CP&L

Carolina Power & Light Company
P.O. Box 10429
Southport, NC 28461-0429

C.S. Hinnant
Vice President
Brunswick Nuclear Plant

NOV 26 1997

SERIAL: BSEP 97-0498

10 CFR 2.201

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
REPLY TO NOTICE OF VIOLATION

Gentlemen:

On October 27, 1997, the NRC issued a Notice of Violation (NOV) to the Brunswick Steam Electric Plant, Unit Nos. 1 and 2. The NOV contained seven violations, the bases for which are delineated in NRC Inspection Report Nos. 50-325/97-11 and 50-324/97-11.

Enclosure 1 provides the respective responses to the violations in accordance with the provisions of 10 CFR 2.201; Enclosure 2 delineates regulatory commitments contained within the responses.

This reply to the NOV does not contain information of a proprietary nature. Please refer any questions regarding this submittal to Mr. Keith R. Jury, Manager - Regulatory Affairs at (910) 457-2783.

Sincerely,

C S Hinnant

C. S. Hinnant

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Enclosures:
1. Reply to Notice of Violation
2. List of Regulatory Commitments

cc (with enclosures):

U. S. Nuclear Regulatory Commission, Region II
ATTN: Mr. Luis A. Reyes, Regional Administrator
Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, GA 30303

U. S. Nuclear Regulatory Commission
ATTN: Mr. Charles A. Patterson, NRC Senior Resident Inspector
8470 River Road
Southport, NC 28461

U. S. Nuclear Regulatory Commission
ATTN: Mr. David C. Trimble, Jr. (Mail Stop OWFN 14H22)
11555 Rockville Pike
Rockville, MD 20852-2738

The Honorable Jo A. Sanford
Chairman - North Carolina Utilities Commission
P.O. Box 29510
Raleigh, NC 27626-0510

ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324
LICENSE NOS. DPR-71 AND DPR-62
REPLY TO NOTICE OF VIOLATION

During an NRC inspection conducted from August 19 through September 27, 1997, seven violations of NRC requirements were identified.

VIOLATION A:

Technical Specification (TS) 6.8.1.f requires that written procedures shall be implemented for the Fire Protection Program.

Fire Protection Procedure 0FPP-20 required that an alternate safe shutdown (ASSD) impairment be entered when ASSD equipment is found to be inoperable, not accessible, or not available as required to perform safe shutdown evolutions.

Contrary to the above, on September 17, 1997, the licensee failed to enter an ASSD impairment upon the inability to energize breaker DE9 on motor control center 1XA for the 1-E11-F006A, Residual Heat Removal Pump 1A Shutdown Cooling Suction Valve.

This is a Severity Level IV violation (Supplement 1). This is applicable to Unit 1 only.

RESPONSE TO VIOLATION A:

Admission or Denial of Violation:

Carolina Power & Light (CP&L) Company admits the violation.

Reason for Violation:

The cause of the violation is attributed to an incomplete understanding by Operations personnel of the limitations of the Equipment Data Base System (EDBS). Upon identification of the failed actuator, a Senior Reactor Operator (SRO) performed a review using the EDBS to determine whether the condition warranted generation of an ASSD impairment. The information contained in the EDBS ASSD identification field for valve 1-E11-F006A, incorrectly indicated that the component was not ASSD equipment. Consequently, the SRO did not initiate an ASSD impairment.

Operations personnel routinely use the EDBS as an information source in determining component classifications. However, procedure 0ENP-33.6, "Equipment Data Base System (EDBS) Control

And Revision," specifies that the information contained in the ASSD identification fields is not validated information and that validation of the information contained in those fields is necessary prior to using the information. Operations personnel were not aware that the ASSD identification fields in the EDBS required validation prior to use and relied upon the EDBS as the sole source of information in determining ASSD classification of the failed component.

Corrective Actions Which Have Been Taken and Results Achieved:

The proper use of the information contained in the EDBS ASSD identification fields has been communicated to Operations personnel.

Corrective Steps Which Will Be Taken to Avoid Further Violations:

By January 30, 1998, training will be provided in Licensed Operator Retraining on the EDBS ASSD identification fields and the limitations of the information contained in those fields.

Procedures will be revised by January 30, 1998, to provide additional guidance on the process for determining ASSD applicability and generation of ASSD impairments.

Training of Operations on-shift personnel will be performed by January 30, 1998, on the expectations and procedural requirements for ASSD impairment determination.

Date When Full Compliance Will Be Achieved:

Full compliance with the requirements of TS 6.8.1.f has been achieved.

VIOLATION B:

TS 6.5.3, Plant Nuclear Safety Committee (PNSC), requires that a quorum shall consist of a chairman or alternate and four members or alternates as designated in writing. No more than two alternates shall be counted toward meeting the quorum requirements.

Contrary to the above, a PNSC meeting was conducted on September 19, 1997, without required quorum membership. In attendance were the alternate chairman, a member, and three alternates.

This is Severity Level IV violation (Supplement 1). This is applicable to both units.

RESPONSE TO VIOLATION B:

Admission or Denial of Violation:

CP&L admits the violation.

Reason for Violation:

The failure to ensure adequate PNSC quorum membership is attributed to an incorrect interpretation of the requirements delineated in the TSs. TS 6.5.3.3 states that the PNSC shall be composed of a chairman and seven to nine members, and the members shall be from the following functional areas: Operations, Maintenance, Engineering, Health Physics/Chemistry, Regulatory Affairs, and Nuclear Assessment. On February 8, 1996, a memorandum was issued which inappropriately identified the Manager - Outage and Scheduling and the Manager - Training as PNSC members, since they had held one or more of the functional area managerial positions and they met the TS qualification requirements for a PNSC member. During the September 19, 1997, PNSC meeting, the Manager - Outage and Scheduling was credited as a PNSC member to fulfill quorum requirements.

Corrective Actions Which Have Been Taken and Results Achieved:

A review was performed and several meetings were identified in which the Manager - Outage and Scheduling and/or the Manager - Training satisfied PNSC quorum requirements since February 8, 1996. Based upon the qualifications of the individuals filling the Manager - Outage and Scheduling and Manager - Training positions during this time, it was determined by the PNSC that the documents/issues reviewed in these PNSC meetings had received an adequate safety review.

Controls were established to ensure that the PNSC meetings conducted since this event was identified met the PNSC quorum requirements specified in the TSs.

A memorandum was issued on November 14, 1997, to correct the assignment of PNSC members. Specifically, Outage and Scheduling and Training have been removed from the list of functional areas comprising the PNSC.

The root cause and corrective actions for this issue were discussed with the PNSC on November 6, 1997, to ensure that the PNSC fully understands the PNSC TS membership requirements.

Corrective Steps Which Will Be Taken to Avoid Further Violations:

Additional corrective actions are not needed to prevent further violations.

Date When Full Compliance Will Be Achieved:

Full compliance with the requirements of TS 6.5.3 has been achieved.

VIOLATION C:

TS 6.8.2 permits temporary changes to surveillance and test procedures for safety-related equipment, provided that the intent of the original procedure is not altered, the change is approved by two members of the plant management staff, at least one of whom holds a Senior

Reactor Operator License, and the change is documented and approved by the General Manager within 14 days of implementation.

Contrary to the above, on August 29, 1997, several changes were made to Maintenance Surveillance Test procedure 2MST-RPS27Q, Reactor Protection System Scram Discharge Volume High Water Level Channel Functional Test and Channel Calibration, as "pen and ink" changes without the required approvals and documentation for a temporary change.

This is a Severity Level IV violation (Supplement 1). This is applicable to both Units.

RESPONSE TO VIOLATION C:

Admission or Denial of Violation:

CP&L admits the violation.

Reason for Violation:

The cause of this violation is primarily attributed to human performance error. The individual responsible for approving the changes to 2MST-RPS27Q inappropriately determined that the scope of the changes to the procedure constituted a clerical change, and that the change could be initiated as a field correction as allowed by administrative procedure 0AP-010, "Procedure Use And Adherence." In addition, the lack of a clear definition of what constituted a clerical change within 0AP-010 contributed to the inappropriate determination.

Corrective Actions Which Have Been Taken and Results Achieved:

The individual responsible for approving the changes to 2MST-RPS27Q was counseled on the importance of implementing procedure changes in accordance with procedural requirements.

Corrective Steps Which Will Be Taken to Avoid Further Violations:

A revision to 0AP-010 will be implemented by December 15, 1997, to eliminate those sections of the procedure allowing minor editorial enhancements and field corrections. This action will preclude the potential recurrence of the concern identified in the Notice of Violation.

Date When Full Compliance Will Be Achieved:

Full compliance with the requirements of TS 6.8.2 has been achieved.

VIOLATION D:

10 CFR 50 Appendix B, Criterion XVI, requires measures be established which assure that conditions adverse to quality are promptly identified and corrected.

Contrary to the above, the licensee's measures did not assure prompt identification and correction of conditions adverse to quality as evidenced by the following:

1. Corporate and industry information indicated that previously established motor-operated valve settings and capability requirements assumed at Brunswick, may be unreliable. The licensee had not resolved inadequacies in the thrust settings and capability requirements in several motor-operated valve areas. For example:

   - The licensee had not resolved inadequacies in its justification for the valve factor parameter used in evaluating the thrust settings and capability requirements of its Anchor/Darling double disk gate valves.

   - The licensee had not resolved inadequacies in its justification for the torque capability requirements established for its butterfly valves.

2. The licensee relied on thrust measurements obtained with VOTES diagnostic test equipment in establishing appropriate thrust settings and capabilities for motor-operated gate and globe valves. On November 19, 1993, the vendor of this test equipment issued Customer Service Bulletin 31, informing its users of previously unrecognized uncertainty that could occur in opening thrust measurement values. The licensee was not prompt in evaluating the impact of this uncertainty on the adequacy of the settings and capabilities of its motor-operated valves and an evaluation was still in progress in August 1997.

3. Motor-operated valve stall failures found in 1994 and 1996 were not evaluated for possible structural damage to valve components (conditions adverse to quality). Following stall events of Unit 2 motor-operated valves 2-E51-F046 (Reactor Core Isolation Cooling Water Supply Valve) and 2-E11-F009 (Shutdown Cooling Inboard Suction Isolation Valve), the licensee failed to determine whether structural limits of any motor-operated valve components had been exceeded. Motor-operated valve 2-E51-F046 stalled into its backseat when actuated to open on June 9, 1994 and 2-E11-F009 was found to have stalled on February 3, 1996 (the actual stall event apparently occurred earlier). The licensee did not determine and document a calculation of stall thrust and torque forces, and compare them to the associated actuator and valve component limits. In August 1997, the licensee determined by calculation that the structural limits of components of both motor-operated valves were exceeded during the stall events.

This is a Severity Level IV Violation (Supplement I). This is applicable to both units.

RESPONSE TO VIOLATION D:

Admission or Denial of Violation:

CP&L admits the violation.

Reason for Violation:

The examples delineated in the violation were primarily caused by the failure to maintain adequate monitoring and management oversight of the Motor-Operated Valve (MOV) program. As industry and CP&L information emerged, actions to ensure that the program continued to satisfy the requirements of Generic Letter (GL) 89-10, "Safety-Related Motor-Operated Valve Testing And Surveillance," were not implemented in a timely manner. In addition, for the third example, adequate procedural guidance did not exist to ensure proper evaluation of valve stall events.

Corrective Actions Which Have Been Taken and Results Achieved:

In a letter to the NRC dated October 2, 1997 (Serial: BSEP 97-0408), CP&L committed to specific corrective actions and completion dates to address concerns identified by the NRC during the recent inspection of the Brunswick Steam Electric Plant (BSEP) GL 89-10 MOV program. These corrective actions, once implemented, will resolve the specific deficiencies identified as examples to this violation and result in the overall improvement in the GL 89-10 MOV program.

Additional Actions:

An Engineering Program Improvement initiative was implemented on December 17, 1996, to address previously identified deficiencies in the Environmental Qualification program. As part of this initiative, the following actions were implemented to prevent recurrence of inadequate monitoring and management oversight of engineering programs: (1) the engineering technical programs and program owners were identified; (2) clear management expectations with regard to performance standards for each of the identified program owners were communicated; and (3) a series of self-assessments of significant engineering technical programs were performed. These actions have been applied to the GL 89-10 MOV program to address insufficient program monitoring and oversight.

Additionally, from April 7 through April 11, 1997, engineering conducted a self-assessment of the GL 89-10 MOV program which the NRC determined to be thorough. To provide an integrated approach to resolving the issues identified during that assessment the "1997 Improvement Plan & Schedule For The Brunswick Motor-Operated Valve Program," was developed.

Corrective Steps Which Will Be Taken to Avoid Further Violations:

By December 15, 1997, a series of self-assessments of additional significant engineering technical programs, including a reassessment of the GL 89-10 MOV program, will be incorporated into the "1998 Brunswick Engineering Support Section Self-Assessment Plan."

Additionally, the Nuclear Assessment Section will conduct an assessment of the GL 89-10 MOV program by December 15, 1998.

Date When Full Compliance Will Be Achieved:

The actions taken to improve monitoring and management oversight of engineering technical programs will ensure identification and prompt corrective action of issues related to these programs. Based on these actions, full compliance has been achieved.

VIOLATION E:

10 CFR 50, Appendix B, Criteria V, Instruction Procedures and Drawings requires 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.

Maintenance Management Manual 0MMM-022, Instructions for Placement of Temporary Loads (e.g., Rigging, Scaffolding, Ladders, Personnel required that a temporary rigging release be obtained prior to rigging to or above any safety-related function regardless of the magnitude of the load.

Contrary to the above, rigging was performed on or above safety-related equipment without a temporary rigging release as evidenced by the following:

1. On August 6, 1997, the licensee failed to obtain a rigging release during lifting of a 300 pound torus mock-up strainer on the 20 foot elevation of Unit 2 which was rigged to the Reactor Building Purge Vent and the Reactor Building Service Water discharge piping.

2. On September 3, 1997, the licensee failed to obtain a rigging release before installing temporary air piping over Motor Control Center 2XDA which contained local controls for the High Pressure Coolant Injection System.

This is a Severity Level IV violation (Supplement 1). This is applicable to Unit 2 only.

RESPONSE TO VIOLATION E:

Admission or Denial of Violation:

CP&L admits the violation.

Reason for Violation:

Example 1:

The failure to obtain a rigging release during lifting of the mock-up strainer is attributed to human performance errors. Although the personnel involved with the planning and execution of the activity had appropriately determined that the impact of the mock-up strainer load on the lift

point was minimal, they were not aware of the requirements for obtaining a temporary rigging release prior to rigging to, or above safety related components as delineated in 0MMM-022.

Example 2:

The cause for this additional example to this violation and the corrective actions taken and planned to address the issue, were identified in Licensee Event Report 2-97-003, dated October 8, 1997.

Corrective Actions Which Have Been Taken and Results Achieved:

Upon identification of this issue, the temporary rigging was removed from safety-related piping, a temporary rigging release was generated, and a stand-down conducted with the individuals involved with the suction strainer project rigging activities.

To ensure effective oversight of rigging activities, the Maintenance organization has assigned a specialist to administer weight handling and rigging.

Corrective Steps Which Will Be Taken to Avoid Further Violations:

Training on the requirements for loading of safety-related equipment will be conducted with appropriate Maintenance personnel by February 27, 1998.

Date When Full Compliance Will Be Achieved:

Full compliance with the requirements of 10 CFR 50, Appendix B, Criterion V has been achieved.

VIOLATION F:

TS 6.8.1. requires that written procedures shall be established, implemented, and maintained covering the activities recommended in Appendix A, Paragraph G, Procedures for Control of Radioactivity, of Regulatory Guide 1.33, dated November 1972.

Nuclear Generation Group Standard Procedure HPS-NGGC-0003, Radiological Posting, Labeling and Surveys, Rev. 3., Paragraph 9.2.1, requires that each container holding radioactive material shall bear a durable, clearly visible label bearing the radiation symbol and the words "CAUTION, RADIOACTIVE MATERIAL" OR "DANGER, RADIOACTIVE MATERIAL."

Contrary to the above, procedural requirements were not followed in that two containers of radioactive material were identified, one on March 26, 1997, and one on September 24, 1997, that did not have a visible label bearing the radiation symbol or the words "CAUTION, RADIOACTIVE MATERIAL" OR "DANGER, RADIOACTIVE MATERIAL".

This is a Severity Level IV violation (Supplement IV). This is applicable to both units.

RESPONSE TO VIOLATION F:

Admission or Denial of Violation:

CP&L admits the violation.

Reason for Violation:

The failure to properly label the two containers of radioactive material resulted from different causes. The cause of the issue identified on March 26, 1997, is inadequate understanding of the requirements for the control of radioactive material. Although the individuals involved with the inappropriate handling of the radioactive material could not be determined, given that the container of radioactive material had been relocated from a contaminated area, moved through the power block, and left in the Radioactive Material Container Storage Building without anyone realizing that the container needed to be labeled, indicates that the level of sensitivity to, and understanding of, the requirements for the control of radioactive material was not adequate.

The cause of the September 24, 1997, issue is attributed to personnel error, in that, the individuals responsible for the handling of a 55 gallon contaminated drum failed to properly label the container. The unlabeled drum was one of several containers that were being processed (i.e., smeared and labeled) to support their removal from a contaminated area. Due to an oversight by the individuals responsible for processing the containers, one of the containers was overlooked during the labeling effort.

Corrective Actions Which Have Been Taken and Results Achieved:

To address the issue that occurred on March 26, 1997, the following actions were taken:

- A site stand-down was conducted to discuss the issue and re-emphasize the expectations for proper handling of radioactive material.

- The guidance provided to workers related to the disposition of potentially radioactive material in the General Employee Training and General Employee Retraining programs was revised to clearly specify the expectations for the proper handling and labeling of radioactive material.

- A review of this issue, as well as, the proper procedures and practices related to the handling of potentially contaminated material, were included in the third quarter continuing training cycle for Environmental and Radiation Control, Maintenance, and Operations personnel.

To address the issue that occurred on September 24, 1997, the following actions were taken:

- Following the event, the issue was discussed with Radiation Control (RC) personnel. In order to monitor the effective labeling of radioactive material containers, RC supervision

were directed to perform tours during each shift for the remainder of the Unit No. 2 refuel outage, which was in progress at the tir. e of event.

- The individuals responsible for the labeling of the containers were counseled by RC supervision.

Corrective Steps Which Will Be Taken to Avoid Further Violations:

Expectations and walkdown criteria will be issued for RC technician plant walkdowns by December 9, 1997. These expectations will specifically include the checking of containers for proper radioactive material labeling.

The root cause analysis for the issue that occurred on September 24, 1997, will be included in the RC continuing training program and will be completed by April 15, 1998.

Date When Full Compliance Will Be Achieved:

Full compliance with the requirements of TS 6.8.1 has been achieved.

VIOLATION G:

TS 6.8.1.a requires that written procedures shall be established, implemented, and maintained covering the activities in Appendix A of Regulatory Guide 1.33, November 1972. Appendix A of Regulatory Guide 1.33 recommends procedures for surveys, monitoring, and radiation work permits (RWPs).

Environmental and Radiation Control Procedure 0E&RC-230, Issue and Use of Radiation Work Permits, requires an RWP and electronic dosimetry in accordance with the RWP shall be required for entry into the primary radiation control area.

Contrary to the above, on August 13, 15, and 18, 1997, a contract worker failed to log on an RWP and failed to obtain an electronic dosimeter.

This is a Severity Level IV violation (Supplement 1). This is applicable to both units.

RESPONSE TO VIOLATION G:

Admission or Denial of Violation:

CP&L admits the violation.

Reason for Violation:

The cause of this violation is attributed to human performance errors. The violation cites the failure of one employee to properly don dosimetry on three different occasions. Contrary to preliminary information provided to the NRC, subsequent investigation identified several instances where

workers failed to don dosimetry prior to entering the controlled area; however, no instances were identified of a single employee who failed to obtain dosimetry on more than one occasion. In most of these cases the individuals were contract employees who were performing work during the BSEP, Unit No. 2 refuel outage. Interviews with these employees revealed that each individual was aware of the requirements for wearing dosimetry inside the Radiation Control Area (RCA); however, due to a lack of attention to detail these individuals failed to don dosimety as required. Due to the multiple occurrences of this concern, possible environmental contributors were evaluated. It was determined that additional measures could be taken to reduce the probability that individuals would fail to don dosimetry prior to entering the RCA.

Corrective Actions Which Have Been Taken and Results Achieved:

The responsible individuals were counseled on the importance of ensuring that proper dosimetry is worn in accordance with procedural and RWP requirements.

A stand-down was conducted with employees assigned to the responsible contract organization to review the requirements for access into controlled areas.

Corrective Steps Which Will Be Taken to Avoid Further Violations:

As part of General Employee Training, employees receive training on dosimetry requirements. An analysis will be performed to determine whether improvements in the radiation worker training program are needed. This analysis will be completed and identified training incorporated into the General Employee Training program, by April 15, 1998.

Increased monitoring and coaching of employees accessing the RCA will be performed during the upcoming BSEP, Unit No. 1 refuel outage to ensure employees understand and properly implement access requirements.

A review will be performed to determine the measures to be taken to reduce the probability that individuals will fail to don dosimetry prior to entering the RCA. Identified improvements will be implemented by January 15, 1998.

Date When Full Compliance Will Be Achieved:

Full compliance with the requirements of TS 6.8.1 has been achieved.

ENCLOSURE 2

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324
LICENSE NOS. DPR-71 AND DPR-62
REPLY TO NOTICE OF VIOLATION

LIST OF REGULATORY COMMITMENTS

The following table identifies those actions committed to by Carolina Power & Light (CP&L) Company in this document. Any other actions discussed in the submittal represent intended or planned actions by CP&L. They are described for the NRC's information and are not regulatory commitments. Please notify the Manager - Regulatory Affairs of any questions regarding this document or any associated regulatory commitments.

Commitment	Committed date or outage
Training will be provided in Licensed Operator Retraining on the Equipment Data Base System alternate safe shutdown (ASSD) identification fields and the limitations of the information contained in those fields.	January 30, 1998
Procedures will be revised to provide additional guidance on the process for determining ASSD applicability and generation of ASSD impairments.	January 30, 1998
Training of Operations on-shift personnel will be performed on the expectations and procedural requirements for ASSD impairment determination.	January 30, 1998
AP-010, "Procedure Use And Adherence," will be revised to eliminate those sections of the procedure allowing minor editorial enhancements and field corrections.	December 15, 1997
A series of self-assessments will be incorporated into the "1998 Brunswick Engineering Support Section Self-Assessment Plan" to evaluate additional significant engineering technical programs including a reassessment of the Generic Letter (GL) 89-10 Motor-Operated Valve (MOV) program.	December 15, 1997
The Nuclear Assessment Section will conduct an assessment of the GL 89-10 MOV program.	December 15, 1998
Training on the requirements for loading of safety-related equipment will be conducted with appropriate maintenance personnel.	February 27, 1998
Expectations and walkdown criteria will be issued for Radiation Control (RC) technician plant walkdowns. These expectations will specifically include the checking of containers for proper radioactive material labeling.	December 9, 1997

The root cause analysis for the issue involving the failure to label the contaminated 55 gallon drum that occurred on September 24, 1997, will be included in the RC continuing training program and the training completed.	April 15, 1998
An analysis will be performed to determine whether improvements in the radiation worker training program are needed and identified training incorporated into the General Employee Training program.	April 15, 1998
Increased monitoring and coaching of employees accessing the Radiation Control Area (RCA) will be performed during the upcoming Brunswick Steam Electric Plant, Unit No. 1 refuel outage to ensure employees understand and properly implement access requirements.	B112R1
A review will be performed to determine the measures to be taken to reduce the probability that individuals will fail to don dosimetry prior to entering the RCA. Identified improvements will be implemented.	January 15, 1998