

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 1, 2000

TO: K. Fortenberry, Technical Director
FROM: D. Grover and M. Sautman, Hanford Site Representatives
SUBJ: Activity Report for the Week Ending December 1, 2000

Spent Nuclear Fuel Project: The Department of Energy initiated the operational readiness review (ORR) for the cold vacuum drying facility on 11/27/00. The ORR team identified the same issues related to procedural compliance and radiological control practices as noted in the contractor ORR. The ORR is expected to conclude on 12/4/00.

The one major safety-related procedural violation occurring during the ORR demonstrations involved the configuration of the process port which allows venting and purging of potentially explosive concentrations of hydrogen from the multi-canister overpack (MCO). The procedure clearly stated for operators to remove the large hole cover plate from the process port, however a solid cover plate was installed. The presence of the solid cover plate would have rendered the technical safety requirement (TSR) required vent and purge of the MCO ineffective and potentially left the MCO in a pressurized condition. The operator proceeded to remove the cover plate without notifying the shift operating manager (SOM) of the abnormal condition. The operator then proceeded to close the process port as required and determined that the port was closed, which also would have rendered the vent and purge ineffective. At this point, the operator notified the SOM of the second abnormal condition only. The SOM considered the condition to be a simulation artifact and instructed the operator to continue with the demonstration, rather than perform the appropriate corrective actions.

The site representative determined that the first abnormal condition could pose a major safety risk for the project as it would prevent safely venting the MCO. A review of the procedure to prepare the MCO shield plug identified that opening the process port valve was identified as a TSR administrative control (AC), however the installation of the large hole cover plate was not. The DOE ORR team determined that this reflected an inadequate implementation of the TSR AC which states that the process port, consisting of both the valve and cover plate, must be open for venting. The procedure for installing the shield plug in the MCO after loading fuel also does not adequately implement this TSR AC as it requires operators to ensure that solid cover plates are installed instead of the large hole cover plates.

On a final note, the shield plug preparation procedure was performed for the first production MCO the day after the site representative and DOE ORR team informed the project of the potential inadequacies in the procedure. The procedure had not been revised and the maintenance technicians incorrectly installed solid cover plates where large hole cover plates were required. The quality control inspection required by the procedure also incorrectly identified the installation as correct. It was only when the procedure could not be performed due to the incorrect actions that the violations were identified. (III-A)