

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 2, 1998

**MEMORANDUM FOR:** G. W. Cunningham, Technical Director

**FROM:** J. Kent Fortenberry / Joe Sanders

**SUBJECT:** SRS Report for Week Ending October 2, 1998

**Americium-Curium Vitrification** - DOE-SR will authorize Critical Decision 1A (CD-1A) this week, allowing WSRC to proceed with conceptual design for the Am-Cm vitrification project. The basis for allowing resumption of design includes the final report from DOE's Independent Review Team (IRT), WSRC's completion of activities required by DOE-SR before resuming design, and the relatively limited scope of work that can be performed under CD-1A. CD-1A authorizes conceptual design only (i.e., 5% design).

The DOE Independent Review Team (IRT) final report supports CD-1A authorization based on "recent positive results in the R&D program and improvements to the program management." Activities completed by WSRC to allow restart of design include an updated development plan, a functions and requirements document with a technical risk assessment, a program plan outlining interfaces with clear roles and responsibilities, a preliminary facility design description, a 3" cylindrical induction melter (CIM) design basis report, the establishment of an action tracking system and closure mechanism, and completion of the 3" CIM proof of concept testing. Most of these corrective actions were finalized very recently, and will be reviewed by the DNFSB staff.

DOE's authorization of CD-1B, which would allow preliminary design (i.e., 35% design) will not occur until successful completion of the integrated 5" CIM runs, expected by the end of 1998.

**DOE-SR Project Evaluation Board (PEB)** - DOE-SR has established the PEB in order to improve project management and performance. The PEB, consisting of seven senior DOE-SR employees, will evaluate projects and make recommendations to strengthen aspects of project management such as technical performance and oversight, application of integrated safety management principles, institutionalization of independent reviews, training and qualification requirements for project personnel, and the defining of roles and responsibilities for project personnel.

**F-Canyon Process Vessel Vent (PVV) System Fan Vibration** - The safety significant PVV system uses two fans, one in service and one in stand-by, to purge hydrogen and other gasses from process vessels. The #1 PVV fan vibration readings increased substantially this summer, prompting closer evaluation by WSRC. The primary cause of the vibration problem is thought to be degradation of the fan and motor mounts or pedestals. Although the PVV fan is still considered operable, WSRC has initiated long term repairs which would substantially rebuild the pedestal, baseplate, and mounts as well as replace the fan and motor. An interim repair is also being pursued which would grout the bearing pedestal, grout the motor base, and improve the hold-down capacity. The most critical process vessel serviced by the PVV system is Tank 17.1, the americium-curium storage tank. The PVV system is backed up by the instrument air system to ensure adequate purging of hydrogen gas. In addition, WSRC has committed to install a bottled air or nitrogen system by October 31 as an additional defense-in-depth for purging Tank 17.1 in the event of both a PVV system failure and a concurrent failure of the instrument air system.