

### Completion Criteria

#### **PBI-1 Improve Performance of Tank Farm Personnel, Equipment, and Procedures (Infrastructure) for the Long-Term ORP Mission**

1. Vadose Zone and Surface Geophysical Exploration (SGE) Technology.
  - a. Complete the near-surface vadose zone characterization utilizing the hydraulic hammer direct push technology for 35 direct push samples.
    - Work scope/completion criteria: Complete the near-surface vadose zone characterization utilizing the hydraulic hammer/direct push technology as per work plans developed in coordination with the site wide ground water protection program and approved by ORP which shall include geophysical logging of direct push probes and obtaining shallow soil samples using direct push technology for geochemical analysis.
    - Completion document: Samples collected per work plan and report of analytical results submitted to the ORP.
  - b. Complete the near-surface vadose zone characterization utilizing the hydraulic hammer direct push technology for 35 direct push samples.
    - Work scope/completion criteria: Complete the near-surface vadose zone characterization utilizing the hydraulic hammer/direct push technology as per work plans developed in coordination with the site wide ground water protection program and approved by ORP which shall include geophysical logging of direct push probes and obtaining shallow soil samples using direct push technology for geochemical analysis.
    - Completion document: Samples collected per work plan and report of analytical results submitted to the ORP.
  - c. Deploy Surface Geophysical Exploration in two of the following tank farms TX, TY, U, and B (B Farm includes B, BX, and BY).
    - Work scope/completion criteria: Deploy SGE technology in selected farms. Develop and demonstrate performance of SGE technology in accordance with work plans integrated with the site wide ground water protection program and approved by ORP in coordination with the groundwater integration program for the selected Tank Farms. The work plans will produce an SGE performance assessment report detailing the capability of the technology to identify contamination sources, estimate of contamination volumes, depths, and inventories.
    - Completion document: An SGE performance assessment report submitted to ORP detailing the capability and results of the technology application to identify the contamination sources, volumes, and inventories for the selected tank farms.
  - d. Deploy Surface Geophysical Exploration in remaining two tank farms not completed in 1.c.
    - Work scope/completion criteria: Deploy SGE technology in selected farms. Develop and demonstrate performance of SGE technology in accordance with work plans integrated with the site wide ground water protection program and approved by ORP in coordination with the groundwater integration program for the remaining two Tank Farms. The work plans will

produce a SGE performance assessment report detailing the capability of the technology to identify contamination sources, estimate of contamination volumes, depths, and inventories.

- Completion document: An SGE performance assessment report submitted to ORP detailing the capability and results of the technology application to identify the contamination sources, volumes, and inventories for the remaining tank farms.
- e. Construct surface barrier over T-106 tank and associate affected area or other area with ORP concurrence.
- Work scope/completion criteria: Construct one surface barrier over single-shell tank T-106. The barrier shall be greater than 1 acre designed to control infiltration greater than 25 years with limited maintenance.
  - Completion document: Letter transmitting work package documenting completion of installation of a surface barrier that meets or exceeds the completion criteria.
- f. Construct one borehole, perform sampling and borehole decommission or 25 direct push samples.
- Work scope/completion criteria: Construct one borehole, perform sampling and borehole decommission. The borehole shall be located as per the Integrated Approved Workplan with specifications for characterization and decommissioning similar to currently approved TPA workplans. Alternately if using direct push, complete the near-surface vadose zone characterization utilizing the hydraulic hammer/direct push technology as per work plans developed in coordination with the site wide ground water protection program and approved by ORP which shall include geophysical logging of direct push probes and obtaining shallow soil samples using direct push technology for geochemical analysis.
  - Completion document: Letter report documenting completion of construction of one borehole, sample chain of custody records, and borehole decommission. Alternately if using direct push, samples collected per work plan and report of analytical results submitted to the ORP.
- g. Complete the Phase I RCRA Field Investigation (RFI) Report.
- Work scope/completion criteria: The Phase 1 RCRA Field Investigation Report integrating the data gathering activities and evaluations for all single-shell tanks waste management areas. The identified data gaps, results of science and technology, deep vadose zone inventory, conceptualization and modeling must be consistent and integrated with the groundwater integration effort. The documents shall meet or exceed the RCRA requirements and HFFACO milestone M-045-55 by January 31, 2008. The fee is forfeited if the work is not completed on or before the HFFACO milestone due date.
  - Completion document: The Phase 1 RCRA Field Investigation Report integrating the data gathering activities and evaluations for all single-shell tanks waste management areas.
- h. Complete the Corrective Measure Study (CMS) for interim corrective measures for Waste Management Area C.
- Work scope/completion criteria: The RCRA Corrective Measures Study for corrective measures for waste management area C. The document shall include treatability evaluations, in the areas of deep vadose zone mitigation, must be an integrated effort approved by ORP in coordination with the groundwater integration effort. The documents shall meet or exceed the RCRA requirements and HFFACO milestone M-045-58 by

September 30, 2008. The fee is forfeited if the work is not completed on or before the HFFACO milestone due date.

- Completion document: The RCRA Corrective Measures Study for corrective measures for waste management area C.
2. Complete Double-Shell Tank (DST) Integrity Testing.
    - a. Complete DST integrity testing including Ultrasonic testing (UT) and video examination of 4 DST. The fee is forfeited if the work is not completed on or before the HFFACO milestone due date.
      - Work scope/completion criteria: Complete and document DST Integrity Testing, including DST UT, and video examinations of four DSTs per the requirement of HFFACO Milestone M-48-15.
      - Completion document: Issue of Four (4) DST ultrasonic testing and video examination reports to the ORP for transmittal to the State of Washington Department of Ecology (Ecology) by September 30, 2007, to meet HFFACO Milestone M-48-15. (Two (2) DSTs of the six (6) UT reports required for M-48-15 will be completed in FY 2006.)
    - b. Complete DST integrity testing including UT and video examination of 3 DST (in addition to the DST in 3.a) in support of continuing integrity testing of DSTs.
      - Work scope/completion criteria: Complete DST Integrity Testing, including DST UT, and video examinations of three DSTs, per same technical requirement as those performed for M-48-15, in support of continuing integrity testing of DSTs.
      - Completion document: Issue three (3) DST Ultrasonic testing and video examination reports to the ORP.
  3. Tank Chemistry optimization in double-shell tanks AN-102 and AN-107.
    - a. Chemistry optimization AN-107 and implementation of revised chemistry limits.
      - Work scope/completion criteria: Required activities include AN-107 corrosion probe turnover and monitoring, removal of corrosion coupons for forensic examination, if required, submittal of a tank waste chemistry safety basis amendment and the implementation of the safety basis amendment.
      - Completion document: Implementation of the safety basis amendment and completion of all actions of Tank 241-AN-107 Recovery Plan, Rev 0. Letter notifying ORP of completion.
    - b. Chemistry optimization AN-102 and closure of the existing Technical Safety Requirements recover plan.
      - Work scope/completion criteria: Required activities include grab sampling, core sampling, and caustic additions, if required, associated with a technical safety requirement (TSR) recovery plan for low hydroxide in the waste solids; and implementation of revised waste chemistry limits.
      - Completion document: Letter report to ORP documenting completion of all required actions due prior to September 30, 2008 of Tank 241-AN-102 Recovery Plan, Rev 6 or latest revision as of September 30, 2007.
  4. DST volume reductions supporting SST retrieval utilizing 242-A evaporator operations.

- a. A 242-A evaporator campaign that treats at least 650,000 gals as measured in the feed tank.
    - Work scope/completion criteria: Operate the 242-A evaporator as a key component of the transfer and treatment system for tank farms to meet or exceed 650,000 gals of feed by volume as measured in the feed tank. The evaporator campaign will process the waste to the parameters determined by process engineering. The volume reduction will be determined by the process control plan (e.g., specific gravity goal and limits on the amount of waste removed from AW-102). This Evaporator campaign and that of 4.b shall be scheduled to ensure maintenance of sufficient proficiency of Tank Farm personnel operating the evaporator and to avoid the need for an Operational Readiness Review.
    - Completion document: Letter report documenting that the feed volume has been achieved and summarizing the volume reduction results.
  - b. A 242-A evaporator campaign that treats at least 650,000 gals as measured in the feed tank.
    - Work scope/completion criteria: Operate the 242-A evaporator as a key component of the transfer and treatment system for tank farms to meet or exceed 650,000 gals of feed by volume as measured in the feed tank. The evaporator campaign will process the waste to the parameters determined by process engineering. The volume reduction will be determined by the process control plan (e.g., specific gravity goal and limits on the amount of waste removed from AW-102). This Evaporator campaign and that of 4.b shall be scheduled to ensure maintenance of sufficient proficiency of Tank Farm personnel operating the evaporator and to avoid the need for an Operational Readiness Review.
    - Completion document: Letter report documenting that the feed volume has been achieved and summarizing the volume reduction results.
5. Complete 242-A Evaporator and Double-Shell Tank Integrity Assessment.
- a. Complete the 242-A Evaporator integrity assessment field inspections in accordance with WAC 173-303-640 (2) and considering the recommendation of the 1998 242-A Interim Evaporator Tank System Integrity Assessment Report, HNF-2905, Rev, 0.
    - Work scope/completion criteria: Completion of field inspections as identified in the IQRPE inspection plan that is in accordance with WAC 173-303-640 (2) and the recommendation of the 1998 242-A Interim Evaporator Tank System Integrity Assessment Report, HNF-2905, Rev, 0.
    - Completion document: Issuance of integrity report documenting the results of field inspections required by the IQRPE plan.
  - b. Complete the field pressure testing of five (5) double-shell tank transfer lines encasements.
    - Work scope/completion criteria: Completion of field pressure testing of five (5) lines double-shell tank transfer line encasements to the criteria specified in the assessment inspection plan and inspection of associated Tank Farm Pits. The lines shall be SL-168, SL-166, SN-266, SN-268 and SL-168. The pit inspections should included valve pits AN-A, AN-B and pit AW-02A. The specific lines and pits may be modified with ORP concurrence.
    - Completion document: Completed work package(s) documenting the completion of the specified encasement pressure tests.
  - c. Complete 3 core samples and analysis in support to the Double-Shell Tank System chemistry control by September 30, 2007.

- Work scope/completion criteria: Completion of 3 core samples and analysis. The specific core sampling activities, which do not directly support another incentivized activity, shall be documented in RPP-26781, "Tank Farm Contractor Process Sampling Requirements Through Fiscal Year 2007" or subsequent revision(s). The plan shall identify; the type of sample, the technical need for the sampling activity, the location of the samples, the sampling requirements, the analytical requirements, and the documentation requirements for the sampling activity.
  - Completion document: Completed analytical reports documenting the result of the sampling activity.
- d. Complete 3 core samples in support to the Double-Shell Tank System chemistry control by September 30, 2008.
- Work scope/completion criteria: Completion of 3 core samples and analysis. The specific core sampling activities, which do not directly support another incentivized activity, shall be documented in RPP-26781, "Tank Farm Contractor Process Sampling Requirements Through Fiscal Year 2007" or subsequent revision(s). The plan shall identify; the type of sample, the technical need for the sampling activity, the location of the samples, the sampling requirements, the analytical requirements, and the documentation requirements for the sampling activity.
  - Completion document: Completed chain of custody records documenting the delivery to the 222-S laboratory.
- e. Complete 5 grab samples and analysis in support to the Double-Shell Tank System chemistry control by September 30, 2007.
- Work scope/completion criteria: Completion of 5 grab samples and analysis. The specific grab sampling activities, which do not directly support another incentivized activity, shall be documented in RPP-26781, "Tank Farm Contractor Process Sampling Requirements Through Fiscal Year 2007" or subsequent revision(s). The plan shall identify; the type of sample, the technical need for the sampling activity, the location of the samples, the sampling requirements, the analytical requirements, and the documentation requirements for the sampling activity.
  - Completion document: Completed analytical reports documenting the result of the sampling activity.
- f. Complete 5 grab samples in support to the Double-Shell Tank System chemistry control by September 30, 2008.
- Work scope/completion criteria: Completion of 5 grab samples and analysis. The specific grab sampling activities, which do not directly support another incentivized activity, shall be documented in RPP-26781, "Tank Farm Contractor Process Sampling Requirements Through Fiscal Year 2007" or subsequent revision(s). The plan shall identify; the type of sample, the technical need for the sampling activity, the location of the samples, the sampling requirements, the analytical requirements, and the documentation requirements for the sampling activity.
  - Completion document: Completed chain of custody records documenting the delivery to the 222-S laboratory.