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ACCESSION NBR: 9212070191 DOC. DATE: 92/12/04 NOTARIZED: NO DOCKET #
 ACIL: 50-261 H.B. Robinson Plant, Unit 2, Carolina Power & Light C 05000261
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SUBJECT: Responds to NRC ltr re violations noted in insp rept
 50-261/92-27. Corrective actions: method of ensuring proper &
 appropriate use of Operating Experience Feedback in support
 of an infrequently performed test or evolution instituted.

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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
NRC INSPECTION REPORT NO. 50-261/92-27 REPLY TO A NOTICE OF VIOLATION

Gentlemen:

Carolina Power and Light Company hereby provides this reply to the Notice of Violation identified within NRC Inspection Report 50-261/92-27.

The enclosure provides, for each violation, the identified causal factors and root causes, the corrective actions which have been taken, the corrective actions which are planned, and the due dates for completion of these planned corrective actions.

Should you have any questions regarding this matter, please contact Mr. J. L. Harrison at (803) 383-1433.

Very truly yours,

Charles R. Dietz
Vice President
Robinson Nuclear Project Department

CTB:lst

Enclosure

cc: Mr. S. D. Ebner
Mr. L. W. Garner
INPO

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REPLY TO A NOTICE OF VIOLATION

Severity Level IV Violation (RII-92-27-01)

Technical Specification 6.5.1.1.1.a requires that procedures be established for activities referenced in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Appendix A, Item 3.a, requires instructions for draining the Reactor Coolant System (RCS). GP-008, "Draining The Reactor Coolant System," Revision 24, was established to provide instructions for draining the RCS.

Contrary to the above, on September 12, 1992, GP-008 was not adequately established in that the instructions provided did not contain precautions concerning vessel water level instrumentation errors that result from performing an inventory reduction with the RCS pressurized. Entrance into mid-loop operation with the RCS pressurized to 5 psig, as allowed by GP-008, would result in a loss of decay heat removal.

Reply

1. The Reason for the Violation

Adverse Condition Report (ACR) No. 92-343 was issued to document the sequence of events associated with the September 12, 1992, inventory reduction and to determine root cause(s), causal factors, and corrective actions. Although the evaluation of this ACR is not yet finalized, certain issues have been identified as primary causal factors. These factors were validated and reiterated within a Nuclear Assessment Department Special Assessment, "RNP RCS Draindown Evolution of September 12, 1992," Report File No. R-SP-92-17, dated October 29, 1992. These issues are summarized and discussed as follows:

- Inadequacies within General Procedure, GP-008, "Draining the Reactor Coolant System"

In order to preclude the entry of oxygen into the RCS and thereby support proper chemistry control, General Procedure, GP-008, allowed the initial draining of the RCS to be performed with a nitrogen overpressure. The revision of GP-008 being utilized during the September 12, 1992, draindown (Revision 24) allowed a 5 psig overpressure on the Pressurizer Relief Tank. Review of the history of this procedure revealed that Revision 13, which was implemented in 1988, revised the overpressure value from 0.5 psig to 5 psig with no explanation or justification. The most reasonable explanation for this change is a typographical error that was not detected during development or review of this revision. While this was of no consequence while using Pressurizer level indication or the Reactor Vessel Level Indication System, when the RCS standpipes were placed in service, this difference resulted in a level indication error of 10 feet versus 6 inches.

In addition, GP-008 instructions and precautions were inadequate with regard to the use of nitrogen overpressure when the RCS standpipes were to be placed in service. There were no specific instructions precluding the use of nitrogen overpressure, and there were no specific precautions or technical information which correlated the amount of nitrogen overpressure to a specific level indication error.

- Ineffective Use and Implementation of PLP-037, "Conduct of Infrequently Performed Tests or Evolutions"

Plant Programs procedure, PLP-037, was developed to implement INPO's Significant Operating Experience Report (SOER) 91-01, "Conduct of Infrequently Performed Tests or Evolutions." This procedure identified the RCS draindown as a Case 1 evolution, and required the identification of a Management Designated Monitor (MDM) to coordinate and oversee this evolution. However, several deficiencies occurred during the implementation of this program.

The MDM had determined that the draindown would be performed without a nitrogen overpressure, however, this determination was not effectively conveyed to the Shift Supervisor. Through discussion between the shift operating crew and chemistry personnel, a decision was made to maintain the nitrogen overpressure to support RCS chemistry control. However, this discussion and the resultant decision were not communicated to the MDM. In addition, the MDM had several concurrent duties which did not allow an appropriate level of attention to be applied to the draindown evolution. As a result, the MDM was unaware that the draindown was proceeding with the nitrogen overpressure in service.

An additional issue which may have contributed to the ineffective implementation of PLP-037 is associated with the classification of evolutions which are reviewed under this procedure. More specifically, all General Procedures are "automatically" assigned a Case 1 rating under PLP-037. As such, an evolution such as a normal plant cooldown would receive the same weight and consideration as an RCS draindown to mid-loop operation. This classification system may have inadvertently reduced the sensitivity of both the shift operating crew and the MDM to the complexity and seriousness of the RCS draindown.

The utilization of Operating Experience Feedback in the preparations for the RCS draindown evolution was also identified as a deficiency. As required by PLP-037, the MDM performed a briefing with the shift operating crew prior to the initiation of the RCS draindown. Although the MDM was generally aware of industry events involving RCS draindown evolutions, no specific events were discussed, nor was an adequate level of detail provided.

- Inadequate Shift Teamwork Practices

As the shift operating crew prepared to place the RCS standpipes in service, the Senior Control Operator (SCO) expressed concerns regarding level indication errors that could be introduced by the nitrogen overpressure. Several members of the crew, including the Shift Supervisor, discussed these concerns. The Shift Supervisor believed that this evolution had been performed in a similar manner in the past and that significant level errors had not occurred. In addition, the Shift Supervisor believed that system head losses during the RCS draindown would compensate for the effects of the nitrogen overpressure. Other crew members felt confident that they were performing this evolution in accordance with an approved procedure and that this evolution had been successfully performed in the past. Ultimately, the Shift Supervisor failed to adequately address the SCO's concerns, while in turn the SCO was not sufficiently aggressive in advocating his position. Subsequent to these discussions, the draindown evolution was continued with the RCS standpipes in service and the nitrogen overpressure on the RCS.

A number of resources were available to the shift operating crew which could have been utilized in addressing the SCO's concerns. These included the MDM, other members of Operations management, the Technical Support Unit, and the Shift Technical Advisor. These resources were not consulted prior to placing the RCS standpipes in service. In short, the shift operating crew failed to utilize the external resources which were available to either validate the SCO's concerns, or to provide a sound technical basis for not acting upon them.

2. The Corrective Steps That Have Been Taken and the Results Achieved

In order to address the deficiencies described above, GP-008 has been revised. This revision has justified the allowance of a 4 to 6 psig nitrogen overpressure during the initial phases of an RCS draindown while utilizing Pressurizer level indication and/or the Reactor Vessel Level Indication System. However, prior to draining beyond the lower range of Pressurizer level indication, and before placing the RCS standpipes in service, the RCS will be vented. In short, the RCS standpipes will not be placed in service with a nitrogen overpressure on the RCS. This change to GP-008 was accomplished by Revision 25 which was approved on December 4, 1992.

3. The Corrective Steps That Will Be Taken to Avoid Further Violations

As part of the review and evaluation of ACR No. 92-343, a number of corrective actions have been identified which are intended to address inadequacies associated with the implementation of PLP-037. To ensure the proper and effective implementation of SOER 91-01, the following items will be reviewed and evaluated as potential revisions or enhancements to this program:

- Methods to ensure that the MDM maintains adequate communications with those performing the test or evolution.
- A method of evaluating tests and evolutions on a case-by-case basis to ensure the effectiveness of this program is not diluted by "over-classification" of more routine evolutions.
- The designation of the appropriate levels of management for the monitoring of critical evolutions.
- A method of ensuring that the MDM is not assigned concurrent duties that would preclude adequate oversight of the infrequently performed test or evolution.
- A method of ensuring the proper and appropriate use of Operating Experience Feedback in support of an infrequently performed test or evolution.

To address those items that were identified under Inadequate Shift Teamwork Practices, this event will be reviewed within Licensed Operator Retraining. It is intended that this review include a demonstration of how proper self-checking could have led to early detection of the RCS standpipe level indication error. It is further intended that this review emphasize the need to analyze and understand pressure-head relationships when dealing with level columns.

4. The Date When Full Compliance Will Be Achieved

The review of issues associated with PLP-037 will be completed, with appropriate enhancements implemented, by August 19, 1993.

Review of this event within Licensed Operator Retraining will be completed by July 31, 1993. Should entry into mid-loop operation be required prior to July 31, 1993, training will be conducted for those Operations personnel who will be involved with this evolution. This training will be conducted prior to the initiation of the RCS draindown to mid-loop conditions.

Severity Level IV Violation (RII-92-27-02)

Technical Specification 6.5.1.1.1.a requires that procedures be implemented for activities referenced in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Appendix A, Item 3.a, requires instructions for draining the Reactor Coolant System (RCS). GP-008, "Draining The Reactor Coolant System," Revision 24, was established to provide instructions for draining the RCS. Step 5.1.8 of GP-008 required that RCS level transmitters LT-403 and LT-404 and their associated alarm switches and indicators be calibrated within the last 30 days.

Contrary to the above, on September 12, 1992, GP-008, step 5.1.8, was not implemented in that the LT-403 and LT-404 calibrations did not include the associated alarm switches and indicators. The level instruments were placed in use prior to the discovery of the incomplete calibration.

Reply

1. The Reason for the Violation

In order to assess this occurrence and establish root cause and causal factors, a review was performed which included GP-008, shift operating logs, and related Work Requests (WRs). Based upon review of these documents, the reason for this violation was the failure to provide an adequate description of the required tasks within the respective WRs for LT-403 and LT-404. Although instructions were provided within GP-008 for calibration of the level transmitters and their associated alarm switches and indicators, the respective WRs only stated that "LT-403 [LT-404] needs cal for GP-008." This task description did not provide Maintenance personnel with sufficient information and directions to plan and complete the calibration activities required by GP-008. Although the procedure was referenced within the WRs, Maintenance personnel are not responsible for review of Operations procedures as part of WR preparation. As such, the primary reason for this violation was the failure to adequately develop and prepare the respective WRs.

A contributing causal factor was also identified in that GP-008 did not provide independent instructions and signoffs for each required calibration activity. The procedure step provided one signoff blank for the calibration of LT-403, LT-404, PT-602A, PT-602B, and all of the associated alarm switches and indicators. In short, the format and structure of this step may have contributed to the inadequate task description that was provided within the WRs for LT-403 and LT-404.

2. The Corrective Steps That Have Been Taken and the Results Achieved

Upon discovery that the respective WRs for LT-403 and LT-404 had failed to specify the calibration of alarms and indicators, additional WRs were generated for calibration of these components. These calibrations were completed on the morning of September 13, 1992.

In order to help prevent future similar occurrences, GP-008 has been revised to provide individual signoffs for each instrumentation loop component that requires calibration. This was accomplished by Revision 25 to GP-008 which was approved on December 4, 1992.

3. The Corrective Steps That Will Be Taken to Avoid Further Violations

The specific instructions for calibration of individual instrumentation loop components included within Revision 25 to GP-008 will be provided to the Maintenance organization for incorporation into the "Master WR List" for GP-008 activities. As such, when RCS draindown activities are initiated, there will be an additional prompt to perform the proper calibrations, and the Maintenance Planning organization will have a pre-existing list of the instrumentation loop components that require calibration.

4. The Date When Full Compliance Will Be Achieved

The specific GP-008 calibration requirements will be incorporated into the Master WR List for GP-008 activities by March 18, 1993.

Severity Level IV Violation (RII-92-27-03)

Technical Specification (TS) 3.6.3.b requires that with one automatic containment isolation trip valve inoperable, the affected penetration must be isolated within four hours by use of a deactivated automatic valve secured in the isolation position. RC-553 is an automatic containment isolation trip valve for the Gas Analyzer sample line containment penetration.

Contrary to the above, TS 3.6.3.b was not complied with in that on October 2, 1992, RC-553 was determined to be inoperable (would not open) during testing, but the penetration was not isolated by use of a deactivated automatic valve within four hours. The valve was determined to be inoperable and a Work Request issued at 3:59 p.m.; however, RC-553 and its redundant containment isolation valve RC-516 were not deactivated until 9:16 p.m.

Reply

1. The Reason for the Violation

A review of this occurrence was performed in support of Licensee Event Report (LER) No. 92-021 which was submitted to the NRC on November 2, 1992. As stated within this LER, Adverse Condition Report (ACR) No. 92-363 was initiated on October 2, 1992, to more closely review this event and identify root cause(s). Although this review is continuing, the primary cause for this violation has been identified as personnel error in that the shift operating crew failed to recognize that the inoperability of RC-553 required entry into a Limiting Condition for Operation (LCO) and the implementation of actions specified within TS 3.6.3. Since the valve had failed in the closed position, the shift operating crew had considered that containment integrity was maintained from a functional perspective. As a result, the valve was not deactivated in the closed position as required by the TS.

2. The Corrective Steps That Have Been Taken and the Results Achieved

After discovering that the applicable TS LCO had not been applied, TS 3.6.3 was promptly entered and instrument air was isolated to the valve operator to secure the valve in the closed position. A Shift Supervisor's Clearance was issued for the instrument air isolation valves supplying the RC-553 valve operator and for the Gas Analyzer control switch for RC-553. In addition, Operations management was notified. Following replacement of a failed solenoid coil, RC-553 was satisfactorily tested and returned to service.

In addition, on October 11, 1992, the shift operating crew that was involved in this occurrence completed a training session which included a review of TS 3.6.3 and the surveillance test acceptance criteria associated with inoperable containment isolation valves.

3. The Corrective Steps That Will Be Taken to Avoid Further Violations

As discussed above, ACR No. 92-363 was initiated on October 2, 1992, to more closely review this occurrence and identify root cause(s). Any further corrective actions which may be identified by this review will be reviewed and implemented under the Corrective Action Program.

4. The Date When Full Compliance Will Be Achieved

As described above, all identified corrective actions have been completed. Any further corrective actions which are identified under the Corrective Action Program will be appropriately prioritized and tracked to completion using internal plant processes.