

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 11, 2016

TO: Steven Stokes, Technical Director
FROM: William Linzau and Rory Rauch, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending March 11, 2016

Staff member R. Arnold was on site shadowing site rep activities.

Building 3019: Last week, Fissile Material Handlers (FMHs) had to stop an activity to move a Consolidated Edison Uranium Solidification Project (CEUSP) canister when a component that provides shielding disengaged from the Shielded Transfer Carrier (STC). The STC is used to move canisters with high radiation dose rates from one shield storage vault to another and has a heavy shielded drawer that slides in and out to allow loading through the bottom of the STC. As this drawer was opened, the stops that prevent the drawer from falling out of the opening failed and the drawer slid out of the STC. As the drawer fell to the floor, it glanced off of the safety shoe of the FMH, who was uninjured. As part of the initial response, personnel cleared the immediate area and Isotek management evaluated the conditions and developed a plan to return the CEUSP canister to the storage vault. During the recovery actions, radiological dose rates were closely monitored and there were no indications of elevated worker doses. The failed stops for the drawer had been recently replaced but the replacement bolts were 1/4-inch shorter than the originals and had a different type of thread. Isotek ordered these replacement bolts per the controlled drawings under their NQA-1 quality control program, but the drawings did not match the “as-built” condition. Isotek management currently believes that when the STC was fabricated back in the late 1990s, personnel may have installed larger bolts, but the drawings were never updated to reflect this change. As one of the corrective actions from the event, Isotek performed an extent-of-condition review looking for similar errors on the other shielded carrier and found the installed bolts on that carrier were also larger than indicated on the drawings.

Emergency Management (EM): This week, CNS EM personnel conducted an EM exercise to demonstrate that the site is prepared to respond to a release of hydrogen fluoride (HF) from Building 9212. The exercise scenario involved a small release of HF gas from a storage cylinder that was inadvertently punctured during a simulated loading evolution on a loading dock. The site reps watched response actions at the event scene and observed Emergency Response personnel don level-A protective gear (fully enclosed suits with contained breathing air), take actions to stop the leak, and demonstrated use of a mobile decontamination station. The exercise was one of several EM activities that will be conducted this year in addition to the required annual full-participation exercise, which is scheduled for June.

Building 9212/Nuclear Criticality Safety (NCS): Last month, the Building 9212 Shift Manager suspended preventive maintenance (PM) activities on components of the Oxide Conversion Facility after an NCS engineer noted that the supporting Job Hazard Analysis (JHA) had not received an NCS review. Late last year, Maintenance Engineering (ME) personnel reviewed all supporting documents for these PMs and noted the existing JHA was set to expire. The JHA did not contain any NCS controls, which was a key factor in the ME planner’s decision not to include an NCS review while updating the JHA. The expectation from NCS management is that JHAs for any work performed on or near fissile material have an NCS review. Corrective actions included an extent-of-condition review by ME of all similar work packages to determine if NCS reviews have been conducted, as required. In addition, NCS Engineering personnel will evaluate the process used to determine when NCS reviews are required for JHAs that support maintenance packages.