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

Report Nos.: 50-269/77-09; 50-270/77-09; 50-287/77-09

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

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

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

Facility Name: Oconee Units 1, 2 and 3

Inspection at: Oconee Site, Seneca, South Carolina

Inspection conducted: June 13-17, 1977

Inspector: C. E. Alderson

Reviewed by: R.C. Lewis 7/11/77
R. C. Lewis, Chief Date
Reactor Projects Section No. 2
Reactor Operations and Nuclear Support Branch

Inspection Summary

Inspection on June 13-17, 1977: (Report Nos. 50-269/77-09; 50-270/77-09; 50-287/77-09)
Areas Inspected: Routine, unannounced inspection of plant operations; review of nonroutine events; calibration of installed instrumentation; followup on previous items of noncompliance and unresolved items; followup on IEC's, and tour of plant areas. The inspection involved thirty-six inspector-hours on site by one NRC inspector.
Results: Of the six areas inspected no items of noncompliance were found in four areas; one item of noncompliance was found in each of the other two areas (infraction - failure to implement instructions in administrative policy manual - Paragraph 8.b; deficiency - failure to retain calibration records - Paragraph 6.a).

DETAILS I

Prepared by: C. E. Alderson 7/11/77
C. E. Alderson, Reactor Inspector Date
Reactor Projects Section No. 1
Reactor Operations and Nuclear
Support Branch

Dates of Inspection: June 13-17, 1977

Reviewed by: R. C. Lewis 7/11/77
R. C. Lewis, Chief Date
Reactor Projects Section No. 2
Reactor Operations and Nuclear
Support Branch

1. Persons Contacted

*R. Koehler, Superintendent of Technical Services
(Acting Station Manager)
*O. Bradham, Superintendent of Maintenance
**N. Pope, Superintendent of Operations
J. Hampton, Director of Administrative Services
G. Davenport, Test Engineer
R. Todd, Junior Engineer
T. Barr, Performance Engineer
*D. Riden, Assistant Engineer
R. Adams, Maintenance Engineer (I&E)
R. Knoerr, Assistant Engineer
M. Alexander, Technical Specialist
G. Mitchell, Assistant Shift Supervisor
J. Kirby, Storekeeper
C. Yongue, Health Physics Supervisor
D. Rochester, Assistant Site Chemist

*Denotes those present at the Exit Interview.

**Mr. Pope has been promoted to Superintendent of Operations to replace L. Schmid who has been transfered to the corporate office.

2. Licensee Action on Previous Inspection Findings

a. Noncompliance

(Closed) Noncompliance (269/77-3, 270/77-3, 287/77-3) Work not performed in accordance with approved work request which resulted in post-maintenance testing not being performed. The

inspector verified that the administrative procedure had been revised to specify review and approval requirements for changes to work requests.

(Closed) Noncompliance (269/77-1, 270/77-1, 287/77-1) Steam generator tube leak not reported to the NRC within twenty-four hours as required by Technical Specifications. The inspector verified that the licensee had implemented a program which requires the Technical Services Engineer or his alternate to contact the operations staff daily to determine if any reportable occurrences have been identified.

(Closed) Noncompliance (269/77-1, 270/77-1, 287/77-1) Failure to follow procedure for performing leak test of steam generator. The inspector verified that operating procedures OP/1106/30 and OP/1106/31 had been revised and that the requirements for preparing, following, checking, using, and changing procedures had been reviewed with station personnel.

(Closed) Noncompliance (269/76-7, 270/76-7, 287/76-7) Improper tagging and storage of test and measuring equipment. The inspector verified that the licensee had established an area for storage and controls for mechanical test equipment and that dial indicators, torque wrenches and micrometers were properly tagged and controlled.

b. Unresolved Items

(Open) Unresolved Item 76-1/1 (269/76-1, 270/76-1, 287/76-1) Program for calibration of installed instrumentation not specifically addressed by Technical Specifications. The inspector determined that the licensee had still not developed and implemented an adequate program in this area. See Paragraph 6.b below.

(Closed) Unresolved Item 76-7/3 (269/76-7, 270/76-7, 287/76-7) Inadequate storage of test and measuring equipment. The inspector verified that the licensee had improved housekeeping in the areas used for storage of test equipment.

(Open) Unresolved Item 77-6/I-1 (269/77-6, 270/776, 287/77-6) Program for evaluation of test equipment found out of calibration did not appear to meet the intent of Criterion XII of Appendix B to 10 CFR 50. The inspector determined that the problem includes installed instrumentation as well. See Paragraph 6.b below.

3. Unresolved Items

No new items identified during this inspection.

4. Exit Interview

The inspector met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on June 17, 1977. The inspector summarized the purpose and scope of the inspection and the findings. With regard to the noncompliance items of failing to document and identify the inoperable status of fire detection equipment and failing to retain completed calibration procedures the licensee agreed that the events had occurred. The licensee stated that the inoperable fire detectors had been documented, their inoperable status identified, and repairs would be made during the current Unit 2 shutdown. Regarding retention of completed calibration procedures for installed instruments not identified in the Technical Specifications, the licensee stated that the matter would be reviewed.

5. Review of Nonroutine Events Reported by the Licensee

The inspector performed an in-office review of the nonroutine event reports listed below to verify that the report details met license requirements, identified the cause of the event, described corrective actions appropriate for the identified cause, and adequately assessed the event and any generic implications. In addition, for those reports marked with astericks, the inspector examined selected operating and maintenance logs and records, and internal incident investigation reports, and interviewed selected personnel to verify that the report accurately reflected the circumstances of the event, that the corrective action had been taken or responsibility assigned to assure completion, that any violation of regulations or licensee conditions had been identified and that the event was reviewed by the licensee as required by the Technical Specifications.

269/77-7, Reactor quadrant power tilt limit exceeded.

269/77-10, Feedwater containment isolation valve 1FDW-108 inoperable.

*269/77-11, Primary-to-secondary system leakage in the 1B steam generator.

*269/77-12, Penetration room valve PR-2 discovered inoperable.

*269/77-13,	One channel of borated water storage tank level instrumentation inoperable.
*269/77-14,	Procedural inadequacies in calibration of power range nuclear instrumentation.
*269/77-16,	Primary-to-secondary system leakage in the 1B steam generator.
*270/77-4,	Rod overlap in excess of Technical Specification limit due to a dropped control rod group.
270/77-5,	Reactor quadrant tilt limit exceeded.
270/77-6,	Low pressure injection valve, 2LP-21 failed to open.
270/77-7,	RB isolation valve, 2CS-5, determined inoperable during functional testing.
270/77-8,	Reactor power error adjusted imbalance limit exceeded.
*287/77-3,	High chloride concentration in Reactor Coolant System.
287/77-4,	Feedwater containment isolation valve 3FDW-106 inoperable.
287/77-5,	Reactor Protective System flux/flow/inbalance function generator out of calibration.
*287/77-6,	Rod overlap in excess of Technical Specifications limit.

Within the areas inspected, no items of noncompliance or deviations were identified by the inspector.

6. Calibration of Installed Instrumentation

The inspector selected eighteen instrument strings which are not specifically addressed in the Technical Specifications, but which are used to verify compliance with certain limiting conditions for operation or regulatory requirements and therefore require administrative controls and calibration equivalent to those addressed by Technical Specifications. For each of the instrument strings selected, the inspector determined whether calibration procedures had been written, reviewed and approved by the licensee, that the procedures contained appropriate acceptance criteria and provided sufficient detailed instructions, and required sufficient documentation to demonstrate compliance with Technical Specifications.

Three of the selected procedures were reviewed in detail to verify their technical adequacy. The inspector also followed up on Unresolved Items 76-1/1 and 77-6/I-2 as a part of the inspection in this area. Within the areas inspected, the following discrepancies were identified.

a. The inspector asked for the completed procedures for the last three calibrations for each of three different instrument strings and was informed by the licensee that for the instrument strings not specifically addressed in Section 4 of the Technical Specifications, the completed calibration procedures are retained only until the next calibration is performed. The inspector stated that this did not meet the intent of the requirements of Criterion XII of Appendix B to 10 CFR 50 as implemented by Section 17.2.12 of the Duke Topical Report - Quality Assurance Program and was considered a Deficiency.

b. Based on discussions with licensee personnel and a review of administrative controls in this area, it appeared that the licensee interpreted Criterion XII and Section 17.2.12 to apply only to portable measuring and test equipment and did not include installed instrumentation. The inspector held discussions with site management personnel responsible for calibration of both installed and laboratory instrumentation concerning the intent of Criterion XII. The inspector referred the licensee to Section 5.2.16 of ANSI N18.7-1976 which provides information regarding the administrative controls required for installed instrumentation. The inspector also gave several examples of the types of installed instruments which would fall under the requirements of Criterion XII but which do not appear in the Technical Specifications.

In following up on Unresolved Item 76-1/1, the inspector noted that the licensee had prepared a calibration schedule which included the majority of this type of installed instrumentation; however, it was also determined that the list was not complete. Based on the inspection findings, the inspector stated that resolution of Unresolved Item 76-1/1 must include the following:

(1) Identification of all instrumentation used to verify compliance with Technical Specifications or regulations, either directly as in the case of gaseous and liquid radioactive discharge flow rates, BWST temperature, etc., or indirectly as in the case of installed instruments which provide data for determining acceptability of periodic tests, performing heat balances, etc. It was emphasized that analytical equipment such as chloride probes should be included.

(2) Determination of the required accuracy and calibration frequency of each identified instrument. The inspector noted that accuracies and calibration frequencies had been established for many of the instruments, but it was also determined that in many cases, the user of the data provided by the instruments had not reviewed the established accuracies for adequacy in relation to their specific use of the data.

(3) Inclusion of these instruments under the program of administrative controls established for instruments identified in Technical Specifications, or an equivalent program which addresses calibration procedures, schedules and histories, and evaluations of this type equipment.

c. Unresolved Item 77-6/I-1 dealt with the licensee's program for evaluating portable measuring equipment found out of calibration and the use of an "Evaluation Tolerance" to initiate the evaluation, as opposed to the more restrictive "Calibration Tolerance." The inspector determined that a similar philosophy was being applied with regard to installed instrumentation in that a flat two percent figure was being used as the action point for initiating evaluations without regard to the specified calibration tolerances. The inspector also determined that the administrative controls did not assure that the user of the installed instrument would be notified of the out-of-calibration condition or provide sufficient information so that data taken with the instrument could be reevaluated.

The inspector cited specific examples of where the licensee could be failing to meet limiting safety system settings or equipment performance criteria and, because of the values established for initiating evaluations or failure to notify the responsible group the licensee could fail to recognize, evaluate and correct these unacceptable conditions. The inspector discussed the intent and purpose of the requirement to perform evaluations when test or measuring equipment are found out of calibration and stated that resolution of Unresolved Item 77-6/I-1 requires the following actions by the licensee:

(1) Establishment of "Evaluation Tolerances" for specific pieces of test equipment and installed instrumentation which will not allow cumulative errors to exceed the required accuracy of the installed instrumentation without being evaluated.

(2) Establishment of administrative controls which assure that evaluations of test equipment found out of calibration include a determination that installed instrumentation is still within the required accuracy.

(3) Establishment of administrative controls which assure that the user is notified and provided "as found" values when installed instruments are found outside the evaluation tolerance, or which assure that the Maintenance Group has sufficient information regarding the use of the installed instruments to allow the group to perform adequate evaluations.

(4) Establishment of administrative controls which assure that the evaluations of installed instruments of laboratory equipment found out of calibration by way of (2) or (3) above, include a determination that LSSS, LCOs and equipment performance criteria were met, that recalibration and retesting is performed when necessary and that accountability records are corrected when appropriate.

7. Plant Operations - General

The inspector reviewed general plant operations including an examination of selected operating logs, out-of-normal logs and licensee incident investigation reports. The inspection was made to determine compliance with Technical Specifications and to determine if plant operations conflicted in any way with operating requirements. The review of the Control Room Operators' Logs and the Shift Supervisors' Logs included entries for the following dates: Unit 1 - June 5-16, 1977; Unit 2 - May 10-20, 1977; and Unit 3 - June 8-16, 1977. No items of noncompliance or deviations were identified.

8. Plant Tour

The inspector toured the security perimeter and walked through various areas of the plant to observe operations and activities in progress, to inspect the general state of cleanliness, housekeeping and adherence to fire protection rules, to check for proper control of tagged equipment, to check proper alignment of selected valves, and to review with operators the status of various annunciators or indicators in the control rooms.

Within the areas inspected, the following discrepancies were identified:

a. The licensee's procedures for dealing with "false" annunciations appears to be inadequate. On two occasions the inspector entered the Units 1 and 2 control room and noted that the "Fire" annunciator was lit. In both cases the annunciator was cleared and reset, after the inspector indicated interest. An operator stated that a steam leak was blowing on a detector in the Turbine Building basement causing an intermittent alarm. On the second occasion the inspector observed that the main console annunciator was lit for at least forty-five minutes before it was reset. This was discussed at the exit interview and licensee personnel stated that (1) the "reflash" capaility would initiate a new annunciation if additional detector groups were activated, and (2) that each time an annunciation is received an operator is dispatched to the area involved to determine whether the alarm is valid. The inspector stated that (1) the Unit 1 Control Room Operators' Log did not contain entries indicating receipt of the alarm or dispatch of an operator for the two occasions observed by the inspector, (2) the single detector causing the false alarm was only one in a multiple string of detectors and the false indication of the one detector prevented proper operation of the entire string, and (3) operation with false alarms can result in operators assuming alarms to be false when they are valid.

The inspector also observed several radiation monitors with a "failed" indication but which were not tagged as being out of service. In some cases the indicators were on scale and in other cases the indicators were off the low end of the scale. For these instruments whose indicators were on scale the Shift Supervisor stated that the instruments were isolated and the failed indications were due to the lack of fluid flow through the samplers. For those instruments which were off-scale the Shift Supervisor demonstrated that placing the monitor in the test position caused an upscale reading and stated that the measured radiation was less than the minimum indicator reading, thus causing the failed alarm. This was also discussed at the exit interview and the inspector stated that the indication and response to test observed for the instruments reading off-scale could also be caused by a failed detector or severed detector cable, thus it could not be assumed that those instruments were operational. This matter will be reviewed further during a future inspection.

b. While following up on the FIRE annunciation the inspector observed a dummy load resistor and lifted leads in the fire detection equipment cabinet and determined that the affected detector string was in the Unit 2 reactor building. Licensee personnel stated that a detector in the string had failed and that the leads were replaced with the dummy load to remove the false indication. The inspector noted that the group indicator had not been tagged to indicate its inoperable status and a review of the Units 1 and 2 out-of-normal logs did not reveal any entries regarding the inoperability of the equipment. The licensee stated that they could not locate any work request authorizing installation of the dummy resistor. The inspector stated that this was contrary to the instructions in Section 3.1.3 of the Administrative Policy Manual, thus the licensee is in noncompliance with Criterion V of Appendix B to 10 CFR 50 as implemented by Section 17.2.5 of the Duke Topical Report - Quality Assurance Program which requires that the manual be implemented.

c. The inspector observed many cases, in both the turbine building and auxiliary building, where protective clothing (paper coveralls, rubber gloves, booties) were laying on the floor. In some cases it was obvious that the articles had been worn. In other cases it was just as obvious that the articles had not been worn. In some cases it was impossible to tell whether the articles had been worn or not. This was discussed with licensee personnel who stated that in many cases the protective clothing was worn as a precautionary measure in areas which could become contaminated, but which had not been found to be contaminated and thus did not require establishment of a Radiation Control Zone or the use of marked trash or clothing receptables. The inspector stated that this practice could lead to contamination of personnel from wearing or handling contaminated articles which were believed to be clean or uncontaminated. The inspector further stated that the licensee's procedures should establish controls which assure that clean articles can be distinguished from those which have been worn, and that for those which have been worn the assumption should be that they are contaminated until proven otherwise.

The licensee stated that marked receptables would be placed in the turbine building and that carts for clean clothing were on order. The licensee also stated that this matter would be reviewed to determine if futher action is necessary.

This area will be reviewed further during future inspections.

9. IE Circulars

The licensee's actions in response to IECs 76-05 and 76-06 were originally reviewed and addressed in IE Inspection Report 50-69/77-3, but were left pending further actions by the licensee. The inspector verified that these actions have been completed or have been included in the licensee's system for tracking and assuring completion of the committed actions. The inspector has no further questions regarding these IECs.