



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

SEP 23 1981

Report Nos. 50-325/81-21, 50-324/81-21

Licensee: Carolina Power and Light Company
 411 Fayetteville Street
 Raleigh, North Carolina 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:	<u>C.M. Upright for</u>	<u>9/18/81</u>
	G. A. Belisle	Date Signed
	<u>C.M. Upright for</u>	<u>9/18/81</u>
	P. E. Fredrickson	Date Signed
Approved by:	<u>C.M. Upright</u>	<u>9/18/81</u>
	C. M. Upright, Section Chief	Date Signed
	Engineering Inspection Branch	
	Engineering and Technical Inspection Division	

SUMMARY

Inspection on August 31 - September 4, 1981

Areas Inspected

This routine, unannounced inspection involved 62 inspector-hours on site in the areas of licensee action on previous enforcement matters, design changes and modifications, organization and administration, QA Program annual review, onsite review committee, test and measurements equipment program, surveillance testing and calibration program, calibration, surveillance, non-routine reporting and licensee action on previous inspection findings.

Results

Of the 11 areas inspected, no violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *D. Allen, Project QA/QC Specialist
- E. Bishop, Engineering Supervisor
- *T. Coburn, Director QA/QC
- *C. Dietz, General Manager
- J. Dimmette, Mechanical Maintenance Supervisor
- *K. Enzor, I&C/Electrical Maintenance Supervisor
- *M. Hill, Manager, Maintenance
- *M. Jones, On-Site Nuclear Safety
- G. Milligan, Principle Engineer, Onsite Nuclear Review
- *R. Morgan, Manager, Plant Operations
- *C. Mosley, Jr., Manager, Operations QA/QC
- *R. Poulk, Jr., Regulatory Specialist
- *W. Tucker, Manager, Technical Support

NRC Resident Inspectors

- *L. Garner
- D. Johnson

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on September 4, 1981 with those persons indicated in paragraph 1 above. The licensee acknowledged the inspection findings.

3. Licensee Action on Previous Inspection Findings

The following terms are defined and used throughout this report:

Accepted QA Program	FSAR Chapter 13.4.3
AP	Administrative Procedure
CNSU	Corporate Nuclear Safety Unit
CNSS	Corporate Nuclear Safety Staff
ISI	Inservice Inspection
M&TE	Measuring and Test Equipment
QA	Quality Assurance

QC Quality Control

T/S Technical Specifications

Violations from inspection reports 50-325/80-42 and 50-324/80-39 were reviewed with respect to the licensee's response letters dated February 3, 1981; March 20, 1981; March 31, 1981 and June 11, 1981.

- a. (Closed) Violation, Item A (325/80-42-01, 324/80-39-01): Failure to include releases in semi-annual report. As stated in a letter from J. P. O'Reilly to J. A. Jones, dated April 10, 1981, this item was the subject of a separate investigation. The item was withdrawn from the inspection report.
- b. (Closed) Violation, Item D (325/80-42-04, 324/80-39-04). Failure to audit actions taken to correct deficiencies. As stated in a letter from J. P. O'Reilly to J. A. Jones, dated April 10, 1981, this item was withdrawn from the inspection report due to the clarification provided in correspondence from B. J. Furr to J. P. O'Reilly dated February 3, 1981, Serial: No-81-192.
- c. (Closed) Violation, Item E (325/80-42-05, 324/80-39-05). Failure to provide adequate QA/QC personnel training. The inspector reviewed QAP 103, Personnel Indoctrination, Training, and Qualification, Revision 2 and identified that this procedure comprehensively outlines the qualifications of QA/QC personnel. Detailed discussions with cognizant personnel identified a change in management philosophy relative to personnel qualifications to the extent that personnel are not allowed to inspect activities unless they are fully trained and qualified in the area they are inspecting. Although this procedure has just been implemented, if rigidly adhered to, it will provide adequate controls for the training and qualification of QA/QC personnel.
- d. (Closed) Violation, Item F (325/80-42-06, 324/80-39-06): Failure to review documents by QA prior to release. The inspector reviewed Operating Manual Administrative Procedures, Volume 1, Revision 48, Section 5.5.3.D and identified that controls have been established for the review of procedures by QA. The inspector reviewed a computer listing of all plant procedures and determined that this listing provides the necessary information for the initial QA review of any plant procedure and whether subsequent revision review is required. The inspector reviewed a random sampling of procedures requiring QA review and determined that QA reviews were being performed as required.
- e. (Closed) Violation, Item I (325/80-42-09, 324/80-39-09): Failure to follow procedures; ENP3, updating plant procedures; ENP3, identify drawings undergoing revision; ENP3, notification of training supervisor; RMI-3, stamping of drawings; and, AP limiting dates on special procedures.

- (1) The inspector reviewed OP-3, Reactor Recirculation System, Revision 27 and verified that valves V1,2,7 and 8 had been removed from the valve lineup. These valves were removed by Modification 79-272. The inspector also reviewed ENP-3, Plant Modification Procedure, Revision 12 and identified that the engineer includes "proposed" revisions to procedures effected by the modification.
 - (2) The inspector reviewed ENP-3 as previously stated. During the review of six plant modifications as discussed in paragraph 5, drawings were reviewed to verify that they were marked to delineate modifications in progress.
 - (3) The inspector reviewed ENP-3 and verified provisions clearly exist to ensure notification of training personnel when modifications are declared operational. The inspector interviewed training personnel and verified that modifications are incorporated into training classes for plant personnel. Training Memo 902.1, Serial BSEP/81-0244 dated January 30, 1981 contains the controls for processing plant modifications into personnel training.
 - (4) The inspector reviewed RMI-3, Reproduction, Distribution and Accountability of Plant Documents, Revision 3 and also reviewed the drawing files and verified that positive controls have been established for updating plant drawings.
 - (5) The inspector reviewed the Operating Manual, Administrative Procedures, Section 5.1 and determined that controls had been established for the time interval for usage of Special Procedures. The inspector randomly selected six Special Procedures and verified that these controls had been implemented.
- f. (Closed) Violation, Item J (325/80-42-10, 324/80-39-10): Failure to establish measures for design analysis. The inspector reviewed ENP-3, Plant Modification Procedure, Revision 12. This procedure has the necessary provisions for including the requirement that design analyses be provided for modifications. The inspector selected six modifications as discussed in paragraph 5 and verified that design analyses were being provided for modifications.
- g. (Closed) Violation, Item (325/80-42-11): Failure of CNSU to review safety evaluation. The inspector reviewed a letter from S. McManus to A. C. Tollison, Jr. dated November 19, 1980, File: 82-MH-116. This letter verified CNSU review of modification 79-057. The inspector also reviewed CNSP-4, Independent Review, Documentation, and Communication dated June 1, 1981 (typographical error in the licensee's response dated March 20, 1981 as CNSI-4) and identified that controls had been established for review of material by the CNSS.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Design, Design Changes and Modifications (37700)

References: (a) QAP-14, Operating Plant Modification Control, Revision 2
 (b) QAP-202, Plant Modification Review, Revision 2
 (c) ENP-3, Plant Modification Procedure, Revision 12

The inspector reviewed references (a)-(c) to assure they met the requirements of the accepted QA Program and Regulatory Guide 1.64 - October, 1973 as endorsed by that Program. The inspector verified the following aspects of the plant modification program:

- Modifications have been reviewed and approved in accordance with 10 CFR 50.59
- Modifications were reviewed and approved in accordance with T/S and established QA/QC controls
- Modifications are controlled by established procedures
- Modifications were incorporated into existing procedures
- Drawings were updated to reflect modifications.

The inspector selected six modifications (80-214, 80-245, 81-173, 80-237, 80-224 and 80-225) and verified the previously stated aspects of the modification program.

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

6. Organization and Administration (36700)

Reference: Technical Specifications

The inspector reviewed various QA and administrative procedures to assure the existing plant organization is as required by the reference. There have been changes in the licensee's organizational structure. The licensee has submitted a revision to the T/S (Letter from E. E. Utley to T. A. Ippolito dated July 28, 1981, Serial No.: DQA-81-045) delineating these changes. The qualifications of personnel due to this reorganization will be reviewed upon acceptance of the revision to the T/S by the NRC.

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

7. QA Program Annual Review (35701)

- References
- (a) Letter from E. E. Utley to D. G. Eisenhut dated March 18, 1981, Serial No. OQA-81-026
 - (b) Memorandum from H. R. Banks to S. R. Zimmerman dated July 31, 1981 (Regulatory Guide 1.146 Revision 0)
 - (c) Memorandum from H. R. Banks to S. R. Zimmerman dated July 31, 1981 (Regulatory Guide 1.58 Revision 1)
 - (d) Letter from E. E. Utley to D. G. Eisenhut dated June 8, 1981, Serial No.: No-81-984
 - (e) Corporate Quality Assurance Program, Revision 2
 - (f) Letter from F. R. Coburn to C. R. Deiters, R. J. Grover, Jr. and J. M. Waldorf dated August 31, 1981, File 3820 (Implementation of New Corporate Quality Assurance Program)
 - (g) Operations Quality Assurance/Quality Control Manual of Procedures dated 9/81
 - (h) FSAR Chapter 13.4.3, Continuing Quality Assurance Program, Amendment 27

There have been substantive changes in the licensee's QA Program since the last inspection effort in this area (October 1980). References (a), (b) and (c) reiterate the licensee's commitments as originally stated in reference (h). The licensee has rewritten references (e) and (f) and is in the process of implementing these procedures. Since these procedures have been recently implemented on September 1, 1981, the licensee is cognizant that there will probably be some problem areas to be refined. The inspector discussed the new program with plant personnel and determined that they were aware of and showed renewed interest in changes in the program.

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

8. Onsite Review Committee (40700)

- References:
- (a) Technical Specifications
 - (b) AP, Paragraph 3.0, Plant Nuclear Safety Committee, Revision 39
 - (c) AI-9, Plant Nuclear Safety Committee Administration dated 9/80

Discussions with the resident inspector identified that they attend PNSC meetings consequently the inspector did not attend a PNSC meeting. The inspector reviewed PNSC meeting minutes from June 1, 1981 through August 13, 1981 (Meeting minutes 162-219) and verified T/S requirements relative to membership, review process, frequency of meetings and qualifications of personnel.

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

9. Measuring and Test Equipment Program (61724)

- References:
- (a) Corporate Quality Assurance Program, Section 9, Calibration Control, Revision 1
 - (b) QCP-301, Tool and Instrument Calibration, Revision 2
 - (c) MP-01, Control of Measuring Devices and Test Equipment, Revision 13

The licensee's practices with respect to the test and measurement equipment program were reviewed to verify the following:

- Criteria and responsibility for assignment of calibration frequency have been established
- An equipment inventory list has been established which identified the calibration frequency, standards and procedures for all equipment to be used on safety-related structures, systems or components
- Formal requirements exist for marking the latest inspection/calibration on each piece of equipment or otherwise identifying the status of calibration
- A method has been provided for assuring that each piece of equipment is calibrated on or before the date required and that new equipment will be added to the list and calibrated prior to use
- Controls have been established to prohibit the use of equipment which has not been calibrated within the prescribed frequency
- Controls have been established to ensure that when a piece of equipment is found out of calibration, the acceptability of items previously tested with that equipment will be evaluated and documented and the cause of that equipment being out of calibration will be evaluated.

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

10. Surveillance Testing and Calibration Control Program (61725)

- References:
- (a) Corporate Quality Assurance Program, Section 9, Calibration Control, Revision 1
 - (b) ASME Boiler and Pressure Code, Section XI, 1977 Edition through Summer 1978 Addendum
 - (c) MP-03, Calibration of Process Instruments, Revision 17
 - (d) MP-10, Preventative Maintenance Program, Revision 14

The referenced documents were reviewed with respect to the licensee's accepted Quality Assurance Program. The review was concerned with T/S surveillance testing and calibration of important safety-related instruments not specifically controlled by T/S.

The licensee's practices were reviewed to verify the following:

- A master schedule for surveillance testing/calibrations/in-service inspections was developed which included frequency, responsibility and status for each test/calibration/inspection
- Responsibilities are assigned for maintaining the master surveillance schedule and for assuring that all scheduled tests/calibrations/inspections are performed
- Formal requirements, methods and responsibilities are established and defined for conduct, review and evaluation of tests/calibrations/inspections
- A master schedule for component calibrations had been established that included frequency, responsibility and status of safety-related components
- Responsibilities are assigned to assure that the schedule is maintained and schedules are satisfied
- Formal requirements have been established for performing calibrations in accordance with approved procedures.

Based on this review, one inspector followup item was identified.

Reference (a) requires that calibration of safety-related installed instruments be performed on a periodic basis. Contrary to this requirement, as of September 4, 1981, Instrumentation and Control calibration of safety-related instruments are not being performed on a periodic basis. Several instruments were beyond their calibration tolerance date and no action was being taken to resolve the late calibration problem. In addition, no effort was being made to identify those overdue instruments used to perform T/S surveillances and to notify the Operations Department of these instruments. The inspector did not identify any T/S surveillances performed with calibration overdue on installed instruments. This problem of overdue calibrations was addressed in a licensee evaluation of the preventive maintenance program based on a review of an Institute of Nuclear Power Operations checklist procedure. This evaluation identified the weaknesses in references (c) and (d) and committed to revising both procedures by October 1, 1981. As this deficiency in the calibration program was identified by the licensee, no citation is issued. This area is identified as an inspector followup item (325, 324/81-21-01) pending the NRC review of the calibration program for performance frequency and also for calibration status information being provided to the plant department using the installed instruments identified by the program.

11. Calibration (56700)

- References:
- (a) Corporate Quality Assurance Program, Section 9, Calibration Control, Revision 1
 - (b) MP-03, Calibration of Process Instrumentation, Revision 17

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

- For completed calibrations, the documentation was complete, acceptance criteria met, proper revision used and calibration conducted by qualified individuals
- For calibration procedures, reviews are as required by T/S, 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
- For M&TE, equipment is controlled by site procedures, calibration frequency is maintained, storage of equipment is proper and accuracy is traceable to the National Bureau of Standards or other independent testing organizations.

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

12. Surveillance (61700)

- References:
- (a) Corporate Quality Assurance Program, Section 9, Calibration Control, Revision 1
 - (b) ASME Boiler and Pressure Code, Section XI, 1977 Edition through Summer 1978 Addendum

Utilizing the licensee's surveillance program the inspector verified that selected plant surveillances met several required criteria:

- T/S surveillance and ISI tests were covered by approved procedures which contained applicable prerequisites and preparations, acceptance criteria and instructions to insure that systems or components are restored to operation following testing
- Completed surveillances were reviewed in accordance with facility administrative requirements, were performed within the required time frequencies, were properly handled when tested items failed acceptance criteria and were performed by qualified individuals.

The revised ISI Program was initiated on July 1, 1981. Although the present program appears satisfactory, many periodic tests are being rewritten. The inspection of the fully revised program will be conducted during a subsequent inspection.

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

13. Nonroutine Report (90714)

References: (a) AI-39, BSEP Program for Compliance to 10 CFR 21, Revision 5
 (b) AI-43, NRC Reporting Requirements Summary, Revision 0
 (c) OI-4, LCO Evaluation and Followup, Revision 8
 (d) ENP-7, Licensee Event Reports (LER's), Revision 6
 (e) RMI-1, Capture and Indexing of Correspondence and Plant Records, Revision 4

The inspector reviewed references (a)-(e) and verified that:

- Administrative controls have been established for prompt review and evaluation of off normal events
- Administrative controls have been established for review of planned and unplanned maintenance and surveillance testing activities
- Administrative controls have been established for reporting safety-related events internally and to the NRC
- Administrative controls contain provisions for recognition and reporting events that are covered by 10 CFR 21
- Administrative controls have been established for review and evaluation of vendor bulletins and circulars.

The licensee is in the process of developing similar administrative controls for NRC correspondence (bulletins, circulars and notices).

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

14. Licensee Action on Previously Identified Inspection Findings (92701)

- a. (Closed) Open Item (325/80-42-14, 324/80-39-14): Operations manual does not reflect Technical Specification (T/S) organization. Since the date of the last inspection in this area (October 1980) there have been changes in the plant corporate organizational structure. The licensee submitted a T/S change to the NRC on July 28, 1981 (Letter from E. E. Utley to T. A. Ippolito, Serial No. OQA-81-045) delineating these changes.

- b. (Closed) Open Item (325/80-42-16, 324/80-39-16): General employee training does not provide criteria for satisfactory completion of training. The inspector reviewed TI-300, General Employee Training, Revision 5. This procedure contains a description (Section 2.1.1) for the detailed training program and refers to the Training Manual for Nuclear and Fossil Operations. The inspector reviewed the operating guidelines of the General Employee Training (Badging) for Nuclear Operations Department and identified that criteria for satisfactory completion of training and subsequent badging has been included in the guidelines.
- c. (Closed) Open Item (325/80-42-17, 324-80-39-17): Master drawing index does not include Engineering on distribution. The inspector reviewed selected drawing inventory cards (record cards) and ascertained that drawings are now being distributed to Engineering.
- d. (Closed) Open Item (325/81-42-18, 324/81-39-18): Records generated prior to new index system do not have a documented index. The inspector reviewed RMI-1, Capture and Indexing of Correspondence and Plant Records, Revision 5 and RMI-2, Records Receipt and Storage Records Management Instructions, Revision 3. These two procedures differentiate the indexing system now being used for retention of records. They also describe how older records are being stored apart from newer records.
- e. (Closed) Open Item (325/80-42-19, 324/80-39-19): Construction records not controlled by written procedures. The inspection reviewed RMI-1, Capture and Indexing of Correspondence and Plant Records, Revision 5 and determined that controls have been established for the handling of microfilm documentation.
- f. (Closed) Open Item (325/80-42-20, 324/80-39-20): Clarification between CNSU procedures and T/S. The inspector reviewed the procedures for operation of the CNSS. These procedures underwent a total rewrite on June 1, 1981. The inspectors concern about the possibility of inadequate reviews by the CNSS have been addressed by CNSP-3, Subjects Requiring Independent Review; CNSP-4, Independent Review, Documentation, and Communication and the Guidelines for Conduct of Corporate Nuclear Safety Programs.
- g. (Closed) Open Item (325/80-42-21, 324/80-39-21): Revise QAP-17 to include additional guidance for determining hold points. The inspector reviewed QAP-204, Criteria for Hold Points, Revision 2 and identified that this procedure adequately describes the methods to be used for establishing hold points for electrical maintenance, electrical related plant modifications, mechanical maintenance, mechanical related plant modifications, structural concrete and structural steel and post installation and repair inspections.
- h. (Closed) Open Item (325/80-42-24, 324/80-39-24): Document cases where QA/QC technician's decision is overridden by QA supervisor. The inspector reviewed QAP 204 as discussed in paragraph 14.g. This procedure contains guidance for establishment of hold points during performance of QA/QC activities. The inspector also reviewed memos dated December 2, 1980 and September 3, 1981. The former memo from

- D. A. Allen to plant QA technicians and specialist (File B10-13300, Serial: BSEP/80-1971) provides a method for documentation if the QA supervisor overrides a QA technician's or specialist's decision. The latter memo from C. H. Mosley, Jr. to F. R. Caburn and H. J. Young reiterates an open door policy at Brunswick and Robinson plants.
- i. (Closed) Inspector Followup Item (325/80-42-25, 324/80-39-25): House-keeping inspection. Discussion with the resident inspector identified that housekeeping is routinely monitored during their plant tours. If problem areas are identified, appropriate documentation is provided in their monthly inspection reports.
 - j. (Closed) Inspector Followup Item (325/80-42-26, 325/80-39-26): Outdated references in operating manual. The inspector reviewed the Operating Manual, Volume 1, Administrative Procedures, Paragraph 11, Plant Safety and identified that the outdated references had been removed and the correct references are now in place.
 - k. (Closed) Inspector Followup Item (325/80-42-27/324/80-39-27): Include handling of defective rigging equipment in MP-6. The inspector reviewed MP-6, Operation and Inspection of Cranes and Material Handling Equipment, Revision 6 and identified that controls have been established for disposition of damaged or defective sling and hoisting equipment.
 - l. (Closed) Inspector Followup Item (325/80-42-30, 324/80-39-30): Review Director Nuclear Safety and Quality Assurance self study program in quality assurance area. Due to organizational changes, this position has been deleted. The onsite Quality Assurance Department has been realigned and now reports to a Director, QA/QC on site who in turn reports to the Manager, Operations QA/QC at the corporate office. This position reports to the Manager, Corporate Quality Assurance who in turn reports to the Executive Vice President, Power Supply and Engineering and Construction.