



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

Report Nos.: 50-269/78-33, 50-270/78-31 and 50-287/78-33

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

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

Licensee: Duke Power Company
Post Office Box 2178
422 Church Street
Charlotte, North Carolina 28242

Facility Name: Oconee Units 1, 2 and 3

Inspection at: Oconee Site, Seneca, South Carolina

Inspection conducted: November 27 - December 1, 1978

Inspectors: A. H. Johnson
E. H. Brooks

Accompanying Personnel: None

Approved by: *R. D. Martin*
R. D. Martin, Chief
Nuclear Support Section No. 1
Reactor Operations and Nuclear Support Branch

12/26/78
/Date

Inspection Summary

Inspection on November 27 - December 1, 1978 (Report Nos. 50-269/78-33, 50-270/78-31 and 50-287/78-33)

Areas Inspected: Routine, unannounced inspection of plant surveillance program of pipe support and restraint systems and plant maintenance program. The inspection involved 68 inspector-hours on-site by 2 NRC inspectors.

Results: In the areas inspected, no items of noncompliance or deviations were identified.

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DETAILS I

Prepared by:

E. H. Brooks
E. H. Brooks, Reactor Inspector
Nuclear Support Section No. 1
Reactor Operations and Nuclear
Support Branch

12-22-78
Date

A. H. Johnson
A. H. Johnson, Reactor Inspector
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12-26-78
Date

Dates of Inspection: November 27 - December 1, 1978

Reviewed by:

R. D. Martin
R. D. Martin, Chief
Nuclear Support Section No. 1
Reactor Operations and Nuclear
Support Branch

12/26/78
Date

1. Persons Contacted

- *J. E. Smith, Manager
- *S. Baldwin, Jr., Engineer
- *R. T. Bond, Licensing and Projects Engineer
- *D. J. Vito, Licensing Engineer
- *D. M. Thompson, Mechanical Maintenance Engineer
- *J. M. Davis, Superintendent of Maintenance
- *R. J. Brackett, Quality Assurance
- *B. W. Carney, Assistant Engineer, Maintenance

*Denotes those present at exit interview.

2. Licensee Action on Previous Inspection Findings

Not Applicable

3. Unresolved Items

Unresolved items are matter about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance or deviations. An unresolved item disclosed during the inspection is discussed in paragraph 5.d.

4. Exit Interview

The inspectors met with the licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on December 1, 1978. All items presented in these details were discussed. With regard to the unresolved item, the commitments and agreements as stated by the licensee are identified and discussed in paragraph 5.

5. Inspection of Pipe Support and Restraint Systems

The inspectors reviewed the licensee's surveillance and maintenance procedures for safety-related hydraulic supports and restraints. Subsequent to review of the procedures, visual inspections were conducted of both accessible and inaccessible (within the reactor building) restraints installed in Unit 2, which was in a refueling outage. Accessible restraints were inspected on units 1 and 3. Procedures were reviewed, and inspections conducted as follows:

a. Procedures Reviewed

- MP/2/A/3000/12 - Inspection of Inaccessible Hydraulic Suppressors on Unit 2
- MP/0/A/3000/12 - Functional Testing of Hydraulic Suppressors
- MP/1/A/3000/12B - Inspection of Accessible Hydraulic Suppressors on Unit 1
- MP/2/A/3000/12B - Inspection of Accessible Hydraulic Suppressors on Unit 2
- MP/3/A/3000/12 - Inspection of Inaccessible Hydraulic Suppressors on Unit 3
- MP/3/A/3000/12B - Inspection of Accessible Hydraulic Suppressors on Unit 3
- MP/0/A/3000/24 - Removal, Reinstallation and Repair of Structural Connections
- MP/0/A/3000/26 - Repair and Functional Test of Hydraulic Suppressors (Miller Cylinder Design)
- MP/0/A/3000/27 - (Tompkins - Johnson Cylinder Design)
- MP/0/A/3000/28 - (Lynair Cylinder Design)

- MP/O/A/3000/29 - Calibration of Suppressor Test Machine
- MP/O/A/3000/30 - Repair of Snubber Valve and Function Test of Hydraulic Suppressor
- MP/O/A/3000/34 - Inoperative Suppressor Records

Review of the above documents confirm that the licensee is in compliance with surveillance requirements for hydraulic snubbers as stated in the Technical Specifications as regards inspection interval and functional testing requirements. The documents confirm that acceptance criteria is identified for lockup rate, bleed rate and reservoir fluid level, and that corrective action is taken to repair or replace inoperable snubbers.

Following is a summary of the visual inspections documented by the licensee:

Unit 1 - Accessible Snubbers

<u>Date</u>	<u>Inoperable Snubbers</u>	<u>Next Inspection</u>
12/20/76	2	6/20/77 ± 25%
08/8/77	0	8/08/78 ± 25%
09/10/77	0	9/10/78 ± 25%
02/15/78 (Unplanned Inspection)	1	9/10/78 ± 25%
05/5/78	0	5/05/79 ± 25%

Unit 1 - Inaccessible Snubbers

12/20/76	4	4/21/77 ± 25%
03/3/77	0	7/03/77 ± 25%
8/11/77	0	2/11/78 ± 25%
9/19/77	0	3/20/78 ± 25%
05/1/78	1	5/1/79 ± 25%

Unit 2 - Accessible Snubbers

<u>Date</u>	<u>Inoperable Snubbers</u>	<u>Next Inspection</u>
12/20/76	0	12/20/77 ± 25%
06/9/77	0	6/09/78 ± 25%
7/18/77	0	7/18/78 ± 25%
09/6/77 (Unplanned Inspection)	1	7/18/78 ± 25%
05/4/78	0	5/4/79 ± 25%

Unit 2 - Inaccessible Snubbers

12/20/76	4	04/21/77 ± 25%
06/8/77	0	12/8/77 ± 25%
7/19/77	0	1/19/78 ± 25%
11/8/77	0	5/9/78 ± 25%
01/5/78	0	01/5/79 ± 25%
11/8/78	0	5/9/80 ± 25%

Unit 3 - Accessible Snubbers

<u>Date</u>	<u>Inoperable Snubbers</u>	<u>Next Inspection</u>
8/11/77	0	9/9/78 ± 25%
10/24/77	0	4/24/79 ± 25%
11/22/77	0	5/23/79 ± 25%
11/20/78 (Unplanned Inspection)	1	5/23/79 ± 25%

Unit 3 - Inaccessible Snubbers

2/16/77	2	8/17/77 ± 25%
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7/19/77	0	7/19/78 ±	25%
10/26/77	0	10/26/78 ±	25%
11/3/77 (Unplanned Inspection)	1	10/26/78 ±	25%
11/25/77	0	11/25/78 ±	25%
06/28/78	0	06/28/79 ±	25%

Cursory review of functional testing of hydraulic snubbers for Units 1, 2, and 3 provided assurance that tests were being performed in accordance with the licensees Technical Specifications and maintenance procedures.

b. Inspections Conducted

The inspectors, accompanied by the resident reactor inspector, examined inaccessible hydraulic snubbers in the Unit 2 reactor building. During the inspection several snubbers were found to have low levels in the fluid reservoirs. Reexamination of the licensees documentation of visual inspection for unit 2 showed that during the most recent inspection performed November 11, 1978, no inoperable snubbers were identified. On the basis of these findings, it was decided to conduct an inspection on as many accessible snubbers as physically possible on units 1, 2 and 3 and inaccessible snubbers on unit 2 in addition to those already inspected.

The results of these inspections provided the following findings:

- Unit 2 - Inaccessible safety related snubbers: 5 snubbers with empty integral reservoirs, 3 snubbers with empty remote reservoirs and loose nuts and clevis on several snubbers
- Unit 2 - Accessible safety related snubbers: 2 snubbers with inverted integral fluid reservoirs, 1 snubber with possible seal deterioration (identified as snubber # H-43)
- Unit 1 - Accessible safety related snubbers: 1 snubber with possible seal deterioration (identified as # H-40), and loose nuts and clevis on several snubbers
- Unit 3 - Accessible safety related snubbers: loose nuts and clevis' on several snubbers

c. Additional Items Discussed

In addition to the above findings the following items were brought to the attention of the licensee:

- 1) A general condition of what appeared to be seal deterioration or contamination was observed on non-safety related snubbers.
- 2) Guidelines are not included in the snubber procedures for selection of snubbers for testing.
- 3) Temperature correction factors are not utilized during functional testing of snubbers.

The licensee confirmed that these items would be given further consideration.

d. Unresolved Item

Unresolved Item: The matter of inoperable snubbers in unit 2 as identified by the NRC inspectors, as compared to the licensee recent (November 11, 1978) inspection documentation presents a conflicting inspection status and is considered to be an unresolved item subject to subsequent review of the following items by NRC (50-270/78-01). The licensee agreed to:

- 1) Provide a report to NRC Region II concerning inoperable snubbers as required by the Technical Specifications.
- 2) Conduct a 100% inspection of all snubbers on Unit 2.
- 3) Provide assurance that snubbers in units 1 and 3 are not similarly affected (as in unit 2).
- 4) Submit confirmation that all safety related snubbers are equipped with ethylene propylene seals.
- 5) Provide assurance that seals on unit 1 snubber # H-40 and unit 2 snubber # H-43 have not deteriorated.

e. Subsequent Telephone Communication

On December 4, 1978 the licensee provided by telephone conversation the following information:

- 1) During December 2 and 3 a 100% inspection of all snubbers on unit 2 was conducted. 5 snubbers were declared inoperable due to reservoir damage and fluid leakage due to maintenance activities during the refueling outage. The 3 snubbers with remote reservoirs were low on fluid but were considered operable and were refilled. The 5 inoperable snubbers were removed, refilled with fluid, functionally tested and disassembled to check the seals. All 5 units were tested successfully and the seals were found to be acceptable. Spare units were installed in unit 2 in place of those removed.
- 2) During December 2 and 3 a 100% inspection of units 1 and 3 accessible snubbers was performed. No inoperable snubbers were identified. Attempts to view by remote camera, the inaccessible snubbers in unit 3, showed 9 snubbers properly installed, but fluid level in the reservoirs could not be determined. The licensee will perform a 100% inspection of the inaccessible snubbers during the next outage.
- 3) The licensee will revise the snubber inspection schedule on unit 2 in accordance with the technical specifications such that the inaccessible snubbers will be on a 2 months schedule, and the accessible snubbers will be on a 12 month schedule.
- 4) The licensee will remove, disassemble and inspect the snubber seal for deterioration on unit 2 snubber # H-43.
- 5) The licensee will remove and test for operability the inverted snubber in which the reservoir outlet hole was uncovered. Discussion between the licensee and snubber vendor indicates that inverted snubbers are operable only if the reservoir outlet hole is covered with fluid.
- 6) During subsequent refueling outages when snubber inspections are scheduled the licensee will perform visual inspections after plant shutdown and again prior to startup.

6. Maintenance Activities

The inspectors conducted a review of the following maintenance activities:

a. Work Request

Title

50149

Repair of Suppressor 1-01A-0-550-R2
Support Plate

55026A	Perform Preventive Maintenance on all Hydraulic Suppressors and Restraints
52463	Perform 10% Inspection of Hydraulic Suppressors
51935	Inspect all safety related Hydraulic Suppressors
51439	Inspect Inaccessible Hydraulic Suppressors
50143	Inspect Accessible Hydraulic Suppressors

b. Procedure

Title

TM/1/A/6000/2	Repair of Suppressor 1-01A-0-550-R2 Support
MP/0/A/3000/34	Inoperative Suppressor Records
MP/0/A/3000/24	Removal, Reinstallation and Repair of Structural Connections
MP/2/A/3000/12B	Inspection of Accessible Hydraulic Suppressors on Unit 2
MP/2/A/3000/12	Inspection of Inaccessible Hydraulic Suppressors on Unit 2
MP/0/A/3000/12	Functional Testing of Hydraulic Suppressors
MP/0/A/3000/30	Repair of Snubber Valve and Functional Test of Hydraulic Suppressor

c. Maintenance Activity Reviews and Acceptance Criteria

The maintenance activities of 6.a and 6.b above were reviewed by the inspectors to verify that:

- The maintenance activities were accomplished using approved procedures by qualified personnel.

- The required administrative approvals were obtained prior to initiating maintenance activities.
- The maintenance activities were inspected in accordance with the licensee's requirements.
- Provisions for assuring that system valves, breakers, etc., are aligned for normal service.
- Provisions for testing equipment following maintenance.

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

- Technical Specifications
- Final Safety Analysis Report
- ANSI 18.7-1972
- Nuclear Station Directives 3.3.5, 3.3.15, and 3.11.4
- Administrative Policy Manual, Section 3.3, 4.2, and 4.7

d. Findings

Findings were acceptable with the exception of items addressed in Section 5 of this report.