CP&L

Carolina Power & Light Company

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SHEARON HARRIS NUCLEAR PROJECT
P.O. Box 101
New Hill, North Carolina 27562

JUL 26 1985

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Letter Number: HO-850198 (O)

Dr. J. Nelson Grace
United States Nuclear Regulatory Commission
Region II
101 Marietta Street, Northwest (Suite 2900)
Atlanta, Georgia 30323

Dear Dr. Grace:

In reference to your letter of June 28, 1985 and Inspection Report 50-400/85-24, the attached is Carolina Power and Light Company's reply to the violation identified in the inspection report.

It is considered that the corrective action taken is satisfactory for resolution of the item.

Thank you for your consideration in this matter.

Yours very truly,

J. L. Willis
Plant General Manager
Shearon Harris Nuclear Power Plant

DLT:sbc

Attachment

cc: Messrs. G. Maxwell/R. Prevatte (NRC-SHNPP)
Mr. B. C. Buckley (NRC)

NBI-OS1

1/1 IE01

Dr. J. Nelson Grace

bcc: Mr. H. R. Banks
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Mr. R. A. Watson
Mr. J. L. Willis
File: HI/A-2D
File: H-X-0544
Day File
Document Services

Attachment 1

CP&L Response to Violation 400/85-24-01

Reported Violation:

10 CFR 50.55(f)(1) requires CP&L to implement the quality assurance program described or referenced in the Preliminary Safety Analysis Report. Section 1.8.5.5 of the CP&L Quality Assurance Program requires that measures be established to ensure that inspections are conducted in accordance with documented instructions, procedures, and approved drawings.

Contrary to the above, on May 25, 1985, a site start-up engineer, while conducting a preoperational test by procedure 1-2080-P-01, directed an auxiliary operator to close the manually-operated suction and discharge valves for charging pump 1A. The procedure did not allow or require the valves to be closed. The subsequent test steps required running the pump. The pump was started, with both valves closed, causing an overheated condition and ultimately a pump failure.

Denial or Admission and Reason for the Violation:

The violation is correct as stated. The cause of the event was the failure of the responsible Start-up Engineer to follow pre-op procedure 2080-P-01 "HHSI - Pumps Performance and Flow Balance Test". As stated in the violation, the Start-up Engineer directed that the manual suction and discharge valves be closed. This occurred during the completion of testing Charging Pump 1A in procedure section 6.12 (determination of the time required for each CHG/SI Pump to reach full flow after initiation of 'S' signal). The pump was subsequently restarted on the next shift to perform procedure section 6.13 (MOV Dynamic Valve Operation and Response Time Testing). The failure occurred after Charging Pump 1A was started. While the action of closing the suction and discharge valves is required when a pump is secured in earlier procedure sections, it was not required in procedure section 6.12.

In addition to the procedural error, we have concluded that two other elements were significant contributors to the failure. The first was a deficiency in procedure 2080-P-01. The procedure contained specific valve lineups referenced as procedure steps. Valve lineup 12.5 referenced in procedure step 6.13.1 did not include specific entries for lineup of manual isolation valves. The testing required by section 6.13 allowed the Start-up Engineer to select any Charging Pump, yet the procedure did not contain steps to verify that the manual suction and isolation valves were open for the selected pump. The second element is the failure to effectively communicate the status of Charging Pump 1A to other personnel. Neither the Auxiliary Operator nor the Start-up Engineer communicated this status to the Main Control Room at the time or to the respective relief personnel at the shift turnover prior to the failure. The combined effect of these two items was that personnel responsible for directing and implementing the subsequent restart of the pump were not aware of the need to

realign the flow path for Charging Pump 1A and were not required by 2080-P-01 to verify the flow path.

Corrective Steps Taken to Avoid Further Noncompliance:

The following steps have been taken to prevent recurrence:

1. Operations and Start-Up Personnel have been briefed on verbatim procedure compliance and the requirement to keep the control room informed of any changes to system lineup status. Each Start-Up Engineer and Shift Foreman have received and signed a memorandum indicating their understanding of CP&L policy of verbatim procedure compliance and the possible disciplinary consequences of failure to follow procedure.

2. CP&L has established and implemented review criteria for pre-op procedures to prevent equipment damage due to inadequate procedures. Specifically the review criteria serve to verify proper valve lineup in all main flow paths. The review criteria are listed in Attachment 2 and are implemented as follows:

   a. For pre-op procedures approved prior to June 1, 1985 a special review was conducted and documented. The procedures subject to this review were (1) pre-op procedures where the testing was not completed as of July 10, 1985 and (2) pre-op procedures which deal with fluid systems. Electrical and HVAC pre-op procedures were excluded from this review. Each of the subject procedures was reviewed by a Start-up Engineer and a member of the Operations Unit. The review by the Start-up and Operations Units is documented by a signed form. This review was completed on July 10, 1985.

   b. For procedures approved after June 1, 1985, the guidance listed in Attachment 2 is to be followed in preparation and review process of all pre-op procedures. However, the completion of the signed form noted above in item a. is not used for these procedures.

3. In order to strengthen the lines of communication between the Start-up Engineers performing testing and the Operations personnel on shift, a Shift Test Engineer (STE) is assigned to each shift when significant pre-op testing is being conducted on safety-related equipment as determined by the Manager - Startup. The STE is stationed in the Main Control Room. The specific duties and responsibilities of the STE are defined in written guidelines developed and approved by the Manager-Operations and the Manager-Startup.

Date When Full Compliance Was Achieved:

Full compliance was achieved on July 10, 1985.

Attachment 2

Preoperational Test Procedure Review Criteria

1. Procedure will accomplish stated test objectives.

2. Valve line up is correct; all manual and remotely operated valves are included.

3. Proper valve line up or verification is provided in the event that procedure steps may be performed out of order.

4. The flow or flow path through rotating or other critical machinery is:

   a. established as specified by valid technical references prior to operation

   b. confirmed by verifying manual valve alignment prior to operation

   c. verified immediately after placing in service

5. In the event that valves are manipulated after equipment is secured all subsequent system operations account for the changed positions.