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FROM: R. Wayne Houston, Assistant Director
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SUBJECT: RIVER BEND UNIT 1 TECHNICAL SPECIFICATIONS

Plenty to do

The Reactor Systems Branch has reviewed the River Bend Technical Specifications Final Draft dated April 26, 1985. Enclosure 1 lists the sections which we reviewed. Enclosure 2 provides our comments.

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Enclosures: As stated

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ENCLOSURE 1

TECHNICAL SPECIFICATIONS; BASES AND DEFINITIONS REVIEWED BY THE REACTOR SYSTEMS BRANCH FOR RIVER BEND UNIT 1

- I. Definition
- 1.3 Average Planar Linear Heat Generation Rate
 - 1.9 Critical Power Ratio
 - 1.13 Emergency Core Cooling System (ECCS) Response Time
 - 1.14 End-of-Cycle Recirculation Pump Trip System Response Time
 - 1.22 Linear Heat Generation Rate
 - 1.25 Minimum Critical Power Ratio
- II. Safety Limits and Limiting Safety Systems Settings
- 2.1.1 Thermal Power, Low Pressure or Low Flow
 - 2.1.2 Thermal Power, High Pressure and High Flow
 - 2.1.3 Reactor Coolant System Pressure
 - 2.1.4 Reactor Vessel Water Level
 - 2.2.1 Reactor Protection System Instrumentation Setpoints
- III. Limiting Conditions for Operating and Surveillance Requirements
- 3/4.1.3 Control Rod Maximum Scram Insertion Times
 - 3/4.2.2 APRM Setpoints
 - 3/4.2.3 Minimum Critical Power Ratio
 - 3/4.3.1 Reactor Protection System Instrumentation
 - 3/4.3.2 Isolation Actuation Instrumentation
 - 3/4.3.3 Emergency Core Cooling System Actuation Instrumentation
 - 3/4.3.4 Recirculation Pump Trip Actuation Instrumentation/ATWS
Recirculation Pump Trip System Instrumentation
 - 3/4.3.5 Reactor Core Isolation Cooling System Actuation
Instrumentation
 - 3/4.3.7.4 Remote Shutdown Monitoring Instrumentation
 - 3/4.3.7.5 Accident Monitoring Instrumentation
 - 3/4.3.9 Plant Systems Actuation Instrumentation
 - 3/4.4.1 Recirculation System
 - 3/4.4.2 Safety Valves
 - 3/4.4.6.2 Reactor Steam Dome
 - 3/4.4.7 Main Steam Isolation Valves
 - 3/4.4.9 Residual Heat Removal
 - 3/4.5 Emergency Core Cooling Systems
 - 3/4.7.3 Reactor Core Isolation Cooling System
 - 3/4.9.8 Refueling Operations; Water Level - Reactor Vessel
 - 3/4.9.11 Refueling Operation; Residual Heat Removal and Coolant
Circulation
 - 3/4.10.4 Special Test Exception; Recirculation Loops
- IV. Bases
Bases for the areas identified in Sections II and III above.

ENCLOSURE - 2

Comments on River Bend - Unit 1 Technical Specifications

1. Figures 3.2.1-1, 3.2.1-2 - For initial core fuel type P851B094 two different MAPLHGR vs. Average Planar Exposure curves are given. These figures' titles have to be corrected to show the correct fuel types.
2. Tables 4.3.1.1-1, 3.3.9-1 - Operational Conditions 2 - (Start-Up) and 3 (Hot Shutdown) are to be added for Reactor Vessel Water Level - High, Level 8. Level 8 trip surveillance is required in Conditions 2 and 3 (Like Level 3 Trip Surveillance).
3. Tables 3.3.3-1, 3.3.3-2, 4.3.3.1-1 - In the SER Section 15.9.4 under II.K.3.18 we required the applicant to install the ADS modifications prior to initial criticality. If the modifications are completed, drywell high pressure bypass timer and the manual inhibit switch are to be added in the tables referred above.
4. Table 3.3.3-2 - Allowable pump discharge low flow values for LPCS, KPCS, LPCI-B and LPCI-C pumps are higher than the trip setpoint values. But for LPCI-A pump the allowable value is less than the trip setpoint value. This discrepancy is to be resolved.

What ACTION?

Corrected by GSU

✓ 5. Table 3.3.4.1-2 - Reactor Vessel Pressure-High (ATWS Pump Trip) allowable value is given as 1142 psig. But in FSAR Table 15.0.2 the allowable value is 1135 psig. Allowable value in the Technical Specification should be changed to 1135 psig.

✓ 6. 3.3.7.4. Page 3/4 3-76 - Remote Shutdown, Monitoring Instrumentation
only Operational Conditions 1 (Power Operation) and 2 (Start-Up) are ~~only~~ specified for the Remote Shutdown System. Since the Remote Shutdown System should be capable of bringing the plant to a cold shutdown, Operational Conditions 3 (Hot Shutdown) and 4 (Cold Shutdown) are also to be added to the applicability section.

What ACTION?

In Table 3.3.7.4.2 controls for valves IE12*F026B and IE12 *F049 are to be added for completeness.

✓ 7. 3/4.4.9 Residual Heat Removal - This section as presently written will violate section 3.0.4 which states "Entry into an Operational Condition or other specified condition shall not be made unless the conditions for the Limiting Conditions for Operation are met....." Operational Condition 4 (Cold Shutdown) can not be achieved without RHR operation. Exemption to Section 3.0.4 is required. The attached Fermi-Unit 2 Sample may be used for River Bend-Unit 1.

2 ✓ 8. Tables 3.3.7.5-1 and 4.3.7.5-1 - Operational Condition 3 (Hot Shutdown) should be applicable for all the instruments required for post accident monitoring. Add Condition 3 for the following instruments:

- (a) Reactor Vessel Pressure
- (b) Reactor Vessel Water Level
- (c) Primary Containment Pressure *± Temp?*
- (d) Drywell Air Temperature *± Pres?*
- (e) Hydrogen Analyzer and Monitor
- (f) S/R Valve Position Indicators

✓ 9. 3/4.4.2 Safety/Relief Valves

In the basis it is stated that "A Total of 9 Operable Safety-Relief Valves are required to Limit Reactor Pressure to within ASME III Allowable Values for the Worst Case Upset Transient." To satisfy the single failure criterion, the LCO must be changed so that at least a minimum of 10 of the 16 valves must be operable. Out of the 10 operable valves, 7 must be the ADS valves.

10. 4.5.1 Emergency Core Cooling - Surveillance Requirements

9 Minimum flow requirements specified for LPCS, LPCI and HPCS pumps are conservative compared to the values assumed in the analysis. These higher flow requirements may not be able to be satisfied later due to pump degradation and other reasons. The flow requirements may be reduced to the analysis values for more flexibility, provided uncertainties are approximately accounted for.

✓ 11. Figure B 3/4 3-1 Reactor Vessel Water Level

Levels 1 to 8 given in the FSAR Figures 5.2-6 and FSAR Table 15.0.2 do not agree with the values given in the Technical Specification Figure.

Discrepancies are to be clarified.

✓ 12. Table 3.6.4-1 Closing times specified for the following test return valves

to the suppression pool are higher compared with the injection valves opening time. During a LOCA if the ECCS pump is running on test mode, injection flow will be diverted to the pool during the elapse time between the two valve closures. Justify the higher closing time for the following valves.

✓ (a)	IE22 *MOVFO23	50	SECS
✓ (b)	IE12 *MOVFO24A,B	63.8	SECS
- (c)	IE12 *MOVFO21	97.9	SECS
- (d)	IE21 *MOVFO12	57.2	SECS

REACTOR COOLANT SYSTEM

3/4.4.9. RESIDUAL HEAT REMOVAL

HOT SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.9.1 Two# shutdown cooling mode loops of the residual heat removal (RHR) system shall be OPERABLE and, at least one recirculation pump shall be in operation or, at least one shutdown cooling mode loop shall be in operation*## with each loop consisting of at least:

- a. One OPERABLE RHR pump, and
- b. One OPERABLE RHR heat exchanger.

APPLICABILITY: OPERATIONAL CONDITION 3, with reactor vessel pressure less than the RHR cut-in permissive setpoint.

ACTION:

- a. With less than the above required RHR shutdown cooling mode loops OPERABLE, immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible. Within 1 hour and at least once per 24 hours thereafter, verify the OPERABILITY of at least one alternate method capable of decay heat removal for each inoperable RHR shutdown cooling mode loop. Be in at least COLD SHUTDOWN within 24 hours.**
- b. With neither a recirculation pump nor an RHR shutdown cooling mode loop in operation, immediately initiate corrective action to return either at least one recirculation pump or at least one RHR shutdown cooling mode loop to operation as soon as possible. Within 1 hour establish reactor coolant circulation by an alternate method and monitor reactor coolant temperature and pressure at least once per hour.

c. The provisions of Specification 3.0.4 are not applicable for up to 4 hours for the purpose of establishing the RHR system in the shutdown cooling mode once the reactor vessel pressure is less than the RHR cut-in permissive setpoint.

SURVEILLANCE REQUIREMENTS

4.4.9.1.1 At least one shutdown cooling mode loop of the residual heat removal system or at least one recirculation pump shall be determined to be in operation and circulating reactor coolant at least once per 12 hours.

#One RHR shutdown cooling mode loop may be inoperable for up to 2 hours for surveillance testing.

*The shutdown cooling pump may be removed from operation for up to 2 hours per 8-hour period.

##The RHR shutdown cooling mode loop may be removed from operation during hydrostatic testing.

**Whenever both RHR shutdown cooling mode loops are inoperable, if unable to attain COLD SHUTDOWN as required by this ACTION, maintain reactor coolant temperature as low as practical by use of alternate heat removal methods.