

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 1, 1999

TO: G. W. Cunningham, Technical Director
K. Fortenberry, Deputy Technical Director

FROM: M. T. Sautman

SUBJECT: RFETS Activity Report for Week Ending July 1, 1999

The Site Representative will be on annual leave July 2.

Recommendation 94-1. SSOC met their milestone for processing all actinide solutions in B371 by the end of June. More than 4800 liters of solution were removed from the process piping and processed through the Caustic Waste Treatment System.

On Thursday, the first shipment of residues left RFETS for WIPP. The drums contained pyro-oxidized salts.

The technical staff worked out a path forward with RFETS regarding an exception to the Interim Safe Storage Criteria for dry combustible residues. The agreed upon conditions would continue to ensure safe storage while reducing worker exposure and allowing the material to be disposed faster.

The Site Rep attended a RFETS-initiated conference call with DOE-HQ and SRS to discuss the resolution of 9975 shipping container technical issues. It is somewhat surprising that inerting of the container is being contemplated based on the extrapolation of limited gas generation data. In addition, recent RFETS thermogravimetric analysis of SS&C from the same batch previously analyzed at SRS showed a weight gain, not the weight loss that SRS attributes to moisture. Although a path forward for SS&C is becoming firmer, the path forwards for resolving shipping issues associated with <85% Pu in 3013 cans and fluorides are more uncertain. (III-A.1.a)

Building 771 Deactivation. RMRS completed the material dispersion evaluation using fluorescent powder for the birdcage. While “contamination” was found on the supplied air suits below the workers’ elbows, little “contamination” was found elsewhere on their suits. There was also some “contamination” outside the birdcage due to the charged Plexiglass sliding windows. Other indicators are more troublesome. RMRS Central Engineering and Radiological Engineering identified standards and criteria for evaluating the performance of the birdcage to control contamination. The Site Rep met with B771 radiological safety personnel to discuss technical staff concerns with the analysis of the results for 3-window configurations. The ventilation engineer’s design basis was that only 2 windows would be allowed open, however, radiological engineering has allowed some 3 open window configurations based on test results. RMRS is allowing some 3- window configurations whose face velocity measurements did not meet their criteria. For example, the measurements for

one configuration were 68, 104, 123, 113, 123, 50, and 59 ft/min with an average of 91 ft/min. RMRS believes that even though this configuration and others did not meet the 100-150 ft/min average face velocity criterion and had individual measurements 50% less than the criterion, that these configurations are acceptable based on other test results. RMRS justified not meeting the “no face velocity measurements more than $\pm 20\%$ of the average” criterion by stating that it was only marginally applicable. RMRS did not calculate any turbulence and profile (based on velocity standard deviations) values to see whether they met their criteria (which they likely would not in several cases). The reason for this was that they later decided that turbulent flow would be evaluated in light of the remaining test results. Even though RMRS stated ahead of time that no individual test result would disqualify the system, this approach of dismissing unfavorable data and criteria after performing the tests is undesirable. The staff believes it would be prudent to prohibit some of these questionable window configurations until the adequacy of the more favorable configurations is demonstrated with a hot glovebox. The Radiation Safety Manager resisted this suggestion because he believes further restrictions could make work in the birdcage awkward. He did agree to some compensatory measures: informing workers which configurations were preferred, checking airborne radioactivity levels more frequently when less favorable configurations are being used, and noting the window configurations in the DAC logbooks. (III-B.1.a)

Y2K Meeting. John Przysucha and other DOE-HQ personnel were on site Thursday to review RFETS Y2K issues. Many of the discussions focused on safety systems, particularly the process used to identify which systems were safety related. (I-A.2)

cc: Board members