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 Document Control Branch (Document Control Desk)

SUBJECT: Responds to NRC 940407 ltr re violations noted in insp rept  
 50-261/94-07. Corrective actions: cross referencing procedures  
 will be evaluated & consistent methodology with be developed  
 & implemented.

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**Carolina Power & Light Company**  
Robinson Nuclear Plant  
PO Box 790  
Hartsville SC 29550

Robinson File No.: 13510E  
Serial: RNP/94-0976

**MAY 09 1994**

United States Nuclear Regulatory Commission  
Attn: Document Control Desk  
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**H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2**  
**DOCKET NO. 50-261/LICENSE NO. DPR-23**  
**NRC INSPECTION REPORT NO. 50-261/94-07**  
**REPLY TO A NOTICE OF VIOLATION**

Gentlemen:

This provides the Carolina Power & Light Company reply to the Notice of Violation identified in NRC Inspection Report 50-261/94-07, which was transmitted by letter dated April 7, 1994. The Notice of Violation cited violations involving failure of the Quality Assurance organization (i.e., Nuclear Assessment Department) to audit the Emergency Operating Procedures (EOPs) or EOP support procedures; instruction, procedures, and drawing errors; document control deficiencies; and corrective action deficiencies.

As requested in the letter transmitting the Notice of Violation, the enclosure restates each violation, followed by our reply.

Should you have any questions regarding this matter, please contact Mr. R. M. Krich at (803) 383-1802.

Very truly yours,

C. S. Hinnant  
Vice President

DTG:lhg  
Enclosure

c: Mr. S. D. Ebnetter, Administrator, US Nuclear Regulatory Commission, Region II  
Mr. W. T. Orders, Senior Resident Inspector, HBRSEP

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PDR

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## REPLY TO A NOTICE OF VIOLATION

### Violation A

10 CFR 50, Appendix B, Criterion II, "Quality Assurance Program," and the approved corporate Quality Assurance Program, Section 13.0, "Assessments," collectively require that the licensee establish at the earliest practical time, consistent with the schedule for accomplishing the activities, a quality assurance program which complies with the requirements of the appendix. This program shall be carried out throughout plant life in accordance with those policies, procedures, or instructions. The applicant shall identify the structures, systems, and components to be covered by the quality assurance program and the major organizations participating in the program, together with the designated functions of these organizations. The quality assurance program shall provide control over activities affecting the quality of the identified structures, systems, and components, to an extent consistent with their importance to safety. Activities affecting quality shall be accomplished under suitably controlled conditions. Controlled conditions include the use of appropriate equipment; suitable environmental conditions for accomplishing the activity, such as adequate cleanness; and assurance that all prerequisites for the given activity have been satisfied. The program shall take into account the need for special controls, processes, test equipment, tools, and skills to attain the required quality, and the need for verification of quality by inspection and test. The program shall provide for indoctrination and training of personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained. The applicant shall regularly review the status and adequacy of the quality assurance program. Management of other organizations participating in the quality assurance program shall regularly review the status and adequacy of that part of the quality assurance program which they are executing.

Contrary to the above, the Quality Assurance Organization failed to provide control over activities affecting the quality of the identified structures, systems, and components, in that in 1989, the results of an NRC inspection of Emergency Operating Procedures (EOPs) identified that the EOPs, EOP support procedures and EOP program were deficient, but despite the results of this inspection, the Quality Assurance Organization failed to audit the area, nor was any licensee action taken to assure that these areas were inspected by Quality Assurance and the necessary corrective actions implemented. The only documented Quality Assurance action in this area was a field note which identified problems with EOP setpoints, but failed to ensure corrective actions and was deleted from permanent plant records after 12 months.

1. The Reason for the Violation

Carolina Power & Light (CP&L) agrees that the violation occurred as described.

The following causal factors address each of the examples cited in the Notice of Violation.

- In 1989, the Quality Assurance (QA) Department did not have personnel with the expertise necessary to conduct a thorough technical assessment of the EOPs and Abnormal Operating Procedures (AOPs).
- The QA Department did not take appropriate actions for concerns identified during the 1989 NRC Inspection of the EOPs. Formal tracking of the concern was not established by the QA Department for a follow-up assessment, nor was a follow-up assessment scheduled or performed.
- The concern regarding EOP setpoints identified by the Nuclear Assessment Department (NAD) in March 1993, was not formally entered into the Corrective Action System because the calculations that established the setpoints in question were conservative. In addition, the NAD personnel involved understood that corrective action was to be taken by the plant staff to resolve the concern.

2. The Corrective Steps That Have Been Taken and the Results Achieved

The on-site NAD organization has initiated an EOP/AOP assessment. This assessment will sample the adequacy of procedures generated from the upgrade effort that is currently in progress. This assessment will also evaluate the process being established to maintain the EOPs/AOPs in the future.

3. The Corrective Steps That Will Be Taken To Avoid Further Violations

- In 1991, the existing QA Department was restructured into the NAD. Personnel with the experience necessary to conduct assessments of operations procedures were brought into the new organization.
- NAD management has conducted discussions with the on-site NAD personnel to reinforce responsibility for aggressive investigation, formal documentation, and thorough follow up of known concerns, regardless of any remedial initiatives which may be in progress by the plant staff.
- A site expectation has been established for all personnel, including the NAD, to identify adverse conditions via an Adverse Condition Report regardless of any initiative which may be in progress at the time.

- A review of past NRC inspection reports was conducted. This review focused on deficiencies identified by the NRC and subsequent oversight of these issues by the NAD. Several areas were identified that warranted further evaluation by the NAD.

#### 4. The Date When Full Compliance Will Be Achieved

Full compliance will be achieved by December 31, 1994, with the completion of the EOP/AOP Assessment.

#### Violation B

10 CFR 50, Appendix B, Criterion V, "Instructions, Procedure, and Drawings," and the approved corporate Quality Assurance Program, Section 6.0, "Procedures and Drawings," collectively require that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

Contrary to the above, procedures and drawings were not appropriate quantitatively or qualitatively for activities affecting safety and were not maintained as evidenced by the following examples:

1. During simulator scenarios, steps in the site-specific Emergency Operating Procedures (EOPs) were not accomplished in accordance with the approved mitigation strategy. For example, during the Steam Generator Tube Rupture with a Main Steam Line Break scenario, all the Main Steam Isolation Valves were closed before entering the diagnostic portion of the EOPs. This resulted in loss of the primary heat removal system and potentially uncontrolled, unmonitored releases through the Main Steam Line Power Operated Relief Valves. Also, during the Station Blackout, the Emergency Diesel Generators (EDGs) were allowed to run without adequate cooling for an extended period of time, even though both the high coolant temperature and the high lube oil alarms for EDG "B" were lit. If the mitigation strategy of EPP-1 had been followed, EDG "B" would have been shutdown substantially sooner. Deviation from the EOP network step sequences was an accepted plant practice and allowed by OMM-022, "Emergency Operating Procedures User's Guide."

2. The extensive use of cross references in procedures resulted in procedures that could not be performed as written. All prerequisites in referenced procedures were often not applicable and if prerequisites were met, in some cases, it would have resulted in incorrect equipment configurations or unacceptable delays in the accident mitigation strategy performance.
3. Twenty safety-related power supplies that were used in EOP and Reactor Protection System instrument loops were of a different type and lower voltage rating than the power supply depicted on the drawings and used by the setpoint vendors. These included Pressurizer Pressure, Pressurizer Level, and Steam Generator Level power supplies.
4. The Station Blackout procedure (EPP-1) used 10 percent Condensate Storage Tank level as the setpoint for switching to alternative supply, while the Station Blackout Coping report required 34 percent Condensate Storage Tank level.

1. The Reason for the Violation

CP&L agrees that the violation occurred as described. The following causal factors address each of the examples cited in the Notice of Violation.

- 1) Operations Management Manual, OMM-022, "Emergency Operating Procedures User's Guide," was revised to implement performing early isolation of a ruptured/faulted steam generator (SG). Operations management made this decision to allow flexibility during SG related design accidents. This was motivated by the consideration to limit the duration and to reduce the amount of radioactive material releases. Management's intention was to support the general approach that early actions could be performed based upon the control room operators' knowledge. Management did not recognize that this change was contrary to the mitigation strategy of the EOP basis document, i.e., the Emergency Response Guidelines (ERGs).
- 2) The extensive use of cross references in procedures resulted from corrective actions taken in response to the 1989 NRC EOP inspection. Due to the level of detail of particular steps throughout the EOP network, we determined that providing a cross reference within the EOPs was preferred in lieu of repeating procedure steps contained in other documents.
- 3) The discrepancy between the Hagan instrument loop drawings and the system Technical Manual has existed since original plant construction and licensing. The Hagan racks and original hardware, including the 40 volt direct current (VDC) power supplies, were built and furnished in the configuration described in the Technical Manual. This Technical Manual was furnished by the supplier, Westinghouse, with the original equipment. The System Engineer identified these discrepancies and other additional discrepancies associated with the system drawings that were also originally supplied by Westinghouse, and other documents in 1989. Work to correct the discrepancies has not been effective.

- 4) The End Path Procedure (EPP) for Station Blackout, (i.e., EPP-001), delineating a 10 percent Condensate Storage Tank (CST) level as the switchover criteria for the alternate water supply for the Auxiliary Feedwater (AFW) pumps is consistent with the ERGs. Alternatively, the Station Blackout Coping Analysis refers to a CST level of 34 percent for the AFW pumps water supply as the switchover point. Thirty-four percent is the minimum CST level that will support the start of the Steam Driven Auxiliary Feedwater (SDAFW) pump. The SDAFW pump, if operating prior to reaching the 34 percent CST level, will continue to operate until the minimum 10 percent CST level is reached, without pump damage. The 50 percent administrative CST level is verified each shift on a shift turnover sheet. The amplifying instructions "SDAFW is INOPERABLE if CST level is less than 34 % and pump is not running," are delineated on the shift turnover sheet. Therefore, the two referenced CST level values are not in conflict.

## 2. The Corrective Steps That Have Been Taken and the Results Achieved

- 1) On April 25, 1994, four simulator scenarios were performed strictly following the EOP step sequence. This strict sequence did not have any adverse effect on the outcome of the event. All safety systems functioned as required and the respective accident mitigations were successful.
- 2) Operations Management Manual procedure OMM-022 was revised on April 22, 1994, to remove the ability/guidance that allows performing steps out of sequence. This procedure now states, "EOP steps shall be performed in sequence to ensure proper diagnostics of events." An Operations Directive has also been issued by the Operations Manager which contains the requirements to follow the steps in sequence and to not perform early actions.
- 3) The as-found configuration of the twenty safety-related power supplies that are in the Reactor Protection System instrument loops were reviewed. The EOPs were determined to be unaffected. This problem was due to documentation deficiencies and does not affect the material condition or operability of the equipment installed in the plant.

## 3. The Corrective Steps That Will Be Taken to Avoid Further Violations

The use of cross referencing procedures will be evaluated, and consistent methodology will be developed and implemented. This methodology will ensure proper implementation of the necessary actions to support the emergency procedures.

An as-built walkdown of the Hagan racks will be conducted to obtain module model numbers. This information will be used to revise all Hagan rack drawings and other plant documentation to the as-built configuration of the Hagan racks. In general, the plant staff's awareness to identify and promptly correct deficiencies has been heightened.

4. The Date When Full Compliance Will Be Achieved

Compliance was achieved for the issue associated with performing EOP steps out of sequence, upon the revision of procedure OMM-022 on April 22, 1994.

A consistent method for using cross references in EOPs will be developed and implemented by November 18, 1994.

Documentation errors associated with the safety related power supplies will be corrected during Refueling Outage 16, scheduled to commence in April 1995.

Violation C

10 CFR 50, Appendix B, Criterion VI, "Document Control," and the approved corporate Quality Assurance Program, Section 6.0, "Procedures and Drawings," collectively require that measures shall be established to control the issuance of documents, such as instructions, procedures, and drawings, including changes thereto, which prescribe all activities affecting quality. These measures shall assure that documents, including changes, are reviewed for adequacy and approved for release by authorized personnel and are distributed at the location where the prescribed activity is performed. Changes to documents shall be reviewed and approved by the same organizations that performed the original review and approval unless the applicant designates another responsible organization.

Contrary to the above, the licensee failed to establish control over the issuance of procedures which prescribed activities affecting quality, in that controlled copies of AOP-004, "Control Room Inaccessibility," PEP-104, "Emergency Control - Site Area Emergency," APP-048, "Main Control Room HVAC System Panel," OST-010, "Power Range Calorimetric During Power Operation Daily," and OST-551, "Turbine Valve & Trip Functional Test," were either of the wrong revision or were missing pages. These copies included the Emergency On-site Facility copies. The condition of the copies made the procedures unusable.

1. The Reason for the Violation

CP&L agrees that the violation occurred as described. NRC Inspection Report 50-261/94-01 cited a similar violation. In our April 4, 1994 response to that violation, we stated the cause to be an oversight of the individual responsible to maintain controlled procedures up-to-date. This violation occurred due to the same reason.



2. The Corrective Steps That Have Been Taken and the Results Achieved

The specific discrepancies identified were immediately corrected.

Expectations regarding maintenance and use of controlled documents have been developed and are being enforced. These expectations have been communicated to document users and individuals assigned responsibility for maintaining control of documents.

An audit was being conducted of the controlled procedures maintained in the Control Room, Technical Support Center, Emergency Operations Facility, and Training Library during the NRC EOP inspection. All identified discrepancies were corrected.

3. The Corrective Steps That Will Be Taken to Avoid Further Violations

As a result of the specific concerns identified in Inspection Report 94-01, an audit of controlled documents was initiated. This audit identified a generic concern with control of documents throughout the plant. The following actions, as stated in our response to Inspection Report 94-01, will preclude further violations.

- The number of site locations maintaining copies of controlled procedures and drawings will be reduced. An audit of the remaining controlled copies of procedures and drawings will be completed to ensure only current copies of these documents are available for use.
- A self-assessment procedure to monitor maintenance of controlled documents will be developed and will require periodic audits of controlled documents. This procedure will include methods to maintain management oversight.
- Document Control personnel will assume responsibility for conducting document updates for those libraries under their direct control to ensure accuracy and to provide consistent process oversight.

4. The Date When Full Compliance Will Be Achieved

Full compliance will be achieved by May 30, 1994, upon completion of the actions described above.

Violation D

10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," Section 12.0, Conditions Adverse to Quality and Corrective Actions," requires that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to prevent repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective actions taken shall be documented and reported to appropriate levels of management.

Contrary to the above, setpoints provided by a contractor have not been validated by the licensee as being correct but were incorporated in the EOPs, and numerous weaknesses in the Emergency Operating Procedures (EOPs), EOP program and EOP support procedures that were identified in a previous NRC inspection (NRC Inspection Report No. 50-261/89-16) have not yet been resolved. These weaknesses include (1) needed equipment for some required actions is not prestaged, mentioned in the procedures, or always easily available, (2) the plant verification and validation process continues to be inadequate, (3) no process has been established to ensure that changes to equipment or other procedures that affect the EOPs and EOP support procedures are identified and result in the necessary procedure revisions, (4) no requirement for in-plant walkthroughs of procedures has been incorporated into the governing EOP program documents, (5) staffing for all disciplines who must perform actions in the EOPs and support procedures (e.g., Instrument and Controls, chemistry) is not provided around the clock, and (6) independent job performance aids for Auxiliary Operations who must perform multiple local actions have not been developed for actions other than a few in the dedicated shutdown procedures.

1. The Reason for the Violation

CP&L agrees that the violation occurred as described. This violation was caused by the improper implementation of the Verification and Validation (V&V) process.

The EOP setpoints were calculated by a safety-related vendor. CP&L verified the methodology utilized for these calculations, but has not incorporated these setpoints into a controlled document. The lack of a design change process necessary to revise these setpoints has resulted in inadequate administrative controls for the EOP setpoint calculations.

2. The Corrective Steps That Have Been Taken and the Results Achieved

A previous Shift Supervisor has been assigned as the Manager - Operations Procedures. Additional management personnel with extensive experience in the development and validation of the ERGs has been assigned to supervise the EOP/AOP upgrade project.

A review of personnel requirements for round the clock coverage was initiated from the existing EOPs, Dedicated Shutdown Procedures (DSPs), and AOPs. During the review, maintenance personnel were staffed for twenty-four (24) hours coverage beginning April 30, 1994. The review was completed on May 6, 1994, and we determined that coverage was not required. The V&V process will continue to review the staffing requirements associated with the implementation of the EOPs, DSPs, and AOPs.

3. The Corrective Steps That Will Be Taken to Avoid Further Violations

The existing procedure for V&V has been upgraded to clarify the expectations necessary for proper EOP/AOP and support procedure usage.

The setpoints used in the EOPs will be included under the controls established for plant documents. As part of this control, the setpoints will be validated, and any future setpoint revisions will be performed and controlled under current document change processes.

Prestaging of equipment to perform necessary actions within the EOPs will be addressed in the V&V process.

Work groups who perform steps and/or actions within the EOPs will participate in the V&V process and the reviews will be documented on the V&V form.

The apparent adequacy of the number of personnel needed to perform actions in the EOPs will be assessed during the validation process.

The V&V process will include walkthroughs (including Auxiliary Operators) of the procedures and will address job performance aids as identified by the work groups involved in the V&V process.

4. The Date When Full Compliance Will Be Achieved

Full compliance will be achieved by November 18, 1994, upon completion of the EOP/AOP upgrade effort.