CP&L

Carolina Power & Light Company

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AUG 24 1988

M. A. McDUFFIE
Senior Vice President
Nuclear Generation

SERIAL: NLS-88-206

Director, Office of Enforcement
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
ANSWER TO A NOTICE OF VIOLATION
EA 88-131

Gentlemen:

The NRC issued a notice of violation and proposed imposition of civil penalty for the Brunswick Steam Electric Plant (BSEP), Units 1 and 2 on July 25, 1988. Pursuant to 10CFR2.201, Carolina Power & Light Company (CP&L) hereby submits a reply to the notice of violation. Each of the violations is addressed in Enclosures 1, 2, and 3, respectively. Each response includes (1) an admission or denial of the violation, (2) the reason for the violation, (3) corrective actions which have been taken, (4) future corrective actions, and (5) the date by which compliance will be achieved.

Carolina Power & Light Company agrees that the violations, when viewed together, identify an issue of critical importance to the safe operation of the Brunswick Plant and meet the criteria for imposition of a civil penalty. The Company does not agree, however, that escalation of the civil penalty for an event lacking serious safety significance is justified, simply because the event has been collectively incorporated with two other events.

The three events were collectively categorized as Severity Level III in accordance with Supplement I of 10CFR2, Appendix C. It is the prerogative of the NRC to combine events, activities, and/or violations together if circumstances or conditions so warrant. Combination of such events allows the overall safety significance of similar issues to be put into proper perspective. However, once these events have been combined to represent a more significant concern, they lose their unique identity. Thus, considerations for escalation of the penalty must be evaluated against the violation as a whole (i.e., the combination of the three violations) since that is what provides the justification for the base civil penalty.

IE14
1/1
w/check $50,000
#006266

As stated in the Notice of Violation, the three violations cited individually do not have serious safety significance and, therefore, if cited individually, would not warrant a civil penalty. Considerations for escalation were based solely on Violation B; not on the violation as a whole. Thus, the Company believes that the escalation of the civil penalty under 10CFR2, Appendix C, item V.B.3 (Past Performance) is inappropriate. Consistent with the responses included in Enclosures 1, 2, and 3, Carolina Power & Light Company hereby submits a check in the amount of $50,000.00 for payment of the proposed civil penalty and takes exception to the $25,000.00 escalation.

Please refer any questions regarding this submittal to Mr. Stephen D. Floyd at (919) 836-6901.

Yours very truly,

M. A. McDuffie

BAB/bab(\cor\vresp)

Enclosures

cc: Dr. J. Nelson Grace
Mr. W. H. Ruland
Mr. B. C. Buckley

M. A. McDuffie, 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.

Ruby R. Morgan
(Notary Seal)

My commission expires: 11/27/89

RUBY R. MORGAN
NOTARY
PUBLIC
WAKE COUNTY, N. C.

ENCLOSURE 1

RESPONSE TO VIOLATION A

Description of Violation

The NRC's Notice of Violation states the following:

"Technical Specification (TS) 3.0.4 states that entry into an OPERATIONAL CONDITION or other specified applicability state shall not be made unless the conditions of the Limiting Condition for Operation are met without reliance on provisions contained in the ACTION statements unless otherwise excepted.

"TS 3.5.3.2 requires in OPERATIONAL CONDITIONS 1, 2, and 3 that two independent low pressure coolant injection (LPCI) subsystems of the residual heat removal (RHR) system be OPERABLE with each subsystem comprised of two pumps and an OPERABLE flow path capable of taking suction from the suppression pool and transferring the water to the reactor pressure vessel.

"TS 3.6.1.1 requires in OPERATIONAL CONDITIONS 1, 2, and 3 that primary containment integrity be maintained.

"TS 3.6.1.3 requires in OPERATIONAL CONDITIONS 1, 2, and 3 that the primary containment air lock be OPERABLE with: (1) both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed; and (2) an overall air lock leakage rate of less than or equal to $0.05L_a$ at P_a, 49 psig.

"Contrary to the above, at 4:35 a.m. on April 26, 1988, Unit 2 entered OPERATIONAL CONDITION 2 when the unit's mode switch was placed in the Startup/Hot Standby position without RHR Division II being aligned for automatic LPCI initiation, without primary containment integrity being established, and with the primary containment air lock doors open."

Response to Violation A

I. Admission Or Denial Of The Violation

CP&L acknowledges the requirements of Technical Specifications 3.5.3.2, 3.6.1.1, and 3.6.1.3 were not met on April 26, 1988, when the unit entered OPERATIONAL CONDITION 2 for surveillance testing. This event was previously reported in Licensee Event Report 1-88-015.

II. Reason For Violation

While preparing to perform a reactor startup on April 26, 1988, the reactor mode switch was placed in the Startup position at 1435 to perform the rod worth minimizer (RWM) system surveillance Periodic Test (PT)-01.6.2-2 and the rod sequence control system (RSCS) surveillance test PT-01.6.1. Following completion of these tests, the mode switch remained in the Startup position until the actual reactor startup was begun at approximately 1600 hours. Section 1.0 of the Technical Specifications defines OPERATIONAL CONDITION as "...any one inclusive combination of mode switch position and average reactor coolant temperature as indicated in Table 1.2." Technical Specification 3.0.4 states:

> "Entry into an OPERATIONAL CONDITION or other specified applicability shall not be made unless the conditions of the limiting condition for operation (LCO) are met without reliance on provisions contained in the action statements unless otherwise excepted."

A mode change is initiated by either placing the mode switch to another position or by changing the reactor coolant temperature. In addition to this definition, the TS provide specific conditions or situations where the OPERATIONAL CONDITION is not defined by these two parameters exclusively. An example of this is found in Footnotes #, ##, and *** associated with Table 1.2 of the Technical Specifications. These footnotes include provisions allowing the reactor mode switch to be placed in an otherwise unauthorized position to perform a specified function while not changing operating modes. While one of these footnotes is being applied, the operating mode remains the same as that established prior to moving the mode switch to the position allowed by the footnote.

The surveillance testing required by Technical Specifications 3/4.1.4.1 and 3/4.1.4.2 which relate to the RWM and the RSCS each have a Footnote * associated with them which states:

> "Entry into Condition 2 and withdrawal of selected control rods is permitted for the purpose of determining the operability of the RWM (RSCS) prior to withdrawal of control rods for the purpose of bringing the reactor to critically."

The operations staff believed that repositioning the mode switch for the performance of the RWM and RSCS surveillance tests was allowed by Footnote *. The difference in wording between the footnote associated with TS Table 1.2, "...mode switch may be placed in the STARTUP/HOT STANDBY (REFUEL) position...," and Technical Specifications 3/4.1.4.1 and 3/4.1.4.2, "Entry into Condition 2...," was not recognized. This interpretation was found to be consistent within the Operation staff and had been in effect as long as anyone could remember. Moreover, even though the requirement to meet OPERATIONAL CONDITION 2 was not met, plant procedures and supervisory controls were in place to

prevent control rod withdrawal for the purpose of bringing the reactor to criticality. The operations staff believed that they were in OPERATIONAL CONDITION 4 and knew that shutdown cooling was in service per TS 3.5.3.2 and that the drywell was open for maintenance per TS 3.6.1.1 and 3.6.1.3.

III. Corrective Actions Which Have Been Taken

A Standing Instruction was issued on April 26, 1988 which identified the failure to properly position the mode switch and provided the requirements to ensure proper mode switch operation and OPERATIONAL CONDITION changes. A review was conducted of other Technical Specification notes to determine if similar problems existed. No problems were identified.

A real-time training package on the reactor mode switch change event was developed and training conducted for operations personnel. In addition, procedure changes have been completed which provide controls of the mode switch/OPERATIONAL CONDITION changes during the reactor startup process.

IV. Corrective Actions To Be Taken

No further actions are required as a result of this event.

V. Date When Full Compliance Will Be Achieved

CP&L is now in full compliance with the applicable requirements.

ENCLOSURE 2

RESPONSE TO VIOLATION B

Description of Violation

The NRC's Notice of Violation states as follows:

"Technical Specification 6.8.1.a requires that written procedures shall be implemented for applicable procedures recommended in Appendix A of Regulatory Guide 1.33, November 1972. Appendix A requires operating procedures for the RHR system. Operating Procedure, OP-17, RHR System Operating Procedure, Revision 76, implements this requirement and requires that the RHR heat exchanger outlet valve (E11-F003A) be either in the fully open or closed position during the shutdown cooling mode.

"Contrary to the above, OP-17 was not fully implemented on May 11, 1988 in that valve E11-F003A was used in a throttled position during the shutdown cooling mode on Unit 2."

Response to Violation B

I. Admission Or Denial Of The Violation

CP&L acknowledges that OP-17 was not fully implemented in that the E11-F003A valve was not in the open position as required by that procedure. It is noted that this event was identified by the licensee and that there was no safety significance to the event.

II. Reason For The Violation

A root cause which led to the event is that operations personnel failed to recognize that throttling of the E11-F003A valve was not an evolution allowed by Operating Instruction (OI)-01, paragraph 4.4, "Simple Evolutions."

An additional root cause which led to the event (inadvertent heatup) is believed to be an apparent design inadequacy within the shutdown cooling system. As noted below, during periods of low decay heat generation, the ability to throttle cooling systems (the E11-F003A valve) to match heat load does not exist.

Prior to the event, shutdown cooling had been established using the "A" loop of RHR. Due to the low decay heat load and the inability to throttle the E11-F003A valve by design (the valve logic allows only full-open or full-closed), coolant temperature was maintained by opening and closing the E11-F003A valve in accordance with OP-17. At approximately 1255 hours on May 11, 1988, it was determined that the

E11-F003A valve could not be opened with the control switch. To allow maintenance personnel to troubleshoot and repair the problem, the valve needed to be de-energized; however, this action would remove the ability to control the coolant temperature.

OI-01 provides guidance to the operations personnel on evolutions that are considered "simple" and, therefore, do not require specific procedures for implementation. Examples of such evolutions are the changing of chart paper, venting a heat exchanger when the operator opens and closes the valves in a relatively short period, and blowing down an air receiver. The operations staff on duty at the time of this event believed that the manual throttling of the E11-F003A valve with the breaker de-energized met "simple evolution" criteria. With the breaker de-energized, the valve would remain in the throttled position (maintaining coolant temperature) until the repairs were completed, at which time, the breaker would be re-energized and coolant temperature would again be controlled by OP-17, by opening and closing the E11-F003A valve.

During the troubleshooting and repair process, the E11-F003A valve was inadvertently closed and not recognized by the operations staff. The method which should have been used to throttle the E11-F003A valve was to initiate a temporary change to OP-17. This process would have required a safety analysis and increased the potential for establishing controls for insuring the position of the E11-F003A valve.

III. Corrective Actions Which Have Been Taken

Training has been initiated for the operations staff by the Operations Manager concerning what constitutes a "simple evolution," which is defined as an evolution not requiring a procedure.

IV. Corrective Actions To Be Completed

An evaluation is to be conducted to determine if the E11-F003 valves in both trains of RHR for both units should be modified to make them throttle valves. This would require possible valve changeouts (gate valves to globe valves) as well as associated logic changes.

V. Date When Full Compliance Will Be Achieved

The evaluation described above will be completed by October 3, 1988. Any changes or modifications resulting from this evaluation will be scheduled through the normal management process. In addition, OP-17 will be revised by October 3, 1988, to provide procedural guidance on throttling the E11-F003 valves as required in the future. Any modification implemented in the future will be reflected in OP-17 through the plant modification process.

ENCLOSURE 3

RESPONSE TO VIOLATION C

Description of Violation

The NRC's Notice of Violation states as follows:

"Technical Specification 3.3.1 requires, as a minimum, that the reactor protection system (RPS) instrumentation channels shown in Technical Specifications Table 3.3.1-1 be operable. Accordingly, notation "b" of Technical Specifications Table 3.3.1-1 requires that while in OPERATIONAL CONDITION 5, "shorting links" be removed from the RPS circuitry prior to and during the time any control rod is withdrawn.

"Contrary to the above, from 3:50 a.m. until 7:48 p.m. on March 8, 1988, with the reactor in OPERATIONAL CONDITION 5, Unit 2 control rod 10-39 was in the fully withdrawn position and the shorting links were not removed from the RPS circuitry."

Response to Violation C

I. Admission Or Denial Of Violation

CP&L acknowledges that control rod 10-39 was fully withdrawn with the shorting links not removed. This event was identified by the licensee and reported in Licensee Event Report 1-88-06. There was no safety significance involved with this event since the plant is analyzed as safe with the highest worth control rod withdrawn. In addition, the refueling interlocks would prevent withdrawal of additional control rods.

II. Reason For The Violation

The failure to insert control rod 10-39 prior to inserting the shorting links was due to personnel error by the licensed operator. The failure to recognize that control rod 10-39 as being withdrawn was impeded due to an inoperable position indication switch and a lack of training on a computer software change which displays control rod positions.

At 2025 hours on March 7,1988, the shorting links were removed to permit performance of Periodic Test (PT)-14.1,"Control Rod Operability Check," and PT-14.1A, "Control Rod Coupling Check and Control Rod Drive Testing." These tests were being performed on several control rods following maintenance during the outage. At 0029 hours on March 8, 1988, control rod motion was secured with control rod 10-39

being the last rod tested. Step 7.10 of PT-14.1A requires that the control rod being tested be returned to the full-in position; however, this step did not require a sign-off or independent verification. The operator failed to follow this step. At 0350 hours, the shorting links were installed following a verification that control rods were inserted, thus initiating the violation. This condition existed until 2052 hours, at which time control rod 10-39 was inserted by its individual scram switch.

As noted, a verification that control rods were inserted was performed prior to inserting the shorting links. Control rod 10-39 was not identified as being full out due to two problems: (1) the full-out position indication switch was inoperable during this time period; and (2) the computer program for verifying the control rod position was modified during the outage prior to this event.

The position indication switch problem had been identified prior to this event and was scheduled to be repaired prior to unit startup. Access to the drywell is required as these switches are located within the control rod drive unit. This switch provides a signal which energizes the full-out indication (a red light) on the full core display on the control panel.

Prior to the refueling outage during which this event occurred, the computer program used to verify control rod positions was OD-7, option 2. This program would print out "48" for those control rods that were full-out. Late in core life, most, if not all control rods are in the full-out position, thereby making the OD-7, option 2 printout more difficult to review. To provide better human factored printouts for control rod position indication (to make them less "busy"), another OD-7 option was developed which would not print anything for a control rod at position 48 (full-out). By doing this, a full core printout of control rod positions late in core life would only print values for those rods not fully withdrawn.

Confusion arose because the new option was defined as OD-7, option 2, while the "old" OD-7, option 2 was renamed OD-7, option 3. The operators were not aware of this change at the time the incident occurred, so that when the printout of control rod position indications was reviewed, the operators would have been looking for a "48." The printout that they saw showed all "0's" except for one small blank (no number), which was not identified. Training was scheduled to address this program change prior to the completion of the outage.

III. Corrective Actions Which Have Been Taken

The following corrective actions have been completed:

1. Operations personnel involved with this event have been counseled.

2. A Standing Instruction was initiated following identification of this event to inform operations personnel of the computer program change. This instruction has since been deleted as training has been provided.

3. PT-14.1A has been revised to require sign-off and independent verification of control rod position following rod testing.

4. The full-out position switch was repaired prior to the unit startup.

IV. Action Which Will Be Taken

No further actions are required as a result of this event.

V. Date When Full Compliance Will Be Achieved

CP&L is now in full compliance with the applicable requirements.