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

Report Nos.: 50-269/78-24, 50-270/78-23 and 50-287/78-24

Docket Nos.: 50-269, 59-270 and 50-287

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

Category: Safeguards, Group IV

Licensee: Duke Power Company
P. O. Box 2178
422 South Church Street
Charlotte, North Carolina 28242

Facility Name: Oconee Nuclear Station

Inspection at: Oconee Site

Inspection conducted: October 17-20, and November 1-3, 1978

Inspectors: J. W. Hodges
E. L. Clay

Reviewed by: G. H. Williams 11/24/78
G. H. Williams, Chief — Date
Materials Control and Accountability Section
Safeguards Branch

Inspection Summary

Inspection on October 17-20, and November 1-3, 1978 (Report Nos. 50-269/78-24, 50-270/78-23 and 50-287/78-24)
Areas Inspected: Facility organization, shipping and receiving, storage and internal control, inventory, records and reports, measurement and controls. The inspection involved 60 man-hours on site by two inspectors.
Results: No items of noncompliance were identified.

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DETAILS

Prepared by: G. Williams for J. W. Hodges, Safeguards Auditor — 11/24/78 Date
Materials and Accountability Section
Safeguards Branch

Dates of Inspection: October 17-20 and November 1-3, 1978

Reviewed by: G. Williams — 11/24/78 Date
G. H. Williams, Chief
Materials and Accountability Section
Safeguards Branch

1. Persons Contacted

J. E. Smith, Plant Superintendent
*R. M. Koehler, Superintendent Technical Services
*R. J. Brackett, Station Senior QA Engineer
*T. S. Barr, Performance Engineer
*R. T. Bond, Licensing and Projects Engineer
*T. E. Cribbe, Assistant Engineer Performance
*K. R. Wilson, Licensing
*D. J. Vitto, Licensing Engineer
B. DeNard, Performance Testman

*Denotes those present at the exit interview.

2. Facility Organization and Operation

The licensee is required under 10 CFR 70.51(e) to establish, maintain and follow written material control and accountability procedures which are sufficient to account for SNM in his possession.

Accountability control procedures were reviewed by the inspectors. These procedures have been approved by licensee management and are being followed.

Written statements of responsibility and authority have been established for those positions having responsibility for SNM receiving, shipping, inventory, storage, internal control and records and reports.

3. Shipping and Receiving

In accordance with 10 CFR 70.51(b) the licensee maintains records showing the receipt, shipment, and inventory (including location) of SNM in his possession.

4. Storage and Internal Control

In accordance with 10 CFR 70.51(b)(c) the licensee has established and is maintaining a system of internal control of fuel assemblies which provide knowledge of the quantity, identity, and current location of all fuel assemblies. Tests were made of internal control records on the movement and location of fuel assemblies and no major discrepancies noted.

5. Physical Inventory

The inventory of fuel assemblies consisted of a total of 1073 fuel assemblies on site as of October 19, 1978. There were 177 assemblies loaded to each reactor, 331 assemblies stored in spent fuel pool III, and 211 assesmblies stored in the spent fuel pool for Units 1 and 2.

Current schematics of each reactor core was obtained and checked against the reactor status board for each unit. A piece count of fuel assemblies stored in the basins was made and agreed with basin schematics which showed fuel assembly numbers and where they were stored.

Records in the files indicated that physical inventories have been conducted at intervals specified in 10 CFR 70.51(d).

6. Records and Reports

A 100% audit of transaction reports (Form 741) revealed that shipments and receipts have been reported as required and have been completed according to printed instructions.

Material status reports (Form NRC 742) issued by the licensee for the periods covered under this inspection were audited and found to be in in agreement with internal records and reports and to have been completed according to the printed instructions.

7. Measurement and Controls

Data for computing burnup in each of the three Oconee site reactors is continuously being collected by an on-line computer. The data from this computer is routinely removed once per month and transmitted for the Duke Power Company home office in Charlotte, North Carolina for performing burnup calculations for each operating unit at the Oconee site. Input and output data for burnup calculations is normally maintained at the Charlotte, North Carolina office and is only transmitted to the Oconee site upon request. Burnup for each of the three units is calculated on a by difference basis using the following formula BU-(BI+R)-(S+Decay+EI).

A sampling of the data used by the licensee to calculate burnup, for eleven fuel assemblies in Unit 3, was tested for the period of January 1, 1978 through June 1, 1978. The licensee reported value for these eleven fuel assemblies amounted to 35.9 MWD/KGU. The Region II calculated value for these eleven fuel assemblies amounted to 35.4 MWD/KGU. Data obtained from the RII calculations verify with 95% confidence that the average difference in the reported value for each fuel assembly is within the interval of -0.04 ± 0.08 MWD/KGU. No significant difference in the licensee's reported valves for burnup were detected.

8. Exit Interview

An exit interview was held on November 3, 1978 with those persons indicated in paragraph 1 to dicusss the findings of this inspection.