

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199



November 17, 1994

EA 94-204

Carolina Power and Light Company
ATTN: Mr. W. R. Robinson
Vice President
Shearon Harris Nuclear Power Plant
P. O. Box 165 Mail Code: Zone 1
New Hill, NC 27562-0165

SUBJECT: NOTICE OF VIOLATION
(NRC INSPECTION REPORT NO. 50-400/94-21)

Dear Mr. Robinson:

This refers to the inspection conducted by J. Tedrow of this office on September 3 - 28, 1994. The inspection included (1) a review of a longstanding deficiency which resulted in the failure of the emergency service water (ESW) system to meet single failure criteria, and (2) inaccurate information provided to the NRC in response to Generic Letter 89-13. The ESW system deficiency was reported in Licensee Event Report 400/94-003 in accordance with 10 CFR 50.73(a)(2)(ii). As a result of the NRC inspection, violations of NRC regulatory requirements were identified and the report documenting the NRC inspection was sent to you by letter dated October 7, 1994. An enforcement conference was conducted in the NRC Region II office on October 21, 1994, to discuss the violations, their cause, and your corrective actions to preclude recurrence. This enforcement conference was open for public observation in accordance with the Commission's trial program for conducting open enforcement conferences as discussed in the Federal Register, 57 FR 30762, July 10, 1992, and 59 FR 36796, July 19, 1994. A summary of this conference was sent to you by letter dated October 28, 1994.

Violation A, described in the enclosed Notice of Violation (Notice), involves inadequate design control for the ESW system in that a single failure in the system could result in the loss of ESW train independence. Specifically, in the event a safety injection signal was initiated concurrently with a loss of offsite power, the failure of the train "A" auxiliary reservoir return valve, 1SW-270, to open, could cause a previously unanalyzed reverse flow path through the "A" train emergency diesel generator jacket water heat exchanger. The resulting backflow of high temperature water through the charging safety injection pump coolers could damage all three pumps. Following your initial discovery of the reverse flow problem, you initiated action in which the opposite train ESW isolation valves on the charging pumps' oil cooler outlets were closed. This action was subsequently determined to be inappropriate and would have resulted in an increase in the rate of heatup of the ESW cooling water if the event occurred. In addition, you found that the integrity of the ESW piping in the charging safety injection pump rooms would be challenged by expansion from temperatures exceeding the design and could not be assured unless operator action was taken promptly. This vulnerability existed from initial power operations in January 1987, until July 18, 1994.

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10 CFR 50, Appendix B, Criterion III requires that measures be established to assure that applicable regulatory requirements are correctly translated into system specifications. FSAR section 9.2.1, Service Water System, states that the service water system is designed to provide a heat sink for essential loads assuming a single active failure in conjunction with a loss of offsite power. Essential loads referenced in Table 9.2.1-1 of the FSAR included the charging pump oil coolers. In addition, Technical Specification 3.7.4 requires two independent trains of ESW. With regard to Violation A, the NRC is concerned that you failed to establish adequate design control measures to identify that a single failure, i.e., the failure of valve 1SW-270 to open, could result in an ESW system train interaction that affected the capability to cool the charging safety injection pumps. Generic Letter 89-13, Service Water System Problems Affecting Safety-Related Equipment, recommended that specific reviews of service water system single failure issues be undertaken. Your engineering review process conducted in response to the generic letter was not well defined; accountability for the overall service water system program review was not established; and, no records of final management review and approval of the single failure reviews were found. These weaknesses indicate that your program was neither indepth nor well controlled.

Although the NRC agrees that the probability of occurrence of an event of this type is low, the safety consequences are high in that all three charging pumps and the emergency diesel generator jacket water cooler on the A train could be damaged. Based on this and the fact that specific reviews of service water system single failure issues were recommended by Generic Letter 89-13 because of previous industry issues in this area, your failure to identify this deficiency is a significant concern. Therefore, this violation has been categorized at Severity Level III.

The NRC recognizes that specific corrective actions were taken in response to the violation as discussed during the enforcement conference. Those actions included (1) changing the valve lineup of the ESW system to separate the trains; (2) updating the single failure review of the ESW system; and, (3) performing a review of cross connections in other decay heat removal systems. You also indicated that you plan to conduct a service water system operational performance inspection in late 1994 and will conduct single failure training for appropriate nuclear engineering personnel.

In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), 10 CFR Part 2, Appendix C, a civil penalty is considered for a Severity Level III violation. Considering your identification of the violation, prompt and extensive corrective actions taken following that identification, and good past performance balanced against the facts that you failed to identify this violation during a prior opportunity in your Generic Letter 89-13 review of the ESW system and the violation had existed for an extensive period of time, the base civil penalty for the violation has been fully mitigated.

Violation B described in the enclosed Notice involved your failure to provide complete and accurate information in a letter to the NRC responding to Generic Letter 89-13 and dated June 17, 1991. Your initial activities, testing and



continuing program were documented in a response to Generic Letter 89-13 dated January 26, 1990. The June 17, 1991 letter stated that, as of May 20, 1991, the date of startup from the 1991 refueling outage, "the initial activities, testing and establishment of the continuing program to which CP&L committed" were completed. In fact, all actions were not completed. The NRC identified an example where single failure reviews were not completed and documented prior to startup from the 1991 refueling outage. The violation was caused by a lack of attention to detail in confirming that commitments to the NRC were completed because of your poor engineering review process, failure to control the service water system program review, and inadequate records of completion of the Generic Letter 89-13 action items. Additionally, during the enforcement conference you indicated that your staff had identified three other discrepancies in implementation of the generic letter commitments. These examples included deferring the test of the "B" charging safety injection pump oil coolers beyond the committed date; establishing a retesting frequency that did not meet the generic letter; and failing to conduct reviews of the maintenance practices, operations and emergency procedures, and training for the component cooling water system or the essential chill water system. These additional three examples are not being cited with the NRC identified violation because you identified these violations and took prompt and appropriate corrective actions.

The NRC requires that information provided by licensees be complete and accurate in all material respects. Although the specific examples of inaccurate information were not of substantial safety significance, this matter is of regulatory concern because your staff did not make an adequate effort to ensure that its statements and representations to the NRC were complete and accurate in all material respects. For these reasons, the NRC is issuing a Severity Level IV violation in this case.

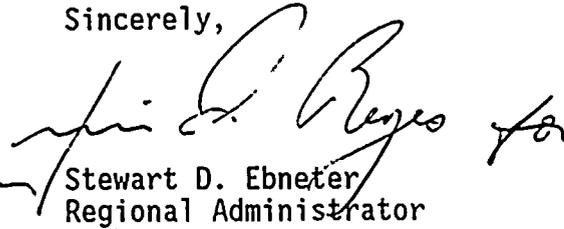
You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room (PDR). Accordingly, your response should not to the extent possible, include any personal privacy, proprietary, or safeguards information so that it can be released to the public and placed in the PDR without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you believe should not be placed in the PDR, and provide the legal basis to support your request for withholding the information from the public.

The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96-511.

Should you have any questions concerning this letter, please contact us.

Sincerely,


Stewart D. Ebnetter
Regional Administrator

Docket No. 50-261
License No. DPR-23
EA 94-204

Enclosure: Notice of Violation

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