



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

Report Nos: 50-269/87-25, 50-270/87-25, and 50-287/87-25

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

Facility Name: Oconee Nuclear Station

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

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

Inspection Conducted: June 16 - July 13, 1987

Inspectors:	<u><i>J.C. Bryant</i></u>	<u>7/29/87</u>
	J.C. Bryant	Date Signed
	<u><i>P.H. Skinner</i></u>	<u>7/29/87</u>
	P.H. Skinner	Date Signed
	<u><i>L. D. Wert</i></u>	<u>7/29/87</u>
	L. D. Wert	Date Signed
Approved by:	<u><i>T.A. Peables</i></u>	<u>7/30/87</u>
	T.A. Peables, 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.

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REPORT DETAILS

1. Licensee Employees Contacted

- *M.S. Tuckman, Station Manager
- T.B. Owen, Maintenance Superintendent
- R.L. Sweigart, Operations Superintendent
- 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 July 13, 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, 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 began the report period at 87% power as limited by reactor building cooling unit and decay heat removal capabilities and continued at that level throughout the report period.

Unit 2 operated at 87-88% power throughout the report period as limited by high steam generator level.

Unit 3 operated at 100% power throughout the report period. Indications of failed fuel and of a small tube leak in a steam generator remained stable throughout the 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, prerequisites were met, tests were conducted according to procedure, test results were acceptable and systems restoration was completed.

Surveillances witnessed in whole or in part:

PT/0/A/290/04 Turbine Stop Valve Movement
 PT/150/22L Test HPSW Valves for TDEFWP
 IP/I/A/305/10 RPS Pressure Switch Calibration
 IP/3/A/305/ RPS Online Test (Unit 1, Channel A)

No violations or deviations were identified.

7. Maintenance Activities

Maintenance activities were observed and/or reviewed during the reporting period to verify that work was performed by qualified personnel and that approved procedures in use adequately described 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.

Maintenance witnessed in whole or in part:

WR 52482F Replacement of RPS (1B FWP) Pressure Switch
 WR 08234C Repair of LPSW Pump 3A Motor Coupling

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.

No violations or deviations were identified.

9. Inspection of Open Items

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

(Closed) LER 287/87-02: Relay Actuation Starts Both Keowee Units and Causes A Load Shed. Relay actuation caused by maintenance work vibration adjacent to relay. Reactor was shut down at the time. Administrative controls established to prevent recurrence.

(Closed) LER 287/87-04: Reactor Shut Down Due To Non-Isolable Leak In Reactor Coolant System. Immediate corrective action was completed. Followup long term action will be covered under identical item for Unit 2.

(Closed) LER 287/87-06: HPI Suction Valves Found Closed With Breakers Open. This item is identical to item 87-16-01, which is being held open pending resolution of enforcement action.

(Closed) IE Bulletin 86-02: Static "O" Ring Differential Pressure Switches. This item was addressed by DPC correspondence dated July 28, 1986. The licensee stated that the subject switches were not used in safety-related applications at Oconee. This has been reviewed by Region II personnel and determined to be acceptable. Based on this review, this item is closed.

10. Reactor Building and Decay Heat Coolers

Oconee Inspection Report No. 87-13 discusses degraded performance of reactor building cooling unit (RBCU) and decay heat removal (DHR) coolers. While the report dealt primarily with fouling and cleaning of the coolers, the impact of inlet cooling water temperature from Lake Keowee also was considered. Cooling water to these coolers is supplied by the low pressure service water system (LPSW), which takes suction directly from the condenser cooling water inlet. Licensee design calculations of cooler performance were based on a maximum LPSW inlet temperature of 75 degrees F.

Since degraded cooler performance made inlet temperature more critical, the licensee has since made additional calculations based on higher inlet water temperature. The more restrictive temperatures concerned DHR coolers, which cool reactor coolant system water which is circulated by low pressure injection (LPI) pumps. New calculations, which are preliminary, indicate the following reactor power limitations based on higher temperatures.

Unit	LPSW Temp. Degrees F	Max Allowable Reactor Power (%)	Condition
1	80	89	2 LPI pumps
	85	85	2 LPI pumps
2	80	100	1 LPI pump
	85	100	2 LPI pumps
	85	93	1 LPI pump
3	80	100	1 LPI pump
	85	100	2 LPI pumps
	85	96	1 LPI pump

The highest inlet cooling water temperature (average of the three units) recorded since 1979 was 81.7% degrees F in August 1986. The average cooling water inlet temperature on July 14, 1987 was 70.8 degrees F.