



Many Voices Working for the Community

Oak Ridge Site Specific Advisory Board

Approved June 12, 2013 Meeting Minutes

The Oak Ridge Site Specific Advisory Board (ORSSAB) held its monthly meeting on Wednesday, June 12, 2013, at the DOE Information Center, 1 Science.gov Way, Oak Ridge, Tenn., beginning at 6 p.m. A video of the meeting was made and may be viewed by contacting the ORSSAB support offices at (865) 241-4583 or 241-4584. The presentation portion of the video is available on the board's YouTube site at www.youtube.com/user/ORSSAB/videos.

Members Present

Jimmy Bell
Lisa Hagy
Gracie Hall¹
Bob Hatcher
David Hemelright, Vice
Chair
Bruce Hicks

Howard Holmes
Chuck Jensen, Secretary
Jan Lyons
David Martin, Chair
Fay Martin
Donald Mei
Greg Paulus

Belinda Price
Julia Riley¹
Coralie Staley
Scott Stout
Thomas Valunas

Members Absent

Alfreda Cook
Janet Hart²
Jennifer Kasten
Scott McKinney

¹Student Representative

²Second consecutive absence

Liaisons, Deputy Designated Federal Officer, and Federal Coordinator Present

Dave Adler, Liaison and Alternate Deputy Designated Federal Officer, Department of Energy-Oak Ridge Office (DOE-ORO)
Susan Cange, DOE-ORO Deputy Manager for Environment Management (EM) and Deputy Designated Federal Officer
Melyssa Noe, ORSSAB Federal Coordinator, DOE-ORO

Others Present

Andy Binford, Tennessee Department of Environment and Conservation (TDEC)
Spencer Gross, ORSSAB Support Office
Dale Rector, TDEC
Jon Richards, Environmental Protection Agency (EPA), Region 4

Ten members of the public were present.

Liaison Comments

Mr. Adler – Mr. Adler explained that the original presentation scheduled for July was to have Dan Goode, U.S. Geological Survey, who is acting as a liaison to the board on the Groundwater Strategy Workshops, to provide a briefing to the board on the status of the workshops. The workshop schedule has fallen behind and Mr. Goode's travel has been impacted by the federal budget sequestration. Mr. Adler said it would be better to delay his presentation to late summer or early fall when the workshops have been completed and sequestration should be lifted by then.

He said that while the July board meeting has been cancelled, a July 10 training session for four new members will be conducted at the DOE Information Center.

Mr. Adler said a response is being prepared on Recommendation 215 on Remaining Legacy Materials on the Oak Ridge Reservation (ORR).

Ms. Cange – Ms. Cange said the Oak Ridge EM program has been working to develop its FY 2015 budget request to DOE Headquarters, which includes a list of priorities for cleanup for the ORR. That list will be shared with EPA and TDEC to ensure that regulatory milestones are in place and work continues. She said headquarters has provided a target amount for budget planning, but that figure is embargoed and cannot be shared publicly.

Ms. Cange said significant progress is being made on the remaining six sections of the K-25 Building at East Tennessee Technology Park (ETTP). Final demolition is expected to begin in the early fall. Progress continues to prepare the K-27 Building for demolition. Ms. Cange said progress continues on the processing of uranium-233 for disposition from Oak Ridge National Lab (ORNL) and on processing transuranic waste at the Transuranic Waste Processing Center.

Mr. Paulus asked when the figures on the budget request will be available. Ms. Cange said during this time when budgets are being formulated that information is embargoed until the President releases his budget request to Congress, which is usually in November.

Mr. Rector – Mr. Rector said TDEC's annual Environmental Monitoring report is available on the agency's website at <http://www.tn.gov/environment/doeo/pdf/emr2012.pdf>. Mr. Martin asked that the website be shared with board members.

Mr. Richards – Mr. Richards had no comments but complimented TDEC on its Environmental Monitoring Report.

Public Comment

None

Presentation

Mr. Adler provided an overview of DOE's national EM program. The main points of his presentation are in Attachment 1.

He said a suggestion had been made to provide an overview of the national EM program to give board members a better understanding of the cleanup issues complex-wide.

DOE and its EM program are headquartered in the Forrestal Building in Washington, DC. The EM Program was established in the late 1980s to deal with cleanup of about four decades of work associated with the Manhattan Project, the Cold War, and other nuclear energy work.

EM's mission is to clean up hazardous or potentially hazardous radioactive materials or other substances at various sites around the country (Attachment 1, page 3). That mission includes demolishing structures no longer needed, disposing of spent nuclear fuels and materials from weapons production, and disposition of transuranic and tank wastes.

Mr. Adler showed a map of former cleanup sites across the country (Attachment 1, page 4). To date 90 of 107 former nuclear weapons and research sites have been remediated. The remaining sites where work continues is also shown. Mr. Adler said those sites have significant cleanup challenges and work will continue for years to come. He said he would provide additional information on some of the larger sites, primarily those that have SSABs similar to ORSSAB.

Mr. Adler showed a graphic depicting how the national EM budget is apportioned (Attachment 1, page 5). Radioactive tank waste receives about 34 percent of the EM budget. Tank waste work is done at Hanford, Wash., Idaho National Lab, and the Savannah River Site. Facility decontamination and decommissioning (D&D) takes about 19 percent of the EM budget. Oak Ridge has a large amount of D&D work underway. Oak Ridge also works with spent nuclear fuel, transuranic waste, and soil and groundwater remediation.

Page 6 of Attachment 1 shows how much money in FY 2014 is apportioned to the various sites. Richland and River Protection are parts of the Hanford, Wash., site. Mr. Adler said while Oak Ridge is a significant part of the EM mission, it also is very important to the national DOE science and defense missions.

Mr. Adler then discussed some of the individual cleanup sites across the country.

The Hanford site is located in the southeastern portion of Washington State (Attachment 1, page 8). It was one of two places that produced plutonium for weapons development, and the site has a lot of tank waste that contains high levels of radioactivity. Hanford is building a large facility to treat tank waste. Hanford does not have a significant production mission, and when cleanup is completed the site will be closed.

Idaho National Lab (Attachment 1, page 10), located about 30 miles west of Idaho Fall, was developed primarily to test reactor technology. Spent nuclear fuel reprocessing was also done at Idaho. Most of the current work deals with decommissioning old facilities built to test reprocessing methods and disposing of related waste streams. The Idaho Lab still has some continuing nuclear energy research missions.

Los Alamos is one of the three sites that were part of the Manhattan Project (Attachment 1, page 12). Located on a mesa about 40 miles northwest of Santa Fe, N.M., it has a continuing mission as a defense laboratory, but also has a significant cleanup mission from previous weapons and energy research activities. Similar to Oak Ridge, Los Alamos is adjacent to the community.

The Nevada National Security Site (Attachment 1, page 13), located about 65 northwest of Las Vegas, is where most of the nuclear weapons testing was done from 1950 to 1992. Most of the tests were conducted underground. Nevada has a continuing role in national defense and is also the site where DOE sends much of its waste from other sites. The disposal areas are surface repositories. Oak Ridge sends low-level wastes to Nevada that do not meet the waste acceptance criteria to be disposed in the waste disposal facility in Oak Ridge.

Mr. Adler said Oak Ridge is probably the most complex cleanup site in the country because of its multiple missions and various waste streams (Attachment 1, page 15). About half of the money spent on the Manhattan Project was used in Oak Ridge to test the methods for enriching uranium

for use in the first atomic bomb. It was also the site where the first gram quantities of plutonium were extracted using methods that were scaled up to production size at the Hanford B Reactor.

Mr. Adler said in the early 1950s the government decided to triple the amount of uranium being enriched for defense purposes. As a result, two more uranium enrichment plants were built near Paducah, Ky., and Piketon, Ohio (Attachment 1, pages 16-19). These sites are shutting down enrichment activities and will eventually close. The work at both sites will be D&D activities similar to the work underway at ETTP. Several years ago Oak Ridge finished sending about 6,500 large cylinders of depleted uranium hexafluoride to Paducah and Portsmouth to be converted to a more stable form for disposal. The eventual goals for both sites are to clean up and convert to areas for reindustrialization.

The Savannah River Site (Attachment 1, page 21) is located near Aiken, S.C. It is a large site that was used to complement the Hanford site for plutonium production and also for tritium production. It has some continuing missions to assist in dispositioning excess plutonium.

Mr. Adler talked about some of the facilities that have been built around the country to achieve the principal missions of DOE EM.

At the Savannah River Site the Defense Waste Processing Facility (Attachment 1, page 22) has been built to convert liquid waste to a solid glass. These glass forms will be disposed eventually in a geologic repository, but in the meantime the vitrified waste is kept in safe storage.

Idaho has built the Integrated Waste Treatment Unit, which will treat the site's inventory of about 900,000 gallons of liquid tank waste (Attachment 1, page 22). Mr. Adler said these are both large multi-billion dollar facilities.

The largest treatment facility for liquid radioactive waste is being built at Hanford (Attachment 1, page 23). Mr. Adler said this facility is costing more and taking longer to construct than was anticipated. He said this project is a high priority for DOE to finish because the cost of maintaining the inventory of tank waste is expensive. He said when the project is finished it will relieve DOE of a huge carrying cost of maintaining the tank waste and will free up a large amount of money that can be used for other DOE projects.

Mr. Adler said Oak Ridge has the largest D&D project in the complex (Attachment 1, page 25). Page 25 shows how the K-25 Building looked prior to demolition beginning in 2008 and how it looks today but still showing the North Tower, which was demolished in January. The K-25 Building was the largest D&D project in the world. About 90 percent of the waste generated from the demolition of K-25 is sent to the Environmental Management Waste Management Facility in Bear Creek Valley near Y-12 National Security Complex. About 10 percent that doesn't meet the waste acceptance criteria for the disposal facility is sent to Nevada.

The next big D&D projects after Oak Ridge will be at the Paducah and Portsmouth sites.

The H Canyon at the Savannah River Site (Attachment 1, page 26) is a huge, well-shielded facility that takes highly radioactive spent nuclear fuel for processing. It is the only facility of its type in the DOE complex.

Mr. Adler said Oak Ridge has a significant inventory of special nuclear material in uranium-233 at ORNL (Attachment 1, page 27). He said U-233 is excess material for national defense and is a challenging and expensive project. The inventory requires special handling and security and it's currently stored in the central campus of ORNL. It needs to be disposed to make the lab safer for current science missions.

The Waste Isolation Pilot Plant (WIPP) near Carlsbad, N.M., is the repository of transuranic (TRU) waste (Attachment 1, page 29). Mr. Adler said TRU waste has a very long half-life and tends to be mobile in the environment so it requires special disposal methods. TRU waste is required by law to be disposed in a geologic repository. WIPP is a series of caverns in a huge salt dome about 2,100 feet below the surface. Packaged TRU waste is deposited in the caverns and over time the salt will entomb the waste. The map on page 30 of Attachment 1 shows sites that send TRU waste to WIPP.

Mr. Adler said Oak Ridge will be dependent on western disposal sites for some of its waste streams for many years to come, but he said most of its waste is disposed on site.

Because the EM Program is focusing on facilities that were built for specific purposes with unique hazardous materials there are significant technological challenges associated with cleanup, particularly the high-hazard facilities in the west. Mr. Adler said there is a national technology development program that is part of EM. He said the hope is to invest some money in technology development to find ways to reduce the projected high-cost of cleanup (Attachment 1, page 31). Oak Ridge has some high-tech disposal challenges, but most of the work is lower-tech D&D. Mr. Adler said, however, anything that can be done to characterize and clean up mercury contamination will aid in work at Y-12 National Security Complex. He said there are complicated groundwater challenges in Oak Ridge so characterization technology in groundwater will be useful in Oak Ridge.

In conclusion, Mr. Adler said the EM Program faces large financial challenges and finishing the cleanup program will require creative approaches. Budget appropriations over the years have fallen from the \$7-\$8 billion range to about \$5.6 billion today. Mr. Adler said DOE must work with environmental regulators and other stakeholders to find ways to continue the work cost effectively. He said it could be 30 to 40 years to complete the work nationwide.

After Mr. Adler's presentation a number of questions were asked. Following are abridged questions and answers.

Mr. Bell – This was a great presentation. Is there a book that puts all of this together? Mr. Adler – There are materials produced by headquarters that lay out the big picture of what we have left to do. Ms. Cange – You can find a good synopsis of the program in the budget volumes that have been released with the president's budget. We can provide a link that gives a synopsis of the sites, their challenges, funding profiles, etc.

Mr. Bell – I thought there was to be some enrichment activities at either Paducah or Portsmouth, but you said they were going to close? Ms. Cange – The Portsmouth plant was shut down some time ago. USEC is building the American Centrifuge Program plant there. That's where they plan to use centrifuge technology to enrich uranium. The Paducah plant is operating but is expected to be turned back to the EM Program sometime in the next year or two.

Ms. Hall – You mentioned that the cleanup for Hanford is all under the EM Program as opposed to Oak Ridge being under a lot of groups. Is it better for cleanup finance-wise and management-wise to be under one entity or to have a joint effort? Mr. Adler – The cleanup in Oak Ridge is under one entity. There are multiple entities conducting multiple missions in Oak Ridge. There is a column that runs ORNL, there is another column that runs Y-12, and another column that runs cleanup. It makes for a complicated situation, but they intentionally organize it so that is an efficient and a manageable program as possible. At Hanford there isn't a science column or defense column like we have in Oak Ridge.

Mr. Valunas – Has vitrification been abandoned? Mr. Adler – It's still a technique that is used in certain situations. In situ vitrification in Oak Ridge does not look like it will be a very useful technology because we have groundwater so close to the surface and we have steam excursion

issues. We've already tried that. In situ vitrification of these large tanks is not the current selected approach and we're heading down these more elaborate expensive approaches. From a regulatory standpoint and planning standpoint we are not contemplating in situ vitrification of those tanks.

Mr. Mei – How many nuclear power plants are using the mixed oxide fuel? I understand only two companies were interested in doing that. One was Virginia Power and one was Duke Energy. Virginia Power withdrew from the testing and only the Duke Catawba Plant continued with the testing. I don't know what the status of that is now. Mr. Adler – I don't know the status either. The people pushing the mixed oxide process presume they have a market for everything they produce, but I don't know the answer to that. Mr. Jensen – My company had some dealings with that and as far as we know Duke Energy Systems has abandoned their effort. I think they decided that the engineering was just too complicated to pursue.

Mr. Hatcher – In regard to the two maps (on page 4 of Attachment 1), what is the decision that removes a dot from the map? Mr. Adler – It involves bringing the sites into compliance with environmental regulatory standards developed for that site. The task is to go in and work with the regulators to agree on what the site will look like when it's clean and that's typically specified in terms of allowable concentrations of residual uranium in the soil or groundwater or surface contamination limits for buildings and so forth and then achieving those end states. Typically there is a sign off by either a state or federal regulatory agency and a certification that is done. Often an independent group is brought in to take measurements to confirm that DOE has achieved what it agreed to achieve. Documentation is done to wrap up the job and the site is released for unrestricted use. In some cases the end state is not fully unrestricted. You may finish a site but there is still a landfill there or there is a residual groundwater contamination problem that couldn't be restored. But basically it's done when your regulators say it's done.

Mr. Hatcher – On [page 5 of Attachment 1] I notice there is no mention of 'hotel costs.' Mr. Adler – On that graphic they are spread across the columns.

Committee Reports

Board Finance & Process – Mr. Paulus reported that the board's finances are in order and on budget and that a contract is being finalized with the facilitator, Jenny Freeman, for the annual meeting in August. He said the facilitator's work scope has been modified and the cost should be less than in years past. He said the committee will not meet in June.

Mr. Hemelright said the annual meeting will be on Saturday, August 17 at the Holiday Inn in Pigeon Forge. The agenda has been shortened from a full day to a half day. Plans for a Friday evening event are still being made.

Ms. Freeman will be contacting members to get input on issues, work plan topics, and other points of discussion for the annual meeting.

EM – Mr. Hatcher reported that the committee did not have a regular meeting in May, but interested committee and board members received a briefing on May 23 from Dan Goode, who is acting as a liaison to board for the Groundwater Strategy Workshops being conducted by DOE, EPA, and TDEC.

Members of the committee toured the Transuranic Waste Processing Center on May 22.

The committee will meet again on June 19 and have a discussion about a possible recommendation on disposition of nickel, which could be taken to the EM SSAB Chairs' meeting in the fall.

Public Outreach – Mr. Hemelright said one of the topics that was brought up at the FY 2012 planning meeting was signage around the ORR. The committee has been discussing the topic throughout the year. Mr. Adler attended the May committee meeting and said the ORR has several administrators that have various responsibilities for the operations conducted on the ORR. These administrators report to DOE Headquarters so there is no central authority that dictates signage requirements. Mr. Adler reminded the committee that the board's charter is focused on EM operations on the ORR and that the committee and the board should not stray from its mission. Mr. Adler said records of decision indicate what signage is needed and the types of signage required have evolved over time. Mr. Hemelright said what the committee wanted initially is out of the EM SSAB and ORSSAB scope. The committee decided not to pursue the issue further.

Mr. Hemelright reported that the board will not have an exhibit at the Oak Ridge Secret City festival because not enough board members volunteered to staff a booth.

The committee will meet again on June 25 in teleconference.

Stewardship – Ms. Staley said the committee did not meet in May. The committee will meet again on June 18 and she encouraged all board members to attend.

Executive – Mr. Martin said the committee met on May 22 and discussed the May 8 presentation on the Remediation Effectiveness Report. The committee determined no further action was needed regarding the presentation.

The committee reviewed the three draft recommendations that were presented at this meeting and agreed they were ready to go on the agenda.

The committee will meet by teleconference on June 20 at 9 a.m.

Announcements and Other Board Business

ORSSAB will not meet in July. Its next meeting will be the annual meeting at the Holiday Inn in Pigeon Forge on August 17.

Ms. Cange recognized Ms. Hart, Mr. Jensen, Mr. Martin, and Mr. Valunas for their service to the board.

The minutes of the May 8, 2013, meeting were approved.

A proposed revision to the ORSSAB bylaws had its first reading (Attachment 2).

The recommendation on the Stewardship Point of Contact (Attachment 3) was approved.

The recommendation on to Develop a Fact Sheet on Site Transition at Ongoing Mission Sites (Attachment 4) was approved.

A Nominating Committee for FY 2014 board officers was elected. The committee includes Lisa Hagy, Howard Holmes, Scott McKinney, and Belinda Price.

Federal Coordinator Report

No report.

Additions to the Agenda

None.

Motions**6/12/13.1**

Mr. Jensen moved to approve the minutes of the May 8, 2013 meeting. Mr. Bell seconded and the motion passed **unanimously**.

6/12/13.2

Mr. Hemelright moved to approve the Recommendation on the Stewardship Point of Contact (Attachment 3). Mr. Hatcher seconded and the motion passed **unanimously**.

6/12/13.3

Mr. Hatcher moved to approve the Recommendation to Develop a Fact Sheet on Site Transition at Ongoing Mission Sites (Attachment 4). Ms. Staley seconded. The motion **passed** with 15 voting 'yea' and 1 abstention (Ms. Price).

6/12/13.4

Ms. Staley moved to approve the Recommendation on the Test Site Transfer (Attachment 5). The motion **failed** for lack of a second.

6/12/13.5

Mr. Hemelright moved to approve the nominations for the Nominating Committee for FY 2014 ORSSAB officers (Ms. Hagy, Mr. Holmes, Mr. McKinney, and Ms. Price). Ms. Martin seconded and the motion passed **unanimously**.

The meeting adjourned at 8:15 p.m.

Action items

1. Staff will provide website address of TDEC monitoring report to board members.
2. DOE will provide a link to budget volumes that provide descriptions of cleanup sites, their challenges, and funding profiles.

Attachments (5) to these minutes are available on request from the ORSSAB support office.

I certify that these minutes are an accurate account of the June 12, 2013, meeting of the Oak Ridge Site Specific Advisory Board.

Dave Hemelright

Dave Hemelright, Acting Chair
Oak Ridge Site Specific Advisory Board
DH/rsg

September 11, 2013