

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 19, 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 February 19, 1999

The site representatives are in transition and were at DNFSB headquarters in Washington, D.C., during this week.

Criticality Controls - In 1998, DOE-SR and WSRC established a joint criticality control steering committee, partially in response to staff issues raised during H-Canyon phase II startup. These issues involved the functional classification of instruments used for criticality control. This week, a site representative discussed with the site the steering committee's recent draft report concerning implementation of such controls.

Specifically, the committee recommends improving the reliability of instruments that are used as a part of administrative criticality controls. This will be accomplished by increasing the calibration and test frequency, independent verification of operation following maintenance, and quality reviews of inspection requirements. The committee also recommends that the double contingency analysis (DCA) not be included as an authorization basis document. Instead, criticality safety limits (e.g., mass and concentration) will be included in the technical safety requirements, and the DCA will become a lower tier document that identifies the specific controls that ensure these limits are maintained.

Instruments and equipment that are used to implement an administrative control will continue to be classified as general service (i.e. not safety significant) unless the instrument is used as a part of both controls for a criticality scenario. Passive engineered design features and active engineered controls used for criticality control will continue to be classified as safety significant.

The site representatives believe that the use of criticality safety limits should simplify the safety basis; however, the administrative controls chosen may not receive the appropriate level of rigor and scrutiny. Instead, it may be appropriate to specifically identify controls that implement criticality safety limits as a part of the technical safety requirements. Additionally, it may be prudent to functionally classify instruments used to implement administrative criticality controls as safety significant.