

West End Mercury Area Remediation

Scope: The West End Mercury Area (WEMA) Remediation project will complete the remedial actions in the WEMA of the Y-12 National Security Complex (Y-12) as specified in the Upper East Fork Poplar Creek (UEFPC) Phase I Record of Decision (ROD)¹. The project objective is to hydraulically isolate the WEMA by installing asphalt caps over mercury runoff areas, flushing mercury contaminated sediments from the storm sewers, relining or replacing storm sewers as needed, and dispositioning waste from the remediation. The WEMA consists of former mercury use buildings Beta-4 (9204-4), Alpha-4 (9201-4), and Alpha-5 (9201-5) located in the west end of the Y-12 main plant area, including mercury contaminated soils and storm sewers in the immediate vicinity.

The WEMA Remediation project is planned for implementation as part of the Integrated Facility Disposition Program (IFDP) at an estimated cost of \$14M.

Environmental Risk and Principal Threat Source Material Rating: High

- The sixty year old sewer system is deteriorating and has numerous leaking, damaged sections that result in infiltration of mercury-contaminated groundwater and accumulation of mercury-contaminated sediment in the WEMA storm sewer. Stormwater runoff entrains mercury contamination from soils and storm sewer sediment which is transported to UEFPC via outfalls.
- Discharges from the WEMA are primary point source contributors to mercury flux in UEFPC. The combination of the capping and storm sewer hydraulic isolation components is expected to reduce mercury flux from the WEMA by as much as 50%.
- The WEMA remediation and other UEFPC Phase I ROD interim actions are not projected to restore UEFPC surface water to meet Ambient Water Quality Criteria (AWQC) for mercury. However, the interim actions will help meet the UEFPC Phase I ROD goal of restoring surface water to human health recreational risk-based values for mercury [200 parts per trillion (ppt)] at Station 17 near the Y-12 site boundary. Compliance with AWQC will be addressed in future watershed decisions.
- Reduction of mercury flux at Station 17 is tied to the goal of reducing mercury in fish tissue and compliance with anticipated mercury limits in the Y-12 site National Pollutant Discharge Elimination System (NPDES) permit which is scheduled for issuance in 2009.

Other Prioritization Factors:

Installation of asphalt caps (the capping component of the WEMA Remediation project) was envisioned prior to the IFDP proposal to deactivate and decommission (D&D) additional former mercury use buildings, which will allow access to residual mercury contamination beneath and adjacent to the buildings.

Overall Prioritization: High

The storm sewer remediation component of the WEMA Remediation project is planned for early implementation by IFDP. As IFDP plans for D&D of buildings in the WEMA progress, the capping component of the WEMA Remediation project will be assessed and may be modified or determined to be no longer necessary. The overall prioritization for the WEMA Remediation 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 Phase I Interim Source Control Actions in the Upper East Fork Poplar Creek Characterization Area, Oak Ridge, Tennessee, DOE/OR/01-1951&D3, DOE 2002

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

