

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 20, 2002

**TO:** J. K. Fortenberry, Technical Director  
**FROM:** D. F. Owen, RFETS Site Representative  
**SUBJECT:** RFETS Activity Report for the Week Ending September 20, 2002

**Plutonium Stabilization and Packaging System (PuSPS).** RFETS has completed approximately 1030 DOE-STD-3013 containers (not counting those in a reject/rework status). Production throughput has been greatly diminished during the past month, however, due to inner can welder and outer can welder problems. A series of laser maintenance actions and welder adjustments have been taken during the past two weeks. Late Thursday, container production resumed with at least six good containers completed by week's end.

**Conduct of Operations.** As RFETS externally reported this week, during an operation to relocate a 42-inch diameter drained tank containing raschig rings in Building 771, the work crew supervisor inadvertently missed a procedural step labeled as important to criticality safety (annotated by a "circle CS"). The step required that (1) the supervisor ensure tank gamma scan documentation is placed with the procedure, and (2) if the scan indicated holdup greater than 500 grams plutonium, then the raschig rings must be removed before the tank is removed from its supports. The tank, with a measured holdup value of about 800 grams, had been removed from its supports and staged for raschig ring removal in a different room. This procedural violation was discovered by a separate work crew, preparing for raschig ring removal in the staging room, noting that this step was not initialed as required.

While information was being gathered on this event by Building 771, a formal fact-finding meeting normally held for such events was not planned. Following site rep. inquiry on this aspect with DOE-RFFO management, Building 771 held a fact-finding meeting with involved personnel. It was determined that:

- the tank gamma scan documentation was in place, but the supervisor failed to perform the 500 gram check portion of the step and initial the step as required;
- several tanks had been relocated prior to this tank and the step initialed for those tanks by this supervisor; however, all of these tanks had less than 500 grams holdup;
- the 500 gram procedural check was established in December 2001 and was intended as a general precaution against higher-holdup tanks being removed from their supports and staged as holdup mass limits for raschig ring removal had yet to be determined;
- in April 2002, a mass limit of 900 grams was determined for raschig ring removal for this size tank and a posted checklist implemented the 900 gram limit; however, the procedural 500 gram check had not been changed/deleted;
- this posted 900 gram limit was discussed at the pre-evolutionary briefing, but the procedural check was not discussed.

Corrective actions include re-emphasis for all Building 771 supervision on proper execution of procedures and review of "circle CS" steps in other Building 771 procedures for applicability and correctness.

cc Board Members