

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 21, 2014

TO: S. A. Stokes, Technical Director
FROM: D. Gutowski and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending February 21, 2014

Tank Farms. Office of River Protection (ORP) personnel completed their assessment of Technical Safety Requirements (TSR) implementation in the Tank Farms (see Activity Report 1/10/2014). Their assessment found numerous implementation issues that were rolled into three priority level 2 and five priority level 3 findings. The findings span many aspects of TSR implementation including supervisory review, procedure quality, procedure compliance, datasheet accuracy, and requirements flowdown into procedures. The parallel review by the contractor's corporate parent is still in progress.

Plutonium Finishing Plant (PFP). During a visual inspection of the exhaust fans that are key parts of the safety-significant confinement ventilation system, the contractor identified cracking on the impellers that was not observed last year. Contractor management told workers that the fans are not in imminent danger of failure. This inspection was required by the Richland Operation Office (RL) as a condition of approval for changes to the enhanced maintenance plan (EMP); the plan was developed after one of the fans failed in a catastrophic manner (see Activity Report 9/2/2011). Both the contractor and RL are evaluating the inspection results to determine if the planned periodicity of the inspections should be increased from the biennial requirement in the EMP. The appropriate consensus standard calls for a quarterly inspection of the impeller but the contractor believed they had a technical justification for extending the periodicity. Maintaining the operability of the aging exhaust fans during D&D inside the facility is critical for protecting worker safety. In order to better protect workers who may be in the area if another of the 60-year old fans fails, the contractor plans to install important to safety (ITS) high vibration switches that would shut down the fans. The contractor also plans to install ITS high bearing temperature switches that would also shut down the fans.

Office of River Protection. Last week, ORP sent a letter to DOE headquarters requesting an exemption from implementation of DOE Order 420.1C, *Facility Safety*. The exemption request would apply to both the tank farms and Waste Treatment Plant contractors who currently use the earlier 420.1B order. ORP stated that implementing the new order would result in significant cost impacts primarily due to changing fire protection design criteria, safety system design criteria, and seismic criteria methodology.

Waste Treatment Plant. ORP completed its review of the contractor's Risk Informed Analysis Plan for evaluating hydrogen in piping and ancillary vessels (HPAV), hydrogen gas release from solids in pulse-jet mixer (PJM) mixed vessels, and inadvertent criticality in PJM mixed vessels. ORP only approved the use of probabilistic risk analysis to support the resolution of HPAV issues.

ORP and the contractor held the inaugural meeting of their Technical Issue Review Board (TIRB). This group, comprised of senior federal and contractor management, is intended to resolve technical issues that cannot be effectively addressed at lower levels. No issues have been elevated to the TIRB yet.