

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 21, 2012

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending September 21, 2012

D. Gutowski was on-site providing site rep support.

Canister Storage Building (CSB): During the preparations of the last multi-canister overpack (MCO) for storage, an unexpected venting of gas occurred that caused the activity to be stopped. The port used to check for pressure in the transportation cask is sealed with a recessed cap screw and the screw has a protective brass plug over it. When this protective plug was loosened, a small release of gas was heard and the brass plug shifted askew. All radiological surveys were negative. Facility personnel currently believe that the cap screw may have leaked into the void under the plug. It is possible to have a small amount of pressure in the cask due to temperature changes; therefore, this unexpected venting may not be due to an MCO leak. Facility personnel are currently writing a recovery plan to allow investigation of the cause.

Tank Farms: The Office of River Protection (ORP) Safety Review Board (SRB) concurred with another revision to the Justification for Continued Operation (JCO) for issues related to freezing and solids precipitation/deposition in the safety-significant waste transfer system. The JCO prohibits operations if outdoor temperatures are less than 28° F and this fifth revision extends its termination date from September 30 to November 16. This revision was needed to allow continued retrieval from single-shell tank (SST) C-107, which the contractor expects to complete by the end of October. The contractor is evaluating if they will need to revise the JCO again to support additional waste transfers from other SSTs because it is not clear that the necessary modifications needed to resolve the freezing issue will be completed by November 16 (see Activity Reports 9/23/11, 10/7/11, 11/4/12, 6/29/12, and 9/7/12).

The staff attended a meeting in which PNNL researchers presented to ORP some of the preliminary results on testing of alternate abrasives for cutting access holes in the domes of SSTs. The lab was testing iron pyrite as an alternative to garnet and olivine because it has the potential to dissolve in the supernate and therefore not cause erosion in WTP. The preliminary results indicate that pyrite used in a water jet will be able to cut the holes through the concrete and steel domes and may dissolve in supernate. The full impacts on Tank Farm chemistry and the WTP flowsheet from iron pyrite (iron sulfide) have not been evaluated.

Plutonium Finishing Plant (PFP): Project personnel presented the results from an apparent cause evaluation of an event during a glovebox removal earlier this year (see Activity Report 8/3/2012). The intermediate apparent cause was a failure of the work crew to follow procedures. The project has implemented initial corrective actions of retraining the work crew involved in this event. PFP management determined that the apparent cause needed more evaluation and directed the team to determine what motivated the workers to not follow the procedures.

Site Emergency Preparedness Exercise Drill: The staff observed the quarterly site-wide limited exercise drill from the Emergency Operations Center (EOC). Some difficulties were observed in EOC responder notifications, but overall it appeared that the drill team met most or all of their objectives.