

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 17, 2009

TO: T. J. Dwyer, Technical Director
FROM: M. P. Duncan, Site Representative
SUBJECT: Savannah River Site Weekly Report for Week Ending July 17, 2009

D. Burnfield was here this week to perform Site Representative duties. While only some examples are described in this report, an abnormally large number of fact finding meetings and post job reviews involving operational events and near misses occurred this week.

Savannah River National Laboratory: The Site Rep and staff observed the routine receipt and movement of a package containing plutonium oxide. The loading dock has signs stating that storage of combustible materials is prohibited, yet various combustibles (e.g., wooden pallets) were present.

Quality Assurance: Several Documented Safety Analyses across SRS credit the quality of diesel fuel oil used in safety-significant or safety-class diesel generators. The fuel oil is qualified using commercial grade dedication that relies on the vendor's history and specifies the type and periodicity of various tests to confirm that it meets the ASTM D975 specification. Several months ago the contractor selected a new vendor but failed to review and update the existing commercial grade dedication. The first load of diesel fuel oil received by SRS was not tested, some of which was then delivered to the safety-significant diesel generator at 235-F. After this issue was discovered, testing confirmed that the already delivered fuel was acceptable. The contractor and DOE appear to be appropriately concerned about this breakdown in the procurement process.

Tank Farms: A portable combustible gas and oxygen sampler that had been used to monitor the headspace of a high-level waste tank was mistakenly shipped to a clean facility for calibration. The external surfaces of the device had been surveyed and determined to be clean; however, a sticker warning of internal contamination was overlooked.

K Area: Work began to better anchor some support columns in the Assembly area of the K-Reactor building to prevent the potential partial collapse of the roof in an impact accident scenario. Workers drilled into the floor and inadvertently drilled through some pipe. Upon discovery, radiological control personnel were called, but the pieces were brought to the control room before they could be surveyed.

Solid Waste Management Facility: A large waste box received from Naval Reactors fell off of the forks of a forklift truck onto its side. Contrary to expectations, no time out was taken, and the operator attempted to use the forklift to return the box to an upright position but ended up puncturing it with the forks. No detectable contamination was released and the hole was secured.

H-Canyon: Prior to transferring solution to the high activity waste neutralization tank, an operator noted that the stated fissile mass to be transferred did not make sense. Further investigation discovered a non-conservative error in the calculation. While there was no violation of the criticality safety limit, it was an error that was not caught during the procedurally required second person verification and the first line manager's verification. The error happened on the same day as the mispositioned gang valve event (see the 5/29/09 report) and thus occurred prior to the contractor's recent efforts to improve conduct of operations.