Environmental Management
Committee Meeting Minutes
Wednesday, January 16, 2013, 5:30 p.m.
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Committee Members Present

Alfreda Cook, Vice-chair
Bob Hatcher, Chair
Dave Hemelright
Jennifer Kasten
Steve Kenworthy
David Martin
Donald Mei
Gloria Mei
Norman Mulvenon
Robert Stansfield
Curt Walker

Others Present

Dave Adler, Department of Energy (DOE)
Spencer Gross, ORSSAB support staff
Roger Petrie, Tennessee Department of Environment and Conservation (TDEC)
Sam Walker

Absent

Jimmy Bell
John Coffman
Susan Gawarecki
Bruce Hicks
Charles Jensen
Dick Ketelle
Lance Mezga
Tim Myrick
Bob Olson
Kevin Westervelt

Hazardous and radioactive waste in long-term storage - follow on to November board meeting – Dave Adler

Mr. Adler's discussion about remaining legacy materials on the Oak Ridge Reservation (ORR) was a follow on to a presentation made to the full board (Oak Ridge Site Specific Advisory Board) in November 2012 by Joy Sager.

He said he would talk more about remaining waste and non-waste that is generally in safe storage but has no future mission and is a cost liability to keep. The material will have to be disposed eventually.

Mr. Adler said he would talk at this meeting about waste streams that could provide opportunities for the committee to draft a recommendation for the full board to consider. After hearing his comments he said the committee could think about when and why waste streams should be addressed.

Most of the waste is under some kind of regulatory requirement and must be disposed at some point. But because much of it is in safe storage, it can remain there unless some overriding reason to act on it arises. Some of the waste is regulated by TDEC and the Environmental Protection Agency (EPA) as Resource Conservation Recovery Act (RCRA) waste and is allowed to stay in storage until a path is identified for disposal.

In 1994 the ORR had a large amount of waste identified in the Site Treatment Plan for disposal (Attachment 1, page 3). By 2005 most of that waste was gone. What is left is dominated by one large waste stream (DARA soils) and some smaller streams.

At this meeting, Mr. Adler talked about four waste streams.

Several sodium shields are stored at Building K-1313-F at East Tennessee Technology Park (ETTP) and some are at Oak Ridge National Lab (ORNL). They were used in reactors at ORNL. In 2003 there was an effort to mine the sodium out of the shields. The contractor lost control of the process and a fire resulted that initiated an emergency response. The effort to mine the sodium was stopped and the shields were put in storage.

Mr. Adler said there had been a concern about how the shields are stored at ETTP, for example what would happen if a tornado hit the building. It was determined that even in that event the sodium would be confined in the shields. Mr. Adler said, however, that Tennessee Emergency Management Agency is still concerned about them.

Mr. Adler said the sodium has some value. Mr. Mulvenon asked if an effort had been made to sell it. Mr. Adler said DOE's focus was on tearing down the K-25 Building and how much money could be made from selling the sodium was not a consideration. Mr. Hatcher asked if there are similar restrictions on selling the sodium as on selling nickel stored at ETTP. Mr. Adler said there would be restrictions on the containers, but not on the sodium.

The Shielded Transfer Tanks stored under a shed in Melton Valley contains material with a significant curie count and a cost for surveillance and maintenance. They would be a challenge to dispose because they can't be broken down.

There are about 28 vaults of low-level waste stored on the concrete 7822-K Pad at ORNL. The plan was to put them in a near surface disposal facility at ORNL but the facility closed before they could be disposed. The vaults contain casks of relatively high activity waste. The waste was put in casks, and then filled with grout to surround the material, and the lid was glued on. The casks were put in the vaults.

DOE asked the state if the vaults could be part of the Melton Valley closure project that was finished in 2006. TDEC declined saying the permitting process had been completed. DOE then asked about putting them in Environmental Management Waste Management Facility (EMWMF) in Bear Creek Valley. The state had two objections:

- The material was not CERCLA (Comprehensive Environmental Response, Compensation and Liability Act) waste, and
- There is an administrative criterion saying Greater-Than-Class C waste will not go in EMWMF without a waiver.

Mr. Adler said the second option was not aggressively pursued by DOE. Mr. Hatcher asked about the radiation in the vaults. Mr. Adler said it is relatively high and must be remote-handled.

An alternative for the vaults is offsite disposal. Mr. Adler said they could be disposed at the Nevada National Security Site, but it would be costly. They would have to be repackaged for shipment. Prior to building the Transuranic Waste Processing Center there was no way to process the material in the vaults. The center can handle big vaults, but it's expensive to take everything out of the vaults and re-package for shipment.

Mr. Adler said another option is to develop waste acceptance criteria that would allow for disposal in the proposed Environmental Management Disposal Facility, which would take additional waste from the ORR when EMWMF is full.

The fourth, and largest, waste stream is the DARA (Disposal Area Remedial Action) soils. The soils came from a cleanup project in Bear Creek Valley. From the 1940s to the 1970s trenches were dug in Bear Creek Valley for dumping waste. When the trenches were covered liquid waste was injected in the trenches to fill spaces. This created a bigger problem of oily soil. The DARA project removed the soil and placed it in a large swimming pool-like structure (Attachment 1, page 2). Mr. Adler said the expectation was to treat the soil before disposing. He said the plan is to spend about $100 million to treat and dispose.

UCOR, DOE's prime cleanup contractor in Oak Ridge is interested in dealing with the soil. Mr. Adler said UCOR believes much of the organic material has degraded and the soil is not as bad as it was. Mr. Hatcher asked if the soil is contaminated only with oil. Mr. Adler said it contains oils, PCBs, and uranium. Mr. Martin asked if it could be used as backfill in the EMWMF. Mr. Adler said it is considered waste, but could be used as backfill and would be a cost savings compared to bringing in clean fill. Mr. Hemelright asked how much soil is stored. Mr. Adler said about 20,000 cubic yards.

Mr. Adler completed his discussion with several summary points:

- Remaining legacy waste and material disposition needs represent a significant future scope of work, particularly for materials dependent upon offsite disposal.
- In the interim, legacy waste and materials are being safely stored and monitored.
- Some materials present significant disposal or transportation challenges.
- Disposition efforts compete for funding with other building demolition and environmental remediation efforts.
- SSAB recommendation on criteria to use in setting disposition priorities is encouraged.
- SSAB input on potential near term actions regarding legacy material disposition is also encouraged.

Regarding criteria for making a recommendation on disposition priorities he said could include:

- Is there a pressing environmental hazard?
- Is there a high cost of maintaining in place?
- Is there a driver to dispose?
- Are there opportunities to dispose that might not exist later?
- Is there an opportunity to make a big accomplishment at low expense?
- Are there waste streams that need to be addressed quickly?

Ms. Cook asked if there have been any evaluations for each of the streams regarding costs and if they need to be updated. Mr. Adler said information is available but it might need updating. He said costs are available on the DARA soils and vaults monitoring. Ms. Cook asked if those costs had been considered when the current baseline was developed. Mr. Adler said given the current budget constraints action on these legacy wastes could be pushed out.

Mr. Martin said in looking at the waste streams there is an element of the fear of the unknown. For instance, could water be getting into the vaults? Mr. Adler said that generally isn't a problem except with underground vaults. Mr. Martin said the DARA soils could be considered for action since it could be used as backfill. Mr. Adler reminded the group that a new waste disposal facility won't be available for several years.

Discussion of possible comments or recommendation on hazardous and radioactive waste in long-storage

Mr. Hatcher said DOE has requested input on this topic as noted in Mr. Adler's summary points. He asked if anyone would take the lead in drafting a recommendation. Mr. Martin said he would work on it but would like to have someone assist him. Mr. Hemelright said he would assist.

They will provide a draft for the committee to review at the February meeting.

Status report on groundwater strategy workshops – Dave Adler

Mr. Adler said there have been several planning meetings for the first of a series of workshops to discuss strategies to address groundwater problems on the ORR.

During a planning session for the first workshop, the group decided to pick a watershed to use as a test case. The original idea was to develop watershed bases, determine any data gaps, any responses, and level of urgency.

The group chose Bear Creek Valley as a test case to see if EPA, DOE, and TDEC can have a productive discussion on how to approach.

Mr. Adler said Andy Binford, TDEC director of Remediation Services, has formed a peer review group to review output from the groundwater strategy participants. Some of the members of the peer review group are also participants in the strategy workshops.

Review response to recommendation 211

The committee reviewed the response to Recommendation 211: Recommendation on Availability of DOE Environmental Management Documents (Attachment 2). The committee accepted the response as adequate.

Mr. Martin asked that DOE advise the full board when upgrades to the document search system are completed.

Mr. Hatcher asked how people unfamiliar with the current online document search system could get assistance. Mr. Adler said perhaps the web page could include a phone number to call for assistance.

Action Items

Closed

1. DOE will research the depth of fractures at the proposed Environmental Management Disposal Facility (from October 2012 meeting). **Complete.** A response was provided to the committee at this meeting (Attachment 3).

The meeting adjourned at 6:30 p.m.

Attachments (3) are available on request from the ORSSAB support office.

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