

Inspect

06230151

0413

UNITED STATES NUCLEAR RECULATORY COMMISSION REGION II 101 MATICTTA STREET, N.W., SUITE 2900 ATLANTA, GEORGIA 30323

Report Nos. 50-413/92-13 and 50-414/92-13

Licensee: Duke Power Company P.J. Pox 1007 Charlotte, N.C. 28201-1007

Docket Nos.: 50-413 and 50-414 License Nos.: NPF-35 and NPF-52 Facility Name: Catawba Nuclear Station Units 1 and 2

Inspection Conducted: April 5, 1992 - May 2, 1992

Inspector: Orders Inspector

Hopki

Inspector:

S. Nin

5-27-92 Date Signed

5-27-92 Date Signed

5-27-92 Date Signed

5-27.92 Date Signed

Approved by: George A. Bélisle,

Projects Section 3A Division of Reactor Projects

SUMMARY

This routine, resident inspection was conducted in the areas Scope: of review of plant operations; surveillance observations; maintenance observations; installation and testing of modifications; review of licesee event reports; and follow-up of previously identified items.

Results:

One non-cited violation was identified involving the failure to make necessary procedure changes concerning the installation of station modifications (paragraph 6B).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- S. Bradshaw, Shift Operations Manager
- *J. Forbes, Engineering Manager
- S. Frye, Operations Support Manager
- *R. Futrell, Regulatory Compliance Manager
- E. Geddie, Operations Superintendent
- T. Harrall, Safety Assurance Manager
- *G. Ice, Operations
- *J. Lowery, Compliance
- W. McCollum, Station Manager
- K. Seasely, Compliance
- M. Tuckman, Catawba Site Vice-President

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

NRC Resident Inspectors

*W. Orders *P. Hopkins *J. Zeiler

* Attended exit interview.

2. Plant Status

Both units operated for the entire report period with no major problems.

3. Plant Operations Review (71707)

The inspectors reviewed plant operations throughout the report period to verify conformance with regulatory requirements, Technical Specifications (TS) and administrative controls. Control Room logs, the Technical Specification Action Item Log, and the Removal and Restoration (R&R) log were routinely reviewed. Shift turnovers were observed to verify that they were conducted in accordance with approved procedures. The complement of licensed personnel on each shift inspected, met cr exceeded the requirements of Technical Specifications. Further, daily plant status meetings were routinely attended. Plant tours were performed on a routine basis. The areas toured included but were not limited to the following:

Turbine Buildings Auxiliary Building Units 1 and 2 Diesel Generator Rooms Units 1 and 2 Vital Switchgear Rooms Units 1 and 2 Vital Battery Rooms Standby Shutdown Facility

During the plant tours, the inspectors verified by observation and interviews that measures taken to assure 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 conditions, and that access control badging were proper and procedures followed.

In addition, the areas toured were observed for fire prevention and protection activities and radiological control practices. The inspectors also reviewed Problem Investigation Reports (PIRs) to determine if the licensee was appropriately documenting problems and implementing corrective actions.

No violations or deviations were identified.

4. Surveillance Observation (61726)

a. General

During the inspection period, the inspectors verified plant operations were in compliance with various TS requirements. Typical of these requirements were confirmation of compliance with the TS for reactivity control systems, reactor coolant systems, safety injection systems, emergency safeguards systems, emergency power systems, containment, and other important plant support systems. The inspectors verified that: surveillance testing was performed in accordance with approved written procedures, test instrumentation was calibrated, limiting conditions for operation were met, appropriate removal and restoration of the affected equipment was accomplished, test results met acceptance criteria and were reviewed by personnel other than the individual directing the test, and any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

b. Surveillance Activities Reviewed

The inspectors witnessed or reviewed the following surveillances:

PT/0/A/4200/17	Standby Shutdown Facility Diesel
PT/1/A/4350/02A	Diesel Generator 1A Operability Test
PT/1/A/4450/03A	Annulus Ventilation System Train 1A Operability Test
PT/2/A/4200/62	Nuclear Service Water to Containment Isolation Valve Seal Water Flow Verification (Train A)
PT/2/A/4450/02	Auxiliary Building Filtered Exhaust System Operability
PT/1/A/4600/02A	Mode 1 Periodic Surveillance Test
PT/1/A/4600/01	RCCA Movement Test
PT/1/A/4150/02	Visual Inspection Of Radioactive Systems Outside Of Containment
PT/2/A/4200/01E	Upper Airlock Leakrate Test
PT/2/A/4200/14A	Ice Condenser Door Position Verification
PT/2/B/4250/02A	Main Turbine Trip Test
PT/1/A/4350/02B	Diesel Generator 1B Operability Test
PT/1/A/4400/03G	Component Cooling Crosstrain Alignment
PT/2/A/4200/09A	Auxiliary Safeguards Testing

No violations or deviations were identified.

5. Maintenance Observations (62703)

a. General

Station maintenance activities of selected systems and components were observed/reviewed to ensure that they were

conducted in accordance with the applicable requirements. The inspectors verified licensee conformance to the requirements in the following areas of inspection: activities were accomplished using approved procedures, and functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities performed were accomplished by qualified personnel; and materials used were properly certified. Work requests were reviewed to determine the status of outstanding jobs and to assure that priority was assigned to safety-related equipment maintenance which hay affect system performance.

b. Naintenance Activities Reviewed

The inspectors witnessed or reviewed the maintenance activities associated with the following Work Requests (WRs):

WF	92608350-01	Investigate/Repair Air Leak on Diesel Generator 1A Starting Air
		Dryer 1A1
WE	92021541-01	Generator 1A Starting Air Dryer 1A1
WF	095941	Perform PM/PT On Analog Channel Operational Test On Fuel Pool Radiation Monitor
WI	8 92025774-01	Perform Inspection And Repair On D/G 1B Fuel Rack Linkage
WI	92025789-02	Inspect/Repair Fuel Rack Linkage On D/G 2B

No violations or deviations were identified.

6. Installation and Testing of Modifications (37838)

The inspector reviewed several recently completed modification packages to verify that: the packages were prepared in accordance with regulatory requirements and applicable industry codes and standards; the modifications were reviewed and approved in accordance with the licensee's requirements; the 10 CFR 50.59 safety evaluations performed by the licensee were adequate; the installation test requirements were specified and adequately performed; and procedures and control room drawings affected by the modifications were properly referenced and revised. In addition to inplant reviews and discussions with plant engineering staff, the inspector also performed a field verification of selected modification installations to ensure compliance with the design documents.

A. NSM-NO. CNCE-3290, Replace Valve 1ND031

Station problem report CNPR-05613 was issued on March 12, 1991, to document a problem with relief valve 1ND031. The valve was heavily damaged and needed repair/replacement. This modification was developed to replace the existing valve 1ND031 with a new similar spare valve. The inspector verified that the material, the system application, and the pipe stress analysis for valve replacement were evaluated by various disciplines in Design Engineering and found to be acceptable. The function of the residual heat removal system will not be affected by this modification.

B. NSM-No. CNCE-3282, Provide Throttling Capability For 1NI173A and 1NI178B

Prior to the implementation of this modification, the control circuitry for valves 1NI173A and 1NI178B did not allow the valves to be throttled. The system design was such that the only way to throttle decay heat removal (ND) flow was to adjust valves 1ND26 and 1ND60 which are air-operated and designed to fail full open upon loss of instrument air. If during mid-loop operation these valves should fail full open due to the loss of air supply to the valves actuators, the possibility existed for vortex formation in the suction line of the ND pumps which could ultimately result in the loss of residual heat removal capability.

This modification involved replacing the "ENABLE-DISABLE" switch for valves 1NI173A and 1NI178B with a three position selector switch "DISABLE-ENABLE-THROTTLE" enabling the valves to be throttled. This throttling capability provides the control room operators with a means to control ND flow should valves 1ND26 and 1ND60 fail open. The implementation of this modification enhances the reliability of ND flow during Modes 5 and 6.

The inspector noted that the 10 CFR 50.59 safety evaluation for this modification specifically called for revisions of the procedures dealing with the loss of instrument air (AP/0/A/5500/22) and the loss of residual heat removal (AP/1/A/5500/19). The safety evaluation requires in part that abnormal procedures be revised to account for the capability provided by the modifications; to ensure that the ability to place the valve in a throttled position will be used upon loss of flow control to 1ND26 and 1ND60; and to specify that after throttling is performed, the switch must be returned to the "ENABLE" position and appropriate OPEN/CLOSE pushbutton depressed to ensure complete opening/closure of the valves. The Unit 1 modification was completed and closed out on December 6, 1991. The inspector determined that procedure AP/O/A/5500/22 had not been revised as required prior to the close out of the modification package. There was no technical basis or written justification documented by Operations for not incorporating the change into the procedure. The inspector reviewed the same modification for Unit 2 (NSM-No. CNCE-3283) and determined that the modification was completed on November 13, 1991, but the affected procedure, had not been revised as required. The inspector discussed this issue with the operations staff and was later informed that AP/O/A/5500/22 will be revised to reflect the 50.59 safety evaluation requirements.

Technical Specification (TS) 6.8.1 requires in part that written procedures shall be established, implemented, and maintained covering plant safety-related modification activities. Section 2.5 of Station Directive 4.4.4, Processing Nuclear Station Modification, requires that operations procedures that are affected by the nuclear station modifications be reviewed and revised as needed, including additional personnel training. This issue constitutes a violation of TS 6.8.1. However, given the minor safety significance of the issue, and because the criteria specified in Section VII.B of the NRC Enforcement Policy were satisfied, this NRC identified violation is not being cited. This issue is being documented as Non-Cited Violation (NCV) 413, 414/92-13-01: Failure To Change Procedures To Reflect Plant Modifications.

C. NSM-No CN20573, Add NC Ultrasonic Level Measurement System

The reactor coolant system (NC) level instruments do not presently provide a: irate or reliable level indication during periods when the NC system is in drain down or in midloop operation. The current level instruments utilize differential pressure (DP) to indicate the level within the NC system. Since the DP based instruments can be affected by unequal pressure distributions during the NC system drain down it may provide inaccurate level indication. The inaccurate NC level indication during mid-loop operation can result in loss of residual heat removal capability due to air binding of the ND pump.

This modification was developed and implemented during the last Unit 2 outage to provide control room operators with redundant diverse level indication of the NC system during mid-loop operation. The modification was to install ultrasonic level instrument on the NC piping on both the B and the C hotlegs. The detectors strap to the outside of the NC pipe, rather than mounting through the pipe wall, leaving the NC system boundary intact. High and low level alarms and operator aid computer alarms were also included in this modification. This new level system provides a more accurate and reliable level indication, particularly during NC system reducedinventory conditions.

D. NSM No. CNCE3158, Increase KC Pump Low Flow Setpoint to 3150 GPM

The licensee's Design Engineering group determined that the present 2700 GPM KC miniflow requirement was inadequate to ensure the minimum flow required by the manufacturer given pump-to-pump interaction. The two pumps of each KC train may not have the same head-flow characteristics. One pump may deliver a higher flow than the weak pump at the same head. At the current setpoint for miniflow initiation, the weaker pump may discharge less flow than required as a result pressure 1 'iup from the stronger pump. This condition could result in the loss of the KC pump.

This modification was to revise the KC pump low flow setpoint from 2700 GP to 3180 GPM in order to revise adequate miniflow capacity to preclude the above referenced pump-topump interaction phenomenon. This modification should reduce the probability of KC pump failure due to pump-to-pump interaction.

Based on the review of the above modification packages and the performance of field verification of selected installations, the inspector determined that the quality and technical information in the packages was good. The 50.59 safety evaluations performed for the modifications were detailed and adequate. The post modification tests specified for the modifications were found to be satisfactory. Selected calculations performed in support of the modifications were reviewed and found to be acceptable. Control room drawings affected by the modifications were correctly addressed by interim drawings. Test acceptance criteria and procedures affected by the modifications were generally being revised with the exception of AP/0/A/5500/22 which was not revised as previously discussed.

One non-cited violation was identified.

7. Review of Licensee Event Reports (90712)

The LERs listed below were reviewed to determine if the information provided met the NRC requirements. The determination included; adequacy of description, verification of compliance with the TS as well as other regulatory requirements, corrective actions planned or taken, existence of potential generic problems, reporting requirements compliance, and the relative safety significant of each event. In-plant reviews and discussions with plant staff was also conducted for the reports.

- a. (Closed) LER 414/90-10: Technical Specification Violation Due To Containment Purge System Operation With An Inoperable Radiation Monitor.
- b. (Closed) LER 413/90-01: Pressurizer Safety Valve Blowdown Inconsistent With Design Analysis And Greater Than Manufacturer's Rating.

No violations or deviations were identified.

8. Followup on Previous Inspection Findings (92701 and 92702)

(Closed) Severicy Level IV Violation 413, 414/90-32-01: Failure to Perform Procedure Reviews on Periodic Basis.

This violation was issued for a failure to follow the procedural requirements of Station Directive 4.2.1 which requires periodic review, i.e., every two years, of all safety-related station procedures. During the previous inspection, it was noted that the licensee was not performing reviews of certain Performance Group procedures. The licensee responded to this violation in a letter dated February 28, 1991. In that letter, the licensee stated that a review of Performance Group procedures, as well as, Station Directives, would be performed to ensure that all safetyrelated procedures are included in the two-year review group. The inspectors reviewed the licensee's corrective actions and consider the actions to be satisfactorily implemented.

No violations or deviations were identified.

9. Exit Interview

The inspection scope and findings were summarized on May 5, 1992 with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection findings listed below. No dissenting comments were received from the licensee. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

Item Number

Description and Reference

NCV 413,414/92-13-01

Failure To Change Procedures To Reflect Plant Modifications. (Paragraph 6)