

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 29, 2005

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** J. S. Contardi/M.T. Sautman, SRS Site Representatives  
**SUBJECT:** SRS Report for Week Ending April 29, 2005

**F-Area Plutonium Storage:** DOE recently directed the contractor to accelerate the shut down of the remaining F-Area plutonium facility. As directed, operations are to be completed by November 30, 2006, and the facility transitioned to decontamination and decommissioning activities. The capability to meet DOE-STD-3013 surveillance requirements, including destructive examination (DE), will be established in K-Area. Until the contractor establishes a stabilization and packaging capability in K-Area, materials generated from DE activities will be dispositioned in H-Area processing facilities.

**Personnel Contamination:** During the relocation of a sample at SRNL, a worker became contaminated. The sample was contained within a sample vial which was bagged and placed in a 5 gallon pail. The pail did not contain the sample identification number and the worker removed the sample for proper verification. Upon relocating the sample, the worker subsequently left the immediate area, which did not require a radiological survey. Approximately 20 minutes later the worker alarmed the PCM-1B while attempting to exit the radiological buffer area. A survey of the worker revealed 200,000 dpm (alpha) on the left palm, 20,000 dpm (alpha) around the mouth, and contamination on various other locations. A survey of the pail and sample indicated the presence of a liquid coming from the sample bag which read 1,000,000 dpm (alpha). The primary radionuclide in the sample is Pu-238.

The worker was decontaminated and treated for the potential exposure to hydrofluoric acid. Following a medical consultation, WSRC medical staff administered chelation therapy. The worker has begun a special bioassay program. Followup surveys found contamination in the work area and the worker's office. A second employee responding to the event also became contaminated while using a phone.

Preliminary corrective actions have been developed which include: suspension of sample receipts, determination of packaging failure mode, recovery actions of the work area, review of historical data and analysis on sample receipts, and a courtesy notification to F and H-Area Laboratory. Inspection of the remaining samples found an additional sample in which liquid was present in the bag containing the sample vial.

**Waste Package Failure:** While surveying a waste pail in HB-Line, a radiological technician found 40,000 dpm alpha on the outside of the pail. A subsequent visual inspection of the container indicated corrosion which may have penetrated the side of the pail. The waste pail is known to contain significant quantities of Pu-238 and was generated in 1999. WSRC personnel are developing a path forward to disposition the pail as well as other legacy waste containers.