CP&L

Carolina Power & Light Company

Brunswick Steam Electric Plant
P. O. Box 10429
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June 3, 1985

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Dr. J. Nelson Grace, Administrator
U.S. Nuclear Regulatory Commission
Suite 2900
101 Marietta Street NW
Atlanta, GA 30323

BRUNSWICK STEAM ELECTRIC PLANT UNITS 1 AND 2
DOCKET NOS. 50-325 AND 50-324
LICENSE NOS. DPR-71 AND DPR-62
RESPONSE TO INFRACTIONS OF NRC REQUIREMENTS

Dear Dr. Grace:

The Brunswick Steam Electric Plant (BSEP) has received I&E Inspection Report 50-325/85-05 and 50-324/85-05 and finds that it does not contain information of a proprietary nature.

This report identified one item that appeared to be in noncompliance with NRC requirements. Enclosed please find Carolina Power & Light Company's response to that violation.

Very truly yours,

C. R. Dietz, General Manager
Brunswick Steam Electric Plant

RMP/dj

Enclosure

cc: NRC Document Control Desk

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IE01

VIOLATION:

Technical Specification 6.8.1(c) requires that written procedures be implemented for surveillance and test activities of safety-related equipment.

Contrary to the above, the Licensee did not implement PT-01.1.7PC in that Step VII.D.3.a was not completed upon resumption of the surveillance test after an eight-hour postponement. Consequently, average power range monitors were not bypassed during the individual local power range monitors calibration resulting in a half Reactor Protection System trip.

This is a severity Level IV violation (Supplement I).

RESPONSE:

I. Admission or Denial of the Alleged Violation:

Carolina Power & Light Company acknowledges that it did not perform Step VII.D.3.a in accordance with PT-01.1.7PC.

II. Reason for Violation:

APRM channel calibration PT-01.1.7PC is an extensive and lengthy surveillance conducted on a rotating shift basis. The PT was commenced on day shift (0800-1530), March 11, 1985. The day shift completed the LPRM A power supplies and turned the PT over to the night shift (1530-2400) for continuance. The turnover between the day and night shift personnel included face-to-face verbal instructions, covered system and equipment status, and identified progress to date. The night shift technicians completed the LPRM B power supplies and started the APRM section of the PT. At the beginning of the APRM ion chamber power supply (ICPS) section, Step VII.D.3.a requires the APRM under test to be bypassed at the RTGB. This step was completed and signed off by the night shift technician as each of the power supplies was completed. When night shift coverage was terminated, the Shift Foreman was notified that the PT was being interrupted until the day shift, and all bypassed APRMs were taken out of bypass by Operations. The night shift technician recorded his progress in the PT turnover log and work was discontinued until day shift, March 12, 1985.

On March 12, the day shift PT technicians reviewed the turnover log and continued PT-01.1.7PC at the LPRM calibration step where the night shift had stopped. Although the APRM bypass step (VII.D.3.a) was still applicable to the remainder of the LPRM calibration section, it was not repeated because the blanks (sign-offs) had been initialed by the night crew. The PT continued without incident through APRMs A and C. While calibrating APRM E, however, a half scram was incurred when the first LPRM input to APRM E was bypassed. A review of initial conditions indicated that APRMs A and C had in excess of 12 LPRM inputs, while APRM E had only 11, the minimum required. A half scram was automatically initiated on RPS channel A when the first LPRM input to APRM E was placed in bypass.

The Unit 1 Shift Foreman informed the PT crew of the half-scram condition and subsequently bypassed APRM E to clear the half scram. When questioned by the Shift Foreman with respect to the minimum number of LPRM inputs required for APRM operability, the technicians involved demonstrated a limited knowledge of specific system operation.

Upon returning APRM E to service, the APRM channel calibration PT was discontinued pending investigation of the event. Factors contributing to the event were:

A. Insufficient controls in effect to ensure a proper turnover.

B. Deficient surveillance procedure.

C. A lack of system knowledge on the part of the technicians involved.

III. Corrective Steps Which Have Been Taken:

A. A set of turnover guidelines for the conduct of technical specification required periodic testing has been promulgated to ensure improved turnover occurs between groups or individuals if responsibility for the work is transferred prior to completion of the entire procedure (Enclosure 1).

B. PT-01.1.7PC was revised on March 18, 1985 (revision 18), to better define steps that ensure the APRM under test or calibration is in bypass during performance of sensitive sections of the PT and to add an appropriate caution with respect to minimum required LPRM inputs to APRMs under test.

C. Formal training was conducted for both Units 1 and 2 PT crews on the operation of the APRM System including inputs, trip functions, indications, and relationships to other systems (Enclosure 2).

IV. Corrective Actions Which Will Be Taken:

No further action is planned.

V. Date Full Compliance Will Be Achieved:

Full compliance has been achieved.

ENCLOSURE 1

Surveillance Activity Turnover Guidelines

Applicability: These guidelines are to be used by personnel conducting technical specification required periodic testing whenever responsibility for this testing is transferred from one group to another while still in progress.

Discussion: The safe and efficient conduct of periodic testing must be accomplished in a manner which supports reliable and sustained plant operation. A vital element in incident-free completion of the testing is a method to ensure adequate turnover occurs between groups or individuals if responsibility for the work is transferred prior to completion of the entire procedure. The following guidelines will provide the method to be used whenever this action takes place whether from shift to shift or between any single individual or group, to another. In all cases, procedures should be interrupted for turnover only at a point that ensures safe operating conditions of the system.

Guidelines: Whenever periodic testing is turned over, verbal communication should be used if possible. This provides a question and answer exchange which offers the most direct link between work groups. The foreman or lead technician for the off-going work groups should give a complete update of the job status to his counterpart in the on-coming work group. This status update should include precautions, changes (or anticipated changes) in plant conditions, a review of the procedure including problems encountered, and any other pertinent information associated with the testing in progress. If a verbal turnover is not possible, a written turnover will be attached to the procedure or thoroughly documented in the PT Turnover Log. The written turnover must include all information necessary to safely continue the work in progress and should include the names of individuals who were previously involved with the surveillance. If after reviewing the procedure and the written turnover any questions are left unanswered, phone calls should be made to ensure all conflicts are resolved. At no time should surveillance testing recommence following a personnel or shift turnover without a thorough review and complete understanding of all work completed to that point.

Responsibilities: PT Crew Foreman - Implement and ensure compliance with the turnover guidelines established herein.

ENCLOSURE 2

I&C PT Crew Training on APRM/LPRMs

1. Provided in-depth discussion into LPRM operation including size, makeup, and location of LPRM detectors. Discussed the LPRM inputs into APRMs, RBMs, and process computer and how each system uses this input. Briefly discussed RBM operation in relation to control rod movement and also TIP operation in calibrating LPRMs.

2. Discussed block diagram of an APRM with emphasis on LPRM count circuit, inoperable circuitry, and other trip circuits. Showed relation of reactor recirculation flow to reactor power and how the flow units provide this signal to the APRMs. Discussed the fixed and flow biased trips of the APRM that trip RPS and RMCS (rod block).

3. Final discussion was on APRM operability based on LPRM inputs. Eleven inputs total or two inputs per level are required to maintain operability. Lastly, the point was made that any work done in the APRM cabinets (except functional tests) should be done only with the APRM in bypass.

Reference: BWR System Training Orientation Manual