

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 3, 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 July 4, 2008

Interim Salt Disposition Project (ISDP): The Decontaminated Salt Solution coalescer media was replaced a few weeks ago. Initially, the differential pressure across the coalescer was much lower than that seen previously although there was a slow, steady increase. Engineers became more concerned when the differential pressure suddenly showed a sudden, steep increase last weekend followed by a return to the earlier slow increase. An evaluation of the previous media concluded that bayerite and amorphous nitrate are the primary foulants of interest rather than stainless steel debris. For the time being, only one batch is being kept inside the Modular Caustic Side Solvent Extraction Unit at a time and procedure changes ensure the media remains wetted between runs. When the coalescer differential pressure reaches the operating limit, the media will be removed without cleaning and analyzed. By comparing the results to those from the previous media, scientists hope to determine whether bayerite and amorphous nitrate were formed during the batch runs or during the acid cleaning process. The Actinide Removal Process has also encountered low flow of filtrate through the secondary filter when batches are allowed to sit before the start of filtration.

The Site Rep observed Defense Waste Processing Facility management review their progress in satisfying ISDP Management Control Plan requirements. Although radiological data to date have been acceptable and the path forward is sound, the Site Rep questioned the Facility Radiological Assessment Team's (FRAT) decision to sign off that confirmatory shielding verification surveys were complete and personnel dose management was within requirements and acceptable when only diluted waste had been received to date. The FRAT decided to reconvene once data for full-strength waste was available.

Defense Waste Processing Facility: An investigation and recovery team determined that the most probable initiator of the small fire last month in two shielded cells was a disconnected electrical connector (cable and a LEMO plug) that was damaged and in direct contact with a waste bag on the floor of the cell. Arcing or overheating likely ignited the waste bag and its contents. Chemical compatibility issues were found not to be a likely cause of the event. Several handling practices may have contributed to the cable being damaged; workers would pull the cable to verify the plug had engaged and a nearby cart, due to the cable routing, would often hit and pull on the cable. Facility personnel are evaluating improvements that will include establishing preventive maintenance requirements for cell lights and cables. Sampling activities have resumed.

H-Canyon: When a Low Activity Waste evaporator cooling coil leaked last January (see 1/11/08 report), it contaminated several cooling coil steam traps. One of these traps was replaced this week because flushing did not remove the residual contamination. Once the trap was replaced, a lockout was removed. Shortly afterwards, a segregated cooling water monitor high activity alarm was received. No diversion was required since the water was already diverted because of ongoing repairs. The exact cause of this contamination release is not known, but H-Canyon personnel are reevaluating the use of single valve isolation for the cooling water and the controls in place when the lockout was removed.