



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

Report Nos. 50-269/79-10, 50-270/79-10, and 50-287/79-10

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

Facility Name: Oconee Nuclear Station Units 1, 2, and 3

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

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

Inspection at Oconee Site near Seneca, South Carolina, and Duke Power Company  
 Offices, Charlotte, North Carolina

Inspectors:	<u>M.C. Ashenden for</u>	<u>6/5/79</u>
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	J. A. McDonald, Jr.	Date Signed
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	P. J. Kellogg, Section Chief, RONS Branch	Date Signed

SUMMARY

Inspection on April 26, 1979

538 083

Areas Inspected

This routine, unannounced inspection involved 155 inspector-hours onsite in the areas of procedures and activities implementing the Duke Power Company Quality Assurance Program in the areas of: QA Program - Annual Review; QA/QC Administration; design changes/modifications; procurement; receipt, storage, and handling; records; housekeeping and cleanliness; tests and experiments; offsite support staff; surveillance testing and calibration control; and Quality Assurance audits and surveillances. This inspection was conducted by five (5) NRC inspectors.

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Results

Of the 11 areas inspected, no apparent items of noncompliance or deviations were identified in seven (7) areas; four (4) apparent items of noncompliance were found in four (4) areas (Infraction - failure to follow procedures - Paragraphs 7.c, 7.e, 10.c, and 10.d. Infraction - failure to conduct audits - Paragraph 7.d; Deficiency - failure to review revised design changes - Paragraph 8.c; Deficiency - failure to label instruments - Paragraph 12.c.).

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## DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*R. C. Adams, I&E Engineer
- J. P. Akers, QA Supervisor - Civil/Electrical
- \*H. S. Alexander, Clerk
- \*J. O. Barbour, QA Manager, Operations
- C. Bell, QA Engineering Services Supervisor
- \*R. Bond, Licensing and Project Engineer
- \*R. Brackett, Senior QA Engineer
- D. Clandy, I&C Coordinator
- F. Davies, Performance Group
- \*J. Davis, Superintendent of Maintenance, Oconee
- T. Evans, Performance Group
- W. Farmer, Radiographer
- \*J. Frye, Senior QA Supervisor - Audit Division
- T. Glenn, I&C Associate Engineer
- J. Joiner, QA Assistant
- G. Long, Performance Group
- W. Martin, Planning - Materials Engineer
- \*T. Matthews, Station NSM Coordinator
- B. Owens, Performance Group
- \*J. Smith, Station Manager
- L. Summerlin, Senior Engineer, Station Support Section
- S. Suther, Associate Maintenance Engineer
- \*D. Vito, Licensing Engineer

Other licensee employees contacted during this inspection included technicians, operators, mechanics, and office personnel.

#### NRC Resident Inspector

F. Jape

\*Attended exit interview.

### 2. Exit Interview

The inspection scope and findings were summarized on April 6, 1979, with those persons indicated in Paragraph 1 above. The inspectors informed the licensee that the items which required management attention (identified in Paragraphs 10.f, 10.g, 12.d, and 12.e) would be inspected at a later date. In addition, the inspector followup items (Paragraphs 8.g, and 10.h) would be inspected to ensure implementation. The licensee acknowledged the inspectors' statements.

### 3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve noncompliance or deviations. New unresolved items identified during this inspection are discussed in Paragraphs 6.c., 6.e. through 6.h, 8.d, 8.e, 8.f, 10.e., and 14.c.

5. Quality Assurance Program Review

The licensee's "accepted Quality Assurance Program" for purposes of the review and for purposes of the inspection documented in this report is defined to mean, unless otherwise noted, the Program submitted by the licensee for review by the Commission and is the same as the one designated Duke 1-A, Revision 4, dated June 29, 1978.

The licensee's procedures that were rewritten as a result of the above revision to the Program were reviewed as each of the integral parts of the QA Program was inspected. The knowledge of the supervisors charged with implementation of these procedures was also verified during the conduct of the inspection areas documented elsewhere in this Report. Any programmatic weakness with either the procedures or the supervisors' understanding of the requirements is documented under the appropriate functional area.

6. QA/QC Administration

- References:
- (a) Oconee Nuclear Station Nuclear Safety Related Structures, Systems and Components, dated September 1975, with revisions through March 1979.
  - (b) Duke Power Company Steam Production Department Administrative Policy Manual for Nuclear Stations
  - (c) Duke Power Company - Quality Assurance Department Quality Assurance Program
  - (d) Duke Power Company Quality Control Procedure Manual

a. Program Review

The referenced documents were reviewed to verify that the licensee's Program clearly defined those structures, systems and components and other items and services to which the QA/QC controls are applied. In addition, the Program documents were reviewed to ascertain that procedures and responsibilities had been established for making changes to such listings. A review of the documents was also conducted to determine if methods were established to issue/revise/ control QA/QC procedures, to periodically evaluate the effectiveness of the QA/QC program and to provide additional emphasis where needed in problem areas, and to provide an evaluation of the overall effectiveness of the QA program.

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As a result of the above review, the inspector identified five (5) unresolved items as delineated in Paragraphs 6.c., 6.e., 6.f., 6.g., and 6.h., below.

b. Implementation

Implementation of Program controls was verified during the conduct of all the remaining inspection activities documented in this report.

c. Defining Organizations

Criterion II of 10 CFR 50, Appendix B requires regular review of the status and adequacy of the quality assurance program. It further requires that management of other organizations participating in the quality assurance program shall regularly review the status and adequacy of that part of the quality assurance program which they are executing. During this inspection, the inspector was shown a documented procedure for a corporate audit by an outside organization which required the review of the status and adequacy of the entire QA Program. However, there were no documented programs or procedures for other managers within the Duke Power Company to review the status and adequacy of that portion of the QA Program which they were executing. Although ANSI N45.2-1977 discusses the interdisciplinary aspects of QA and various "organizational components" and the assigning of responsibility within an organization, it does not clearly define how organizations are to be considered from the review requirements aspect discussed in the last paragraph of Section 2 of the Standard. However, a breakdown by assignment of areas of functional responsibilities is discussed in the second paragraph of Section 2. The Manager of Quality Assurance-Operations stated that an additional review of this area had been conducted by the quality assurance department following a previous NRC inspection which had identified this area of concern (Report 50-369/79-39, Item 369/78-39-01). As a result of that review, the licensee had determined that no additional controls were required.

Since the licensee has completed a review of this area, no additional action is required from him at this time. The licensee's review will be evaluated by NRC management and will be tracked for record purposes as an unresolved item (269-270-287/79-10-01).

d. Consumable/Expendable Items - Interior to Structures, Systems and Components

The March 1979 revision to reference (a) now includes consumable/expendable items interior to safety-related structures, systems and components. However, the control of these items at the Oconee site had not been implemented as of April 5, 1979. This item is discussed more fully in Paragraph 10.e., of this Report.

e. Consumable/Expendable Items - Exterior to Structures, Systems and Components

As mentioned above, the licensee had previously considered and listed as safety-related consumable expendable items which were part of safety-related structures, systems, and components. However, such items as chemicals and reagents used to verify Limiting Conditions for Operations (LCO's) required by Technical Specifications on various safety-related structures, systems, and components had not been previously considered.

Until the licensee completes a review of consumable/expendable items used to verify the functioning of safety-related structures, systems, and components and decides whether or not to include these items under all or a portion of his established QA programs, this item (269-270-287/79-10-02) is unresolved.

f. Cross-Reference Index

Section 5.1 of ANSI N18.7-1976 requires that a summary document shall be compiled by the licensee to identify the sources, to index such source documents to the requirements of the Standard, and to provide a consolidated base for description of the program. Section 2 of ANSI N45.2-1977 contains a similar requirement. The licensee has a cross-reference demonstrating Program elements that meet the 18 criteria of Appendix B, but did not have the more extensive index required by ANSI N18.7. The index was being prepared as of April 3, 1979.

Until the licensee provides the index and cross-referencing required by Section 5.1 of ANSI N18.7-1976, this item (269-270-287/79-10-03) is unresolved.

g. Failure to Control Quality Records

The inspector requested the qualification/certification records for the Lead Auditors involved in the conduct of the audits reviewed. The records were produced from a file cabinet which did not meet the requirements for record storage given in the accepted Quality Assurance Program. However, this same inadequacy had been documented during the conduct of a CASE audit of the licensee conducted on March 28, 1979.

Until the licensee has responded to the audit finding of CASE, and the corrective action relative to this finding has been implemented and reviewed, this item (269-270-287/79-10-04) is unresolved.

h. Definition of Activities Under the Quality Assurance Program

Items 1, 2, and 9 of Audit 0-78-6 identified concerns with Health Physics and Chemistry Procedures receiving controls as safety-related procedures, with requirements for those same procedures including qualitative and quantitative acceptance criteria, and with procurement

of external calibration services in accordance with quality assurance program controls. The fact that these three responses from the audited organization were considered deficient by the Quality Assurance Department when received in November of 1978 and no escalation action had been documented as of April 3, 1979, is addressed in Paragraph 7.c. of this Report. The ultimate resolution of these items will affect the applicability of the quality assurance program controls.

Until these items have been closed out by the licensee and the results of that closeout have been reviewed by NRC and found to be acceptable, this item (269-270-287/79-10-05) is unresolved.

## 7. Quality Assurance Audits and Surveillances

- References:
- (a) QA-130, Qualification and Training of Lead Auditors, Revision 3, dated 6/78
  - (b) QA-160, Performance of Corporate Quality Assurance Audits, Revision 0, dated 11/78
  - (c) QA-120, Department Audit Procedure, Revision 6, dated 10/78
  - (d) QA-230, Department Audit Scheduling and Follow-up, Revision 6, dated 10/78

### a. Program Review

The referenced documents were reviewed with respect to the Duke Topical QA Program and ANSI N45.2.12 (Draft 3, Revision 4, 1974) as committed to by that Program. The licensee's audit program was reviewed to ensure overall responsibilities were designated in writing; auditing personnel were adequately qualified; internal reviewing was provided; administrative channels were defined to correct deficiencies; and, that procedures/checklists were required to be used in the audit.

The inspector identified two (2) items of noncompliance discussed in Paragraphs 7.c. and 7.d. below.

### b. Implementation

The licensee's program of Quality Assurance Audits was reviewed, both at the Company's offices and at the Oconee Station, with respect to the licensee's implementing procedures referenced above. All outstanding audits of Oconee Station were reviewed to ensure checklists/procedures were prepared properly; qualified auditors were employed; deficiencies found were resolved or carried as "open items"; written reports were generated; written responses were obtained; and, the audit program was evaluated by management.

During discussions with the Oconee Station Senior QA Engineer and his people, the inspector addressed the on-site surveillance program with regard to its functional capacity within the QA organization. Since the licensee's implementing station procedures for surveillance do not specify a schedule or frequency for reaudit, corrective action or audited organization response times, the potential exists for deficiencies at the site level to be found but not corrected in a prompt manner. The surveillance system in effect at the present time provides no NRC-related official audit function and appears to lack the necessary controls to ensure that prompt corrections are initiated. The inspector commented upon the subject and received acknowledgement by the QA Manager-Operations that these were points to be considered. The lack of a system to obtain prompt corrective action did result in an item of noncompliance in the material control area as discussed in Paragraph 10.c. of this Report.

The audit reports reviewed, the functional areas covered, and the date(s) on which the audits were conducted are given below:

- 0-78-4, Administrative Services and Operational Activities, May 22, through June 7, 1978
- 0-78-4, Reaudit of 0-78-4, January 22-26, 1979
- 0-78-7, Refueling, Inservice Inspection, and Technical Services Activities, August 21 through September 15, 1978
- 0-78-7, Maintenance Activities, November 13 through December 1, 1978
- 0-79-2, Administrative Services and Operational Activities, February 5-16, 1979

Although, as referenced above, two (2) items of noncompliance were discovered during the Program Review; the examples of failure to meet the specific requirements were confirmed during the review of the above audits. In addition, another example of noncompliance was identified. The additional item is discussed in paragraph 7.e., below.

c. Failure to Have a Procedure

Criterion V of 10 CFR 50, Appendix B requires that activities affecting quality be prescribed by documented procedures. Paragraph 17.2.1.1 of the licensee's accepted Quality Assurance Program requires that policies described in the Corporate Quality Assurance Program Manual be implemented through departmental procedures. The Policy Statement in the Corporate Quality Assurance Program Manual requires that problems which cannot be resolved at the normal interfaces among departments be referred to the Senior Vice President, Engineering and Construction.

There was no documented procedures for escalation of matters to the Senior Vice President, Engineering and Construction. In addition, though some audit findings had been escalated to the Corporate Quality Assurance Manager and had been brought to the attention of the Manager of Quality Assurance Operations (this Manager is on the same reporting level as the supervisor who directs the conduct of the audits), the additional attention was not applied uniformly, when applied it did not always produce results, and the oral "policy" for applying this additional attention was understood differently by each of the responsible persons interviewed.

As examples: Audit 78-4 was initially reported in a letter dated June 14, 1978. The response to this letter was received on July 21, 1978, and responses to items 1, 3, and 7 were determined to be unsatisfactory. As a result, a letter requesting an additional response was sent on August 22, 1978. The letter addressing the second response was received on September 18, 1978, and the additional response to items 1 and 3 were judged acceptable. However, the reaudit of the areas conducted in January 1979, and the response had not been received as of April 4, 1979.

Audit 78-6 was conducted in August and September of 1978 and the report was issued October 13, 1978. The response to the report was received in a letter dated November 17, 1978. The responses to items 1, 2, 7, and 10 were judged unacceptable by the Quality Assurance Department. No documented action had been taken as of April 4, 1979, and the responses were still considered inadequate based on the interviews with responsible managers in the Quality Assurance Department.

Collectively, these items have been combined with similar failures to have a procedure (see Paragraphs 7.e., 10.c., and 10.d. of this Report) to constitute an item of noncompliance (269-270-287/79-10-06).

d. Failure to Conduct Audits of All Aspects of the QA Program

Although the "accepted Quality Assurance Program" for purposes of this inspection has been defined as the Duke 1-A Topical Report, Revision 4, dated June 29, 1978, both this edition and the previous revision committed the licensee to following ANSI N45.2.12, Draft 3, Revision 4 dated 2/74. Thus, while the new revision of the Topical Report has been in effect less than one (1) year, the requirement to conduct an annual audit of all aspects of the licensee's QA Program has been a requirement prior to January 1, 1978. Criterion XVIII of 10 CFR 50, Appendix B requires that a comprehensive system of periodic audits be conducted to verify compliance with all aspects of the quality assurance Program. The accepted Program's commitment to ANSI N45.2.12 specifies

the periodicity as annual. Although the licensee's schedule indicated that an audit of General Office Building activities had been scheduled during the period 1/1/78 through 4/1/79, no audits had been conducted. Without these audits, the activities of the General Office Building staff that impact on the quality assurance program at Oconee site in the following areas were not audited:

- document control and records (Criteria VI and XVII)
- staff review of administrative procedures (Criteria II and V)
- activities of the calibration lab (Criteria X, XI, and XVII)
- staff reviews and inputs (other than Engineering) to Plant Modifications (Criteria II, III, and V)

This failure to conduct audits of all activities affecting quality on an annual basis is an item of noncompliance (269-270-287/79-10-07).

e. Failure to Follow Procedure

Both 10 CFR 50, Appendix B, Criterion V and Paragraph 17.2 of the licensee's accepted Quality Assurance Program require that procedures shall be followed. Procedure QA-210, Revision 6, dated 10/78, was not followed in the conduct of audit activities with the following specific examples noted during the inspector's review:

- None of the audits reviewed had been followed-up by the audited organization as required by Paragraph 5.5.3.2 in that no follow-up report indicating corrective action(s) taken and date(s) completed had been generated.
- The responses by the audited organizations had not been received within thirty (30) calendar days as required by Paragraph 5.5.3 in that for four (4) of the five (5) audits for which responses were required, the responses had been received for periods from four (4) to nineteen (19) days later than specified.
- One (1) of the six (6) audits reviewed did not contain the evaluation statement by the auditing organization as required by Paragraph 5.5.1.4.

Collectively, these examples of failure to follow procedures constitute an item of noncompliance (269-270-287/79-10-06).

8. Design Changes/Modifications

Reference: (a) APM 4.4, Administrative Instructions for Modifications, Revision 16, dated 7/78

(b) Oconee Nuclear Station Directive 4.4.2, Processing Nuclear Station Modifications (NSM), Revised 12/78

(c) QA 210, Departmental Audit Procedure, Revision 6, dated 10/78

a. Program Review

The referenced documents were reviewed with respect to the Duke Topical QA Program, and ANSI 45.2.11-1974, as committed to by that Program. The review consisted of verifying that procedures existed for initiating design change requests; proper reviews and evaluations were required; questions involving an unreviewed safety question per 10 CFR 50.59 were answered; design analysis and inputs were required; communications via internal and external interface links existed; administrative controls and reviews for design documents and subsequent revisions thereto were stipulated; modification testing and acceptance criteria were provided; document controls for QA record establishment were required; specific design organization responsibilities were delineated in writing; and adequate design organization audits were conducted. The inspector identified one (1) item of noncompliance as discussed in Paragraph 8.c. below and two (2) unresolved items discussed in Paragraphs 8.d. and 8.e., below.

b. Implementation

The licensee's program of Design Changes/Modifications was reviewed both at the Company offices and at the Oconee Nuclear Station with respect to the licensee's implementing procedures referenced above. Where this procedure had been determined to be inadequate during the Program Review, the program was inspected to the applicable requirements of the Duke Topical QA Program and the ANSI standard committed to by that Program. During his review, the inspector audited seven (7) design change packages which covered the period January 1978 through March 1979, including ON-0089 which was originally proposed in 1974, but reissued (Rev. 6) in 1978. The design packages reviewed were:

- ON-0089 Convert Reactor Building Sump to Automatic
- ON-0890 Tube-in-Tube Heat Exchanger Replacement (RCP's)
- ON-0431 Lower Alarm Trips on Feed and Condensate Pumps
- ON-0507 Install Piping Equipment Boron Detection (Long-Term)
- ON-1048 Replace RC-3 with packless valve
- ON-1043 Replace Reactor Building Spray Pump "1A"

- ON-1054 Isolation Valve in HPI at Penetration #9

The inspector reviewed the following audit reports as they related to the design change program:

E-78-2 Design Engineering Drawing Control  
E-78-4 Design Engineering Civil Division  
E-78-5 Design Engineering General Services  
E-78-6 Electrical Design - QA Related Activities  
E-78-7 Design Engineering Mechanical Division

During this review, the inspector identified one (1) unresolved item and one (1) inspection follow-up item as discussed in Paragraphs 8.f. and 8.g., respectively.

c. Failure of Design Originator to Review Revisions

The inspector reviewed the accepted QA Program and the provisions made to ensure adequate review of design change revisions by the originating design organization. Within the steps of Reference (b), the originator is required to provide "concurrence" on revisions to a specific design, but is not required to review the revision as it relates to the initial approved design as required by 10 CFR 50, Appendix B, Criterion III and the accepted QA Program, Paragraph 17.2.3.

Contrary to the above, there does not exist a provision within the Quality Assurance Program requiring the originating design organization to review revisions to approved safety-related Nuclear Station Modifications (NSM), in that NSM-ON-0089, Revision Six (6), changed the approved design modification (originated by the Design Engineering Department in Charlotte) without return of the design package to the originating design group for review prior to approval and implementation of the revised NSM.

This failure to review revisions to approved NSM's by the originating design organization constitutes an item of noncompliance (269-270-287/79-10-08).

d. Inadequate Internal/External Design Interfaces and Communications

The inspector reviewed the Duke 1-A Topical Report as it relates to the implementation of the design program and identifies a lack of formal, written delineation of responsibilities as required by the accepted QA Program and ANSI N45.2.11-1974, Section 5., as committed to by the Program. It was identified in the inspection that an interface between design and production groups within Duke Power Company (DPC) and, also between DPC and external contractors, did exist, but was not "...defined and documented in sufficient detail to cover the preparation, review, and approval of documents involving design interfaces...", as required by ANSI N45.2.11-1974, Section 5.1.2.

Additionally, the Duke QA Topical Report, Paragraph 17.2.3, requires that "...the written instructions addressing the control of modifications address the communication of information between involved individuals/organizations and, where appropriate, require documentation of such communications." There were communiques transmitted that related to safety-related design work, but there existed no formal method for documenting the information, as required by the accepted QA Program and ANSI N45.2.11-1974, Section 5., as committed to by the Program.

Until a program exists to ensure adequate internal/external design interfaces are developed, approved, and implemented, and a formal method is developed for documenting transmitted design communications to meet the requirements of the accepted QA Program and ANSI N45.2.11-1974, this item (269-270-287/79-10-09) is unresolved.

e. Inadequate Design Change Procedures

The inspector noted that the licensee's implementing procedures (references (a) and (b)) did not appropriately document compliance with the requirements of Sections 3.1, 5.1, 5.1.4, and 7.2 of ANSI N45.2.11-1974. These procedural inadequacies were originally identified in inspection report 50-369/78-39 as the open items designated 50-369/78-39-10, 50-369/78-39-11 and 50-369/78-39-12. Both references (a) and (b) were undergoing revision at the time of this inspection for the purpose of incorporation of all the requirements of ANSI N45.2.11-1974.

Until the licensee revises his implementing procedures to incorporate all the requirements of ANSI N45.2.11-1974 this item (269-270-287/79-10-10) is unresolved.

f. Inadequate Design Audit Checklist

Section 11.4 of ANSI N45.2.11-1974 as committed to in the accepted QA Program requires that the audit of design control activities evaluate design quality assurance policies, practices, procedures, and instructions; the effectiveness of implementation; and, actions taken to correct deficiencies in the program. The corporate audit checklists used in the conduct of each of the five discipline audits which were reviewed did not include the specific requirements of Section 11.4 of the Standard. Although not an official part of the audit, a supplemental checklist contained in Section 5.2.3, of QA 210 was presented to the inspector. This supplement completed audit coverage of the requirements of ANSI N45.2.11-1974.

Until the licensee revises his checklists for the conduct of Design Engineering Department audits to incorporate all the requirements of ANSI N45.2.11-1974, this item (269-270-287/79-10-11) is unresolved.

g. Failure to Document Safety-Related Parts Used in Maintenance

The inspector identified a discontinuity in the maintenance documentation area while reviewing the aforementioned design modification packages. No provision existed to document the parts used to perform safety-related maintenance, therefore not allowing traceability of safety-related materials to a specific job. This deficiency was identified by the licensee in QA Audit 0-78-7 and subsequently corrected by the issuance of a revision (dated 3/1/79) to Oconee Nuclear Station Directive 3.3.5, Maintenance Work Request.

Implementation of this program will be reviewed as an inspector follow up item during a subsequent inspection (269-270-287/79-10-12).

9. Procurement

- References:
- (a) APM 2.9, Control of Purchased Services, Revision 15, dated 12/77
  - (b) APM 4.5, Administrative Instruction for Purchase Specifications, Revision 14, dated 9/77
  - (c) QA 505, Processing of Procurement Documents for Operating Nuclear Stations, Revision 8, dated 10/78
  - (d) QA 601, Vendor Evaluation, Revision 1, dated 3/79

a. Program Review

The referenced documents were reviewed with respect to the requirements of the Duke Topical QA Program and ANSI N45.2.13-1976 as committed to by that Program. The inspection was conducted to verify that administrative controls had been established for the generation and approval of procurement documents and for the qualification and monitoring of bidders/suppliers.

The inspector identified no items of noncompliance or deviations during this review.

b. Implementation

The licensee's program of procurement was reviewed both at the Company offices and at the Oconee Station with respect to the licensee's implementing procedures referenced above. The inspector selected seven (7) recently purchased safety-related items representative of the various disciplines (mechanical, electrical, I&C and operational) to assure that procurement documents were prepared, including documentation of quality, purchases were made from qualified vendors, and that the proper receipt inspections were conducted, to include applicable documentation necessary to certify the parts. The completed procurement documents reviewed and items verified accountable in correct storage locations were:

<u>Purchase Order</u>	<u>Item</u>	<u>ID. No.</u>
E-51724-71	Special Incore Detector Closure Assembly	(Hand Delivered to Maintenance)
E-39399-71	Stud, 1-Inch Inspection	23200-1773Q
E-98761	O-Rings for Upper Gland Seal (RCP)	20100-0913Q
E-26598-73	No. 363 Gasket-Stuffing Box to Casing	20100-0433Q
E-26698-73	Repair as Necessary - Cooling Fan Motor on 230KV Transformer	(Procured Service)
E-23402-71	No. 10 Bonnet Retainer For Core Flood Valves	20205-1353Q
C-89822	Shaft-CW Rotation - Emergency Feedwater	20100-2613Q

Additionally, the inspector selected three (3) suppliers to assure they had been evaluated and audited as required, and that the results of these audits had been applied to the approved bidder's list. The suppliers reviewed were:

- Babcock and Wilcox
- Bingham-Willamette
- Ingersol-Rand

The inspector identified no items of noncompliance or deficiencies during this review.

10. Receipt, Storage and Handling of Equipment and Materials

- References:
- (a) QCG-1, Receipt, Inspection, and Control of Materials, Parts and Components Important to Nuclear Safety Except Nuclear Fuel, Revision 10, dated 11/78
  - (b) QCG-1, Receipt, Inspection, and Control of Materials, Parts and Components Important to Nuclear Safety Except Nuclear Fuel, Revision 11, effective April 9, 1979
  - (c) QCG-2, New Nuclear Fuel and Rod Assemblies Receipt Inspections, Revision 5, dated 7/78
  - (d) QCG-3, Warehouse Inspection, Revision 0, effective April 9, 1979

- (e) QCD-1, Housekeeping During the Operations Phase of Oconee Nuclear Station, Revision 3, dated 9/78
- (f) QCD-1, Housekeeping During the Operations Phase of Oconee Nuclear Station, Revision 4, effective April 9, 1979.
- (g) QCD-2, Cleanness Control of Nuclear Safety Related Piping Systems of Nuclear Stations
- (h) Station Directive 2.4.1, Receiving, Storing, Issuing, Handling, Packaging and Shipping of Material, Revised 1/79
- (i) Station Directive 3.3.7, Preservation and Preventive Maintenance of Stored Equipment, Parts, and Materials, Revised 5/78
- (j) Station Directive 3.3.8, Control of Slings and Lifting Devices, Revised 3/79
- (k) Station Directive 3.11.4, Cleanness Zones in Safety Related Areas, Revised 12/78

a. Program Review

The referenced documents were reviewed with respect to the requirements of the Duke Topical QA Program and ANSI N45.2.2-1972 as committed to in that Program. The inspection was conducted to verify that administrative control had been established for receipt of safety-related items, for disposition of items received onsite, and for the storage and handling of items following their receipt.

The inspector identified one (1) item of noncompliance and one (1) item contributing to an additional item of noncompliance as discussed in Paragraphs 10.c and 10.d. Furthermore, one (1) unresolved item is discussed in Paragraph 10.e and two (2) items are set forth in Paragraphs 10.f and 10.g. One (1) inspector follow item is documented in Paragraph 10.h.

b. Implementation

In addition to verifying the items identified during the program review, the inspector selected the following six (6) safety-related items representative of the various disciplines to assure that they had been receipt inspected, dispositioned and stored in the stated locations with the required storage controls:

- Ingersoll Rand Reactor Building Spray Pump Impeller, purchase order #A60855

- One inch ID 304 stainless steel socket weld tee, receipt from McGuire 790167
- Dixie Triad transformer, purchase order #E49984
- Reliance GE valve motor, purchase order #C7178
- Bailey buffer amplifier module, purchase order PO#C40331

In addition, the inspector selected the following three (3) safety-related items stored in the warehouse to verify that tagging/markings allowed traceability to the purchase documents, receipt documents and quality certification documents:

- Bailey push-pull amplifier, purchase order #E5730
- Agastat timing relay, purchase order #A76382
- GE Diamond Control Rod Drive circuit breaker, purchase order #A91128

Also the inspector conducted a tour of the Main QA Warehouse, Warehouse #4 and the Pipeyard to verify that required conditions were in force.

c. Failure to Take Timely Corrective Action - Care of Items in Storage

10 CFR 50, Appendix B, Criterion XVI requires measures to assure that conditions adverse to quality are promptly identified and corrected. The Duke Topical QA Program, Section 17.2.16, requires taking appropriate corrective action whenever any deficiency in the implementation of the requirements of the program is determined. The licensee identified the lack of establishment of measures for the care of items in storage as were required by the QA Program. This deficiency was originally identified by Level II Audit 0-75-2 on July 10, 1975. This finding was subsequently closed even though only part of the required storage program had been established (care of motors in storage).

The deficiency was reidentified on September 2, 1977, by Level I Audit ONS-77-46. The response to this audit committed to procedure revision by December 1, 1977, and full implementation by September 1, 1978. In February 1978, Operations QA Surveillance 0-S78/3 identified that no part of the required program had been established. Accordingly, NCI-166 was issued to track the deficiency identified by Level I Audit ONS-77-46 and this audit finding was closed. The licensee's implementing procedure Station Directive 3.3.7 - PRESERVATION AND PREVENTIVE MAINTENANCE OF STORED EQUIPMENT, PARTS, AND MATERIAL was revised on May 2, 1978. Audit Division Audit 0-78-7 of December 1, 1978, again identified the same program deficiency. The audit response committed to a delayed implementation date of May 1, 1979, for Station Directive 3.3.7. The inspector interviewed the licensee on April 5, 1979, and determined that items currently in storage which required care such as monitoring

of inert gas overpressure, monitoring of dessicant humidity indicators, performance of manufacturer specified maintenance, and shelf-life control had not yet been identified for implementation of the QA program storage requirements specified in Station Directive 3.3.7. The licensee stated that these items would be identified during an annual inventory, currently scheduled for July 1979.

This failure to take prompt corrective action has been combined with similars to collectively constitute an item of noncompliance with respect to 10 CFR 50, Appendix B, Criterion V (269-270-287/79-10-06).

d. Inadequate Storage Procedures

10 CFR 50, Appendix B, Criterion V requires that activities affecting quality be prescribed by documented instructions which include appropriate qualitative acceptance criteria. The licensee's accepted QA program (Paragraph 17.2.2) requires that instructions be developed to implement the QA program requirements. Table 17.0-1 of the Program commits to the requirements of ANSI N45.2.2-1972. Section 6.1.2 of the Standard requires a Level B warehouse (Main QA warehouse) to be weathertight. Additionally, Section 6.2.4 of the Standard prohibits the use or storage of food and drink in the storage area. The licensee's procedures did not contain the appropriate requirements to implement Sections 6.1.2 and 6.2.4 of the Standard. During the course of the inspection water in leakage was noted in the vicinity of the rollup door in the QA Hold Area of the Main QA Warehouse. Additionally, the use and storage of soft drinks, coffee and lunches were permitted in a portion of the warehouse which was adjacent to and not segregated from the Main QA Warehouse. These examples of inadequate procedures combined with similar failures (see Paragraphs 7.c., 1.e., 10.c., and 10.d) collectively constitute an item of noncompliance (269-270-287/79-10-06).

e. QA Program Control of Safety-Related Consumables - Interior to System

The licensee has not yet established QA Program controls for those safety-related consumables which are interior to components, systems, and structures (such as lubricants, chemicals, battery acid). The inspector discussed the nature of appropriate controls for lubricants with the Planning-Materials Engineer. The licensee's Safety Listing was recently revised on March 28, 1979, to include these consumables; therefore, implementation was still required. Until the licensee develops a detailed list of safety-related consumables which are interior to components, systems and structures and establishes appropriate QA Program controls for these items this item (269-270-287/79-10-13) is unresolved.

f. Inspecting Items Prior to Return to Storage

The inspector noted a section of 2½" I.D. Schedule 160 stainless steel pipe (Heat 2P3950) in the Pipeyard which had a hole of approximately ½" diameter in it. It could not be established whether or not this

particular pipe had been issued and subsequently returned to storage without the required receiving inspection per Section 4.5.5 of reference (a). However, it was noted that the licensee had identified in Item 11 of QA Audit 0-78-7 that these same provisions of reference (a) were routinely not being followed. The permanent corrective action of revising reference (g) had been completed. The immediate corrective action of conducting receipt inspections on approximately two hundred (200) items which had been issued and restored without inspection had not begun. Until the licensee performs the missed receipt inspections and implements the revised procedural controls to preclude recurrence this item is designated (269-270-287/79-10-14). The licensee gave May 15, 1979 as a completion date for this item.

g. Storage Procedures Don't Reflect Practices

Some requirements of ANSI N45.2.2-1972 as committed to in the licensee's Accepted QA Program were missing in the licensee's implementing procedures. Specific examples were:

- (1) Storage access control requirements of Section 6.2.1 of the Standard;
- (2) Measures to prevent entrance of animals as required by Section 6.2.5 of the Standard.

Observed practices appeared to be in compliance with the requirements of the Standard. Until the licensee brings his implementing procedures into line with his appropriate practices, this item is designated (269-270-287/79-10-15). The licensee gave June 1, 1979 as a completion date for this item.

h. Inadequate Storage Procedures - Corrective Action in Progress

Some requirements of ANSI N45.2.2-1972 as committed to in the licensee's Accepted QA Program were incompletely described or missing in the licensee's implementing procedures. These requirements also were not fully implemented by plant practices. Specific examples were:

- (1) Incompletely describing the shipping damage inspection required and stipulated as to content by Section 5.2.1 of the Standard in Section 4.1 of Station Directive 2.4.1;
- (2) Conducting the shipping damage inspection of Section 5.2.1 of the Standard with personnel not qualified in accordance with ANSI N45.2.6;
- (3) Omitting the storage area inspection requirements of Section 6.2 of the Standard.

These inadequacies were identified by the licensee and corrective action in the form of revised implementing procedures were received onsite during the course of the inspection, with an effective date of April 9, 1979. The inspector reviewed references (b) and (d) and determined that these provide acceptable procedural corrective action for the three examples above. Until a subsequent inspection verifies implementation of these procedures this inspector follow-up item is designated (269-270-287/79-10-12).

11. Housekeeping/Cleanliness

- References:
- (a) WCD-1, Housekeeping During the Operations Phase of Oconee Nuclear Station, Revision 3, dated 9/78
  - (b) WCD-1, Housekeeping During the Operations Phase of Oconee Nuclear Station, Revision 4, effective April 9, 1979
  - (c) WCD-2, Cleanness Control of Nuclear Safety Related Piping System at Nuclear Stations
  - (d) Station Directive 3.3.5, Maintenance Work Request, Revised 3/79
  - (e) Station Directive 3.11.4, Cleanness Zones in Safety-Related Areas, Revised 12/78

a. Program Review

The referenced documents were reviewed with respect to the licensee's Accepted QA Program and ANSI N45.2.3-1976 as committed to in that program.

The inspector identified no items of noncompliance or deviations as a result of this review.

b. Implementation

Housekeeping activities were reviewed during a tour of spaces containing safety-related equipment including the Unit 1 and Unit 2 cable rooms and the Control Room. The inspector noted that I&E testing cables were left unused in one Cable Room. This did not constitute a significant housekeeping problem. The inspector identified no items of noncompliance or deviations during this review.

12. Surveillance Testing and Calibration Control

- References:
- (a) Station Directive 3.2.1, Performance of Periodic Testing or Sampling, Issued 4/76

- (b) Station Directive 3.2.2, Responsibility for Scheduling of Surveillance Requirements, Revised 2/79
- (c) Station Directive 2.3.1, Test and Measuring Equipment Control, Revised 3/79

a. Program Review

The referenced documents were reviewed with respect to the Duke Topical QA Program and ANSI N18.7-1976 as committed to in that program. The inspection was conducted to verify that administrative control had been established for maintenance of a master schedule for conducting surveillance tests; calibration of safety related instruments; for use of approved procedures in the conduct of these tests and calibrations; and review of procedure results.

Two items were identified during this review and are documented in Paragraphs 12.d and 12.e.

b. Implementation

The licensee's surveillance testing and instrumentation/control calibration programs were reviewed at Oconee Station with respect to the requirements of the referenced documents. The inspector selected and verified that the following Technical Specification test requirements were covered by properly approved procedures:

- (1) Determination of Boron concentration (CP/0/A/300/3)
- (2) Nuclear Instrument Checks (PT/600/1)
- (3) Concentrated Boric Acid Tank level and Temperature (PT/600/1)
- (4) Reactor Loop Leakage (PT/600/10)
- (5) Reactor Coolant System Leak Test (PT/200/46)
- (6) Periodic Testing of Power Operated Valves in the Emergency Core Cooling System and Reactor Building Cooling System (PT/150/15A and 15B)
- (7) Reactor Building Spray Pumps (PT/204/7)
- (8) Emergency Power Periodic Test (PT/620/15)
- (9) 125V DC Pilot Cell (IP/3000/1,4)
- (10) Reactor Protection System Channel A on Line Calibration and Functional Test (IP/1/A/305/03A)

- (11) Boric Acid Storage Tank Water Level (IP/01A/203/1A)
- (12) Pressurizer Temperature and Level (IP/200/10)
- (13) High Pressure Injection Logic Channel 2 on Line Test (IP/0/A/310/13A)
- (14) Reactor Building High Pressure (IP/310/30)

The inspector reviewed the above listed procedures and selected test record results to ascertain that the procedures include prerequisites and preparations, functional test of instrumentation specified, acceptance criteria, operation checks, technical content, test results for selected tests were in conformance with Technical Specification and procedure requirements, and proper review. Additionally, the inspector witnessed the High Pressure Injection System Performance Test (PT/2/A/2002/11) on 4/4/79, Low Pressure Service Water Pump Performance Test (PT/1/A/251/1) on 4/4/79, and reviewed the results of the Reactor Building Spray System Performance test (PT/3/A/204/07) performed on 4/5/79.

The inspector verified that portable test and measurement equipment and installed instrumentation used to perform the performance tests were calibrated in accordance with the calibration program requirements.

One item of noncompliance relative to the lack of labeling installed test and measurement instruments was identified during the inspection and is identified in Paragraph 12.c.

c. Labeling of Installed Test and Measurements Instruments

10 CFR 50, Appendix B, Criterion XIV, requires that measures be established to indicate, by use of marking such as stamps, tags, labels, routing cards, or other suitable means, the status of inspections and tests. The accepted QA Program Paragraph 17.2.12(c) requires that devices that have been acceptably calibrated are affixed with a tag or tags showing the date of calibration, the date the next calibration is due, and indication that the device is within calibration specifications and the identification of the individual who was responsible for performing the calibration.

The inspector determined that the Oconee Station Directive 2.3.1 does not provide for the labeling of installed measuring and test equipment used to determine compliance with specifications. The inspector informed the licensee that the accepted Quality Assurance Program committed to ANSI N45.2.4-1972 and that the Accepted QA program did not exclude installed instrumentation from the labeling requirement.

ANSI N45.2.4-1977, Paragraph 2.5.2 requires that measuring and test equipment used to determine compliance with specifications be suitably marked.

This example of failure to have labels on installed safety-related instruments not identified in the Technical Specifications but utilized to verify Technical Specification requirements constitutes an item of noncompliance (269-270-287/79-10-17).

d. Inadequate Review of Station Directive

During review of Station Directive 3.2.2 and selected station procedures the inspector identified that the following referenced Technical Specification paragraphs were incorrect:

- (1) 125V DC Power - Test Peak Inverse Voltage; the directive references paragraph 4.6.9. The applicable Technical Specification paragraph is 4.6.11.
- (2) 125V DC Power - One Hour Discharge; the directive references paragraph 4.6.7. The applicable Technical Specification paragraph is 4.6.9.
- (3) 125V DC Pilot Cell Voltage and Temperature; the directive references paragraph 4.6.7. The applicable Technical Specification paragraph is 4.6.9.
- (4) Procedure IP/O/A/3000/1 references Technical Specification paragraph 4.6.7. The applicable Technical Specification paragraph is 4.6.9.

The licensee acknowledged the findings and committed to a complete review of Station Directives 3.2.2 and references procedures to assure that applicable Technical Specification references and other references are correct. The Station Manager stated that the review would be completed by June 1, 1979.

Until the directive and applicable procedures are reviewed and corrective actions made, this item is designated (269-270-287/79-10-18).

e. Lack of Controlling Procedure

During review of the Station Directive Manual the inspector identified that a formal written procedure did not exist that documents the current practices and policies for preparation, establishing responsibility, major considerations, content, review and approval of Station Directives.

The inspector discussed this matter with responsible site personnel and reviewed previous site QA surveillance reports and correspondence relative to the subject matter. The licensee's reports and correspondence confirmed that this matter had been identified as needing attention. The licensee committed to writing a procedure to document current practices and policies for preparation, establishing responsi-

bility, identifying major considerations and content of the new directive or subsequent changes thereto, review and approval of Station Directives. The Station Manager stated that this would be completed by June 1, 1979. Until the directive is written and implemented, this item is designated (269-270-287/79-10-19).

13. Offsite Support Staff

- References:
- (a) APM 2.9, Control of Purchased Services, Revision 15, dated 12/77
  - (b) APM 4.5, Administrative Instruction for Purchase Specifications, Revision 14, dated 9/77
  - (c) APM 4.4, Administrative Instruction for Modifications, Revision 16, dated 7/78
  - (d) QA-160, Performance of Corporate Quality Assurance Audits, Revision 0, dated 11/78
  - (e) QA-210, Departmental Audit Procedure, Revision 6, dated 10/78
  - (f) Duke Power Company Steam Production Department Administrative Policy Manual for Nuclear Stations
  - (g) Duke Power Company Quality Control Procedure Manual

a. Program Review

The referenced documents were reviewed to verify that the licensee established administrative controls to describe the responsibilities, authority, and lines of communications available for personnel who perform the following offsite support functions:

- 1) Design
- 2) Technical Support
- 3) Quality Assurance
- 4) Procurement
- 5) Interface between onsite and offsite functions

Additionally, the inspector verified that the procedures described above are in conformance with the requirements of 10 CFR 50, Appendix B, and the licensee's accepted QA Program.

b. Implementation

Implementation of this aspect of offsite support was verified by interviewing three levels of staff personnel in each of the disciplines mentioned above and during the conduct of all related inspection activities documented in this report.

The inspector identified no items of noncompliance or deviations during this review.

14. Records

- References:
- (a) Station Directive 2.1.1, Drawing Distribution and Control, Revised 9/78
  - (b) Station Directive 2.1.2, Procedures for Microfilming Documents, Revised 5/78
  - (c) Station Directive 2.1.5, Indexing of Station Procedures, Revised 6/77
  - (d) Station Directives 2.2.1, Procedure for Records Management, Revised 1/79

a. Program Review

The referenced documents were reviewed with respect to the requirement of the Duke Topical QA Program and ANSI N45.2.9-1974 as committed to in that Program. The inspection was conducted to verify that administrative control had been established for the maintenance, storage and retention of required Quality Assurance records.

The inspectors identified no items of noncompliance or deviations during this review.

b. Implementation

The licensee's program for the control, handling and storage of records was reviewed at the Oconee Station with respect to the licensee's implementing procedures referenced above. The inspector selected 25 QA records to assure records are maintained, stored and retained as required.

One unresolved item was identified during this inspection and is documented in Paragraph 14.c.

c. Record Protection

The inspector identified that the following Quality Assurance records were stored in the Oconee file room permanently without the required protection as set forth in Section 5.6 of the committed standard ANSI N45.2.9-1974.

Charts-Records

Reactor Coolant Total Flow  
Reactor Coolant Pressure

Pressurizer Level  
Reactor Coolant Inlet Temperature  
Reactor Coolant Average Temperature  
Reactor Coolant Outlet Temperature

The above records were stored on movable shelves supported by wood construction. Additionally, the station fuel records were stored in metal file cabinets which had no NFPA fire rating. The file room fire protection consisted of hand held fire extinguishers.

The licensee identified these findings in Audits 0-78-04 Item 7 and 0-79-02 Item 2A. Consequently, these findings will collectively constitute an unresolved item (269-270-287/79-10-20) pending review of the corrective actions taken.

15. Tests and Experiments

Reference: (a) APM Section 3.2.3, Special Testing, Revision 4, dated 12/74

a. Program Review

The referenced document was reviewed to ensure a method had been established to handle all requests or proposals for conducting plant tests or experiments involving safety-related components, systems, or structures or modes of operation different from those described in the FSAR.

The inspector identified no items of noncompliance or deviations during this review.