DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 15, 1999

TO: G. W. Cunningham, Technical Director
K. Fortenberry, Deputy Technical Director
FROM: D. F. Owen, D. J. Grover, RFETS Site Representatives
SUBJECT: RFETS Activity Report for the Week Ending October 15, 1999

Staff member R. Zavadoski was on site this week reviewing ventilation system operations and related issues in Buildings 707, 371, 771 and 779.

Recommendation 94-1. There is approximately 300 kg of plutonium fluoride material that is to be stabilized at RFETS and shipped to Savannah River Site (SRS) by September 2000 per the DOE Implementation Plan for Recommendation 94-1. The ability to meet this milestone is in doubt due to the unclear path for certification of the 9975 shipping container for plutonium fluorides and for potential SRS canyon processing issues. DOE-RFFO has indicated that options will be evaluated and a path forward will be proposed over the next few months. One option being evaluated is to blend the fluorides with sand, slag and crucible residues in a manner that is expected to be certified for shipping in the 9975 to SRS. (3-A)

Residue Storage in Pipe Overpack Containers (POCs). Recently, several POCs in storage were discovered to have untorqued pipe component closure bolts resulting in potential degradation of the confinement provided by the POC. A statistical analysis has estimated that as many as 20 percent of the POCs could have loose bolts. DOE-RFFO has approved a Justification for Continued Operation that calls for the bolt torque to be verified on all POCs in storage. This verification effort has since identified an additional three POCs with loose bolts. Additionally, a revised torquing procedure including independent check of the closure bolt torque has been implemented. (3-A)

Ventilation System Issues. Operation of the ventilation systems at RFETS continues to generally improve, however staff identified certain observations during the review. Most notably, operation of the Building 707 ventilation systems typically trigger several alarms in a very short time period (adding up to several hundred alarms per day) without clear discrimination of the most important alarms, including those related to safety basis requirements, from other alarms. While the Building 371 ventilation systems also trigger numerous alarms in a short time period, the Building 371 alarm system provides clear discrimination of those alarms directly related to safety basis requirements. This lesson learned does not appear to have been applied to the Building 707 alarm system. With regard to equipment size reduction in Building 771, plasma cutting is a proposed method being incorporated into the next-generation Inner Tent Chamber now being procured. The staff noted that careful design of engineered controls addressing the hazards of the slag spray will be crucial for the success of this technique. The staff will report separately to the Board on all observations from this review. (3-A, 3-B)

cc: Board Members