Bethel Valley Reactor Area Facilities D&D

Scope: The Bethel Valley (BV) Reactor Area Facilities Deactivation and Decommissioning (D&D) project will demolish the following facilities (and associated ancillary facilities) in Oak Ridge National Laboratory's (ORNL's) Central Campus that have been declared excess to the site mission needs.

- **Low Intensity Test Reactor (LITR)** (Building 3005)
- **Bulk Shielding Reactor (BSR)** (Building 3010; ancillary Building 3009)
- **High Radiation Level Analytical Laboratory** (Building 3019B)
- **Oak Ridge Research Reactor (ORRR) (**Building 3042; ancillary Buildings 3083, 3107, 3126, and ORRR 10,000 gallon decay tank)

The objective of the project is to remove hazardous materials, deactivate the buildings, remove equipment, demolish facilities, and disposition waste in accordance with the selected remedy in the BV Interim Record of Decision (ROD).[1] The project will also deactivate Building 3001 Graphite Reactor, a Manhattan Project Signature Facility that will be retained for historic preservation purposes. Facilities that are ancillary to the Graphite Reactor will be demolished.

- **Graphite Reactor** (Building 3001; ancillary Buildings 3002, 3003, 3004 (slab only), 3018, Graphite Reactor Underground Storage Ducts].

The BV Reactor Area Facilities total approximately 102,000 ft^2 and are planned for D&D (or deactivation only) by the Integrated Facility Disposition Program (IFDP) at an estimated cost of $123M.

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

- All of the BV Reactor Area facilities contain areas that exceed a 15 millirem/year effective dose equivalent (EDE) or contain hazardous chemicals and, therefore, were determined to pose unacceptable risk to an industrial worker in the absence of institutional controls.
  - The ORRR, Graphite Reactor, LITR, and BSR and auxiliary facilities are contaminated primarily with Cesium-137, Strontium-90, Plutonium-239, and Cobalt-60. The Graphite Reactor is maintained under negative pressure to eliminate potential risk from the reactor core.
  - Building 3019B contains hot cells contaminated with a variety of uncommon isotopes and presents a potential future source of contamination to the environment.
- BV Reactor Area Facilities D&D will allow access to residual soil and groundwater source contamination beneath and adjacent to buildings.

Other Prioritization Factors:

- Facility deterioration could increase the complexity and cost of facility D&D and impede facility preservation plans. Surveillance and maintenance costs for these out-dated, unused facilities will continue until the facilities undergo D&D (or deactivation only).
- D&D of facilities will allow for release of strategic real estate for development of a more modernized, cost-effective campus in accordance with ORNL's Campus Revitalization Strategy.

Overall Prioritization: **Medium**

The overall prioritization for all of the BV Reactor Area Facilities is **Medium**.

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.