



Omaha Public Power District

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March 25, 1996
LIC-96-0037

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, D.C. 20555

- References:
1. Docket No. 50-285
 2. Letter from NRC (J. E. Dyer) to OPPD (T.L. Patterson) dated February 22, 1996
 3. Letter from OPPD (T. L. Patterson) to NRC (Document Control Desk) dated January 3, 1996 (LIC-95-0240)

SUBJECT: NRC Inspection Report No. 50-285/95-24, Reply to a Notice of Violation

The subject report transmitted a Notice of Violation (NOV) resulting from an NRC inspection conducted December 17, 1995, through January 27, 1996, at the Fort Calhoun Station. Attached is the Omaha Public Power District (OPPD) response to this NOV.

If you should have any questions, please contact me.

Sincerely,

T. L. Patterson
Division Manager
Nuclear Operations

TLP/epm

Attachment

c: Winston and Strawn
L. J. Callan, NRC Regional Administrator, Region IV
L. R. Wharton, NRC Project Manager
W. C. Walker, NRC Senior Resident Inspector

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NOTICE OF VIOLATION

Omaha Public Power District
Fort Calhoun Station

Docket: 50-285
License: DPR-40

During an NRC inspection conducted on December 17, 1995, through January 27, 1996, two violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (60 FR 34381; June 30, 1995), the violations are listed below:

- A. Appendix B of 10 CFR Part 50, Criterion III, states, in part, that design control measures shall be established to assure that applicable regulatory requirements and a design basis as defined in 50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies, are correctly translated into specifications, drawings, procedures, and instructions. These measures shall also be applied to design changes.

Contrary to the above, inadequate design control measures were applied to plant design changes that affected the amount of trisodium phosphate needed to meet the post-accident containment sump water design basis of a pH greater than 7. On December 4, 1995, the quantity of trisodium phosphate maintained inside containment to neutralize the post-accident containment sump water to a pH of 7 was found to have been inadequate at times during operation. Changes in reactor coolant system maximum boron concentration were not adequately incorporated into calculation of the amount of trisodium phosphate required to satisfy the design basis.

This is a Severity Level IV violation (285/9524-02) (Supplement I).

1. THE REASON FOR THE VIOLATION

A detailed description of this event was submitted in Reference 3. This condition was a result of errors in the original station design calculations for the amount of TSP required in containment. These calculations were done starting in 1973 through 1987. Changes in Reactor Coolant System (RCS) maximum boron concentration were not adequately incorporated into the calculation of the amount of TSP required to satisfy the design basis.

2. CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED.

The corrective steps that have been taken per Reference 3 include the following:

- a. Appropriate calculations and analyses have been performed using current industry techniques to verify that the amount of TSP required in the containment sumps is available to ensure that a neutral pH for cycle 16 (the current operating cycle) can be

achieved following a LOCA.

- b. An operability evaluation was completed on December 4, 1995. The evaluation determined that the plant met its design basis with the existing amount of TSP in containment and the boron concentrations in the SIRWT, BASTs, RCS and SITs that existed at the time of the evaluation. Administrative controls were put in place to keep from invalidating the assumptions of the evaluation. Additional calculations were subsequently completed that determined that continued plant operation would be allowable with the normal plant limits on boron concentration for the BASTs and SITs, if the concentration of boron in the SIRWT was limited to 2300 ppm, and the RCS boron concentration was limited to 1175 ppm. Revised administrative guidance was provided to the operators by Operations Memorandum on December 29, 1995.

In addition to the actions stated in Reference 3, OPPD has made significant changes to the procedures controlling calculations and other design basis documents since 1988. These revisions should preclude the possibility of an error of this type escaping detection. In addition, a new Condition Reporting system is now in use which enhances the visibility of conditions of this nature and helps assure their complete resolution.

3. CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

Additional corrective steps that will be taken to avoid inadequate design control measures which affect the amount of trisodium phosphate needed to meet the post accident containment sump water design basis of a pH greater than 7, are as follows:

- a. A modification will be accomplished to put additional TSP into the containment sump prior to entering mode two (2) for cycle 17 operation (the next refueling outage is currently scheduled to begin in September 1996).
- b. The Updated Safety Analysis Report (USAR), Technical Specifications and appropriate design basis documents will be updated with the results of the calculations and analyses. The USAR will be corrected during the next regularly scheduled update, following the next refueling outage. An application for amendment to the Technical Specifications will be submitted by May 31, 1996. The DBDs will be revised following the completion of the modification.
- c. Based on the above revisions chemistry procedure CH-ST-CH-0002, "Phosphate Basket Inspection", will be revised to ensure that Technical Specification requirements for the TSP are properly verified. This will be completed as part of the normal Technical Specification amendment process.

- d. Training on the document changes and modification, scheduled for the fall of 1996, will be provided to the appropriate groups at the Fort Calhoun Station no later than March 1, 1997.
- e. To ensure that the quantity of TSP in the containment continues to be adequate to meet the design criteria for future operating cycles, the calculations and analyses used to determine the quantity of TSP in the containment will be reviewed as part of each operating cycle's core reload analysis.

4. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

OPPD is currently in full compliance.

- B. Technical Specification 5.8.1 states, in part, that written procedures and administrative policies shall be established, implemented, and maintained that meet or exceed the minimum requirements of Regulatory Guide 1.33.

Regulatory Guide 1.33, Appendix A, Section 9.a, states, in part, that maintenance that can affect the performance of safety-related equipment shall be performed in accordance with written procedures or documented instructions appropriate to the circumstances.

Maintenance Procedure PE-RR-CCW-0100, Step 6.14.1, directs operations to open the inlet component cooling water valve for the heat exchanger being tested.

Contrary to the above, operations opened the component cooling water inlet valve and outlet valve, allowing component cooling water flow to be diverted away from the other heat exchangers in service.

This is a Severity Level IV violation (285/9524-01) (Supplement I).

1. REASON FOR THE VIOLATION

A Root Cause Analysis (RCA) was completed by the Nuclear Safety Review Group (NSRG) and has been reviewed by the Plant Review Committee (PRC) for adequacy of corrective actions. The analysis concluded that this event was caused by the following:

- a. Some operating personnel were not fully aware of the details of Operations Memorandum 95-07. This Operations Memorandum had been issued in May of 1995.
- b. Maintenance personnel failed to adequately communicate with operations personnel.
- c. Plant maintenance personnel failed to follow procedure PE-RR-CCW-0100 "Disassembly, Cleaning and Repair of CCW Heat Exchanger - Raw Water Side."
- d. The operating procedures that were referenced to control this evolution were not adequate.

2. CORRECTIVE ACTIONS TAKEN AND THE RESULTS ACHIEVED

- a. Immediately upon discovering the problem on January 17, 1996, Operations closed and hand jacked closed HCV-491A to AC-1C as required by Operations Memorandum 95-07.
- b. Condition Report (CR) 199600063 was generated on January 17, 1996 to document the violation of Operations Memorandum 95-07. This CR was assigned a Level 1, which represents a significant condition adverse to quality, by the Condition Review Group (CRG). Additionally, a RCA was completed by the NSRG and has been reviewed by the PRC for adequacy of corrective actions.
- c. The operating crews (including non-licensed operators) have been briefed on the event and the requirements of Operations Memorandum 95-07.
- d. Operating Crew Licensed Operators were required to review all active Operations Memorandums to refamiliarize themselves with the requirements listed in the eight active Operations Memorandums.
- e. Design Engineering performed an Engineering Assessment for Condition Report 199600063 which concluded that the design basis CCW temperature limit of 158°F would not have been exceeded during the time that the Operations Memorandum requirements were not met. This assessment was reviewed by the PRC for adequacy.
- f. Operating Instructions OI-RW-1, "Raw Water System Normal Operation", was revised on January 10, 1996 and operating instruction OI-CC-1, "Component Cooling System Normal Operation", was revised on February 6, 1996 to include the requirements of Operations Memorandum 95-07.
- g. A controlled copy of active Operations Memorandums has been placed in the Operations Control Center (OCC) for use by OCC personnel.

3. CORRECTIVE STEPS THAT WILL BE TAKEN

- a. Operating Crews are being trained on this event (CR and RCA) as part of Training Rotation 96-2. This training will be completed by April 26, 1996.
- b. To ensure operating crews remain current on active Operations Memorandum requirements, the active Operations Memorandums will be periodically reviewed with both licensed and non-licensed operators as part of their normal training. This review will start in training rotation 96-3, which begins April 22, 1996.

- c. Maintenance will revise procedure PE-RR-CCW-0100 to appropriately incorporate the guidance given in Operations Memorandum 95-07 by June 30, 1996.
- d. Maintenance will implement a process to improve communications with operations personnel, regarding the scope and status of maintenance work activities. This process will be implemented no later than September 30, 1996
- e. This RCA will be covered in continuing training for the maintenance department. This training will be completed by July 15, 1996.

4. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

OPPD is currently in full compliance.