

Omaha Public Power District
1623 Harney Omaha, Nebraska 68102-2247
402/536-4000

September 4, 1990
LIC-90-0667

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, DC 20555

References: 1. Docket No. 50-285
2. Letter from NRC (S. J. Collins) to OPPD (W. G. Gates) dated
July 23, 1990

Gentlemen:

SUBJECT: Response to Notice of Violation (Inspection Report 50-285/90-30)

Omaha Public Power District (OPPD) received the subject inspection report which identified a Severity Level IV violation. This violation identified inadequate post-maintenance testing instructions for a safety-related component that resulted in the component being in a condition outside its design basis. OPPD's response to the Notice of Violation in accordance with 10 CFR Part 2.201 is shown as Attachment I.

This response was originally due to the NRC on August 22, 1990, however: an extension was granted by Mr. E. Ford of the NRC Region IV to September 5, 1990.

In the cover letter of Inspection Report 90-30 the NRC requested that OPPD "...include a discussion of the environmental radiological consequences that would result from the failure of Valve YCV-1045A to shut during a design basis steam generator tube rupture event." This information is provided as Attachment II. Based on the discussions included in Attachment II it was concluded that the mass of steam and radionuclides that could be released to the environment for either position of YCV-1045 are less than (i.e. bounded by) the release presented in the Final Safety Analysis Report (FSAR).

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If you should have any questions, please contact me.

Sincerely,

W. G. Gates

W. G. Gates
Division Manager
Nuclear Operations

WGG/se1

Attachment

c: LeBoeuf, Lamb, Leiby & MacRae
A. Bournia, NRC Project Manager
R. D. Martin, NRC Regional Administrator, Region IV
R. P. Mullikin, NRC Senior Resident Inspector

ATTACHMENT I

RESPONSE TO NOTICE OF VIOLATION

During an NRC inspection conducted May 13 through June 16, 1990, the following violation of NRC requirements was identified:

Inadequate Postmaintenance Testing Instructions

Section 5.8.1 of the Technical Specifications states, in part, that "Written procedures. . . shall be established, implemented, and maintained that meet or exceed the minimum requirements of Sections 5.1 and 5.3 of ANSI 18.7-1972...."

Section 5.1.6.1 of ANSI 18.7-1972 states, in part, that "Maintenance or modifications that may affect functioning of safety-related. . . components shall be performed in a manner to assure quality at least equivalent to that specified in applicable . . . design requirements . . ."

The design requirements of Valve YCV-1045A (steam supply valve for the turbine-driven auxiliary feedwater pump) are provided in: (1) Section 5.9.5 of the Updated Safety Analysis Report states, in part, that "These valves (YCV-1045A and YCV-1045B) have air accumulators to ensure that they can be closed in the event of a steam generator tube rupture," and (2) Section 6.2 of the Fort Calhoun Station Design Basis Document SDBD-FW-AFW-117 states, in part, that "If instrument air is lost . . . Steam Isolation Valves YCV-1045A and YCV-1045B have air accumulators and remain operable for 30 minutes. . ."

Contrary to the above, the postmaintenance test instructions for Maintenance Procedure MP-SOV-1, "ASCO-Solenoid Valve Preventive Maintenance to Maintain 79-01B Qualification," failed to assure quality at least equivalent to design requirements in that no instructions were provided to perform a postmaintenance pressure test of the safety-related accumulator assembly, for Valve YCV-1045A, following replacement of a solenoid-operated valve in the assembly, on May 5, 1990. Subsequently, the quarterly scheduled surveillance test, performed on May 29, 1990 (approximately 3 weeks after replacement of the solenoid-operated valve), determined that the accumulator assembly would not remain operable for 30 minutes, following a loss of instrument air, due to excessive leakage.

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

OPPD Response

a. The Reason for the Violation, If Admitted

OPPD admits the violation occurred as stated. The violation occurred due to 1) Procedure MP-SOV-1 not specifically requiring tightening or verification of tightening of the subject bolts, and 2) Preventive Maintenance (PM) Work Plan WPO04401 was inadequate in relying on the post-maintenance testing (PMT) requirements of MP-SOV-1, which only requires cycling of the solenoid valve and not the necessary accumulator leak testing.

b. Corrective Steps Which Have Been Taken and the Results Achieved

Maintenance Work Order (MWO) 907581 was written and performed to tighten the actuator diaphragm bolts on May 29, 1990. Post-maintenance testing was then successfully completed by conducting procedure OP-ST-MS-3001 which verifies the air accumulator can hold a pressure of at least 30 psig for 30 minutes with instrument air isolated.

PM Work Plan WPO04401 has been revised to require performance of OP-ST-MS-3001 as the post-maintenance operability test.

A briefing was conducted on June 8, 1990 with the PM Planners to heighten their awareness and stress the importance of adequate post-maintenance testing in their review and planning of PM Work Plans and procedures.

The PM Administrator, PM Planners and Station Engineering PM Engineers (i.e., the Fort Calhoun Station PM Group) attended a training class on post-maintenance testing (Lesson Plan MSP-09 Rev. 0) on June 13, 1990 to increase their knowledge of PMT requirements.

On June 18, 1990, Station Engineering personnel began reviewing existing PM Work Plans for PMT adequacy prior to performance of the PM. If necessary, the PM Work Plans are being revised to ensure adequate PMT is included and completed. This process provides a second review of the PM Work Plan and also involves engineering personnel in the review of PM PMT requirements which is similar to the MWO technical review currently completed by System Engineering.

c. Corrective Steps That Will Be Taken To Avoid Further Violations

As stated above, existing PM Work Plans for both on-line and refueling work are being technically reviewed by the Station Engineering PM Engineers for PMT adequacy prior to performance of the PM Work Plan. The review of existing PM Work Plans will be completed by September 1, 1991. This completion date is prior to the scheduled start of the 1991 refueling outage and coincides with the review of several hundred refueling outage frequency PM Work Plans.

PMT adequacy for new PM Work Plans will be ensured since the Station Engineering PM Engineers review these Work Plans as part of the PM Work Plan generation and review process.

MP-SOV-1 is being upgraded as part of the Procedures Upgrade Project. This procedure is being revised to require verification that the actuator diaphragm bolts which are loosened to remove the old solenoid valve and used to install the new solenoid valve are retightened. This procedure is scheduled to be revised and issued by October 31, 1990.

d. The Date When Full Compliance Will Be Achieved

As it relates to this violation OPPD will achieve full compliance by October 31, 1990, when MP-SOV-1 has been revised and issued.

ATTACHMENT II

A. Reevaluation of Radiological Consequences

In order to assess the radiological consequences of either YCV-1045 failing open during a Steam Generator Tube Rupture (SGTR) incident with the loss of offsite power, the Auxiliary Feedwater (AFW) system configuration as installed between March 1980 and October 1985 was analyzed in February 1987. The purpose of this section is to present the results of that evaluation and provide comparisons to consequences presented in the FSAR. This comparison concludes that the release path through FW-10 would not result in exceeding the FSAR quantity of radionuclides released due to methods and assumptions used in the previous analyses. Further, assuming identical initial radionuclide concentrations and meteorological conditions, the radiological consequences, if recalculated assuming YCV-1045A failed open, would be bounded by the FSAR.

1. February 1987 Analysis Summary

A reevaluation of a SGTR incident was completed in February 1987 as part of a previous submittal using the NRC approved computer code CESEC-III, methodology currently used by Combustion Engineering (e.g., see analysis performed by Combustion Engineering under Docket 50-318 for Calvert Cliffs Unit 2 for Cycle 5 or Docket No. 50-335 for St. Lucie Unit 1 for Cycle 4), and inputs consistent with those of the FSAR and associated 1971 methodology.

Two cases were analyzed. The first case assumed YCV-1045 closed. The results from this analysis determined the primary to secondary leak rate through the ruptured tube and mass release through the main steam safety valves. The "YCV-1045 open" case was then modeled and the case rerun to establish the increase (or decrease) in the leakage or mass release values. The 1800-second results were then extrapolated to obtain a conservative eight-hour release value. These results are presented in Table I below:

TABLE I
STEAM GENERATOR TUBE RUPTURE WITH LOSS OF OFFSITE POWER

	Fluid and Steam Release Comparisons (lb _m)		
	<u>FSAR</u>	<u>YCV-1045 CLOSED</u>	<u>YCV-1045 OPEN</u>
Primary to Secondary Leakage (0-30 min.)	50,000	48,950	49,043
Total Release (0-8 hr.)	332,000	101,909	102,179

As anticipated, the total mass release value is greater with YCV-1045 open as opposed to closed; however, the total mass releases from both cases were bounded by the values contained in the FSAR. Consequently, the radiological consequences remain bounded by the FSAR.

2. Conclusion

From a comparison of the results of the FSAR and the 1987 reanalysis, it is concluded that the mass of steam and radionuclides released to the environment, for either position of YCV-1045, are less than (i.e., bounded by) the release presented in the FSAR.

Please refer to Table II for a comparison of radiological consequences below:

TABLE II

DOSE COMPARISONS (REM) - EXCLUSION AREA BOUNDARY

	<u>10 CFR 100</u> <u>(2 HOUR DOSE)</u>	<u>FSAR</u> <u>(8 HOUR DOSE)</u>	<u>YCV-1045</u> <u>CLOSED</u> <u>(8 HOUR DOSE)</u>	<u>YCV 1045</u> <u>OPEN</u> <u>(8 HOUR DOSE)</u>
Whole Body Dose	25	0.45	0.1687	0.1690
Thyroid Dose	300	13.7	2.20	2.27