

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 7, 1997

TO: G. W. Cunningham, Technical Director
FROM: R. F. Warther, M. T. Sautman
SUBJ: RFETS Activity Report for Week Ending November 7, 1997

Uptake from B774. Two Radiological Control Technicians (RCTs) were recently assigned doses of about 100 mRem and 1Rem Cumulative Effective Dose Equivalent (CEDE) following work completed in 1996. The problem was identified as a result of readings above the decision limits following a routine, annual bioassay.

The RCTs were preparing to work on a slightly contaminated outdoor tank near B774 as part of Environmental Restoration (ER) activities. A tent was constructed to contain the Pu. Multiple contamination and airborne events were experienced over a two month period, but the work was not stopped and controls evaluated. While sparging the tank over the weekend, the ventilation filter clogged. The resultant airborne condition spread to the Radiological Buffer Area (RBA). This was not known on Monday when the RCTs entered the RBA to do routine surveys. During the surveys they detected unexpected contamination and evacuated the tent, but did not request a nasal swab. Airborne levels in the RBA at the time have been back calculated to be about 1500 DAC. Multiple problems contributed to the severity of the incident, including poor design of the ventilation system, poor tent design, failure to respond to indications that a problem was occurring, failure to take nasal swabs following evacuation of the area, and numerous other issues. The personnel working this job were the same personnel who worked T-3 and T-4 trench remediation projects last September. Both these projects were ER actions conducted under CERCLA. Personnel involved were very fortunate because the Material at Risk (MAR) was less than one gram. Had the MAR been on the order of tens of grams, the consequences would have been much more severe. K-H self-reported this occurrence under the provisions of Price Anderson on 11/6/97.

Salts. The Salt Stabilization Readiness Assessment (RA) has identified 9 pre-start and 7 post-start findings. The RA will not be finished until deficiencies with the drill program have been corrected so they can redo the failed RA drill. The pre-start findings address numerous errors in the work instructions, inadequate analyses in the ALARA review, inadequate implementation of Activity Control Envelope (ACE) controls, and procedural compliance problems.

Solutions. About 135 liters of plutonium solution from tank 550 in B771 were drained into plastic bottles this week. This tank contained 226 liters of 130 g plutonium/liter solution. Draining was delayed when the facility representative identified that no leak check with an ultrasonic probe was performed as required by the ACE. It was also later identified that the flanged connections had not been tightened beforehand as required by the ACE for this or the other two previously drained tanks. Once draining began, approximately 500 ml of solution leaked at a fitting connection inside a glovebox which was cleaned up. The repair of this leak may not have been performed in accordance with the Integrated Work Control Program. During the repair, an additional 500 to 1000 ml of solution drained onto the glovebox floor and was left there overnight. There were several other delays for items that should have been addressed beforehand (e.g., monthly surveillances, burned out lights, unlabeled valves).

RFCA MOU. The Site Reps and OGC (MacEvoy) will hold a conference call among EPA and CDPHE on Monday to discuss implementation of the Rocky Flats Cleanup Agreement (RFCA) Memorandum of Understanding (MOU). Both EPA and the CDPHE believe that B779 should be regulated by CDPHE because K-H has stated that the building is deactivated and continued decommissioning will be completed under a CERCLA action. The Site Reps, Board staff and OGC do not believe that to be a correct interpretation of the MOU for several reasons, including a potential conflict with the Board's enabling statute.

CAB Meeting. The Site Reps met with the Citizen's Advisory Board (CAB) on Thursday evening to discuss the CAB's request for periodic briefs. The CAB was informed that Site Rep weekly reports are on the Internet, and many of the CAB members already call with periodic questions asking for more details regarding topics in the weekly report. The CAB stated that they would appreciate quarterly briefs from the Site Reps regarding issues at RFETS. This is not expected to be a problem, and the Site Reps will implement these in addition to their current attendance at CAB subcommittee meetings.

cc: Board Members