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 DENTON, H. R. Office of Nuclear Reactor Regulation, Director (post 851125)

SUBJECT: Forwards response to NRC 860221 request for addl info re
 Generic Ltr 83-28, Items 4.2.1 & 4.2.2 concerning reactor
 trip breakers. Program to trend result of periodic maint &
 surveillance test procedures will be implemented.

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Carolina Power & Light Company

SERIAL: NLS-86-136

MAY 6 1986

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
UNIT NO. 1 - DOCKET NO. 50-400
GENERIC LETTER 83-28

Dear Mr. Denton:

Enclosed is the Carolina Power & Light Company response to your staff's February 21, 1986 request for additional information for the Shearon Harris Nuclear Power Plant (SHNPP). Additional information was requested regarding the SHNPP response to Items 4.2.1 and 4.2.2 of Generic Letter 83-28.

If you have any questions please contact Mr. Gregg A. Sindors at (919) 836-8168.

Yours very truly,

S. R. Zimmerman
Manager

Nuclear Licensing Section

SRZ/GAS/pgp (3745GAS)

Enclosure

cc: Mr. B. C. Buckley (NRC)
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QUESTION 1:

Item 4.2.1 - Periodic Maintenance Program for Reactor Trip Breakers

Criteria for Evaluating Compliance with Item 4.2.1

The Shearon Harris Nuclear Power Plant Reactor Trip System utilizes Westinghouse DS-416 circuit breakers. The primary criteria for an acceptable maintenance program for the DS-416 Reactor Trip Breaker (RTB) are contained in Westinghouse Maintenance Manual for the DS-416 Reactor Trip Circuit Breaker, Revision 0, October 1984. The NRC staff, Equipment Qualification Branch, has reviewed this document and endorsed the maintenance program described in it. More specifically, the criteria used to evaluate compliance include those items in this document that relate to the safety function of the breaker, supplemented by those measures that must be taken to accumulate data for trending.

Issues Relating to Item 4.2.1

The applicant response states that he will implement a comprehensive planned maintenance program covering the reactor trip breakers by December 1984. This program will be based on the latest results of the life cycle testing program and the Westinghouse recommendation(s).

As of April 1, 1985, the NRC has not received any applicant's correspondence addressing this issue. The Shearon Harris Nuclear Power Plant Periodic Maintenance Program for the reactor trip breakers should include, on a six-month basis (or when 500 breaker operations have been counted, whichever comes first):

1. General inspection to include checking of breaker's cleanliness, all bolts and nuts, pole bases, arc chutes, insulating link, wiring and auxiliary switches;
2. The retaining rings inspection, including those on the undervoltage trip attachment (UVTA) and shunt trip attachment (STA);
3. Arcing and main contacts inspection as specified by the Westinghouse Maintenance Manual;
4. UVTA check as specified by the Westinghouse Maintenance Manual, including replacement of UVTA if dropout voltage is greater than 60 percent or less than 30 percent of rated UVTA coil voltage;
5. STA check as specified by the Westinghouse Maintenance Manual;
6. Lubrication as specified by the Westinghouse Maintenance Manual;
7. Functional check of the breaker's operation prior to returning it to service.

The Shearon Harris Nuclear Power Plant Periodic Maintenance Program for the reactor trip breakers should include, on a refueling interval basis (or when 500 breaker operations have been counted, whichever comes first):

1. Pre-cleaning insulation resistance measurement and recording;
2. RTB dusting and cleaning;



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3. Post-cleaning insulation resistance measurement and recording, as specified by the Westinghouse Maintenance Manual;
4. Inspection of main and secondary disconnecting contacts, bolt tightness, secondary wiring, mechanical parts, cell switches, instruments, relays, and other panel mounted devices;
5. UVTA trip force and breaker load check as specified by the Westinghouse Maintenance Manual;
6. Measurement and recording RTB response time for the undervoltage trip;
7. Functional test of the breaker prior to returning to service as specified by the Westinghouse Maintenance Manual;

The maintenance procedure should include a caution to the maintenance personnel against undocumented adjustments or modifications to RTBs.

The applicant is to confirm that the periodic maintenance program will include these 14 items at the specified intervals or commit to their inclusion.

RESPONSE

The SHNPP procedures for the periodic maintenance (PM) of the reactor trip breakers is in accordance with the recommendations of the Westinghouse Maintenance Manual for the DS-416 Reactor Trip Circuit Breakers, Revision 0, dated October 1984. The 14 items listed in the question above are included in either the PM or the Technical Specification Surveillance Test procedures for the reactor trip breakers with the following clarifications: 1) the replacement of the UVTA will be performed under a maintenance work request instead of as a specific step of the PM procedure and, 2) the PM frequency after the first PM interval will be at 500 breaker operations or at a refueling outage, whichever comes first. The Westinghouse Owners' Group is in the process of revising the Maintenance Manual, and CP&L will review any revisions to the Maintenance Manual and will determine if changes to the PM program are necessary.

With regard to the undocumented adjustments of the reactor trip breakers, the administrative procedures for implementation of maintenance activities clearly state that undocumented adjustments should not be made since they are considered to be modifications outside the scope of specific procedures. However, the PM procedure for the reactor trip breakers will include a caution to remind maintenance personnel to not perform undocumented adjustments or modifications to the reactor trip breakers.

In summary, CP&L has implemented a program to meet the items specified in the NRC's request with the clarifications noted above and considers this matter closed.

QUESTION 2

Item 4.2.2 - Trending of Reactor Trip Breaker Parameters to Forecast Degradation of Operability

Criteria for Evaluating Compliance with Item 4.2.2

Four parameters have been identified as trendable and are included in the criteria for evaluation. These are: a) undervoltage trip attachment dropout voltage, b) trip force, c) breaker response time for undervoltage trip, and d) breaker insulation resistance.

Issues Relating to Item 4.2.2

The applicant states that he will incorporate a review of the parameters necessary to be trended with his planned maintenance program. These parameters will then be included under the overall plant trending program, which will be in operation by December 1984.

As of April 1, 1985, the NRC has not received any applicant's correspondence addressing this issue.

The applicant is to commit to inclusion of trip force, breaker response time and dropout voltage for undervoltage trip and breaker insulation resistance as trending parameters. The applicant should also identify the organization which will perform the trend analysis, how often the analysis will be performed, and how the information derived from the analysis will be used to affect periodic maintenance.

RESPONSE

Carolina Power & Light Company will implement a program to trend the results of the PM and Surveillance Test procedures. Initially, the parameters which will be trended are as follows: trip force, breaker response time, dropout voltage for undervoltage trip and breaker insulation resistance. The evaluation of the data will be performed after the performance of each scheduled surveillance test and after the performance of the PM procedure. This trending will be performed by the Technical Support Unit at the SHNPP. Based on the results of the evaluation, the Technical Support Unit will determine if changes to the PM program are necessary. Also, CP&L will continue to review industry trending information through participation in the Westinghouse Owners' Group and will revise the trending program considering vendor recommendations and industry trending experience.