



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA ST., N.W., SUITE 3100
 ATLANTA, GEORGIA 30303

FEB 12 1980

Report Nos. 50-325/80-02 and 50-324/80-02

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

Facility Name: Brunswick Steam Electric Plant

Docket Nos. 50-325 and 50-324

License Nos. DPR-71 and DPR-62

Inspection at United Engineers and Constructors, near Philadelphia, Pennsylvania

Inspectors:	<u>L. Modenos</u>	<u>2/5/80</u>
	L. Modenos	Date Signed
	<u>W. Ang</u>	<u>2/8/80</u>
	W. Ang	Date Signed
Approved by:	<u>A. R. Herdt</u>	<u>2/8/80</u>
	A. R. Herdt, Section Chief, RC&ESB	Date Signed

SUMMARY

Inspection on January 22-23, 1980

Areas Inspected

This special, announced inspection involved 26 inspector-hours at United Engineers and Constructors offices in the areas of seismic analysis for as-built safety related piping systems (IE Bulletin 79-14) and of concrete expansion anchor installation (IE Bulletin 79-02).

Results

Of the two areas inspected, no items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

Licensee Employees

*W. H. Sutton, Engineer

Other Organizations

*B. J. Huselton, Project Engineering Manager, United Engineers and Constructors (UE&C)

*R. F. Perry, Manager Mechanical Analysis Group, UE&C

*S. Timmaraju, Manager, Quality Assurance, UE&C

*R. M. Anzalone, Supervising Mechanical Engineer, UE&C

*R. P. Harris, Lead Engineer, Pipe Stress, UE&C

*J. C. Fiorello, Supervising Structural Engineer, UE&C

*Attended exit interview.

2. Exit Interview

The inspection scope and findings were summarized on January 23, 1980 with those persons indicated in Paragraph 1 above.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. (Open) IE Bulletin 79-14 - Seismic Analysis for As-built Safety-Related Piping Supports.

An inspection of UE&C Design Engineering offices was performed to verify licensee compliance with IEB 79-14 and licensee commitments.

The preliminary seismic analysis for the following isometric drawings were reviewed:

- a. Sheet No. 48 - Residual Heat Removal and Radwaste System
- b. Sheet No. 3 - Residual Heat Removal System RHR Return and Test Line

A description of the method used to follow the requirements of the bulletin was provided by the AE's (UE&C) engineers. Pipe stress isometrics (ISO), support details and valve drawings were used by the field inspectors to

verify pipe geometry and support details. Sign off sheets were provided for the surveillance for each parameter inspected. The NRC inspectors noted that certain inspection findings provided by the field inspectors were questioned by the AE and finally resolved were not documented or recorded on the ISO. The AE and licensee agreed to review this matter and resolve all points requiring clarification.

Nonconformances were selected by the inspectors and pipe stress analysis reviewed to assure that valve weights and proper codes were being checked and followed. The inspectors noted though that material properties, valve location and type were not verified. CP&L agreed that these items would be verified by QC documentation and would respond to the bulletin requirements accordingly. A verification of proper use of response spectrum curves was done for sheets 48 and 60. The curves used were checked against the FSAR and BSEP design report Nos. 4, 5 and 6. A sampling of spectrum curve audit was conducted by UE&C and this audit, "Seismic Design Audit for Mechanical Nuclear Discipline" dated 12/7/79, was reviewed by the inspectors.

A review of UE&C's QA Audit Report No. 44 "Reanalysis of Piping Supports and Nozzles based on revised criteria and modified as-built information", dated 7/11-13/79 and verification audit dated 9/18/79 identified six findings, with two findings still remaining open the remaining four had been closed. The licensee and the UE&C Project manager agreed that project procedures would be revised to include assurance that future modifications to the plant would agree with the as-built configuration and the stress analysis. System verification that all systems were covered was reviewed against FSAR Appendix A. The inspectors determined that a verification was required to show that all the systems were inspected. The licensee agreed to provide the NRC with this verification. A review of the stress ISO on sheet no. 3 revealed that an overlap method was used to analyze this problem, due to its size and that sheet no. 13 overlapped with sheet no. 3. Supports that were common to both problems were inspected and it was shown that the support loads from both problems were not recorded. The licensee agreed to provide the NRC the total number of systems using overlap method and to review the loadings for the supports that are common in the overlap problems.

In summary the following items remained to be addressed by the licensee:

- a. Verification that inspection findings questioned are resolved in writing or on the ISO.
- b. Verification of material properties
- c. Verification of valve location and type
- d. UE&C project procedures are updated
- e. List of overlap problems

This IE Bulletin 79-14 remains open until all inspections and evaluations are completed and subsequently reviewed by the NRC.

No items of noncompliance or deviations were identified.

6. (Open) IE Bulletin 79-02 - Concrete Expansion Anchors

In conjunction with the review of IE Bulletin 79-14 the surveillance packages selected in the above paragraph were reviewed for the reanalysis of the anchor bolt design and the verification of the factor of safety. The inspectors determined that a final verification should be provided to assure to the NRC that all safety-related concrete expansion anchors have been checked. The licensee and AE agreed to provide this information.

This IE Bulletin 79-02 remains open until all inspections and evaluations are completed and subsequently reviewed by the NRC.

No items of noncompliance or deviations were identified.