

Site: Hanford - Office of River Protection**Subject:** Office of Enforcement and Oversight's Office of Safety and Emergency Management Evaluations Activity Report for the Hanford Waste Treatment and Immobilization Plant Engineering Activities and Tank Farm Operations**Dates of Activity :** January 13-16, 2014**Report Preparer:** Robert. E. Farrell**Activity Description/Purpose:**

The Independent Oversight Site Lead for the Office of River Protection (ORP) interviewed several key ORP and Waste Treatment and Immobilization Plant (WTP) personnel regarding Bechtel's progress in resolving Department of Energy (DOE) identified issues and planning for restarting engineering of the High Level Waste (HLW) facility. Independent Oversight also observed a briefing on a tank farm occurrence.

Result:WTP

The WTP Federal Project Director and DOE WTP project team developed a detailed plan for evaluating contractor readiness to resume engineering activities on the HLW facility. The authorization will be in two stages. A conditional approval of limited activities with enhanced DOE oversight will be granted when engineering, procurement, and construction issues have been addressed sufficiently to allow resumption of those limited engineering activities necessary to develop design changes addressing current design questions, to bring the design and safety basis into alignment, and to implement corrective action plans (CAPs) for all identified significant issues following DOE approval of the CAPs.

Authorization to resume full HLW facility engineering, procurement, and construction activities requires, as a minimum, according to the plan, DOE's determination that:

- All conditions of approval associated with the limited engineering resumption are satisfied.
- Design changes resulting from ongoing engineering studies of the HLW facility are identified and in the design scope.
- CAPs addressing significant project issues are implemented.
- Contractor design and nuclear safety process changes implemented to address identified significant issues are determined to be effective.
- A revised preliminary documented safety analysis (PDSA) is implemented, alignment of the design basis with the PDSA is verified, and the design basis is finalized.
- Contractor plans for resumption of full engineering, procurement, and construction activities are documented, including required resources and a planned schedule of activities.

Prior to full release of engineering, procurement, and construction activities, there will be a transition period of increasing activity beyond activities done under conditional approval. DOE will closely monitor contractor performance during this period. The DOE team will ensure that all previous criteria are met and all previously agreed upon activities are completed before approving resumption of full engineering, procurement, and construction activities.

The Independent Oversight Site Lead reviewed the plan developed by the DOE WTP project team. Implementation of the DOE plan requires correction of the design and quality issues identified at the WTP prior to full resumption of engineering, procurement, and construction. The increased DOE oversight should result in new issues being addressed and resolved as they occur.

Related to the requirements in the DOE plan for approving resumption of WTP activities, Bechtel is still developing CAPs for outstanding significant issues. Of the CAPs that ORP has reviewed, a few have been accepted and the balance returned to Bechtel for rework. As noted above, ORP will evaluate progress on the CAPs and adjust limited engineering activity approval in accordance with CAP development status. Full engineering, procurement, and construction release requires development, DOE approval, and implementation of CAPs for all significant WTP issues. Issues for which CAPs are required include:

- Material Selection (vessels and piping)
- Erosion
- Erosion Evaluation QA issues
- Margin Management

- Integrated Management Performance Concern
- Calculations
- Procurement
- Corrective Action Management
- QA Program Effectiveness

In addition to the nine listed issues requiring CAPs, the ORP plan for evaluating contractor readiness to resume activities requires the safety basis and design must be successfully aligned prior to DOE approving resumption of full HLW facility engineering, procurement, and construction activities.

Tank Farm Operations

Independent Oversight observed the ORP Tank Farms Operations Division’s briefing to the ORP Manager on a recent occurrence. During routine work in an above-ground valve pit at one of the tank farms, a craft worker looking at the piping into and out of the pit questioned the adequacy of the lockout/tagout put in place to allow the work to proceed. The lockout/tagout in question was properly installed and was the same as had been used to isolate hazards in this and other similar valve pits previously during valve pit work at the tank farms. The worker identified that a valve alignment error in a different valve pit, connected by piping to the valve pit in which the work was occurring, could cause tank waste to be pumped to the valve pit while workers were present. Work was paused, and the worker’s concern was reviewed and confirmed by supervision and reported to DOE. This was a case of a worker, following his training and evaluating the work environment with a questioning attitude identifying an existing, previously unidentified hazard. A valving error did not occur, and workers were not exposed to tank waste. However, the potential was there, and lockout/tagouts to protect workers doing work in valve pits will now also consider the potential for valving errors in other valve pits affecting workers in the valve pit where work is being performed.

The ORP Manager directed DOE Tank Farm Operations Division management to follow up with contractor management to ensure that the worker who identified the hazard receives positive recognition for bringing a questioning attitude to the work place and recognizing a previously unidentified hazard.

HSS Participants	References
1 (lead). Robert E. Farrell	1. WTP-0206, Hamel and Dawson to McCullough, dated October 25, 2013, Contract No. DE-AC27-01RV1436-Support to the US Department of Energy (DOE) to Evaluate the Readiness to Proceed for the Waste Treatment and Immobilization Plant (WTP) High-Level Waste (HLW) Facility.

Were there any items for HSS follow up? Yes No

- HSS Follow Up Items**
1. Continue to follow the contractor’s development of CAPs addressing WTP priority level one issues.
 2. Follow ORP’s implementation of their plan for evaluating contractor readiness to proceed with engineering, procurement, and construction of the WTP HLW facility.