Oak Ridge Site Specific Advisory Board Recommendation 230: Final Proposed Plan for Soils in Zone 1 at East Tennessee Technology Park, Oak Ridge, Tennessee

Background

The East Tennessee Technology Park (ETTP) – formerly known as the Oak Ridge Gaseous Diffusion Plant – was built in the 1940s as part of the Manhattan Project to enrich uranium for use in nuclear weapons. Over time, the mission of the facility changed to that of producing low enriched uranium to fuel commercial and research nuclear reactors and researching new technologies for uranium enrichment. Shut down of the facility began in 1987 followed by the start of environmental cleanup work in the mid-1990s to remove residual contamination from the site.

The ETTP site has been subdivided into two environmental cleanup areas: Zone 1 and Zone 2. The perimeter of the site, Zone 1, encompasses the area used historically for light industrial and waste management activities. Zone 2 includes the heavy industrial area concentrated near the center of the site. Residual low-level radioactive and chemical contaminants at levels that are hazardous to human health and the environment have been identified in the soil, surface and groundwater, sediments, and buildings.

Most of the cleanup that was approved under the Zone 1 Interim Record of Decision (ROD) in 2002 has been completed. However, the goal to make Zone 1 suitable for unrestricted industrial use was not met in all areas due to unforeseen levels of contamination in soils. The "Final Proposed Plan for Soils in Zone 1 at East Tennessee Technology Park" (DOE/OR/01-2648&D3) dated June 2015, identifies the remedial action objectives (RAOs) proposed by the DOE to complete the cleanup of soils.

The proposed RAOs are summarized as follows:

- Provide for the use of the majority of Zone 1 as a future industrial site,
- Protect local-level terrestrial wildlife receptor populations from contamination in surface soil,
- Protect underlying groundwater and nearby surface water from contamination in soil.

The Final Proposed Plan (PP) discusses four (4) soil remediation alternatives:

1. No action.
2. Remove small ecological risk areas (within Duct Island East/West and K-901 Drainage Area) and provide additional land use controls/cover for K-770, Contractor's Spoil Area, K-720, and Duct Bank areas.
3. Remove K-770 and small ecological risk areas (as previously noted), and provide additional land use controls/cover for Contractor's Spoil Area, K-720, and Duct Bank areas.
4. Remove K-770, K-720, and small ecological risk areas (as previously noted), and provide additional land use controls/cover for the Contractor's Spoil Area and Duct Bank areas.

Alternative 2 is the DOE preferred remedy.

Discussion

The ORSSAB Environmental Management/Stewardship (EM/S) Committee reviewed the Final PP, participated in a tour of Zone 1, and heard multiple presentations by project representatives regarding proposed soil remediation strategies and the expected outcome. The EM/S Committee interprets the information as follows:

- Approved remedies for Zone 1 soils will render the area protective of human health and the environment.
- Cleanup goals will support unrestricted industrial or recreational use in the majority of areas within Zone 1.
- In areas where unrestricted industrial or recreational use is not feasible, land use controls such as deed restrictions, excavation/penetration permits, physical access controls, posting of signs, and monitoring of surface/groundwater will be implemented. DOE will be responsible for maintaining these controls until contamination no longer exists.
- Contaminated soils will be removed unless removal poses a high risk of spreading contamination during the cleanup process or costs for removal are prohibitive. If soils cannot be removed, the area will be capped (i.e., stabilized) and undergo monitoring by DOE until contamination no longer exists.
- Capped soil areas will be inspected on a schedule as approved by regulators and immediately remediated as appropriate to prevent migration of contamination.
- Potentially contaminated soils beneath subsurface slabs that remain in place will be monitored in the same manner as capped soil areas.
- Cleanup of any area identified as contaminated after transfer from DOE control will remain the responsibility of DOE.

Recommendation

Based on the EM/S Committee review, the Oak Ridge Site Specific Advisory Board recommends approval of the DOE preferred Alternative 2 in the Final PP with inclusion of the following assurances:

- Final remediation of Zone 1 soils will meet environmental standards that support and promote economic development.
- Zone 1 soil areas identified in Alternative 2 will meet all interpretations noted in the "Discussion" section above.
- Final PP will include a concise description of "unrestricted industrial use" vs. "recreational use" such that the reader clearly understands what activities can/cannot be performed in the designated area.
- Summary of the Oak Ridge Reservation Land Use Control Assurance Plan (DOE 1999) will be included in the Final Proposed Plan to benefit readers when considering whether assurances are adequate.
- Development of a Land Use Control Implementation Plan (LUCIP) prior to approval of the Final Proposed Plan will be considered.

Although this recommendation supports DOE's preferred alternative, concern remains that the Final Proposed Plan for Soils may be premature since surface/groundwater remediation has been deferred and additional remediation of soils may be needed in the future.