**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

September 14, 2001

**TO:** K. Fortenberry, Technical Director
**FROM:** D. Grover and M. Sautman, Hanford Site Representatives
**SUBJ:** Activity Report for the Week Ending September 14, 2001

Spent Nuclear Fuel Project (SNFP): The SNFP will be demolishing two concrete pads adjacent to the K-Basins as part of preparations for constructing facilities to support the transfer of spent fuel from K-East to K-West basin. This week, Mr. Grover walked down the concrete pads with DOE and contractor personnel to evaluate the methods proposed for their demolition. Additional discussions ensued between the contractor and technical staff. Concerns were identified with uncertainties associated with the as-built pad condition that could impact the safety class basin structure during demolition as well as with the methods to remove the concrete. Following the discussions, the contractor revised their plans to include non-destructive examination of the concrete pad structure and potential connections to the basin walls. The methods for demolition of the pads were also revised to minimize the potential to damage the basin structure. (III-A)

100-F Basin: While sampling the sand fill material in F-Reactor Basin, workers identified a hot spot in the sampled soil, which was later determined to be a single pass reactor fuel element. The work controls adequately controlled the high radiation and contamination hazards to investigate a unknown hot spot. These controls included the use of long handled tools, continuous radiation monitoring at both the worker location and the hot spot, and use of personnel protective equipment. In discussions following the activity, Mr. Grover learned that the project personnel had conducted several dry runs of the activity to prepare for the work. However, several radiological control personnel were not aware that they were dealing with metallic uranium fuel elements and the resulting potential for pyrophoric reactions. Spent fuel handling was not fully reviewed during the standard startup review for this activity, e.g. the approved job hazard analysis and work package as well as training on long handled tools were identified as prestart items, therefore it is not clear if the project has appropriately controlled this hazard. The June 8, 2001, site rep weekly discussed the need to perform an appropriately graded readiness activity to demonstrate the ability to perform this work safely. (III-B)

233-S: Mr. Sautman inspected the 233-S viewing room with the field work supervisor. Many of the process vessels are gone and the remainder might be removed by early next year. Workers are slowly moving deeper inside the 4-story process cell by extending scaffolding from the grated walkways. Sheets of plastic separate the workers from very high levels of contamination inside the cell. Unfortunately, nondestructive assay work was stopped this week. Hopefully, this will be resumed before too many additional waste packages accumulate inside. (III-B)

224-T: Mr. Sautman observed workers characterize the F-Cell tanks using a robotic crawler equipped with radiation detectors and a camera. Each of the tanks was found to contain approximately a half-gram plutonium. The activity went well. (III-B)

Tank Farms: John Fulton is transferring from Rocky Flats to fill the Vice President of Environment, Safety, Health, and Quality position, recently vacated by Paul Bemis.