your energy partner
OPPD
Omaha Public Power District

444 South 16th Street Mall
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February 22, 2002
LIC-02-0022

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

References:
1. Docket No. 50-285
2. NRC Regulatory Guide 1.35, "Inservice Inspection of Ungrouted Tendons in Prestressed Concrete Containments," Revision 3, dated July 1990
3. American Society of Mechanical Engineers, Boilers and Pressure Vessel Code, Section XI, Sub Article IWL, 1992 Edition, 1992 Addenda

SUBJECT: Special Report on the Containment Tendon Prestressing System - Excessive Grease Voids Found in Helical Wall Tendons

Omaha Public Power District (OPPD) submits this special report pursuant to Fort Calhoun Station (FCS) Unit No. 1 Technical Specification (TS) Surveillance Requirement 3.5(5), "Surveillance for Prestressing System."

The FCS TS surveillance requirement acceptance criteria 3.5(5)f.(v)(f) states that, "the difference between the amount of grease injected into a tendon to replace the amount which was removed during inspection shall not exceed 5% of the net tendon sheath (duct) volume when injected at the original installation pressure." TS 3.5(5)g requires an immediate investigation to determine the cause(s) and extent of any non-conformance with the acceptance criteria, and it requires the results to be reported to the Commission within 90 days via a special report in accordance with TS 5.9.3.

The thirtieth year containment building prestressing system surveillance, including helical wall tendons, was completed on January 28, 2002. Grease was checked on 29 helical tendons. Calculations were made to determine the grease void measurement on each tendon tested. Grease void measurements on 3 of 29 tendons were greater than the 5% net duct void listed as reportable by Technical Specification 3.5(5)f.(v)(f).

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Reference 2 is the basis for the criteria in TS 3.5(5)f.(v)(f), which requires measured grease voids to not exceed 5% duct volume. Industry experience shows voids greater than 5% can be expected due to installation practices. The NRC has approved the applicable portion of the ASME Code (Reference 3), which recognizes 10% grease void as the criterion for acceptability. All tendon grease voids reportable under TS 3.5(5)g are greater than 5% but less than 10% and are considered acceptable on this basis.

Inspection of exterior concrete surfaces in the vicinity does not reveal leakage directly traceable to these tendons. Based on a comprehensive inspection for grease leakage, lack of corrosion in wire and anchorage locations, and continued satisfactory tension measurements of the containment prestressing tendons, OPPD is confident in the ability of the containment structure to continue to perform its safety-related function.

If you have any questions or require additional information, please contact Dr. Richard Jaworski at (402) 533-6833.

Sincerely,

R. T. Ridenoure
Division Manager
Nuclear Operations

RTR/RRL/glm

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