

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 11, 2007

TO: K. Fortenberry, Technical Director
FROM: R. Quirk and W. Linzau, Hanford Site Representatives
SUBJECT: Activity Report for the Week Ending May 11, 2007

Waste Treatment Plant (WTP): A team led by the Office of Environmental Management (EM) was on-site this week to evaluate the quality assurance (QA) program at the Office of River Protection (ORP) and the WTP project. This evaluation is the first in a series that EM is conducting to determine the state of QA in the complex. The evaluation was characterized as an assist visit and corrective actions are not required to be reported to EM for closure.

River Corridor Closure Project: The Richland Operations Office (RL) sent a letter to the contractor informing them of reduction of fee due to their inability to implement an effective Integrated Safety Management System (ISMS). The contractor requested the delay in declaring readiness for ISMS Phase II verification and has implemented compensatory measures, including deferring higher risk work activities (see Hanford Activity Report 4/20/07). The amount of fee reduction will be determined after the Phase II verification and will be based on mitigating factors, such as performing work safely until verification, declaring readiness by October 30, 2007, and successfully completing the Phase II verification.

Tank Farms: Fourteen workers were unexpectedly exposed to radon (Rn)-220 gas while performing maintenance in C Farm. The work area was not posted as an airborne radioactivity area (ARA) nor were the workers wearing respiratory equipment when they were performing work. Rn-220, also known as thoron, was not anticipated to be a problem, but thorium (Th)-232, the parent of Rn-220, was known to be in a tank with a cascaded air space. The calculated exposures for the workers are in the single milli-rem TEDE range. The controls to prevent recurrence include evaluating the Rn-220 source term during the work planning process and posting the work area as an ARA when suspected Rn-220 levels are greater than or equal to a specified level (0.1 working level as defined in 10 CFR 835).

A Technical Safety Requirement (TSR) administrative control for flammable gas in the 242-A Evaporator was determined to be inadequate for the evaporator run that is planned for next month. The control requires dumping the contents of the evaporator vessel back to the tank farm if key control elements (vacuum, temperature, and specific gravity) are not restored within 72 hours. Chemical analysis of the feed for the next evaporator run determined that the flammable gas limits would be met in less than 72 hours. A change to the TSR is expected to be completed and approved by ORP in about two weeks.

Solid Waste Operations Complex (SWOC): The identification of volatile organic compound (VOC) gases in waste drums exceeding the lower explosive limit (LEL) (see Hanford Activity Report 4/20/07) was determined to be a positive unreviewed safety question. The justification for continued operation for flammable gas/VOC deflagration will be revised to address this deficiency in the safety analysis.