

**Office of Enterprise Assessments  
Operational Awareness Record**

**Report Number:** EA-WTP-LAW-2015-02-02

**Site:** Hanford Site    **Subject:** Review of Waste Treatment and Immobilization Plant Low-Activity Waste Facility  
"Facility-Wide" Draft Hazard Analysis Report

**Dates of Activity :** 02/02/15 - 02/12/15    **Report Preparer:** James O. Low/Daniel Schwendenman

**Activity Description/Purpose:**

The Office of Environment, Safety and Health Assessments, within the Office of Enterprise Assessments (EA), reviewed the draft facility-wide Hazard Analysis Report (HAR) (Ref. 1) for the Low-Activity Waste Facility (LAW) at the Hanford Site's Waste Treatment and Immobilization Plant. EA provided comments on the draft HAR to the U.S. Department of Energy (DOE) Office of River Protection (ORP), which subsequently forwarded them to Bechtel National, Incorporated (BNI). Following receipt of BNI responses to the comments, EA personnel met with BNI representatives to clarify the responses. BNI then provided EA with revised responses (Ref. 3). This EA operational awareness activity is part of a planned multi-phase review (Ref. 2) to evaluate the technical adequacy of select BNI-issued LAW HARs and the LAW documented safety analysis and technical safety requirements, which will ultimately be submitted to ORP for review and approval.

**Result:**

EA reviewed the draft LAW facility-wide HAR that was provided to the BNI hazard analysis team (HAT) for internal review in early January 2015. The draft facility-wide HAR addresses how fire, explosion, loss of confinement, direct-dose, external hazard, and natural phenomena hazards impact the LAW. The facility-wide HAR does not address facility utility and support systems (such as water and air supply systems and electrical systems). The hazard analyses for the utility and support systems, which are being addressed by a separate HAT, are ongoing. Note: As a result of BNI's strategy to simultaneously conduct both hazard analyses activities, EA cannot verify that the facility-wide hazard analysis has the appropriate scope.

BNI indicated that an HAR Open Item will be used to track the completion of four ongoing facility-wide engineering analyses (e.g., IV/III interaction analysis), and that the HAR will be revised as necessary on completion of the studies (see Ref. 3, comments 12, 20, and 21). Additionally, several EA comments will remain open pending further investigation and analysis by the HAT (see Ref. 3, comments 2, 3, and 6).

The EA review identified some positive aspects of the draft HAR. The facility-wide HAR includes a candidate design basis accident (DBA) that encompasses a number of potential fire scenarios affecting the outside equipment platform and adjacent facility fire separation areas. All of these fires can result in failure of the LAW melter offgas system exhausters. The hazard analyses will support evaluation of the functional classification of the fire protection program elements that protect the outside equipment platform. The HAR also addresses important external and natural phenomena hazards, such as ammonia/carbon dioxide releases or seismic events.

EA also identified some issues that warrant follow-up in the final HAR. First, some candidate DBAs were either missing from the HAR or were inappropriately combined in other candidate DBAs. This issue affected approximately a third of the candidate DBAs. In response to this observation, BNI committed to EA that several additional candidate DBAs would be reviewed by the HAT (see Ref. 3, comments 1, 7, 8, 9, 10, 17, and 18). In addition, EA identified several events in which a candidate control was missing or misclassified (see Ref. 3, comments 5, 11, 16, and 19). EA will follow-up to ensure these issues are addressed after BNI approves the HAR.

EA Participants	References
1. Daniel Schwendenman (Lead)	1. Hazard Analysis Report for Low-Activity Waste Facility, Volume 10, Facility Wide, Rev. 0 (Draft), January 12, 2015
2. Kevin Bartling	2. DOE/HQ HS-45, <i>Plan for the Independent Oversight Review of the Hanford Site Waste Treatment Plant Low Activity Waste Facility Documented Safety Analysis Development</i> , April 22, 2013

3. Mary Miller	3. E-mail: Stan Hill to James Low, Subject: <i>EA 31 Comment Response for LAW Facility Wide HAR Review</i> , February 11, 2015
4. David Odland	
Were there any items for EA follow up? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>EA Follow Up Items</b>  1. EA will review the LAW facility-wide HAR when approved by BNI.	