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

Report Nos: 50-269/87-34, 50-270/87-34 and 50-287/87-34

Licensee: Duke Power Company
422 South Church Street
Charlotte, N.C. 28242

Facility Name: Oconee Nuclear Station

Docket Nos.: 50-269, 50-270 and 50-287

License Nos.: DPR-38, DPR-47 and DPR-55

Inspection Conducted: August 18 - September 14, 1987

Inspectors: _____ 9/28/87
J. C. Bryant Date Signed

_____ 9/28/87
P. H. Skinner Date Signed

_____ 9/28/87
L. D. Wert Date Signed

Approved by: _____ 9/28/87
T. A. Peebles, Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine, unannounced inspection involved resident inspection on-site in the areas of operations, surveillance, maintenance, engineered safety features lineups, and followup of events.

Results: Of the five areas inspected, no violations or deviations were identified.

REPORT DETAILS

1. Licensee Employees Contacted

M. S. Tuckman, Station Manager
T. B. Owen, Maintenance Superintendent
*R. L. Sweigart, Operations Superintendent
*L. V. Wilkie, Superintendent Integrated Scheduling
J. M. Davis, Technical Services Superintendent
C. L. Harlin, Compliance Engineer
*F. E. Owens, Assistant Engineer, Compliance

Other licensee employees contacted included technicians, operators, mechanics, security force members, and staff engineers.

Resident Inspectors:

*J. C. Bryant
P. H. Skinner
L. D. Wert

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on September 15, 1987, with those persons indicated in paragraph 1 above.

The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

No unresolved items were identified during this inspection.

5. Plant Operations

The inspectors reviewed plant operations throughout the reporting period to verify conformance with regulatory requirements, technical specifications (TS), and administrative controls. Control room logs, shift turnover records, some Unit 1 Block Tagout Log and Outage Shift Reports, and equipment removal and restoration records were reviewed routinely. Interviews were conducted with plant operations, maintenance, chemistry, health physics and performance personnel.

Activities within the control rooms were monitored on an almost daily basis. Inspections were conducted on day and on night shifts, during

week days and on weekends. Some inspections were made during shift change in order to evaluate shift turnover performance. Actions observed were conducted as required by Operations Management Procedure 2-1. The complement of licensed personnel on each shift inspected met or exceeded the requirements of TS. Operators were responsive to plant annunciator alarms and were cognizant of plant conditions.

Plant tours were taken throughout the reporting period on a routine basis. The areas toured included the following:

Turbine Building
Auxiliary Building
Units 1,2, and 3 Electrical Equipment Rooms
Units 1,2, and 3 Cable Spreading Rooms
Station Yard Zone within the Protected Area
Standby Shutdown Facility

During the plant tours, ongoing activities, housekeeping, security, equipment status, and radiation control practices were observed.

Unit 1 operated at 80% power, limited by the confirmatory order for operation with cooling water temperature above 80 degrees F until 9:35 a.m. on September 2 when it was shut down for the 65 day End of Cycle 10 refueling outage. During the 486 day cycle the unit has been off line 53 days for forced or scheduled outages. There was one reactor trip during this 486 day period. The shutdown is discussed in paragraph 9.

Unit 2 operated at approximately 85% power throughout the report period, as limited by high steam generator water levels.

Unit 3 operated at 100% power throughout the report period.

No violations or deviations were identified.

6. Surveillance Testing

Surveillance tests were reviewed by the inspectors to verify procedural and performance adequacy. The completed tests reviewed were examined for necessary test prerequisites, instructions, acceptance criteria, technical content, authorization to begin work, data collection, independent verification where required, handling of deficiencies noted, and review of completed work. The tests witnessed, in whole or in part, were inspected to determine that approved procedures were available, test equipment was calibrated, prerequisities were met, tests were conducted according to procedure, test results were acceptable and systems restoration was completed.

Surveillances witnessed in whole or in part:

IP/2A/305/03	RPS Channel B Calibration and Functional Test
PT/O/A/1600/10	Operation of SSF Diesel Generator and Verification of Standby of SSF Diesel Generator
OP/O/A/1106/19	Keowee Operability Verification

No violations or deviations were identified.

7. Maintenance Activities

Maintenance activities were observed and/or reviewed during the reporting period to verify that the work was performed by qualified personnel and that approved procedures in use adequately described all work that was not within the skill of the trade. Activities, procedures and work requests were examined to verify proper authorization to begin work, provisions for fire, cleanliness, and exposure control, proper return of equipment to service, and that limiting conditions for operation were met. Some attention was given to scaffolding, rigging, and other general work safety practices due to the extensive work ongoing with the Unit 1 outage.

Maintenance witnessed in whole or in part:

WR 56164 Condensate Booster Pump 1A maintenance

Many aspects of most of the maintenance activities listed in paragraph 9 (Unit 1 Outage) were closely observed.

Completed work requests reviewed:

WR 53672F Unit 2 Turbine Driven Emergency Feedwater Pump Turbine control valve maintenance.
WR 07494C 2HP-140 packing leak repairs
WR 04544C Repairs to 3MS-83
WR 56890 Annual Preventive Maintenance of the SSF Diesel Generator (16 cylinder)

No violations or deviations were identified.

8. Resident Inspector Safeguards Inspection

In the course of the monthly activities, the Resident Inspectors included a review of the licensee's physical security program. The performance of various shifts of the security force was observed in the conduct of daily activities which included; protected and vital areas access controls, searching of personnel, packages and vehicles, badge issuance and retrieval, escorting of visitors, patrols and compensatory posts. In addition, the Resident Inspectors observed protected area lighting and protected and vital areas barrier integrity, and verified interfaces between the security organization and operations or maintenance. The inspectors also observed proficiency firing of pistols at the on-site firing range.

No violations or deviations were identified.

9. Unit One Refueling Outage

Unit 1 was shutdown on 2 September for a scheduled refueling outage. Major shutdown work in progress includes the following:

1. Installation of temporary piping for OTSG chemical cleaning in the reactor building.

2. Reactor coolant system loops drained, reactor vessel studs detensioned.

3. Low pressure injection cooler and reactor building cooling unit maintenance.

4. Reactor coolant pump seal replacements.

5. Preparations for OTSG eddy current testing/sleeving, (Eddy current testing in progress.)

6. Replacement of OTSG feedwater nozzles (14 feedwater ring risers removed).

7. Sludge lancing OTSG's.

8. "C" low pressure turbine maintenance (diaphrams and rotor removed).

9. Feedwater pump turbine and moisture separator reheater maintenance.

Current critical path item, electrical generator work (refurbish of main generator rotor) is proceeding as scheduled. Unit 1 startup is currently scheduled for November 5.

10. Inspection of Open Items

The following Licensee Event Reports and other open items are being closed, as appropriate, based on review of licensee reports, inspection, record review, and discussions with licensee pesonnel.

(Closed) LER 269/87-05 Potential Tripping of High Pressure Injection Pumps During Starting. As discussed in Inspection Report 87-29, this LER remained open pending verification that the licensee has an effective system to ensure any future auxiliary power system modifications will be reviewed for impact on protective relay settings. The licensee has incorporated a provision that addresses protective relay requirements in the procedure used to assess design inputs related to any auxiliary power system Nuclear Station Modification.

11. Starting of Low Pressure Injection Pump With Suction Valves Shut

During the shutdown of Unit 1 on 3 September 1987, the 1A Low Pressure Injection (LPI) Pump was incorrectly started with valves LP-1 and LP-2 (suction to LPI pumps from RCS) shut. Operators observed no LPI flow and also a low differential pressure alarm, while pump amps indicated normal. The pump was stopped after approximately one minute. The cause of this event was operator error-failure to follow procedure by the Reactor Operator. While placing the LPI system in the switchover mode

for plant cooldown, the operator only partially completed Enclosure 3.1 OP/1/A/1104/04 (LPI Operations-RCS Cooldown) before returning to OP/1/A/1102/10 (Controlling Procedure for Unit Shutdown). Specifically he did not continue Enclosure 3.1 of OP/1/A/1104/04 beyond step 2.2.1 (valve checklist to place LPI in switchover mode). He returned to OP/1/A/1102/10 and started the LPI pump. Consequently several actions including opening of LP-1 and LP-2 and venting of the LPI pumps were omitted. The pump was then turned off and the operators subsequently determined the error and performed the procedures correctly and restarted the pump. No damage to the pump was noted.

While contributing factors could be that step 2.2.1 of Enclosure 3.1 (LPI switchover mode checklist) is at the bottom of one page of Enclosure 3.1 and also that OP/1/A/1102/10 states, "valve in the LPI system," it is clear that the operator should have known to complete all of Enclosure 3.1. The inspector noted that step 2.4 of Enclosure 3.1 specifically returns the operator back to OP/1/A/1102/10.

During followup of the event it was discovered that an additional operator error had been made. The Auxiliary Operator who obtained Encl. 3.9 to OP/1/A/1104/04 (LPI switchover mode valve checklist) did not correctly verify that the field copy matched the control copy of the procedure. He did not follow procedure in that the positioning of LP-10 to the shut position (a temporary change to the control copy of the checklist) was not added to the field copy of the checklist. As a result LP-10 was incorrectly left open. Consequently a recirculation flowpath existed which miminized any chance of LPI pump damage during the short period of operation. Disciplinary action has been taken with both operators involved.

Failure to follow procedure is a violation of Technical Specification 6.4.1 which states that the station will be operated according to written procedures. However, there was no indication of intent to deviate from procedure, and the event was clearly an operator error. The operator also prevented pump damage by being alert to the fact that pump flow did not begin as a result of his actions and he quickly terminated the event. Though a violation was cited in April against the same technical specification, the current event was quite different in nature and the corrective actions taken for the prior event could not reasonably have prevented the second event.

The violation appears to meet the criteria of 10 CFR 2, Appendix C concerning licensee identified violations; therefore, it will be cited as such. (LIV 50-269/87-34-01; Operator error; failure to follow shutdown procedure.)