

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 29, 2017

TO: S. A. Stokes, Technical Director
FROM: P. Fox, Hanford Resident Inspector
SUBJECT: Hanford Activity Report for the Week Ending December 29, 2017

Waste Encapsulation and Storage Facility. Earlier this year, the contractor determined that an incorrect conversion factor was used to establish the safety basis value for the equivalent combustible loading for non-transient combustible material located in Cell G. Cell G is the only remaining hot cell in the facility that has not been stabilized with grout and is retained in an operable condition to support eventual transfer of cesium and strontium capsules from the facility storage pool to dry storage. The combustible loading limit protects Fire Hazard Analysis (FHA) assumptions regarding maximum fire temperatures. The maximum fire temperature is used in a calculation that establishes radiological release consequences due to storage capsule damage if a fire were to occur while a capsule was present in the cell. Upon discovery of the error, and as required by a specific administrative control, the contractor entered a restricted mode and developed a recovery plan. The recovery plan required removal of oil from the cell window to reduce non-transient combustibles below the threshold quantity allowed in the FHA. However, a subsequent analysis determined that the window would not be damaged during a fire as long as combustibles were kept at least three feet away from the window. The analysis further determined that, if the window was not damaged, the oil could be excluded from the cell combustible control limit. Since it is desirable to retain oil in the window to protect its condition and to support future operations, the contractor developed a new recovery plan to control the presence of combustibles near the window. Last week, the contractor Plant Review Committee met to discuss the implementation verification review for the new recovery plan. They determined that the verification review activities were adequate and recommended implementation of the recovery plan. The facility implemented the plan and subsequently transitioned to a normal operating mode with the new controls related to combustible standoff distances from the oil-filled cell window.

Tank Farms. Contractor personnel discovered a discrepancy in implementing documentation for the administrative controls on Flammable Gas and Ignition Controls. A recent revision of the Ignition Source Control Screening Form instructions contained unverified information related to three catch tanks. The contractor has restricted all work except for reading level indications on these catch tanks until engineering evaluation is performed.

Hanford Site. Winter weather conditions resulted in reduced operations at Hanford Site on 28 and 29 December. The closure affected normal operations during four shifts. Operations necessary to support technical safety requirement compliance were not affected by the closures.

Waste Treatment Plant. The contractor submitted a design requirement change that supports their recommendation (see Activity Report 11/3/2017) to eliminate the application of IEEE-323, *Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations*, for the design of some safety systems, structures, and components (SSCs). Use of the standard will be retained only for Safety Class SSCs and those Safety Significant SSCs that prevent significant radiological releases.