

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 26, 1999

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 March 26, 1999

Mixed-Oxide Fuel Fabrication Facility - DOE announced the selection of Duke Engineering & Services, COGEMA Inc., and Stone & Webster to design the MOX fuel fabrication facility at SRS. The three to five year contract is structured as a cost plus fixed fee contract estimated at \$130 million and includes facility design, fuel qualification, reactor design modification analysis, and license applications for the facility and reactors. The contract includes three options as follows: Option 1 (4 years, cost plus incentive fee) - MOX facility construction, licensing, and startup and reactor modification and licensing; Option 2 (~15 years, cost sharing) - Facility maintenance and operations and MOX fuel irradiation; and Option 3 (2 years, fixed price) - Facility deactivation. Based on the FY '99 Defense Authorization Act, this facility will be subject to NRC licensing. The pit disassembly and conversion facility and the plutonium immobilization contracts (design only) are expected to be awarded within the next month and within the next year, respectively.

Authorization Basis Violations - As part of the H-Canyon phase III preparations, operators discovered that two safety-class process blanks were not installed as required by the H-Canyon Basis for Interim Operation (BIO). These blanks are required by the BIO as controls to prevent a red-oil runaway reaction. In response, WSRC began reviewing other engineered safety features and discovered that BIO controls to prevent mixing ferrous sulfamate and nitric acid in F-Canyon were also not in place. Neither of these engineered safety features require a periodic surveillance to verify their configuration. WSRC is continuing to investigate the adequacy of other engineered safety features and evaluating the need for periodic surveillances for these type controls. Additionally, WSRC is reviewing their procedures for verifying and validating controls that are identified in safety basis documents.

Americium/Curium Stabilization - On March 18, DOE-SR formerly granted approval for WSRC to proceed with the preliminary design of the vitrification project based on satisfactory progress to date. Preliminary design is scheduled to be complete in June '99 and will accomplish 40% of the design effort. An independent review team report completed this month also concluded that the project baseline appeared technically sound and that the project should proceed with preliminary design. Additionally, WSRC completed an initial review of the option to dispose of the Am/Cm solution using the tank farms. The review concluded that, while this option appears to be feasible, significant review of several key program, technical, and operational areas would be required before proceeding. DOE-SR has not requested WSRC to continue pursuing the tank farm disposal option.