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ACCESSION NBR: 8505240033      DOC. DATE: 85/05/20      NOTARIZED: NO      DOCKET #  
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 VARGA, S.A.      Operating Reactors Branch 1

SUBJECT: Forwards addl info re Generic Ltr 83-28, Item 4.3, "Reactor Trip Sys Reliability," per 850401 request. Control room bypass breaker indication will be upgraded.

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NOTES:

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Carolina Power & Light Company

SERIAL: NLS-85-167  
NRC TAC #: 55373

MAY 20 1985

Director of Nuclear Reactor Regulation  
Attention: Mr. Steven A. Varga, Chief  
Operating Reactors Branch No. 1  
Division of Licensing  
United States Nuclear Regulatory Commission  
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/LICENSE NO. DPR-23  
ADDITIONAL INFORMATION CONCERNING GENERIC LETTER 83-28

Dear Mr. Varga:

Your April 1, 1985 letter issued a Safety Evaluation Report (SER) on Generic Letter 83-28, Item 4.3 Reactor Trip System Reliability (Automatic Actuation of Shunt Trip Attachment for W Plants) for H. B. Robinson-2. The SER requested that Carolina Power & Light Company (CP&L) take certain actions as well as submit additional information to facilitate the completion of your review of Item 4.3. Attachment 1 provides CP&L's response to your request.

On Friday May 17, 1985, CP&L initiated a phone conversation with members of your staff to discuss bypass reactor trip breaker status indication lights. The discussion centered on two areas--existing HBR2 bypass breaker status indication and the type/features of bypass breaker indication that would be acceptable to the staff. Based on that discussion, CP&L will upgrade the Control Room bypass breaker indication at HBR2.

Questions regarding this matter should be referred to Mr. Steve Chaplin at (919) 836-6623.

Yours very truly,

A. B. Cutter - Vice President  
Nuclear Engineering & Licensing

ABC/SDC/pgp (1495SDC)

Attachment

cc: Dr. J. Nelson Grace (NRC-RII)  
Mr. G. Requa (NRC)  
Mr. H. Krug (NRC Resident Inspector - RNP)

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Generic Letter 83-28 Item 4.3 Supplemental Information

Request

*Based on the review of the licensee's response to the plant specific questions identified in the staff's evaluation of the proposed design modifications, we find that the proposed modifications are acceptable however the staff's resolution of this matter is conditioned on the following:*

- (a) *Submission of revised information including revised electrical schematics showing:
  - (i) *provision of bypass breaker position status lights on the main control board*
  - (ii) *inclusion of cell switch interlock for bypass breaker position indication as detailed in item 1**

*This item remains open pending the staff's review.*

- (b) *Confirmation that shunt trip components have been seismically qualified as committed to in item 6.*
- (c) *Confirmation that bypass breaker testing will demonstrate proper operation of control board bypass breaker position indication as identified in item 11.*
- (d) *Submission of proposed technical specifications noted in item 13, following implementation of this modification.*

*With regard to the staff's position on bypass breaker status indication noted in item (a) above, these modifications should be implemented during the next refueling outage.*

Response

CP&L will modify the main control board to provide bypass breaker position status lights including the cell switch interlock for breaker position indication. As discussed in our conference call, the bypass breaker position lights will indicate when the breaker is racked-in and open (green light) or racked-in and closed (red light). No indication will be provided when the bypass breaker is racked-out or in the test position. The bypass breaker indication will be Class 1E.

CP&L plans to install this modification during Refueling Outage #11 (RFO) which is currently scheduled to begin in May 1987. Implementation in RFO (#11) is based on the following:

- 1) Planning, coordinating, and budgeting for the upcoming RFO (#10) modifications based on current commitments are already well underway. Incorporation of this modification into RFO #10 will disrupt our current planning and potentially extend the duration of the outage.
- 2) In order to complete the design work in time to include this modification in RFO #10, it may be necessary to divert resources from other tasks of greater safety significance that CP&L has already committed to accomplish in RFO #10.

- 3) CP&L believes that the current measures discussed in our February 18, 1985 letter (and repeated below) are adequate for the interim period:

Although the reactor trip breaker indication is available, the breaker position indicator is not used as a first indication of a successful reactor trip. Upon receipt of a reactor trip first out annunciator, the operator would verify that all rods are inserted by checking the rod bottom bistables, and that nuclear power was decreasing. In the event of a valid trip signal and the failure of the reactor trip breakers and/or bypass breakers to open, the operator is instructed to first attempt to manually trip the reactor with the RTGB pushbutton (local trip). Information on the exact breaker position is recorded on the existing Westinghouse P-250 computer (sequence of event), which is available in the control room.

In addition, as discussed in our conference call, CP&L believes the current annunciator available at the control board will provide adequate indication of the bypass breaker position in the interim.

Bypass reactor trip breaker position indication lights are also provided on the Reactor Protection Rack (#57 & #58). These lights will not be interlocked with the cell switch since they are not utilized by the control room operators for operation of the plant. The indication lights are utilized by maintenance personnel to verify the proper performance of the bypass breakers before they are utilized in their intended service.

- (a) Upon completion of the modification package, the Company will submit to your staff revised electrical schematics showing:
- (i) provision of bypass breaker position status lights on the main control board and
  - (ii) inclusion of cell switch interlock for bypass breaker position indication
- (b) CP&L has received and reviewed the WOG Equipment Qualification Test Report. The DB-50 Shunt Trip Attachment (STA) was seismically tested to demonstrate its capability to perform as specified below. The test results demonstrated that the equipment tested remained within the specified performance and trip requirements. The acceptance criteria for the STA were:
- 1) STA shall not fail to trip the DB-50 breakers
  - 2) STA shall not cause any spurious trips
  - 3) The time delay between the actuation of the shunt trip signal and the actual trip of the breaker shall not exceed 167 ms
  - 4) The STA shall perform their function on receipt of a shunt trip signal
  - 5) STA must maintain their structural integrity through the completion of testing.

The test units were required to operate during the seismic event in addition to operating normally, both before and after seismic excitation. In addition, the STAs maintained their structural integrity while being subjected to simulated abnormal environmental and seismic service conditions.

Therefore, since the HBR2s DB-50 STAs are enveloped within the WOG test report, no further action is required.

- (c) CP&L will incorporate into our existing annual test procedures appropriate test(s) to demonstrate proper operation of bypass breaker position status lights. This will be implemented as part of this system modifications.
- (d) CP&L will evaluate a technical specification change on periodic testing of undervoltage and shunt trip functions upon receipt of additional guidance on these changes by your staff.

In addition, WOG Life Cycle Testing of the STAs and UVTA's are still being performed by the WOG. CP&L expects that the WOG will submit the report to NRC shortly.