

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 7, 2000

MEMORANDUM FOR: G. W. Cunningham, Technical Director
J. Kent Fortenberry, Deputy Technical Director
FROM: C. H. Keilers / R. T. Davis
SUBJECT: SRS Report for Week Ending January 7, 2000

Shipping Containers: The limited capability that DOE now has to ship plutonium oxides and residues will be sharply reduced at the end of February because the shipping certificates for the roughly 40 usable 9965 and 9968 containers will expire. Last year, DOE and WSRC continued to work toward certification of the 9975 container design (an improved version of the 9965/8), but progress has been slow because of questions on drop test results, dimensional discrepancies, and flammable gas generation. DOE-SR expects a 9975 certificate within days, for metal only, to support Rocky Flats shipments to K-Area Material Storage (KAMS). WSRC is accelerating analyses for oxides down to 30% purity and expects to submit the next Safety Analysis Report for Packaging (SARP) revision in March. The plan includes more drop tests in April. Depending on the regulatory review cycle, a certificate for oxide shipments may be available in early summer. Certification for shipping residues in 9975 containers is not being pursued. (3.a)

Facility Readiness Review Process: WSRC may have prematurely declared readiness for several recent Operational Readiness Reviews (ORRs) and Readiness Assessments (RAs). This is based on indications of inadequate systems testing, operations, or procedures found during those reviews. Particularly, these assessments may indicate weaknesses in the WSRC procedure development and validation process. Further evidence is recent problems in high level waste transfer procedures (site rep weekly 12/10/99). Some ORR and RA examples are as follows:

- ! WSRC and DOE ORRs identified procedure and equipment deficiencies for the Replacement High Level Waste Evaporator that were partially caused by insufficient prior integrated testing.
- ! A DOE RA for HB-Line to H-Canyon transfers was suspended because of numerous procedure errors and work control issues (site rep weekly 12/10/99). Subsequent modifications resulted in a flange leak, discovered during leak testing, which has since been fixed.
- ! WSRC appropriately requested DOE-SR to delay its RA for F-Canyon 2nd plutonium cycle to perform integrated testing; however, the RA later identified procedure problems.
- ! The DOE ORR team evaluating KAMS concluded it could not completely evaluate facility readiness because of mixed results on crew proficiency and lack of demonstrated integration of operations, security, and shipping-receiving activities. (1.c, 3.a)

FB-Line Contamination Event Follow-up: WSRC has concluded that one person's dose exceeded 5 Rem (50 year CEDE) from plutonium intake during the September 1, 1999 event. Assigned doses to the other involved workers are lower. The DOE Type B investigation team has reconvened, and SRTC has presented their failure analysis on the defective bagless transfer can. At this time, there are about 6 scenarios for the cause of the failure and 3 scenarios for why it was not detected. SRTC has concluded that the evidence is circumstantial but the most likely cause is inadequate venting of the can during welding, leading to a weld blowout. Similar appearing blowouts have occurred in the laboratory and once before during production. It is still unclear why the defect was undetected, but it could be due to misuse of two other cans used as calibration standards for the leak detector. WSRC is preparing recommendations to address all the scenarios. (3.a)