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

Report Nos. 50-324/82-37 and 50-325/82-37

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

Facility Name: Brunswick

Docket Nos. 50-324 and 50-325

License Nos. DPR-62 (Unit 2) and DPR-71 (Unit 1)

Inspection at Brunswick site near Southport, North Carolina

Inspector: W. H. Miller — 9-28-82 Date Signed

Approved by: T. E. Conlon, Section Chief — 9-28-82 Date Signed
Engineering Inspection Branch
Division of Engineering and Technical Programs

SUMMARY

Inspection on September 7-10, 1982

Areas Inspected

This routine, unannounced inspection involved 26 inspector-hours on site in the areas of fire protection/prevention.

Results

Of the areas inspected, two violations were found. (All personnel required to use respirator protection were not properly trained - Paragraph 3.c; and, inadequate number of spare cylinders available for fire brigade self contained breathing apparatus - Paragraph 3.d). No deviations were identified.

REPORT DETAILS

1. Persons Contacted

   Licensee Employees

   C. R. Dietz, Plant Manager
   *J. L. Harness, Manager-Plant Operations
   *E. A. Bishop, Manager-Technical Support
   *K. E. Enzor, Director-Regulatory Compliance
   *R. M. Poulk, Specialist - Regulatory Compliance
   *R. E. Porterfield, Senior Specialist - Fire Protection
   K. H. Stewart, Fire Protection Specialist
   T. L. Sarner, Technical Aide - Fire Protection
   T. Mull, Fire Protection Specialist

   NRC Resident Inspector

   *D. O. Myers
   *L. W. Garner

   *Attended exit interview

2. Exit Interview

   The inspection scope and findings were summarized on September 10, 1982, with those persons indicated in paragraph 1 above. The licensee was informed of the inspection finding including the items listed below. The licensee acknowledged the findings with no dissenting comments.

   a. Violation (324/82-37-01 and 325/82-37-01), All personnel required to use respirators are not adequately qualified - paragraph 3.c

   b. Violation (324/82-37-02 and 325/82-37-02), Inadequate number of spare cylinders available for fire brigade self contained breathing apparatus - paragraph 3.d.

   c. Inspector Followup Item (324/82-37-03 and 325/82-37-03), Maintenance of sprinkler system deluge valves in the closed positions - paragraph 6.b.

3. Licensee Action on Previous Inspection Findings

   a. (Opened) Unresolved Item (324/80-10-04 and 325/80-11-04), Storage of training and surveillance inspection/test records. This item is also applicable to the storage of fire brigade drill records. Deficient storage of training records was also identified by the licensee's QA/QC surveillance S-81-005 and is currently under review and scheduled to be completed by September 17, 1982. This item remains open and will be reviewed during a subsequent NRC inspection.

b. (Closed) Violation Item (324/81-23-01 and 325-81-23-01), Inadequate fire brigade drills and training: The licensee's corrective action as addressed by CPL letters of November 5 and December 23, 1981 was reviewed. Procedure FP-1, Plant Fire Brigade, has been revised to require all personnel to receive fire brigade training prior to being assigned to the brigade. However, a review of the fire brigade roster indicated that this procedure was not being implemented in that 14 untrained personnel were assigned to the brigade. This problem was also identified by a CPL QA audit conducted in July, 1982 and is therefore not identified as an NRC violation. This problem area will also be reviewed during future NRC inspections. A review of the brigade drills conducted since January, 1982 indicated that drills had been conducted at least quarterly for each operating shift. Therefore, this item is closed.

c. (Closed) Violation Item (324/81-23-02 and 325/81-23-02), All personnel required to use respirator protection are not adequately trained: The licensee's letter of response dated November 5, 1981 stated that all personnel will be trained by July 1, 1982. The inspector reviewed the record data and noted that three shift formen out of nine were not fully qualified and three out of the eight fire brigade members reviewed were found not to be respirator qualified. The failure to qualify all required personnel in the respirator protection program is identified as a repeat violation. This item is identified as Violation Item (324/82-37-01 and 325/82-37-01). All personnel required to use respirators are not adequately qualified. The former violation item is closed and a new violation item is opened.

d. (Closed) Violation (324/81-23-03 and 325/81-23-03), Inadequate number of spare cylinders available for fire brigade self contained breathing apparatus: The licensee response to this item, CPL letter of November 5, 1981, stated that the required number of spare cylinders were available in early October 1981. On September 7-10, 1982 only 20 spare serviceable cylinders were available in lieu of the required 32. A review of surveillance data for PT-35.14, Inspection of Self Contained Breathing Apparatus, indicated that a shortage of spare cylinders had existed since at least February 1982. This item is identified as a repeat violation; therefore the former violation item is closed and a new violation item is opened (324/82-37-02 and 325/82-37-02).

e. (Closed) Violation (324/81-23-04 and 325/81-23-04), Inspection of fire barrier penetrations not completed within the time specified by the Technical Specifications: The licensee action on this item as identified in CPL's letter of December 23, 1981 was reviewed. Completion of the surveillance procedures for inspection of fire barriers were reviewed and found up to date. This item is closed: However, a number of fire barrier discrepancies exist and are presently covered by the action statement of the Technical Specifications.

f. (Open) Unresolved Item (324/81-23-05 and 325/81-23-05), Fire/flame barrier requirements for service water pumps: Several of the fire/flame barriers for the service water pumps were found not in service during this inspection, but the plant was not operational. The licensee has proposed to provide a fire barrier enclosure for nuclear service pumps 1B and 2B to meet the requirements of 10CFR50 Appendix R but this has not yet been reviewed by NRC/NRR. However, license paragraph 2.b.(6) requires completion of paragraph Nos. 3.1.1 through 3.1.35 of the NRC's Fire Protection Safety Evaluation Report, (FPSER) dated November 22, 1977. FPSER paragraph 3.1.9 requires the fire/flame barriers for the intake structure pumps. During the exit interview the licensee was advised that these barriers must be properly maintained in place or either the license must be revised accordingly.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Review of Fire Protection Prestartup Items

Following the NRC "Confirmation of Action" letters of July 2 and 30, 1982 to CPL regarding the failure to identify and perform several surveillance test requirements of the Technical Specifications at the Brunswick facility, CPL developed a list of items that were to be completed prior to startup. The CPL prestartup list dated September 3, 1982 (Revision 5) was used by the inspector to verify that the required action on the fire protection identified items had been completed. This inspection also included a review of the licensee's resolution of fire protection system as-built vs. design discrepancies and design vs. Technical Specification discrepancies. The specific items reviewed and status were as follows:

a. (Closed) Item QA-47, Revise and perform PT-35.22 (to include additional valves). PT was revised and issued on September 7, 1982. Surveillance of valves was conducted on July 23, 1982, by a temporary test procedure.

b. (Closed) Item QA-6?, Clarify coverage (PT) for Technical Specification (TS) 4.7.7.3.a, b.1 and b.2 (b.1 and b.2 are not met by PT-35.10 which is referenced from these reports). PT35.3 and PT35.10 provide for all surveillances required by the TS for the carbon dioxide systems except for the flow test in the control building. PT35.10 had been revised to require this flow test. This revised procedure was being reviewed by the plant staff. On August 11, 1982 a flow test was conducted on the control building carbon dioxide system using a temporary test procedure.

c. (Closed) Item ONS-7, PT-35.4.6 AOG Fire suppression operability. (Note - This item is to be revised by the licenses to only include the fire "detection" system for the AOG building.)

(1) (Closed) Item ONS-7.a, Ensure installation and PT is per design. The license has reviewed the design requirements and revised the installation to conform to the original design, i.e. some of the flame detectors have been replaced with heat detectors. PT-35.4.6 was to be revised to conform to the existing installation. The changed detectors were tested under a temporary test procedure on August 11, 1982.

(2) (Closed) Item ONS-7.b, Discuss TS discrepancy with NRC. This is included in Item Other 1.4, Refer to below paragraph 5.d.(4).

d. (Closed) Item Other 1, Resolve fire protection PT discrepancies as follows. (This item is to be revised by the licensee to only include "fire detection" discrepancies).

(1) (Closed) Item Other 1.1, Review fire protection PT's and rerun any PTs with previous unsatisfactory performance. The licensee has reviewed the most recent surveillances conducted on all of the fire protection systems. This review was completed on September 6, 1982. A total of four PT's were being rerun in part and are scheduled to be completed prior to startup. Completion of these tests are to be verified by the Resident Inspector.

(2) (Closed) Item Other 1.2, Correct as built vs design discrepancies. (Note - This item included only the fire detection systems.) The licensee reviewed all of the design drawing for the fire detection systems and conducted a field inspection to verify that the installed systems conformed to the design requirements. This was completed on August 13, 1982. All identified discrepancies were corrected or plant modifications are being initiated to resolve discrepancies. The installed systems meet the current Technical Specifications

(3) (Closed) Item Other 1.3, Identify and clarify any design vs. Technical Specification discrepancies. On September 7, 1982, a license change request was sent by the license to NRC/NRR to correct dicrepancies found between the fire detector design, installation, and Technical Specifications.

(4) (Closed) Item Other 1.4, Discuss Technical Specification discrepancies with NRC and prepared Technical Specification submittal. Refer to above paragraph 5.d.(3).

e. (Closed) Item Other 1.a, Revise PT-35-10 to meet TS Section 4.7.3.b.2 concerning discharge test and perform PT. This item involved the failure to perform the flow test for the control building carbon dioxide system and is the same as Item QA-63. Refer to above paragraph 5.b for corrective action taken.

f. (Closed) Item Other 1.b, Revise PT-35.11.2 to meet TS Section 4.7.7.4.b by including hose racks in water treatment building, control building, and AFFF-1 hose rack and perform PT. PT-35.11.2 was revised to include these hose stations on September 9, 1982. The surveillance was not required to be conducted since the surveillance requirements were met by PT-35.11.3 which was conducted in August, 1982.

g. (Closed) Item Other 1.c, Install detectors in location 16-2 and 16-3 of reactor building and perform appropriate PT. The missing detector were installed on August 9, and tested on August 10, 1982.

h. (Closed) Item Other 1.d, Revise PT-35.22 to include the three previously omitted valves and perform PT. This is the same as Item QA-47. Refer to above paragraph 5.a for corrective action taken.

i. (Closed) Item Other 1.e, Review 1979 Technical Specification submitted for PM-79-080 and resubmit Technical Specification change. This item was included in the proposed Technical Specification change which was sent to the NRC/NRR on September 7, 1982. Refer to above paragraph 5.d.(3).

j. (Closed) Item Other 1.f, Revise PT-35.18.2 to include surveillance of AOG building fire doors as required by TS Section 4.7.8 and perform PT: Fire doors were inspected by a temporary surveillance procedure on August 12, 1982. PT-35.18.2 was revised to include the AOG building fire doors on September 9, 1982.

k. (Closed) Item Other 1.g, Revise PT-35.18.3 to include surveillance of AOG building hatches per Technical Specification 4.78 and perform PT. Hatches were inspected using a temporary procedure on August 13, 1982. PT-35.18.3 was revised to include these hatches on September 7, 1982.

l. (Closed) Item Other 1.h, TS Section 3.3.5.7 requires instrumentation and alarms to be operable and section 6.8.1.a requires procedures be established in accordance with Regulatory Guide 1.33, Appendix A. Annunciator procedures for the fire protection system have not yet been completed. Annunciator procedures had been written for each fire protection annunciator window. These procedures were being reviewed by the plant staff and are scheduled to be issued prior to startup. This item is to be verified by the Resident Inspector.

m. (Closed) Item Other 10.c, Nonconformance Items 5(a) through 5(x) for fire protection. Evaluate to identify any additional prestartup fire protection items. The licensee has reviewed the nonconformances in the draft QA audit report and identified two items (Nos. 5(m) and 5 (p)) that need to be completed prior to startup. These items involve procedures for the preparation and approval of fire barrier work permits and require a revision to procedure FP-8. FP-8 had been revised to include these changes and was being reviewed by the plant staff. The licensee stated that this review should be completed prior to startup.

Within the areas examined, no violations or deviations were identified.

6. Fire Protection Program (64704)

The inspector reviewed the licensee's fire protection program. This review included the items identified in above paragraphs 3 and 5 and the following additional items:

a. Fire Brigade Organization and Training

A review of the fire brigade roster indicated that the licensee continues to assign personnel to the fire brigade who have not received fire brigade training. As noted in above paragraph 3.6, this discrepancy was identified by the licensee in a July 1982 QA audit. Therefore, this item is not identified as an NRC violation. During the exit interview the licensee stated that action was to be initiated to correct this problem. This item will be reviewed during a subsequent NRC inspection.

The fire brigade drill records for 1982 were reviewed by the inspector and it was noted that each shift had participated in at least one drill per quarter for 1982. The drill records still have not been classified as QA type training records; however, as noted in above paragraph 3.a the location and storage of plant training records is presently being evaluated by the licensee. This item will be reviewed during a subsequent NRC inspection.

b. Plant Tours

A plant tour was made of portions of the control building and Unit 1 reactor building, diesel generator building, service water intake structure, and fire pump structure. The general housekeeping in these areas was satisfactory. Welding and cutting operations being conducted in the service water intake structure, cable spreading room and Unit 1 reactor building were observed and the licensee's fire safety requirement were being followed. The storage and handling of combustible and flammable liquids were properly safeguarded.

In the areas toured the fire suppression systems were inspected and found to be in service. However, the electric fire pump was found in the constant run or operating position since one of the jockey pumps was out of service and the remaining pump was reportedly of inadequate capacity to maintain the required pressure on the system. Also, eight of the 14 water deluge valves installed for the safety related sprinkler systems were found in the tripped or open position. FSAR Section 9.5.1.2.5.5 states that the deluge valves for these systems are to be maintained in the closed position except for fire conditions to limit inadvertent water flow in the event of a pipe rupture. The licensee stated that these valves are frequently maintained in the open or tripped position for several days prior to being restored to their normal position due to the assignment of fire protection personnel to

other duties. This appears to void the system design which was to reduce the possibility of water damage within the structure in the event of a pipe rupture. The new fire protection annunciator procedures identified in above paragraph 5.1 should aid the licensee in assuring that these sprinkler valves are maintained in accordance with the design. This will be evaluated during subsequent NRC inspections and is identified as Inspector Followup Item (324/82-37-03 and 325/82-34-03), Maintenance of sprinkler system deluge valves in the closed position.

Except as noted above, no additional violations or deviations were identified in the areas inspected.

7. Licensee Identified Items

a. (Closed) LER-1-82-70, Eighteen month operability surveillance was not conducted on three fire hose stations in control building and one hose station in diesel generator tank area. These hose stations have been included in the plants surveillance inspection and test program. Refer to above paragraph 5.f.

b. (Closed) LER-1-82-83, Three fire protection control valves not included in test procedure. These valves are now included in the test procedure. Refer to above paragraph 5.a.

c. (Closed) LER-1-82-87, Three smoke detectors on the 77 foot elevation of reactor building were not tested during the February 1982 surveillance test program. These detectors have now been tested. Refer to above paragraph 5.g.

d. (Closed) LER-1-82-92, A flow test of the control building carbon dioxide system had not been conducted each 18 months as required by the technical specification. The test procedure had been revised and test conducted. Refer to above paragraphs 5.b and 5.e.

e. (Closed) LER-1-82-94, Technical Specification list of fire detectors was not in conformance to design configuration. Technical specifications are to be revised. Refer to above paragraph 5.c(3).

f. (Closed) LER-1-82-97, AOG building fire doors were not included in surveillance inspection and test procedures as required by Technical Specifications. These have been included in the procedures. Refer to above paragraph 5.j.

g. (Closed) LER-1-82-98, AOG building fire doors, hatches and seals were not included in surveillance inspection and test procedures as required by Technical Specifications. These have been included in the procedures. Refer to above paragraphs 5.j and 5.k.