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 FACIL: 50-261 H. B. Robinson Plant, Unit 2, Carolina Power and Light 05000261
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 RECIP. NAME: VARGA, S. A. RECIPIENT AFFILIATION: Operating Reactors Branch 1

SUBJECT: Forwards response to outstanding items re NRC interim safety evaluation of auxiliary feedwater sys reliability, per NRC 801202 request.

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Carolina Power & Light Company

January 9, 1981

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Office of Nuclear Reactor Regulation
Attention: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
United States Nuclear Regulatory Commission
Washington, D. C. 20555

H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
AUXILIARY FEEDWATER SYSTEM

Dear Mr. Varga:

As requested by your letter of December 2, 1980, Carolina Power & Light Company (CP&L) hereby provides in the attachments to this letter responses to the items listed as unresolved or outstanding in the NRC's interim safety evaluation (SER) of the Auxiliary Feedwater System (AFW) reliability at H. B. Robinson.

The attached responses do not represent changes to positions previously stated by CP&L. CP&L continues to maintain the acceptability and sufficiency of its previous commitments and responses in this area. It would appear that, in an effort to gain uniformity between plants on these items, the NRC might inadvertently be attempting to require modifications at the H. B. Robinson Plant that are out of proportion to the safety benefit perceived, when evaluated against the total design basis of the plant. This especially appears to be the case with operability requirements for AFW pumps.

Additionally, at a meeting held April 30, 1980 between the NRC and CP&L, the issues concerning Condensate Storage Tank level indication and initiation of AFW independent of AC power were resolved. Inexplicably, the NRC has chosen to disregard those agreements in this interim SER. Therefore, CP&L requests that the SER be modified to reflect the original agreements reached in the April 30, 1980 meeting.

With regard to operability Technical Specifications for the AFW pumps, CP&L continues to believe that the NRC is not taking into account the conservative design features of the AFW pumps nor a reasonable maintenance period for the Steam Driven Pump.

411 Fayetteville Street • P. O. Box 1551 • Raleigh, N. C. 27602

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Mr. Varga

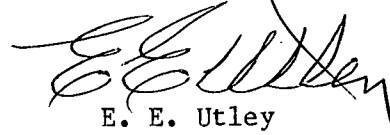
- 2 -

Missile protection of a source of water to the AFW is a new requirement. CP&L is prepared to discuss this item further with the NRC but presently does not believe it to be necessary.

CP&L is willing to discuss all of the unresolved items with the NRC at a meeting in the near future; however, such a meeting should be based on the previous resolution to some of these issues which occurred at the April 30, 1980 meeting.

If you have any further questions on this subject, please contact our staff.

Yours very truly,



E. E. Utley
Executive Vice President
Power Supply and
Engineering & Construction

JJS/dk (N#19)
Attachment

cc: J. D. Neighbors (NRC)

1. RECOMMENDATIONS GS-1

For H. B. Robinson Unit No. 2, only two pumps and the associated equipment are required because no single active failure could reduce the remaining operable components to below the one pump and flowpath required for safe shutdown of the plant. This is in accordance with the description and system safety features evaluation provided in the FSAR Section 10.3.1. In addition, the plant emergency power system described in FSAR Section 8.2.3 is designed such that no single failure in this system would result in a compromise to the AFW system's ability to perform its design safety function. Therefore, an out-of-service time of 72 hours for the first of three pumps is not appropriate for the Robinson plant due to the redundant capacity of the installed AFW system with only two pumps operating.

Preventive maintenance, repair, and inspection has required on occasion that one of the three units be in an inoperable condition for an extended period of time to perform the required maintenance effort. Since maintenance is performed on only one unit at a time, the remaining two units are retained in the operable condition in order to satisfy the requirements of the Technical Specification. A review of the maintenance history of turbine driven AFW pumps shows that a seven-day interval for maintenance performance is a reasonable time period to assure that accurate, dedicated and thorough execution of proper maintenance procedures can be accomplished. This interval is commensurate with the maintenance interval for one of the two diesel generators as permitted by Technical Specifications. Additionally, since reliability is the desired

goal of this requirement, it should be recognized that going from an indefinite out-of-service time for the third pump to an out-of-service time of seven days produces approximately the same large increase in reliability as going from an indefinite out-of-service time to a 72 hour out-of-service time for the third pump. There is little difference in reliability by allowing the seven day versus a 72 hour out-of-service time but a great deal is gained in flexibility from a maintenance standpoint.

Accordingly, CP&L believes that an allowance for one AFW pump to be in an inoperable condition for a period up to seven days and two for a period up to twenty-four hours is appropriate for the H. B. Robinson Plant.

2. ADDITIONAL SHORT TERM RECOMMENDATION NO. 1

As indicated in our previous correspondence, Carolina Power & Light Company (CP&L) will upgrade the Condensate Storage Tank (CST) level indication system by adding a redundant low level alarm to the CST. The current system is comprised of one high level alarm, one low level alarm and two separate level indicators/transmitters. The new alarm system consists of an alarm unit which takes a signal from one of the two level transmitters and provides a relay contact output to the present low level annunciator. The present alarm system is a level switch which is separate from the new alarm system, thereby providing redundant signal and power sources. The components of this system are of the same electrical grade as the currently used alarm system and are hence consistent with the H. B. Robinson I&C System. The system will be installed by January 1, 1982.

CP&L considers the above system to provide redundant alarms which fully meet the present requirements at H. B. Robinson and to be consistent with the Robinson design. Therefore, CP&L considers H. B. Robinson to be in compliance with this item.

3. RECOMMENDATION GL-3

The H. B. Robinson dedicated shutdown system (DS) includes an independent separate redundant and dedicated AC power supply (Diesel Generator) which can be operated from a DS control panel located in the turbine building. A transfer panel, also located in the turbine building, enables transfer of controls for the steam driven AFW pump shutoff valves V1-8A, B & C and V2-14A, B & C from the existing remote controls signals to local control from the turbine building panel. In this mode, operation of the steam driven AFW pump may be conducted without dependence upon either offsite or onsite ESF AC power supply sources. The DS system is presently installed and operable. Proposed Technical Specifications for the system were submitted by CP&L on December 2, 1980.

Operation with the dedicated shutdown system requires certain manual steps in the operation of the steam driven AFW pump. However, these manual operations are limited to procedural steps which are normally accomplished as manual throttle adjustments to control steam generator level and realignment of the cooling water flow to the turbo pump lube oil cooler. Approximately four minutes are required to manually initiate steam driven AFW pump operation, which is well below the time limit to establish steam generator feeding.

Due to the very low probability of complete loss of all AC power and the inherent ability to provide AFW manually to the steam generators within the required time period, the requirement for fully automatic initiation of AFW system flow independent of AC power is considered not be necessary for the continued safe operation of this plant.

4. ADDITIONAL LONG TERM RECOMMENDATION NO. 4

Postulated tornado missile damage of the AFW water supply sources has been evaluated for various tornado missile induced failures, as described in CP&L's letter of June 12, 1980. The conclusion of this evaluation confirms the following findings reported in the addenda to the H. B. Robinson Unit 2 FSAR:

"All equipment necessary for safe operation, located outdoors and exposed to damage from tornado debris, are parts of redundant systems and as such have sufficient backup to provide reasonable assurance that no loss-of-function of the system will result because of tornado damage."

The parameters applicable to the design basis of a tornado are currently drawn from Regulatory Guide 1.76. Although this document was developed much more recently than the H. B. Robinson Unit 2 FSAR, it is generally in good agreement with the design parameters for wind loading and missile energy used to develop the conclusions shown in the H. B. Robinson Unit 2 FSAR. The probability of a tornadic event at H. B. Robinson, is considered to be low. Due to their position at the site and the distance between sources, the probability of a tornado eliminating all sources of AFW supply is also low. Because the combined probability of these events with a simultaneous loss of onsite and offsite power is incredibly low, CP&L does not believe it to be necessary to provide further means of missile protection for the AFW System.

5. NRC SHORT TERM PLANT SPECIFIC RECOMMENDATION NO. 7

The manual cycling of normally locked closed service water and deep well manual valves is a part of the plant inservice inspection (ISI) program. Originally the cycling of the valves was performed on a cold shutdown interval basis, however, as of January 7, 1981, the test procedures have been revised to require quarterly testing.

Although it is not specifically stated in the Safety Evaluation Report, CP&L concludes that our response to this item is acceptable and therefore, CP&L is in compliance with this recommendation.