowledge about what was going on at ETTP and the lab except what I knew from family and friends that worked there."

Betty Jones is employed by B&W Technical Services Y-12 as an Operations Support Specialist.

After a stint with the EM Committee, Betty decided to try the Public Outreach Committee. She has served as the vice-chair and is currently the chair of the committee. She's also a member of the Stewardship Committee and is on the Executive Committee by virtue of being the chair of Public Outreach.

"Being a board member has been very much worthwhile for me. It's enlightened me as to what's going on with D&D (decontamination and decommissioning) work. It's given me insight on the D&D process at ETTP and ORNL as well. When you work at one plant you don't really know what's happening at the others. I wouldn't have had that knowledge otherwise. I've really gained a lot of knowledge about the work at all three sites."

Her service as a board member is not the only volunteer work Betty does. "We have a Volunteer Day here at Y-12, and I work with the human resources offices on different volunteer projects."

Betty has three grown children and eight grandchildren. "I like spending time with them, plus I like to walk and crochet, when I have the time."

ORSSAB Member Chuck Jensen Recognized at Waste Management Symposium

ORSSAB member Charles Jensen was awarded the Sacid (Sarge) Ozker Award for 2011 by the American Society of Nuclear Engineers, Nuclear Engineering Division, at the Waste Management Symposium in Phoenix, Ariz., in March.

The Sarge Ozker award was established in 1980 to recognize distinguished service and achievement in commercialization of nuclear power/energy, with particular emphasis in the field of radioactive waste management.

Charles owns and operates Diversified Technologies Services, Inc., which he founded in 1990. A Karns area resident, he has been a member of ORSSAB since 2007.

DOE Rethinks Options for U-233 Project

A program that has been a costly thorn in the side of the EM program is undergoing a change in direction that should save taxpayers millions of dollars. At the March 9 ORSSAB meeting, Federal Project Director John Krueger told the board that DOE is moving ahead with a plan to disposition about half the uranium-233 inventory without downblending and alter the downblending method for the remaining stock.

The change in course resulted from a study commissioned by DOE last fall to reexamine the project because of rapidly escalating costs and design issues. At the time, the projected "to go" cost for completing work was about $400 million. Almost 1,100 canisters of U-233 in 94 tube vaults are stored in Building 3019, which is one of the original Manhattan Project structures and is the oldest operating nuclear facility in the world. The building is a high-hazard facility located just up wind from a number of new buildings constructed at ORNL in recent years.

The study cited several conditions that have changed since the project first began and recommended a new approach. These changed conditions include successful disposal of U-233 at the Nevada National Security Site by DOE-Idaho and completion of the Transuranic Waste Processing Center in Oak Ridge.

The study recommended disposition of the material in not just one way, as was previously planned, but in three ways: direct disposal at the Nevada National Security Site, shipment of some material to other DOE sites for their programmatic needs, and downblending the remaining stock for disposal.

Downblending (which is what would be done with all the material under the current plan) will be changed under the new scenario. Seventeen processing approaches were initially examined in the study and were screened down to two: dry blending using existing ORNL hot cells, and aqueous downblending combined with co-processing of the downblended solution with Melton Valley Storage Tank sludges at the Transuranic Waste Processing Center.

Krueger told the board that the second alternative is his preference. The co-processing doesn't negatively impact operations at the Waste Processing Center and eliminates the need to build a $50 million annex at 3019.

About 400 canisters can potentially be direct disposed as mixed waste at the Nevada site, Krueger said, which would result in around a seventy-five percent reduction in unit cost for half the U-233 inventory. The only problem is that there is no approved container that can be used to ship the material; either a new container will have to be designed and manufactured, or an existing container will be modified and approved.

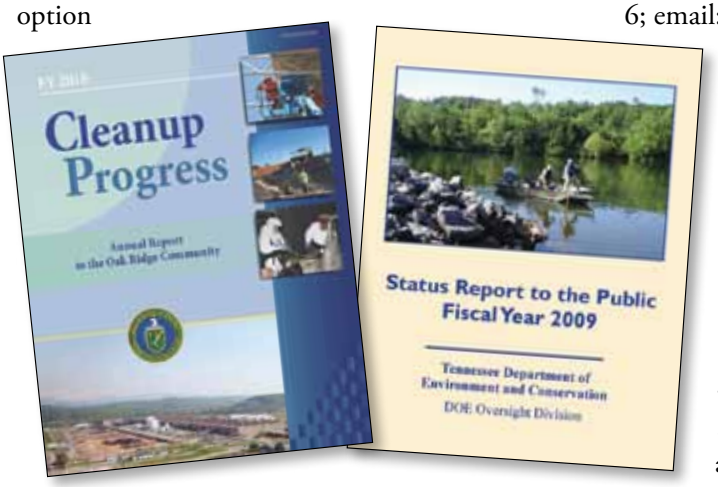
DOE Headquarters is reportedly "ecstatic" about the new plan, particularly in that it allows DOE to move forward without constructing a single-use annex that immediately upon completion of the campaign becomes an environmental liability that will have to be decontaminated and demolished.

Krueger said that Oak Ridge has the go-ahead from the Deputy Secretary and that the Deputy Secretary will issue a memo to the program secretarial officers nationwide announcing the plan and asking for support from the various entities that need to team with Oak Ridge.

The timeline includes program transfers in 2013, direct disposal in 2015–2017, and processing of the remaining inventory in 2015–2017.

Two New Cleanup Reports Now Available

Cleanup Progress is available from the DOE Information Center, 475 Oak Ridge Turnpike, Oak Ridge, TN 37830; (865) 241-4780 or 1-800-382-6938, option 6; email: DOEIC@oro.doe.gov. The *Status Report to the Public* is available from the Information Center and the Tennessee Dept. of Environment and Conservation, 761 Emory Valley Road, Oak Ridge, TN 37830; (865) 481-0995; email: ask.tdec@tn.gov.



Reservation Update

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in the 1970s but went out of business. The firm's building is contaminated with cobalt and mixed fission products, and has a tank that has leaked and contaminated the surrounding soil. Anderson County approached EM seeking help on the problem.

According to John Owsley with TDEC, American Nuclear was issued a permit from the state when it began business. The state requires companies holding a permit to have a bond in case the company goes out of business. American Nuclear left the department with the bond and the responsibility of monitoring the site for surface or groundwater releases and any problems with the fence line. Anderson County is now seeking assistance to make the property more marketable.

Environmental Management at Clinton Laboratories During WWII: Reflections and Introspective Questions

By Steve Stow, ORSSAB member

A 1996 report, Attitudes and Practices Regarding Disposal of Liquid Nuclear Waste at Clinton Laboratories in the Very Early Years: A Historical Analysis (ORNL, ESD pub. 4508) reveals a compelling story, starting late 1942, about how senior laboratory management and Manhattan Project management sought advanced techniques to safely handle highly toxic radioactive waste from production and separation of plutonium at the Graphite Reactor and associated laboratory activities. This is a story previously unrevealed involving well-known names (Lyle Borst, George Boyd, Arthur Compton, Simeon Cantril, Richard Doan, Logan Emlet, Joseph Hamilton, Crawford Greenewalt, Warren Johnson, Miles Leverett, Karl Morgan, Herbert Parker, Glenn Seaborg, Robert Stone, Katherine Way, Martin Whitaker, Eugene Wigner) and dozens of lesser-recognized individuals. The report is based on hundreds of previously unknown documents in Central Files at Oak Ridge National Laboratory. Of course, Clinton Laboratories became ORNL in 1948 and was originally constructed in 1943 to serve as a temporary pilot plant for plutonium production at Hanford in Washington State.

By the end of 1943, the reactor had gone operational, separation of plutonium started, sophisticated process steps were defined for waste management (chemical treatment, volume reduction, settling ponds, etc.), release limits were established (at White Oak Dam and to the Clinch River), the importance of biological monitoring (fish, mice, rabbits) and sediment analysis was recognized and initiated, lines of authority were drawn, and responsibility for protection of human health and the environment were demarcated. This continued in following years, when new chemical research was initiated, monitoring was increased, release limits were refined, and individuals acknowledged missteps in handling wastes. All this, before the behavior of radionuclides, metals, and organics in the environment was even known; indeed, researchers did not know the identity of most of the nuclides, and detection devices were truly primitive. Yet they persisted. In no way was waste disposal given a subservient priority (relative to production of plutonium), as is generally felt by those unfamiliar with the new facts. These conclusions have been supported by conversations with Karl Morgan, Glenn Seaborg, and Alvin Weinberg prior to their deaths.

An obvious first question is why these individuals spent effort on management of the wastes, as there was essentially no professional reward for it. Such guidance is not prescribed anywhere in the annals of the Manhattan Project, and there was no federal (EPA, Atomic Energy Commission) or state (Tennessee Department of Environment and Conservation) agency in place at that time to regulate releases. There were no established release limits, no fines, and no jail sentences for illegal releases. Although dangers from radioactivity were recognized decades earlier, what prompted attention to these dangers in light of the urgency of building an atomic weapon? Today, professional excellence inherently includes honesty, responsibility, citizenship, respect, trust, and integrity. I contend all these qualities were demonstrated in the 1940s, and anything less would have been simply unacceptable to those who managed Clinton Labs.

A second question is why we have not known of this effort to address waste generated at Oak Ridge sooner, and why do we automatically presume things were done poorly, or ineffectually, in those early years? Most professionals left Clinton Labs as the war ended to take prestigious positions elsewhere, and the Atomic Energy Commission. (established in 1947) did little to emphasize proper waste disposal technology (at that time and perhaps in later years), so there was no thought given to documenting these "unglamorous" efforts made during war years. Because our technology and knowledge bases have advanced dramatically from those of the war years, and we have known nothing of earlier waste management efforts as we face the clean-up challenges resulting from those times, we just assume things must have been done poorly to have resulted in the problems we face today. Such "logic" is misguided and incorrect.

A third question, with no immediate answer, is what our descendents will think of today's "highly advanced" technology for environmental management some 60 or 70 years hence, when so much more will be known than today. Will they automatically presume things were done poorly if today's achievements do not satisfy future standards? Will critics look back to the early part of the 21st century and criticize us for what we strive to do well today? Perhaps not, for at least there will be a well-documented track record of what we undertake and how we reach decisions related to environmental management (compared to the previous lack of historical data from the early 1940s). Tune in for another editorial on this subject in 2075 to get the answer!

The bottom line is that just because we are faced with tremendous clean-up challenges from the war years, we must not assume irresponsibility of those who created our 'problems.' Standards evolve and change, as do priorities, knowledge, and technology; lack of full documentation helped obscure actual facts and professional excellence from previous times. Let us not forget these thoughts as we continue to learn from the past.

Advocate
Oak Ridge Site Specific Advisory Board
April 2011

ORSSAB Says Goodbye to Sondra Sarten, Steve Mead

Because of other commitments, Sondra Sarten elected to leave the board in November following four and a half years of service. Since she joined the board in 2006, Sondra was a member of the Stewardship Committee, serving as its chair in 2009 and vice chair in 2010. She also represented the board at national conferences, including the Waste Management Symposium, at which she delivered several board-related presentations.

Steve Mead left the board in February following completion of two terms of service. Since his appointment in 2007, he served on the Public Outreach Committee.

Two New Members Appointed

In March, David Bolling and George Roberts were selected as interim appointments to ORSSAB to replace Sondra Sarten and Steve Mead. They will serve on the board pending approval of their formal applications by DOE Headquarters.

David is the Oliver Springs City Manager, and he served for four years on the Anderson County Board of County Commissioners. Before joining the County Commissioners, he was President of Regions Bank in Clinton, and prior to that he was Vice-President and Branch Manager of Union Planter's Bank in Wartburg. David lives in Clinton.

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, and worked as a radio maintenance technician, a nuclear power plant operator/maintenance technician, a radar maintenance officer, and as a Squadron Commander of a 1,000-man unit. He is a member of the Anderson County Board of Zoning Appeals and was a member of The Dream Connection in Knoxville for 15 years. George lives in Heiskell.

To add your name to or remove it from our mailing list, or to advise us of an address change, call the ORSSAB Support Offices at (865) 241-4583 or 241-4584. Web address: www.oakridge.doe.gov/em/ssab

Oak Ridge Site Specific Advisory Board
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ABBREVIATIONS

DOE — Department of Energy
EM — Environmental Management
EPA — Environmental Protection Agency
ETTP — East Tennessee Technology Park
ORNL — Oak Ridge National Laboratory
ORSSAB — Oak Ridge Site Specific Advisory Board
Y-12 — Y-12 National Security Complex

UPCOMING MEETINGS

All meetings are held at the DOE Information Center, 475 Oak Ridge Turnpike, Oak Ridge

Board Meeting
April 13, 6:00 p.m.

Committee Meetings
April 19, 5:30 p.m. – Stewardship
April 20, 5:30 p.m. – Environmental Management