

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 31, 1997

TO: G. W. Cunningham, Technical Director
FROM: R. F. Warther, M. T. Sautman
SUBJ: RFETS Activity Report for Week Ending October 31, 1997

Recommendation 94-3. K-H and RFEC are formally investigating events related to attic piping upgrades in B371. Additionally, K-H issued an RFP to get another AE and constructor on board. Two NCRs were issued. One for location and angle of attic piping supports and one for depth of fasteners. The fasteners NCR states 151/200 do not meet the depth specification. Hole depth was a QA hold point in the procedure and RFEC has evidence that the hold point was validated. The root cause for this problem is part of the investigation. This is part of the investigation. With regard to supports, 31 require a fix – 28 were installed at the wrong angle, and three were installed in the wrong location. According to the drawings, this should not have happened. The only good news from this issue is that RFEC did, after installation, identify these problems as opposed to K-H or DOE identifying these issues. Additionally, it is noted that RFEC engineering did not try to defend the installation as safe. RFEC's calculations show that this is a problem, and RFEC dollars will be used to effect repairs.

Criticality Review. Tom McLaughlin, Adolf Garcia and Jerry McKamy were on site this week to review criticality progress at RFETS. They reported significant progress overall at the site. The numerous issues that were open in spring of the calendar year have been adequately closed. Significant improvements in executive management involvement, augmented resources and effectiveness of Criticality Safety Officers (CSOs) were noted. This last observation is especially important because K-H is entering into the portion of the life cycle where numerous one-of-a-kind activities will occur. Preventing a criticality will require a good holdup measurement system and will require CSOs and criticality engineers to become even more familiar with facility operations. The group recommended that CSO effectiveness be improved even further to ensure the risk of a criticality accident is minimized.

Solutions. Tank 931 in B771 is now empty. This tank contained 262 liters of 95 g plutonium/l solution. The penultimate Pu solution tank in B771 is to be drained next week. The CWTS experiment with higher Pu concentrations (20 g/l versus 6 g/l) has been going well. Although the precipitated plutonium does not settle as fast as it did at lower concentrations, the filtrate is meeting the plutonium concentration limits.

Pits. DOE-AL has requested that all Be-clad units be leak tested at RFETS prior to shipment to Pantex. Other pits would be tested randomly on a statistical basis. The purpose of this testing is to ensure integrity and minimize the potential for shipping damaged units to Pantex. K-H is examining whether to use existing equipment or to buy new units. This new requirement may delay pit shipments starting next February.

Residues. Although the residue processes have been known for a year or more, preparations to certify the product waste streams have only recently started. Currently, WIPP certification of several processes may not be complete for months after operations should have started. This could delay shipment of these residues to WIPP and risks generating a product that does not meet all certification requirements.

cc: Board Members