



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 7, 1995

Mr. C. S. Hinnant, Vice President
Carolina Power & Light Company
H. B. Robinson Steam Electric Plant,
Unit No. 2
3581 West Entrance Road
Hartsville, South Carolina 29550

SUBJECT: REQUEST FOR INFORMATION CONCERNING H. B. ROBINSON STEAM ELECTRIC
PLANT UNIT NO. 2

Dear Mr. Hinnant:

The Idaho National Engineering Laboratory (INEL) is under NRC contract to perform several thermal hydraulic calculations to support changes to Regulatory Guide 1.154. The thermal hydraulic code package RELAP5/MOD3 will be used to perform the calculations using an existing input deck for Carolina Power & Light Company's (CP&L) H. B. Robinson Steam Electric Plant, Unit No. 2 (HBR). While the plant's operating instructions may have undergone revisions over the years, the original input deck has not undergone any major changes since 1984. Thus, we are requesting additional information.

On September 9 and 12, 1994, and February 6, 1995, technical discussions were held with Messrs. Rudy Oliver, Mark Pope, Roger Gorman, and Issa Zar-Zar of CP&L analytical staff and Messrs. Scott Lucas and D. Palmrose of INEL. Two major changes in plant operations since 1984 were noted. The first concerns the number of High Pressure Injection (HPI) pumps available while the second involves conditions that must be met for the operator to trip the reactor coolant pumps (RCP) during a transient. Only two HPI pumps of the original three HPI pumps are now used to pump Emergency Core Cooling water into the primary system. The RCPs are now tripped when the subcooling margin in the primary system drops below 25°F subcooling on low system pressure of about 1300 psia.

CP&L was also asked how the plant operators would control steam generator level during a transient that does not affect their integrity and for a steam generator with a main steam line break. INEL was told that the operator would manually control level to the 0.1 and 0.5 fraction of the narrow range band for the unaffected steam generators. For a steam generator with a main steam line break, the operator is assumed to isolate feedwater to the affected steam generator 10 minutes into the transient. CP&L also informed INEL that newer sources of information on plant performance are available now than was available in 1984.

The changes concerning the HPI pumps and the RCPs along with the control levels of the steam generators have been implemented into the RELAP5/MOD3 input deck for HBR. However, INEL must document the sources of these changes to maintain quality control of the input deck. Therefore, the NRC requests

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documentation from CP&L that contains the information INEL was verbally informed of during the phone conversations. It would also be very helpful if you send documents that describe overall plant performance. The specific items are:

1. Description of the operating procedures for tripping RCPs during a plant transient.
2. Information concerning the reactor coolant system (RCS) subcooling margin instrumentation, especially concerning the RTD bypass piping and how the subcooling margin is calculated and displayed in the plant's control room.
3. The pump curves for both HPI pumps and a single HPI pump. The curves should describe the mass flow rate from the pumps as a function of system pressure.
4. Operational procedures for controlling secondary level in unaffected steam generators and for a steam generator with a main steam line break.
5. The Westinghouse Steam Generator Thermal Hydraulic Report for HBR because this document can verify the performance of the current steam generator model.
6. CP&L's Emergency Response Facility Information System data for available plant transients for validation of REPLAP5/MOD3 response.
7. The range of accumulator water temperature given in Table 6.3.2-2 of the Updated Final Safety Analysis Report (UFSAR) for HBR is 70 to 120°F. Can you verify that this is accurate? What is the seasonal mean water temperature for the accumulators?
8. The HPI and low pressure injection (LPI) draw from the refueling water storage tank (RWST) and the RWST is no longer heated. The UFSAR states in Table 6.3.2-4 that the RWST operating temperature is ambient. The UFSAR description of the site temperature in Section 2.3.2.2.1.2 lists the onsite meteorological conditions in Tables 2.3.2-5, 2.3.2-6, and 2.3.2-7. Since the RWST must always be available to HPI and LPI, the operators must have some procedure to keep the RWST from freezing when record cold weather occurs. What is the seasonal temperature range for the RWST water? What is the mean water temperature for the RWST water?
9. The auxiliary feedwater (AFW) is fed by the condensate storage tank (CST). The CST water temperatures are not given in the UFSAR. What is the seasonal temperature range and the mean water temperature for the CST?

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Carolina Power & Light Company

Brunswick Steam Electric Plant
Units 1 and 2

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February 7, 1995

The information should be from the most current technical documents or operational procedure documents for HBR. To minimize delays in the project, we request that you provide the response to the last three items above (numbers 7, 8, and 9) within thirty (30) days of receipt of this letter. The remaining items should be supplied within sixty (60) days of receipt of this letter.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

If you have any questions, please contact me at (301) 415-2020. operational procedure documents for HBR.

Sincerely,

(Original Signed By)

Brenda L. Mozafari, Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Projects

cc: See next page

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