ORNL Soils and Sediments

Scope: The Oak Ridge National Laboratory (ORNL) Soils and Sediment project will complete source control and groundwater remedial actions specified in the Bethel Valley (BV) Interim Record of Decision (ROD)[1]. The combination of actions includes:

- Installation of caps or enhancements of existing covers over burial grounds and other areas of buried waste;
- Removal of contaminated soil impacting worker protection or groundwater in BV;
- Collection and treatment of contaminated groundwater;
- Grouting or removal of inactive Liquid Low Level Waste (LLLW) pipelines; and
- Removal of contaminated sediment and floodplain soil along portions of White Oak Creek (WOC), First Creek, and Fifth Creek.

The project will also remediate building slabs, soils, and inactive tanks and pipelines to meet site clean-up and modernization objectives. ORNL Soils and Sediment actions will be sequenced with facility Deactivation and Decommissioning (D&D) actions that are planned under separate projects. The ORNL Soils and Sediment project is planned for implementation as part of the Integrated Facility Disposition Program (IFDP) at an estimated cost of $457M.

Environmental Risk and Principal Threat Source Material Rating: **High**

- Historic and ongoing discharges of Strontium-90, Cesium-137, and mercury in surface water in BV are principal contamination issues. Strontium-90 is fairly widely distributed and is the main radiological contaminant of concern (COC).
- Remediation of soil, buried waste and pipelines will protect human receptors from exposure to hazardous substances.
- Implementation of ORNL Soils and Sediment project actions is expected to reduce risk by 45% at the Bethel Valley White Oak Creek exit point. The 45% risk reduction objective is directly tied to the downstream Melton Valley watershed goal of protecting an off-site residential user from radiological contaminants at the confluence of White Oak Creek Embayment and the Clinch River.

Other Prioritization Factors:

- Remediation of areas that become accessible after facility D&D will release strategic real estate as part of ORNL's Campus Revitalization Strategy and help meet the laboratory's goal of conducting innovative research in a safe, secure, and environmentally sound setting.

Overall Prioritization: **High**

- Groundwater remedial actions are a high priority to reduce the risk of contaminant migration. Another high priority is soils remediation associated with Building D&D in the Northwest Quadrant of ORNL's Central Campus. This area is slated for development of the Science and Technology Park, the nation's first commercial research/technology park on the campus of a national laboratory.
- Groundwater remedial actions and Northwest Quadrant remediation are the first ORNL Soils and Sediments actions planned by IFDP at ORNL. The overall prioritization for the ORNL Soils and Sediment project is **High**.

The information presented in this fact sheet is preliminary and will be refined during Critical Decision-2/3 development.

[1] *Record of Decision for Interim Actions in Bethel Valley Watershed, Oak Ridge, Tennessee,* DOE/OR/01-1862&D4, DOE 2002

For more information, please contact the DOE public affairs office at (865) 576-0885.