



*Many Voices Working for the Community*

# Oak Ridge Site Specific Advisory Board

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## **Approved May 11, 2016, Meeting Minutes**

The Oak Ridge Site Specific Advisory Board (ORSSAB) held its monthly meeting on Wednesday, May 11, 2016, at the DOE Information Center, 1 Science.gov Way, Oak Ridge, Tennessee, beginning at 6 p.m. A video of the meeting was made and may be viewed by contacting 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](http://www.youtube.com/user/ORSSAB/videos).

### **Members Present**

Leon Baker

Richard Burroughs

Alfreda Cook, Vice Chair

Martha Deaderick

Mike Ford

Bob Hatcher

David Hemelright, Secretary

Howard Holmes

Jennifer Kasten

Greg Paulus

Belinda Price, Chair

Elizabeth Ross

Mary Smalling

Scott Stout

Ed Trujillo

Dennis Wilson

### **Members Absent**

Donald Mei

Wanfang Zhou

### **Liaisons, Deputy Designated Federal Officer, and Alternates Present**

Dave Adler, ORSSAB Alternate Deputy Designated Federal Officer (DDFO), Department of Energy, Oak Ridge Office of Environmental Management (DOE-OREM)

Susan Cange, Manager for the Department of Energy (DOE) Oak Ridge Office of Environmental Management (OREM) and ORSSAB DDFO

Jeff Crane (for Connie Jones), Environmental Protection Agency (EPA) Region 4

Randy Young (for Kristof Czartoryski), Tennessee Department of Environment and Conservation (TDEC)

Melyssa Noe, ORSSAB Alternate Deputy Designated Federal Officer (DDFO), Department of Energy, Oak Ridge Office of Environmental Management (DOE-OREM)

### **Others Present**

Sophia Cui, 2015-2016 ORSSAB Student Representative

Brian Henry, DOE

Ashley Huff, ORSSAB Support Office

Alana Joldersma, 2015-2016 ORSSAB Student Representative

Lara Manning, 2016-2017 ORSSAB Student Representative

Pete Osborne, ORSSAB Support Office

Eighteen members of the public were present.

**Liaison Comments**

**Ms. Cange** – DOE’s FY 2018 budget workshop is scheduled for Thursday, May 19, 2016, 3-5pm. A reception will follow at 5 p.m. sponsored by the Oak Ridge Partnership. The workshop, originally planned for the American Museum of Science and Energy, will be relocated due to a problem with air conditioning. Board members will be notified when the new location has been determined.

Generally, these annual community workshops focus on the budget formulation process by examining cleanup priorities and how overall program goals shape OREM’s funding requests. This year’s community workshop will feature a panel discussion with representatives from three major prime contractors in Oak Ridge: UCOR, UT-Battelle, and CNS. The event will highlight the role of the EM program in Oak Ridge in enabling the ongoing missions of the Office of Science and the National Nuclear Security Administration. Panel discussions will emphasize the common goals and integration among program offices in activities that take place across the Oak Ridge Reservation (ORR). ORSSAB will also participate in the event with a presentation on the board’s recommendation to DOE concerning the FY 2018 budget request.

On a separate note, progress continues on demolition work at Building K-27, the last of the five gaseous diffusion buildings at East Tennessee Technology Park (ETTP). Work began in early February with a ceremony attended by the board, and as of May 2016, demolition activities were more than fifty percent complete. DOE currently projects a September 2016 completion date. A ceremony to celebrate the accomplishment will be planned. The complete demolition and cleanup of Building K-27 will mark the final achievement of “Vision 2016,” OREM’s goal for the safe and successful completion of demolition of all five gaseous diffusion buildings at ETTP.

**Mr. Adler** – Recent interest has been expressed in a board member tour of the Transuranic Waste Processing Facility. If ORSSAB members would like to participate, please notify staff at [Ashley.Huff@orem.doe.gov](mailto:Ashley.Huff@orem.doe.gov) so that arrangements can be made to accommodate the group.

**Mr. Crane** – Regarding the May budget workshop, EPA recently issued a letter to DOE on near-term milestones and priorities. The letter highlights common priorities among the agencies in the near term through FY 2018, though EPA emphasizes positioning key milestones, such as those related to soils at ETTP, to better support the FY 2018 funding request. Beyond FY 2018, EPA advocates greater utilization of the Groundwater Strategy to assess both offsite and onsite groundwater activity. In addition to offsite characterization work currently underway, EPA stresses the need for plans to address onsite groundwater activity and plumes.

**Mr. Young** – No comment.

**Public Comment**

None.

**Presentation**

Brian Henry, Senior Project Manager, DOE, discussed OREM’s interest in a new onsite disposal facility to meet the program’s future cleanup goals and explored several site alternatives for the location of what DOE has proposed as the Environmental Management Disposal Facility (EMDF). He presented an “Update on CERCLA Waste Disposal Capacity for the Oak Ridge Reservation” (Attachment 1).

Much of the Manhattan Project legacy waste, for which OREM is responsible, falls under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, also known as the Superfund Act, which is a federal law regulating the cleanup of designated sites contaminated with hazardous waste. The ORR has three industrial areas that contribute to ongoing CERCLA waste disposal operations. These are the legacy facilities at ETTP, Oak Ridge National Laboratory (ORNL), and the Y-12 National Security Complex (Y-12). Much of the waste generated by

cleanup operations at ETPP goes into an existing EM landfill, the Environmental Management Waste Management Facility (EMWMF), which, due to the progress on cleanup, is nearing capacity. With operations at ETPP approaching completion, future cleanup of legacy facilities at ORNL and Y-12 drives the need for additional CERCLA waste disposal capacity.

Both onsite and offsite options for CERCLA waste disposal are currently being considered by DOE and its regulators at EPA and TDEC. The agencies are evaluating six alternatives.

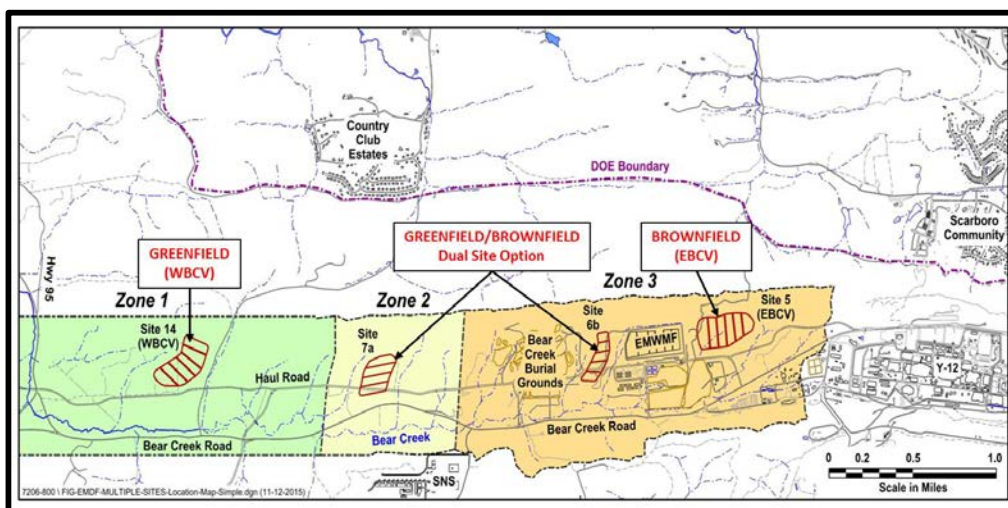
- *No Action (1)*. The no action alternative is a CERCLA requirement and is not expected to be selected.
- *Onsite Disposal (2-4)*. Three options for onsite disposal (as outlined below) are under consideration.
- *Offsite Disposal (5)*. Offsite disposal is also an option. It would require the cross-country transport of waste to facilities in Utah and Nevada by both truck and rail operations.
- *Hybrid Disposal (6)*. The hybrid disposal alternative would include a combination of a small onsite facility with additional offsite disposal at existing facilities.

DOE maintains no stated preference at this time and is evaluating all six alternative options. However, since offsite federal and commercial facilities are already in place, discussions of an onsite or hybrid alternative have recently generated more activity among the three agencies owing to the fact that any of the onsite options require the selection of a new landfill location. Mr. Henry's presentation focused mainly on the selection process and key considerations for an onsite disposal option.

As part of an initial screening process, sixteen sites were evaluated as potential locations for an onsite disposal facility. Factors in site suitability included topography and hydrology, available capacity, and future land use (slide 5). Given these criteria, the search for onsite disposal options centered on Bear Creek Valley (BCV) as the most viable location. The selection process was further informed by prior assessment of BCV watersheds (slide 6).

### Onsite Options

Of the three site options under consideration for onsite disposal, two can accommodate the full amount of projected waste. One, the East BCV site (Site 5 on slide 7) is situated near the existing EMWMF, on the eastern side nearest Y-12. It is located in a "brownfield" area, or in an industrial area already designated for waste management and restricted from future land use. The second option able to accommodate the full projected capacity is the West BCV site (Site 14 on slide 7). This "greenfield" site resides in an area not previously used for waste management and designated as unrestricted land.



Slide 7

An additional “dual site” option involves two smaller landfills, one of which would be near the existing onsite facility, EMWWMF, and the other nearby (depicted as 7a on slide 7) but further west of EMWWMF. With the dual site alternative, one facility would reside in a brownfield area; the other would reside in a greenfield area, though closer to the existing EMWWMF than the West BCV greenfield option.

### Hybrid Option

Regulators stressed the need for a hybrid option wherein some waste would be disposed onsite and some would be shipped offsite for disposal. Site 6b was selected as the representative site for the hybrid option. Benefits of Site 6b include fewer surface water features than some other locations and a proximity to EMWWMF that would allow for some shared infrastructure. Onsite capacity would be an important consideration. Site 6b has a capacity of approximately 850,000 cubic yards. Currently, DOE’s designs for new landfill to accommodate the full projected CERCLA waste capacity are planning for up to 2.5 million cubic yards. Thus, due to a reduced capacity for onsite disposal, in the hybrid option the majority of waste would be bound for offsite disposal.

### Benefits of Onsite Disposal

In terms of cost, if one of the two onsite options able to accommodate the full projected waste were selected, the estimated savings over the project lifecycle would be \$800 million over the option for offsite disposal. (See chart on slide 10 for cost comparison among alternatives.) Lifecycle costs include the planning and design, the construction of all six-cells of a new facility, all operational costs during the facility’s projected 20-year active operation, as well as the final cap and closure and ensuing demolition of all ancillary facilities. Thus, the lifecycle costs would be spread over an estimated 30-year timeframe. The cost for the first project in the work scope, which consists of the first two phases or about one-third capacity, is projected as \$100 million. Financial savings directly affect progress on cleanup since additional funds could be applied towards existing work scope or used to accelerate projects.

Onsite disposal also reduces transportation risks associated with offsite disposal. Since waste would be transported on private haul roads and over a short distance, rather than across large portions of the country, the risk of transportation-related fatalities and injuries would be much lower from onsite disposal operations. (See chart on slide 10 for transportation-related data.)

Additionally, onsite disposal offers more local control over waste disposal and reduces program risk. As an example, the closure of one major offsite facility, the Waste Isolation Pilot Plant in New Mexico, has already affected OREM’s program costs and work schedule. An onsite disposal facility would mitigate this type of program risk.

Finally, an onsite disposal facility would have a beneficial impact on the local community and provide a number of economic advantages over offsite disposal.

### Schedule for the Proposed EMDF

DOE is currently undergoing the regulatory CERCLA process and working to finalize a Remedial Investigation/Feasibility Study or “RI/FS,” a document that presents an analysis of alternatives for CERCLA waste disposal. With the RI/FS complete, the next milestone will be the Proposed Plan, which will present DOE’s preferred alternative and allow for public input prior to a Record of Decision to be agreed upon by DOE and its regulators. (See slide 12 for a detailed schedule.)

The latest RI/FS was submitted to regulators in March 2016 is undergoing review. A draft of the Proposed Plan that will be submitted to regulators has been targeted for release in summer 2016 with a public comment period slated for fall 2016. A Record of Decision would occur afterwards, in 2017. Design and construction phases would follow an approved Record of Decision on the Proposed Plan (est. 2022-23).

Ideally, the new cell would be operational 18-24 months before the current cell reaches capacity.

*After the presentation, board members raised the following questions:*

Ms. Price asked for clarification on the waste acceptance criteria for an onsite disposal facility. How hazardous is the material that would potentially be placed in an onsite facility in the Oak Ridge community? Mr. Henry explained that several considerations are taken into account for onsite disposal of any hazardous waste. DOE's first preventative measure is to limit the type of waste allowed for onsite disposal. For instance, DOE does not accept liquid waste or what would be equivalent to the Nuclear Regulatory Commission rating of "greater than C" class waste at any of its onsite disposal facilities. In keeping with these guidelines, an onsite location for the proposed EMDF would only accept low-level waste. Further, as part of the waste acceptance criteria agreed upon with regulators, the disposal facility will be modeled as protective to future generations, meaning that stewardship of the waste figures into the planning and design such that 1000 years or more after the landfill would be filled and closed, even without maintenance, the material would be safely encased and pose no risk to future populations. Mr. Henry also remarked on the safety of operations at DOE's existing onsite disposal facilities, noting that workers essentially receive no dose from managing the low-level waste accommodated by these facilities.

Ms. Smalling inquired about the impending capacity at the existing landfill, EMWMF. What is the projected date for capacity at EMWMF? Mr. Henry explained that based on current progress and funding, the projected date range for capacity at EMWMF is currently estimated for the mid-2020s. There is a potential cover redesign in the works to provide additional space that may shift that date range slightly. He added that these estimates are based on current progress and the expected rate of cleanup, but program progress is largely based on funding, which essentially effects how quickly the landfill reaches capacity.

Dr. Hatcher—Can you speak to surface water drainage and the potential for groundwater contamination? Mr. Henry explained that modeling is done to ensure facility designs are protective. Facilities are lined and have leachate collection systems. Additionally, monitoring wells are in place. Any water that leaves an EM waste disposal facility is continually monitored and sampled.

Dr. Hatcher also asked about the general direction of groundwater flow in the area of the site alternatives. Mr. Henry explained that at all of the sites under discussion water essentially flows from in from the ridges and down to Bear Creek Valley before proceeding westward. The northern ridge provides a distinct watershed boundary that prevents water on the ORR from flowing to the city of Oak Ridge.

Mr. Paulus—Which is your preferred suggestion? Mr. Henry explained that DOE is intentionally not selecting a preferred site at this time and will continue to collaborate with regulators on each of the alternatives. DOE's preferred alternative will be presented later as part of the Proposed Plan phase.

Mr. Trujillo—Assuming we have learned from construction of the existing facility, will the new landfill design be refined in any way? Mr. Henry explained that the design will be the same, but it will be tailored to the topography of the selected site. Mr. Trujillo asked if there have been any new developments in technology, such as new liners, that could be incorporated into the design. Mr. Henry explained that there have not been significant advances in landfill design though more insights and understanding have been gained through previous construction projects. Mr. Trujillo also wanted to know if DOE will hold a public workshop on potential designs for a new landfill. Ms. Cange stated that while no public workshop is planned, DOE will collaborate with industry experts on finalization of the planning and design phase. Mr. Trujillo asked about the estimated savings from onsite disposal versus offsite. In the event we stay onsite and benefit from the savings DOE is estimating, is there a plan to use that money in the community? Ms. Cange explained that the savings allows OREM to accelerate its cleanup program, which has an enormous benefit to the Oak Ridge community.

Ms. Cook—Can you tell us the thought process for considering other sites? Mr. Henry explained that

various advantages and compromises were considered. Regulators wanted to explore more options and especially the option to avoid construction over seeps and streams. Mr. Crane also responded. He explained that regulators expressed the need for more options than DOE had previously considered in past discussions of the proposed EMDF where a preference was given to the East BCV site. EPA is particularly interested in protecting groundwater and advocates for an alternative without or with fewer surface water challenges.

Ms. Cook asked if the mercury-contaminated soil at Y-12 will go into the new cell. Mr. Henry explained that it is possible, but only if the soil meets the waste acceptance criteria for the new landfill. Some of the mercury-contaminated soil will require treatment prior to disposal and may go to the new facility. Some will be disposed offsite because it will not meet the criteria for onsite disposal.

Mr. Hemelright—Is the community going to be involved in the process of site selection? Mr. Henry stated that the community will play a role. Understanding the importance of this issue to the Oak Ridge community, DOE is interested in communicating with the public and is actively seeking community involvement ahead of the Proposed Plan and official public comment period.

### **Committee Reports**

#### **EM & Stewardship**

Mr. Trujillo reported –

- The committee discussed the FY 2018 budget and a potential recommendation. The resulting recommendation was approved at tonight's meeting and will be presented at the community budget workshop.
- The next EM & Stewardship Committee meeting is scheduled for May 25, 2016, at 6 p.m. Discussion will follow on the May 11, 2016, ORSSAB presentation on the proposed EMDF.

#### **Executive**

Ms. Price reported –

- Issue managers have been added to the work plan and will be a standing agenda item. The Annual Planning meeting will address issue managers and work towards assigning more board members to key topics.
- No student from Hardin Valley Academy has elected to serve as an ORSSAB student representative for 2016-2017. In the past, the board has had two students, one from Oak Ridge High School and one from Hardin Valley Academy. The committee discussed the possibility of rotating selection among other schools to prevent vacancies. Ms. Noe has agreed to follow up on the possibility of including other schools in the selection pool for student representatives in addition to a standing spot for an Oak Ridge High School student.
- The next meeting of the Executive Committee is scheduled for June 1, 2016, at 6 p.m.

### **Announcements and Other Board Business**

- Two ORSSAB student representatives were recognized for their service to the board during the 2015-2016 term. Alana Joldersma, Oak Ridge High School, and Sophia Cui, Hardin Valley Academy, were thanked by DOE and the board and presented with commemorative plaques.
- ORSSAB welcomes a new student representative, Lara Manning, Oak Ridge High School, who will serve the board for the 2016-2017 term.

- Board members participated in Oak Ridge Earth Day on April 23, 2016, as a public outreach opportunity. The event was a success. Volunteers are thanked for their time.

### **Alternate DDFO Report**

Ms. Noe reported –

- New member packages have been submitted to DOE headquarters.
- A tour of EMDF is being scheduled but may take place after the upcoming EM & Stewardship Committee meeting. Members will be notified as soon as a tour date is confirmed.
- The Annual Planning Meeting has been scheduled for Saturday, August 6, 2016. It will be held in the same location as last year's meeting at the Tremont Lodge in Townsend, Tennessee.

### **Motions**

*As ORSSAB did not meet in April, motions to approve the minutes of the February 10, 2016, and March 9, 2016, meetings was carried over to the May 11, 2016, meeting.*

#### **5/11/16.1**

Mr. Hemelright moved to approve the minutes of the February 10, 2016, and the March 9, 2016, meetings. Mr. Baker seconded and the motion passed **unanimously**.

#### **5/11/16.2**

Mr. Paulus moved to approve the recommendation on the FY 18 budget request, with a minor change to wording on page two. Mr. Baker seconded and the motion passed. Mr. Burroughs abstained.

#### **5/11/16.3**

Ms. Price moved to approve both EM SSAB Chairs Recommendations, one on EM SSAB Funding and the other on Community Investment as a Factor in the Contract Proposal Evaluation Process. Dr. Hatcher seconded and the motion passed **unanimously**.

### **Action Items**

#### *Open Action Items*

1. Mr. Adler will update Mr. Czartoryski and the board on the status of a response to TDEC's letter concerning a request for additional EM milestones. (*Carryover from 3/9/16*).
2. DOE will provide an update on the final analysis of groundwater samples collected during the third sampling event in February 2016. (*Carryover from 3/9/16*).
3. Ms. Noe will report on the status of soliciting new student representatives from area high schools, potentially on a rotating schedule.

The meeting adjourned at 7:45 p.m.

Attachments (1) to these minutes are available on request from the ORSSAB support office.

I certify that these minutes are an accurate account of the May 11, 2016, meeting of the Oak Ridge Site Specific Advisory Board.

Dave Hemelright, Secretary

A handwritten signature in cursive script that reads "Belinda Price".

Belinda Price, Chair  
Oak Ridge Site Specific Advisory Board  
BP/ach

June 9, 2016