



Many Voices Working for the Community

Oak Ridge Site Specific Advisory Board

April 9, 2009

Ines R. Triay, Ph.D.
Acting Assistant Secretary for Environmental Management
EM-1/Forrestal Building
U.S. Department of Energy
1000 Independence Ave., S.W.
Washington, DC 29585

Dear Dr. Triay:

Recommendation 178: Recommendations on the FY 2011 Environmental Management (EM) Budget Request

At our April 8, 2009, meeting, the Oak Ridge Site Specific Advisory Board (ORSSAB) approved the enclosed recommendation regarding the FY 2011 DOE Environmental Management budget request for the DOE-Oak Ridge EM Program.

The main points of the recommendation include the following:

- ORSSAB finds it unacceptable for DOE-Oak Ridge cleanup efforts at the Y-12 National Security Complex and Oak Ridge National Laboratory (ORNL) to be impacted significantly year after year because the work at the ORNL 3019 Complex is given higher priority by the EM programmatic prioritization list while no additional funding has been added to the EM budget for this work. The 3019 Complex work contributes nothing to addressing pressing environmental issues at Y-12 and ORNL, and this unfunded mandate of approximately \$50 million per year has forced DOE-Oak Ridge EM into two years of dispute resolution and missed Federal Facility Agreement milestones.

ORSSAB strongly recommends and requests that the FY 2011 defense funding currently designated for the Uranium-233 effort be restored to higher environmental and human health risk priority activities. Additional funding should be provided for the Uranium-233 work, if the disposition of these materials is still seen to be necessary.

- The FY 2011 budget should contain funding to deal with the remote-handled transuranic wastes left in the Melton Valley Trench 13 at ORNL so that the transuranic materials covered at this site can be disposed safely and appropriately.
- ORSSAB recommends that sufficient funding be provided in the FY 2011 Budget to DOE-Oak Ridge for the investigation of the hydrofracture site to detect possible contamination leaving waste injection sites in deep geologic repositories.

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We appreciate your consideration of this recommendation and look forward to receiving your response by July 8, 2009.

Sincerely,



Steven Dixon, Chair

Enclosure

cc/enc: Dave Adler, DOE-ORO
Cate Brennan, DOE-HQ
Mike Farmer, Roane County Mayor
Pat Halsey, DOE-ORO
Connie Jones, EPA Region 4
Rex Lynch, Anderson County Mayor
Steve McCracken, DOE-ORO
James O'Connor, Oak Ridge City Manager
Melissa Nielson, DOE-HQ
John Owsley, TDEC



Oak Ridge Site Specific Advisory Board Recommendation 178: Recommendations on the FY 2011 DOE-Oak Ridge Environmental Management Program Budget Request

Background

Each year the U.S. Department of Energy (DOE) Headquarters Environmental Management (EM) Program builds its budget request for two years out from requests supplied by the DOE EM field offices. Headquarters typically issues guidance to the field offices regarding how much budget (the target) they should plan to when planning their fiscal year (FY) +2 budget request and programmatic priorities for allocating the budget. The field offices brief their regulatory bodies and the public and then submit an Integrated Priority List to Headquarters confirming how the target budget will be prioritized.

Because of FY 2009 funding uncertainties created this year by the continuing resolution and the delay in the FY 2010 President's budget, Headquarters guidance to field offices for FY 2011 was delayed, although the deadline for Oak Ridge submission of an FY 2011 budget request was not. As a result, the information provided by DOE-Oak Ridge EM to regulators, the Oak Ridge Site Specific Advisory Board (ORSSAB), and the public included only general priorities for work planned in FY 2011 based upon the current milestone work and the proposed American Recovery and Reinvestment Act funded plans. The recommendations developed by ORSSAB are therefore also general in nature. They focus on the following three issues.

Building 3019 Complex

The Building 3019 Complex, located at the Oak Ridge National Laboratory (ORNL), was built during the Manhattan Project and has been used for storage of uranium-233 (U-233) since 1962. Long-term storage of U-233 in the complex represents a significant financial burden to DOE, and continued storage in the 3019 Complex would require major capital upgrades and retrofits to critical facility systems that have deteriorated from aging or do not meet safety and engineering standards.

The original plan for the U-233 was to extract thorium from the inventory for medical research and then downblend the U-233 with depleted uranium for long-term storage. In 2006, however, Congress directed that thorium extraction no longer be considered and that storage operations in the 3019 Complex be terminated and the U-233 stored there be downblended for disposal.

Trench 13 in Melton Valley

Trench 13 is located in Melton Valley in the southwest portion of the Oak Ridge Reservation. In September 2000 a record of decision was signed to remediate Melton Valley, which included capping of a number of old waste disposal sites and the removal of the retrievable transuranic (TRU) material from the TRU trenches in Solid Waste Storage Area 5 North, one of which is Trench 13.

During work to remove TRU waste from Trench 13, a flare up occurred when some pyrophoric material reacted with air upon being unearthed. Work was immediately suspended. All Trench 13 materials were placed in a safe condition and covered with coke and sand.

DOE and the Tennessee Department of Environment and Conservation are currently working to finalize disposition of the material that remains in Trench 13.

Deep Hydrofracture Monitoring

The technique of waste disposal by hydrofracture was pilot tested at ORNL to meet the need for permanent disposal of low-level radioactive waste. From 1959 to 1984, 43 injections were made in four very deep wells at the Old Hydrofracture and New Hydrofracture facilities, located near ORNL in Melton Valley. More than 5 million gallons of waste grout were injected into the wells.

Research has shown that a contaminated filtrate plume surrounds the grout and that observation wells are contaminated and provide a potential pathway for contaminant migration. The 107 monitoring wells and four injection wells were plugged to prevent migration of contaminated fluids to shallower groundwater zones. The hydrofracture facilities were demolished, and site restoration was completed in 2006.

Discussion

Building 3019 Complex

When DOE EM-Headquarters directed the DOE-Oak Ridge to dispose of the U-233 from the Building 3019 Complex it did so as an unfunded mandate, which has been costing the Oak Ridge EM Program approximately \$50 million a year in its available defense funding. This unfunded mandate has caused the Oak Ridge EM Program to take funds away from other baselined projects, has caused a number of missed milestones in the Oak Ridge Federal Facility Agreement, and has resulted in major disputes with the Environmental Protection Agency and the Tennessee Department of Environment and Conservation.

Trench 13

Most of Melton Valley was capped because more than 95 percent of the risks associated with the burial grounds were fission products that would attenuate over time. Waste that remains is associated with long-lived radionuclides, and a final decision on the disposal of long-lived radionuclides has not been made. The material in question is post-1970 TRU waste that is subject to regulation by the Atomic Energy Act and the Resource Conservation and Recovery Act. The state of Tennessee expects this material to be put in retrievable storage for eventual placement in a permanent geologic repository. Reaching an agreement on the final disposition of remaining retrievable TRU waste in Trench 13 will complete all the work included in a dispute agreement with the state.

Deep Hydrofracture Monitoring Well

As part of the monitoring efforts in Melton Valley to determine if any contaminated groundwater is leaving the valley and moving westward toward the Clinch River, a line of monitoring wells was installed on the east side of the river. Contamination from Melton Valley has been detected in some of those monitoring wells, and efforts are now underway to determine if that contamination is moving under the Clinch River and off DOE property onto private land on the west side of the river.

A suggestion was made at the March 2009 ORSSAB meeting that these wells were not suitable for monitoring hydrofracture migration and that a deep groundwater monitoring well be drilled near hydrofracture wells in the Melton Valley area.

Recommendations

- ORSSAB finds it unacceptable for DOE-Oak Ridge cleanup efforts at the Y-12 National Security Complex and ORNL to be impacted significantly year after year because the work at the ORNL 3019 Complex is given higher priority by the EM programmatic priority list while no additional funding has been added to the EM budget for this work. We do not necessarily support the disposition path currently laid out for this material, and in fact many of the public and our members support the recovery of medical isotopes prior to disposition of the material (in part because medical isotopes are strategic, and current U-233 suppliers are all non-domestic). The 3019 Complex work contributes nothing to addressing the more pressing environmental issues at Y-12

and ORNL, and this unfunded mandate of approximately \$50 million per year has forced DOE-Oak Ridge EM into two years of dispute resolution and missed Federal Facility Agreement milestones.

ORSSAB strongly recommends and requests that the FY 2011 defense funding currently designated for the U-233 effort be restored to support the higher environmental and human health risk priority activities. Additional funding should be provided for the U-233 work, if the disposition of these materials is still seen to be necessary.

- The FY 2011 budget should contain funding to deal with the remote-handled transuranic wastes left in the Melton Valley Trench 13 so that the transuranic materials covered at this site can be disposed safely and appropriately.
- ORSSAB recommends that sufficient funding be provided in the FY 2011 Budget to DOE-Oak Ridge for the investigation of the hydrofracture site to detect possible contamination leaving waste injection sites in deep geologic repositories.