ENCLOSURE

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNITS 2 and 3

PROPOSED TECHNICAL SPECIFICATION (TS) CHANGE TS-384,
DESCRIPTION AND EVALUATION OF THE PROPOSED CHANGE
MARKED PAGES

I. Affected Page List

The following pages have been marked and an 'X' has been placed in the right hand margin the indicate where changes occur. The affected pages list is identical for both Unit 2 and Unit 3.

Unit 2 Bases	Unit 3 Bases
B 3.6-2	B 3.6-2
B 3.6-7	B 3.6-7
B 3.7-2	B 3.7-2

BASES (continued)

APPLICABLE SAFETY ANALYSES

The safety design basis for the primary containment is that it must withstand the pressures and temperatures of the limiting DBA without exceeding the design leakage rate.

The DBA that postulates the maximum release of radioactive material within primary containment is a LOCA. In the analysis of this accident, it is assumed that primary containment is OPERABLE such that release of fission products to the environment is controlled by the rate of primary containment leakage.

Analytical methods and assumptions involving the primary containment are presented in References 1 and 2. The safety analyses assume a nonmechanistic fission product release following a DBA, which forms the basis for determination of offsite doses. The fission product release is, in turn, based on an assumed leakage rate from the primary containment. OPERABILITY of the primary containment ensures that the leakage rate assumed in the safety analyses is not exceeded.

The maximum allowable leakage rate for the primary containment (L_a) is 2.0% by weight of the containment air per 24 hours at the design basis LOCA maximum peak containment pressure (P_a) of 49.6 psig (Ref. 1).
~~50.5~~ 50.6

Primary containment satisfies Criterion 3 of the NRC Policy Statement (Ref. 6).

LCO

Primary containment OPERABILITY is maintained by limiting leakage to $\leq$ 1.0 L_a, except prior to the first startup after performing a required Primary Containment Leakage Rate Testing Program leakage test. At this time, applicable leakage limits must be met. Compliance with this LCO will ensure a primary containment configuration, including equipment hatches, that is structurally sound and that will limit leakage to those leakage rates assumed in the safety analyses.

Individual leakage rates specified for the primary containment air lock are addressed in LCO 3.6.1.2.

(continued)

BASES

BACKGROUND (continued)

and leak tightness are essential for maintaining primary containment leakage rate to within limits in the event of a DBA. Not maintaining air lock integrity or leak tightness may result in a leakage rate in excess of that assumed in the unit safety analysis.

APPLICABLE SAFETY ANALYSES

The DBA that postulates the maximum release of radioactive material within primary containment is a LOCA. In the analysis of this accident, it is assumed that primary containment is OPERABLE, such that release of fission products to the environment is controlled by the rate of primary containment leakage. The primary containment is designed with a maximum allowable leakage rate (L_a) of 2.0% by weight of the containment air per 24 hours at the calculated maximum peak containment pressure (P_a) of 49.6 psig (Ref. 3). This allowable leakage rate forms the basis for the acceptance criteria imposed on the SRs associated with the air lock.

~~50.3~~ 50.6

Primary containment air lock OPERABILITY is also required to minimize the amount of fission product gases that may escape primary containment through the air lock and contaminate and pressurize the secondary containment.

The primary containment air lock satisfies Criterion 3 of the NRC Policy Statement (Ref. 4).

LCO

As part of primary containment, the air lock's safety function is related to control of containment leakage rates following a DBA. Thus, the air lock's structural integrity and leak tightness are essential to the successful mitigation of such an event.

The primary containment air lock is required to be OPERABLE. For the air lock to be considered OPERABLE, the air lock interlock mechanism must be OPERABLE, the air lock must be in compliance with the Type B air lock leakage test, and both air lock doors must be OPERABLE. The interlock allows only one air lock door to be opened at a time. This provision ensures that a gross breach of primary containment does not exist when primary containment is required to be

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BASES (continued)

APPLICABLE SAFETY ANALYSES

The RHRSW System removes heat from the suppression pool to limit the suppression pool temperature and primary containment pressure following a LOCA. This ensures that the primary containment can perform its function of limiting the release of radioactive materials to the environment following a LOCA. The ability of the RHRSW System to support long term cooling of the reactor or primary containment is discussed in the FSAR, Chapters 5 and 14 (Refs. 2 and 3, respectively). These analyses explicitly assume that the RHRSW System will provide adequate cooling support to the equipment required for safe shutdown. These analyses include the evaluation of the long term primary containment response after a design basis LOCA.

The safety analyses for long term cooling were performed for various combinations of RHR System failures and considers the number of units fueled. With one unit fueled, the worst case single failure that would affect the performance of the RHRSW System is any failure that would disable two subsystems or pumps of the RHRSW System (e.g, the failure of an RHR Suppression Pool Cooling/Spray return line valve which effectively disables two RHRSW subsystems or pumps). With two and three units fueled, a worst case single failure could also include the loss of two RHRSW pumps caused by losing a 4 kV shutdown board since there are certain alignment configurations that allow two RHRSW pumps to be powered from the same 4 kV shutdown board. As discussed in the FSAR, Section 14.6.3.3.2 (Ref. 4) for these analyses, manual initiation of the OPERABLE RHRSW subsystems and the associated RHR System is assumed to occur 10 minutes after ~~a~~ 4000
DBA. The RHRSW flow assumed in the analyses is 4500 gpm per pump with two pumps operating in one loop. In this case, the maximum suppression chamber water temperature and pressure are 177°F (as reported in Reference ~~7~~ 3) and ~~50.3~~ ~~49.6~~ 50.6 psig, respectively, well below the design temperature of 281°F and maximum allowable pressure of 62 psig. This is also below the 200°F limit imposed by Design Criteria BFN-50-7064A (Ref. 5) for all plant transients involving SRV operations.

The RHRSW System together with the UHS satisfies Criterion 3 of the NRC Policy Statement (Ref 6).

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BASES (continued)

APPLICABLE SAFETY ANALYSES

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Individual leakage rates specified for the primary containment air lock are addressed in LCO 3.6.1.2.

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BACKGROUND (continued)

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