ATTACHMENT A

PROPOSED CHANGE TO APPENDIX A

TECHNICAL SPECIFICATIONS OF

FACILITY OPERATING LICENSE NPF-37

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ATTACHMENT 1

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

Valve Number	Valve Function	Valve Position
MOV SI8806	Suction to the SI Pumps	Open
MOV SI8835	SI Pump Discharge To RCS Cold Legs	Open
MOV SI8813	SI Pump Recirculation To The RWST	Open
MOV SI8809A	RHR Pump Discharge to RCS Cold Legs	Open*
MOV SI8809B	RHR Pump Discharge to RCS Cold Legs	Open*
MOV SI8840	RHR Pump Discharge to RCS Hot Legs	Closed
MOV SI8802A	SI Pump Discharge to RCS Hot Legs	Closed
MOV SI8802B	SI Pump Discharge to RCS Hot Legs	Closed

b. At least once per 31 days by:

1) Verifying that the ECCS piping is full of water by venting the ECCS pump casings and accessible discharge piping high points, and

2) Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

* Valves may be realigned for testing pursuant to Specification 4.4.6.2.2.

ECCS SUBSYSTEMS (Continued)

The limitation for a maximum of one centrifugal charging pump to be OPERABLE and the Surveillance Requirement to verify all charging pumps and Safety Injection pumps except the required OPERABLE charging pump to be inoperable below 330°F provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV.

The Surveillance Requirements provided to ensure OPERABILITY of each component ensures that at a minimum, the assumptions used in the safety analyses are met and that subsystem OPERABILITY is maintained. Surveillance Requirements for throttle valve position stops and flow balance testing provide assurance that proper ECCS flows will be maintained in the event of a LOCA. Maintenance of proper flow resistance and pressure drop in the piping system to each injection point is necessary to: (1) prevent total pump flow from exceeding runout conditions when the system is in its minimum resistance configuration, (2) provide the proper flow split between injection points in accordance with the assumptions used in the ECCS-LOCA analyses, and (3) provide an acceptable level of total ECCS flow to all injection points equal to or above that assumed in the ECCS-LOCA analyses. The Surveillance Requirements for leakage testing of ECCS check valves ensures that a failure of one valve will not cause an intersystem LOCA.

3/4.5.4 REFUELING WATER STORAGE TANK

The OPERABILITY of the refueling water storage tank (RWST) as part of the ECCS ensures that a sufficient supply of borated water is available for injection by the ECCS in the event of a LOCA. The limits on RWST minimum volume and boron concentration ensure that: (1) sufficient water is available within containment to permit recirculation cooling flow to the core, and (2) the reactor will remain subcritical in the cold condition following mixing of the RWST and the RCS water volumes with all control rods inserted except for the most reactive control assembly. These assumptions are consistent with the LOCA analyses..

The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics. A minimum contained borated water level of 89% ensures a volume of greater than or equal to 395,000 gallons.

The limits on contained water volume and boron concentration of the RWST also ensure a pH value of between 8.5 and 11.0 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components.

Valves SI 8809 A or B may be closed, but only one at a time, to perform leakage testing of the ECCS check valves. The SI 8809 valve will only be closed when performing the surveillance thereby minimizing the time the ECCS is in a degraded condition. In addition, the Accumulators will be OPERABLE when the check valve surveillance is being performed if the RCS pressure is greater than 1000 psig.

ATTACHMENT B

REASONS FOR PROPOSED CHANGE

Technical Specification 4.4.6.2.2 requires reactor coolant system (RCS) pressure isolation valves to be periodically checked for potential back leakage into interconnected systems of lower pressure. Specifically, check valves S.I. 8818A,B,C,D in the accumulator cold leg injection lines must be checked for back leakage into the residual heat removal (RHR) system when the plant is in Mode 3.(Refer to figure 1-M61-4)

Previously, the valve line up used for performing this surveillance involved closing the RHR pump discharge to RCS cold leg isolation valves, SI 8809A and SI8809B. However, it has been determined that this valve alignment is not in accordance with assumptions in the FSAR analysis for a large break loss of coolant accident (LOCA). Closure of a S.I. 8809 valve isolates injection flow from both RHR Pumps into two RCS cold legs, yet the accident analysis assumes injection flow into all four cold legs during a large break LOCA.

The feasibility of performing this surveillance with valves SI8809A and SI8809B in the open position has been evaluated and the following concerns have been identified.

1. Other systems could leak into the check valve test lines and cause false readings of check valve leakage.

2. The time required to perform this surveillance would be significantly increased.

3. When check valve back leakage is detected, it would become more difficult to determine which of several valves is leaking.

For these reasons, a change to technical specification 3/4.5.2 is necessary to permit closure of valves SI8809A and SI8809B for testing purposes.

ATTACHMENT C

SIGNIFICANT HAZARDS CONSIDERATION

BACKGROUND

10 CFR 50.92 states that a proposed amendment will involve a no significant hazards consideration if the proposed amendment does not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or

(3) Involve a significant reduction in a margin of safety.

In addition, the Commission has provided guidance in the practical application of these criteria by publishing eight examples in 48 FR 14870.

The discussion below addresses each of these three criteria and demonstrates that the proposed amendment involves a no significant hazards consideration.

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

Does the proposed amendment

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or

(3) Involve a significant reduction in a margin of safety?

DISCUSSION - ITEM 1

The postulated accident that is potentially affected by a reduction in delivered RHR flow is a (LOCA) loss of coolant accident. It should be noted that either the SI8809A or B valve would be shut while the reactor is subcritical with corresponding lower initial fuel temperatures than was evaluated in the B/BR FSAR. This single facet provides an overwhelming amount of conservatism relative to the previous evaluated accident.

The LOCA analysis presented in the Byron/Braidwood FSAR addresses large and small RCS pipe breaks with consideration for the effect of minimum and maximum safeguards actuation. The small break LOCA analysis relies on injection flow from the Centrifugal Charging (CC) and Safety Injection (SI) pumps rather than the RHR pumps. Therefore, the small break LOCA analysis presented in the FSAR is not affected by the closure of the 8809 valves.

For the large break LOCA analysis with minimum safeguards actuation, Westinghouse assumed the broken RCS cold leg is one of the two aligned to receive RHR Injection flow. With this configuration, the RHR pumps can deliver 190 lbs./sec. during the core reflood phase rather than the 390 lbs/sec. flow currently modeled. Early in the large break LOCA scenario the accumulators inject to fill the downcomer completely. Then the ECCS pumps must supply sufficient flow to maintain the downcomer level. The CC and SI pumps together can supply 110 lbs/sec. and this flow combined with the RHR pumps flow of 190 lbs/sec. results in flow to the RCS of 300 lbs./sec. Westinghouse's review of the analysis indicates the 300 lbs/sec. is adequate flow to maintain the downcomer water level. Therefore, very little or no penalty in calculated peak clad temperature can occur in the Byron minimum safeguards large break LOCA FSAR analysis due to 8809A or B being closed.

The large break LOCA analysis with maximum safeguards is the actual limiting case for the Byron analysis. This postulated accident results in ECCS flow in excess of that required to maintain downcomer level. Therefore, there is little effect on the current analysis with the 8809 valve closed.

The conclusion from the review of the FSAR analysis is that there is minimal impact on the analysis results. In addition, the 8809 valve would only be closed for a short period of time required to perform the check valve surveillance. The probability of a LOCA occurring during this period is highly unlikely. If a LOCA did occur these valves are operable from the Control Room and the operator would open them as required by the Byron Emergency Operating Procedures.

DISCUSSION - ITEM 2

As discussed above this change only affects the simple closure of a single valve to allow for testing for short period of time. Thus this change does not create the possibility of a new or different kind of accident.

DISCUSSION - ITEM 3

Rather than involving a reduction in the margin of safety this change will result in an overall increase in the margin of safety for Byron. This is accomplished by offsetting the insignificant reduction in delivered RHR flow as discussed in item 1 above against the increased assurance of the integrity of the RHR injection check valves SI8818A,B,C,D. This increased assurance of the check valve integrity is accomplished by the closing of the SI8809A&B valves. Thus the probability of an intersystem LOCA Initiated by the failure of these check valves is reduced.

Based on the preceeding assessment, it is concluded that the proposed amendment meets the standards provided in 10 CFR 50.92 and therefore, does not constitute a significant hazards consideration.

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