UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

SEP 2 8 1978

In Reply Refer To:
RII:PTB
50-261/78-15

Carolina Power and Light Company
Attn: Mr. J. A. Jones
Executive Vice President
Engineering, Construction
and Operation
336 Fayetteville Street
Raleigh, North Carolina 27602

Gentlemen:

Thank you for your letter of September 13, 1978, informing us of steps you have taken to correct the item of non-compliance concerning activities under NRC Operating License No. DPR-23 brought to your attention in our letter of August 17, 1978. We will examine your corrective actions and plans during subsequent inspections.

In addition to the corrective action specific to the crane interlocks addressed in your letter, we understand that you have also addressed the larger concern of adequate review of modification packages to assure that procedures affected by the modification are appropriately revised. Based upon discussions during inspection 78-15 and a telephone conversation on September 22, 1978, we understand that, prior to our identifying this item of non-compliance, you instituted a continuing program of training classes for your engineering staff. These classes have been used to re-emphasize the importance of following existing administrative and quality assurance procedures in performing safety analyses for proposed modifications and for reviewing the modifications for impact on procedures.

We also understand that you are well along in a program of reviewing previously completed modifications for conformance to your administrative and quality assurance procedures.

We appreciate your cooperation with us.

Sincerely,

F. J. Long, Chief
Reactor Operations and
Nuclear Support Branch

7810110226

CP&L

Carolina Power & Light Company

September 13, 1978

FILE: NG-3513 (R) SERIAL: GD-78-2466

Mr. James P. O'Reilly, Director
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
RESPONSE TO IE INSPECTION REPORT NO. 50-261/78-15

Dear Mr. O'Reilly:

We have received and reviewed the subject report and are hereby responding to the item of noncompliance:

Enforcement Item

A. Infraction

Technical Specification 6.8.1 requires, in part, that written procedures be established, implemented, and maintained that meet the requirements and recommendations of Sections 5.1 and 5.3 of ANSI N18.7-1972. Paragraphs 5.3.4.5(1) and 5.1.7 combine to require that the status of interlocks necessary for refueling be determined by a surveillance procedure prior to refueling.

Contrary to the above, a system of interlocks installed by Modification 313 (Revision 1) in May, 1977, to prevent collision between the reactor building polar crane and fuel handling manipulator crane was not addressed in any of the plant periodic tests procedure prerequisite to the February, 1978 refueling.

Corrective Action

The installed interlock system, designed to prevent the polar crane from colliding with the manipulator crane, was satisfactorily tested when the modification was completed. To ensure satisfactory operation of the system during crane movement, a checkout procedure for the interlocks shall be implemented prior to the next scheduled refueling outage.

Corrective Action To Prevent Further Noncompliance

A checkout procedure for the crane interlock system is to be written and included in the refueling interval periodic test PT-26, Fuel Handling Equipment Interlock and Operation Test. Addition of this procedure to the PT will ensure that periodic surveillance of the interlock system is conducted.

Date When Full Compliance Will Be Achieved

The procedure addition to PT-26 will be written and approved prior to the next refueling outage which is presently scheduled for spring, 1979.

Yours very truly,

B. J. Furr
Manager
Generation Department

HSZ/DCS:men*

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
230 PEACHTREE STREET, N.W. SUITE 1217
ATLANTA, GEORGIA 30303

AUG 17 1978

In Reply Refer To:
RII:PTB
50-261/78-15

Carolina Power and Light Company
ATTN: Mr. J. A. Jones
Executive Vice President
Engineering, Construction
and Operation
336 Fayetteville Street
Raleigh, North Carolina 27602

Gentlemen:

This refers to the inspection conducted by Mr. P. T. Burnett of this office on July 5-7, 1978, of activities authorized by NRC License No. DPR-23 for the H. B. Robinson Unit 2 facility, and to the discussion of our findings held with Mr. R. B. Starkey at the conclusion of the inspection.

Areas examined during the inspection and our findings are discussed in the enclosed inspection report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

During the inspection, it was found that certain activities under your license appear to be in noncompliance with NRC requirements. This item and references to pertinent requirements are listed in the Notice of Violation enclosed herewith as Appendix A. This notice is sent to you pursuant to the provisions of Section 2.201 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations. Section 2.201 requires you to submit to this office, within 20 days of your receipt of this notice, a written statement or explanation in reply including: (1) corrective steps which have been taken by you, and the results achieved; (2) corrective steps which will be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you (or your contractor) believe to be proprietary, it is necessary that you make a written application within 20 days to this office to withhold such information from public disclosure. Any such application must include a full statement of the reasons on the basis of which it is claimed that the information is proprietary, and should be prepared so that proprietary information identified in the application is contained in a separate part of the document. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

Should you have any questions concerning this letter, we will be glad to discuss them with you.

Sincerely,

F. J. Long, Chief
Reactor Operations and
Nuclear Support Branch

Enclosures:
1. Appendix A, Notice of Violation
2. Inspection Report No. 50-261/78-15

cc: (w/encl)
Mr. R. B. Starkey, Plant Manager
P. O. Box 790
Hartsville, South Carolina 29550

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
230 PEACHTREE STREET, N. W. SUITE 1217
ATLANTA, GEORGIA 30303

Report No.: 50-261/78-15

Docket No.: 50-261

License No.: DPR-23

Licensee: Carolina Power and Light Company
366 Fayetteville Street
Raleigh, North Carolina 27602

Facility Name: H. B. Robinson Unit 2

Inspection at: Hartsville, South Carolina

Inspection conducted: July 5-7, 1978

Inspectors: P. T. Burnett

Approved by: R. D. Martin 8/15/78
R. D. Martin, Chief Date
Nuclear Support Section No. 1
Reactor Operations and Nuclear Support Branch

Inspection Summary

Inspection on July 5-7, 1978: (Report No. 50-261/78-15)
Areas Inspected: One inspector spent 23 hours onsite reviewing post-refueling, zero-power and power-escalation tests. One plant modification was also reviewed.
Results: One apparent item of noncompliance was identified in the third area inspected (Infraction - Failure to conduct surveillance, paragraph 7 (78-15-01).

DETAILS I Prepared by: [signature] 8/15/78
P. T. Burnett, Reactor Inspector Date
Nuclear Support Section No. 1
Reactor Operations and Nuclear Support Branch

Dates of Inspection: July 5-7, 1978

Reviewed by: [signature] 8/15/78
R. D. Martin, Chief Date
Nuclear Support Section No. 1
Reactor Operations and Nuclear Support Branch

1. Persons Contacted

*R. B. Starkey, Plant Manager
C. W. Crawford, Maintenance Supervisor
*R. E. Morgan, Operations Supervisor
*H. S. Zimmerman, Engineering Supervisor
J. W. Curley, Senior Engineer
*J. Hopkins, Reactor Engineer
Four licensed or senior-licensed Reactor Operators

*Denotes those present at exit interview July 7, 1978.

2. Licensee Actions on Previous Inspection Findings

Not addressed.

3. New Unresolved Items

None.

4. Exit Interview

On July 7, 1978, the inspector met with Mr. R. B. Starkey, Plant Manager, and those others indicated by asterisk in paragraph 1 to discuss the scope and findings of the inspection. In the course of the meeting the licensee made the commitment to incorporate changes in the procedures for calibrating the reactivity computer so that calibration periods resulting from both positive and negative reactivity insertions will be used in future calibrations of that instrument. This is further discussed in paragraph 5 of this report.

An apparent item of noncompliance, the failure to have a periodic test procedure for surveillance of an interlock important to refueling operation, was discussed. This is further described in paragraph 7 of these details.

5. Zero Power Physics Test

The inspector confirmed by review of the completed copy of the procedure CPL-R-6.0, "Refueling," that rod drive and rod position indication checks were performed prior to criticality, and that subsequent to initial criticality for cycle 6 that an adequate shutdown margin was confirmed and that the isothermal temperature coefficient was determined as a function of boron concentration and control rod position.

Since there are configurations, combinations of boron concentrations and rod position, that will produce positive moderator coefficients early in core life, the procedures and practices to preclude operation and power escalation with a positive moderator coefficient were discussed at some length with licensee personnel. The inspector concluded that the licensee was making a conservative assessment of the situation to prevent such operation.

By review of Appendix D, "Control Rod Calibration", to CPL-R-6.0 the inspector confirmed that the measured and predicted worths of the control banks A, B, C and D agreed within acceptable limits. The procedure required that the reactivity computer be calibrated against positive reactivity insertions, but review of the reactimeter traces indicated that both positive and negative reactivity insertions were observed and measured. The licensee made a commitment to perform future calibrations of the reactivity computer using both positive and negative reactivity insertions.

6. Power Escalation Tests

Again, by review of the completed version of CPL-R-6.0, the inspector confirmed that core power distribution limits were monitored as power was escalated and that core power thermal power was evaluated during the escalation.

By review of completed procedures, F-7, "F(ΔI) Calibration Procedure" and PT-1.8, "Nuclear Instrument System Power Range Axial Offset Calibration", the inspector confirmed that incore and excore detectors were cross-calibrated at appropriate power plateaus as power was increased. The generation of extreme axial offsets as part of the calibration of the excore nuclear instruments has a potential for creating a xenon oscillation. The licensee has prepared for this possibility by providing procedure FF-2, "Axial Oscillation," for use by reactor operators in controlling such oscillations. This review also confirmed that the target axial flux difference was being determined and maintained in accordance with Technical Specification 3.10.2.

Licensee procedures do not currently require measurement of the power coefficients of reactivity after a refueling startup. The desirability and potential application of such measurements was discussed with licensee personnel, and those people agreed to make themselves current with industry experience to date in performing such measurements.

7. Plant Modifications

The inspector reviewed plant modification 313, revision 1, which had been preceded by modification 313 and modification 231. All were dedicated to the installation of the system of switches which would serve as interlocks to prevent the polar crane from impacting or colliding with the refueling bridge during fuel handling operations. This modification was completed in May of 1977. The implementing procedure for the modification contained a one-step instruction for the post-modification testing of the interlock system. Subsequent to that initial test there have been no further tests of this interlock system. Periodic surveillance of this interlock system was not incorporated into or made a part of any of the periodic tests run prior to the refueling outage of February 1978. Licensee personnel acknowledged that they were relying on this system rather than an earlier system of mechanical stops to provide the safety function of preventing polar crane and refueling bridge interactions. Failure to have a procedure for periodic testing of this interlock system and to test the system has been identified as an item of noncompliance.