19 Addressee

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

APR 16 1984

MEMORANDUM FOR: ~~Thomas M. Novak, Assistant Director for Licensing~~
~~Division of Licensing~~

FROM: R. Wayne Houston, Assistant Director for Reactor Safety
Division of Systems Integration

SUBJECT: ICSB REVIEW OF PROPOSED TECHNICAL SPECIFICATION CHANGES FOR GRAND GULF -UNIT 1

Plant Name: Grand Gulf-Unit 1
Docket No.: 50-416
TAC Nos.: 54667, 54668, 54670 and 54683
Licensing Status: OL
Project Manager: D. Houston
Review Branch: ICSB
Review Status: Complete

By letter dated April 7, 1984, from J. P. McGaughey (Mississippi Power & Light Company) to H. R. Denton (NRC) and by letter dated April 10, 1984 from J. B. Richard (MP&L) to H. R. Denton, the licensee for Grand Gulf - Unit 1 proposed changes to the facility's technical specifications. Per your request, the Instrumentation and Control Systems Branch (ICSB) has reviewed proposed changes numbered 15, 16, 33, 38 (partial) and 103 from the April 7, 1984 letter, and proposed change number 308 from the April 10, 1984 letter. Based on its review of the changes and the justification provided by the licensee, the ICSB finds that the proposed changes are acceptable. Enclosure 1 provides an evaluation of each proposed change.

We would like to point out that proposed changes numbered 15, 16, 33 and 308 have been accepted on an interim basis. These changes involve instrument setpoints and allowable values and are all in the conservative direction.

Our memorandum to you dated March 20, 1984 provides the status of our review of the setpoint methodology for Grand Gulf and other BWRs currently under licensing review. The level of detail necessary to confirm the final acceptability of these proposed changes may not be available for some time. Grand Gulf, along with other members of the BWR Owner's Group, are currently in the process of assembling the information required to resolve this issue. Therefore, we will have to confirm the acceptability of the proposed trip setpoints and allowable values at some later time.

Contact:
M. Virgilio, ICSB
X29454

MPP

8404260393XA

CF

155

The staff concludes that there is reasonable assurance, based on staff participation in meetings with the BWR Owner's Group working group on setpoint methodology, that the forthcoming more detailed information on setpoints and setpoint methodology being developed by this group will verify the acceptability of the proposed setpoints.

Enclosure 2 contains the SALP input for these evaluations in accordance with Office Letter No. 44. This completes the ICSB portion of TACS 54667, 54668, 54670 and 54683.

R. Wayne Houston, Assistant Director
for Reactor Safety
Division of Systems Integration

Enclosures:
As stated

cc: R. Mattson
R. Capra
D. Hoffman
L. Kintner
D. Houston

Enclosure 1

ICSB'S EVALUATION OF THE TECHNICAL SPECIFICATION CHANGES PROPOSED BY MISSISSIPPI POWER & LIGHT COMPANY BY LETTERS DATED APRIL 7, 1984 AND APRIL 10, 1984

1. April 7, 1984

Change #15. Technical Specification Tables 2.2.1-1, 3.3.2-2, 3.3.3-2 and 3.3.8-2 and Bases 2.2.1, 3/4.3.2, 3/4.3.3 and 3/4.3.8.

Proposed Changes

1. Revise the drywell and containment pressure instrument setpoints and allowable values in the above listed Tables to account for the effects of the worst case negative barometric pressure changes.

2. Revise the above listed Bases Sections to discuss how the effects of barometric pressure changes on the drywell and containment pressure instruments setpoints have been considered.

Evaluation

For the Grand Gulf design, both the drywell and containment pressure instrumentation provide trip signals that are necessary to ensure the capability to prevent or mitigate the consequences of postulated accidents. In addition, the drywell pressure instrumentation provides trip signals required for achieving safe shutdown. The drywell and containment pressure instrumentation does not automatically adjust the setpoints to compensate for changes in barometric pressure.

The licensee has stated that historical weather information for the plant locale indicates that the largest negative barometric deviation from standard pressure expected is 0.50 psi. To ensure that the instrument trip setpoint (set during normal barometric pressure conditions) are not exceeded during worst case conditions, the licensee has proposed to reduce the setpoints and allowable values 0.50 psi.

The proposed changes to the Bases Sections provide additional information concerning the effects of barometric pressure changes on the trip setpoints and allowable values for the drywell and containment pressure instrumentation.

The changes to the drywell and pressure instrumentation setpoints and allowable values are considered by the licensee to be temporary. An analysis is in progress to justify the present values, however, as an interim measure the licensee has proposed these more conservative values. In addition, in response to a request from the NRC staff the licensee is participating in a BWR Owner's Group effort to provide more detailed information on their setpoint methodology. The final acceptability of the Grand Gulf setpoint methodology, trip setpoints and allowable values will be addressed in a supplement to this report. The staff concludes that there is reasonable assurance, based on staff participation in meetings with the BWR Owner's Group working group on setpoint methodology, that the forthcoming more detailed information on setpoints and setpoint methodology being developed by this group will verify the acceptability of the proposed setpoints. In the

interim, the staff finds that the proposed change is in the conservative direction and is acceptable.

2. April 7, 1984

Change #16. Technical Specification Table 3.3.8-2.

Proposed Change

Revise Table 3.3.8-2 to specify the containment high pressure trip setpoint and allowable value at 7.84 psig and 8.34 psig, respectively.

Evaluation

In response to a recommendation from the NSSS vendor (General Electric), the licensee is proposing to revise the containment spray initiation instrumentation setpoint and allowable value. The licensee has stated that this change is necessary to correct an error that resulted from a mistake in the documents on setpoints supplied to the licensee by General Electric.

In response to a request from the NRC staff, the licensee is participating in a BWR Owner's Group effort to provide more detailed information on their setpoint methodology. The final acceptability of the Grand Gulf setpoint methodology, trip setpoints and allowable values will be addressed in a supplement to this report. The staff concludes that there is reasonable assurance, based on staff participation in meetings with the BWR Owner's Group working group on setpoint methodology,

that the forthcoming more detailed information on setpoints and setpoint methodology being developed by this group will verify the acceptability of the proposed setpoints. In the interim, the staff finds that the proposed change is in the conservative direction and is acceptable.

3. April 7, 1984

Change #033. Technical Specification Table 3.3.8 and Bases 3/4.3.8.

Proposed Change

Revise Table 3.3.8-2 to specify the containment spray system timers trip setpoints and allowable values at 10.85 and ±0.10 minutes and 10.26 - 0.00 + 1.18 minutes, respectively. Footnote the System B timer to indicate that System B includes two timers (E12-K093B and E12-K116) and that the trip setpoint for E12-K116 is not to exceed 10.00 seconds of the total 10.85 ±0.10 minutes.

Revise Bases 3/4.3.8 to discuss the analyzed minimum and maximum time delays between the onset of accident conditions and initiation of containment sprays.

Evaluation

The containment spray system is a subsystem of the residual heat removal (RHR) system. Two of three RHR trains automatically divert

flow from low pressure coolant injection to containment spray provided certain conditions are sensed by the containment spray initiation logic. Timers are provided within this logic to insure that injection flow is directed to the core for at least 10 minutes. In reviewing the setpoint calculations, the licensee determined that there is an error in the setpoint resulting from a mistake in determining the total instrument loop accuracy. In addition, the licensee discovered that the additional 90 second time delay in the initiation of System B is inconsistent with the safety analyses. The licensee has stated that the safety analyses are based on simultaneous spray initiation. Accordingly, the licensee has proposed trip setpoints and allowable values to correct the deficiency in summing the instrument loop inaccuracy and remove the 90 second time delay in System B initiation.

A footnote is proposed to be added to Table 3.3.8-2 to clarify the new trip setpoint for the System B timers. This footnote will specify that the present 90 second delay is to be set at a value not to exceed 10.00 seconds. A change to the bases has been proposed to address the upper and lower time limit associated with containment spray initiation.

In response to a request from the staff, the licensee is participating in a BWR Owner's Group effort to provide more detailed information on their setpoint methodology. The final acceptability

of the Grand Gulf setpoint methodology, trip setpoints and allowable values will be addressed in a supplement to this report. The staff concludes that there is reasonable assurance, based on staff participation in meetings with the BWR Owner's Group working group on setpoint methodology, that the forthcoming more detailed information on setpoints and setpoint methodology being developed by this group will verify the acceptability of the proposed setpoints. In the interim, the staff finds that the proposed change is in the conservative direction and is acceptable.

4. April 7, 1984

Change #38 (partial). Technical Specification Tables 4.3.2.1-1, 4.3.7.1-1 and 4.3.7.5-1.

Proposed Change

Revise the channel calibration frequency from refueling (R) to annually (A) for the following instrument channels:

1. Table 4.3.2.1-1 (Pages 3/4 3-20 and 3-21)

    a. Item 1.g - Containment & Drywell Ventilation Exhaust
    b. Item 3.c - Fuel Handling Area Ventilation Exhaust
    c. Item 3.d - Fuel Handling Area Pool Sweep Exhaust

2. Table 4.3.7.1-1 (Page 3/4 3-59)

    a. Item 1 - Component Cooling Water
    b. Item 2 - Standby Service Water
    c. Item 3 - Offgas Pre-treatment
    d. Item 4 - Offgas Post-treatment
    e. Item 5 - Carbon Bed Vault
    f. Item 6 - Control Room Ventilation
    g. Item 7 - Containment and Drywell Ventilation Exhaust
    h. Item 8 - Fuel Handling Area Ventilation
    i. Item 9 - Fuel Handling Area Pool Sweep Exhaust

3. Table 4.3.7.5-1 (Page 3/4 3-72)

   a. Item 14 - Containment Ventilation
   b. Item 15 - Offgas and Radwaste Building Ventilation
   c. Item 16 - Fuel Handling Area Ventilation
   d. Item 17 - Turbine Building Ventilation
   e. Item 18 - Standby Gas Treatment System A & B Exhaust

Evaluation

From a review of the FSAR and the Technical Specifications the licensee has found a discrepancy between the commitments contained in the FSAR and the requirements of the Technical Specifications. The FSAR states that continuous radiation monitoring instruments that are accessible during normal operation and airborne radiation monitors will be calibrated annually. This is in accordance with the detector manufacturers recommendations.

Regulatory Guide 1.118 "Periodic Testing of Electric Power and Protection Systems" which endorses IEEE Standard 338-77 "IEEE Standard Criteria for the Periodic Testing of Nuclear Power Generating Station Safety Systems" provides guidance on the methods to be used in establishing surveillance frequencies. Based on its review, the staff finds that the methods used to determine the proposed surveillance frequencies are in accordance with R.G. 1.118 and IEEE 338 and are more conservative than the guidance provided by the STS. Therefore, the staff finds the proposed change acceptable.

5. April 7, 1984

Change #103. Technical Specification Table 3.3.2-1.

Proposed Change

Revise the MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM column of Table 3.3.2-1 from 2 to 8. Delete footnote 8.

Evaluation

For the Grand Gulf design, one of the signals that initiates main steam line (MSL) isolation is high steam line flow. Sixteen main steam line flow instrument channels are arranged into two trip systems, each trip system containing two channels per steam line for a total of eight channels per trip system. To ensure a success path for initiation of MSL isolation, postulating a single failure in the instrumentation system, requires that all eight MSL flow channels in each trip system be operable. Therefore, the licensee has proposed to revise the minimum channels operable requirements of the technical specifications from two per trip system to eight per trip system. Deletion of footnote 8 removes an explanation of the logic configuration associated with the two per trip system requirements.

Based on its review, the staff finds that the proposed changes enhance system reliability by ensuring a success path given a single failure for the MSL initiation logic through appropriate minimum operable channel requirements. Therefore, the staff finds that the proposed changes are conservative and are acceptable.

6. April 10, 1984

Change #308. Technical Specification 3.3.2-2.

Proposed Change

Revise the trip setpoints and allowable values for the following instrument channels:

a) 4.c.1 RWCU Heat Exchanger (HX) Room Temperature-High
b) 4.c.2 RWCU Pump Rooms Temperature - High
c) 4.c.3 RWCU Valve Nest Room Temperature - High
d) 5.d RCIC Equipment Room Ambient Temperature - High
e) 5.i RHR Equipment Room Ambient Temperature-High
f) 5.j RHR Equipment Room Delta Temperature-High
g) 6.a RHR Equipment Room Ambient Temperature-High
h) 6.b RHR Equipment Room Delta Temperature-High

Evaluation

The licensee has performed a re-review of the calculations used to establish trip setpoints and allowable values for the temperature sensing instrument channels that provide input to the leak detection isolation features of the Grand Gulf-Unit 1 design. From this re-review, the licensee has determined that the values are too high to ensure prompt isolation. Using the current Technical Specification values may result in delayed detection or no detection of a 25 gpm leak.

In response to a request from the NRC staff, the licensee is participating in a BWR Owner's Group effort to provide more detailed information on their setpoint methodology. The final acceptability of the Grand Gulf setpoint methodology, trip setpoints and allowable values will be addressed in a supplement to this report. The staff concludes that there is reasonable assurance, based on staff participation in meetings with the BWR Owner's Group working group on

setpoint methodology, that the forthcoming more detailed information on setpoints and setpoint methodology being developed by this group will verify the acceptability of the proposed setpoints. In the interim, the staff finds that the proposed change is conservative and is acceptable.

ENCLOSURE

ICSB SALP INPUT

PLANT: Grand Gulf-Unit 1
SUBJECT: TACS 54670, and 54683

EVALUATION CRITERIA	PERFORMANCE CATEGORY	BASIS
1. Management Involvement	N/A	No basis for assessment.
2. Approach to Resolution of Technical Issues	3	The licensee's justification supporting the proposed technical specification trip setpoint and allowable value changes lacked in thoroughness. As a result, our approval of the proposed changes are interim. Final approval of the proposed changes is pending receipt and review of additional information.
3. Responsiveness	N/A	No basis for assessment.
4. Enforcement History	N/A	No basis for assessment.
5. Reportable Events	N/A	No basis for assessment.
6. Staffing	N/A	No basis for assessment.
7. Training	N/A	No basis for assessment.

ICSB SALP INPUT

PLANT: Grand Gulf-Unit 1
SUBJECT: TACS 54667 and 54668

EVALUATION CRITERIA	PERFORMANCE CATEGORY	BASIS
1. Management Involvement	N/A	No basis for assessment.
2. Approach to Resolution of Technical Issues	1	A clear understanding of the issues was demonstrated. A technically sound and thorough approach was used to justify each proposed technical change.
3. Responsiveness	N/A	No basis for assessment.
4. Enforcement History	N/A	No basis for assessment.
5. Reportable Events	N/A	No basis for assessment.
6. Staffing	N/A	No basis for assessment.
7. Training	N/A	No basis for assessment.