

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 17, 2011

TO: T. J. Dwyer, Technical Director
FROM: M. T. Sautman and D. L. Burnfield, Site Representatives
SUBJECT: Savannah River Site Weekly Report for Week Ending June 17, 2011

Board Public Meeting: Dr. Winokur (Chairman), Dr. Mansfield (Board Member) and Mr. Bader (Board Member) conducted a public meeting on the subjects of storage and disposition of radiological liquid waste, emergency planning, and nuclear material disposition. Members of the technical staff that accompanied the Board members were, Mr. Dwyer (Technical Director), Mr. Ogg and Mr. Gutowski.

Defense Waste Processing Facility (DWPF): During a recent evolution, operators temporarily stored a contaminated piece of equipment on a plastic-sleeved stand in the DWPF truck well. While normally, DWPF personnel dispose of contaminated equipment, in this case, the coil was reused. DWPF personnel attempted to remove the heavily contaminated (greater than 1mrad β/γ) plastic sleeve that had covered the coil and dispose of it. They performed the task in an airborne radiation and high contamination area, while the surrounding portions of the truck well were set up as a contamination area and then a radiological buffer area. They performed this task with personnel protected by plastic suits and breathing air. Yet the hazard analysis allowed the work to be screened as skill of the craft (i.e. routine or low hazard activity), which does not require a formal assisted hazard analysis. The hierarchy of controls requires efforts are made to eliminate or minimize hazards prior to selecting hazard controls and that when hazard controls are selected engineered controls and administrative controls are preferred and personal protective equipment such as plastic suits and breathing air are selected last.

While performing the task the workers noticed that the plastic had been taped to the frame that held the equipment and that the task was going to be significantly harder than previously expected. They determined therefore, that portions of the task were not going to be completed during that shift and workers who were waiting to perform those jobs were assigned to new tasks and left the truck well. Each of these workers surveyed out of the area without alarming the portal contamination monitors. Within ten minutes of these personnel leaving, radiological control personnel performed surveys of the work area and found contamination within the high contamination area that was higher than expected. This resulted in further surveys that also found unexpected contamination within the contamination area and on the feet of several of the workers ($\leq 10,000$ dpm β/γ) standing in the radiological buffer area. Facility personnel could not determine the source of the contamination.

Tritium: At the Tritium Extraction Facility (TEF), an operator installed a glove in a blanked port in a glove box so that the heaters could be replaced. When he removed the installation tool he noticed there appeared to be a slight opening between one side of the glove and the glove box wall. The operators and radiological protection personnel took the immediate corrective actions required to put the situation in a safe condition and reentered the facility and replaced the glove. However, the closest phone available could not be used and one operator left the space to contact the control room. Oxygen levels inside the glove box did not rise above reportable levels.

An oxygen monitor failed in an uncharacteristic manner resulting in a reportable event. The contractor is evaluating the vendor base for similar pieces of equipment, which could replace the monitors that are currently used.