



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
230 PEACHTREE STREET, N.W. SUITE 1217
ATLANTA, GEORGIA 30303

Report Nos.: 50-269/77-19; 50-270/77-19 and 50-287/77-19

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

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

Licensee: Duke Power Company
422 S. Church Street
Charlotte, North Carolina 28242

Facility Name: Oconee Units 1, 2 and 3

Inspection at: Oconee Site, Seneca, South Carolina

Inspection conducted: August 24-26, 1977

Inspectors: P. T. Burnett; J. E. Ouzts

Reviewed by:

R. D. Martin
R. D. Martin, Chief
Nuclear Support Section
Reactor Operations and Nuclear Support Branch

9/23/77
Date

Inspection Summary

Inspection on August 24-26, 1977 (Report Nos. 50-269/77-19; 50-270/77-19 and 50-287/77-19)

Areas Inspected: Routine, unannounced inspection of plant procedure changes for incorporation of technical specification changes and performance of safety reviews, maintenance of records as required by 10 CFR 50.59, and refueling activities. The inspection involved 40 inspector-hours onsite by two NRC inspectors.

Results: Of the areas inspected two items of noncompliance were identified and are discussed in Details II of this report.

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DETAILS I

Prepared by:

J. E. Ouzts
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Nuclear Support Section
Reactor Operations and Nuclear Support
Branch

9/20/77
Date

Dates of Inspection: August 24-26, 1977

Reviewed by:

R. D. Martin
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Reactor Operations and Nuclear Support
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9/23/77
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1. Persons Contacted

- *J. E. Smith, Plant Manager
- *R. Bond, NRC Coordinator
- Various Reactor Operators and
File Room Personnel

*Denotes those present at exit interview

2. Licensee Action on Previous Inspection Findings

Not inspected

3. Unresolved Items

The temporary procedure records are not being maintained to insure that a procedure will not be used for subsequent testing. The licensee agreed to investigate the method he is now using to insure that this will not happen. This will be carried as unresolved item 77-19/II-1 and will be followed up on a subsequent inspection.

4. Exit Interview

The inspector met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on August 26, 1977. The inspector summarized the purpose and scope of the inspection and findings. No apparent items of noncompliance or deviations were identified.

5. Procedures Review

The inspector reviewed plant procedures and records to insure that changes to these documents were being made to reflect Technical Specifications changes, safety reviews were being conducted and records maintained in accordance with criterion 10 CFR 50.59. Documents and changes were reviewed and inspections conducted as follows:

a. Operating Procedures:

- (1) OP/2/A/1102/2 - Reactor Trip Recovery (From 3/19/76)
- (2) OP/0/A/1102/04 - Operations at Power (From 3/19/76)
- (3) OP/0/B/1104/37 - Plant Heating (From 3/4/77)
- (4) OP/0/A/1503/1 - Preparation for Refueling (From 3/23/76)
- (5) OP/1/A/1104/02 - High Pressure Injection System (From 5/28/75)
- (6) OP/2/A/1104/01 - Core Flooding System (From 6/11/75)
- (7) OP/0/A/1106/27 - Plant Compressed Air System (From 6/20/74)
- (8) OP/0/A/1107/03A - Procedure for Furnishing Emergency Power for Test Purposes to Oconee (From 1/19/76)
- (9) OP/1-2/A/1104/41 - Auxiliary Building Ventilation (From 11/7/73)
- (10) OP/0/A/1105/35 - Spent Fuel Pool Filtered Exhaust System. (From 3/17/76)
- (11) OP/0/A/1502/07 - Refueling Procedure (From 6/10/77)

b. Alarms and Setpoints Manuals and changes to manual: (Units 1, 2 and 3 - From 12/22/76)

c. Emergency Procedures:

- (1) EP/0/A/1800/4 - Loss of Reactor Coolant (From 6/30/76)
- (2) EP/0/A/1800/6 - Loss of Reactor Coolant Flow (From 7/18/75)

- (3) EP/O/A/1800/16 - Loss of Power (From 7/30/75)
- (4) EP/1-2/4/1800/19 - Loss of Condenser Circulating Water Intake Canal (From 2/6/73)
- (5) EP/O/A/1800/23 - Loss of Containment Integrity (From 7/18/75)
- (6) EP/O/A/1800/29 - Loss of Instrument Air (From 3/24/75)

d. Maintenance Procedures:

- (1) MP/O/A/1150/3 - Reactor Vessel Closure Head Retensioning and Removal (20,000) (From 7/30/76)
- (2) MP/O/A/1200/7 - Pressurizer Relief Valve Removal and Replacement (From 3/22/76)
- (3) MP/O/A/1400/6 - Removal and Installation of Electrical Penetration Assemblies Type "B" and "X" (From 11/18/74)
- (4) MP/O/A/1600/2 - Removal and Replacement of Oil Lift System Filters and Strainers on Reactor Coolant Pump Motors (From 2/25/74)
- (5) IP/O/A/203/1A - LPIS - Borated Water Storage Tank Level Instrument Calibration (From 1/10/74)
- (6) IP/1/B/203/1F - Low Pressure Injection System Pressure (From 8/7/72)

e. Station Directives (Administrative Procedures):

- (1) SD 2.3.1(M) - Test and Measuring Equipment Control (From 5/6/77)
- (2) SD 2.4.1(M) - Receiving, Storage, Issuing, Handling, Packaging and Shipping of Material (From 5/24/77)
- (3) SD 3.1.7(OP) - Access to Containment (From 7/14/77)

- (4) SD 3.1.8(OP) - Shift Relief and Turnover
- (5) SD 3.1.19(OP) - Unit Supervisors Log Book (From 8/23/77)
- (6) SD 3.1.20(OP) - Reactor Operations Log (From 8/17/77)
- (7) SD 4.2.1(AS) - Procedures (From 3/31/76)
- (8) 3.2.2(TS) - Responsibility for and Scheduling of Surveillance Requirements - Procedure Changes Required by FSAR and Technical Specification Changes (Routed for Implementing Changes to Procedures)

f. Temporary Procedures:

- (1) TM/1/8/4000/3 - Westinghouse Reactor Coolant Pump Inspection During Seal Replacement (2/28/75)
- (2) TM/3/A/4000/17 - Repair of Hanger on High Pressure Injection System
- (3) TT/1-2/A/121/01 - Procedure for Use of Inflatable Raft on Spent Fuel Pool (1/19/76)
- (4) TT/2/A/801/03 - Selective Fuel Assemblies Lift Test (Core Lift Verification - (5/5/75)
- (5) TT/2/A/121/01 - Component Shuffling in Spent Fuel Pool
- (6) TT/2/A/302/A - Checkout and Repair of Intermediate Range Detectors NI-3 and NI-4
- (7) TI/3/B/200/8C - UT - EPRI - RTD Time Response (12/1/76)

g. Technical Specification Changes:

- (1) 76-10 - Hydraulic Shock Suppressors
- (2) 76-24 - Adherence to 10 CFR 50, Appendix "J" - Air Lock Test
- (3) 77-13 - Extended Design Cycle Length of Oconee Unit 3 Cycle 2 for 265 EFPD to 282 EFPD

- (4) 77-14 - Amendment on Iodine Limits in Reactor and Secondary Coolant
- (5) 77-15 - Inservice Inspection Requirements in Accordance with ASME Section XI Code
- (6) 77-11 - Surveillance of Steam Generator Tubing (RG 1.83)
- (7) 77-6 - Conditions on Limiting Conditions on Operation on Hydraulic Shock Suppressors

During the review of temporary procedures a discrepancy between the way the temporary procedure was being used and that described in the administrative procedure was noted. The administrative procedure requires that the master copy be used as the control copy in performing the testing or maintenance, whereas a reproduced copy was being used for this purpose. With an unused signed master copy in file a possibility exists that it may be removed and used for subsequent testing without formal review and approval as a new procedure. The licensee agreed to investigate and determine corrective action to eliminate this possibility. This will be carried as unresolved item 77-19/II-1 and reviewed at a subsequent inspection. No apparent items of noncompliance or deviations were identified.

6. Tour of Control Rooms

A tour was made of Units 1 and 2 and Unit 3 control rooms to inspect operations in progress and discuss plant status and operating conditions with the operators. As a result of this tour and discussions no questions remain outstanding.

DETAILS II

Prepared by:

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Nuclear Support Section
Reactor Operations and Nuclear
Support Branch

9/23/77
Date

Dates of Inspection: August 24-26, 1977

Reviewed by:

R. D. Martin
R. D. Martin, Chief
Nuclear Support Section
Reactor Operations and Nuclear
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Date

1. Persons Contacted

- *J. E. Smith, Plant Manager
- *J. N. Pope, Operations Superintendent
- *O. S. Bradham, Maintenance Superintendent
- *R. M. Koehler, Technical Services Superintendent
- R. Copeland, Babcock and Wilcox
- H. Davis, Babcock and Wilcox
- *R. T. Bond, Technical Services Engineer
- *T. S. Barr, Performance Engineer
- *T. Curtiss, Assistant Engineer
- Various operations personnel

*Indicates those persons attending the exit interview.

2. Licensee Action on Previous Inspection Findings

Not addressed.

3. New Unresolved Items

None

4. Exit Interview

A meeting was held with those persons indicated in paragraph 1 on Friday August 26, 1977. The scope of the inspection, and the two items of noncompliance reported in the following paragraphs were discussed. Licensee made the commitment that the procedure for turning fuel in the line scan tester would be reviewed, and revised to address the action to be taken with difficult-to-turn assemblies prior to resuming the PIE program.

5. Damaged Fuel Assembly for (Unit 1)

The licensee in cooperation with the fuel vendor participates in a post irradiation examination (PIE) program which is conducted in the spent fuel pool for Units 1 and 2. One fuel assembly being examined during this outage was observed to have one bent fuel pin. This observation was made after the bundle was rotated about its vertical axis in a facility called the line scan tester (LST). Neither pool water samples nor the air monitors indicated any release of radioactive material. The bundle exposure was estimated to be about 24,000 megawatt days per metric ton.

The bundle was removed from the line scan tester using the spent fuel pool jib crane. While suspended from the crane all surfaces were examined using a TV camera and the examination was recorded on magnetic tape. The bundle was then inserted in a spent fuel storage rack up to within a few inches of the bend in the pin. The crane was then secured against inadvertent operation. The estimated maximum potential drop for the bundle was approximately 2 feet. The bent pin is from the BC corner. It is displaced from one plane about 8 inches and about 1/2 inch from the other plane. The bend is above the upmost intermediate grid, probably within two or three inches of the top of the fuel column. The bend transition length is about 2 inches. The top bundle grid is torn at the BC corner. No material appears to be missing from the grid, and the residual gap is smaller than the fuel-pin diameter. The only other indication of any damage to the fuel bundle is at the bottom grid diametrically opposite from the BC corner. A small piece of metal is missing from the grid. A television examination of the LST was also made, and recorded. The bottom of the top guideplate shows a large scratch. Normally no part of the fuel bundle would bear against that surface. The speculation is that the pin was torn loose in the act of rotating it in the line scan tester and then snagged against bottom of the upper top plate putting in the scratch, and also extending the bend of the fuel pin. The LST is designed to turn the fuel assembly from a bottom mounted chain drive system at the surface that carries the load of the fuel assembly. The drive is operated from a manual crank above the assembly.

The licensee's procedure PT/O/A/120/1, "Oconee PIE Program - FA Rotation in LST" addresses only the use of the hand wheel or crank to rotate the fuel assembly. The persons performing the inspections and the rotation of the fuel assembly described their activities differently. Many fuel assemblies have been found to be difficult to rotate, and they have commonly used an attachment at the top of the fuel assembly and a second person to aid in the rotation of the

fuel assembly. The procedure does not address the use of that tool or any actions to be taken in the event a fuel assembly cannot be rotated in accordance with the design of the LST. Technical Specification 6.4.1 for this facility requires in part that the station be operated and maintained in accordance with approved procedures. Contrary to this requirement procedure PT/O/A/120/1 was not followed in the rotation of the fuel assembly in the line scan tester. The licensee was informed at the exit interview that this was an item of noncompliance.

6. Preparation for Refueling (Unit 1)

The completed copy of OP/O/A/1503/1, "Preparation for Refueling" was reviewed by the inspector. Facility Technical Specification 6.1.2.1 requires in part that temporary changes to procedures be approved by two members of the station staff at least one of whom holds a senior reactor operator's license on the unit affected, and that such procedure changes be reviewed within 7 days by the station manager or his designee. Contrary to the Technical Specification, changes were made in the conduct of Enclosures 9.4 and 9.6 to the procedure referenced above. These changes, made by the person conducting the checkout of the transfer of the fuel carriage from one unit to another and of the control rod mast, were noted in the body of the procedure, by attachment thereto, but were not reported to supervision. A request for a change was not processed in either case. The licensee was informed at the exit interview that this was an item of noncompliance.

From further review of procedure and discussion with plant personnel, the inspector concluded that the functional check of the refueling system interlocks, as required by Technical Specification 4.1, was satisfactorily accomplished by the procedure completion.

Review of OP/O/A/1502/07, "Refueling Procedure," confirmed that prior to initiating refueling activities radiation monitors, reactor building purge system, spent fuel pool ventilation system, spent fuel cooling system, communications among the various refueling stations, core cooling systems and refueling pool boron concentrations conformed to the requirement of Technical Specification 3.8.

7. Refueling Activities (Unit 1)

The inspector observed that the step by step manipulations of the fuel assemblies was being carried out in accordance with an approved procedure, specifically Enclosure 4.2 to OP/O/A/1502/07. Review of

other enclosures to that procedure confirmed that boron concentrations were being maintained as required and that valve positions were being maintained and verified with the required frequency and the reactor cooling system temperature was being monitored and maintained at the temperature required by Technical Specification 3.8. The inspector observed some of the fuel handling operations conducted both in the reactor building and in the control room. Observations confirmed that the proper numbers of the licensed people were deployed as required by Technical Specification 6.1. He further observed that equipment hatches, personal air-locks were maintained in the condition required during refueling by Technical Specification 3.8.

8. Monitoring for Reactor Cooling System Leaks

The inspector discussed with operations personnel the procedures and methods used to detect reactor cooling system leaks by means of a system sensitive to radioactivity as required by Technical Specification 3.1.6.7. The licensee identified RIA-47, the building particulate monitor, as the radioactive detection system used in each unit. The inspector confirmed by observation of that instrument in Unit 3, the only unit at full power, that the instrument was "on scale" with significant range remaining before going "full scale."