

**Completion Criteria
PBI-4 Demonstration Bulk-Vitrification System (DBVS)**

1. **Dryer System Performance Test and Integrated Dryer System and Melter Test**
 - Work scope/completion criteria: Completion of the testing listed below and the documentation of the results
 - An integrated Dryer System and Melter test shall be conducted. This test shall include full scale Dryer System performance testing and integrated Dryer and Melter testing in accordance with ORP approved Integrated Dryer Test Plan.
 - The Dryer system performance testing shall be conducted using Tank 241-S-109 waste simulant and glass forming agents. If this testing is successful in producing a consistent dried waste form which meets the performance requirements of the requirement of the Integrated Dryer Test Plan then the integrated dryer and melter test shall be performed.
 - The integrated Dryer System and Melter test shall:
 - Develop and evaluate the process controls necessary for the two systems to operate together,
 - Determine if the integrated system can produce a glass product which meets the glass performance requirements,
 - Evaluate the design changes resulting from the side wall joint leaking problem observed in Test 38C, and
 - Evaluate the performance of the prototypical feed in the production of molten ionic salts and leakage of molten ionic salts through the refractory which occurred in Test 38C.
 - For the integrated test, the Dryer System and the ICV box shall be physically located at the AMEC Horn Rapids Test Facility. The test shall be conducted using Tank 241-S-109 waste simulant and glass forming agents. The dried waste product shall be pneumatically transported from the dryer to the ICV box. The waste product shall be vitrified in the ICV box. The results shall be documented in a test report prepared in accordance with the test plan
 - Completion document: A final report(s) shall be produced for both test in accordance with the approved test plan.
2. **Demonstrate DBVS Tank Waste Immobilization Technology.**
 - a. Achieve readiness to initiate construction.
 - Work scope/completion criteria: Complete demonstration facility final design and obtain CD-3 "Approval Start of Construction."
 - Completion document: ORP CD-3 approval.
 - b. Completion of the DBVS Best and Brightest Review and addressing all findings and observations to support the approval to start construction.
 - Work scope/completion criteria: Completion of the corrective action report for the Best and Brightest Review.

- Completion document: Best and Brightest Review report and corrective action report.
- c. Complete DBVS Construction and perform testing for Area 31, Clean Soil and Glass Formers.
- Work scope/completion criteria: Complete physical construction of Area 31, Clean Soil and Glass Formers of the Demonstration Bulk-Vitrification System including Construction Acceptance Testing. The Construction Completion Documents, Section Ib, "Completion of Exceptions," will be completed and approved by the Contractor. References: 1) Demonstration Bulk Vitrification Subsystems Specifications, RPP-17403. 2) Construction Completion and Turnover, TFC-PRJ-CM-C-08, Rev B, issued May 8, 2006.
 - Completion document: Contractor approved Construction Completion Document through Section Ib, "Completion of Exceptions" for the above listed work.
- d. Complete DBVS Construction and perform testing for Area 35, ICV Box Building.
- Work scope/completion criteria: Complete physical construction of Area 35, ICV Box Building of the Demonstration Bulk-Vitrification System including Construction Acceptance Testing. The Construction Completion Documents, Section Ib, "Completion of Exceptions," will be completed and approved by the Contractor. References: 1) Demonstration Bulk Vitrification Subsystems Specifications, RPP-17403. 2) Construction Completion and Turnover, TFC-PRJ-CM-C-08, Rev B, issued May 8, 2006.
 - Completion document: Contractor approved Construction Completion Document through Section Ib, "Completion of Exceptions" for the above listed work.
- e. Complete DBVS Construction and perform testing for Area 37, Secondary Waste System.
- Work scope/completion criteria: Complete physical construction of Area 37, Secondary Waste System of the Demonstration Bulk-Vitrification System including Construction Acceptance Testing. The Construction Completion Documents, Section Ib, "Completion of Exceptions," will be completed and approved by the Contractor. References: 1) Demonstration Bulk Vitrification Subsystems Specifications, RPP-17403. 2) Construction Completion and Turnover, TFC-PRJ-CM-C-08, Rev B, issued May 8, 2006.
 - Completion document: Contractor approved Construction Completion Document through Section Ib, "Completion of Exceptions" for the above listed work.