UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

Report Nos.: 50-325/95-19 and 50-324/95-19

Licensee: Carolina Power & Light Company
P. O. Box 1551
Raleigh, NC 27602

Docket Nos.: 50-325 and 50-324 License Nos.: DPR-71 and DPR-62

Facility Name: Brunswick 1 and 2

Inspection Conducted: August 5 - September 1, 1995

Lead Inspector: Joelle Starefos for 9-25-95
C. A. Patterson, Senior Resident Inspector Date Signed

Other Inspectors: P. M. Byron, Resident Inspector
M. T. Janus, Resident Inspector

Approved By: [signature] 9-25-95
D. M. Verrelli, Chief Date Signed
Reactor Projects Branch 1A
Division of Reactor Projects

SUMMARY

Scope:

This routine resident inspection included the areas of operations, maintenance and surveillance, engineering, and plant support.

Results:

In the Operations area, an unresolved item was identified concerning Regulatory Guide 1.97, control room instrumentation not being labeled, paragraph two. The licensee, in an earlier submittal, took exception to labeling this instrumentation. The final NRC safety evaluation noted only a generic exception taken by boiling water reactors concerning neutron flux.

In the Maintenance area, canal dredging operations were well controlled and monitored, paragraph three. The licensee program concerning prejob briefing of surveillance for infrequently performed tests was reviewed.

In the Engineering area, an inspector followup item was identified concerning reoccurring problems with the flow accelerated corrosion program after a leak occurred in a moisture separator drain line, paragraph four. An unresolved item was identified concerning the failure of two service water heat exchanger

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flow control valves. The licensee's failure to conduct a thorough review of all available data after two trips that occurred while shutdown was identified as a weakness. This failure resulted in confusion concerning whether a water level perturbation was in the variable or reference leg instrumentation piping.

In the Plant Support area, the licensee's preparations for a hurricane were thorough and well communicated to all plant personnel, paragraph four. The licensee's response to a fire alarm in the diesel generator building was not well communicated to the control room.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

W. Campbell, Vice President, Brunswick Nuclear Plant
*G. Barnes, Manager, Training
A. Brittain, Manager, Security
*N. Gannon, Manager, Maintenance
J. Gawron, Manager, Environmental & Radiological Control
*R. Lopriore, General Plant Manager
*J. Holden, Acting Manager, Brunswick Engineering Support Section
*G. Honma, Supervisor, Licensing
*W. Levis, Director, Site Operations
*J. Lyash, Manager, Operations
*D. Hicks, Manager, Regulatory Affairs
*M. Marano, Acting Manager, Site Support Services
N. Schlichter, Acting Manager, Nuclear Assessment
M. Turkal, Supervisor, Regulatory Compliance

Other licensee employees or contractors contacted included licensee reactor operators, auxiliary operators, craftsmen, technicians, and public safety officers, in addition to quality assurance, design, and engineering personnel.

NRC Personnel

*C. Patterson, Senior Resident Inspector
*P. Byron, Resident Inspector
*M. Janus, Resident Inspector

Acronyms and initialisms used in the report are listed in the last paragraph.

2. Operations

a. Operational Safety Verification (71707)

<u>Unit Status</u>

Unit 1 operated continuously this period. At the end of the period the unit had completed 45 days of continuous operation.

Unit 2 operated continuously this period. At the end of the period the unit had completed 427 days of operation. A downpower to 25% power occurred on August 15, 1995, to repair a condenser tube leak. Difficulty was encountered maintaining condenser vacuum until a leak was repaired in a moisture separator drain as discussed in this report.

Control Room Instrumentation

The inspector reviewed control instrumentation in the control room and noticed that RG 1.97 instruments are not specifically identified on the control panels. RG 1.97, Instrumentation For Light-Water-Cooled Nuclear Power Plants To Assess Plant and Environs Conditions During and Following an Accident, Revision 2 was committed to by CP&L in response to GL 82-33. An NRC SER was written dated May 14, 1985. The only exception noted in the SER was a generic BWR issue concerning neutron flux. The inspector reviewed NRC Inspection Manual TI 2515/087, Inspection of Licensee's Implementation of Multiplant Action A-17; Instrumentation for Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident (Regulatory Guide 1.97). The TI, under the heading Equipment Identification requires inspection to confirm that Type A and Category 1 instruments in the applicable revision of RG 1.97 are specifically identified with a common designation on the control panels so that the operator can easily discern that they are intended for use under accident conditions.

The inspector reviewed Revision 2 of RG 1.97, and Section 1.4.6, states that the instruments designated as Type A, B, and C and categories 1 and 2 should be specifically identified on the control panels so that the operator can easily discern that they are intended for use under accident conditions. Additionally, the inspector questioned operators in the control room and none were aware of any specific identifications for these instruments. The inspector recalled that from visits to two other similar vintage BWR sites the instruments were marked by colored tape.

The licensee reviewed the issue and determined that in one of several RG 1.97 submittals they did not commit to labeling the instruments. Instead they stated that a philosophy regarding instrument channel identification would be developed as part of the SECT-82-111 project. The licensee was researching this project to find out if this had been reviewed and accepted by the NRC. Furthermore, the licensee stated that the applicable instrumentation is called out by the EOPs. This would insure the proper instruments were used in an emergency.

Due to an apparent difference in a licensee submittal and noted exceptions in an NRC SER this issue will be unresolved. This will be identified as URI 325,324/95-19-01, RG 1.97 Instruments Not Identified on Control Panels.

b. Followup - Operational Safety (92901)

(CLOSED) LER 1-94-06, Reactor Manual Control System Design Discrepancy.

On April 12, 1994, while Unit 1 was operating at 100% power, it was discovered that the inputs to the RMCS from the APRMs and IRMs associated with the RMCS Continuous Rod Withdrawal Block did not agree with conventions used in other portions of the system or with the RPS inputs. Specifically, the groupings for the RMCS APRMs and IRMs did not agree with the respective groupings in RPS. This discrepancy was discovered during a review of the circuit wiring diagrams in preparation for an operations training session on RMCS. Subsequent investigation revealed that this was a problem in the original design, and that the FSAR and Design Base Document described the APRM and IRM system groupings consistently between RMCS and RPS.

The licensee determined that due to this discrepancy, combinations of APRM bypasses may have existed which would have been outside the Technical Specification 3.3.4-1 requirement to have two operable inputs per channel for the RMCS Rod Withdrawal Block. A review of the LCOs for the past five years indicated that this happened on three different occasions on Unit 1, but no instances could be found for Unit 2. A review of available information and a discussion with the vendor indicated that this unconventional grouping existed in the original design. In response to the discovery, the licensee issued a Standing Instruction to ensure Operations personnel were aware of the problem, and initiated work to modify the existing circuitry to make the RMCS and RPS groups consistent. This work was completed during the Unit 2 outage in June of 1994 and in the recent Unit 1 outage in April of 1995. The inspector has reviewed the completed corrective actions and finds them acceptable for the closure of this item.

(CLOSED) LER 1-94-08, Unplanned Engineered Safety Feature Actuation During Valve Manipulation.

On April 22, 1994, Unit 1 experienced an unplanned engineered safety feature actuation caused by a pressure perturbation resulting in a momentarily sensed reactor vessel Low Level II condition. This pressure perturbation was caused by an Auxiliary Operator (AO) attempting to turn the valve handwheel while checking the position of a spare instrument line rack isolation valve. As a result of this sensed Low Level II condition, the following actuations occurred: Div. 1 of reactor water clean up (RWCU) isolated, secondary containment isolated, and SBGT started.

The AO had been directed by the Unit SRO to perform this action as part of a verification of a new revision to Operating Procedure OP-01, Nuclear Boiler Operating Procedure. The procedure had been recently revised, and the rack isolation valve for B21-702 had moved to a different page in the valve and electrical lineup portion of the procedure. The SRO had only been provided with a copy of the new and previous valve lineups. In comparing the revised lineup, the SRO noted the rack isolation valve listed on page 46 which was not on page 46 of the previous procedure. This fact lead the SRO to mistakenly believe that a new valve had been installed and that its position needed to be verified.

In response, the licensee determined that improvements to the Operations Procedure revision process were needed. Operating Instruction OI-13, Valve and Electrical Lineup Administrative Controls was revised to include new controls for the revision of valve and electrical lineups. The procedure writer is now required to fill out a system component lineup revision checklist to document all changes to the lineup. This completed checklist is provided to the Unit SRO along with the revised procedure to delineate administrative changes, procedure format changes, or the addition of or removal of components from the system. The inspector has reviewed the completed procedure revision and associated controls, and finds them acceptable to prevent recurrence of this issue. Based on these completed corrective actions, this item is considered closed.

No violations or deviations were identified.

3. Maintenance and Surveillance

a. Maintenance Observation (62703)

Canal Dredging

On August 19, 1995, the licensee commenced dredging of the intake canal to remove seaweed and silt buildup. The licensee has been experiencing circulating water system problems over the past several months. A manual reactor trip occurred on May 19, 1995, after the circulating water pumps tripped due to high differential pressure caused by seaweed (LER 1-95-11). The inspector observed the dredging operation in progress and reviewed the control of the evolution. Dredging started near the circulation pump intake and was to be completed in two weeks. The remainder of the canal out to the diversion structure would take several months.

The licensee issued Standing Instruction 95-078 and WR/JO 95-AGPY1 for the dredging operation. The inspector reviewed each of these and noted that instructions were provided covering: communications; service water building watch; control of circulating water screens; and reasons to stop dredging. The inspector observed communication on a portable hand-held radio in the control room with the barge in the canal. The inspector concluded these activities were well controlled and monitored.

b. Surveillance Observation (61726)

The inspector observed the performance of a portion of 1-MST-PCIS38R, PCIS GR 1, 2, 6, and SCIS Dampers Instrument Channel Response Time Test, in the Unit 1 control room. This is a complex surveillance procedure containing 208 pages which is performed on a logic channel every 18 months. From discussions with the unit operator, the inspector learned that the procedure did not require a PLP-17 briefing for an infrequent test or evolution; however, he had requested that one be performed. The inspector reviewed OPLP-17, Identification, Development, Review, and Conduct of Infrequently Performed Tests or Evolutions. This procedure defines infrequently performed tests or evolutions as those performed less frequently that quarterly which if not properly conducted or if unexpected results are obtained, have the potential for significantly reducing margins of safety or introducing operational transients or inadvertent reactor trips. These procedures are to contain a caution stating that it is an infrequently performed test or evolution and that management involvement in conduct of the test is required.

The inspector questioned if there were other surveillance tests performed less frequently than quarterly that did not contain the caution statement. This was discussed with licensee management on August 29, 1995. Followup discussions with the licensee revealed that the requirement to perform a PLP-17 briefing was removed from the procedure in an earlier revision as part of a general surveillance review program. The reason for the removal of the PLP-17 briefing requirements, was that the response time check was very similar to a routine functional check except obtaining data. Unlike this test, surveillances that required recorder calibration and removal of transmitters from service required a PLP-17 brief. The inspector concluded that the operator's request for this briefing was a conservative decision and not a procedure oversight or apparent program deficiency.

c. Followup - Maintenance and Surveillance (92902)

(CLOSED) LER 1-94-15, Unplanned Engineered Safety Feature Actuation During Performance of a Maintenance Surveillance Test.

On December 15, 1994, an unplanned HPCI start was initiated while Unit 1 was operating at 100% power. The unplanned HPCI start signal was generated during the performance of 1-MST-RHR21M, High Drywell Pressure Calibration and Channel Functional Test. During the performance of the test, the I&C technicians were using a Simpson Model 260 multimeter to perform voltage checks. When making voltage checks it was necessary to either select +DC or -DC polarity to obtain the necessary upscale meter deflection. During the conduct of the test, the licensee determined that an inadvertent movement of the function switch to the tone position created a low resistance in the circuit and completed the logic for the HPCI initiation signal. All plant systems functioned as designed. On verifying that no actual conditions requiring an auto start of HPCI existed, the operators tripped the HPCI pump, secured the system, and declared it inoperable until a root cause could be determined.

Following the determination that the event was caused by personnel error in the operation of the Simpson Model 260 multimeter, the licensee discontinued the use of those meters with the tone position switch. Further corrective actions included the specification of a digital multimeter, the Fluke Model 45, to be used for relay contact checks in all future MSTs. To prevent additional personnel error, several Fluke Model 45s have been modified to eliminate all unnecessary functions. A final corrective action was to review this event, root cause, and corrective actions with all I&C personnel. The inspector has reviewed the licensee's corrective actions noted above, completed on April 17, and February 8, 1995, respectively and concluded that they are appropriate and should prevent this event from recurring.

No violations or deviations were identified.

4. Engineering (37551)

Moisture Separator Drain Line Leak

During the downpower to 25% on August 15, 1995, to repair a condenser tube leak on Unit 2, difficulty was experienced maintaining condenser vacuum. The licensee searched for leaks in the condenser and found a leak in the East MS drain line. The line draws a vacuum during low power operation but is pressurized during normal operation. The licensee prepared ESR 9501337, MSR Drain Line 2-MVD 265-1½-E-3 leak, to address the repair. The line is unisolable so a temporary repair was made. The repair consisted of installation of a leak repair clamp and injection of a sealant to stop the leakage.

The inspector questioned if the line was part of the flow accelerated corrosion program. Most of the drain lines were replaced with stainless steel or chrome-moly material that is less susceptible to flow accelerated corrosion. With the piping material change, the lines were taken out of the program. However, a portion of the piping was not changed because no flow was expected. Each MS has two drain lines coming out of the MS that pass through a strainer and combine into a single line connecting to the condenser. Each strainer has a bypass line with a normally closed valve. The leak occurred in an elbow in the bypass line. The bypass valve was apparently leaking by, allowing flow to occur in the bypass line.

The inspector reviewed the history of problems associated with the MS drain lines. CR 94-01049, was written on July 19, 1994, to document two through wall piping leaks on the MSR shell drain lines. This CR developed corrective action for the Unit 2 repairs and inspection activities for Unit 1 during the Spring 1995 outage. No leaks or wall thinning were found on Unit 1 during the outage. The portion of the lines not upgraded with resistant material was added to FAC program. The plan for Unit 2 is to replace the portion of the lines with resistant material during the 1996 refueling outage. This portion of the lines was dropped out of the program due to a drawing error concerning the material type.

Additionally, the inspector reviewed ESR 9501337, and the associated 10 CFR 50.59 safety review for the temporary repair of the Unit 2 leak. The evaluation addressed the consequences of sealant material being injected.

The inspector concluded that the licensee's FAC program and corrective action had addressed leaks in the MSR drains by replacement of piping with less susceptible material or monitoring through inspections. However, due to reoccurring problems in the area, the program will be further reviewed concerning adequacy of drawings, and recurrence of problems. This will be tracked as IFI 325,324/95-19-02, Recurring Issues in Flow Accelerated Corrosion Program.

RHRSW Heat Exchanger Flow Control Valves

During a routine test of valve 2-E11-PDV-F068B, the valve failed to close as required. The licensee initiated a 7-day LCO on August 23, 1995, for the loss of one loop of RHRSW and suppression pool cooling. This heat exchanger outlet valve is normally closed but is opened to control the system flow rate. The licensee removed the valve internals and found severe galling between the disc and surrounding cartridge. The cartridge is a series of close fitting cylindrical stages with flow holes designed to eliminate cavitation by gradually reducing the high pressure drop across the valve.

The inspector inspected the valve internals in the maintenance shop and observed severe galling of the internals. The licensee initiated a formal failure analysis of the problem. However, preliminary evaluation indicated the valve cartridge and valve disc were both Inconel. The valve disc should have been hard faced with a stellate coating to prevent galling when two materials of the same hardness come in contact. The original cartridge was a nickel-aluminum-bronze material but was changed to Inconel due to wear problems. Apparently, the disc material should have been changed at the same time.

The licensee replaced the cartridge with the original material (Ni-Al-Bronze) cartridge and exited the LCO at 8:00 a.m. on August 26, 1995. The licensee determined that the 2B heat exchanger outlet control valve had the Inconel cartridge installed during the July 1994, U-2 outage. The 2A valve cartridge had not been changed to Inconel.

The licensee reviewed other valves that had Inconel cartridges installed and found that both the 1A and 1B RHRSW heat exchanger flow control valve cartridges had been changed. The 1A valve was tested and failed on August 29, 1995. Likewise, the 1A valve cartridge was repaired by installing an original material (Ni-Al-Bronze) cartridge. This was of particular concern, because the 1A valve cartridge had been recently replaced with Inconel during the Spring 1995, Unit 1 outage.

The 1B valve had the cartridge changed to Inconel in June 1993, during the extended Unit 1 Outage. This valve was tested and no problems were observed. The licensee had no other original material cartridges to replace the installed Inconel cartridge. The licensee expedited the refurbishment (stellite coating) of a removed valve disk to correct this problem. They performed an OI-4, Operability Evaluation to determine that the valve was operable. The inspector reviewed this evaluation on August 31, 1995. This issue will remain unresolved pending further evaluation of the failure and installation processes. This will be tracked as URI 325,324/95-19-03, Service Water Heat Exchanger Flow Control Valve Failures.

Water Level Transients

The licensee's root cause investigation of the two low level RPS trips of July 14 and 15, 1995, revealed that the collapse of the steam bubble in the lower three condensing pots in the "B" reference leg was a more plausible cause for the level transient than gas in the variable leg as previously described in IR 50-325,324/95-15. The investigation included a review of all level instruments and it was noted that level instruments other than those connected to the common variable leg were affected. The "B" reference leg was common to all the level instruments which had tripped. The review revealed that the operators had raised reactor level to a band of 210 to 240 inches to initiate natural circulation. After determining the cause of the EHC failure, the operators opened the MSIVs and used the BPVs for pressure control and level was allowed to decrease while steaming. The licensee noted that the low level scrams occurred after the level had decreased below 218 inches which is the level of the reference leg nozzle, N12B. The level had been raised above and lowered below 218 inches three times. The nozzles had been covered twice for approximately 20 minutes and once for 14 minutes. They observed that the scrams occurred after the nozzle had been covered for 20 minutes. The licensee has theorized that covering the nozzle forced water into the piping and the condensing pots which collapsed the steam bubble. When the nozzle was uncovered, water chugged out and was replaced by steam, similar to emptying a bottle filled with water. As the water flowed out it created a vacuum and removed water from the reference leg which caused the level instruments to sense a low level. A review of the data reveals that the transient lasted approximately 20 milliseconds.

The licensee contracted with FPI to assist in their root cause analysis. FPI, using fault tree analysis, concurred with the licensee's root cause. GE and a third party with hydraulics expertise also reviewed the event and concurred with the licensee's analysis. On August 22, 1995, the licensee met with the NRC to discuss the events and their root cause determination. The licensee stressed that their presentation was based on a theory and that they had not validated it. They were asked why a scram did not occur when the nozzle was uncovered for 14 minutes and why the transient was only seen on one reference leg. It was their conclusion that the collapse of the steam bubble was time dependant, but they had not validated that conclusion. They believed that the geometry between the two legs was sufficiently different to cause them to respond differently. The inspector reviewed the piping geometries for both legs and noted that the only significant difference is the length of the one inch pipe above the N12 nozzles to the upper condensing pots which were not affected. The "A" leg is 16'2" vs. 12'6" for the "B" leg. The N12A nozzle is 1/4" lower than N12B, this difference in elevation does not appear to be significant. The piping slopes in each leg have not been determined and will be verified during the next Unit 1 outage. The inspector asked the licensee if this event had been modelled and was given a negative response.

The licensee did not perform a post trip review following the two low level trips. A decision was made not to perform these reviews as the control rods were already inserted. A post trip review was performed as part of the RCA and it identified the additional level instruments which had tripped. This additional information caused the licensee to reassess their original cause of the two low level trips and arrive at their current theory. The inspector considers the failure to immediately perform thorough reviews of the two low level scrams with rods inserted to be a weakness.

No violations or deviations were identified.

5. Plant Support (71750)

Quality Control

QC performs surveillances of various activities and issues reports documenting their findings. The inspector reviews all of the surveillance reports. While reviewing Surveillance Report No. BQC95092 which addressed the repair of RHRSW Flow Instrument Isolation Valve (1-E11-V47) he noted a statement which said that no work had been performed but WR/JO 94-AKKM1 had been closed out as "Work Complete." The report stated that the mechanics did not observe any leakage at the flange, but rust stains were on the flange and floor. They closed the WR/JO. The inspector questioned QC how a WR/JO could be closed out as work complete when no work had been performed. They were also asked if they were following the issue. QC was unable to provide answers but they stated that they would investigate the issue. The licensee informed the inspector that the WR/JO was closed out as work complete rather than voided because it was used to charge time. The licensee usually utilizes a generic WR/JO to charge time against when no work has been performed. The QC manager considers that the generic WR/JO should have been used and has discussed this with the Maintenance managers. He also informed the inspector that QC has a system to track issues identified by the surveillances. This issue should have been included in the QC tracking system. Inattention to detail has been attributed as the reason that this item was not tracked.

Emergency Preparedness

On August 15, 1995 at 11:34 a.m., the licensee declared a Notification of Unusual Event in response to a hurricane warning being issued for the area. The warning was issued in response to Hurricane Felix's projected landfall within the next 24 hours. The National Weather Service had previously issued a hurricane watch for the area at 8:00 a.m. The issuance of this watch and warning by the National Weather Service constituted an entry condition for Abnormal Operating Procedure, AOP 13.0, Operation During Hurricane, Flood Conditions, Tornado, or Earthquake. This abnormal operating procedure directs operator actions in preparing for and operating during these severe conditions. The AOP directs the operators to reference Plant Administrative Instruction, OAI-68, Brunswick Nuclear Plant Response to Severe Weather Warnings for supplemental actions in response to a hurricane.

In addition to referencing the preparatory actions listed in AI-68, AOP-13 directs other specific actions to be taken in preparation for the storm. The number and level of activities directed by AOP-13, is in response to conditions onsite. As the hurricane watch is elevated to a hurricane warning, the number of activities directed by the AOP increases. These activities start with surveying the site for potential damage, formulating preventive measures, reviewing all LCOs for equipment out of service, and expediting the return of all safety related equipment. The issuance of a hurricane warning elevates these activities to include: securing all external loose items which may become missiles; securing all weather tight doors and windows; starting and load testing all DGs; and making preparations to place both units in cold shutdown at least 2 hours prior to projected hurricane force winds on site. AI-68 provides additional guidance for the preparation of the site for the hurricane, delineating specific areas of responsibility to various work groups and providing a checklist of material and personnel required to be prestaged for the storm.

A key component in the licensee's emergency communications system is the (HF) radio system they have installed in the EOF/TSC. This radio is used to communicate with outside agencies, NRC Region II office, local county and state emergency operations centers, and the licensee's corporate office when normal communication systems are not available. During the July monthly radio test with the NRC regional office, it was determined that the radio had been damaged by a lightning strike and was not functional. In response to this breakdown, the licensee borrowed a portable HF radio system from another licensee to use during the storm. Additionally, a spare HF radio was also obtained from the local vendor for use as a backup system. These radios were onsite, tested and available for use prior to the approach of the storm. Subsequent to the passage of the storm, the borrowed radio was returned and the spare portable radio was retained for use until the permanent radio is either repaired or replaced.

The inspector toured the site at different stages of the preparatory actions and noted that the licensee's response was very thorough and efficient. The inspector noted that all loose material and items were removed from outside areas, all equipment such as gas bottles, fire extinguishers, and barrels were securely tied off; and that all the weather tight doors had been properly secured. During this clean-up/preparation period, the licensee determined staffing requirements and notified the necessary personnel of their responsibilities. Throughout the time period, the licensee maintained good communications throughout the site, notifying personnel of the storm track, actions to be taken, and any changes in scheduled work hours. To minimize non-essential personnel and activities, all contract personnel were sent home on August 15, until the storm passed; additionally, all non-essential company personnel were released as well. Normal work schedules were resumed on August 17, following the passage of the storm further north of the site.

Hurricane Felix tracked north of the Brunswick site, but never made landfall prior to turning northeast and drift out to sea. Hurricane watches and warnings were suspended for the site on August 16, and the licensee exited the unusual event with these suspensions at 12:24 p.m., that day. The inspector concludes that this preparation was a good practice for the licensee, and that they successfully completed all necessary preparations in a timely and efficient manner. Despite the good response, the inspector noted that the licensee developed a list of lessons learned, to improve their response to future events.

Fire Protection Response

On August 28, 1995, while performing a routine tour of the Emergency Diesel Generator Building, the inspector noted that the building fire alarm had activated. The inspector questioned a mechanic present as to the origin of the alarm. He did not know, but promptly notified the control room. The mechanic informed the inspector that the control room was aware of the alarm, and that LPU was responding. The inspector passed the alarm panel while exiting the building and noted that the fire alarm was for the South switchgear room on the 23 foot elevation. As the inspector exited the building, he observed the LPU technicians in the area trying to identify the cause of the alarm. Outside the building, LPU had responded with the response vehicle and fire truck and were in the process of assembling equipment and personnel necessary to combat any fire.

In follow-up discussions with LPU, the inspector was informed that LPU had been notified prior to the alarm, by a firewatch who reported smelling burning the area. This report in conjunction with the alarm governed the rapid response and deployment of personnel and equipment to the scene. The inspector observed the LPU technicians as they identified the cause of the alarm as being a blown ballast for a fluorescent light fixture. The inspector observed a blackened area on the fixture and note the presence of a detector directly above the fixture. The FIN team was subsequently notified to replace the fixture. The inspector notes that the response of LPU was rapid, and that the assembly of material and personnel was well organized and coordinated, and demonstrated the capabilities of that organization.

The following day, the inspector reviewed the control room logs and noted that no entries were made in conjunction with the alarm or the scorched light fixture. The inspector questioned various members of the shift and noted that no log entries had been made or turnover given on this issue. The inspector then questioned licensee management concerning the lack of log entries or knowledge of the event. The licensee responded with the issuance of a CR documenting the issue.

The CR discussed the causes of the above noted problems and additional weaknesses identified in the licensee's investigation of the event. The licensee identified that poor communications between LPU and the control room resulted in the lack of a log entry, for the alarm was initially reported as being invalid. Later investigation determined that the alarm was valid; however, LPU did not adequately communicate this to the control room. Additionally, the fire advisor SRO was unaware of the event, for he had failed to carry his radio to monitor LPU activities as required. The licensee is addressing these issues and developing new standards of communications between LPU and the control room for future events.

No violations or deviations were identified.

6. Previous URIs and Associated Apparent Violation Item Identification Number Revisions

To facilitate data retrieval, Unresolved Items URI 50-325/95-13-03 and 50-325/95-14-01 are administratively closed in this report. The associated Apparent Violation addressed by NRC letter to CP&L dated August 11, 1995, will now be known as EEI 50-325/95-19-04, Failure of RCIC and Inoperability of HPCI. This EEI will also be administratively closed in this report and the associated violations transmitted from the NRC to CP&L in a letter dated September 8, 1995, will be tracked as VIO 95-166 01013, Design Review Did Not Adequately Isolate DC Power Supply and VIO 95-166 01023, Post-Modification Testing of HPCI/RCIC Inverter and Flow Controller Replacement.

7. Exit Interview

The inspection scope and findings were summarized on September 6, 1995, with those persons indicated in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection findings listed below. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors. Dissenting comments were not received from the licensee.

Item Number	Status	Description/Reference Paragraph
324,325/95-19-01	Open	URI, RG 1.97 Instruments Not Identified on Control Panels, paragraph 2.
324,325/95-19-02	Open	", Recurring Issues in Flow Accelerated Corrosion Program, paragraph 4.
324,325/95-19-03	Open	URI, Service Water Heat Exchanger Flow Control Valve Failures, paragraph 4.
325/94-06	Closed	LER, Reactor manual Control System Design Discrepancy, paragraph 2.
325/94-08	Closed	LER, Unplanned Engineered safety Feature Actuation During Valve manipulation, paragraph 2.
325/94-15	Closed	LER, Unplanned Engineered Safety Feature Actuation During Performance of a Maintenance Surveillance Test, paragraph 3.
325/95-13-03	Closed	URI, Post-Modification Testing of RCIC Flow Controller Modification, paragraph 6.
325/95-14-01	Closed	URI, HPCI Power Supply, paragraph 6.
325/95-19-04	Open/Closed	EEI, Failure of RCIC and Inoperability of HPCI, paragraph 6.
325/95-166 01013	Open	VIO, Design Review Did Not Adequately Isolate DC Power Supply, paragraph 6.
325/95-166 01023	Open	VIO, Post-Modification Testing of HPCI/RCIC Inverter and Flow Controller Replacement, paragraph 6.

8. Acronyms and Initialisms

AI Administrative Instruction
AOP Abnormal Operating Procedure
APRM Average Power Range Monitor
AO Auxiliary Operator

BPV	Bypass Valve
CP&L	Carolina Power and Light
CR	Condition Report
EHC	Electrohydraulic Control
EOF	Emergency Operations Facility
EOP	Emergency Operating Procedure
FAC	Flow Accelerated Corrosion
FPI	Failure Prevention International
GL	Generic Letter
HF	High Frequency
HPCI	High Pressure Coolant Injection
IRM	Intermediate Range monitor
LER	Licensee Event Report
LCO	Limiting Condition for Operation
LPU	Loss Prevention Unit
MS	Moisture Separator
MSIV	Main Stem Isolation Valve
MST	Maintenance Surveillance Test
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
OI	Operating Instruction
PCIS	Primary Containment Isolation System
PLP	Plant Program Procedure
QC	Quality Control
RG	Regulatory Guide
RHRSW	Residual Heat Removal Service Water
RMCS	Reactor Manual Control System
RPS	Reactor Protection System
RWCU	Reactor Water Cleanup
SER	Safety Evaluation Report
SBGT	Standy Gas Treatment System
SCIS	Secondary Containment Isolation System
SRO	Senior Reactor Operator
TSC	Technical Support Center
TI	Temporary Instruction
URI	Unresolved Items
WR/JO	Work Request/Job Order