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

Report Nos.: 50-413/85-05 and 50-414/85-05

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

Docket Nos.: 50-413 and 50-414 License Nos.: NPF-35 and CPPR-117

Facility Name: Catawba 1 and 2

Inspection Conducted: January 26 - February 25, 1985

Inspectors: C. W. Burger, for — 3/22/85
P. K. Van Doorn — Date Signed

C. W. Burger, for — 3/22/85
P. H. Skinner — Date Signed

Approved by: H C Dance — 3/22/85
H. C. Dance, Section Chief — Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine, unannounced inspection entailed 246 resident inspector-hours on site in the areas of site tours (Units 1 and 2); onsite followup of events (Unit 1); maintenance observation (Unit 1); surveillance observation (Unit 1); plant operations review (Unit 1); Power Ascension Test Review (Unit 1); Review of license conditions (Unit 1); Comparison of as-built to Final Safety Analysis Report (FSAR) (Unit 2); Preoperational test program (Unit 2); followup of licensee identified items (Unit 2); followup of nonroutine event reports (Unit 1); followup of NRC identified items (Unit 1); and followup of IE Notices (Units 1 and 2).

Results: Of the 13 areas inspected, no violations or deviations were identified in 12 areas; one violation was found in one area. (Failure to establish all necessary measures to control test and measuring equipment, paragraph 7.b.) One apparent deviation was found in one area. (Failure to have Reactor Vessel Level Indicating System (RVLIS) fully operational by initial criticality, paragraph 3.c).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*J. W. Hampton, Station Manager
E. M. Couch, Project
*T. B. Bright, Engineering Manager
W. Allgood, Completion Engineer Electrical
H. L. Atkins, QA Engineering Supervisor
*W. F. Beaver, Performance Engineer
C. L. Biggers, QA Technician - Turnover
*W. H. Bradley, QA Supervisor
W. M. Carwile, Test Director
*J. W. Cox, Superintendent, Technical Services
T. E. Crawford, Operations Engineer
*L. R. Davison, Project QA Manager
C. W. Graves, Jr., Superintendent, Operations
*C. L. Hartzell, Licensing and Projects Engineer
B. H. Hamilton, Startup Manager
R. D. Hellams, Engineer-Turnover
R. A. Jones, Test Engineer
J. A. Kammer, Test Director
*P. G. Leroy, Licensing Engineer
D. C. Leslie, Completion Engineer Mechanical
D. H. Llawellyn, Completion Engineer Equipment
R. P. Muschick, Corporate Representative
C. E. Muse; Operating Engineer
*G. T. Smith, Superintendent, Maintenance
D. Tower, Operations Engineer

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

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on February 25, 1985, with those persons indicated in paragraph 1 above. The violation and deviation described in paragraphs 7b and 3c were discussed in detail and were acknowledged by the licensee.

The inspectors were informed by the licensee that Mr. E. M. Couch has been promoted to Project Manager. Mr. R. L. Dick, Vice-President Contruction is no longer Acting Project Manager but retains his overall Catawba Manager position.

The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

3. Licensee Action on Previous Enforcement Matters

a. (Closed) Deviation (413/84-87-05): Failure to Meet Test Parameters Specified for Diesel Generators. The response for this item was submitted on November 30, 1984. The inspector reviewed this response and considers licensees actions to be acceptable. Safety Evaluation Report Supplement No. 4 in section 8.3.1.2 also addresses the acceptability of the diesel generator test at the reduced load.

b. (Closed) Deviation (413/84-102-01): Failure to Perform Corrective Action Committed to for LER 413/84-14. The response for this item was submitted on February 14, 1985. The inspector reviewed this response and considers licensees actions to be acceptable.

c. (Closed) Unresolved Item (413/84-106-01): Determination of Operability of RVLIS. This item is closed as a result of being upgraded to a deviation as discussed below. Further review of this area and review of documentation provided by Duke Power Company indicate that the system was not fully operational by initial criticality as committed to in FSAR Table 1.9-3. The annunciators associated with the system did not function properly and the accuracy of the system was not met for the instrumentation when a dynamic reading was provided. Westinghouse provided a memo to operations personnel stating that the system was operational, but did not identify the inaccuracies of the system. Discussions indicate that the system was indicating within its prescribed accuracy only during static operations. This item is identified as a deviation (413/85-05-03); Failure to have RVLIS fully operational by initial criticality.

4. Independent Inspection Effort (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.

b. The inspectors participated in the annual site emergency exercise on February 20, 1985, which included activation of the onsite emergency preparedeness effort.

5. Onsite Followup of Events (93702) (Unit 1)

On February 7, 1985, the licensee reported that both trains of the safety injection system were inoperable at the same time in violation of Technical Specification (TS) requirements. Safety Injection (NI) pump 1B, (this is the medium head injection pump), had been declared inoperable due to a

surveillance test being performed. While the pump was out of service, monthly surveillance testing was allowed to be performed on the train A Solid State Protection System (SSPS) which blocks all actuating signals from train A components. The SSPS for train A was placed in a testing status during two different time intervals, one of 53 minutes and one of 70 minutes. This event will not be cited as a violation at this time for the following reasons:

a. The item was identified and promptly reported by the licensee.

b. It fits a Severity Level IV or V category in that minor safety or environmental significance was concerned since the actual time that both trains were inoperative at one time was only 26 minutes. The remaining time was due to administrative requirements. In addition, had NI pump 1B been required to function only one valve would have been required to be opened and that could have been opened from the control room.

c. Upon discovery of this problem immediate corrective actions were taken to return both trains to operable status.

d. No violations have been issued for similar problems and this appears, at this time, to be an isolated event.

Although this item is not being cited at this time an inspector followup item will be opened to assure the corrective actions taken by the licensee are adequate to preclude future problems of this nature and that the corrective actions are performed within a reasonable time period. This inspector followup item is identified as IFI 413/85-05-01; Followup of Licensee Action for Non-Routine Report No. C85-17.

No violations or deviations were identified.

6. Maintenance Observations (62703) (Unit 1)

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.

7. Surveillance Observations (61726) (Unit 1)

a. During the inspection period, the inspector verified plant operations were in compliance with various Technical Specification (TS) requirements. Typical of these requirements were confirmation of compliance with the TS 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, test 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.

b. The calibration program for permanently installed process instrumentation used to satisfy TS requirements was reviewed in detail. The requirements of this program and attributes for the program are identified in part in Section 5.2.16, Measuring and Test Equipment, of ANSI N18.7-1976 and Section 17.2.12, Control of Measuring and Test Equipment, QA Program (Duke 1-A). Although there is no single document at Catawba that addresses these attributes, various documents collectively do address most of these attributes. Not having a document specifically addressing these requirements may have attributed to problems identified in this area. No controls could be identified in the administrative program which addressed two specific aspects required by the QA Program and the ANSI standard. These specific aspects were; (1) that items and processes determined to be acceptable based on measurements made with devices subsequently found to be out of calibration are re-evaluated, and (2) if any calibration, testing or measuring device is consistently found to be out of calibration it shall be repaired or replaced. The failure to address these requirements in administrative procedures constitutes a violation of Criterion XII of 10 CFR 50 Appendix B, (413/85-05-02); failure to establish all required measures to control measuring and test equipment.

8. Plant Operations Review (Unit 1) (71707 and 71710)

The inspectors reviewed plant operations throughout the reporting period to verify conformance with regulatory requirements, Technical Specifications, and administrative controls. Control room logs, danger tag 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.

9. Power Ascension Procedure Review (72582, 72583) (Unit 1)

The inspectors witnessed the Loss of Control Room Testing and Loss of Offsite Power Testing. This testing was also witnessed by region based inspectors.

Based on this review, no violations or deviations were identified.

10. Review of License Conditions (92706) (Unit 1)

Facility Operating License NPF-35 item 2.C.(1) identified in Attachment 1, that prior to February 5, 1985, Duke Power Company (DPC) shall implement to the satisfaction of the staff, the TDI diesel generator maintenance and surveillance program committed to in DPC letters dated July 16, October 9, and December 5, 1984, which is in accordance with the staff's SER transmitted to DPC by letter dated August 14, 1984. The inspector reviewed the maintenance and surveillance program (M/S) with changes incorporated as discussed in the above identified correspondence. One area (addressed in item 6.g) was not incorporated into the Catawba M/S program. After discussion of this area with responsible DPC corporate and NRR personnel, an NRR representative stated that this item was included in error and should be incorporated into the M/S program at the first refueling. Based on this review and the discussions with NRR this license condition has been satisfied.

11. Comparison of As-Built Plant to FSAR Description (Unit 2) (37301)

The inspector performed walkdown inspections of portions of safety related systems to determined if piping, valves and instrumentation installation was in accordance with current flow diagrams and FSAR descriptions. The following portions of systems were observed:

Chemical and Volume Control System-suction from Volume Control Tank to Pump No. 2B and into Loop B and C cold Leg Safety Injection nozzles. Drawing Nos. CN-2554-1.1, Rev. 2; CN-2554-1.2, Rev. 3; CN-2554-1.7, Rev. 2; and CN-2562-1.0, Rev. 2.

Residual Heat Removal System (RHR) - Train A from Loop B hot leg to Pump No. 2A through the RHR heat exchanger to the Safety Injection System at Valve No. 2 NI 173A. Drawing Nos. CN2561-1.0, Rev. 3 and CN-2562-1.3, Rev. 2.

No violations or deviations were identified.

12. Preoperational Test Program Implementation (Unit 2) (70302, 71302)

a. The inspector conducted tours to verify that turned over equipment was adequately protected and controlled. This review included observation of construction activities, observation for fire hazards and observation of security boundaries.

b. The inspector witnessed a portion of preoperational testing to verify the pump head curve on Centrifugal Charging Pump No. 2B. Attributes considered in this observation included conformance to procedure (TP/2/A/1200/03C, Safety Injection Pumps and Flow Adjustment F/T) requirements, organization and coordination of the test, clear specification of acceptance criteria, prerequisites specified and followed, procedure signoffs, procedure and procedure changes appropriately reviewed and approved, method of verifying use of latest reference documents and test methodology. It should be noted that the pump did not meet criteria during the observation and the licensee is evaluating this problem.

c. The inspector reviewed the turnover program to determine if a well defined program meeting regulatory requirements was in place. The primary licensee procedures applicable to turnover are Construction QA Procedure No. S2, Rev. 23, Systems Verification and Turnover; Construction Procedures CP-515, Rev. 15, Procedure for Preparing the Mechanical S2 Package for Pressure Testing and Turnover to Nuclear Production and CP-770, Rev. 4, Transfer and Control of Systems/Components after Completion of Erection Activities and Prior to Provisional Turnover. Attributes considered in this review included method of identifying boundaries and control of boundaries, method of assuring system completion including review of all documentation required, control of exceptions and assurance that test engineers were aware of and evaluated exceptions (this attribute was specifically verified relative to the test described in paragraph 12.b. above), and evaluation of exceptions identified for possible upgrading to nonconforming Item Status if further management evaluation is deemed necessary. The inspector reviewed specific turnover packages to determine if turnovers were accomplished in a well controlled manner and procedural requirements were adhered to. This included review of flow diagrams, QA verification, mechanical walkdown verification, valve and equipment lists, instrument lists, and exception lists. Turnovers reviewed included Residual Heat Removal System (ND) Turnover 2ND-T-1, Charging System (NV) Turnover 2NV-T-2 and Safety Injection (NI) System Turnover 2NI-T-2. These turnovers appeared to be well coordinated and these systems were turned over with relatively few exceptions.

In addition, the inspector verified that appropriate equipment maintenance activities were being implemented by the Nuclear Production Department after turnover for the ND, NI and NV pumps.

No violations or deviations were identified.

13. Licensee Identified Items 50.55(e) (Unit 2) (99020)

a. (Closed) CDR 414/83-11: Westinghouse NSSS NTC Cards Deficiency. Reports for this item were submitted on September 27, 1983 and May 31, 1984. The inspector reviewed these reports and verified implementation of corrective actions described in the reports and considers licensee actions to be acceptable.

b. (Closed) CDR 414/82-04: Procedure Requirements for Hangers, Supports and Seismic Controls. Reports for this item were submitted on March 5, 1982 and February 24, 1984. The inspector reviewed these reports and verified implementation of corrective actions described in the reports and considers licensee actions to be acceptable. The inspector reviewed the licensee computer printout of Unit 2 hanger status and determined that no Unit 2 hangers had been final inspected at the time this discrepancy was identified and therefore reinspections were not required for Unit 2 hangers.

c. (Open) CDR 414/84-24: Oil Contaminated Reactor Coolant Residual Heat Removal and Safety Injection Systems. The inspector requested a supplemental report for this item to more fully describe the rework required since this was the basis for reporting and also to more fully describe the reason the temporary air line had been connected to the safety injection system. The licensee indicated that an additional report would be forwarded.

No violations or deviations were identified.

14. Review of Nonroutine Event Reports by the Licensee (92700) (Unit 1)

The below listed Licensee Event Reports (LERs) were reviewed to determine if the information provided met NRC requirements. The determination included: adequacy of event description, verification of compliance with Technical Specifications and regulatory requirements, corrective action taken, existence of potential generic problems, reporting requirements satisfied, and the relative safety significance of each event. Additional inplant reviews and discussion with plant personnel, as appropriate, were conducted for those reports indicated by an asterisk. The following LERs, except for 413/84-32, are closed:

LER No.	Date	Event
84-9	8/27/84	Failure to Monitor Boron Concentration

84-18	10/23/84	Incore Thermocouple Leakage
*84-19	11/8/84	Continuous Sampling of Unit 1 Vent Disabled
84-20	11/12/84	Inadequate Review of Periodic Test Results.
84-21	11/14/84	Feedwater Isolation Due to Steam Generator Hi-Hi Level
84-27	11/26/84	Boron Concentration Decreased to Less Than 2000 PPM
*84-32	12/19/84	Inoperable Fire Barrier Penetrations

The inspectors have asked that LER 413/84-32 be reviewed and additional information be submitted to further describe cause and corrective action for this item.

15. Licensee Actions on Previously Identified Inspection Findings (92701) (Unit 1)

a. (Closed) Inspector Followup Item (413/84-47-01):

Acceptability of Remote Radiation Monitor for Heat Chemistry Laboratory. This remote radiation monitor was originally located outside the hot chemistry laboratory. It has now been relocated into the laboratory.

b. (Closed) Inspector Followup Item (413/85-04-01):

Assure the acceptance criterion for the ejected rod test was satisfied. The Catawba Nuclear Station INTRASTATION LETTER on this subject dated February 6, 1985 was received in Region II on February 22, 1985. Details of the analyses of the IBM and WEST computer traces are given in an attachment. Data from the letter are available only from 45 to 228 steps. Over that span, the licensee's WEST result of 621.5 pcm, compared very well with the 620 pcm obtained independently by the inspector. Their result for IBM over that span was 611 pcm. For the span 0 to 45 steps, the IBM result was 83.5 pcm. The inspector estimated the WEST value for 0 to 45 steps by ratioing (621.5/611 x 83.5 = 84.9). This gave a total worth for the ejected rod of 706.4 pcm by the West computer. When increased by 10% for measurement uncertainty the ejected rod worth became 777 pcm, which is less than the acceptance criterion limit of 780 pcm. The corresponding value from the IBM computer was 764 pcm, and the average result was 770 pcm.

16. Followup of IE Information Notices (Unit 1 and 2) (92717)

The inspector verified that the licensee had reviewed and taken appropriate corrective actions relative to the following IE Information Notices:

IEN 83-46: Common Mode Failures Degrade Surry's Recirculation Spray Subsystem

IEN 84-31: Increased Stroking Time of Bettis Actuators Because of Swollen Ethylene-Propylene Rubber Seals and Seal Set

IEN 84-67: Recent Snubber Inservice Testing with High Failure Rates

No violations or deviations were identified.