UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-325/88-26 and 50-324/88-26

Licensee: Carolina Power and Light Company
P. O. Box 1551
Raleigh, NC 27602

Docket Nos.: 50-325 and 50-324 License Nos.: DPR-71 and DPR-62

Facility Name: Brunswick 1 and 2

Inspection Conducted: July 18-22, 1988

Inspector: J. E. Coley 8-15-88
J. E. Coley Date Signed

Approved by: 8/16/88
J. J. Blake, Section Chief Date Signed
Materials and Processes Section
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection was conducted in the areas of review of records and commitments for the repair of Weld No. 2FW13 in the RHR Service Water (Unit 2) and previous inspection findings and NRC Bulletins.

Results: The licensee had taken comprehensive corrective action on previous inspection findings. Information requested by NRC Bulletin No. 87-01 dated July 9, 1987, was submitted in a timely manner. Licensee initiative was demonstrated in having established a program for the detection of pipe wall thinning prior to NRC Bulletin No. 87-01. Corrective Actions taken with regards to the temporary repair of Weld No. 2FW13 (RHR-Service Water) were satisfactory.

In the areas inspected, violations or deviations were not identified.

REPORT DETAILS

1. Licensee Employees Contacted

*K. Altman, Manager, Maintenance
*K. Enzor, Director, Regulatory Compliance
*J. Harness, General Manager
*R. Helme, Manager, Technical Support
*P. Howe, Vice President, Brunswick Nuclear Plant
*L. Jones, Director, Quality Assurance/Quality Control (QA/QC)
*M. Jones, Director, On-Site Nuclear Safety
*R. Poulk, Project Specilaist, Regulatory Compliance
L. Wheatley, Project Engineer, Inservice Inspection (ISI)

Other licensee employees contacted during this inspection included engineers, technicians, and administrative personnel.

*Attended exit interview

2. Review of Records, Engineering Evaluations and Commitments for the Repair of Weld No. 2FW13 in the RHR Service Water (Unit 2)(73755)

On July 5, 1988, Region II was notified by the Senior Resident Inspector at Brunswick that the licensee had experienced a through-wall leak in the Unit 2, RHR service water and the discharge line for the B-loop of the service water vital header. The through-wall failure was located in Weld No. 2FW13, above the vital header tie-in, on Line No. 2-SW-173-20-157. The line is carbon steel piping, 20 inches in diameter, 0.375 inch in thickness and internally lined with concrete. The line is classified as seismic and ASME Code, Class 3, because a rupture in the line during a seismic event has the potential to affect other safety-related equipment. The weld was ultrasonically examined and the examination revealed that the weld contained four linear indications. Three of the indications were relatively small; however, the examination revealed an indication in the weld heat-effected-zone that was 11.5 inches in length and 66% through wall at the location of the leak. Based on the ultrasonic examination of the piping, the seismic integrity of the piping was indeterminate. Therefore, Carolina Power and Light (CP&L) had to conduct an engineering evaluation (EER88-335) to justify continued operation until the seismic integrity of the piping could be ensured with a temporary repair. The temporary repair consisted of adding a band of metal around the affected weld. The design details and justification for the weld band was provided in a subsequent Engineering Evaluation Report (EER 88-336).

The inspector reviewed the Engineering Evaluation Reports and the ultrasonic reports. In addition, discussions were held with the cognizant engineers and a visual inspection of the repair and the piping/support configuration was performed by the inspector.

The licensee will also perform visual inspections on a monthly basis of the temporary repair installed by EER88-336 to verify lack of visible leakage. This surveillance will be in effect through the removal of the temporary repair. A permanent weld/pipe repair will be designed and installed during the next refueling outage of Unit 2.

During the inspector's review of CP&L's Engineering Report 88-36, it was noted that an isolable hydrostatic test boundary was not achievable at the time so the licensee conducted an inservice leak test upon returning the system to service. The inspector questioned the licensee to determine if NRR approval had been obtained prior to deviating from the code requirements as required by NRC and CP&L Corporate management. The licensee stated that prior approval had not been obtained but that a relief request was being prepared to obtain that relief. The engineers stated that at The time they were not aware of CP&L internal Correspondence (NED-8-711) dated July 31, 1987, which invoked these new directives from NRR and CP&L management. The inspector also reviewed CP&L's Engineering Procedure (ENP-16) for the administrative control of inservice inspection activities. The review revealed that this document had not been revised to incorporate management's new position. The inspector held discussions with the ISI project engineer concerning failure of upper tier documents to invoke CP&L management commitments. The engineer stated that ENP-16 would be revised to include obtaining relief request approval prior to deviating from the Code. In addition, the requirement would be added to the new repair and replacement ENP that was presently being drafted. The inspector will track the licensee's actions with Inspector Followup Item 325, 324/88-26-01, Enhance ENP-16 and Repair and Replacement ENP (In the Course of Preparation) to reflect NRC/Corporate CP&L Management's Position for Obtaining Prior Approval For Relief Request.

Within the areas examined, violations or deviation were not identified.

3. Actions On Previous Inspection Findings And NRC Bulletins (92701 and 92702)

(Closed) 50-325, 324/NRC Bulletin 87-01, Thinning of Pipe Walls in Nuclear Power Plants. CP&L Company letter, Serial No. NLS-87-181, dated September 10, 1987, submitted the information requested by NRC Bulletin 87-01, concerning the licensee's program for maintaining the thickness of pipe walls in high-energy single-phase and two-phase carbon steel piping systems. The inspector reviewed Special Procedure: SP-87-040 which is used for conducting the ultrasonic examination, the Erosion/Corrosion Program, and CP&L's submittal to NRC. All actions requested in Bulletin 87-01 were addressed adequately by the licensee.

(Closed) Violation 50-324/87-30-03, Inadequate Hydrostatic Test Procedures. CP&L's letter of response dated October 29, 1987, has been reviewed and determined to be acceptable by Region II. The inspector held discussions with ISI Project Engineer and examined the corrective actions as stated in letter of response. The inspector concluded that CP&L had determined the full extent of the subject noncompliance, performed the necessary survey and follow-up actions to correct the present conditions and developed the necessary corrective actions to preclude recurrence of similar circumstances. The corrective action identified in the letter of response have been implemented.

(Closed) Violation 50-325/87-38-01 and 50-324/87-39-01, Failure to Promptly Correct Nonconformance with Technical Specification Requirement Regarding Gages. CP&L's letter of response dated January 8, 1988, has been reviewed and determined to be acceptable by Region II. The inspector held discussions with the ISI Project Engineer and examined the corrective actions as stated in the letter of response. The inspector concluded that CP&L had determined the full extent of the subject noncompliance, performed the necessary survey and follow-up actions to correct the present conditions and developed the necessary corrective actions to preclude recurrence of similar circumstances. The corrective action identified in the letter of response have been implemented.

(Closed) Unresolved Item 50-325/87-38-02 and 324/87-39-02, Requirements for Use of Teflon Tape. During a previous inspection, the licensee was requested to provide their requirements regarding acceptable or prohibited materials for use in safety-related fluid systems. The requirements were not determined prior to the end of that inspection. During this inspection the inspector was given three specifications (SP. No. 248-117, SP.No. 248-053, and SP. No. 248-105) which dealt with acceptable or prohibited materials. Two of the three specifications were new documents that had been written several months prior to the inspector's requesting them. These new documents were the most comprehensive and called prohibited materials by their trade names. However, in most cases an engineer approved substitute was acceptable. To aid in the substitute determination, copies of the GE BWR Owners Manual, NEDE-31295P, were distributed by the Technical Support Procurement Engineering Group. The inspector will perform a surveillance inspection during the November outage of Unit 1 to determine whether the licensee is properly invoking the requirements of the new procedures. This item is considered closed.

(Closed) Unresolved Item 50-325, 324/87-18-01, Corrective Action on Violation 324/85-19-02. This unresolved item was based on the concern that weld size on some drawings did not meet the minimum fillet weld size (1/4" in lieu of 5/16") as required by the AISC Specification and AWS Code. CP&L's evaluation of these welds determined the following: (1) In no case were the welds fillets in question determined to be less than required for the design strength of the joint; (2) All of the

safety-related welds in question have been visually inspected and found to be free from cracks; (3) Removal and rewelding of the welds already determined to meet (1) and (2) above was not recommended since it may create higher residual stresses and do more harm than good; and (4) The ASME Code, the AISI Specification and the AWS Code all allow the use of engineering judgement in the specification and use of minimum fillet weld sizes.

(Closed) Inspector Followup Item 50-325/86-31-01 and 50-324/86-32-01, Review of Test Procedures for Exercising Dual Function Check. IWV-3522(b) of Section XI requires that normally closed check valves be periodically exercised to the open position, but does not specifically require testing to the closed position for those valves that also have a safety function in the closed position. Discussions with a licensee representative revealed that CP&L was aware of the need to exercise such dual function check valves to both the open and closed positions, and had included related requirements in the IST program for Interval 2. The licensee representative indicated, however, that CP&L was reviewing and modifying, as necessary, the periodic test procedures for dual function check valves to ensure that the procedures fully support the IST program. The inspector reviewed the IST program and the licensee's summary concerning the review and necessary modifications involving dual function check valves to ensure that periodic test procedures fully supported the IST program. In addition, discussions were held with cognizant ISI engineers concerning the implementation of test procedure requirements. The licensee corrective actions appears to be satisfactory.

(Closed) Inspector Followup Item 50-325/86-31-02 and 50-324/86-32-02, Resolution of Test Requirements for NSS Relief Valve Discharge Line Vaccum Breakers. During a previous inspection, an inspector noted that the valve exercising method of PT 11.1.3, Rev. 0, appeared to be in conflict with Section XI requirements. The periodic test procedure is used to exercise vacuum breakers for the nuclear steam supply relief valve discharge lines. The vacuum breakers are designated B21-F037 A thru L. The procedure specified that the vacuum breakers were to be exercised by hand or with an extension device through the full range of travel. IWV-3522(b) of Section XI requires, in part, that such testing be done with a mechanical exerciser to measure opening force or torque. Limits on opening torque or force are specified. A licensee representative agreed with the inspector's observation and indicated that CP&L would either seek relief from the requirements of IWV-3522(b) or take action to have these vacuum breakers removed from the formal Section XI IST program. In reviewing this matter, the inspector noted that testing of these vacuum breakers was not required for Interval 1. Additionally, it was noted that PT 11.1.3, Rev. 0, had not yet been used for testing in Interval 2.

CP&L's corrective action was to leave the vaccum breakers in the IST Program. However, Relief Request No. VR-08 was submitted to the Second Inspection Interval Program (CPLO 29.1004 Revision 1) to obtain NRR approval for testing the valves manually during each refueling outage.

Within the areas examined, violations or deviations were not identified.

4. Exit Interview

The inspection scope and results were summarized on July 22, 1988, with those persons indicated in Paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results listed below. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

(Open) Inspector Followup Item 50-325, 324/88-26-01, Enhance ENP-16 and Repair and Replacement ENP (In the Course of Preparation) to Reflect NRC/CPL Management Position for Obtaining Prior Approval for Relief Request.