



UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION II - SUITE 818
230 PEACHTREE STREET, NORTHWEST
ATLANTA, GEORGIA 30303

TELEPHONE: (404) 526-4503

RO Inspection Report No. 50-269/73-9

Licensee: Duke Power Company
Power Building
422 South Church Street
Charlotte, North Carolina 28201

Facility: Oconee Unit 1
Docket No.: 50-269
License No.: DPR-38
Category: B2

Location: Seneca, South Carolina

Type of License: B&W, PWR, 2568 Mw(t)

Type of Inspection: Routine, Unannounced

Dates of Inspection: August 13-17, 1973

Dates of Previous Inspection: July 17-20, 1973

Principal Inspector: F. Jape, Reactor Inspector
Facilities Test and Startup Branch

Accompanying Inspector: C. M. Campbell, Reactor Inspector
Facilities Test and Startup Branch

Other Accompanying Personnel: None

Principal Inspector: Frank Jape 8-23-73
F. Jape, Reactor Inspector Date
Facilities Test and Startup Branch

Reviewed By: C. E. Murphy 8/23/73
C. E. Murphy, Chief Date
Facilities Test and Startup Branch

7911270 635 Q

SUMMARY OF FINDINGS

I. Enforcement Action

A. Violations

None

B. Safety Items

None

II. Licensee Action on Previously Identified Enforcement Matters

A. Violations

Not inspected.

B. Safety Items

None

III. New Unresolved Items

73-9/1 ROB 73-3, Defective Hydraulic Shock Suppressors and Restraints

(Details I, paragraph 2)

73-9/2 Administrative Procedures

A review of administrative procedures and instructions currently in effect revealed the failure of three procedures to be in complete agreement with Regulatory Guide 1.33. (Details I, paragraphs 12.g, i, and k)

IV. Status of Previously Reported Unresolved Items

73-8/1 Failure of Reactor Building Spray Valves to Open During ES System Testing

Corrective actions described in DFC's report, dated May 4, 1973, were reviewed during this inspection. RO:II has no further questions on this item. (Details I, paragraph 11)

73-7/1 Main Steam Relief Valves Popping on Trip from 15%
Reactor Power

An unusual event report is being prepared by the licensee regarding the main steam relief valves popping on a trip from 15% reactor power. The report is expected by September 24, 1973.

73-6/1 Use of Miscellaneous Tests

The plant superintendent has issued an interstation letter, dated June 22, 1973, to supervisors and test coordinators on the subject of miscellaneous tests. The inspector reviewed this instruction and had no further questions. This item is resolved. (Details I, paragraph 3)

73-4/2 Inverse Multiplication Plots

The licensee has provided information regarding planned changes to resolve this item. The inspector reviewed these plans and has no further questions. This item is resolved. (Details I, paragraph 4)

73-4/1 Reactor Coolant Pump Flow

Not inspected.

71-10/1 Flow Meter Error Analysis and Tests

Not inspected.

71-7/1 Thin Walled Valves (RO Report No. 50-269/71-5, Details C.3)

Not inspected.

7. Unusual Occurrences

A. AO-269/73-2, "Incore Instrument Tube Leak"

Corrective actions described in DPC's report, dated July 17, 1973, were reviewed during this inspection and RO:II has no further questions. (Details I, paragraph 5)

B. AO-269/73-3, "Failure to Maintain Containment Integrity"

Corrective actions described in DPC's report, dated July 10, 1973, were verified during this inspection, and RO:II has no further questions. (Details I, paragraph 6)

C. AO-269/73-4, "Reactor Coolant Instrumentation Tubing Leak"

Corrective actions described in DPC's report, dated July 27, 1973, were verified during this inspection, and RO:II has no further questions. (Details I, paragraph 7)

D. UE-269/73-5, "Failure of Onsite Power Source to Start on Signal"

Corrective actions described in DPC's report, dated August 6, 1973, were verified during this inspection, and RO:II has no further questions. (Details I, paragraph 7)

E. UE-269/73-6, "Improper Review of a Station Modification"

Corrective actions described in DPC's report, dated July 30, 1973, were verified during this inspection, and RO:II has no further questions. (Details I, paragraph 8)

F. UE-269/73-7, "Failure of an Engineered Safeguards Valve to Close on Signal"

Corrective actions described in DPC's report, dated July 31, 1973, were verified during this inspection, and RO:II has no further questions. (Details I, paragraph 9)

G. UE, "Failure to Perform a Periodic Test"

Corrective actions described in DPC's report, dated July 10, 1973, were verified during this inspection, and RO:II has no further questions. (Details I, paragraph 10)

VI. Other Significant FindingsA. Power Ascension Testing Status

Testing is currently being conducted at 95% reactor power. A reactor power level of 95% was reached at 1:00 p.m. on August 10, 1973.

B. Personnel Changes

The following personnel changes were announced August 2, 1973:

1. M. D. McIntosh promoted to Assistant Plant Superintendent at DPC's McGuire Station.
2. L. E. Schmid promoted to Operating Engineer at the Oconee Station.
3. T. L. McConnell promoted to Assistant Operating Engineer at the Oconee Station.
4. C. Yongue promoted to Assistant Health Physics Supervisor (new position).

VII. Management Interview

A management interview was held on August 17, 1973 with the following in attendance:

Duke Power Company (DPC)

J. E. Smith - Plant Superintendent
J. W. Cox - Assistant Plant Engineer
T. L. Cotton - Junior Engineer

The following items were discussed:

A. Reportable Events

The status of three abnormal occurrences and four unusual events was discussed. (Details I, paragraphs 5 through 10)

B. Review of Administrative Procedures

The inspector stated that he had reviewed the administrative procedures currently in effect with those described in Regulatory Guide 1.33. There are three procedures lacking. The licensee's representative stated that these would be prepared by September 20, 1973. (Details I, paragraph 12)

C. Previously Reported Unresolved Items

The status of previously reported unresolved items, as described in Section IV of the Summary of Findings, was discussed. (Details I, paragraphs 3, 4 and 11)

D. High Energy System Interim Measures

The inspector stated that he had reviewed compliance with the interim measures, presented in MDS Report OS-73.2, "Analysis of Effects Resulting From Postulated Piping Breaks Outside Containment," dated April 25, 1973, and Supplement 1, dated June 22, 1973. All measures were being fulfilled. (Details I, paragraph 13)

E. Surveillance Testing

The program for surveillance testing and calibration was reviewed by the inspector. Also, audits performed by the QA group were reviewed and no discrepancies were found. (Details I, paragraph 14)

F. Licensee's Program for Personnel Monitoring

The inspector stated that he had reviewed the program for use and evaluation of TLD's and had no comment or questions regarding the program. (Details II, paragraph 8)

G. Liquid Waste Disposal Operating Experience

The operating experience regarding liquid waste disposal was reviewed by the inspector. The releases and processing were found to be within allowable technical specifications. (Details II, paragraph 9)

H. Potential for Unscheduled Release of Radioactive Liquid Waste

The inspector reviewed the licensee's progress regarding action on the letter from R. C. DeYoung, L, to A. C. Thies, DPC, dated July 19, 1973. (Details II, paragraph 10)

DETAILS I

Prepared By: Frank Jape 8-24-73
 F. Jape, Reactor Inspector Date
 Facilities Test and Startup
 Branch

Dates of Inspection: August 13-15 and 17
 1973

Reviewed By: C. E. Murphy 5/27/73
 C. E. Murphy, Chief Date
 Facilities Test and Startup
 Branch

1. Individuals Contacted
Duke Power Company (DPC)

J. E. Smith - Plant Superintendent
 J. W. Hampton - Assistant Plant Superintendent
 R. M. Koehler - Technical Support Engineer
 O. S. Bradham - Instrument and Control Engineer
 G. W. Cage - Assistant Operating Engineer
 J. W. Cox - Assistant Plant Engineer
 R. C. Collins - Performance Engineer
 D. J. Rains - Assistant Plant Engineer
 R. J. Brackett - Junior Engineer
 E. Hitt - Junior Engineer
 W. A. Brown - Chemist
 *E. Gladden - Superintendent Keowee Hydro Plant
 T. L. Cotton - Junior Engineer

*Contacted by phone

2. ROB 73-3, Defective Hydraulic Shock Suppressors and Restraints

Actions requested by Regulatory Operations Bulletin No. 73-3 were discussed and confirmed with the licensee's representative. DPC reported, by phone on July 27, 1973, that no Bergen-Paterson shock absorbers are utilized in the Oconee 1 facility. An inspection of the shock absorbers in use is planned for the next outage, tentatively scheduled for August 17, 1973, and a report on the findings is to be submitted within 10 days of the inspection.

This item has been added to the unresolved items list, No. 73-9/1, pending final resolution.

3. Use of Miscellaneous Tests

The inspector reviewed an interstation letter, dated June 22, 1973, issued by the plant superintendent to supervisors and test coordinators. The instruction emphasized that safety related test procedures must be reviewed and approved according to Sections 4.3 and 4.4 of the Administrative Policy Manual for Operations Quality Assurance of Nuclear Stations (APM/NS). Failure to adhere to the referenced instructions could result in a violation of Appendix B to 10 CFR 50.

During a previous inspection, ^{1/} the use of miscellaneous tests was questioned by the inspector. This subject was carried as Unresolved Item No. 73-6/1. The inspector has no further questions on this item. Unresolved Item No. 73-6/1 is considered resolved.

4. Inverse Multiplication Plots

Information has been provided by the licensee regarding planned changes to increase the sensitivity of the source range detectors to multiplication neutrons to provide a more linear inverse multiplication plot for predicting criticality.

Basically the plans are to:

- a. Add moderator around each of the source range detectors to increase their effective sensitivity. To preserve overlap between source and intermediate range channels, moderator will be added around each intermediate range detector.
- b. To eliminate the source masking, the sources in the reactor will be relocated to positions which are further removed from the source range chambers.

With this information, the previously identified unresolved item, 73-4/2, is considered resolved. Followup on this item for Oconee 2 will be covered in the RO inspection reports for Oconee 2.

^{1/} RO Inspection Report No. 50-269/73-6, Details, paragraph 3.

5. AO-269/73-2, "Incore Instrument Tube Leak"

The corrective action described in the licensee's report, dated July 17, 1973, was reviewed by the inspector. Temporary repair, by freeze sealing the line below the leak, was accomplished on May 19, 1973. Permanent repairs were completed on June 29, 1973, while the reactor was in a cold shutdown condition. The permanent repair resulted in Incore Monitor Tube No. 46 being removed from service.

The inspector had no further questions on this item.

6. AO-269/73-3, "Failure to Maintain Containment Integrity"

The corrective action described in the licensee's report, dated July 10, 1973, was reviewed by the inspector.

Operating Procedure 1102/01 "Controlling Procedure for Unit Startup," has been revised to require a check of the containment isolation valve LRT-17 prior to criticality. In addition, Station Problem Report 184 has been issued, on July 18, 1973, to study the possibility of replacing the isolation valve by a spring-close type in place of the air-to-close type currently in use.

The inspector determined that DPC has implemented the corrective action as stated in the incident report, and has no further question on this matter.

7. AO-269/73-4, "Reactor Coolant System Instrumentation Tubing Leak"

The corrective action described in the licensee's report, dated July 27, 1973, has been reviewed by the inspector.

The leak was isolated and repaired by welding. The inspector reviewed the request for repairing the leak, Form L-20, and the record of the weld repair, Form M-30 A.

The inspector determined that DPC has implemented the corrective action as stated in the incident report, and has no further questions on this matter.

7. UE-269/B-5, "Failure of On Site Power Source to Start on Signal"

The corrective actions described in the licensee's report, dated August 6, 1973, were reviewed by the inspector.

All connections on the terminal block related to operation of the shutdown solenoid have been tightened. The licensee's representative has stated that the connections on both Unit 1 and Unit 2 have been checked and will be rechecked for tightness periodically.

The inspector determined that DPC has implemented the corrective actions as stated in the incident report, and has no further questions on this matter.

8. UE-269/73-6, "Improper Review of a Station Modification"

The corrective actions described in the licensee's report, dated July 30, 1973, were reviewed by the inspector.

A letter has been issued by E. D. Powell, to other component groups within DPC, on July 16, 1973, describing a revised method for handling station modifications.

The plant superintendent of the Oconee Nuclear Station has issued a letter to vendors currently involved with Oconee, on August 14, 1973, discussing control of design changes, modifications and repairs to equipment that have been transferred to the Oconee Nuclear Station, Steam Production Department. Both of these documents were reviewed by the inspector and it was determined that DPC has implemented the corrective actions as stated in the incident report. The inspector has no further questions on this matter.

9. UE-269/72-7, "Failure of an Engineered Safeguards Valve to Close on Signal"

The corrective actions described in the licensee's report, dated July 31, 1973, were reviewed by the inspector.

The pin on CC-8 has been removed. In addition, the review of all other similar valves has been completed resulting in removal of pins from RC-7 and FDW-106 valves.

The inspector determined that DPC has implemented the corrective actions as stated in the report and has no further questions regarding this matter.

10. UE, "Failure to Perform a Periodic Test"

The corrective action described in the licensee's report, dated July 10, 1973, was reviewed by the inspector.

The assignment for performing PT 610/2, "External Grid Trouble Protective System Logic," has been made within the Technical Support Section. The inspector also reviewed the master schedule for surveillance testing. Findings are reported in Details I, paragraph 14.

The inspector determined that DPC has implemented the corrective action as stated in the incident report and has no further questions on this matter.

11. Failure of Reactor Building Spray Valves, BS-1 and BS-2, to Open During Engineered Safeguards System Testing

During a previous inspection, ¹/the inspector found that all corrective actions contained in the licensee's report had not been fully implemented. A follow up review was made and the following operating procedures have been revised to include a statement requiring any engineered safeguards valve that has been operated manually to be cycled electrically to assure its operability.

OP 1104/5 "Reactor Building Spray System"
OP 1104/8 "Comonet Cooling System"
OP 1104/1 "LP Service Water System"

With the completion of this item, the inspector had no further questions regarding the corrective actions on this unusual event. The previously reported unresolved item, 73-8/1, is considered resolved.

12. Review of the Administrative Procedures for Implementing the Quality Assurance Program

The inspector reviewed administrative instructions and procedures which have been prepared by the licensee for implementation of the quality assurance program. The findings of this review are summarized below:

a. Security and Visitor Control

A memorandum was issued November 17, 1973, delineating the procedure to be used for visitor control. The procedure has been in effect since that date and the inspector has no questions regarding its use and effectiveness.

b. Authorities and Responsibilities for Safe Operation and Shutdown

The licensee has provided Administrative Procedures No. 3, "Actions To Be Taken In Case of Exceeding Limits," No. 4, "Duties of the Control Operator on the Control Board," and No. 7, "Reasons for Notifying the Operating Engineer or Superintendent." The inspector reviewed these three procedures and had no questions or comment.

c. Equipment Control (e.g., Locking and Tagging)

Administrative Procedure No. 2, "Tagging, Delineation, and Safety," has been provided by the licensee. This procedure has been reviewed by the inspector and there were no questions or comments.

d. Procedure Adherence and Temporary Change Method

Administrative Procedure No. 8, "Procedures," has been provided by the licensee to require adherence to procedure. Instructions for making temporary changes are also covered. The inspector had no comment or question regarding this procedure.

e. Procedure Review and Approval

Section 4.4, "Administrative Instructions for Permanent Station Procedure," of APM/NS provides the necessary instruction for procedure review and approval. The inspector had no comment or question on this item.

f. Schedule for Surveillance Tests and Calibration

The licensee has a program for surveillance testing and calibration. The program is designed to ensure that all tests required by the Technical Specifications are assigned to a component of the station organization. Periodic tests and instrument procedures, listed in the master index, which are not a part of the Technical Specifications are also assigned to a group for completion.

The current status of surveillance tests and calibrations was recently audited by the QA group and the inspector reviewed these audit reports. The findings indicated that all tests are being done on schedule. The inspector had no further questions on this item.

g. Shift and Relief Turnover

A written procedure has not been prepared yet. The licensee's representative has stated that an administrative procedure will be issued by September 20, 1973. This item will be carried as UN 73-9/2 pending final resolution.

h. Log Entries and Record Retention

The license has issued Standing Orders 8, "Shift Supervisor's Log," and 9, "Reactor Operation Log." These instructions were reviewed by the inspector. There were no comments or questions regarding these items.

i. Access to Containment

A specific, written procedure for this item has not been prepared yet. Access to the containment is under the control of the shift supervisor. The containment doors are locked and the shift supervisor has the key. The licensee's representative has stated that an administrative procedure will be prepared for this item. Issuance is expected by September 20, 1973. This item will be carried as UN 73-9/2 pending final resolution.

j. Bypass of Safety Function and Jumper Control

The licensee has provided MP 1400/20, "Electrical Interlock and Circuit By-Pass Procedure." This maintenance procedure specifies the details and requirements for bypassing or lifting leads for all safety related equipment. The inspector had no comment or question regarding this item.

k. Recall of Standby Personnel to Plant

A formal, written procedure for this item has not been prepared yet. The licensee's representative has indicated that such a procedure will be prepared and reviewed by September 20, 1973. This item will be carried as UN 73-9/2 pending final resolution.

13. Protective Interim Measures for High Energy Systems

MDS Report No. OS-73.2, "Analysis of Effects Resulting from Postulated Piping Breaks Outside Containment for Oconee Nuclear Stations, Units 1, 2, and 3," dated April 25, 1973, presents interim measures to be taken prior to the completion of design changes which are described within the report. The inspector reviewed records and physically examined appropriate measures to determine compliance with the requirements described in Section 4.1 of the referenced report.

PT 250/11, "Main Steam, Auxiliary Steam, Condensate and Feedwater Line Inspection," has been prepared by the licensee to describe and record the results of these measures. The inspector reviewed the records between June 2, 1973, and August 15, 1973, and found that all required checks and inspections have been done.

14. Surveillance Testing

The licensee's program for scheduling surveillance tests and calibrations was reviewed by the inspector. The required tests have been assigned to the appropriate groups within the Oconee Nuclear Station organization. Each group has the responsibility for performing the tests on schedule.

Performance is reviewed by the onsite QA Group. The records of a recent audit, performed by this QA group, were reviewed by the inspector and the findings are summarized below:

<u>Group</u>	<u>Date of Audit</u>	<u>Finding</u>
Operations	June 26, 1973	No Discrepancies
Chemistry and Health Physis	April 27, 1973	" "
Instrumentation	July '20, 1973	" "
Performance	July 20, 1973	" "
Maintenance	May 14, 1973	" "

DETAILS II

Prepared by:

C. M. Campbell
C. M. Campbell, Radiation Specialist
Radiological and Environmental
Protection Branch

8/23/73
Date

Dates of Inspection: August 14-16, 1973

Reviewed by:

J. T. Sutherland
J. T. Sutherland, Acting Chief
Radiological and Environmental
Protection Branch

8/23/73
Date

1. Individuals Contacted (All Duke Power)

J. E. Smith - Plant Superintendent
R. M. Koehler - Technical Support Engineer
G. T. Yongue - Assistant Health Physics Supervisor
G. Cage - Assistant Operating Engineer
R. Leonard - Labman
J. Itin - Labman

2. Organizational Changes

The inspector was informed that a new position of Assistant Health Physics Supervisor had been created and filled by the promotion of C. Yongue from Health Physics Technician.

3. Spent Resin Transfer Procedure Including Storm Drain Protection

Approved procedures for the transfer of spent resin have been completed. The Unit 1 Purification Demineralizer Resin Removal and Replacement Procedure (OP/1/A/1104/23) had been reviewed during a previous inspection. Discussions with licensee representatives and observations of the inspector showed that measures have been taken to prevent the inadvertent introduction of contamination into the storm drain located where the truck mounted cask for receiving spent resin would be parked. A steel cover has been placed over the storm drain and sealed in place. In response to the inspectors pointing out a "hole" that had been "punched" through the asphalt and asking what they planned to do to preclude contamination of the ground under the asphalt a licensee representative stated that this damage had been done by a liquid waste tank truck and that they were presently evaluating additional modifications to this area.

4. Evaluation of Sample Delivery Line Losses

A licensee representative informed the inspector that the comparison sampling discussed in RO Report No. 50-269/73-1 (Details II, paragraph

13) has been completed for gaseous and particulates samples and the remaining halogen samples will be collected in the next two weeks. A licensee representative stated that initial evaluation indicates that no losses were observed. The data will be available on-site.

5. Details of Continuous Sampling During Releases from the Low Activity Waste Tank

Discussions with licensee representatives and review of liquid waste release records show that continuous sampling during releases from the Low Activity Waste Tank is being done and the samples are being analyzed. A continuous drip sample is obtained from the Low Activity Waste Tank Recirculation line during discharge. Examination of the liquid waste operating procedure showed that the collection of this sample has been incorporated into the procedure.

6. Sharp Angle Bends in the Reactor Building Sample Delivery Lines

Licensee representatives assured the inspector that the removal of all sharp angle bends in the sample delivery line between the Reactor Building and process monitors IRIA 47,48 & 49 has been completed. Observations by the inspector of the portions of the line in the vicinity of these process monitors showed that smooth bends had replaced the sharp angle turns.

7. Health Physics Training Records

Discussions with licensee representatives and examination of records during previous inspections showed that individual training files have been established.

8. Quality Assurance Methods in T.L.D. Program

A licensee representative stated that they have an existing program to assure themselves of the adequacy of TLD results. He stated that this has been done by sending spiked TLD's, through normal submission channels, to the vendor for evaluation. He further stated that they plan to continue this on a periodic basis.

9. Liquid Waste Operating Experience

Discussions with licensee representatives, review of waste release records and observations of the inspector provided the following summary of liquid waste operating experience: the licensee started shipping out liquid waste in vendor supplied tank trucks on June 27, 1973, and as of August 16, 1973, had shipped out 10 tanker loads (approximately 30,000 gallons) amounting to a total of about one curie of activity; a new liquid waste discharge line, providing the

capability for liquids to be discharged to the tank truck without using the resin transfer system, has been installed; licensee records showed that as of July 31, 1973, an additional 4.29×10^6 liters were discharged through normal discharge paths which contained 0.6 Ci of activity (excluding tritium and dissolved gases) as well as 17.9 Ci of tritium and 0.48 Ci of dissolved gases; a committee composed of licensee representatives, contractor representatives, and outside consultants has been formed to evaluate the liquid waste situation; the licensee has been working on the evaporators to obtain better performance, current DF's are in the $10^2 - 10^3$ range and additional modifications are planned to attempt to further increase the DF's obtained from the evaporators; and review of overall release data as well as individual batch release records showed that releases have been within applicable limits.

10. Review of Waste Overflow to Other Than a Controlled Water Pathway to the Environs

Review of Station Problem Reports showed that the licensee has initiated action to fulfill the review, requested by AEC/DOL, of the possibility of releasing radioactive liquid through an uncontrolled water pathway. Station Problem Report No. 211 recommended that the overflow line from each Borated Water Storage Tank be piped over to the nearby pipe trenches that drain to the Low Activity Waste Tank. The Station Problem Report also referenced the request of R. C. DeYoung, AEC/DOL, to review possible liquid releases to uncontrolled water pathways. The station problem report was reviewed and approved on August 7, 1973, by the Station Review Committee (SRC) as shown in SRC minutes numbered 73-85 which were reviewed by the inspector.

11. Independent Measurements Program

This program had been previously discussed with licensee representatives (See RO Report 50-270/73-6). During this inspection the inspector discussed the tentative sampling plans for Oconee with a licensee representative and no problems in implementing this program were identified.

12. Biological Shielding Survey

Discussions with a licensee representatives and review of survey data showed that the biological shielding survey for Unit 1 has been completed for 15%, 40%, 75%, and 95% power levels.

13. Health Physics Personnel

A licensee representative stated that all five Health Physics Shift Representatives (Operations personnel) had completed their

training and were now providing health physics coverage on all shifts. He also stated that two additional health physics laboratory assistants have been hired and that health physics personnel are no longer working shifts but are available on an on-call basis.