



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

Report Nos. 50-325/82-16, 50-324/82-16

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

Facility Name: Brunswick 1 and 2

Docket Nos. 50-325, 50-324

License Nos. DPR-71, DPR-62

Inspection at Brunswick site near Southport, North Carolina

Inspectors: G. A. Belisle 6/14/82
 G. A. Belisle Date Signed

P. E. Fredrickson 6/14/82
 P. E. Fredrickson Date Signed

Approved by: C. M. Upright 6/16/82
 C. M. Upright, Section Chief Date Signed
 Engineering Inspection Branch
 Division of Engineering and Technical Programs

SUMMARY

Inspection on May 17-21, 1982

Areas Inspected

This routine, announced inspection involved 64 inspector-hours on site in the areas of licensee action on previous enforcement matters, QA program annual review, audits, onsite review committee, calibration, material specification control problem, and licensee action on previous inspection findings.

Results

Of the 7 areas inspected, no violations or deviations were identified in 5 areas; 2 violations found in 2 areas (Failure to calibrate instrument used in Technical Specifications, paragraph 8; Failure to establish maintenance trend evaluation program, paragraph 10.a).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

R. Biggerstaff, Project Engineer
L. Boyer, Administrative Assistant to the Plant Manager
*F. Coburn, QA/QC Director
*C. Dietz, Plant Manager
*W. Dorman, QA Supervisor
K. Enzor, I&C/Electrical Maintenance Supervisor
L. Hewlett, Senior Engineer
M. Hill, Manager, Maintenance
J. Jefferson, I&C/Electrical Maintenance Supervisor
G. Millikan, Principle Engineer on Site Safety
*R. Poulk, Jr., Regulatory Specialist
J. Smith, Stores Supervisor
R. White, Senior QA/QC Specialist

Other licensee employees contacted included technicians, mechanics, and office personnel.

NRC Resident Inspector

*L. Garner
*D. Myers

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on May 21, 1982, with those persons indicated in paragraph 1 above. The licensee acknowledged the inspection findings.

3. Licensee Action on Previous Enforcement Matters

The following terms are defined and used throughout this report.

Accepted QA Program	Letter from T. A. Ippolito to J. A. Jones dated September 24, 1981 approving CP&L's letters of March 18, 1981 (Serial No. OQA-81-021) and August 4, 1981 (Serial No. NO-81-1290)
CQAD	Corporate Quality Assurance Department
CQAP	Corporate Quality Assurance Program
I&C	Instrumentation and Control

NCR NonConformance Report
PNSC Plant Nuclear Safety Committee
QA Quality Assurance

- a. (Closed) Unresolved Item (325, 324/78-19-01): Design Change Drawing Update. The inspector reviewed RMI-03, Reproduction, Distribution and Accountability of Plant Documents, Revision 7, and verified that a system is being implemented to stamp controlled drawings with the number of the design change which modified the system detailed by the drawing.
- b. The following items from inspection reports 50-325 and 324/79-02 were reviewed with respect to the licensee's correspondence dated March 14, April 20, August 24, and October 31, 1979.
- (1) (Closed) Violation (325, 324/79-02-04): Failure to Establish Shipping, Handling and Storage Controls. A review of all warehouse locations where safety-related store activities were being conducted revealed that the problems identified by this item have been corrected and warehouse controls appear satisfactory.
 - (2) (Closed) Violation (325, 324/79-02-05): Failure to Follow Procedure. The inspector verified that Q-list items are placed into the proper storage levels. Also, the shelf life program was reviewed and determined to be properly implemented and controlled.
 - (3) (Closed) Violation (325, 324/79-02-09): Failure to Establish Calibration Measures. The inspector determined that a calibration program has been established for those instruments used to perform Technical Specification surveillance.
 - (4) (Closed) Violation (325, 324/79-02-11): Failure to Indicate Calibration Status. A tracking system is in place to follow the scheduling and completion of component calibrations. The inspector reviewed AI-21, Periodic Test Scheduling (PT), System, Revision 2, which describes this tracking system.
- c. The following items from inspection reports 50-325/80-42 and 324/80-39 were reviewed with respect to the licensee's correspondence dated February 3, March 20, March 31, and June 11, 1981.
- (1) (Closed) Violation (325/80-42-02, 324/80-39-02): Failure to Establish Measures to Assure Conditions Adverse to Quality Are Identified and Corrected. The inspector reviewed the licensee's surveillance program, methods of controlling nonconformances, audit program, and a current printout for tracking nonconformance items. It was determined by this review that the licensee has established measures to assure that conditions adverse to quality

are identified and corrected. The inspector reviewed the results of selected surveillance and NCRs and determined that QA/QC personnel are identifying problem areas by frequent surveillances of plant activities. Licensee personnel, who the NCRs are written against, are seeking resolution to these problem areas. Additionally, plant management has requested that repeating surveillances be performed during repetitively troublesome areas such as frisking activities.

- (2) (Closed) Violation (325/80-42-03, 324/80-39-03): Failure to Perform Corrective Action on Items Identified During Surveillance. The inspector reviewed the licensee's procedures for performing surveillances and issuing NCRs. The inspector reviewed a sampling of recently completed surveillances and the NCRs written as the results of these surveillances. The inspector reviewed the corrective actions due to the NCRs and the controls used by the QA/QC group when the answers to the NCRs are late or inadequate. The inspector reviewed the outstanding list of NCRs and discussed with cognizant QA/QC personnel the status of selected NCRs. The inspector identified that the licensee's issuance of NCRs, followup on corrective action, and notification of management about status of NCRs appears to be adequate.
- (3) (Closed) Violation (325/80-42-07, 324/80-39-07): Failure to Review Training and Qualifications of Facility Staff. The inspector reviewed the proposed audit schedule by the corporate audit group and identified that training and qualification of facility staff are scheduled to be performed at the technical specification frequency. The inspector reviewed audit QAA/21-18/19 and identified that training and qualification of facility staff had been performed.
- (4) (Closed) Violation (325/80-42-08, 324/80-39-08): Failure to Correctly Identify Audit Findings. The inspector reviewed the procedure for corporate QA audits and identified that the licensee has now defined a concern as a questionable practice which has the potential of causing a nonconformance or where additional information is required for evaluation of acceptability. The licensee's definition of nonconformance remains unchanged. A review of audit findings (nonconformances and concerns) identified proper categorization of these items.
- (5) (Closed) Violation (325/80-42-12, 324/80-39-12): Failure to Provide Conditional Release Control. The inspector reviewed QAP-402, Receipt Inspection, Revision 5, and verified that the proper reviews and approvals have been incorporated to assure that conditional releases are adequately controlled.

(6) (Closed) Unresolved Item (325/80-42-13, 324/80-39-13): Surveillance Report Comments on Stabilization Pond (Spoil Pond). The licensee correspondence dated January 25, 1981 (B. Furr to J. O'Reilly, Serial: NO-81-119) and subsequent corrective actions by the licensee resolved this item.

d. (Closed) Unresolved Item (325/81-19-03, 324/81-19-03): Failure to License the Operations Manager. The licensee submitted a technical specification change to the NRC (letter, January 8, 1982) and it was accepted and issued as Amendment 44. The qualifications for the operations manager were waived such that he could hold said position until he completes the formal examination requirements.

e. (Open) Unresolved Item (325/81-19-07, 324/81-19-07): Failure to Follow NRC Criteria For Annual Requalification Examination. The inspector presented the licensee a copy of an NRC position relative to RO and SRO written examination. The licensee gave a tentative day of July 15, 1982, for incorporation of the NRC criteria into existing procedures.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. QA Program Annual Review (35701)

References: (a) QAP-101, Preparation, Review & Approval of QA/QC Procedures, Revision 3

(b) QAP-102, Document Control, Revision 1

(c) QAP-103, Personnel Indoctrination, Training and Qualification, Revision 3

(d) QAP-201, Document Review, Revision 4

(e) QAP-202, Plant Modification Review, Revision 2

(f) QAP-203, Review of Work Request and Authorization, Revision 5

(g) QAP-204, Criteria for Hold Points, Revision 3

(h) QAP-206, QA Records, Revision 1

The inspector reviewed the references listed as well as those referenced throughout this report and verified they met requirements of the accepted QA Program. The inspector verified the following aspects of the licensee's QA program:

- That personnel having responsibility for preparing implementing procedures for approved changes to the QA program understand the significance of these changes
- That implementing procedures associated with approved changes to the QA program are in conformance with those approved QA program
- That the administrative control program includes provisions for informing key supervisory personnel of new and existing regulatory commitments.

Based on this review, no violations or deviations were identified.

6. Audits (40702)

- References:
- (a) CQAP Section 16, Audits, Revision 0
 - (b) CQAP Section 15, Nonconformance Control and Corrective Action, Revision 1
 - (c) CQAP Section 10, Surveillance, Revision 0
 - (d) CQAD 80-1, Procedure for Corporate QA Audits, Revision 0
 - (e) CQAD 80-2, Procedure for Training and Qualification of Quality Assurance Program Audit Personnel, Revision 0
 - (f) CQAD 80-3, Procedure for Collection, Storage and Maintenance of Quality Assurance Audit Records, Revision 0
 - (g) CQAD 80-5, Procedure for Participating In Joint Quality Assurance Audits, Revision 0
 - (h) QAP-301, Surveillance Program, Revision 7
 - (i) QCP-101, Nonconformance, Revision 7
 - (j) QAP-103, Personnel Indoctrination, Training and Qualification, Revision 3

The inspector reviewed the references listed and verified that they met requirements of the accepted QA Program, NRC Regulatory Guide 1.144, and ANSI N45.2.12 as endorsed by that program. The inspector verified the following aspects of the audit program:

- The scope of the audit program has been defined and it is consistent with technical specification requirements.
- Responsibilities have been assigned in writing for the overall management of the program.

- Methods have been defined for taking corrective action when deficiencies are identified during audits.
- The audited organization is required to respond in writing to audit findings.
- Distribution requirements for audit reports and corrective action responses have been defined.
- Checklists are required to be used in the performance of audits.

Based on this review, one inspector concern was identified. During the review of reference (d) the inspector identified that this procedure is self contradicting in two areas. Paragraph 6.5.3 and 6.5.4 are less conservative regarding the answering of audit findings and including dates of implementation of corrective actions than paragraph 6.6.1. Paragraph 6.6.1 contains the requirements of the accepted QA program's endorsement of ANSI N45.2.12-1977. Until the less conservative requirements of paragraph 6.5.3 and 6.5.4 are deleted during the next revision of reference (d), this is identified as an inspector concern.

7. Onsite Review Committee (40700)

- References:
- (a) BSEP Operating Manual, Section 3, Plant Nuclear Safety Committee, Revision 39
 - (b) A1-09, Plant Nuclear Safety Committee Administration, Revision 8

The inspector reviewed the references listed and verified they met requirements of technical specifications and ANSI N18.7-1976 as endorsed by the accepted QA Program. Discussions with the resident inspectors identified their attendance at PNSC meetings consequently the inspector did not attend a PNSC meeting. The inspector reviewed selected PNSC meeting minutes from April thru May 1982 and verified technical specification requirements relative to membership, review process, frequency of meetings and qualification of personnel.

Based on this review, no violations or deviations were identified.

8. Calibration (56700)

- References:
- (a) MP-03, Calibration of Process Instrumentation, Revision 18
 - (b) MP-10, Preventive Maintenance Program, Revision 15

Utilizing the licensee's calibration program as described in references (a) and (b), the inspector verified that selected instruments had received proper calibration according to the following criteria:

- For completed calibrations, documentation complete, acceptance criteria met, proper revision used, and calibration conducted by qualified individuals
- For calibration procedures, reviews are as required by Technical Specifications, controls are established to meet limiting conditions for operation, equipment is returned to service, calibration equipment is traceable, and acceptance values are within required limits.

Based on this review, one violation was identified. The inspector selected three instruments from the fire protection section of Technical Specifications to verify that satisfactory calibration of these instruments was being performed. The three selected were the level instruments for the fire protection water tanks, the demineralized water tank, and the fuel storage tank for the diesel fire pump. Adequate procedures were available to calibrate the first two instruments, but a procedure had not been developed to calibrate the fuel storage tank. Technical Specification 4.7.7.1.2.a.1 requires verification at least once per 31 days that the fuel storage tank contains at least 500 gallons of fuel. Level instrument 2-FP-LI-6194 is utilized to perform this level determination and is the instrument without any method of calibration. Regulatory Guide 1.33, November 1972 requires that procedures be provided to assure that safety-related instruments, such as those used to verify Technical Specification surveillances, are calibrated on a periodic basis. This failure to provide a procedure and calibrate the fuel storage tank level instrument for the diesel fire pump is identified as a violation (325, 324/82-16-02).

9. Material Specification Control Problem (92706)

The inspector reviewed the material procurement and issue problem as described in the licensee's letter dated April 20, 1982 (File B09-13514, Serial BSEP/82-846) from C. R. Dietz, Brunswick General Manager, to James P. O'Reilly, Regional Administrator. The purpose of the review was to determine the extent of the problem and to analyze the licensee's immediate corrective actions and long term plans and proposals. After the initial discovery of suspect control of pipes, fittings, and several pressure switches, the licensee initiated a program to determine the extent of the problem and established measures to control the present and future procurement and issue of material. Based on a review of the licensee's progress into this problem, the inspector determined that the predominant material concern is a lack of certification documentation rather than an actual doubt that the suspect components are in fact defective and would not perform their intended function.

To analyze the extent of the problem, the licensee has reviewed the list of safety-related components (Q-List) and identified those items that may be used in more than one quality level application. At the same time, three plant systems, High Pressure Coolant Injection, the Nuclear Boiler and Service Water, were selected for a detailed review of past maintenance

activities. These systems utilize a significant number of the suspect items. The Q-List review identified approximately 700 components, of which approximately 200 are actual end items. The historical review to determine the extent of suspect material usage was hampered in that maintenance trouble tickets written prior to 1977 did not contain the material purchase order, thus the evaluators were not able to link a specific component used to the purchase order which provides the material specifications.

For the three systems reviewed, approximately 1800 trouble tickets were reviewed, 137 using replacement parts with 33 using suspect parts, where either the required documentation was not provided or where the material quality was in question. A review of the usage of these parts from the 33 trouble tickets is now in progress and the engineering review team is corresponding with the material vendors in order to verify specification adherence or to gather enough information to make an engineering evaluation concerning the necessary actions required to determine acceptability. Conversations with the engineering staff revealed that if a significant number of components from these three system remain suspect in their actual quality specification, then a more detailed evaluation will be conducted of other systems.

To prevent recurrence of this problem, all requisitions for suspect components are being reviewed by the engineering staff to assure that material stocked in the warehouse will meet the specifications required for the requested component usage. A long-term solution is in the planning stage to insure that all parts requested are procured to meet, as a minimum, the specifications of the actual usage and that all parts issued from warehouse stock meet or exceed the specification of the actual usage. Based on receiving cooperation from material vendors, the licensee anticipated completing the review of the 33 trouble ticket parts by August 1982 and provided a target date of May 1, 1983, for implementation of the long-term purchase and warehouse control system. This problem area is identified as an inspector followup item (325, 324/82-16-03) and will be reviewed during subsequent inspections.

10. Licensee Action on Previously Identified Inspection Findings (92701)
 - a. (Closed) Inspector Followup Item (325, 324/79-02-20): Trend analysis of Supplier Performance and Maintenance Activities. This item addressed two areas where evaluations of past performance had not been established. Supplier Evaluations: The inspector reviewed the method used for material supplier evaluations and noted that the annual supplier evaluations now take into consideration a vendor's actual performance, by requiring that the nonconformance reports written against the supplier's material be reviewed by the evaluator. Maintenance Activities: This part identified that no trending or evaluation system had been established for corrective maintenance as required by ANSI N18.7-1976. The inspector's review revealed that such a program has still not been implemented or developed. This failure to develop a maintenance evaluation program is identified as a violation

(325, 324/82-16-01). The original inspector followup item is closed for tracking purposes.

- b. (Closed) Inspector Followup Item (325/80-19-01, 324/80-16-01): Periodic Testing Acceptance Criteria. The inspector reviewed PT 9.2, Revision 22, and determined that the baseline data has been established and acceptance criteria entered into the procedure.
- c. (Closed) Open Item (325/80-42-15, 324/80-39-15): Training Programs Do Not Include Necessary Subjects. The inspector reviewed the licensee's training programs for I&C, maintenance, and electrical personnel and identified that a training sheet had been included that specifically addresses administrative and quality assurance procedures. The topics include administrative procedures (Section 11.5 and 11.6), quality assurance procedure on hold points, and specific discipline related procedures.
- d. (Closed) Open Item (325/80-42-22, 324/80-39-22): Revise QAP-22 To Make Procedure Workable. This procedure was written to incorporate the licensee's commitment to ANSI 18.7-1976 to identify, track, and correct adverse quality trends. This procedure has been deleted and replaced by an administrative instruction that delineates plant safety and reliability enhancement through consideration of human factors. This procedure has recently been implemented although it was written in 1981. Its implementation was due to an NCR being identified during surveillance QASR 82-06 (NCR S-82-005). The licensee has now established a method to identify, track, and correct adverse quality trends. Baseline data is now being gathered to determine adverse quality trends and to correct these trends.
- e. (Closed) Open Item (325/80-42-23, 324/80-39-23): Revise QAP-2 To Provide Controls For PQA Items. This procedure has been deleted and replaced by a procedure that specifically deals with nonconformance (NCRs). This procedure delineates controls for issuance of NCRs and actions to be taken if the answers to NCRs are late or inadequate. The inspector reviewed the corrective action for several NCRs and found that QA/QC personnel were following this procedure.
- f. (Closed) Inspector Followup (325/80-42-28, 324/80-39-28): Evaluate Upgraded Retraining Program. The inspector reviewed the training program for I&C, maintenance, and electrical technicians. Three personnel training records were also reviewed. Differing department personnel are in varying stages of completing this program. This program appears adequate.
- g. (Closed) Inspector followup Item (325/80-42-29, 324/80-39-29): Evaluate General Employee Retraining. The inspector discussed with training personnel the licensee's methods of retraining plant personnel. The inspector examined retraining records of three personnel and also reviewed the retraining examination. The method and scheduling of the retraining program appear adequate.

- h. (Closed) Inspector Followup Item (325/80-42-31, 324/80-39-31): Evaluate Implementation of Program for Control of Consumables. The inspector reviewed the Q-List, Revision 19, and verified that controls have been established to manage consumables from the procurement cycle through receipt, storage, and issue.
- i. ((Closed) Open Item (325/81-19-04, 324/81-19-04): Failure to Maintain Adequate Documentation. The inspector reviewed the training records of three personnel that had scored less than 70% on one section of the requalification program for reactor operators. These personnel were put into accelerated classes and were reexamined on those sections they had received less than 70%. The training documentation for those personnel was adequate.
- j. (Closed) Open Item (325/81-19-05, 324/81-19-05): Training Program for Auxiliary Operators. The inspector reviewed the licensee's procedure for training auxiliary operators. The training outline is comprehensive and appears adequate.
- k. (Closed) Inspector Followup Item (325, 324/81-21-01): Calibration Control. The inspector verified that the calibration program now contains a mechanism to either calibrate installed safety-related instruments or to tag them as being out-of-calibration. A review process on those instruments that may miss their calibration date is in place to insure that only technical delays are approved.