



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

062 31979.

MEMORANDUM FOR: R. Capra, B&W Project Manager
FROM: S. Israel, Group Leader, B&O Task Force
SUBJECT: TECHNICAL ASSISTANCE REQUEST - PROPOSED TECH SPEC
CHANGES FOR B&W OPERATING PLANTS

Your transmittal dated July 26, 1979 requested a review by the Systems Group of recently proposed tech spec changes by B&W plants. Our review is now complete. The enclosed material are areas noted which require additional dialogue/documentation with each licensee. Also attached for your information are several items currently being followed up internally which may result in further discussions needed with licensees.

In addition, we have not reviewed four of the eleven DB-1 tech spec revisions on the basis that they either were already previously reviewed by the staff or they were unrelated to the post-TMI B&O charter of necessary revisions. It is also to be noted that a difficulty observed by the staff has been the dissimilarity of a proposed specification in a given area across the five plants. We attribute this to the different vintages of both the plants and the tech spec formats (probably NRC influenced at the time). We were thus not able to achieve complete consistency, and judged each licensee's proposal on its own merit... trying to attain only a fundamental similarity in operating and surveillance requirements. Forcing everyone to the same spec, same format, etc. is not viewed to be practical at this time since the rest of the tech spec document would be different and could create confusion to both operators and inspectors. (However, a longer term effort to revert to Standard Technical Specifications may be warranted).

Also, the IE letter to R. W. Reid dated 8/10/79 highlights two areas needing NRR follow-up. We have addressed the 350°F temperature limit; however, we have not evaluated the emergency condenser question on the basis that it is unrelated to the post-TMI B&O charter of necessary revisions. Furthermore, it's not clear why steam dump (emergency condenser) was needed in the Oconee Tech Specs at all... since other plants do not include steam dump (relief valves) in Tech Specs.

for *PR Matthews*
Sanford L. Israel, Group Leader
Bulletins & Orders Task Force

Enclosures: As Stated
cc: T. Novak Section A
D. Ross S. Israel
G. Kuzmycz P. Matthews

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POOR QUALITY PAGES

Toledo Edison Tech Spec Follow-up Items

1. Reactor trip (high pressure) set point.-- Is the number of acceptable scrams limited by T.S.? Is it monitored by alternate procedures?
2. RC seal injection alignment.-- Discussions with B. J. pumps indicate that they feel there is no need for seal injection, provided component cooling water flow and temperature are maintained at a satisfactory level. Justify why you feel seal injection is required. B. J. pumps indicate there is no warranty problem with running their reactor coolant pumps without seal water.
3. Emergency feedwater LCO.--Your proposed revisions to the emergency feedwater (EFW) Technical Specifications do not include the limiting conditions for operation required by item 8 of IE Bulletin 79-05A. Namely, that if no 100% EFW flow path is operable the plant shall be subcritical within one hour and in hot shutdown within 12 hours or at the maximum safe rate. Revise your LCO's to address this item.
4. Emergency feedwater surveillance requirement.--Your surveillance requirements do not include monthly verification for valves in the flow path that are locked, sealed, or otherwise secured in position. Revise your requirements to include a monthly check of these valves to ensure they are locked, sealed, or otherwise secured in their proper position.
5. The proposed technical specifications do not address station operation with the electromatic relief isolation valve closed. In this regard, include reporting requirements in the technical specifications which reflect this mode of operation.

Crystal River

Docket Number 50-302

Request For Additional Information
Concerning Technical Specification Changes

1. In your proposed Technical Specifications, Section 4.7.1.2, the operability of the emergency feedwater system is determined by surveillance requirements for specific components within the trains. Revise this Technical Specification to include the following:
 - a. Requirement for tests to be performed on a staggered test basis.
 - b. Requirement for all valves in the EFW system flow path that are locked, sealed or otherwise secured in position to be inspected every 31 days to ensure that they are locked, sealed or otherwise secured, and in the proper position.

2. We have some concern as to the capability of your turbine driven emergency feedwater pump to cool the plant down to the RHR cut in temperature of 280°F since P_{sat} for 280°F is approximately 50 psia. Demonstrate that your turbine driven EFW pump has this capability or provide a Technical Specification that requires lighting of the auxiliary boiler system during a cooldown when only the turbine driven EFW pump is available.

3. Section 3.4.11 of Technical Specification Change Request Number 47 (Appendix A) indicates that the pressurizer electromatic relief valve lift setting is less than or equal to 550 psig. Revise this section so s to state the correct lift setting for this valve.

4. Revise Section 4.7.1.2 of the proposed Technical Specifications so as to include an action statement for the emergency feedwater ultrasonic flow rate detector. Also, include a surveillance requirement which states when these detectors are to be calibrated.

5. The proposed technical specifications do not address station operation with the electric relief isolation valve closed. In this regard, include reporting requirements in the technical specifications which reflect this mode of operation.

6. Reactor trip (high pressure) set point.-- Is the number of acceptable scrams limited by T,S.? Is it controlled by alternate procedures?

SMUD TECH SPEC FOLLOWUP ITEMS

1. Reactor trip set point (high pressure: Are limiting scram cycles in tech specs...or monitored by alternate procedures?
2. T.S. 3.1.2.8: Revise wording on applicability to include more specific guidance. Such wording as the following would be acceptable.

... In the emergency/faulted condition that there is no forced or natural circulation in the reactor coolant system and there is high pressure injection and/or makeup addition, the Reactor Coolant System temperature and pressure shall be limited in accordance with the limit line shown on Figure X. Under the above emergency/faulted conditions, Figure Y will not apply.

3. Provide revised surveillance requirements for testing the operability of the emergency feedwater system. The revised requirements should include the following:
 - a. Requirements for tests to be performed on a staggered test basis (i.e., both trains not tested at the same time).
 - b. Requirement for all valves including those that are locked, sealed, or otherwise secured in position to be inspected monthly to ensure they are in the proper position.

These should be added to the existing surveillance requirements that determine if the limiting conditions for operation are met.

4. We have some concern as to the capability of your turbine-driven emergency feedwater pump to cool the plant down to the RHR out in temperature of 280°F since P_{sat} for 280°F is approximately 50 psia. Demonstrate that your turbine-driven EFW pump has this capability or provide a Technical Specification that requires lighting off the auxiliary boiler system during a cooldown when only the turbine-driven EFW pump is available.

5. Provide safety analyses for the proposed tech spec changes on control grade reactor trips and temperature/pressure emergency limits,

6. Your emergency feedwater (EFW) Technical Specifications do not include the limiting conditions for operation required by item 8 of IE Bulletin 79-05A. Namely, that if no 100% EFW flow path is operable, the plant shall be subcritical within one hour and in hot shutdown within 12 hours or at the maximum safe rate. Revise your LCO's to address this item.

7. The proposed technical specifications do not address station operation with the electronic relief isolation valve closed. In this regard, include reporting requirements in the technical specifications which reflect this mode of operation.

Arkansas Nuclear Unit 1
Request for Additional Information
Technical Specification Changes

1. In your proposed Technical Specifications, Section 4.8.1, the operability of the emergency feedwater (EFW) trains, and hence the limiting conditions for operation, are determined by surveillance requirements on specific components within the trains. Make the following additional revisions to these requirements in order to address the concerns of the bulletins and orders issued since TMI with regards to emergency feedwater:
 - a. Add a surveillance requirement for a monthly and 18 month test of the emergency feedwater flow instrumentation.
 - b. Revise your requirements to include that the trains shall be tested on a staggered test basis.

2. We have some concern as to the capability of your turbine driven emergency feedwater pump to cool the plant down to the RHR cut in temperature of 280°F since Psat for 280°F is approximately 50 psia. Demonstrate that your turbine driven EFW pump has this capability or provide a Technical Specification that requires lighting off the auxiliary boiler system during a cooldown when only the turbine driven EFW pump is available.

ANO-1

3) Your revised Technical Specifications for limiting conditions for operation (LCO) in Section 3.5.1.7 regarding the operability of the reactor trip circuitry upon loss of main feedwater or turbine trip as written allows power operation (10 to 20%) when either of these trips are inoperable. Revise items 1, 2 and 3 as follows such that the trips may be bypassed up to these power levels but not inoperable and such that hot shutdown is the required action within 12 hours rather than 24:

1. Reactor trip upon loss of Main Feedwater shall be operable (as determined by Specification 4.1.a, items 2 and 36 of Table 4.1-2) at $\geq 5\%$ reactor power. (May be bypassed up to 10% reactor power.)
2. Reactor trip upon Turbine Trip shall be operable (as determined by Specification 4.1.a, items 2 and 42) at $\geq 5\%$ reactor power. (May be bypassed up to 20% reactor power.)
3. If the requirements of Specifications 3.5.1.7.1 or 3.5.1.7.2 cannot be met, restore the inoperable trip within 12 hours or bring the plant to a hot shutdown condition.

4. Your revised Technical Specifications did not reflect IE Bulletin 79-058 with regards to the setpoint changes for your PORV's and for high pressure reactor trip. Revise your Tech Specs to reflect these changes.
5. Your proposed Technical Specifications do not include the revised temperature/pressure limits of Appendix G which are to be applied during emergency conditions (do not shutdown HPI flow until system pressure is twice that allowed by the previous brittle fracture limits). Revise your specifications to include the new emergency temperature/pressure limits. The revised specification should clearly indicate when the emergency limit is to be applied, and when the previous Appendix G limit still applies.
6. Reactor trip (high pressure) set point.-- Is the number of acceptable scrams limited by T.S.? Is it monitored by alternate procedures?
7. The proposed technical specifications do not address station operation with the electromatic relief isolation valve closed. In this regard, include reporting requirements in the technical specifications which reflect this mode of operation.

Oconee Units 1, 2 & 3
Request for Additional Information
Technical Specification Changes

1. In your proposed revision to Section 3.4 of your Technical Specification you have increased your threshold temperatures for applying limiting conditions for operation from 250^oF to 350^oF. You have not provided any bases for such a change. Assuming that the original basis for 250^oF was the RHR cut in temperature, provide justification for the change to 350^oF or revise the proposed technical specification such that 250^oF is the basis for the application of the limiting conditions for operation.

2. The only surveillance requirement submitted in the proposed technical specifications is an annual functional test of the automatic start feature of the emergency feedwater pump (Table 4.1-2). Provide revised surveillance requirements to ensure operability of each emergency feedwater flow path including flow indication, automatic actuation, valve lineups, and periodic checks. This specification should include monthly tests to demonstrate operability on a staggered test basis.

3. Your proposed revision to the emergency feedwater system Technical Specifications does not include the specifications required by item 8 of IE Bulletin 79-05A. Revise your specifications to include the following action statements required by IE Bulletin 79-05A:

- b) if one 100% EFW flow path (or pump) is inoperable, restore it to operable status within 72 hours. Otherwise the unit shall be brought to cold shutdown conditions within an additional 12 hours or at the maximum safe rate.

- c) if no 100% flow path is operable, ~~then~~ the unit shall be subcritical within 1 hour and brought to cold shutdown within an additional 12 hours or at the maximum safe rate.

Also revise your interim Technical Specification to include the following action statements:

- b) if the number of pumps or 100% flow path operable is one less than the above then restore the flow path to operable within 72 hours. Otherwise place one unit (two units if three units are operating) in cold shutdown within an additional 12 hours or at the maximum safe rate.

- c) if the number of pumps or 100% flow paths operable is two less than the above, then for one or two unit operation bring one unit subcritical within one hour and place it in a cold shutdown condition within an additional 12 hours or at the maximum safe rate. For three unit operation bring two units subcritical within 1 hour and place the units in a cold shutdown condition with an additional 12 hours or at the maximum safe rate.

We note that other B&W Technical Specifications allow hot shutdown with one train inoperable. However, hot shutdown, ~~are~~^{is} defined in the other B&W Technical Specifications as subcritical with temperature between 200°F and 305°F (280°F) which is within the RHR capability. Since your definition of hot shutdown (532°F) is not within the RHR capability, cold shutdown is the required action in lieu of hot shutdown as you have proposed. Cold shutdown for Oconee will be in accordance with IE Bulletin 79-05A which calls for a heat removal mode that does not rely on steam generators for heat removal.

4. We have some concern as to the capability of your turbine driven emergency feedwater pump to cool the plant down to the RHR cut in temperature since Psat for 250°F is approximately 30 psia. Demonstrate that your turbine driven pump has this capability or provide a Technical Specification that requires lighting off the auxiliary boiler system during a cooldown when the cooldown must be performed with only the turbine driven emergency feedwater pump available.
5. The required action for loss of main turbine, loss of feedwater reactor trip (Table 3.5.1-1) is not acceptable. Revise it to require the unit affected to be brought to hot shutdown within 12 hours.
6. Include in the basis for Table 3.5.1-1 an analyses for the bypass setpoints for the loss of main turbine reactor trip and the loss of feedwater reactor trip.
7. In Section 6.6 of the Technical Specifications, Station Reporting Requirements, include the commitment to report to the NRC within 24 hours whenever the pressurizer power operated relief valve is isolated or otherwise inoperable.

