

Melton Valley Reactor Facilities D&D

Scope: The Melton Valley (MV) Reactor Facilities Deactivation and Decommissioning (D&D) project will demolish four reactors (and associated ancillary facilities) in the Melton Valley area of Oak Ridge National Laboratory (ORNL) that have been declared excess to the site mission needs. The objective of the project is to remove hazardous materials, deactivate the buildings, remove equipment, demolish facilities, and disposition waste. MV Reactor Facilities consist of the following reactors and ancillary facilities:

- **Homogeneous Research Reactor (HRE)** (Building 7500)
- **Molten Salt Reactor Experiment (MSRE)** (Building 7503; ancillary Buildings 7503A, 7509, 7511, 7512, 7513, 7514, 7555, MSRE Storage Well)
- **Experimental Gas Cooled Reactor (EGCR)** (Building 7600; ancillary Buildings 7609, 7610, 7614)
- **Health Physics Research Reactor (HPRR)** (Building 7709; ancillary Buildings 7709-R, 7710, 7712, 7720, 7735, 7758, 7760)

The MV Reactor Facilities total over 170,000 ft² and are planned for D&D by the Integrated Facility Disposition Program (IFDP) at an estimated cost of \$338M.

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

- Many MV Reactor Facilities have been inactive for decades and contain areas with radiological, chemical, and biological hazards that, in the absence of institutional controls, would pose unacceptable risk to an industrial worker and are a potential future source of contamination to the environment. Hazards associated with MV Reactor Facilities include various types of radionuclide inventories, highly contaminated reactor components, lead, asbestos, beryllium, and polychlorinated biphenyls (PCBs).

Other Prioritization Factors:

- Delay of MV Reactor Facilities D&D will lead to further facility deterioration and could increase the complexity and cost of facility D&D. Surveillance and maintenance costs will continue until the facilities undergo D&D.
- MSRE Flush and Fuel Salt Removal¹ [planned for near-term completion by the current Environmental Management (EM) contractor under a separate project] will remove the primary hazard at MSRE and is a predecessor activity to MSRE D&D.
- MV is located south of ORNL's Central Campus in Bethel Valley. D&D of MV Reactor Facilities are generally a lower priority than D&D of facilities in ORNL's Central Campus. Some ORNL Non-reactor Facilities in Central Campus are rapidly deteriorating and pose a high risk. D&D of many Central Campus facilities are an integral part of the planned remediation of underlying soil and groundwater contamination and ORNL's Campus Revitalization Strategy.

Overall Prioritization: **Low**

The overall prioritization of the MV Reactors Facilities D&D project is **Low**.

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 Action to Remove Fuel and Flush Salts from the Molten Salt Reactor Experiment Facility at the Oak Ridge National Laboratory, Oak Ridge, Tennessee, DOE/OR/02-1671&D2, DOE 1998

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

