DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 4, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending January 4, 2019

Defense Waste Processing Facility (DWPF): The RI observed an emergency preparedness drill at DWPF. This drill was a training drill and controllers took several opportunities to coach the person who was acting as the Area Emergency Coordinator for the first time. The drill started with a simulated tornado warning, which requires DWPF personnel to take shelter. This causes the control room staff to relocate from the vitrification control room to the alternate control room, inside the DWPF structure. Shortly afterwards, a simulated brief tornado touch down resulted in a projectile impaling the Formic Acid Storage Tank, causing formic acid to spill into the associated dike area. While the overall response was adequate, some aspects were less than ideal. Facility personnel use handheld scanners to account for all the workers in the designated shelter locations. A program then compares this list of names to the workers who signed in on the personnel accountability system as they entered S-Area. However, the 1990s vintage scanners did not produce a reliable record of who was sheltering as evidenced by the dozens of names of workers who ended up on a "missing" list and who then had to be tracked down. Not only does this waste valuable time by facility personnel tracking down people whose badges had been scanned, but it could put responders at risk if they went searching for people who were not missing (i.e., a fire).

While the field response to the leaking tank was delayed because the tornado warning was still in effect, that only accounted for 58 of the 96 minutes it took to dispatch a team to go outside and meet the Fire Department, who was waiting at the gate for much of the time. It was not until the tornado warning was lifted, that facility personnel began efforts to assemble and brief a field team to meet the Fire Department, set up barricades around the tank, or assess tornado damage. Since a damage assessment is the standard response to severe weather and setting up barricades the primary response to a chemical tank spill, the facility could have started making preparations much sooner so that a team could have been dispatched as soon as it was safe to go outside. A frequent observation of the RI during drills at SRS is that the periodic briefings in control rooms and the Emergency Operations Center tend to heavily focus on what has already occurred. Little to no time is spent discussing what their priorities and plans are for the next 15, 30, or 60 minutes or longer. Anticipating what they need to do in the next hour and making assignments to execute those plans might speed up the field response. Since a formic acid spill is the sole non-security emergency action level at DWPF, SRR is also looking at assigning personnel up front who would be responsible for setting up a barricade at pre-defined locations in case of a formic acid spill. Formic acid will also be eliminated when the contractor changes the process flowsheet at DWPF in the future.