UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report Nos. 50-269/81-19, 50-270/81-19 and 50-287/81-19

Licensee: Duke Power Company
422 South Church Street
Charlotte, NC 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 at Seneca, South Carolina

Inspectors: A. J. Ignatonis for — 9/30/81
F. Jape, Senior Resident Inspector — Date Signed

A. J. Ignatonis for — 9/30/81
W. Orders, Resident Inspector — Date Signed

A. J. Ignatonis for — 9/30/81
D. Myers, Resident Inspector — Date Signed

Approved by: A. J. Ignatonis for — 9/30/81
J. C. Bryant, Section Chief, Division of Resident and Reactor Inspection — Date Signed

SUMMARY

Inspection on August 10 - September 10, 1981

Areas Inspected

This routine, announced inspection involved 314 resident inspector-hours on site in the areas of plant operations, surveillance, testing, maintenance observations, loose parts in reactor followup, LER review, followup of previous enforcement items, and radioactive gas sampling.

Results

Of the 7 areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Licensee Employees

*J. E. Smith, Station Manager
*J. N. Davis, Superintendent of Maintenance
*J. N. Pope, Superintendent of Operations
*T. B.Owen, Superintendent of Technical Services
*T. Cribb, Licensing Engineer

Other licensee employees contacted included 10 technicians, 15 operators, 6 mechanics, 11 security force members and 4 office personnel.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on September 10, 1981 with those persons indicated in paragraph 1 above. The unresolved item on radioactive gas sampling was discussed with and acknowledged by licensee management. Other inspection findings were acknowledged without significant comment.

3. Licensee Action on Previous Inspection Findings

a. (Closed) Violation (269/81-2-2): Failure to follow procedure. The corrective action described in Duke Power Company's (DPC) response, dated March 20, 1981, has been verified as completed by the inspector.

b. (Closed) Violation (269/270/287/81-7-1): Failure to perform TS surveillance. DPC's June 2, 1981, letter addresses this issue. Followup was completed by the inspector. All corrective actions have been incorporated within the plant administrative program.

c. (Closed) Violation (270/81-7-2): Misaligned breakers. Corrective actions described in DPC's response, dated May 26, 1981, have been verfied as completed by the inspector.

d. (Closed) Violations (287/81-10-1): Defeated relief valve. The licensee's response, dated July 17, 1981, was found acceptable and the corrective action on Units 1 and 3 have been completed. Action on Unit 2 is scheduled to be completed during the next refueling outage.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. New unresolved items identified during this inspection are discussed in paragraph 10.

5. Plant Operations

The inspector reviewed plant operations throughout the report period, August 10 - September 10, to verify conformance with regulatory requirements, technical specifications and administrative controls. Selected portions of control room logs, shift supervisors logs, shift turnover records and equipment removal and restoration records for the three units were reviewed throughout the inspection period. Interviews were conducted with plant operations, maintenance, chemistry, health physics, and performance personnel on day and night shifts.

Activities within the control rooms were monitored during shifts and at shift changes. Actions and/or activities observed were conducted as prescribed in Station Directives. The complement of licensed personnel on each shift met or exceeded the minimum required Technical Specifications. Operators were responsibe to plant annunciator alarms and appeared to be cognizant of plant conditions.

Plant tours were taken throughout the reporting period. The areas toured included but are not limited to the following:

- Turbine Building
- Auxiliary Building
- Units 1, 2 and 3 Electrical Equipment Rooms
- Units 1, 2 and 3 Cable Spreading Room
- Station Yard zone within the protected area

During the plant tours, ongoing activities, housekeeping, security, equipment status and radiation control practices were observed. On the evening of September 8, the inspector verified that motor vehicles parked inside the turbine building were adequately secured.

Oconee Unit 1 continued a refueling outage throughout the reporting period with no new major difficulties. The analysis associated with the previously reported (Report 269/80-18) problems with the thermal shield bolts is ongoing with no new information to report at this time.

Oconee Unit 2 operated at virtually full power from the beginning of the report period until 11:30 p.m. on September 6, when, after a continuous run of 157 days, low oil levels in the 2B2 and 2A2 reactor coolant pump motors forced a maintenance shutdown. The unit remained at 1000 psig and 300 degrees F until September 9 in anticipation of a short outage which would not require cold shutdown. Due to high radiation levels inside the reactor building however, the unit was forced to go to cold shutdown to allow

reactor building purge. As the report period closes the unit is at cold shutdown, in preparation for the ensuing maintenance.

Oconee Unit 3 operated at virtually full power from the beginning of the reporting period until 5:08 p.m. on August 15 when a turbine trip/reactor trip occurred which was caused by a turbine control oil leak. The leak was repaired, the unit was restarted and was placed on line at 3:07 a.m. the following day. The unit operated at full power until the morning of August 5 when a feedwater pump tripped initiating an ICS runback to 55% power. The feedwater problem, a minor maintenance difficulty with a lube oil filter, was rectified and the unit was returned to full power where it remained until 8:53 a.m. on September 5 when, for as of yet undiscernable reasons, an electrical generator lockout occurred resulting in a reactor trip. The unit remained shut down until the next day in an effort to ascertain the cause of the trip and repair a small leak inside the reactor building. The leak was repaired but extensive troubleshooting failed to reveal the cause of the trip. The unit was restarted and placed on line at 11:33 a.m. on September 5 only to trip at 11:44 a.m. as the result of a feedwater perturbation during power escalation. The perturbation was determined to have been caused by an ICS control module for feedwater control valve 3FDW-41. The module was replaced, the unit was restarted and reached full power at 4:00 p.m. on September 6.

All systems performed as expected during the reactor trips and the ICS runback resulting in relatively unremarkable incidents.

Within the areas inspected no violations or deviations were identified.

6. Surveillance Testing

The surveillance tests detailed below were analyzed and/or witnessed by the inspector to ascertain procedural and performance adequacy.

The completed test procedures examined were analyzed for embodiment of the necessary test prerequisites, preparations, instructions, acceptance criteria and sufficiency of technical content.

The selected tests witnessed were examined to ascertain that current, written approved procedures were available and in use, that test equipment in use was calibrated, that test prerequisites were met, system restoration was completed and test results were adequate.

The selected procedures perused attested conformance with applicable Technical Specifications, they appeared to have received the required administrative review and they apparently were performed within the surveillance frequency prescribed.

Procedure	Title	Date
IP/0/A/301/03D	NI-4 IR Calibration	8/18/81

IP/O/A/305/03D	RPS CH-D on-Line Test	8/18/81
IP/O/A/302/4B	Incore Monitor Withdrawal	9/9/81
IP/O/A/360/3B	Process Radiation Monitor System R1A48	9/9/81

The inspector employed one or more of the following acceptance criteria for evaluating the above items:

- 10 CFR
- ANSI N18.7
- Oconee Technical Specifications
- Duke Administrative Policy Manual

Of the areas inspected no violations or deviations were identified.

7. Monthly Maintenance Observation

Maintenance activities were observed and reviewed throughout the inspection period to verify that activities were accomplished using approved procedures or the activity was within the skill of the trade and that the work was done by qualified personnel. Where appropriate, limiting conditions for operation were examined to ensure that while equipment was removed from service, the TS requirements were satisfied. Also, work activities, procedures, and work requests were reviewed to ensure adequate fire and radiation protection precautions were observed, and that equipment repaired was tested and properly returned to service. Acceptance criteria used for this review were as follows:

- Station directives 3.3.1, 3.3.2, 3.3.5, 3.3.11, 3.3.15

- Administrative Policy Manaul, Section 3.3 and 4.7

- Technical Specifications

Maintenance activities observed or reviewed were:

Work Request	19852	Keowee Start Modifications	9/7/81
	19640	Repack LP-32	8/27/81
Work Request	50943	3CS114 and 115 Repair	8/28/81
Work Request	18930	Repair of MS-84	9/5/81
Work Request	50942	Repair CS Valves	9/3/81

Outstanding work request #19175 of 8/10/81 to WR 19856 of 9/9/81 that were initiated by the operations group for Unit 3 were reviewed to determine that the licensee is giving priority to safety-related maintenance and not

allowing a degradation of system performance by developing a back log of work items.

Of the areas inspected no violations or deviations were identified.

8. Review of Licensee Event Reports

The inspector performed an in-office review of nonroutine event reports to verify that the report details met license requirements, identified the cause of the event, described corrective actions appropriate for the identified cause, and adequately addressed the event and any generic implications. In addition, the inspector examined selected operating and maintenance logs, and records and internal incidents investigation reports. Personnel were interviewed to verify that the report accurately reflected the circumstances of the event, that the corrective action had been taken or responsibility assigned to assure completion, and that the event was reviewed by the licensee, as stipulated in the Technical Specifications. The following event repors were reviewed:

Report Number	Title
RO-269/81-7	Fire Barrier Breached Without Proper Fire Watch Maintained
RO-269/81-10	TDEFWP Declared Inoperable
RO-269/81-12	Hydraulic Snubber Inoperable
RO-269/81-13	Deficiency Discovered in Normal Power Procedure
RO-270/81-1,	Non-Existence Flow to HPI Pump Motor Bearing Cooler
RO-270/81-8	Solenoid Valve 2FDW-316 Inoperable
RO-270/81-10	TDEFWP Declared Inoperable
RO-270/81-11	Subcooling Monitor Inoperable
RO-270/81-12	TDEFWP Inoperable due to Low Oil Level
RO-287/81-4	Failure of 3FDW-105 to Close
RO-287/81-5	Failure of ES Valve 3CS-5
RO-287/81-6	RPS High Pressure Trip out of Calibration
RO-287/81-7	RB Personnel Hatch Inner Door Inoperable
RO-287/81-10	One MDEFWP Inoperable
RO-287/81-11	Mechanical Snubber Inoperable

RO-87/81-12	3PR-8 Failed in Closed Position
RO-287/81-13	Breach of Fire Barrier in Control Room
RO-269/80-34	EWST Level Indication Failure
RO-269/80-36	EWST and Part of HPSW Loop Removed from Service
RO-269/80-37	CBAST Pump Inoperable
RO-269/80-38	Loss of Overhead Power Path from Keowee
RO-269/80-39	Fire Detector String Removed from Service
RO-270/80-21	TDEFWP Auto Start Circuit Failed
RO-270/80-25	HPI Inoperable due to Motor Bearing Failure
RO-270/80-26	LBAST Pump Inoperable
RO-287/80-11	SG Cracked Studs, Primary Manway
RO-287/80-12	Time Exceeded for TS Sampling of LBAST
RO-287/80-16	Fire Detector String B-2 Out of Service
RO-287/80-17	Fire Detector String No. 8 Inoperable
RO-287/80-19	CRD Breaker Delays in Tripping
RO-287/80-20	Breach of Fire Barrier, Cable Room Floor

9. Training and Procedure for Station Blackouts

Duke Power Company (DPC) response to NRC Generic Letter 81-04 dated 7/1/81 detailed the stations training and procedures for mitigation of a station blackout event. NRC letter to DPC of 8/18/81 acknowledged the existence of the stations training and procedures for the event and delegated technical review to the Office of Inspection and Enforcement.

Inspectors reviewed the 7/1/81 response, emergency procedures EP/0/A/1800/31 Loss of 3 KI Bus, EP/0/A/1800/25 Loss of 4160V Power and BWST, EP/0/A/1800/16 Loss of Power, and conducted interviews with training personnel on 8/27/81. The review verified that the station program was as stated in the licensee's response and that the program adequately addresses the applicable technical concerns listed in the generic letter. Modifications described in the response regarding the turbine driven emergency feedwater pump are ongoing and covered by the resident inspectors routine inspection program.

10. Radioactive Gas Sampling

On the morning of September 4, prior to day shift turnover a licensee health physics technician attached and aligned applicable equipment to facilitate taking a sample of the contents of an Oconee Unit 3 waste gas tank. The sampling technique involved connecting a piece of Tygon tubing to the gas tank and venting a volume of gas through a gas sample bottle to the waste gas vent header. The technician attached and aligned the applicable equipment and departed the area in order to participate in shift turnover. In the interim in which the first technician left and another came to retrieve the sample bottle, the Tygon tubing parted, resulting in an inadvertent gas release to the auxiliary building and ultimately to the atmosphere of 1.13 curies of noble gas.

Inspector perusal of the applicable procedure, HP/0/B/1000/60A, revealed a lack of specificity in that the details of the sampling procedure are, at best, sparse. The inspector discussed his concerns with the licensee who in turn stated that the referenced procedure is intentionally non-specific to allow the exercise of the skill of the trade, specific training, and other general directives. The inspector will analyze the reference training and directives to determine their adequacy.

The licensee is currently reviewing the procedure and technique to determine if changes need be made.

This item is unresolved as of the end of this report period. (Unresolved item 81/19-01)