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**DUKE POWER**

June 16, 1997

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Subject: Catawba Nuclear Station  
Dockets 50-413 and 50-414  
Reply to Notice of Violation (NOV)  
Inspection Report 50-413, 414/96-05  
EA 97-179

Attached is Duke Power Company's response to the Level IV violation cited in Inspection Report 50-413, 414/96-05 dated May 16, 1997. This violation was identified during inspections conducted between March 24, 1996, through May 4, 1996.

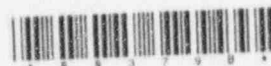
If there are any questions concerning this response, please contact M. S. Purser at (803) 831-4015.

Sincerely,

W. R. McCollum, Jr.

xc: L. A. Reyes, Regional Administrator  
P. S. Tam, ONRR  
R. J. Freudenberger, SRI

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REPLY TO NOTICE OF VIOLATION  
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**Notice of Violation**

10 CFR 50, Appendix B. Criterion V, requires that activities affecting quality be prescribed by documented instructions and procedures, and shall be accomplished in accordance with these instructions and procedures.

Procedure NSD 203, Operability, Revision 4, effective January 1, 1996, specifies the requirements for determining the operability status of a structure, system, or component. Paragraph 203.7.4 of NSD 203, in part, requires a 10 CFR 50.59 unreviewed safety question (USQ) evaluation if the operability evaluation concludes the system, structure, or component (SSC) is operable, but degraded. Operable, but degraded is defined in NSD 203 as a situation which existed where a SSC relies on a temporary change to a design limit or design basis in order to remain operable. Paragraph 203.9.2 of NSD 203 requires a calculation to be initiated per procedure EDM-101 to define, analyze, and document any change to a safety related SSC which changes the design basis or design basis documents.

Duke Power Nuclear Station Directive (NSD) 209, 10 CFR 50.59 Evaluation, Revision 3, effective October 1, 1995, specifies the requirements for performance of reviews of changes to the facility or facility procedures to assure compliance with 10 CFR 50.59. Section 209.10.2 of NSD 209 specifies the screening process required to be performed to determine if a facility or procedure change constitutes an unreviewed safety question (USQ) which in part requires negative answers to the following questions:

- Does the activity change the facility as described in the SAR?
- Could the activity adversely affect any system, structure, or component that is necessary in accordance with the SAR?

NSD 209 defines the SAR as the set of documents used to support issuance of a plant operating license. These documents include, but are not limited to, the Facility Operating License, the NRC Safety Evaluation Report, the FSAR, the Technical Specifications, and other licensing documents.

Paragraph 3.10.1 of Specification No. CNS-1206.00-04.001, Design Specification for Nuclear Safety Related (QA Condition 1) and QA Condition 4 Component Supports, Revision 4, dated March 1, 1995, requires concrete expansion anchors to be designed with a minimum safety factor of 4.0.

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Section 101.4.3 of Engineering Directives Manual EDM-101, Engineering Calculations/Analyses, Revision 4, dated March 30, 1995, requires certification of design calculations prior to release of calculation results.

Contrary to the above the licensee failed to accomplish activities affecting quality in accordance with procedures as evidenced by the following:

1. The evaluations performed to determine if changing the operating temperature of the auxiliary feedwater piping involved an unreviewed safety question (50.59 screening) was inadequate in that the negative responses to the NSD 209 questions were incorrect for addressing the February 21, 1996, change to Enclosure 4.12 of procedure OP/1/A/6250/02, Auxiliary Feedwater System. Increasing the allowable auxiliary feedwater piping temperature to 250° F changed the design of the Auxiliary Feedwater System. The reduction of the concrete expansion safety factor, from four to two, to permit operability of the auxiliary feedwater piping at a temperature of 250° F decreased the margin of safety and had a potentially adverse effect on the design of the auxiliary feedwater piping. NRC IE Bulletin 79-02, a licensing document, requires a minimum safety factor of four for concrete expansion anchors.
2. Engineering calculations were released prior to completion of the design certification process required by procedure EDM-101, in that on February 21, 1996, a change to Enclosure 4.12 of Procedure OP/1/A/6250/02, for raising the acceptable Auxiliary Feedwater suction temperature, approved on February 21, 1996, engineering calculations supporting this change were not approved until on, or after, March 5, 1996. These calculations formed the bases for approval of the procedure change.

This is a Severity Level IV violation (Supplement I).

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**Response:**

**1. Reason for Violation**

Duke Power admits the violation. This violation occurred as a result of Duke Power performing an interim operability evaluation that led to a permanent change to a plant procedure. This had the appearance of being a permanent design change. NSD 203, Operability, requires a calculation to be performed per EDM-101 to support operability evaluations and further allows up to five working days to certify the calculations.

The calculation performed as part of the operability evaluation to justify operation of the Auxiliary Feedwater System at an increased temperature of 250°F concluded that the Auxiliary Feedwater System was Operable. However, in retrospect the evaluation should have concluded that the system was Operable But Degraded which would have identified the increased temperature as a condition needing additional corrective action. Instead, the results of the operability evaluation were used to make a permanent change to a plant procedure which was inappropriate. While current Duke procedures allow uncertified calculations to be used as the basis for an operability evaluation for up to five working days, it is not Duke Power's intent to make design changes prior to the certification and release of design calculations.

The 10CFR 50.59 evaluation performed for the procedure change to revise the temperature of the Auxiliary Feedwater System was inappropriately screened, i.e., all questions answered "no", on the understanding that a permanent design change was not being made to the plant. However, the interim structure for operability (Operable But Degraded) was not used, and therefore a 10CFR 50.59 USQ evaluation should have been performed.

**2. Corrective Actions Taken and Results Achieved**

Corrective actions taken include the following:

1. Site personnel in the Continuing Engineering Support Training program received training during the first quarter of 1997 on this event which was part of Auxiliary Feedwater System Lesson Plan.

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2. Permanent design changes and plant modifications were made through the Nuclear Station Modification Program to the Auxiliary Feedwater System to accommodate the increased operating temperature of the system. These changes were implemented during Unit 1 EOC9 and Unit 2 EOC8 refueling outages.

**3. Corrective Action to be Taken to Avoid Future Violations**

In addition to the above noted items Duke Power also proposes to undertake the following:

1. A team consisting of representatives from all three Duke Power Nuclear Stations as well as the Corporate General Office, will review and revise the directives that describe the Operability Evaluation process, NSD 203, and the 10CFR 50.59 process, NSD 209 to ensure consistency with EDM-101. The intent is to revise the directives to provide enhancements and clarifications to these processes.
2. Provide further training to site personnel, who perform 50.59 evaluations and procedure changes, to increase awareness with regard to defining design changes and the proper screening for USQs. This will include addressing the proper adherence to design criteria for permanent changes and clearly defining the difference between permanent and temporary changes.
3. Develop further guidance for engineering personnel in the use and limitations of operability criteria and the certification requirements for implementing design changes. This would include proper documentation for Operable But Degraded determinations.

These proposed activities will enhance the existing processes and address the concerns expressed in the Notice of Violation. The tracking of the items will be accomplished by assigning them as corrective actions for PIP C97-1926, which documents the Notice of Violation and this response and are expected to be implemented by the first quarter of 1998.

**4. Date of Full Compliance**

Duke Power Company is now in full compliance.