



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

Report No.: 50-261/96-04

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

Docket No.: 50-261

License No.: DPR-23

Facility Name: H. B. Robinson Unit 2

Inspection Conducted: March 3 - April 13, 1996

Inspector: J.R. Wiseman
for W. T. Orders, Senior Resident Inspector

5/10/96
Date Signed

J. Zeiler, Resident Inspector
P. Byron, Resident Inspector, Brunswick Nuclear Plant
H. Whitener, Region II Inspector, Paragraphs 3.1.3, 3.1.4, 3.2.4,
3.2.5, and 4.2

Approved by: M.B. Shymlock
Milton B. Shymlock, Chief
Reactor Projects Branch 4
Division of Reactor Projects

5/10/96
Date Signed

SUMMARY

Scope:

Inspections were conducted by resident and regional inspectors in the areas of plant operations which included plant status, inactive senior reactor operator watchstanding problem, and effectiveness of licensee controls in identifying, resolving, and preventing problems, and close out of open items; maintenance and surveillance which included maintenance observations, component cooling water pump thrust bearing replacement, emergency diesel generator preventative maintenance, replacement of steam generator blowdown pressure instruments, repack of stop valve AS-2285, surveillance observations, containment personnel airlock leakage test, containment spray pump testing, safety injection pump testing, thermal overload relay testing, maintenance surveillance tests observed; engineering which included containment personnel airlock UFSAR discrepancy, and minor modification ESR 95-00826 review; and, plant support which included physical security program, radiation control program, emergency preparedness, fire protection program, and close out of open items.

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Results:

Plant Operations

A non-cited violation was identified for the licensee designating an inactive senior reactor operator to act as the Control Room Shift Supervisor who directed licensed activities of licensed operators for a total of seven, 12-hour shifts. The condition resulted from the licensee's failure to ensure that the operator's biennial medical examination was completed when required (paragraph 2.2).

Plant Nuclear Safety Committee meetings attended were well run; issues were thoroughly evaluated demonstrating a good understanding by the committee members (paragraph 2.3).

Maintenance

Maintenance activities involving the A Component Cooling Water Pump thrust bearing replacement and B Emergency Diesel Generator preventative maintenance were well planned and controlled, and were conscientiously performed in accordance with procedures and with a high quality of workmanship (paragraphs 3.1.1 and 3.1.2).

Responsiveness of the Fix It Now Team to minor non-safety related problems was considered a positive contribution to the maintenance program (paragraph 3.1.3).

Surveillance activities involving the containment personnel airlock leakage testing, containment spray and safety injection pump testing, valve thermal overload testing, and several maintenance surveillance tests, were performed well (paragraphs 3.2.1, 3.2.2, 3.2.3, 3.2.4, and 3.2.5).

Engineering

An Unresolved Item was identified for an UFSAR discrepancy involving the lack of a flow restricting orifice in the Penetration Pressurization System line to the containment personnel airlock interlock (paragraph 4.1).

A minor modification package for replacing the steam generator blowdown flow differential pressure instruments was adequate (paragraph 4.2).

Plant Support

The inspectors noted good radiation control support during a containment airlock test (paragraphs 3.2.1 and 5.2).

An emergency preparedness drill adequately tested the emergency response organization (paragraph 5.3).

REPORT DETAILS

Acronyms used in this report are defined in paragraph 8.

1.0 PERSONS CONTACTED

Licensee Employees:

- *Clark, B., Manager, Maintenance
- *Clements, J., Manager, Site Support Services
- *Crook, D., Senior Specialist, Licensing/Regulatory Compliance
- *Hinnant C., Vice President, Robinson Nuclear Plant
- *Keenan, J., Director, Site Operations
- *Krich, R., Manager, Regulatory Affairs
- Meyer, B., Manager, Operations
- *Miller, G., Manager, Robinson Engineering Support Services
- *Moore, R., Manager, Outage Management
- *Moyer, J., Manager, Nuclear Assessment Section
- *Natale, T., Supervisor, Operations Training
- Stoddard, D., Manager, Operating Experience Assessment
- Wilkerson, T., Manager, Environmental Control
- *Young, D., General Manager, Robinson Plant

Other licensee employees contacted included office, operations, engineering, maintenance, and chemistry/radiation personnel.

2.0 PLANT OPERATIONS (40500 and 71707)

The inspectors evaluated licensee activities to determine if the facility was being operated safely and in conformance with regulatory requirements. These activities were assessed through direct observation of ongoing activities, facility tours, control room observations, discussions with licensee personnel, evaluation of equipment status, and review of facility records. The inspectors evaluated the operating staff to determine if they were knowledgeable of plant conditions, responded properly to alarms, and adhered to procedures and applicable administrative controls. Selected shift changes were observed to determine that system status continuity was maintained and that proper control room staffing existed. Routine plant tours were conducted to evaluate equipment operability and to assess the general condition of plant equipment.

While touring the EDG rooms, the inspectors observed that the licensee maintained the annunciator procedures at each EDG, but did not have the operating procedures available. If these procedures were needed, they would have to be obtained from document satellite files located outside the Auxiliary Building. It would be beneficial for the operators to have these procedures in the EDG rooms, especially if a manual EDG start was necessary on short notice. The inspectors discussed this with operations management who indicated that locating the EDG operating procedures at the EDGs would be considered as an enhancement. The licensee planned to implement this action as soon as practical.

2.1 Plant Status

The unit operated at or near full power for the entire report period with no major problems.

2.2 Inactive Senior Reactor Operator Watchstanding Problem

On March 26, 1996, the licensee determined that the biennial medical examination for an onshift SRO had expired on February 24, 1996. The SRO last stood watch on March 11-12, 1996, and the licensee immediately took him off any watchbills until his license was re-activated. The operator was counselled by the licensee as to his license responsibilities. The licensee issued CR 96-00774 to track this issue. A review of the Unit Logs revealed that the SRO had performed licensed duties seven times between March 2 and 12. 10 CFR 55.53(i) states that a condition of the operator's license is that the license holder shall have a biennial medical examination. The failure to have a current physical examination resulted in the operator's license to become inactive. The SRO stood the seven watches as the CRSS with an inactive license. Procedure OMM-001-1, Operations Unit Organization and Administration, rev. 1, Section 3.2.3, states that the CRSS's responsibilities include serving as the Main Control Room Supervisor and directly supervise Main Control Room watchstanders in the manipulation of reactor and plant controls. 10 CFR 50.54(1) states that the licensee shall designate individuals to be responsible for directing the licensed activities of licensed operators and they shall be licensed as senior operators. The inspectors concluded that the licensee designated an unlicensed individual to act as CRSS and who directed licensed activities of licensed operators on March 2-4, and March 8-11, 1996, for a total of seven 12-hour shifts.

The inspectors determined that the Training Section formerly maintained the records for operator physicals, but on March 20, 1995, this function was assumed by Access Controls/Health Services. This resulted from an effort to have a Corporate database to maintain and track individuals qualifications. Access Control personnel schedule physical examinations when one is required for individuals to maintain their qualifications. A recent NAS assessment identified that the current system has weaknesses when it failed to identify that two Fire Brigade members were required to have physical examinations. The licensee's investigation revealed that Access Control keyed on an additionally required physical examination which was due at a later date. Their investigation revealed that Access Control focused on the SRO's Fire Brigade physical examination which was due in June 96. The inspectors also determined that a record was maintained in the Control Room of license renewal dates, as well as the due dates of the biennial physical examination for all licensed operators. These dates were kept in the Operator Qualification Log. This log is used to keep track of operators time on shift. It is maintained by the Control Room clerk, however, the operators were not aware of its existence. The SRO in question successfully took his physical examination on March 28, 1996. The

inspectors reviewed the operator's ANSI/ANS-3.4-1983 Medical Statement which confirmed completion of the biennial medical examination.

The licensee immediately reviewed the records of all licensed operators and determined this was the only case of an expired physical. Operations with assistance from Training was developing a matrix for the expiration dates for the three types of required physical examinations (NRC license, Respirator, and Fire brigade). The licensee reviewed the source documents to confirm the actual dates of the previous examinations. The matrix also will list qualification expiration dates and will be given to each shift superintendent to review and inform the individuals of the impending expiration dates of their physical and/or qualifications. The maintenance of this database will be proceduralized in OMM-001-1 and OMM-001-5, Training and Qualification, rev. 1. The licensee informed the inspectors that procedures will be revised and data entry will be completed by May 6. The corporate computer program was being revised to incorporate provisions to prevent date transpositions. The licensee was developing a Computer Access Tracking System to replace the current corporate program. It will track individual skills and training for all employees, as well as qualifications and required physical expiration dates. This will be a long term effort. The licensee plans to have parallel tracking systems until the Computer Access Tracking System demonstrates its reliability.

This licensee identified and corrected violation is being treated as a non-cited violation, consistent with Section VII of the NRC Enforcement Policy. This non-cited violation is identified as NCV 50-261/96-04-01: Failure to Designate an Active Licensed Senior Reactor Operator to Direct Activities of Licensed Operators.

2.3 Effectiveness of Licensee Controls in Identifying, Resolving, and Preventing Problems

The inspectors evaluated certain activities of the Plant Nuclear Safety Committee to determine whether the onsite review functions were conducted in accordance with TS and other regulatory requirements. In particular, the inspectors attended the March 13, 27, April 3 and 4 meetings. It was ascertained that provisions of the TS dealing with membership, review process, frequency, and qualifications were satisfied. During these meetings, the committee reviewed plant CRs requiring PNSC review and proposed changes to be incorporated in Section 5 of the Improved Standard Technical Specification conversion project. The inspectors noted that the PNSC members asked probing questions and frequently challenged those presenting the material. The committee members' questions demonstrated a good understanding of the issues and resulted in broad discussions. It was evident that the PNSC members had reviewed the material prior to its presentation. The meetings were well run and there were very few extraneous discussions. The meetings were well supported by the committee members and there was usually only one alternate at each meeting.

2.4 Close Out Items

(Closed) LER 93-018-00: Technical Specification Violation Due to Exceeding Ramp Rate During Startup.

On November 14, 1993, during startup from Refueling Outage 15, the licensee experienced a significant mismatch between actual reactor power and the indicated power level of the Power Range Nuclear Instrumentation. The operators had stabilized reactor power at an indicated 20 percent power and planned to increase reactor power to 30 percent at a rate not to exceed three percent per hour as required by TS 3.10.7.1 to perform planned startup testing. A licensee manager observed that a discrepancy existed between indicated Nuclear Instrumentation power and net megawatt electric output. Using other diverse indications of reactor power, the licensee determined that reactor power was approximately 31 percent. A calorimetric was performed and the results indicated that actual reactor power was 30.26 percent. The reactor was shutdown and Adverse Condition Report 93-248 was initiated to determine the root causes of the event and establish corrective actions.

The licensee initiated an independent investigative effort with an NGG Incident Review Team led by a senior licensee manager and composed of various licensee personnel plus an INPO representative. The Nuclear Assessment Department also initiated an investigative effort. The NGG Incident Review Team determined that the root cause of the event was the failure to effectively implement corrective/preventative actions from similar industry and licensee nuclear instrumentation miscalibration events to preclude and detect similar events at the site. The team determined that an inadequate method to calculate nuclear instrumentation current adjustments was selected; inadequate information from the reactor fuel vendor concerning core leakage; lack of operator sensitivity to diverse indication; and, power ascension was not identified as an infrequently performed evolution were the principal causal factors.

The licensee's corrective actions included revising procedure FMP-002, Nuclear Instrumentation Post Refueling Adjustment Determination, to ensure the proper methodology or require the fuels vendor to supply the data and include means to self-check to ensure reasonableness of results. The startup procedure, GP-005, and PLP-037, Conduct of Infrequently Performed Tests or Evolutions, were revised to incorporate lessons learned from the event. The operators were given enhanced training in using diverse indications during startup. In addition, managers and operators were given training in the PLP-037 revisions.

The inadequate procedures discussed above were the subject of Violation 261/93-34-01, which was addressed in NRC Inspection Report 50-261/93-34. The inspectors reviewed the licensee's corrective actions associated with this LER during followup and close out of the violation. The followup and close out of the violation was documented in NRC Inspection Report 50-261/95-21. This item is closed.

3.0 MAINTENANCE (61726 and 62703)

3.1 Maintenance Observations

The inspectors observed safety-related maintenance activities on systems and components to determine if the activities were conducted in accordance with regulatory requirements, approved procedures, and appropriate industry codes and standards. The inspectors reviewed associated administrative, material, testing, and radiological control requirements to determine licensee compliance. The inspectors witnessed and/or reviewed portions of the following maintenance activities.

3.1.1 Component Cooling Water Pump Thrust Bearing Replacement

The inspectors witnessed maintenance personnel replace the outboard thrust bearing associated with the A CCW pump. This maintenance was scheduled following licensee identification of an unusual noise originating from the thrust bearing casing area. Although recent test results did not indicate there was an increase in bearing vibration, a conservative decision was made to replace the bearing due to concerns that the noise was indicative of potential bearing wear. The inspectors reviewed the A CCW pump inservice test results taken since July 1995 and confirmed that there were no anomalous pump operating conditions which might indicate degrading pump conditions.

Bearing replacement activities were conducted under WR/JO 95-AMKZ1 using procedure CM-19, Component Cooling Water Pump Maintenance, rev. 10. Prior to beginning work, operations personnel tagged out the pump under LCTR 96-00338. The inspectors reviewed the LCTR and verified that the pump had been properly removed from service and that administrative requirements for tagging control were properly implemented. The inspectors independently verified that all valves and equipment which were listed on the LCTR were aligned to the prescribed positions. During the activity to reassemble the bearing housing cover, the inspectors observed the technicians apply RTV sealant to the housing cover before attaching it to the bearing housing. The inspectors questioned the use of RTV sealant as opposed to the use of a gasket for this application. The procedure made no mention of installing the gasket or use of RTV sealant. The inspectors discussed the use of RTV sealant with the technicians and their supervisor and was later supplied with a memo dated April 28, 1991, which documented licensee discussions with the vendor (Dresser Pump Company) on the acceptability of using RTV sealant as opposed to gasket material. The inspectors were satisfied that the use of RTV sealant had been adequately evaluated prior to its use.

The inspectors noted that even though the A CCW pump was allowed to be removed from service without having to enter a TS LCO (only the B and C CCW pumps are required operable by TSs during power operation), the licensee controlled the out-of-service time with the same sensitivity and precaution had an LCO been involved. The inspectors noted that the

maintenance was accomplished by knowledgeable maintenance technicians who displayed a high quality of workmanship.

Upon completion of maintenance, the licensee performed post-maintenance testing of the A CCW Pump in accordance with OST-908, Component Cooling System Component Test, rev. 32. The inspectors reviewed the test results which confirmed that the pump was operating within the acceptance criteria for flow, discharge pressure, and vibration. Additionally, the inspectors verified that there was no change in pump performance based on review of past pump test results.

3.1.2 Emergency Diesel Generator Preventative Maintenance

Between April 8-11, the inspectors witnessed and reviewed licensee performance of PM-007, Emergency Diesel Generator Inspection Number 1, rev. 22, PM-008, Emergency Diesel Generator Inspection Number 2, rev. 26, and PM-009, Emergency Diesel Generator Inspection Number 3, rev. 10. These procedures involved the semi-annual, 18 month, and 3 year preventative maintenance and inspection of the B EDG. The following procedures were used by the licensee to perform the specific engine maintenance activities:

CM-021, Emergency Diesel Generator Fuel Oil Storage Tank Transfer Pumps, rev. 3
 CM-507, Emergency Diesel Generator Lube Oil Strainers, rev. 9
 CM-640, EDG Exhaust System Maintenance, rev. 9
 PM-039, Emergency Diesel Generators A and B Injection Nozzles, rev. 5
 CM-630, Emergency Diesel Generator Hydrostatic Pressure Test, rev. 6
 CM-631, EDG AMOT Valve Maintenance, rev. 3
 CM-610, Emergency Diesel Generator Engine Overhaul, rev. 8
 CM-632, EDG Heat Exchanger Maintenance, rev. 4
 CM-637, Overspeed Governor Maintenance, rev.
 CM-627, Emergency Diesel Generator Air Start System Maintenance, rev. 9
 CM-628, Emergency Diesel Generator Cylinder Liner Adapters Maintenance, rev. 4

The inspectors verified that the procedures contained adequate precautions and instructions to perform the work. Through work observations and discussions with maintenance personnel, the inspectors noted that procedures were implemented by knowledgeable personnel and that work activities were performed with quality workmanship.

While conducting the maintenance activities, the licensee encountered several equipment related problems resulting in CRs or Operability Determinations being initiated. The inspectors confirmed that corrective actions implemented were appropriate for the circumstances. The major problems encountered included the following:

- The connection between the exhaust pipe and the exhaust manifold for the No. 10/11/12 cylinders on the engine control side was discovered to be loose and several nuts had completely backed off from their respective bolts. At the end of the inspection period,

the licensee was continuing to investigate whether the nuts had not been properly torqued during previous maintenance or had come loose from vibration. The licensee inspected similar connections on the A EDG and determined that these were properly secured.

- Pressure switches PS-4500B and PS-4509B, associated with the low lube oil pressure and low coolant pressure alarms and non-emergency trip functions, were not rated for the application that they were installed. Both switches were rated for 24 volts dc applications while they are connected in the 125 volts dc engine control logic. A similar problem was determined to exist on the A EDG. The switches on both EDGs were replaced with properly rated components. The licensee's evaluation determined that failure of these switches would only have impacted engine operation during testing since these trip functions are normally bypassed.
- One of the four AMOT thermostats in valve DG-1B, the 3-way temperature control valve for the aftercooler heat exchanger, had a missing retaining nut. The licensee inspected the aftercooler heat exchanger and piping for the missing nut, but were unable to locate it. An engineering evaluation concluded that the nut most likely migrated to the aftercooler heat exchanger drain line and had been removed from the system during subsequent heat exchanger draining and cleaning activities. AMOT valve maintenance procedures were later revised to include specific inspection of the retaining nut integrity during future valve preventative maintenance activities.

The inspectors witnessed portions of the post-maintenance testing of the EDG that was performed in accordance with OST-409-2, EDG B Fast Speed Start, rev. 0. As part of this testing, the engine was operated for approximately 1½ hours at fully loaded conditions. Based on review of engine operating data collected during the performance of OST-409, the inspectors determined that the engine was operating within established criteria. During this testing, the inspectors observed the diesel operator incorrectly record the engine crankcase pressure as 0.2 inches (water) instead of 3.7 inches. This error was pointed out to the SRO who was monitoring the engine operation and the item was immediately corrected. The inspectors attributed this error to lack of attention to detail by the operator.

On April 12, 1996, the inspectors attended a post-maintenance critique meeting where the licensee discussed the overall performance of the work, work execution problems, CRs generated, and necessary procedure changes. The inspectors noted that the discussions were thorough and probing and should help improve the planning, coordination, and execution of future engine preventative maintenance work.

Overall, the inspectors determined that the maintenance was adequately planned. For example, no other major work or A Train related safety equipment was allowed to be scheduled during the diesel work. Maintenance was scheduled round the clock with two separate crew

complements. Associated with this schedule, two separate management and engineering representative teams were assigned to coordinate and oversee the work over the 24-hour work schedule. The inspectors noted that operations maintained a heightened awareness toward protecting A Train equipment while the B EDG was inoperable.

3.1.3 Replacement of Steam Generator Blowdown Pressure Instruments

The inspectors observed portions of the implementation of Minor Modification ESR 95-00826, rev. 0 & 1, for replacing the three steam generator blowdown flow differential pressure transmitters. The replacement transmitters not only provide local pressure indication, but, transmit an output signal to the ERFIS computer. This will allow the computer to perform the conversion from differential pressure to gallons per minute resulting in a more accurate calorimetric calculation.

Modification ESR 95-00826 was classified as non-safety and non-seismic. The steam generator blowdown instruments have no safety function and no control function. However, these instruments are used in the calorimetric calibration of the nuclear power instruments and are therefore important to plant operation.

Areas of modification implementation observed by the inspectors included cable pulling and routing, dc power supply installation, and calibration of the transmitter output with the computer data points. The inspectors noted that the I&C technicians performing the work were adequately skilled. Procedures were present at the job site and were followed, and tasks were documented as performed.

Maintenance skill of the craft combined with detailed procedures and instructions provided for an adequate installation process and documentation of work as performed.

During the cable pulling the inspectors noted that when one of the cable tray horizontal supports was pushed it swung freely indicating that the support was not properly supporting the tray. On the following day, the inspectors observed Fix It Now maintenance personnel checking the cable tray supports. The inspectors considered this to be a positive response to a minor problem on a non-safety related structure.

3.1.4 Repack of Stop Check Valve AS-2285

The inspectors observed maintenance personnel repack a 4-inch stop check valve AS-2285, Auxiliary Boiler Outlet. The work was performed in a designated shop area under WR/JO 95-APP01.

From observations of maintenance in the field and discussions with the maintenance personnel, the inspectors concluded that the licensee's work practices were good and that maintenance on non-safety-related equipment was performed in a manner similar to that on safety-related equipment. The inspectors' evaluation determined that: procedures were available

and followed; work instructions were sufficiently detailed for the performance of the assigned task; approved drawings and/or vendor manuals were accessible; tools were calibrated and controlled; cleanliness controls were maintained; and, documents certifying the completion of work steps were completed as the work progressed. No discrepancies were identified.

3.2 Surveillance Observations

The inspectors evaluated certain surveillance activities to determine if these activities were conducted in accordance with license requirements. For the surveillance reviewed, the inspectors determined that precautions and LCOs were adhered to, required administrative approvals and tagouts were obtained prior to test initiation, testing was accomplished by qualified personnel in accordance with an approved test procedure, test instrumentation were properly calibrated, tests were completed at the required frequency, and the tests conformed to TS requirements. Upon test completion, the inspectors verified that the recorded test data was complete, accurate, and met TS requirements, test discrepancies were properly documented and rectified, and the systems were properly returned to service. Specifically, the inspectors witnessed and/or reviewed portions of the following test activities:

3.2.1 Containment Personnel Airlock Leakage Test

The inspectors witnessed testing of the containment personnel airlock in accordance with procedure EST-010, Containment Personnel Airlock Leakage Test, rev. 11. The test was conducted in order to meet the requirements of TS 4.4.1.2, Sensitive or Local Leak Rate Test, which requires the semiannual measurement of leakage through the airlock. Prior to conducting the test, operations held a detailed pre-job briefing in the control room at which time the test coordinator provided details of the test sequence, precautions, and responsibilities of those involved. Testing involved pressurizing the airlock to 46 psig and measuring the leakage at 10 minute intervals over an hour period. The inspectors noted that testing was well coordinated and included the involvement of personnel from engineering, mechanical and electrical maintenance, operations, as well as radiation control. Radiation control personnel assigned to monitor the test exhibited good control of the radiological activities. Testing was completed satisfactory without any major incidents, however, the inspectors observed several weaknesses as follows:

1. **Improper Procedure Usage and Misunderstanding:** Maintenance personnel were tasked with installing the interior door tie downs in accordance with section 8.2 of procedure EST-010. There was a note in the procedure that said that certain sections (i.e., 8.2, 8.3, and 8.4) could be performed out of sequence or concurrently. The maintenance personnel believed that this meant that the sub-steps of these sections could be performed out-of-sequence as well. This was brought to the attention of the engineering test coordinator who subsequently advised the maintenance personnel

against performing the sub-steps out-of-sequence. The inspectors confirmed later that performing sub-steps out of sequence was not consistent with expectations and guidance contained in the administrative procedures controlling procedure usage. This example indicated a weakness in maintenance personnel understanding of these expectations and administrative procedure requirements for proper procedure usage. The inspectors discussed this problem with maintenance management who indicated that this problem would be reviewed in further detail to determine if other actions were necessary.

2. Failure to Correct Previously Identified Test Equipment Discrepancy: Testing was delayed for a short period during connection of the RTD equipment used to measure airlock air temperature due to the wire leads in the RTD junction box being reversed from that delineated in the test procedure. This necessitated I&C personnel having to take time to determine through voltage testing the correct connection configuration. The test coordinator indicated that the same problem occurred during the last airlock test performance. The inspectors were concerned that a WR/JO nor procedure change was initiated during the previous test to correct the identified connection problem. The inspectors considered this to be an example of lack of adequate corrective action for a previous test procedure discrepancy. The inspectors discussed this problem with engineering management and it was indicated that the wiring discrepancy would be resolved prior to conducting subsequent airlock leakage testing.

3.2.2 Containment Spray Pump Testing

The inspectors observed operations personnel performing OST-352-1, Containment Spray Component Test - Train A, rev. 0, and OST-355, Containment Spray System Integrity Test, rev. 15. OST-352-1 was conducted to satisfy the TS surveillance requirement 4.0.1 which required quarterly testing to verify the operational readiness of the A Containment Spray Pump to fulfill its required safeguards functions. OST-355 was performed to locate and measure any external containment spray system leakage as required by TS Operating License Section 3.G.2 and TS 4.4.3.b, c, d, and e.

The spray pump was tested by operating the pump on miniflow with suction from the refueling water storage tank. Operating data was collected and compared with reference data to verify acceptable pump performance. The inspectors reviewed these test results and confirmed that the data was within acceptable pump operating criteria. The inspectors noted that a dedicated operator with no collateral duties was assigned to immediately restore the system to operability in case an actual spray actuation signal was received during the test. While the pump operated, the licensee leak checked portions of the piping subjected to pump pressure in accordance with OST-355. No external leakage was identified during this portion of testing. No problems were experienced during testing.

The inspectors noted that testing was well coordinated and controlled and was performed in accordance with the procedures.

3.2.3 Safety Injection Pump Testing

The inspectors observed operations personnel performing OST-151-1, Safety Injection System Components Test - Pump A, rev. 0. The test was conducted to satisfy the TS surveillance requirement 4.0.1 which required quarterly testing to verify the operational readiness of the A Safety Injection Pump to fulfill its required safeguards functions. The safety injection pump was tested by operating the pump on miniflow with suction from the refueling water storage tank. The inspectors verified that the test was performed in accordance with the procedure and the procedure acceptance criteria were met. No problems were experienced during testing.

3.2.4 Testing of Thermal Overload Relays for MCC-5

This surveillance involved testing of the safety-related thermal overload relay for motor-operated valve V6-34A, Containment Recirculation Cooler Service Water Outlet. Testing was performed in accordance with WR/JO AHTT-001 using PM-124, Testing of the Thermal Overload Relays for MCC-5. Following testing, the WR/JO directed that operations perform a post-maintenance test of the valve per OST-902, Containment Fan Coolers Component Test.

The inspectors witnessed the performance of the test steps, independent verifications, and restoration of the system. Additionally, the inspectors reviewed the results of OST-902. No discrepancies were identified.

3.2.5 Maintenance Surveillance Tests Observed

The inspectors observed the performance of TS required surveillance in accordance with the following MSTs:

- MST-006, Reactor Coolant Flow Protection Channel Testing (Monthly), rev. 10,
- MST-016, Containment Pressure Protection Channel Testing (bi-Weekly), rev. 12.

The inspectors reviewed the test procedures and witnessed the performance of the test steps, independent verifications, and restoration of the system. The tests were performed by I&C technicians from the Hagan rack. A control room operator was in direct communication with the technicians via head set and verified that the proper signals were received on the control room board as the bistables were tripped and reset. The inspectors noted good coordination between operations and I&C using this mechanism of communication. Based on observations of surveillance testing from the Hagan and control rooms, discussions with the personnel, and review of the surveillance

procedures, the inspectors concluded that testing was accomplished as required. No discrepancies were identified.

4.0 ENGINEERING (37551)

4.1 Containment Personnel Airlock UFSAR Discrepancy

As part of the inspectors' containment airlock leakage test review conducted in paragraph 3.2.1 of this report, the inspectors reviewed applicable sections of the UFSAR which dealt with the containment personnel airlock and associated testing. The inspectors noted that Section 6.9.2.3, Personnel Airlock Interlock, states that the PPS line to the airlock zone is equipped with a flow restricting orifice to assure that air consumption, even upon failure of the airlock interlock, will be within the capacity of the PPS, and will not result in loss of pressure in other zones connected to the same pressurization header. The inspectors were unable to locate this orifice on plant drawings nor from a plant walkdown of the PPS piping/tubing.

The inspectors questioned the system engineer responsible for the airlock system as to whether or not this orifice existed. Preliminary licensee investigation did not reveal the existence of a stand alone flow restricting orifice. The door manufacturer's drawings did indicate that the opening between the door seals was a 1/8 inch drilled hole. However, the licensee determined that even a hole of this diameter would not be small enough to restrict PPS header depressurization. At the end of the report period, the licensee was performing a safety analysis to support changing the UFSAR to remove the need for a flow restricting orifice in this application. Pending further review of this issue and review of the licensee's completed evaluation, this problem was identified as Unresolved Item 50-261/96-04-02: Review Licensee Evaluation of UFSAR Containment Personnel Airlock Discrepancy.

4.2 Minor Modification ESR 95-00826 Review

The inspectors reviewed Minor Modification ESR 95-00826 package for replacing the steam generator blowdown flow differential pressure instruments. The inspectors determined that the instructions for implementation were adequate. The modification referenced specific procedures to be used in the course of the installation, identified calculations for the impact on electrical loads and civil structures, incorporated a screening review for a 10 CFR 50.59 evaluation, provided detailed step instructions for the installation, cable inspection and instrument calibrations, and provided appropriate plant drawings and document changes including a change to the UFSAR. No discrepancies were identified.

5.0 PLANT SUPPORT (71707, 71750, 83750, and 92904)

5.1 Physical Security Program

The inspectors toured the protected area and observed the protected area fence, including the barbed wire, to ensure that the fence was intact and not in need of repair. Isolation zones were maintained and clear of objects which could shield or conceal personnel. Personnel and packages entering the protected area were searched by detection devices or by hand for firearms, explosive devices, and other contraband. Vehicles were searched, escorted, and secured as required. No discrepancies were identified in this area.

5.2 Radiological Protection Program

The inspectors reviewed radiation protection control activities to verify that these activities were in conformance with facilities policies and procedures, and in compliance with regulatory requirements. The inspectors periodically verified that selected doors which controlled access to very high radiation areas were appropriately locked, radiological postings were adequate, and radiological equipment located inside the Auxiliary Building were properly calibrated. No discrepancies were identified in this area.

As discussed in paragraph 3.2.1, the inspectors observed good radiological control support during a containment airlock test which required a radiation control zone to be setup at the entrance into the outer containment airlock. Specifically, the inspectors observed radiation control personnel help control the potential spread of contamination by preventing an individual from improperly removing personnel protective clothing while exiting from the radiation control zone.

5.3 Emergency Preparedness

On April 2, the licensee ran an emergency response drill for Emergency Response Organization Team Number 1. The drill was coordinated with the licensed operator requalification simulator exercises. Each of the five operating crews performed the same plant scenario and the drill scenario was modified for each emergency response organization team. The April 2 drill was the last in the current series. The inspectors observed activities in the Control Room, EOF, and TSC. The inspectors observed that operator command and control was acceptable. Repeat backs were effectively used by the operators. EOF and TSC performance was acceptable. Notifications were timely, however, 13 minutes elapsed from the time a site emergency was declared until it was announced. The inspectors discussed their observations with the licensee.

5.4 Fire Protection Program

The inspectors periodically reviewed aspects of the licensee's fire protection program including fire brigade staffing controls, flammable

materials storage, housekeeping, control of hazardous chemicals, and maintenance of fire protection equipment. No discrepancies were identified.

5.5 Close Out Items

(Closed) URI 50-261/94-28-07: Missing Security Fence Clamps

While conducting a protected area fence walkdown on December 23, 1994, the inspectors questioned a deficiency tag hanging on the security fence. The tag, dated December 21, 1994, identified that some fence tie down clamps were missing. This was identified by Security and WR/JO 94-ASKG1 was written to repair the fence. The licensee also issued CR 94-01914, dated December 21, 1994, to track this item. The clamps were used to piece overlapping fence fabric together. The security guards accompanying the inspectors were able to pull two sections of the fence apart. The inspectors were concerned that the resulting opening was large enough to permit access. The licensee implemented compensatory measure until the fence was repaired later that day. The inspectors did not identify any other examples of missing tie down clamps.

The licensee determined that the missing tie down clamps did not present a vulnerability of the Safeguard System. The licensee had an independent review of the entire protected area fence. The review identified several minor enhancements to the fence. These have been corrected and the work was performed by WR/JOs ABDH1 and ABDK1. The work was completed in April 1995. The inspectors reviewed the completed WR/JOs and CR 94-01914. The inspectors subsequently walked down the Protected Area fences and did not identify any discrepancies. This item is closed.

6.0 Review of Updated Final Safety Analysis Report Commitments

A recent discovery of a licensee operating their facility in a manner contrary to the to the UFSAR description highlighted the need for a special focused review that compares plant practices, procedures and/or parameters to the UFSAR descriptions. While performing the inspection discussed in this report, the inspectors reviewed selected portions of the UFSAR that related to the areas inspected. The inspectors verified that for the select portions of the UFSAR reviewed, the UFSAR wording was consistent with the observed plant practices, procedures and/or parameters.

As discussed in paragraph 3.2.1 of this report, a discrepancy was noted in UFSAR Section 6.9.2.3 which stated that there was a flow restricting orifice in the PPS line to the containment airlock. However, this flow restricting orifice could not be located in the plant nor on plant drawings. The function of this orifice was to assure that air consumption upon a failure of the airlock door interlock would not result in loss of PPS pressure to other zones connected to the same PPS header. This issue was identified as an URI.

7.0 EXIT

The inspection scope and findings were summarized on April 19, 1996, by John Zeiler with those persons indicated by an asterisk in paragraph 1. An interim exits was conducted on March 26. The inspectors described the areas inspected and discussed in detail the inspection results. A listing of inspection findings is provided. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

<u>Type/Item Number</u>	<u>Status</u>	<u>Description and Reference</u>
NCV 96-04-01	Closed	Failure to Designate an Active Licensed Senior Reactor Operator to Direct Activities of Licensed Operators (paragraph 2.2).
LER 93-018-00	Closed	Technical Specification Violation Due to Exceeding Ramp Rate During Startup (paragraph 2.4).
URI 96-04-02	Open	Review Licensee Evaluation of UFSAR Containment Personnel Airlock Discrepancy (paragraph 4.1).
URI 94-28-07	Closed	Missing Security Fence Clamps (paragraph 5.5).

8.0 ACRONYMS

CCW	-	Component Cooling Water System
CFR	-	Code of Federal Regulations
CM	-	Corrective Maintenance
CP&L	-	Carolina Power & Light Company
CR	-	Condition Report
CRSS	-	Control Room Shift Supervisor
dc	-	Direct Current
EDG	-	Emergency Diesel Generator
EOF	-	Emergency Offsite Facility
ERFIS	-	Emergency Response Facility Information System
ESR	-	Engineering Service Request
EST	-	Engineering Surveillance Test
I&C	-	Instrumentation & Control
LCO	-	Limiting Condition for Operation
LCTR	-	Local Clearance and Test Request
LER	-	Licensee Event Report
MCC	-	Motor Control Center
MST	-	Maintenance Surveillance Test
NAS	-	Nuclear Assessment Section
NCV	-	Non-Cited Violation
NGG	-	Nuclear Generation Group
OMM	-	Operations Management Manual

OST - Operations Surveillance Test
PM - Preventive Maintenance
PNSC - Plant Nuclear Safety Committee
PPS - Penetration Pressurization System
rev. - Revision
RTD - Resistance Temperature Detector
SRO - Senior Reactor Operator
TS - Technical Specifications
TSC - Technical Support Center
UFSAR - Updated Final Safety Analysis Report
URI - Unresolved Item
WR/JO - Work Request/Job Order