



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W.
 ATLANTA, GEORGIA 30323

Report Nos.: 50-413/84-95 and 50-414/84-43

Licensee: Duke Power Company
 422 South Church Street.
 Charlotte, NC 28242

Docket Nos.: 50-413 and 50-414

License Nos.: NPF-24 and CPPR-116

Facility Name: Catawba 1 and 2

Inspection Conducted: September 26 - October 25, 1984

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| Inspectors: | <u>Hugh C. Dance / for</u> | <u>11/27/84</u> |
| | P. K. VanDoorn | Date Signed |
| | <u>Hugh C. Dance / for</u> | <u>11/27/84</u> |
| | P. H. Skinner | Date Signed |
| Approved by: | <u>Hugh C. Dance</u> | <u>11/27/84</u> |
| | H. Dance, Section Chief | Date Signed |
| | Division of Reactor Projects | |

SUMMARY

Scope: This routine, unannounced inspection involved 180 resident inspector-hours on site in the areas of followup of licensee identified items (Units 1 and 2); site tours (Units 1 and 2); review of NCIs and audit reports (Units 1 and 2); maintenance observation (Unit 1); plant operations review (Unit 1); surveillance observation (Unit 1); review of License Condition (Unit 1); hearing participation (Unit 1); observation of electrical cables and terminations (Unit 2); observation of structures and supports - welding and non-welding (Unit 2); and safety related pipe support and restraints - systems (Unit 2).

Results: Of the 11 areas inspected, no violations or deviations were identified in 10 areas; one violation was found in one area (Failure to establish an adequate test program to assure all testing is performed on modifications, paragraphs 5.b and 11).

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REPORT DETAILS

1. Licensee Employees Contacted

R. L. Dick, Vice-President, Construction
G. W. Grier, Corporate QA Manager
*J. W. Hampton, Station Manager
H. L. Atkins, QA Engineering Supervisor
W. H. Bradley, QA Supervisor
W. F. Beaver, Performance Engineer
*J. W. Cox, Superintendent, Technical Services
*L. R. Davison, Project QA Manager
S. W. Dressler, Projects Engineer
*J. W. Glenn, QA Engineer
C. W. Graves, Jr., Superintendent, Operations
*C. L. Hartzell, Licensing and Projects Engineer
*D. P. Hensley, QA Technician
J. F. Knuti, Operating Engineer
*P. G. Leroy, Licensing Engineer
*R. A. Morgan, Sr. QA Engineer
C. E. Muse, Operating Engineer
K. W. Schmidt, QA Engineer
*G. T. Smith, Superintendent, Maintenance
R. White, CSRG Chairman
*J. W. Willis, Sr. QA Engineer

Other licensee employees contacted included construction craftsmen, technicians, operators, mechanics, and office personnel.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on October 25, 1984, with those persons indicated in paragraph 1 above. The violation and two unresolved items were discussed in detail.

3. Licensee Action on Previous Inspection Findings (Unit 1)

(Open) Unresolved item 413-84-87-03: Review of Operations Corrective Action Program. Further review was conducted of the operations corrective action process. On October 5, 1984, the inspector requested the licensee to provide information/documentation relative to training off-site personnel on nonconforming items. The inspector questioned whether training had been done as to handling of nonconforming item reports, documentation of nonconforming items (when and how to document), review for generic aspects, etc. Licensee personnel indicated that QA personnel are required to review procedures and further receive on-the-job guidance as to handling of nonconforming conditions. It appears that other site personnel receive

little or no training in this area. It appears that very little procedural guidance is available as to what a nonconforming condition is and how various nonconforming conditions should be documented. Therefore, procedural training may not be sufficient to assure proper handling of nonconforming conditions. The inspector also requested information relative to required timeliness of evaluation of nonconforming conditions. The only requirement identified was the requirement to choose a resolution date when a nonconforming item report (NCI) is issued. The chosen date is not being met in all cases. It appears that further guidance may be necessary as to timeliness of evaluation of nonconforming items. Further review of QA Procedure QCK-1 revealed that paragraph 3.2 states "Nuclear Production personnel have the responsibility for writing and processing NCIs in accordance with the appropriate Station Directives." No Station Directive exists at Catawba and, as stated in a previous NRC report, virtually all NCIs are written and issued by QA personnel. Further NRC inspection is required in this area. The licensee is in the process of reviewing the corrective action system for needed improvements at all three Duke nuclear stations. This item remains open pending further NRC review and licensee responses to NRC comments and questions (see paragraph 5.b for further discussion).

4. Unresolved Items*

New unresolved items identified during this inspection are discussed in paragraphs 6.c and 6.d.

5. Licensee Identified Items 50.55(e) (Units 1 and 2) (99020)

- a. (Closed) CDR 413/81-17-09 (CDR 413/81-11); Failure of Borg-Warner Component Cooling System Motor Operated Gate Valve During Dry Cycling. Reports for this item were submitted on July 1, 1981; March 27, 1984; April 11, 1984; and July 25, 1984. The inspector reviewed these reports and verified implementation of corrective actions described in the reports and considers licensee actions to be acceptable.
- b. (Open) CDR 413/84-05: Defective Turbochargers on Unit 1 Diesels. Reports for this item were submitted on April 26, 1984 and July 5, 1984. The resolution to this deficiency involved a modification of the turbochargers drip line which would allow the turbocharger to be prelubricated with full flow keep warm lube oil. This modification was identified as NSM No. 10081. The station identified to the inspector that the modification had been complete on both Unit 1 diesel generators. The inspector reviewed the completed NSM and identified various problems associated with the performance of this modification.

*An Unresolved Item is a matter about which more information is required to determine whether it is acceptable or may involve a violation or deviation.

Examples of some of these problems were:

- (1) For the Unit 1A diesel generator, testing was not accomplished in accordance with an approved, written procedure in that the testing accomplished was performed on a work request (WR 0416 NSM) for Unit 1A diesel. Since this testing was accomplished on the work request, in lieu of a procedure, the documentation associated with this testing does not provide adequate assurance that the testing as specified by the NSM was accomplished, met the acceptance criteria, and was evaluated as specified in the Administrative Policy Manual and the Station Directives associated with testing. A result of this lack of procedures was the failure to perform 10 CFR 50.59 evaluation of the test to assure that areas required to be reviewed by this section of 10 CFR are addressed and documented.
- (2) The areas identified in item 1 above are also areas that pertain to Unit 1B diesel. In addition, for the Unit 1B diesel generator, the testing that was performed (WR 0442 NSM) did not obtain all data that was specified to be obtained as directed by the NSM.

This violation will be combined with the violation discussed in paragraph 10. This violation will be tracked as 413/84-95-01, Failure To Establish an Adequate Test Program to Assure All Testing is Performed on Modifications.

6. Independent Inspection Effort (71302, 92706) (Units 1 and 2)

- a. The inspectors conducted tours of various plant areas. During these tours, various plant conditions and activities were observed to determine that they were being performed in accordance with applicable requirements and procedures. No significant problems were identified during these tours and the various evolutions observed were being performed in accordance with applicable procedures.

During Unit 2 site tours the inspector observed protection/storage of plant equipment such as electrical cables, electrical components, reactor vessel, reactor vessel internals, and safety-related components.

- b. The inspector reviewed the report of the Joint Utility Management Audit (JUMA) of the licensee QA program which was conducted on October 8-12, 1984. The report indicated that a thorough review was conducted and appropriate recommendations were made. Duke Corporate QA Manager, Mr. G. W. Grier indicated that, at his request, the JUMA personnel reviewed the operations corrective action system in light of the question raised by NRC under Unresolved Item 413/84-87-03. The JUMA recommendations in paragraph 10 appear to support the contention that improvements are needed in this area in that it states "Because of the present manner that Work Requests are being filled out, the JUMA team believes believes the potential exists for not having the data to

determine generic problems, failure analysis or to forecast trends as it relates to equipment problems." The report further indicates that Station Directives are not available as required by QA Procedure QCK-1. This concern had been presented to the licensee by the NRC prior to the JUMA audit and is further described in paragraph 3. The JUMA recommendations will be considered during followup of the aforementioned unresolved item.

- c. During site tours of Unit 1, the inspector noted that many piping drain lines were capped with threaded caps utilizing Teflon tape for sealing of threads. Examples are caps located near valve Nos. 1NI229, 1NI423, 1NI223, 1NV892, 1KC864, 1NV836, 1KC331, 1RF142, 1WLC81, 1NM284, 1FW059, 1FW006, 1FW30, and 1VP7A (motor operator). Construction Procedure CP-479 prohibits use of Teflon tape on stainless steel, in containment, and in radiation areas. The Station Power Chemistry Materials Guide implies similar restrictions. Construction personnel indicated that the procedure restrictions were based on information obtained from power chemistry personnel. It could not be determined during this inspection whether construction or operations personnel were responsible for installation of the Teflon tape. In addition, restrictions on use of Teflon by operations personnel were not fully determined. This item requires further review by NRC and the licensee to determine if appropriate restrictions on Teflon tape have been established and implemented. This is Unresolved Item 413/84-95-02: Use of Teflon Tape.
- d. During Site tours of Unit 1 on October 5, 1984, the inspector noted several cables located in the inside doghouse that had been pulled out of their connection. These cables were located at the following valves:
- (1) 2 cables at valve (number missing from valve) - cable number 1-CF-558 yellow, 2nd cable number not readable.
 - (2) 1 cable at valve 1SM75A
 - (3) 2 cables at valve 1CF089
 - (4) 1 cable at valve 1CA58A

During a tour of this same area in June of 1984, the inspector identified several cables at that time that had also been pulled out from their connections. This information was provided to the unit coordinator.

The unit coordinator stated he would have the discrepancies identified at the time, corrected. Although it is not confirmed that the cables identified in June were the same cables identified in October, at least one of the valves concerned was involved at both times. Work was performed on the discrepancies noted in June by Work Request (WR)

101070PS and 101080PS. Both of these WRs were performed on October 1, 1984, and were inspected by a quality control inspector. It is not clear to this inspector how this work could have been completed on October 1 and on October 5 the same type of discrepancies were identified. This item will be tracked as Unresolved Item 413/84-95-03, Electrical Cables Not Properly Connected, pending additional review of this area by the inspector.

7. Review of Corrective Action Systems (Units 1 and 2)

The inspector reviewed selected Nonconforming Item reports (NCIs) and Significant Corrective Action Evaluations (RLAs) to determine if discrepancies were being properly documented and evaluated and to determine what areas the licensee is identifying problems in.

No violations or deviations were identified.

8. Maintenance Observation (Unit 1) (71302)

Station maintenance activities of selected systems and components were observed/reviewed to ascertain that they were conducted in accordance with the requirements. The inspector verified licensee conformance to the requirements in the following areas of inspection: (1) that the activities were accomplished using approved procedures, and functional testing and/or calibrations were performed prior to returning components or systems to service; (2) quality control records were maintained; (3) that the activities were accomplished by qualified personnel; and, (4) parts and materials used were properly certified. Work requests were reviewed to determine status of outstanding jobs and to assure that priority is assigned to safety-related equipment maintenance which may affect system performance.

No violations or deviations were identified.

9. Plant Operations Review (Unit 1) (71707) (64704)

The inspectors reviewed plant operations throughout the reporting period to verify conformance with regulatory requirements, Technical Specifications, and administrative controls. Control room logs, danger log, Technical Specification Action Item log, and the removal and restoration log were routinely reviewed. Shift turnovers were observed to verify that they were conducted in accordance with approved procedures.

The inspectors also verified by observation and interviews, that measures taken to assure the physical protection of the facility met current requirements. Areas inspected included the security organization, the establishment and maintenance of gates, doors and isolation zones in the proper condition, that access control and badging were proper, and procedures were followed.

In addition to the areas discussed above, the areas toured were observed for fire prevention and protection activities. These included such things as combustible material control, fire protection systems and materials and fire protection associated with maintenance and construction activities.

No violations or deviations were identified.

10. Surveillance Observation (61726)

During the inspection period, the inspector verified plant operations in compliance with various Technical Specifications requirements. Typical of these were confirmation of compliance with the Technical Specification for reactor coolant chemistry, refueling water tank, residual heat removal control room ventilation and DC electrical sources. The inspector verified that testing was performed in accordance with adequate procedures, test instrumentation was calibrated, limiting conditions for operation were met, removal and restoration of the affected components were accomplished, tests results met requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

No violations or deviations were identified.

11. Review of Proposed Licensee Conditions

A listing of proposed license conditions for a low power license was provided as an attachment to the July 18, 1984 letter from NRR to Duke Power Company. Item number 6 of this listing identified that Duke Power Company was to install an operable redundant boron dilution alarm in the control room prior to initial criticality. In a letter to NRR dated October 3, 1984, from Duke Power Company, the NRC was informed that this modification had been installed and verified operable. The inspector reviewed the completed nuclear station modification (NSM-CN-10350) to determine that the work was performed, appropriate quality standards were used, and testing was performed to assure that the components would perform satisfactorily in service. The modification had been installed as of September 25, 1984 and was identified operable on October 9, 1984. However, since this is classified as non-safety-related, testing was not performed to assure operability. The required testing to assure operability was incorporated into Instrument Procedure IP/1/A/3240/04B, Excore Nuclear Instrumentation System (ENB) Source Range - N32 Analog Channel Operational Test, and performed on October 12, 1984. Although this NSM was classified as "not safety-related", it should have been classified as important to safety as discussed in Criterion 1 to Appendix A of 10 CFR 50. This importance to safety for this modification is further addressed in Safety Evaluation Report Supplement No. 3 (SSER3) Section 15.2.4.2. Criterion 1 to Appendix A also states that a quality assurance program shall be established and implemented to provide adequate assurance that these components will satisfactorily perform their safety functions. Since only one QA program exists for Duke Power Company (Duke Topical Report, Quality Assurance Program, Duke-1-A), the inspector

considers that components important to safety fall under the requirements of this program. In Table 17.1-1 of the QA Program, DPC has committed to Regulatory Guide 1.33, Revision (2) - Quality Assurance Program Requirements (Operations), which endorses ANSI N18.7-1976 - Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants. Section 5.2.7 of ANSI N18.7, requires a suitable level of confidence in structures, systems or components on which maintenance or modifications have been performed shall be attained by appropriate inspection and performance testing. Also Section 5.2.6 of this standard requires that when equipment is ready to be returned to service operating personnel shall place the equipment in operation and verify and document its functional acceptability. Modification NSM-CN-10350 was installed and a continuity check of the wiring by construction personnel. The functional test was not performed until October 12, 1984, after the system was declared operational as specified in Operations Management Procedure 1-12, Operations NSM Implementation Process. This violation will be combined with the violation discussed in paragraph 4.b. This violation will be tracked as 413/84-95-01, Failure to establish an adequate test program to assure all testing is performed on modifications.

12. Hearing Participation (Units 1 and 2)

The inspector attended and assisted at the NRC licensing hearing on October 9-12, 1984, which addressed the "foreman override" QA issue at Catawba.

13. Observation of Electrical Cables and Terminations (Unit 2) (51063)

The inspector observed various installed cables and cable raceways to determine if requirements were being met relative to protection of this equipment.

The inspector also observed completed control cable terminations to determine if requirements were met in the areas of approved drawings and instructions available and being followed, cable identification, proper lugs, cable entry into cabinets, condition of wires, separation, cable support, bend radius, Electray inspection and termination inspection. Cables observed were 2NV507 to Cabinet 2TBOX0002 and 2NV623 to Cabinet 2TBOX0001.

No violations or deviations were identified.

14. Observation of Structures and Supports Welding and Non-Welding Activities (Unit 2) (48053, 48063 and 55083)

The inspector observed work in progress on several structures to determine if requirements were being met in the areas of material control; conformance with approved drawings and specifications for materials, size, location and fitup; documentation; inspections; weld size and location; welding materials; and quality of completed welds. Activities observed were non-welding activities on portions of the rupture restraint inside containment described by Drawing CN-2684-NC-007B, Rev. 0; supports for Instrument Loops

2CF5501 and 2CF5490 described on Drawing CN-1499-M120.19, Rev. 3 (welding and non-welding activities); and welding activities on pipe support No. 2ANV-3420.

No violations or deviations were identified.

15. Safety Related Pipe Support and Restrain Systems (Unit 2) (50090)

The inspector observed work in progress for installation of support No. 2ANV-3420 to determine if requirements were being met in the areas of use of approved/controlled drawings and specifications and conformance to requirements therein, use of correct material relative to size and type, location, and fitup.

No violations or deviations were identified.