

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 5, 2008

TO: T. J. Dwyer, Technical Director
FROM: M. P. Duncan and M. T. Sautman, Site Representatives
SUBJECT: Savannah River Site Weekly Report for Week Ending September 5, 2008

Solid Waste Management Facility: Many procedure compliance issues were exhibited during the Large Container Nondestructive Assay Management Self Assessment (MSA). Many of these involved a procedure used for a routine, ongoing activity and several of which were not noted by the MSA team. For example, the technician, who initially performed the assay, had only received his qualification card that morning, was not qualified yet, and was not familiar with a facility procedure. The qualified technician, who eventually replaced him, required several prompts before he suspended operations in the area after being provided data that exceeded a Technical Safety Requirement. When the MSA commenced, facility management was unaware that a key procedure was not approved yet or that the above technician had not completed his qualifications. Little direct Site Rep intervention was required because thorough and proactive DOE oversight led to the decision to suspend the MSA. The next two weeks will be spent ensuring that ongoing drum handling and transport are being performed per procedure, improving operator proficiency, and ensuring readiness.

Tritium Extraction Facility: The contractor successfully finished cutting a bundle of irradiated Tritium Producing Burnable Absorber Rods. The Site Rep observed normal cutting operations as well as an attempt to process a severely bent bar with a tool designed to puncture the rod. That tool failed to puncture the rod and broke apart. Operators then used a vise, a long tube, and manipulator arms to straighten the rod so that it could be cut using the normal cutting tool. Normal operations are performed according to a procedure, but the work on the bent rod did not use one. Facility management verbally authorized the work, and the operators had performed this work in the past. But the existing procedure does not discuss alternate processing methods, so it was not immediately clear why this work was allowed to proceed.

F-Tank Farms: Additional inspections were performed of the mechanical cleaning systems since the tether cables were previously found to be too short. These inspections identified a fitting on the mantis forward spray which was only rated for 150 psi although this part of this system involves high pressure (i.e., 5000 psi) water. An ongoing 100% inspection of all components and fittings in the hydraulic and low, high, and ultra high pressure water systems has identified 26 custom manufactured items so far that do not have documented pressure tests per ASME 31.3. These and other indeterminate items that may be found will be replaced with a rated component, undergo a finite element analysis, or a similar piece will be destructively examined. Furthermore, an equivalency will be developed to define leak test requirements for each system.

Saltstone: Recently, there were two separate instances where shoe bottoms were contaminated during work performed near Vault 4. Both shoes probed less than 5000 dpm beta-gamma. Surveys of the immediate work area of the first event found nothing above clean area limits, but recent surveys of a wide area around the vault discovered an area of contamination located roughly in front of Cell E, where the Deliquification, Dissolution, and Adjustment waste was solidified. So far 2000 to 60,000 dpm/100cm² beta-gamma (likely cesium-137) has been measured throughout the area. The contractor believes that it is seeping through small cracks in the vault where wet spots have been observed.

Modular Caustic Side Solvent Extraction Unit (MCU): The Decontaminated Salt Solution coalescer differential pressure increased sharply (from 4 to 28 psi) and MCU was shut down.