DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 17, 1998

TO: G. W. Cunningham, Technical Director

FROM: R. F. Warther, M.T. Sautman

SUBJ: RFETS Activity Report for Week Ending April 17, 1998

Storage of Wooden Crates. K-H has identified over 1400 wooden waste crates that store waste and other material. Of these, 172 contain LLW. RFFO issued technical direction to take immediate compensatory measures, provide a Sitewide Justification for Continued Operations (JCO) and perform an Unreviewed Safety Question Determination (USQD). The compensatory measures include ensuring crates are in clusters of ten or less, clusters are at least 30 feet apart, and combustible controls are implemented. K-H committed to procuring metal crates for most of the LLW. K- H also is investigating how to characterize and repack the LLW.

B779 Deactivation. B779 initiated activities to deactivate contaminated gloveboxes this week following closure of all prestart findings. As part of this as activity, the Site Reps met with K-H and SSOC to discuss Be sampling procedures, protocols and controls. The lower limit of detectability for Be at the labs employed by K-H is about 2.4 nanograms per sample. The accuracy ranges from ±10% to ±25% depending on background and other variables. This is about three orders of magnitude below the limit of 2.5 µgrams/100 cm^2 surface concentration limit required by K-H to post an area as a beryllium operations area. The limit to free release an area is 0.2 µg/100 $cm^{2.}$ Three important issues remain. The first is that K-H must complete its cost analysis to determine if they should procure Be analysis equipment. Currently, the turnaround time for the analysis is about 10-15 days, although provisions have been made provide analyses in less than a week for priority samples. The second issue relates to controls in Be areas. SSOC issued an ops order stating that engineered or administrative controls shall be used for personnel working in Be areas (defined in the ops order as an area with surface contamination levels greater than 1 µg/100 cm^2). Third, the site currently collects dry swipes for their analyses. This is not conservative, and the site is considering two alternatives. The first alternative is to determine the difference between wet and dry collection efficiencies and establish the limits accordingly. The second alternative is to collect wet swipes, let them dry, count them for Pu (alpha), then count them for Be. The site is probably leaning toward the former solution.

Plutonium Stabilization and Packaging System (PuSPS). BNFL conducted a performance demonstration to show that the PuSPS could achieve an average throughput of 1 metal and 1 oxide can in an 8 hour shift. DOE evaluated the performance as part as their formal acceptance of the unit. The demonstration was declared a success although about a dozen test exceptions were noted. Surprisingly, the stabilization portion had fewer problems than the packaging portion. The inner cans were not able to be leak tested because the mass spectrometer developed operational problems shortly before the demonstration. Several failures occurred with the automatic operations for the first can. It was later discovered that some of these were due to the pneumatic controls not being adequately pressurized. After this was fixed, the unit performed satisfactorily.

cc: Board Members