

JUN 7 1989

In Reply Refer To:
Docket: 50-285/89-05

Omaha Public Power District
ATTN: Kenneth J. Morris, Division Manager
Nuclear Operations
1623 Harney Street
Omaha, Nebraska 68102

Gentlemen:

Thank you for your letters of April 3 and May 18, 1989, in response to our letters and Notice of Violation dated March 3 and April 18, 1989. We have reviewed your reply and find it responsive to the concerns raised in our Notice of Violation. We will review the implementation of your corrective actions during a future inspection to determine that full compliance has been achieved and will be maintained.

Sincerely,

Original Signed By
J. L. Milhoan

James L. Milhoan, Director
Division of Reactor Projects

cc:
Fort Calhoun Station
ATTN: W. G. Gates, Manager
P.O. Box 399
Fort Calhoun, Nebraska 68023

Harry H. Voigt, Esq.
LeBoeuf, Lamb, Leiby & MacRae
1333 New Hampshire Avenue, NW
Washington, DC 20036

Nebraska Radiation Control Program Director

RIV:RI:TPS*
MMurphy/cjg
/ /89

C:TPS*
WSeidle
/ /89

D:DRS*
LJCallan
/ /89

D:DRP
JLMilhoan
/ /89

*previously concurred

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bcc to DMB (IE01)

bcc distrib. by RIV:

R.D. Martin, RA

Section Chief (DRP/B)

RIV File

RSTS Operator

Lisa Shea, RM/ALF

P. Milano, NRR Project Manager (MS: 13-D-18)

RRI

M. Murphy

W. Seidle

RPB-DRSS

MIS System

DRP

Project Engineer (DRP/B)

DRS

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

April 3, 1989
LIC-89-329

APR - 5 1989

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 (L. J. Callan) to OPPD (K. J. Morris) dated March 3, 1989

Gentlemen:

SUBJECT: Response to Notice of Violation
NRC Inspection Report 50-285/89-05

Omaha Public Power District (OPPD) received the Notice of Violation dated March 3, 1989. The violation involved inadequate design control measures concerning the verification and checking of a design calculation regarding Pipe Support SIS-8 on the safety injection system. The calculation for Pipe Support SIS-8 included the use of an incorrect dimension. The error was not discovered during the independent review process.

A review of drawings for CQE pipe supports modified as part of the NRC Bulletin No. 79-14 upgrade program has disclosed that eight additional supports are similar in design to SIS-8. The calculations for these nine pipe supports SIS-8; -20; -38; -45; -45A; -46; -49; -71A; -97 were reviewed for overall adequacy and to determine if similar errors existed. No additional errors were found in the calculations. As a result of another unrelated effort, six of these nine pipe supports have had calculations performed by a different engineering firm confirming the adequacy of design.

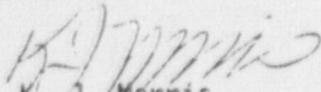
The error in Pipe Support SIS-8 calculation FC02923 was evaluated and it was determined that the loads are still within allowable limits when the correct dimension is used.

It has been concluded that the error in Pipe Support SIS-8 calculation FC02923 is an isolated incident based on the oversight of the preparer and the reviewer to select the correct dimension for the moment arm, and is not due to inadequate design control measures.

[Handwritten signature]
[Handwritten initials]

Pursuant to the provisions of 10 CFR Part 2.201, please find attached, OPPD's response to the violation. If you have any questions concerning this matter, please do not hesitate to contact us.

Sincerely,


K. J. Morris
Division Manager
Nuclear Operations

KJM/jak

Attachment

c: LeBoeuf, Lamb, Leiby & MacRae
R. D. Martin, NRC Regional Administrator
P. D. Milano, NRC Project Manager
P. H. Harrell, NRC Senior Resident Inspector

RESPONSE TO NOTICE OF VIOLATION

During an NRC inspection conducted January 30 through February 3, 1989, a violation of NRC requirements was identified. The violation involved inadequate design control, including the verification and checking of design calculations regarding a pipe support on the safety injection system. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1988), the violation is listed below:

Criterion III of Appendix B to 10 CFR Part 50 and the licensee's approved quality assurance program description requires that design control measures shall provide for verifying or checking the adequacy of design, such as the performance of design reviews, by the use of alternate or simplified calculations.

Contrary to the above, a design discrepancy involving the use of an incorrect dimension in Calculation FC02923 regarding the maximum moment for Pipe Support SIS-8, was not identified due to the inadequate design control measures.

This is a Severity Level IV violation. (Supplement I)(285/8905-01)

OPPD RESPONSE

1. Admission or Denial of the Alleged Violation

OPPD admits that an incorrect dimension was used in Pipe Support SIS-8 calculation FC02923, but believes that the incident was an isolated personnel error. The pertinent design control measures governing the preparation, checking, and verification of the calculations were adequate for the reasons described below.

2. The Reasons For the Violation, If Admitted

Calculation FC02923 was performed to justify the redesign of Pipe Support SIS-8. The redesign of the pipe support resulted from a design review conducted in response to NRC Bulletin No. 79-14. An engineering firm was contracted to perform this work.

The dimensions used in the calculation were extracted from the several dimensions available on the pipe support design drawing and in vendor literature. The use of the incorrect dimension for the moment arm resulted from an error by the calculation preparer and the oversight by the reviewer in selecting the correct dimension. The selection of the incorrect dimension is believed to be an isolated incident since a review of similar pipe support calculations by the same individuals revealed no other errors.

Adequate design control measures for performing calculations, checking and verifying design were in place. The calculations were performed under the Quality Assurance Program of the engineering firm and in accordance with their design control procedures for Design Input, Calculations and Design Verification.

In June, 1981, OPPD conducted Quality Assurance Audit No. 21-81 of the engineering firm's QA program and procedures associated with the NRC Bulletin No. 79-14 related work. This audit which found the design control measures acceptable also reviewed twelve pipe support calculation packages.

The acceptability of the design control procedures as confirmed by the OPPD audit, combined with the design verification forms completed for each of the pipe support calculations demonstrate that adequate design control measures were in place.

3. The Corrective Steps That Have Been Taken and the Results Achieved

The error in calculation FC02923 was evaluated and it was found that the loads are still within allowable limits when the correct moment arm dimension is used.

A review of drawings for CQE pipe supports modified during the NRC Bulletin No. 79-14 upgrade program has disclosed that eight additional supports are similar in design to SIS-8. The calculations for these nine pipe supports SIS-8, -20, -38, -45, -45A, -46, -49, -71A, and -97, were reviewed for overall adequacy and to determine if similar "incorrect dimension" errors existed. No additional errors were found in these calculations.

During this review for adequacy and "incorrect dimension" errors, it was noted that the same individuals who prepared and reviewed the SIS-8 pipe support calculation were also involved with the calculations for the eight other similar pipe supports. There were no incorrect dimensions used in these calculations.

This further supports our belief that the use of an incorrect dimension in the Pipe Support SIS-8 calculation was an isolated incident.

4. Corrective Steps Which Will Be Taken To Avoid Further Violations

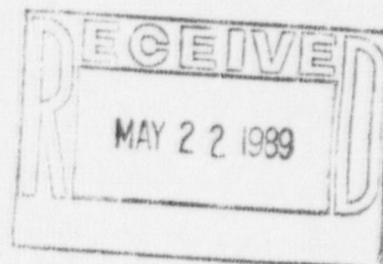
OPPD will continue to promote attention to detail and emphasize the importance of design control process and procedures.

5. Date When Full Compliance Will Be Achieved

OPPD is currently in full compliance.

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

May 18, 1989
LIC-89-496



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 (L. J. Callan) to OPPD (K. J. Morris) dated March 3, 1989
 3. Letter from OPPD (K. J. Morris) to NRC (Document Control Desk) dated April 3, 1989 (LIC-89-329)
 4. Letter from NRC (L. J. Callan) to OPPD (K. J. Morris) dated April 18, 1989

Gentlemen:

SUBJECT: Supplemental Information for Response to Notice of Violation
(285/8905-01)

This letter provides the additional information requested in Reference 4.

Reference 2 transmitted the Notice of Violation (285/8905-01) which documented the use of an incorrect dimension for determination of a maximum moment within a pipe support design calculation.

Reference 3 transmitted Omaha Public Power District's (OPPD) response to the violation. It summarized the investigation of the violation which determined that adequate design control measures existed at the time the calculation was performed and that the use of an incorrect dimension was an isolated incident. The response stated that OPPD would "continue to promote attention to detail and emphasize the importance of the design control process and procedures" to avoid further violations.

The following discussion provides more definitive details with respect to our actions to "promote attention to detail and emphasize the importance of the design control process and procedures" as requested in Reference 4.

Our actions, which promote the aforementioned values, fall into two categories: explicit, such as formal training and inherent, such as in our system of design control as established by procedures responsive to our QA Plan and 10CFR50, Appendix B.

IC-89-190

Examples of training which explicitly promotes the two values include, "General Employee Training", (GET), given to personnel badged for access to Fort Calhoun, and the "Calculation Preparation" course, given to personnel involved in the performance of calculations. Within the "Calculation Preparation" course, attention to detail and the importance of calculations to the design process are stressed. Both the basis in regulatory requirements and the productivity benefits which result from incorporation of these values are emphasized. Verbatim procedural compliance and individual accountability are stressed in both the GET and "Calculation Preparation" courses.

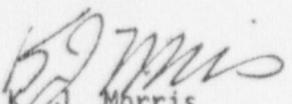
Continuing training with respect to attention to detail in the design control process is provided under the Lessons Learned and Training Hotline programs.

The emphasis on the importance of design control is reinforced in our safety related procedures and checklists which require both checking and independent verification of calculations and design modifications. Detailed procedures pertinent to the design process and calculation preparation provide guidance in the form of checklists for the checker and independent verifier. The quality of these procedures and checklists and their level of detail emphasize the importance of the design control process and "attention to detail".

The assignment of senior, more experienced, engineers as checkers of work prepared by less experienced engineers inherently emphasizes attention to detail. Engineers realize that the quality of their work and their productivity, which is a function of the "attention to detail" required to do things right the first time, are key factors in the assessment of their job performance.

OPPD believes that the emphasis that management has placed on the existing training programs and procedures has maintained our attention to detail and respect for the importance of the design control process.

Sincerely,


K. J. Morris
Division Manager
Nuclear Operations

KJM/jak

c: LeBoeuf, Lamb, Leiby & MacRae
R. D. Martin, NRC Regional Administrator
P. D. Milano, NRC Project Manager
P. H. Harrell, NRC Senior Resident Inspector