

## REACTOR COOLANT SYSTEM

### HOT STANDBY

#### LIMITING CONDITION FOR OPERATION

- 3.4.1.2 a. At least two reactor coolant loops and associated steam generators and reactor coolant pumps shall be in operation\* when the rod control system is capable of control bank rod withdrawal.
- b. At least two reactor coolant loops and associated steam generators and reactor coolant pumps shall be OPERABLE and one reactor coolant loop shall be in operation\* when the rod control system is incapable of control bank rod withdrawal.

APPLICABILITY:     MODE 3

#### ACTION:

- a. With less than the above required reactor coolant loops OPERABLE, restore the required loops to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.
- b. With less than two reactor coolant loops in operation, immediately de-energize all control rod drive mechanisms, or align the rod control system so that it is incapable of control bank rod withdrawal.
- c. With no reactor coolant loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required coolant loop to operation.

#### SURVEILLANCE REQUIREMENTS

4.4.1.2.1 With the rod control system capable of rod withdrawal, at least two cooling loops shall be verified to be in operation and circulating reactor coolant at least once per 12 hours.

4.4.1.2.2 With the rod control system incapable of rod withdrawal, at least two cooling loops, if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.2.3 With the rod control system incapable of rod withdrawal, at least one cooling loop shall be verified to be in operation and circulating reactor coolant at least once per 12 hours.

\* All reactor coolant pumps may be de-energized for up to 1 hour provided (1) no operations are permitted that would cause dilution of the reactor coolant system boron concentration and (2) core outlet temperature is maintained at least 10°F below saturation temperature. This does not preclude natural circulation cooldown under abnormal cooldown conditions.

BEAVER VALLEY - UNIT 1

3/4 4-2b  
PROPOSED WORDING

8503200446 850308  
PDR ADOCK 05000334  
P PDR

## ATTACHMENT B

### Safety Evaluation

Proposed Change Request No. 104, Revision 1 amends our previous submittal dated November 14, 1984 to specify minimum conditions for reactor coolant loop operation in Mode 3.

#### Description and Purpose of Change

Our original submittal proposed changes to correct the inconsistency between the safety analysis and the Technical Specification to ensure that the DNB design basis for the postulated Bank Withdrawal from Subcritical event is met. This proposed revision provides clarification of our original submittal to specify minimum Mode 3 reactor coolant loop operating conditions dependent upon the rod withdrawal capability of the rod control system.

3.4.1.2(a) has been revised to require two reactor coolant loops in operation when the rod control system is capable of rod withdrawal.

3.4.1.2(b) has been revised to require two reactor coolant loops operable and one reactor coolant loop in operation when the rod control system is not capable of rod withdrawal.

Action statement b has been added to require rendering the rod control system incapable of rod withdrawal when less than two reactor coolant loops are in operation.

The Surveillance Requirements have been revised to specify testing to assure the above minimum reactor coolant loop operating conditions are met.

#### Basis For Proposed No Significant Hazards Consideration Determination

The proposed Technical Specification change will impose more restrictive limitations for Mode 3 operation since determination of minimum reactor coolant loop operation will be dependent on the rod withdrawal capability of the rod control system and the operation of two reactor coolant loops will be required when the rod control system is capable of rod withdrawal.

The Commission has provided guidance concerning the application of these standards by providing certain examples (48 FR 14870). One of these, Example (ii), involving no significant hazards consideration is "A change that constitutes an additional limitation, restriction, or control not presently included in the technical specifications." The new requirements match this example, since two reactor coolant loops must now be in operation in Mode 3. Therefore, based on the above example, it is proposed that the change be characterized as involving no significant hazards consideration.

Basis

1. Is the probability of an occurrence or the consequence of an accident or malfunction of equipment important to safety as previously evaluated in the UFSAR increased? No

Reason

The limiting accident for reduced RCS flow conditions applicable to Mode 3 operation is described in UFSAR Section 14.1.1, Uncontrolled Rod Cluster Control Assembly Bank Withdrawal from a Subcritical Condition. The UFSAR conclusions remain unchanged; the core and Reactor Coolant System are not adversely affected, since the combination of thermal power and the coolant temperature result in a DNBR well above the limiting value of 1.30.

This proposed revision incorporates an additional requirement, to determine rod withdrawal capability, along with reactor coolant loop operability requirements. Two operating coolant loops are required to meet the DNB design basis for the above Condition II event when control rods are capable of being withdrawn. One operating reactor coolant loop provides sufficient heat removal capability for removing decay heat when control rods are not aligned for rod withdrawal. Therefore, since the proposed change is consistent with the assumptions used in the analysis, the probability of an occurrence or the consequence of an accident or malfunction of equipment important to safety as previously evaluated will not be increased.

2. Is the possibility for an accident or malfunction of a different type than previously evaluated in the UFSAR created? No

Reason

Determination of rod withdrawal capability will be a prerequisite for reactor coolant loop operability requirements when in Mode 3 to reflect the minimum flow assumptions used in the UFSAR accident analysis. Therefore, since the changes are being made to reflect the UFSAR accident analysis, the changes will not create the possibility for a new type of accident or malfunction of a different type than any previously evaluated in the UFSAR.

3. Is the margin of safety as defined in the basis for any Technical Specification reduced? No

Reason

Bases Section 3/4.4.1 Reactor Coolant Loops, was revised in our previous submittal and specifies the limiting accident for Mode 3 operation, control rod bank withdrawal from a subcritical condition, two operating coolant loops are required to meet the DNB design basis for this postulated event. When control rods are not aligned for rod withdrawal this accident is not credible, therefore, one operating coolant loop provides sufficient decay heat removal capability.

4. Based on the above, is an unreviewed safety question involved? No
5. Is a change to the UFSAR required? No

#### Conclusion

The proposed revision adds further clarification of Mode 3 reactor coolant loop operating requirements to reflect the flow assumptions used in the safety analysis and ensure that the DNB design basis for the postulated bank withdrawal from subcritical event is met. Two operating reactor coolant loops are required to ensure that adequate flow is available when control rods are capable of rod withdrawal, one operating reactor coolant loop will ensure that adequate decay heat removal is available when control rods are not capable of rod withdrawal. The changes are administrative in nature since no physical change to plant safety-related systems, components or structures are required; therefore, this revision will not increase the likelihood of a malfunction of safety-related equipment, increase the consequence of an accident previously analyzed, nor create the possibility of a malfunction different than previously evaluated in the UFSAR.

Based on the considerations addressed above, the proposed changes have been determined to be safe and do not involve an unreviewed safety question.