

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

Report Nos.: 50-413/89-03 and 50-414/89-03

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

Docket Nos.: 50-413 and 50-414

License Nos.: NPF-35 and NPF-52

Facility Name: Catawba 1 and 2

Inspection Conducted: January 30 - February 3, 1989

Inspector: MEKenzie Thomas M. Thomas R. Wright Wright

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Date Signed

Approved by: F. Jape, Section Chief Quality Performance Section Division of Reactor Safety

SUMMARY

Scope

This routine, unannounced inspection was in the areas of design, design changes, plant modifications and licensee action on previously identified inspection findings.

Results

NSMs were prepared and installed in accordance with DE program requirements and applicable industry codes and standards. Safety evaluations performed in accordance with the requirements of 10 CFR 50.59 were thorough and technically adequate.

One weakness was identified concerning PMT. The finding had no impact on safety. The licensee has implemented corrective actions to enhance PMT administrative controls to correct this weakness as well as other PMT weaknesses identified by the licensee during the same time period. The improved PMT administrative controls should prevent recurrence of the PMT problems which occurred in the past. This item is discussed in more detail in paragraph 2.d.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- J. Anderson, Accountable Engineer, Projects
- *J. Aycock, Projects Engineer
- *J. Barbour, Quality Assurance Director Operations
- *W. Beaver, Performance Engineer
- B. Finch, Accountable Engineer, Projects
- *J. Forbes, Technical Services Superintendent
- *R. Glover, Compliance Engineer
- *V. King, Compliance Staff
- *P. Lep y, Regulatory Compliance, General Office
- R. Mack, Project Services Engineer
- S. Martin Accountable Engineer, Projects
- *T. Owen, Station Manager
- D. Wright, Accountable Engineer, Projects

Other licensee employees contacted during this inspection included craftsmen, engineers, technicians, and administrative personnel.

NRC Resident Inspectors

*W. Orders, Senior Resident Inspector *M. Lesser, Resident Inspector

*Attended exit interview

Acronyms and Initialisms used throughout this report are listed in last paragraph.

2. Modification Control Program (37700)

The inspectors reviewed the following NSMs to determine the adequacy of the evaluations performed to meet 10 CFR 50.59 requirements; verify that the NSMs were reviewed and approved in accordance with TS and administrative controls; ensure the subject modifications were installed (for those physically inspectable) in accordance with the NSM packages; applicable plant operating documents (drawings, plant procedures, FSAR, TS, etc) were reviewed and incorporated in operations training programs as applicable; and post modification test requirements were specified and adequate testing performed.

a. NSM CN-20314, Replacement of Crossover Leg Drain Valve #2NC-14

The subject valve is located in 3-inch piping from a RC pump suction line of the RC system to the charging, letdown and seal water subsystem of the C&VC system. The valve functions as part of the pressure boundary for the RC system. Valve 2NC-14 is a manual, handwheel operated valve normally locked open during system operation. Replacement was necessary due to excessive RC system leakage and the fact that former leak repair methods (furmanite, seal welds) eventually rendered the existing valve unserviceable. The modification removed valve 2NC-14 (Walworth globe type valve) and replaced it with a Borg-Warner (Duke Class A,) 3-inch gate valve. Since the Borg-Warner valve was heavier and its CG is different than previously analyzed, the modification required a piping and hanger/restraint reanalysis which subsequently resulted in hanger No. 1663 being deleted by PCA No. 816. Since the passive safety function of the valve (i.e. a pressure boundary for the RC system) was not diminished and the improved flow characteristics of the replacement gate valve will not over pressurize the piping or components of the RC system there is no increase in the probability of an accident occurring nor will the possibility of an accident different from those already evaluated in the FSAR be created.

Inspection of this modification to the above listed review criteria resulted in no violations or deviations being identified.

b. NSM CN-10281, NSM CN-20457, Replace Pressure Gauges on Trains A & B Diesel Generator Lube Oil and Pre-Lube Oil Filters for both Units.

These NSMs replaced existing filter pressure gauges; provided an alternate piping configuration for better readability of the subject gauges (pre-lube filters are located in the sump and were difficult to access); and installed isolation valves, test tees, and plugs at each new pressure gauge per Duke standard practice. Prior to this modification, calibration of the subject gauges (every 18 months as required by the FSAR) could only be performed after the diesel generator oil filters were drained for cleaning of the filter. The new configuration facilitates calibration and maintenance of the pressure gauges without draining the oil. The work required by these modification packages is identical for both Units. The completed Unit 2 modification (CN-20457) work was visually inspected in the field and found to agree with the as-built drawing configuration. Unit 1 (CN-10281) hardware has not been installed to date. No changes or impact to the FSAR or TSs were attributed to the implementation of these modifications nor were any safety systems degraded.

Inspection of these modifications to the above listed review criteria resulted in no violations or deviations being identified.

c. NSM CN-10626, Relocate Detectors for Radiation Monitors 1EMF18 and 1EMF19

The detectors for the subject monitors were initially installed too far (approximately 71-inches) from the RC filters they were intended to monitor for increasing radiations levels. Consequently, extremely high radiation levels built up on these filters before the detectors responded, indicating a need to change the filters. Workers replacing these filters were exposed to higher radiation levels than necessary. This modification moved the subject radiation monitors and their supports to within 12-inches of the RC filters, improving the ALARA aspects for the workers who performed filter changes. This modification increased the conservatism of the monitored system. It did not propose an unreviewed safety question nor adversely impact any safety or non-safety system. Inspection of this modification to the above listed review criteria resulted in no violations or deviations being identified.

d. NSM CN-20371, Rev.O, Replace RN Supply Crossover Isolation Valves 2RN47A and 2RN48B

This NSM involved replacing RN system butterfly valves 2RN47A and 2RN48B with more reliable valves for isolation. The butterfly valves, manufactured by BIF Incorporated, had proven to be unreliable and a high maintenance item due to continuous seat leakage. Therefore, the existing valves were replaced with a more reliable butterfly valve manufactured by Posi-Seal Incorporated.

Replacement of these RN valves was part of an on-going effort initiated by the licensee to replace all the BIF butterfly valves installed in Units 1 and 2 at Catawba. The licensee performed a design study on the BIF butterfly valves in order to classify the BIF valve applications by their ability to tolerate seat leakage; to provide guidance on which valves should be replaced; and to provide guidance on selecting replacement valves from a valve manufacturer which had a more reliable butterfly valve.

During the detailed review of the NSM package, the inspector observed that the safety evaluation performed in accordance with the requirements of 10 CFR 50.59 was technically adequate. The inspector performed a field walkdown of the installed NSM and verified that the subject valves were installed in accordance with applicable design requirements.

While reviewing the PMT performed for this NSM, the inspector identified a weakness where all the PMT requirements specified in the NSM package were not performed. The NSM specified that the valves be cycled and timed in both directions, from the open to closed position and again from the closed to open position. The valves were cycled and timed from the open to closed position per PT/2/A/4200/13C, RN Valve Inservice Test (QU). The valves were not cycled and timed from the closed to open position as specified in the NSM. The part of PMT which was not performed did not appear to have an impact on safety because the RN system design basis states that the valves are normally open and they close on a Containment High High Pressure (Phase B Isolation) Signal. The valves were cycled and timed from open to closed per the PT.

The inspector discussed this item with licensee personnel who stated that they had previously identified similar PMT problems which occurred during approximately the same time period as the item discussed above. Corrective actions were implemented by the lice..see subsequent to when the item discussed above occurred. The corrective actions included enhancing the PMT administrative controls by requiring more interface and coordination between DE and plant personnel when determining PMT requirements for specific NSMs, and documenting the PMT requirements on the PMT Plan that is included in the NSM package. The enhanced controls should prevent recurrence of the PMT problems which have occurred in the past. 3. Action on Previous Inspection Findings (92701, 92702)

(Open) Violation 413, 414/88-29-01: Failure to Comply with TS Requirements for CSRG Functions.

The licensee submitted a TS revision for TS 6.2.3, Safety Review Group to the NRC on November 28, 1988 for approval. This revision clarifies the CSRG functions, responsibilities, and authority. This item will remain open until approval is received on the subject TS change.

(Open) Inspector Followup Item 413, 414/88-29-02: Inadequate Procedure Guidance For 10 CFR 21 Reportability Determinations.

Station Direction 2.8.1 was in the revision process and had not been reviewed and approved for distribution at the time of this inspection. Subsequent inspection review will be necessary to close this item.

5. Exit Interview

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The inspection scope and results were summarized on February 3, 1989, with those persons indicated in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection results. Proprietary information is not contained in this report.

6. Acronyms and Initialisms

ALARA	As Low As Reasonable Achievable
CFR	Code of Federal Regulations
CG	Center of Gravity
CNS	Catawba Nuclear Station
C&VC	Chemical and Volume Control
CSRG	Catawba Safety Review Group
DE	Design Engineering
FSAR	Final Safety Analysis Report
NSM	Nuclear Station Modification
PCA	Project Change Authorization
PMT	Post Modification Test
PT	Periodic Test
RC	Reactor Coolant
RN	Nuclear Service Water
TS	Technical Specification