



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

Report Nos. 50-324/81-19 and 50-325/81-19

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

Facility Name: Brunswick 1 and 2

Docket Nos. 50-324 and 50-325

License Nos. DPR-62 and DPR-71

Inspection at Brunswick site near Southport, North Carolina

Inspectors:	<u>C. Julian</u>	<u>9/8/81</u>
	C. Julian, Acting Section Chief, Division of Resident and Reactor Project Inspection	Date Signed
	<u>P. Bemis</u>	<u>9/10/81</u>
	P. Bemis, Reactor Inspector	Date Signed
	<u>P. Skinner</u>	<u>9/10/81</u>
	P. Skinner, Reactor Inspector	Date Signed
Approved by:	<u>R. C. Lewis</u>	<u>9/10/81</u>
	R. C. Lewis, Director, Division of Resident and Reactor Project Inspection	Date Signed

SUMMARY

Inspection on August 10-14, 1981

Areas Inspected

This routine unannounced inspection involved 131 inspector-hours on site in the areas of training, requalification training, maintenance, maintenance program, review of plant operations, and independent inspection effort.

Results

Of the six areas inspected, no violations or deviations were identified in four areas; two violations were found in two areas (Failure to follow radiation control procedures, paragraph 9.a, and failure to maintain controlled copies of procedures up to date, paragraph 9.b.).

DETAILS

1. Persons Contacted

Licensee Employees

- *C. Bohanan, Principal Specialist Regulatory Compliance
- *J. Brown, Manager, Operations
- *C. Dietz, General Manager, Brunswick
- *M. Hill, Manager, Maintenance
- *M. Long, Manager, Special Projects
- *K. Martin, Administrative Supervisor
- *R. Morgan, Manager, Plant Operations
- *D. Novotny, Regulatory Compliance Technician
- *G. Oliver, Manager, E&RC
- *A. Padgett, Assistant to General Manager
- *S. Thorndyke, Training Supervisor
- *W. Tucker, Manager, Technical and Administrative
- *J. Waldorf, Principal Engineer

Other licensee employees contacted included construction craftsmen, technician, operators, mechanics, and office personnel.

NRC Resident Inspector

- *D. Johnson, Sr. Resident Inspector
- *L. Garner, Resident Inspector
- *W. Orders, Resident Inspector, Oconee NPS

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on August 14, 1981 with those persons indicated in Paragraph 1 above. The licensee acknowledged understanding of the inspection findings.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve noncompliance or deviations. New unresolved items identified during this inspection are discussed in paragraphs 6, 8, and 9.

5. Training (41700)

- References:
- a. Technical Specifications section 6
 - b. ANSI 18.1-1971, Selection and Training of Nuclear Power Plant Personnel.
 - c. Regulatory Guide 8.13, Prenatal Radiation Exposure
 - d. Regulatory Guide 1.8, Personnel Selection and Training
 - e. TI 100, Retraining and Replacement Training for Nonlicensed Operations Personnel, Revision 4, 6/81
 - f. TI 300, General Employee Training, Revision 5, 1/81
 - g. TI 400, Plant Management Training, Revision 1, 10/81
 - h. TI 500, Administrative Sub Unit Training, Revision 1, 9/80
 - i. TI 600, Engineering Sub Unit Training, Revision 0, 2/77

The inspector reviewed the training program which provides general employee training for both licensed and non-licensed personnel to determine if the program meets the requirements of references a-c and f which were committed to by the licensee. The plant specialty group training programs and auxiliary operator training programs, references e-i, were reviewed to determine if formal technical training commensurate with the job classification was being provided. The inspector reviewed 80 training records of plant personnel and interviewed 40 people as to the training they were receiving.

The inspector also reviewed the training and qualifications of the vendor and consultant engineers and technicians. During this review the inspector found the licensee to exhibit a strong control over both, meeting the background requirements and present level of competence for contract personnel, as well as requiring contract personnel to read and adhere to an extensive set of self study guides to become familiar with Carolina Power and Light and Brunswick site procedures and philosophy.

Based on this review, one inspector follow-up item was identified.

Reference b section 5.5 requires that a training program be established that will insure the proficiency of the plant operations staff. At the time the inspector reviewed the training program for auxiliary operators, the inspector found the licensee had recently completed development of a formal training program and had only completed implementation of the first two weeks. Until the inspector can evaluate the full implementation of the program this item will be carried for tracking purposes as an inspector followup item (50-324, 325/81-10-13)

6. Requalification Training (41701)

- References:
- a. Technical Specification 6.4, Training
 - b. 10 CFR 55 Appendix A, Operator Requalification
 - c. ANSI 18.1 1971, Selection and Training of Nuclear Power Plant Personnel

- d. Regulatory Guide 1.8 Personnel Selection and Training
- e. TI 200, Brunswick Plant Operator Retraining Program, Revision 5, 7/80

The implementation of the approved requalification program was reviewed to verify that the licensee has prepared a schedule for conducting lectures and prepared lesson plans for the lectures presented. The inspector reviewed the following areas: retraining conducted; copies of annual written and oral examinations; documentation of attendance at required lectures; documentation of require reactivity manipulations; and documentation of procedure and change review. Based on this review one unresolved item and one open item were identified.

- a. Failure to follow NRC Criteria for Annual Requalification Examination.

The NRC criteria for passing either a RO or SRO written examination is a score of 80% overall and at least 70% in each section. If an individual makes less than 80% overall, he must retake the entire examination. The licensee's interpretation of this requirement is that if an individual makes less than 80% overall he only has to retake the sections in which he made less than 80%. This item is being referred to NRC management for resolution and will be carried as an unresolved item. (50-324, 325/81-19-07).

- b. Failure to Maintain Adequate Documentation

The licensee's approved requalification program requires NRC licensed personnel to be removed from licensed duties and attend accelerated requalification lectures if he fails his annual requalification examination. The licensee could only produce adequate documentation for 50% of the individuals who failed their 1980 requalification examination that they had been removed from licensed duties and attended accelerated requalification lectures. The inspector interviewed the individuals who failed the examination and determined they had been removed from licensed duties and attended accelerated requalification lectures. Prior to the inspection the licensee had implemented an acceptable program for documenting attendance and removal from licensed duties and the licensee committed to an October 1, 1981 date for full implementation. This item will be carried as an open item (50-324, 325/81-19-04) until the full implementation takes place.

7. Maintenance and Maintenance Program (62700, 62702)

- References:
- a. Technical Specifications
 - b. FSAR Section 13.4 (QA Program)
 - c. MP-4, General Maintenance Procedure, Revision 007 dated 6/81
 - d. MP-14, Maintenance Procedure, Revision 009 dated 7/81
 - e. MP-10, Preventive Maintenance Program, Revision 14 dated 8/21

The inspector reviewed maintenance and the maintenance program in accordance with references (c) (d) and (e) to ascertain whether the activities met the commitments of reference (a) and (b). The following criteria were used during this review:

- Required administrative approvals were obtained prior to initiating the work
- Approved procedures were used where the activity appeared to be beyond the normal skills of the craft
- Activity was accomplished by qualified personnel
- The licensee had evaluated system failures and reported them in accordance with the Technical Specifications
- Written procedures were established for initiating requests for routine and emergency maintenance
- Criteria and responsibilities for review and approval of maintenance requests were established
- Criteria and responsibilities that form the basis for designating the activity as safety or non-safety-related were established
- Criteria and responsibilities were designated for performing work inspection and maintenance activities
- Provisions and responsibilities were established for the identification of appropriate inspector hold points related to maintenance activities
- Methods and responsibilities were designated for performing functional testing of structures, systems or components following maintenance work and/or prior to their being returned to service
- A written preventive maintenance program for safety-related structures, systems and components has been established
- Administrative controls for special processes have been established
- Method and responsibilities for equipment control have been defined
- A corrective maintenance program has been established that includes written procedures, responsibilities for review and approval of work requests, inspection of work, hold point implementation, and administrative controls.

No violations or deviations were found in these areas.

8. Review of Plant Operation (71713, 93702)

The inspectors reviewed the logs, computer printouts, strip charts, and reports from the Unit 2 plant transient and scram events of July 2, 1981 (Main Steam Isolation Valve failed closed) and August 4, 1981 (Circulating water valving error and safety relief valve stuck open). In both cases the process computer was not aligned for optimum performance in recording plant events. The NSS and BOP post trip logs from the computer were not complete and parameters most useful for determining the cause of the scram were not selected for printout. The July 2 scram report identified the cause of the scram to be low water level following closing of one main steam isolation valve (MSIV) due to mechanical failure. After examination of all scram report data, the inspectors conclude that the scram occurred due to high flux following the MSIV closure. The computer alarm typer failed to print significant event records following the scram which appeared to be the cause for the determination of low water level as the scram source. Emergency Instruction EI-31 "Reactor Scram" states that following a scram the cause will be determined. Failure to properly evaluate scram events and determine the cause prior to restart of the reactor is not consistent with procedure EI-31. Additionally, there is no record of review of the scram reports by anyone in plant management above the Shift Operating Supervisor. This matter remains unresolved pending further review with NRC management. (50-324, 324/81-19-06)

During the August 4 transient, a safety relief valve B21-F013B was manually opened at 1031 psi to control increasing pressure in the reactor vessel. The valve stuck open, remained open for 11 minutes, and finally reseated at 314 psi. The licensee replaced the entire operating mechanism of the valve and will examine the failed mechanism to determine the cause of the relief valve failure.

With water inventory loss through the open relief valve, reactor vessel level during the transient reached the second low level trip point of + 118 inches. At this point one recirculation pump tripped and the High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) systems received start signals. RCIC performed as designed, however operators reported that HPCI started but the vessel injection valve failed to automatically open and was opened manually. HPCI and RCIC then performed normally to restore normal vessel level. The licensee concluded that the injection valve either performed normally and was opened manually by the operator before it was due to open, or the vessel second low level signal was transient and not sustained long enough to provide the permissive signal for injection valve opening.

The inspectors reviewed this matter and conclude that either explanation is plausible. The inspectors discussed with licensee representatives the testing done to confirm future proper automatic operation of the HPCI injection valve. Testing appeared adequate to assure proper operation.

9. Independent Inspection Effort

a. Failure to Follow Procedures

During this inspection, an inspector while touring the maintenance areas, identified a violation of radiation control procedures. On two separate occasions in the hot machine shop area, the inspector noted personnel working within a conspicuously posted contamination area without the required protective clothing stated on the posting at the job site. In both cases a RC&T foreman was notified. The Brunswick Steam Electric Plant Radiation Control and Protection Manual Section 6.5.1 requires in part, that an individual entering a radiation control area must wear the proper clothing and devices as posted at the entrance to the area. These examples of failure to follow procedures are a violation (50-324, 325/81-19-02).

b. Failure to Maintain Controlled Procedures

Technical Specification 6.8.1 states in part that written procedures shall be maintained covering the activities in Appendix A of Regulatory Guide 1.33. Contrary to the above as of August 14, 1981 the following examples were found of failure to properly maintain controlled procedures.

1. Copy 9, Procedure TI 001 pages 1 and 3 are the only correct pages, all other pages are from procedure TI 100.
2. Copy 9, OP 50.1 Revision 13 is missing page 35 (20 of 24)
3. Copy 9, MP 10 Preventive Maintenance Program, Revision 13, 6/80 in the book, Revision 14 had been issued.
4. Unit 1 control room copy of OP 51 did not have the temporary change dated 7/28/81 and Unit 2 had the Change. The change was applicable to both Units.
5. Both control room copies of OP 50.1, Revision 13 were missing page 35.
6. Unit 1 control room procedures contained a temporary Change dated 6/29/81, Unit 2 did not contain the change and the change was applicable to both Units.

These six items collectively constitute a violation for failure to maintain procedures (50-324, 325/81-19-01).

c. Failure to license the Operations Manager

Technical Specification 6.3.1 requires the plant staff to meet the requirements of ANSI N18.1-1971. ANSI N18.1 1971 requires the operations manager to hold a Senior Reactor Operator license.

However Technical Specification Figure 6.2.2-1, the Facility Organization chart, does not require the Operations Manager to hold an SRO license.

The Operations Manager does not currently hold an SRO license. Due to a conflict between Technical Specification 6.3.1 and Figure 6.2.2-1 in Technical Specifications, this item will be referred to NRC management for resolution and will be carried as unresolved (50-324, 325/81-19-03).