CP&L

Carolina Power & Light Company

P. O. Box 1551 • Raleigh, N. C. 27602

JUL 01 1991

SERIAL: NLS-91-160

R. A. WATSON
Senior Vice President
Nuclear Generation

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 & 50-324/LICENSE NOS. DPR-71 & DPR-62
REPLY TO NOTICE OF VIOLATION (EA 91-045)

Gentlemen:

On May 31, 1991, the Nuclear Regulatory Commission issued a Notice of Violation (EA 91-045) for issues at the Brunswick Steam Electric Plant, Units 1 and 2. Details of the NRC inspections are provided in Inspection Report Nos. 50-325/91-06 and 50-324/91-06 dated May 31, 1991. Carolina Power & Light Company hereby responds to the Notice of Violation. The enclosure to this letter provides CP&L's reply to the Notice of Violation in accordance with the provisions of 10 CFR 2.201. Also enclosed is a check payable to the Treasurer of the United States in the amount of Eighty-Seven Thousand Five Hundred Dollars ($87,500.00).

In the Commission's May 31, 1991 Notice of Violation, recognition of the limited safety impact of the individual violations was acknowledged. The Company continues to believe that management initiatives implemented shortly before these violations will effect the necessary human performance improvements.

Please refer any questions regarding this submittal to Mr. S. D. Floyd at (919) 546-6901.

Yours very truly,

R. A. Watson

R. A. Watson

WRM/wrm (\wp\ea91045.wpf)

Enclosure

cc: Mr. S. D. Ebneter
Mr. N. B. Le
Mr. R. L. Prevatte

Cert No R448527875
IE14 w/ check
1/1 $87,500
483590

R. A. Watson, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.

Susie G. Bunn
Notary (Seal)

My commission expires: 3/28/92

ENCLOSURE

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2
NRC DOCKET NOS. 50-325 & 50-324
OPERATING LICENSE NOS. DPR-71 & DPR-62
REPLY TO NOTICE OF VIOLATION AND
PROPOSED IMPOSITION OF CIVIL PENALTY

VIOLATION A:

Technical Specification 6.8.1.a requires that written procedures be established, implemented and maintained for applicable procedures recommended in Appendix A, Regulatory Guide 1.33, Quality Assurance Program Requirements, November 1972. Appendix A to Regulatory Guide 1.33 requires that administrative procedures be established detailing procedure adherence requirements.

OMM-001 Maintenance: Conduct of Operations, Revision 14, Section 5.2.2, requires that each procedure shall be accomplished in the sequence written and initialed upon completion.

Contrary to the above:

(1) During performance of OPIC-DPT007, Calibration of Rosemount Model 1151 Square Root Differential Pressure Transmitter, for Standby Liquid Control System pump discharge test flow transmitter C41-FT-5512 on March 15, 1991, Instrumentation and Control (I&C) technicians failed to independently verify the torque of the high and low pressure vent plugs as required by steps 7.1.12 and 7.1.13. Additionally, the documentation of the return-to-service required by steps 7.4.6 through 7.4.11 was performed out of sequence in that the second I&C technician performed the independent verification prior to the first I&C technician documenting the restoration steps being completed.

(2) During performance of OPIC-UI004, Calibration of Action Model V560 Indicators, for the Standby Liquid Control System local flow indicator C41-FI-5512 on March 15, 1991, the same technicians failed to document completion of prerequisite step 3.1 for obtaining permission from Operations to initiate the calibration procedure, and step 7.1.1 for opening a terminal box and lifting an electrical lead. The I&C technicians also failed to perform and document an independent verification required by step 7.4.2 prior to completion of the procedure.

This violation applies to Unit 1 only.

RESPONSE TO VIOLATION A:

Admission or Denial of Violation:

CP&L admits to this violation.

Reason for the Violation:

The I&C Technicians that were involved with both procedure non-conformances, performed the physical work as required by the procedure, but failed to maintain the administrative requirements by not initialing the steps as performed.

Corrective Steps Which Have Been Taken and Results Achieved:

The work on the affected equipment was stopped until the extent of the non-conformances could be determined. The work was restarted once the previously performed steps and sign-offs were brought up to date. The work was completed without any adverse results.

Meetings were held by Maintenance supervision with I&C/Electrical and Mechanical crafts-persons. The topic was the expectation for total procedural compliance with special emphasis on attention to detail, sign-offs, independent verification, and keeping all paperwork up to date and current. This was completed by April 15, 1991.

The two individuals involved in the event have received appropriate disciplinary action.

Corrective Steps Which Will Be Taken to Avoid Further Violations:

The "Please Listen" training, which is currently being given, stresses quality communications and self-checking techniques. This training will re-enforce the meetings held by Maintenance supervision. Brunswick Nuclear Project personnel and long term contractors are expected to complete this training by September 27, 1991.

To assess and reduce non-conformances, supervisors are being required to increase their time in the field. Also, Quality Control (QC) and Nuclear Assessment Department (NAD) surveillances have been increased on work activities.

Periodic meetings have been established between the Vice President (Brunswick Nuclear Project) and his supervisors, on expectations, performance standards and employee coaching that will help avoid further violations.

Date When Full Compliance Will Be Achieved:

CP&L is in full compliance.

VIOLATION B:

Technical Specification 6.8.1.a requires that written procedures be established, implemented, and maintained for applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Quality Assurance Program Requirements, November 1972. Appendix A to Regulatory Guide 1.33 requires that maintenance which can affect the performance of safety-related equipment be performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances.

OMM-001 Maintenance; Conduct of Operations, Revision 14, dated January 24, 1991, Section 5.1, states that all maintenance will be performed under the guidance of approved plant procedures or specific instructions on a work request/job order.

Contrary to the above, on March 26 and 27, 1991, while performing maintenance under WR/JO AFXP1 on safety-related Diesel Generator No. 1 for investigation of metallic particles in the lube oil strainer, maintenance personnel conducted activities that were not specified on the work request/job order or an approved plant procedure. Specifically, adjacent camshaft bearings were removed and the diesel was barred over.

This violation applies to Units 1 and 2.

RESPONSE TO VIOLATION B:

Admission or Denial of Violation:

CP&L admits to this violation.

Reason for the Violation:

The instructions in the Work Request/Job Order (WR/JO) depended upon the technical representative providing the necessary guidance and precautions to ensure the investigation and repair activities related to the potential sources of metal particles found in Diesel Generator No. 1 were performed correctly. A maintenance procedure had not been developed since the technical manual did not cover the required work scope, the technical representative was the best source of information, and he was on-site to oversee the repairs. Although the WR/JO was written relying on the technical representative to provide direction and work control, these responsibilities were not adequately communicated. As a result the technical representative did not take an active role in overseeing the repair activities and primarily provided advice when questions were raised.

When an interference was encountered which prevented removal of the #9 bearing by normal means, maintenance personnel sought direction from the technical representative on how to proceed since the WR/JO did not provide direction. He recommended the #8 bearing cap be removed so the cam shaft would drop slightly, allowing more clearance between the #9 bearing and its upper housing. This is the normal practice used by the technical representative for this

bearing. The restriction in the WR/JO instructions to remove every other bearing was not enforced because the WR/JO said to work in accordance with the direction from the technical representative. He recommended pulling adjacent bearings but indicated no concerns or a need to reinstall one of the adjacent bearings prior to proceeding. When the technical representative recommended removing the adjacent bearing caps, he was not aware of the presence of the magnetic pickup unit on the camshaft gear housing as it is normally located on the main shaft flywheel. When #8 bearing was removed, the cam shaft came to rest on the magnetic pickup unit and the night shift mechanics, without a technical representative covering the shift, proceeded to rotate the shaft for cleaning per the next step of the WR/JO. This resulted in damages to the camshaft.

The root causes for this event are:

1. The technical representative was not adequately briefed as to his expected role of providing job direction nor did the work organization/planning process provide for his proper presence at the work site.

2. The technical representative did not communicate the risks and precautions associated with performing the work he directed.

3. Work proceeded without revising the WR/JO instructions, thus bypassing the planning process.

Corrective Steps Which Have Been Taken and Results Achieved:

Following the camshaft damage, repair activities were suspended until a repair procedure was prepared and approved. The damage was then repaired and Diesel Generator No. 1 returned to service.

The Communications, Command and Control Manual (BSP-50) was issued in April 1991. This manual further establishes uniformity in the execution of command and control process and requires that appropriate individual work activity will be under the command and control of a designated individual and involved parties will understand who is that designated individual. This individual will establish "Control," meaning he will verify that everything occurs in conformity with an adopted plan, with approved instructions, and in accordance with established principles. He will ensure Site Work Force Control Group (SWFCG) criteria have been met by ensuring plant conditions necessary to perform the evolution exist and that a briefing of the participants has been conducted to discuss the expected parameter changes and plausible significant consequences of error.

Corrective Steps Which Will Be Taken to Avoid Further Violations:

1. Maintenance will review and revise applicable procedures as needed to reflect lessons learned during the diesel generator work (such as not rotating the engine with a magnetic

pickup installed and the #9 camshaft bea[illegible]n the same bank removed). This action is expected to be completed by September 2[illegible], 1991.

2. Maintenance and Technical Support will assess the need for better controls on the use of technical representatives (and other contractors) in providing direction and control (or other critical activities) over work on Q-list equipment. If a contractor is going to be used for this type of activity, the scope of his authority and responsibilities should be agreed to in advance and documented in writing as needed. Other important personnel in job planning and execution need to be made aware of this agreed upon scope. This action is expected to be completed by September 27, 1991.

3. This event and the lessons learned will be reviewed by the appropriate Maintenance and Technical Support personnel. This action is expected to be completed by October 31, 1991.

Date When Full Compliance Will Be Achieved:

CP&L is in full compliance.

VIOLATION C:

Technical Specification 6.8.1.a requires that written procedures be established, implemented, and maintained for applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Quality Assurance Program Requirements, November 1972. Appendix A to Regulatory Guide 1.33 requires administrative procedures for equipment control.

Administrative Instruction AI-58, Equipment Clearance procedure, Revision 34, Section 5.3.8, requires that double verification be performed for removal from service of systems/components important to safety as designated in the Operating Manual Administrative Procedure AP; Volume I, Revision 130, Table 11.7.1, which includes the Emergency Diesel Generator System. Double verification is defined to mean that each operator will independently identify the component before manipulation of the component.

Local Clearance 2-91-0201 was approved on March 30, 1991, to allow removal of Diesel Generator No. 4 from service. Tag No. 1 of the local clearance required that the Diesel Generator No. 4 control power breaker be placed in the off position.

Contrary to the above, on March 30, 1991, when instructed to remove Diesel Generator No. 4 from service, one auxiliary operator erroneously tagged and opened the control power breaker for switchgear 2-4, and the second auxiliary operator did not verify that the control power breaker for Diesel Generator No. 4 had been identified before the control power breaker was opened.

This violation applies to Unit 2.

RESPONSE TO VIOLATION C:

Admission or Denial of Violation:

CP&L admits to the violation.

Reason for the Violation:

The clearance required opening the Diesel Generator No. 4 output breaker, its control power (both located in the Switchgear E4 cubical) and, the Diesel generator No. 4 DC control power (located by the Diesel Generator No. 4 on a lower elevation of the diesel generator building). The Senior Auxiliary Operator (AO) developed an incorrect mindset and prepared to open the Switchgear E4 control power breaker which is also located in the Diesel generator No. 4 output breaker cubical. The Senior AO and the assisting AO both checked the intended action as required by double verification, but neither compared the breaker label with the component or the location specified in the clearance. Failure to correctly perform double verification, resulted in the clearance tag being hung on switchgear E4 DC control power breaker versus the Diesel Generator No. 4 DC control power breaker.

Corrective Steps Which Have Been Taken and Results Achieved:

The control room became aware that the wrong breaker had been turned off and called the System Engineer for assistance in assessing the effect of turning this breaker off. The incorrectly hung clearance tag was removed and the switchgear E4 DC control power was re-energized without incident.

The two individuals involved in the event have received appropriate disciplinary action.

Corrective Steps Which Will Be Taken to Avoid Further Violations:

1. Operations Shift Supervisors are conducting briefings with each crew to include the following:

   * Review requirements of AI-53, Equipment Clearance Procedure with added emphasis on specific steps for performance of independent and double verification.
   * Attention to details.
   * Consequences of tagging errors.
   * Review of plant events involving improper performance of independent and double verifications.
   * Each operations person is responsible for their individual actions.

   This action is expected to be completed by July 31, 1991.

2. Provide additional Electrical Distribution Systems training for AOs who are responsible for placing electrical clearances. This action is expected to be completed by December 20, 1991.

Date When Full Compliance Will Be Achieved:

CP&L is now in full compliance.

SUMMARY:

Our review of the events related to these violations indicates they represent residual symptoms of problems with personnel fully adhering to the expected standards of performance that have been established by management. The events contain similar behavior issues which were recognized during the on-going assessment of previous events where actions have been initiated. Some of these actions have been completed and others are just now beginning to provide payback.

The Company believes that there was not sufficient time between the January 25, 1991 Unit 2 reactor scram (EA 91-023) response and the subsequent March events for the long term corrective actions to be fully effective. However, we believe that these actions remain adequate to alleviate concerns with the work control process at the Brunswick Plant for the long term.

Long term corrective actions involved are:

1. Site Communications, Command and Control Manual (BSP-50) established the guidance needed to ensure uniformity of oral communications and the execution of command and control. This includes requirements for pre-job briefings and establishing leadership responsibilities. This procedure was approved April 8, 1991.

2. During the months of November and December 1990, site personnel attended a training class entitled "Reducing Human Error." As a follow-up to this training, a "Please Listen" program was implemented to make personnel aware of the importance of good communications and to enhance self-checking in the work place. This training began in April 1991. Brunswick Nuclear Project personnel and long term contractors are expected to complete this training by September 27, 1991.

3. In April 1991, periodic meetings were established between the Vice President - BNP and supervision on expectations, performance standards, and employee coaching.

4. Along with the increased time supervisors are expected to spend in the field, increased surveillance of work activities by QC and NAD were initiated. This action was initiated in April 1991.

5. Additional focus has been placed on emphasizing management expectations for, first and second line supervisor roles, and individual accountabilities. These expectations are being reinforced by increased attention in exercising consequence management. Along with initiating standardized disciplinary practices to dis· ·rage inappropriate behavior a program has been initiated to recognize winning behavior.

These actions will lead to increased attention to detail by personnel, increased follow-through to produce the desired personnel behavior, and sustained improved performance.