

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 9, 2015

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and D. L. Burnfield, Site Representatives
SUBJECT: Savannah River Site Weekly Report for Week Ending October 9, 2015

Tritium: Tritium personnel began open glovebox maintenance in H-Area New Manufacturing on 10/8/15. After opening the gloves and ventilating the glovebox, they found high levels of surface contamination (up to 90 M dpm β) in various places within the facility. Since tritium is a low energy beta emitter, surface contamination is detected by placing the smear in a liquid scintillation cocktail and counting the beta interactions in the solution using a liquid scintillation detector. Since no airborne tritium was detected and the measured activity decayed rapidly even in the cocktail, the site believes that a contaminant (other than tritium) either in the cocktail or on the smear, may have been the cause of the indication in the counter.

The site rep observed an emergency preparedness drill simulating an explosion of an accountability tank that resulted in an unmonitored stack release from the tritium extraction facility (TEF). Problems arose when the shift manager did not assign someone to act as the incident scene coordinator (ISC), meet the fire department outside, and brief them on what happened. Instead, two other people tried to assume the ISC role, but this led to confusion and neither was effective. First, a radiological control inspector acted as ISC, but she remained inside TEF and was not available to brief the FD and acting as ISC distracted from her normal role. Meanwhile, a non-TEF operations staffer also tried to act as ISC, but he did not know there had been an explosion. As a result, the FD ended up making an entry into TEF with very little information regarding what had happened and what the hazards were. Meanwhile, the shift manager and control room operators were not using their procedures, the area emergency coordinator took 8 minutes to announce protective actions after being requested, it took 22 minutes to put the building in evacuation mode, and operations staff talked during briefings and announcement. The drill controllers and facility manager recognized that player performance was unsatisfactory. After remedial actions, they plan to conduct another drill with this shift.

Defense Waste Processing Facility: After many months of good radiological protection performance, SRR had three events recently. First, 110,000 dpm β - γ contamination was found on the shoe of a mechanic exiting the Contact Decontamination and Maintenance Cell (CDMC). Second, after moving a trailer with a SeaLand from the Outer to the Inner Railroad Well, surveys found contamination on the ten tires of the truck cab, the truck cab doors, truck air hoses, and truck access platform even though clean plastic was rolled out on the floor. Third, a mechanic entered the CDMC without wearing the prescribed finger rings or forearm supplemental dosimetry. The mechanic did not read the Radiological Work Permit before signing it.

Recommendation 2012-1, Savannah River Site Building 235-F Safety: This week F-Area entered into deliberate operations from the SRNS pause and thus was able to begin work on removing the outer windows from shielded cell Number 8. After the 235-F team made a couple of corrections to the procedures, they successfully removed the outer window. This is the first real intrusive activity that has been conducted as part of the implementation plan.