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OPPD
Omaha Public Power District

444 South 16th Street Mall
Omaha NE 68102-2247

October 13, 2008
LIC-08-0105

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

References:
1. Docket No. 50-285
2. NRC Regulatory Guide 1.35, "Inservice Inspection of Prestressed Concrete Containments," Revision 3 dated July 1990
3. American Society of Mechanical Engineers, Boiler and Pressure Vessel Code (BPVC), Section XI, Subsection IWL, 1992 Edition, 1992 Addenda
4. Letter from OPPD (H. J. Faulhaber) to NRC (Document Control Desk), "Special Report on the Containment Tendon Prestressing System, Free Water Found in Dome Tendons," dated May 25, 2007 (LIC-07-0037)

SUBJECT: Special Report on the Containment Tendon Prestressing System, Free Water found in Dome Tendon D230P

Omaha Public Power District (OPPD) holder of Renewed Operating License No. DPR-40, submits this Special Report pursuant to the requirements of Fort Calhoun Station (FCS), Unit No.1, Technical Specification (TS) 5.9.3.b, "Special Reports." The FCS surveillance test acceptance criteria for the containment tendon prestressing system requires the absence of free water in the corrosion inhibiting grease. TS 5.19 requires an immediate investigation to determine the cause and extent of any non-conformance with the acceptance criteria and requires the results to be reported to the Commission within 90 days via a special report in accordance with TS 5.9.3.b.

A special containment building prestressing system surveillance was conducted by Precision Surveillance Corporation (PSC) on July 24, 2008. This surveillance included inspection of tendons replaced during the 2006 refueling outage to close an opening in the containment building made to replace the steam generators. Dome tendon D230P and adjacent tendons were inspected in accordance with a commitment made in Reference 4, which originally reported the occurrence of free water in dome tendon D230P. (Reference 4 also reported a small amount of free water in dome tendon D231P that did not warrant further testing.)

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Free water in the amount of ten (10) ounces has again been found in dome tendon D230P. The source of the free water is suspected to be from ice inside the tendon that could not be removed during the February 2007 inspection. Free water was not found in adjacent tendons D229P, D231P, and D232P. Inspections of the tendon anchor head and button heads found no corrosion on any of the tendons. One (1) of the eighty-nine (89) effective wires in tendon D230P was removed for additional inspection and laboratory testing.

Corrosion was not found on the wire, and laboratory testing in accordance with ASME BPVC, Section XI, Subsection IWL-2523 resulted in satisfactory values of yield strength, ultimate tensile strength and elongation. Water samples from tendon D230P had a pH of 8.6. A pH value above 7.0 indicates the water is non-acidic and not conducive to aggressive corrosion. Analyses conducted on corrosion medium samples showed acceptable reserve alkalinity, water content, and concentrations of water-soluble chlorides, nitrates, and sulfides.

Grease was removed from dome tendon D230P's tendon duct and new P4 tendon grease was applied. Chemical analysis of the old grease showed no contamination or breakdown. Based on the results of the chemical analysis, lack of significant corrosion of the tendon wire and anchorage components, and continued satisfactory tension measurements of the containment prestressing tendons, all conditions were satisfactory for tensioning dome tendon D230P, and it was returned to service.

OPPD is confident in the ability of the containment building to perform its design basis function. The water that continues to accumulate in dome tendon D230P apparently results from conditions unique to that tendon, as water was not found in the adjacent tendons during the 2008 inspection. The leak path to dome tendon D230P cannot be determined and therefore cannot be sealed. Thus, OPPD believes the most prudent course of action is to continue to monitor dome tendon D230P and is making a regulatory commitment to inspect it during the next tendon surveillance currently scheduled for 2011.

If you should have any questions, please contact Mr. Bill R. Hansher at (402) 533-6894.

Sincerely,

R. P. Clemens
Division Manager
Nuclear Engineering

RPC/MLE/mle

Attachment: List of Commitments

List of Commitments

Commitment	Tracking Mechanism
Inspect dome tendon D230P for presence of free water during the next tendon surveillance currently scheduled for 2011 and perform testing appropriate for "as found" condition of tendon.	AR 42856