

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 18, 1998

MEMORANDUM FOR: G. W. Cunningham, Technical Director
FROM: J. Kent Fortenberry
SUBJECT: SRS Report for Week Ending December 18, 1998

Chuck Keilers was onsite this week discussing APSF and K-Area plutonium storage project issues and the ongoing High-Level Waste tank crack propagation evaluations (see the 11/13/98 weekly report).

Americium-Curium (Am-Cm) Vitrification - The Am-Cm project reached a significant milestone last week with the successful completion of the fourth integrated demonstration run at the TNX facility. These integrated demonstration runs included oxalic acid precipitation of surrogate feed material, melter feeding, vitrification, pouring, and offgas operation with the 5" cylindrical induction melter system. All aspects of these integrated demonstration runs appeared to meet or exceed expectations. These demonstration runs represent a major accomplishment for the Am-Cm project and significant progress in the completion of conceptual design (due February 1999). Certain aspects of processing real Am-Cm solution, such as the effects of self-heating, can not be demonstrated with the current melter system at TNX.

High-Level Waste (HLW) Salt Disposition Recommendation - DOE-SR provided its recommendation to EM-1 this week for HLW Salt Disposition. This recommendation is based on the recommendation received from the contractor (see 11/20/98 weekly report), input from the DOE-HQ Independent Project Evaluation Team (see 12/11/98 weekly report), input from the DNFSB staff, and DOE-SR's own evaluations. The DOE-SR recommendation is to:

- (1) immediately initiate the NEPA process for salt disposition alternatives,
- (2) develop strategies to maximize tank space flexibility,
- (3) evaluate the regulatory/public/legal risks of the Direct Grout alternative,
- (4) conduct parallel R&D to address uncertainties identified with CST Ion Exchange and Small Tank TPB alternatives, and
- (5) evaluate performing the monosodium titanate strike (for uranium, plutonium, neptunium, and strontium removal) in existing tank farm facilities to achieve potentially significant cost savings.

The DOE-SR recommendation represents a significant activity to address several aspects of the salt disposition problem. The DOE-SR recommendation letter notes that less than \$10 million is allocated for implementation of these recommendation in FY99.