



Many Voices Working for the Community

Oak Ridge Site Specific Advisory Board

June 12, 2003

Mr. Steve McCracken
Assistant Manager for Environmental Management
DOE-Oak Ridge Operations
P.O. Box 2001, EM-90
Oak Ridge, TN 37831

Dear Mr. McCracken:

**Recommendation Concerning the Department of Energy Action Memorandum for the
Corehole 8 Plume Source (Tank W-1A) Removal Action at Oak Ridge National Laboratory**

At our June 11, 2003, meeting, the Oak Ridge Site Specific Advisory Board approved the enclosed recommendation.

We appreciate your consideration of our recommendation and look forward to receiving your written response.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Mosby".

David N. Mosby, Chair

Enclosure

cc/enc: Dave Adler, DOE-ORO
Pat Halsey, DOE-ORO
Connie Jones, EPA Region 4
John Kubarewicz, Bechtel Jacobs
John Owsley, TDEC
Sandra Waisley, DOE-HQ



Oak Ridge Site Specific Advisory Board Recommendation Concerning the Department of Energy Action Memorandum for the Corehole 8 Plume Source (Tank W-1A) Removal Action at Oak Ridge National Laboratory

BACKGROUND

Tank W-1A is in the North Tank Farm in the main plant area of Oak Ridge National Laboratory (ORNL). The tank was commissioned in 1951 and received liquid low-level waste (LLLW) from several buildings in the same vicinity. The tank was removed from service in 1986 due to suspected leaks in a transfer line to some of the buildings being serviced.

In June 1991, rock core drilling at Corehole 8, located southwest of Tank W-1A, revealed radiologically contaminated groundwater in the uppermost portion of the bedrock. Subsequent analysis and research indicated that leaks to backfill surrounding Tank W-1A were likely a contributing source to the contamination.

An engineering evaluation/cost analysis (EE/CA) issued in 1998 recommended that the tank and surrounding contaminated soils be excavated and removed under a non-time-critical removal action in order to address the source of the contaminants being released to groundwater in Central Bethel Valley and to reduce future releases of contaminants to First Creek. The scope of the recommended action also included removal and transfer of liquid accumulated in Tank W-1A to the LLLW system, cutting and capping of all lines that tied to the tank, removal of the aboveground valve box, and backfilling of the excavated area. The recommended removal action was subsequently approved under an action memorandum.

The tank interior was cleaned and residual material transferred to the ORNL LLLW system in November 2000. During excavation of soil from around the tank, analytical results from grab samples of soil indicated that approximate 100 yd³ of remaining soil around the tank contained very high concentrations of transuranic (TRU) radionuclides. About 125 yd³ of TRU waste were packaged in 190 B-12 boxes and stored in the remotely handled (RH) storage bunkers. A proposed destination is the Nevada Test Site, providing the TRU waste meets the waste acceptance criteria. The 100 yd³ of remaining soil and the tank were left in place due to the presence of the RH TRU waste, and because movement of the TRU-contaminated soil from around the tank, allowing tank removal, would have resulted in a high dose to workers. At this time, DOE decided to address the soil and tank at a later date. Precise coordinates of the soil were obtained; the area was covered with plastic and backfilled with clean soil. The tank and the TRU-contaminated soil discovered during this removal action are now scheduled to be addressed in a new action memorandum due to be started in December 2004 (Federal Facility Agreement Appendix E, 3 April 2003). A removal action report was written but was not accepted by the regulators (Tennessee Department of Environment and Conservation and Environmental Protection Agency, Region 4).

DISCUSSION

The Oak Ridge Site Specific Advisory Board Environmental Restoration Committee studied this remedial action as a regular agenda item. Mr. Charlie Mansfield of Bechtel Jacobs Company LLC presented an overview of the Corehole 8 project at the March 2003 committee meeting.

A number of issues revolve around this project. The original action memorandum mentioned TRU waste as a potential contaminate, but the action plan assumed that TRU would not be found. When TRU was found, work was stopped and the excavation was filled. This action was inconsistent with the approved action memorandum.

There was a scope in the original action memorandum, and we question why the removal action has not been completed. The Life Cycle Baseline needs to be sequenced to properly analyze downtown ORNL concurrently with the east and west ends.

The original regulatory objective for this action memorandum was to reduce contaminants entering First and White Oak creeks and lower health and environmental risks associated with release of contaminants. Any delay in completing this action is not in keeping with the risk model. TDEC has suggested that this removal action is not consistent with other actions in Bethel Valley, as specified in the Record of Decision. We agree because of the data gaps, especially with this project.

RECOMMENDATION

We recommend that DOE-Oak Ridge Operations Environmental Management expedite and complete the Action Memorandum for the Corehole 8 Plume Source (Tank W-1A) Removal Action at ORNL.