CP&L

Carolina Power & Light Company
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September 10, 1998

10 CFR 2.201

SERIAL: BSEP 98-0178

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 A NOTICE OF VIOLATION

Gentlemen:

On August 11, 1998, the NRC issued a Notice of Violation (NOV) to the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2. The NOV contained two violations, the bases for which are delineated in NRC Inspection Report Nos. 50-325/98-07 and 50-324/98-07. The enclosures provide the response to the violations in accordance with the provisions of 10 CFR 2.201 and a list of regulatory commitments.

Although the issues identified in the violations were addressed individually with the personnel involved, and the lessons learned shared with appropriate personnel, additional effort and focus are being applied to improving overall human performance at BSEP. As previously communicated to the NRC in the response to Inspection Report Nos. 50-325/98-05 and 50-324/98-05, BSEP has implemented an "Excellence in Human Performance" initiative. This initiative is structured around the Institute of Nuclear Power Operations document, "Building on the Principles for Enhancing Professionalism: Excellence in Human Performance." The eight examples cited in the two violations are examples of human performance issues that do not meet BSEP management expectations and are indicative of the types of issues that are being addressed as part of this initiative.

Sitewide training on these principles has been initiated with the objective of promoting behaviors throughout the organization that support continued safe and reliable plant operations. Integration of these principles into the organizational culture will take time; as this initiative progresses, human performance will continue to be closely monitored and additional actions taken if warranted.

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This reply to the NOV does not contain information of a proprietary nature. Please refer any questions regarding this submittal to Mr. Warren Dorman, Supervisor - Licensing, at (910) 457-2068.

Sincerely,

Keith R. Jury
Manager - Regulatory Affairs
Brunswick Steam Electric Plant

CRE

Enclosures:

1. Reply to a Notice of Violation
2. List of Regulatory Commitments

cc (with enclosures):

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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 A NOTICE OF VIOLATION

During an NRC inspection conducted from June 7 through July 18, 1998, two violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violations are listed below:

VIOLATION A

10 CFR 50, Appendix B, Criteria V, Instructions, Procedures, and Drawings, requires that activities affecting quality shall be described in documented instructions, procedures, and drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, and drawings.

Maintenance Management Manual 0MMM-001, Maintenance: Conduct of Operations, Revision 32, required that procedures be performed as written unless permission to deviate has been given by a supervisor.

Conduct of Operations Manual, Operating Instruction 0OI-1.09, Equipment Tagging, Revision 2, required that equipment tagging provide a high degree of personnel and equipment safety as well as maintain the status and integrity of important plant components and systems.

Contrary to the above, the licensee failed to accomplish activities affecting quality in accordance with documented instructions and procedures for the following six examples:

1) On May 1, 1998, during maintenance activities an Instrumentation & Control (I&C) technician failed to obtain permission from a supervisor to deviate from Preventive Maintenance Procedure 0PM-BKR008, PM-Functional Testing of Molded Case Circuit Breakers, Revision 16. A jumper, not discussed in the procedure, was left on a circuit breaker which caused a phase-to-phase fault when the breaker was installed.

2) On May 15, 1998, while performing Maintenance Surveillance Test 1MST-APRM21W, APRM 12 percent Rod Block, 15 percent RPS Trip, and Inop Chan Funct Test/Cal, Revision 9, an I&C technician failed to reterminate a lifted wire in accordance with procedure because a procedure step to independently verify retermination was marked as not applicable. The failure to reterminate this wire resulted in an unexpected rod block.

3) On April 1, 1998, while performing Maintenance Surveillance Test 2MST-APRM29Q, APRM Flow Bias Flow Units C & D Channel Calibration, Revision 23, an I&C technician failed to properly position an average power range monitor (APRM) flow unit mode switch in accordance with procedure. An incorrect switch was positioned, resulting in an unexpected half scram, although this procedure step required concurrent verification.

4) On May 1, 1998, the licensee, while establishing a boundary for valve testing, failed to properly position the 1-E41-V159, High Pressure Coolant Injection Pump Discharge Check Valve in accordance with clearance 1-98-00060. The valve was gagged open and independently verified as open while the actual position was closed.

5) On May 11, 1998, the licensee improperly canceled torus master clearance 98-1220 which canceled portions of the clearance boundary established under clearances 1-98-00001, 1-98-00061, 1-98-0062, and 1-98-00391. This failure resulted in work activities being performed without an adequate fluid boundary.

6) On May 12, 1998, the licensee failed to properly establish clearance 1-98-00062 in accordance with the procedure. A valve, 1-E51-F029, was tagged open without the motor operated valve power supply breaker being tagged. This failure resulted in the closing of the valve upon receipt of a isolation signal.

This is a Severity Level IV violation (Supplement 1).

RESPONSE TO VIOLATION A

Reason for Violation A, Example 1:

The reason for this example of the violation is attributed to personnel error on the part of the technician performing 0PM-BKR008. Inattention to detail and inadequate self checking resulted in the technician performing procedural steps out of sequence, as well as, leaving jumpers installed on the back of the breaker assembly. Had the steps been performed in the proper sequence, the presence of the jumpers would have been detected prior to breaker installation. Additionally, if self checking had been properly applied, the jumpers would have been removed and the electrical fault precluded.

Corrective Steps That Have Been Taken and the Results Achieved:

On May 5, 1998, the breaker was properly tested and returned to service in accordance with 0PM-BKR008.

Corrective Steps That Will Be Taken to Avoid Further Violations:

On May 1, 1998, a stand down with I&C personnel was conducted to discuss the occurrence. The importance of attention to detail, self checking, and procedural compliance to personnel and

equipment safety was emphasized. Additionally, the results of the event investigation were reviewed with the I&C technicians.

The jumpers, linked to the cause of this issue, are not considered jumpers as referenced in Administrative Instruction 0AI-59, "Jumpering and Wire Removal," which is intended to control jumpers on installed plant equipment. The jumpers referenced in this example are considered to be extensions of measuring and test equipment test leads which are controlled under "skill of the craft" or the applicable maintenance procedure. As a result of the investigation into this issue, 0PM-BKR008 has been revised to include instructions to prevent jumpers from being used for breaker testing.

Date When Full Compliance Will Be Achieved:

Full compliance with 10 CFR 50, Appendix B, Criterion V, was achieved for this issue when the breaker was properly tested and returned to service on May 5, 1998.

Reason for Violation A, Example 2:

The reason for this example of the violation is attributed to inattention to detail on the part of the technicians performing the surveillance test. The technicians inappropriately marked the step to land the lifted wire as not applicable during the performance of the procedure and consequently, did not perform the step to fully restore the equipment to service.

Corrective Steps That Have Been Taken and the Results Achieved:

On May 15, 1998, the omitted step was performed to land the lifted lead. This allowed the rod block/annunciator to be reset.

Corrective Steps That Will Be Taken to Avoid Further Violations:

The technicians who performed the procedure were counseled with emphasis placed on the importance of attention to detail, as well as, the stop, think, act, and review (STAR) principle and self checking. Additionally, the issue was reviewed with the I&C and Electrical technicians.

Date When Full Compliance Will Be Achieved:

Full compliance with 10 CFR 50, Appendix B, Criterion V, was achieved for this issue when the lifted wire was landed and the rod block/annunciator reset on May 15, 1998.

Reason for Violation A, Example 3:

The reason for this example of the violation is attributed to the technicians making and acting on erroneous assumptions during the performance of the test. Instead of seeking assistance from their supervisor, when uncertain about the identification of the Flow Unit "C" mode switch, the technicians proceeded with what was assumed to be the correct switch. This inappropriate act

resulted in the manipulation of the APRM Channel "C" mode switch and the subsequent generation of a half scram signal.

Corrective Steps That Have Been Taken and the Results Achieved:

The APRM Channel "C" mode switch was restored to its proper position, the half scram signal was reset, and 2MST-APRM-29Q was successfully completed. Both technicians had applicable qualifications revoked and will receive the appropriate training to have their qualifications reinstated.

Corrective Steps That Will Be Taken to Avoid Further Violations:

Both technicians were counseled concerning the erroneous assumptions made during the incident and the unacceptability of proceeding when uncertain about details contained in procedural steps. The incident was reviewed with the I&C and Electrical crews to discuss lessons learned.

Date When Full Compliance Will Be Achieved:

Full compliance with 10 CFR 50, Appendix B, Criterion V, was achieved for this issue on April 1, 1998, when the APRM Channel "C" mode switch was restored to its proper position and the Flow Unit "C" mode switch placed in position in accordance with 2MST-APRM29Q.

Reason for Violation A, Example 4:

The reason for this example of the violation is attributed to the Auxiliary Operators (AOs) who performed the valve position verifications making and acting on erroneous assumptions when uncertain about the valve position. Additionally, the maintenance personnel who installed the gagging device did not have a working knowledge of the valve; however, it is Operations' responsibility to position valves in the plant. On this particular valve, an AO did not accompany the maintenance personnel to gag the valve. The maintenance personnel gagged the valve, in what they believed to be, the open position and then left the area. The AOs performing the verifications were not familiar with the valve and relied on the "expertise" of the maintenance personnel who installed the gag, instead of utilizing appropriate resources to determine the valve position.

Corrective Steps That Have Been Taken and the Results Achieved:

On May 3, 1998, the valve mispositioning was recognized and the valve was gagged in the correct position in accordance with the clearance requirements.

Corrective Steps That Will Be Taken to Avoid Further Violations:

The AOs involved in this incident have been counseled to use all available resources, including supervision, when verifying valve positions and the position is questionable. Maintenance supervision has reviewed the lessons learned from this incident with the appropriate crews. An

enhancement is being developed for the applicable system description manual to include a graphic representation of the E41-V159 check valve and its manual lever and to enhance the discussion of the operation of the manual lever as it would be used to open the valve.

Date When Full Compliance Will Be Achieved:

Full compliance with 10 CFR 50, Appendix B, Criterion V, was achieved for this issue on May 3, 1998, when the 1E41-V159 check valve was gagged and verified open in accordance with clearance 1-98-0060.

Reason for Violation A, Example 5:

The reason for this example of the violation is attributed to a personnel error on the part of a work planner who failed to follow the clearance procedure OPS-NGGC-1301, " Equipment Clearance." Contributors to the failure include a lack of understanding of procedural limitations on signing off clearances and failing to employ self checking to verify assumptions concerning clearance boundaries.

Corrective Steps That Have Been Taken and the Results Achieved:

On May 12, 1998, work was stopped on equipment affected by the inappropriately canceled clearance and additional supporting clearances were generated to ensure proper boundaries were established.

Corrective Steps That Will Be Taken to Avoid Further Violations:

The planner who inappropriately signed off the clearances has been counseled concerning the event and the use of self checking techniques including the STAR principle. Additionally, a review to verify the adequacy of the current training for clearance holders is scheduled for completion by December 23, 1998.

Date When Full Compliance Will Be Achieved:

Full compliance with 10 CFR 50, Appendix B, Criterion V, was achieved for this issue on May 12, 1998, when the additional supporting clearances were put into place.

Reason for Violation A, Example 6:

The reason for this example of the violation has been attributed to the individuals responsible for developing and reviewing the clearance not applying the necessary level of attention to detail to ensure that the clearance provided complete controls.

Corrective Steps That Have Been Taken and the Results Achieved:

On May 12, 1998, it was determined that the valve was no longer required to be opened and a boundary change to the clearance was processed to remove the valve from the clearance.

Corrective Steps That Will Be Taken to Avoid Further Violations:

The individuals involved have been counseled on the need for attention to details. This incident has been reviewed with on-line clearance writers, focusing on the need to ensure that abnormal actions are properly linked and/or documented, and is scheduled to be reviewed by outage clearance writers by November 6, 1998. The lessons learned from this event were also reviewed by the applicable Operations personnel.

Date When Full Compliance Will Be Achieved:

Full compliance with 10 CFR 50, Appendix B, Criterion V, was achieved for this issue on May 12, 1998, when the clearance boundary change was processed to reflect plant conditions.

VIOLATION B

10 CFR 50, Appendix B, Criterion XVI, Corrective Action, requires that measures shall be established to assure that conditions adverse to quality, such as failures and malfunctions 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 preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management.

Plant Program Procedure 0PLP-04, Corrective Action Management, Revision 23, required that condition reports be generated to identify potential inoperability of Technical Specification systems and reportable events.

Contrary to the above, the licensee failed to generate condition reports for the following two examples:

1) On February 2, 1998, the licensee failed to promptly identify, correct, determine the cause of the condition, and document the failure of the Jet Assist Time Relay (JATR) time delay relay in Diesel Generator (DG) 2 by failing to initiate a condition report until March 9, 1998. The JATR relay provided an air boost to the DG turbocharger, on emergency loading of the diesel, enabling the diesel to properly assume the large loads required during emergency scenarios.

2) On June 15, 1998, the licensee again failed to promptly identify, correct, determine the cause of the condition, and document the failure of the Run Control Relay (RCR) time delay relay

in DG1 by failing to initiate a condition report until June 23, 1998. The RCR is the same model relay as the JATR. It allows for proper load sequencing of the diesel in certain emergency scenarios when the diesel is already running in local manual status.

This is a Severity Level IV violation (Supplement 1).

RESPONSE TO VIOLATION B

Reason for Violation B, Example 1:

The reason for this example of the violation is attributed to lack of adequate task performance follow-through on the part of the responsible engineer. In addition, inadequate management attention to emerging problems is identified as a contributing factor. An action plan had been approved, which included performing an investigation to determine the cause of the failure. Upon completion of the failure analysis, actions would have been taken to preclude repetition. Regardless of those actions, the responsible individual should have initiated the condition report (CR) as required by the program.

Reason for Violation B, Example 2:

The reason for this example of the violation is attributed to the responsible engineer making an erroneous assumption concerning timeliness of CR initiation. The responsible engineer was waiting to obtain additional information from the calibration technician, who performed post-failure testing of the RCR time delay relay, prior to generating a CR. The engineer did not consider that the additional information should have been obtained as part of the investigation activities.

Corrective Steps That Have Been Taken and the Results Achieved:

CRs were initiated and it was determined that calibration test methodology for the relays needed to be modified to accurately indicate relay performance.

Corrective Steps That Will Be Taken to Avoid Further Violations:

The appropriate individuals, including supervision, associated with these incidents have been counseled concerning the importance of timely CR initiation. These issues have been reviewed with appropriate BSEP engineering personnel in order to increase sensitivity to CR initiation timeliness requirements.

Date When Full Compliance Will Be Achieved:

Full compliance with 10 CFR 50, Appendix B, Criterion XVI, was achieved for these issues on March 9, 1998, for the first example and June 23, 1998, for the second example, when CRs were initiated.

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
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 at the Brunswick Steam Electric Plant of any questions regarding this document or any associated regulatory commitments.

Commitment	Committed date or outage
1. A review to verify the adequacy of the current training for clearance holders is scheduled for completion by December 23, 1998.	December 23, 1998
2. The Violation A, example 6, clearance incident is scheduled to be reviewed by outage clearance writers, with focus on the need to ensure that abnormal actions are properly linked and/or documented.	November 6, 1998