



Many Voices Working for the Community

Oak Ridge Site Specific Advisory Board

Approved February 11, 2015, Meeting Minutes

The Oak Ridge Site Specific Advisory Board (ORSSAB) held its monthly meeting on Wednesday, February 11, 2015, 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

Leon Baker
Jimmy Bell
Richard Burroughs
Alfreda Cook
Lisa Hagy, Secretary
Bob Hatcher

David Hemelright, Chair
Jennifer Kasten
Terri Likens
Jan Lyons, Vice Chair
Fay Martin
Donald Mei

Greg Paulus
Belinda Price
Mary Smalling
Scott Stout
Ed Trujillo

Members Absent

Noel Berry¹
Howard Holmes
Coralie Staley
Wanfang Zhou

¹Second consecutive absence

Liaisons, Deputy Designated Federal Officer, and Federal Coordinator Present

Dave Adler, Department of Energy-Oak Ridge Office (DOE-ORO), Alternate Deputy Designated Federal Officer (DDFO)
Susan Cange, DDFO, DOE-ORO Manager of Environmental Management (EM)
Kristof Czartoryski, Liaison, Tennessee Department of Environment and Conservation (TDEC)
Connie Jones, Liaison, Environmental Protection Agency (EPA) Region 4
Melyssa Noe, ORSSAB Federal Coordinator, DOE-ORO

Others Present

Rhonda Bogard, Environmental Quality Advisory Board
Susan DePaoli, Pro2Serve
Spencer Gross, ORSSAB Support Office
John Huotari, Oak Ridge Today
Claire Rowcliffe, Student Representative
Pete Osborne, ORSSAB Support Office
Laura Wilkerson, DOE

Eleven members of the public were present.

Liaison Comments

Ms. Cange – Ms. Cange said she was honored to have been named recently as the DOE Oak Ridge Manager for EM. She said she would continue to work closely with the board.

Demolition of the K-31 Building at East Tennessee Technology Park (ETTP) is about 50 percent complete and is expected to be finished by summer 2015. She said demolition of the remaining K-27 Building is expected to begin in about a year. Ms. Cange said with the demolition of K-27 Oak Ridge will be the first site in the world to complete demolition of all of its gaseous diffusion process buildings. So far K-25, K-29, and K-33 have all been demolished.

A Gaseous Diffusion Plant Workshop was completed on this date. Representatives from the three sites in Oak Ridge, Paducah, Ky., and Portsmouth, Ohio, as well as DOE headquarters representatives met for two days in Oak Ridge. About 70 participants looked for opportunities for integration and efficiency improvement in cleaning up those sites.

Mr. Adler – no comments.

Ms. Jones – Ms. Jones said EPA doesn't usually offer comments at these meetings because Ms. Cange and Mr. Adler do a good job of sharing information of what is underway at Oak Ridge and at DOE Headquarters. As such, she said unless there is something EPA feels needs to be emphasized, she prefers to preserve time for board members to ask questions for clarification. She had no other comments.

Mr. Czartoryski – Mr. Czartoryski agreed with Ms. Jones remarks about allowing time for board members to ask questions and had no other comments.

Public Comment

None.

Presentation

Ms. Wilkerson's presentation was an update on the waste disposal capacity for the Oak Ridge Reservation (ORR). The main points of her presentation are in Attachment 1. She began by saying the primary low-level waste disposal location is at the EM Waste Management Facility (EMWWMF), which is located just west of the Y-12 National Security Complex. She showed a schematic of how EMWWMF is designed (Attachment 1 page 3). EMWWMF is primarily above grade with a geologic buffer underneath that is 10 feet thick. Just above the buffer is a liner that includes a leachate collection system that isolates waste from the geologic buffer. From the bottom of the waste to the top is about 75 feet. A final cover is placed over the waste to protect against water intrusion.

The capacity of EMWWMF is 2.1 million cubic yards and when finished will cover about 43 acres. It is composed of six cells. The first two are full. Cells 3, 4, and 5 are active and cell 6 will become active as the other cells are filled.

Ms. Wilkerson said additional waste disposal capacity will be needed in order to complete anticipated cleanup of contaminated and unneeded facilities at Y-12 and Oak Ridge National Lab (ORNL).

Ms. Wilkerson said the ability of dispose of cleanup waste on-site is key to the success of the Oak Ridge EM program. About 86 percent of the waste generated by the demolition of the K-25 and K-33 Buildings went to the EMWWMF. She said it is the most cost effective way of disposing of the waste. It was estimated that about \$300 million would be saved over the life of EMWWMF. But to date about a half a billion has been saved. Disposing waste on site eliminates about 130,000 miles

driving to transport waste off-site, reduces greenhouse gas emissions, and reduces waste handling requirements and worker exposure.

Ms. Wilkerson said projections indicate the EMWMF will be filled to capacity by 2024 (Attachment 1, page 7). A second facility needs to be ready for operation about 18 months before EMWMF is filled. From now until about 2019 a number of steps have to be completed before construction can begin on a new facility.

The process to develop a new waste disposal facility began with a remedial investigation/feasibility study (RIFS), which evaluated three alternatives (Attachment 1, page 8). One alternative is no action, where there would be no coordinated ORR-wide disposal strategy and waste would be handled on a project-by-project basis. The second alternative is on-site disposal and the third is off-site disposal.

The benefits of on-site disposal are noted on page 9 of Attachment 1. Cost savings are estimated to be more than a \$1 billion, cleanup would be accelerated, and there would be a reduction in public and program risk. The chart on page 9 shows the differences in transportation risk of on-site to off-site disposal.

A number of sites were evaluated across the ORR for siting a new facility, to be known as the EM Disposal Facility (EMDF) (Attachment 1, page 10). The conclusion was that the best site for the EMDF would be in the same area as EMWMF (Attachment 1, page 11), because it is historically a waste management area, is isolated from the public, access is restricted, and is consistent with stakeholder input during the siting of EMWMF. In addition, infrastructure for the EMWMF is already in place that can be used to operate the EMDF. The proposed EMDF site is just east of EMWMF.

Page 12 of Attachment 1 shows a diagram of the EMDF and its relation to EMWMF. EMDF would have up to six cells, and would be built as needed.

The schedule for completing all the actions necessary to begin construction of EMDF is noted on page 15 of Attachment 1. The second draft of the RIFS is to be completed in March with a Proposed Plan due in September. A Record of Decision should be signed in May 2016. The public will have an opportunity to comment on both RIFS and the Proposed Plan.

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

Mr. Bell – What is the difference between the EMWMF and the EMDF that requires a year and a half of design changes? Ms. Wilkerson – The main difference is a stream that runs through the EMDF site and it has to be engineered around that stream.

Mr. Bell – You mentioned the Waste Isolation Pilot Plant and that facility being shutdown. I was under the impression it was a plutonium-based facility. Ms. Wilkerson – I was using that as an example of a facility we have no control over and how that can impact what we are able to do or not do at any given time.

Mr. Bell – In the cleanup of K-25 what happened to the nickel barriers? Ms. Cange – That material is currently stored at ETPP in a facility that is targeted to be transferred to the Community Reuse Organization of East Tennessee. We are evaluating options for that nickel that will range from potential reuse to potential disposal. So we will have to execute some plan for that nickel if we want to transfer that facility to the reuse organization.

Ms. Kasten – Do you have a definition for the lower activity waste? Is there a cutoff or criteria? Mr. Adler – There is a legal definition for low-level waste and there will be no non low-level waste going in the EMDF. It will accept waste compared to a waste acceptance criteria. We have numeric values by radionuclides, which we can go up to on average. So it's specified radionuclide by radionuclide and those tables are available. Ms. Kasten – Do you survey it or use process knowledge? Mr. Adler – Both. A lot of money and a lot sampling are dedicated to make sure we know the precise makeup of the waste streams we receive. So there is a strict accounting for the types of wastes and the concentrations of the various constituents that are tracked. Ms. Kasten – Do you have a maximum amount of activity that you expect in that burial site when it's full? Mr. Adler – Theoretically there is. If you take the maximum allowable concentration of each radionuclide and multiplied that by the maximum volume that it's set up to receive that would give you the total curries. Ms. Kasten – The maximum concentration, you're determining that from the legal standard to come up with that number? Mr. Adler – It is derived from regulations, but it's really tied to risk. The facility is not allowed to have any significant impact on groundwater or potential uses of groundwater. So we back calculate from this performance objective to allowable concentrations in the waste streams that come to the site. Ms. Kasten – You don't come up with a maximum design accident scenario? Is that defined for this facility or is that not done for burial grounds? Mr. Adler – For burial grounds of this type we don't do accident failure analyses like are done for a nuclear power plant or facilities that manage more highly radioactive materials. We deal with those types of considerations through the geotechnical features established for the facility and then if there was an earthquake, for example, that damaged the facility, we have to come back in and repair it. The facility does have very thick layers of clay material positioned to deal with time and nature.

Mr. Paulus – The EMDF is 2.4 million cubic yards capacity. Is that going to be big enough? Ms. Wilkerson – Based on our projections we believe it is. We have built in a 25 percent contingency to our projections. It could be 25 percent less if we are right on our projections. And we have the cushion of being able to do 25 percent more. Mr. Paulus – How much will it cost? Ms. DePaoli – The lifecycle cost reported in the D2 RIFS, start to finish was \$817 million, including the contingency factor. We're working on the D3 RIFS and there are some changes that increased to around \$1 billion start to finish and 23 years of operation.

Ms. Cook – How are you going to engineer around the stream? Ms. Wilkerson – It's an underdrain system that would divert water from the waste. Ms. DePaoli – An underdrain will go under the hydrogeologic buffer. The stream itself is trenched. There will be a 10-foot trench and it's filled with material that drains the water and there is also a blanket drain. It would actually drop the water table under the landfill.

Ms. Cook – Was the original waste forecast that drove the capacity of EMWFM too low? Ms. Wilkerson – When the EMWFM was originally developed Y-12 and ORNL had not declared facilities excess to their missions. The primary area of cleanup was at ETPP with just a handful of buildings at Y-12 and ORNL. When Y-12 and ORNL determined they had excess facilities the projections of waste went up. We are now in a position where we have to site a new facility. Ms. Cook – Is there a possibility something else could be added to the baseline and the EMDF would not be large enough to handle the additional inventory? Ms. Wilkerson – We have a comprehensive plan with a lot of data showing what is excess for ORNL and Y-12, so I think we're pretty well covered. But that doesn't mean that 40 years from now Y-12 and ORNL may decide there are other buildings they don't need. The bulk of the really old legacy facilities that supported the Manhattan Project and other development activities have been accounted for.

Mr. Hatcher – Going back to the transportation risks versus on-site disposal. How were the probabilities arrived at, and second don't the probabilities change with the distance to the disposal site? Ms. DePaoli – The transportation risk is calculated on the number of miles. We look at the

routes traveled, cities that are passed through, populations, and we look at accident risks in those areas. Ms. Wilkerson – We made assumptions based on currently available disposal facilities to come up with those estimates.

Mr. Trujillo – The characterization data you’re trying to obtain, is that from the hydrogeology? Ms. Wilkerson – It’s basically groundwater, elevation, and soil data. Mr. Trujillo – Did you use information from the existing facility? Was the hydrogeology pretty similar? Ms. Wilkerson – There is a wealth of information that was developed for the EMWMF and some that is collected periodically. We use all of that for document preparation. Mr. Czartoryski – The state of Tennessee is also collecting hydrogeological data from wells close to EMWMF. So we’re collecting additional data to share with DOE and EPA.

Ms. Bogard – I have a question about the siting. Everything sounded good until we got to the part about the stream. You mentioned there many other locations on the reservation that were considered. What agencies and organizations have been involved with the site selection? It sounds like the comment period will be about this one possible site, and we won’t be considering any of the other possible sites. Ms. Wilkerson – The RIFS contains all the information about the sites that were evaluated and what supported the conclusion on the proposed site. When that document is issued to the public that will be an opportunity to provide comments on the site. Ms. Bogard – So that will be the first opportunity for all the other agencies involved? Ms. Wilkerson – No, this will be the third draft version that we will submit to EPA and TDEC. The regulators have been working with us and providing comments on issues to be addressed on the entire process since the original draft.

Mr. Huotari – I recall the City of Oak Ridge was going to have a public comment on this. Is something like that being done? Ms. Wilkerson – The city has hired a consulting group to do an assessment of the impacts of this new cell on the city and the environment and so on. They should be getting a draft version of that document soon. From there I don’t know what the process will be on obtaining public input on the assessment. We have provided tours and supporting information to the consulting group that is doing the assessment.

Committee Reports

EM & Stewardship – Mr. Hatcher reported the committee met on January 21 to discuss a possible recommendation on the ETTP Zone 1 Soils Proposed Plan. A drafting committee continues to work on the wording of the recommendation and will be discussed further at the February 18 meeting.

Executive – Mr. Hemelright said he provided a presentation about the board to the Lenoir City Civitan Club on January 20. He said several members of the Civitan had parents who worked on the ORR during the Manhattan Project and the Cold War and they were impressed with the amount of cleanup work that has been done.

The committee discussed a poll conducted by staff asking board members about extending terms of service. The majority of members were in favor of being able to extend terms. The advantage of longer terms would be having experienced members continue to serve if there are difficulties in recruiting new members. Board member Corkie Staley is drafting a recommendation about extending terms of service. Her draft will be reviewed at the committee’s February 25 meeting.

The committee discussed asking representatives of the City of Oak Ridge to become more involved with board activities and make a presentation to the board about any concerns they may have regarding the DOE EM program. Mr. Adler said he has spoken with Amy Fitzgerald of the City of Oak Ridge to work with the board as a partner in the progress of the EM program.

Ms. Smalling asked if the board will still be involved in Earth Day. Mr. Hemelright said even though the Public Outreach Committee has been dissolved, the board will still participate in Earth Day and the Secret City Festival if there are enough volunteers to staff an exhibit.

Ms. Cook asked how projects that the Public Outreach Committee was responsible for are now being handled. Mr. Hemelright said most of those projects were handled by staff and will continue to be handled by staff. Ms. Lyons said the Executive Committee will oversee those projects. She said while staff is responsible for publications, news releases, and meeting videos, any board member is welcome to be involved in those projects.

Mr. Paulus said the committee discussed having board meetings at locations other than the DOEIC. He asked if any progress had been made on that discussion. Mr. Hemelright said it's still being considered.

Announcements and Other Board Business

ORSSAB's next scheduled meeting will be Wednesday, March 11, 2015, at the DOE Information Center. The topic will be the status of the Oak Ridge EM Program and the FY 2016 EM budget.

Mr. Hemelright said a reception for Ms. Cange will be held at Pollard Auditorium at Oak Ridge Associated Universities on Thursday, February 19 from 5 to 7 p.m. in recognition of Ms. Cange being named the DOE Oak Ridge manager for EM. Mr. Hemelright said all board members are invited to attend.

Ms. Cange introduced Messrs. Baker, Burroughs, and Trujillo, and Ms. Likens as new members of the board.

The minutes of the January 14 meeting were approved.

The board approved on the second reading a proposed amendment to the ORSSAB bylaws to change the procedure for voting on recommendations (Attachment 2).

The board approved on a second reading a proposed amendment to the ORSSAB bylaws to change the procedure for amending the bylaws (Attachment 3).

Mr. Paulus said several members of the board toured the site of the proposed EMDF on February 5 and in January several members toured ETTP regarding the Zone 1 Soils Proposed Plan. He said it's very helpful to be able to see in person the areas that are discussed at board meetings.

Ms. Cange said the idea of tours or field trips came out of discussions at the November board meeting. She said it is the plan to continue offer tours and field trips to areas where cleanup decisions are to be made.

Federal Coordinator Report

Ms. Noe had no comments.

Additions to the Agenda

None.

Motions**2/11/15.1**

Mr. Paulus moved to approve the minutes of the January 14 meeting. Mr. Bell seconded and the motion passed **unanimously**.

2/11/15.2

Mr. Hatcher moved to approve an amendment to the ORSSAB bylaws to change the procedure for voting on recommendations (Attachment 2). Ms. Cook seconded and the motion passed **unanimously**.

2/11/15.3

Ms. Martin moved to approve an amendment to the ORSSAB bylaws to change the procedure for amending the bylaws (Attachment 3). Ms. Hagy seconded and the motion passed **unanimously**.

The meeting adjourned at 7:40 p.m.

Action items

1. Mr. Adler will determine where ED 15 is in Zone 1. **Closed**. A map showing the location of ED 15 in Zone 1 at ETPP was provided to board members on February 10 (Attachment 4)

Attachments (4) to these minutes are available on request from the ORSSAB support office.

I certify that these minutes are an accurate account of the February 11, 2015, meeting of the Oak Ridge Site Specific Advisory Board.

Dave Hemelright

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

June 11, 2015