



444 South 16<sup>th</sup> Street Mall  
Omaha, NE 68102-2247

July 8, 2013  
LIC-13-0092

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

- References:
1. Docket No. 50-285
  2. NRC Regulatory Guide 1.35, "Inservice Inspection of UngROUTED Tendons in Prestressed Concrete Containments," Revision 3, July 1990
  3. American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Subsection IWL, 2001 Edition w/ 2003 Addenda

**Subject: Special Report on the Containment Tendon Prestressing System; Grease Voids Found in Helical Tendons and Lower Seal Failure on Tendon H-2067**

The Omaha Public Power District (OPPD), holder of Renewed Operating Licensing No. DPR-40, submits this special report pursuant to the requirements of Technical Specification (TS), 5.21 "Containment Tendon Testing Program." TS 5.21 states that the Containment Tendon Testing Program, inspection frequencies, and acceptance criteria shall be in accordance with Regulatory Guide (RG) 1.35, Revision 3 (hereafter referred to as RG 1.35). Section 7.4.f of RG 1.35 (Reference 2) states that having a grease void exceeding 5% of the net duct volume is a reportable condition. ASME Section XI (2001 w/2003 Addenda) Subsection IWL 3221.4 (Reference 3) has an acceptance limit of 10%.

On February 28, 2013, OPPD completed the 40th year Containment Building Prestressing System Surveillance. Seven (7) of the tendons tested had grease void measurements of less than 5% (i.e., they were acceptable) while eight (8) had void measurements greater than the 5% limit of RG 1.35 but less than the 10% allowed by the ASME Code (See Attachment 1). These eight tendons were re-greased, however; industry-operating experience shows that voids greater than 5% are not unexpected or particularly adverse if the void is less than 10%. No corrosion was found in the tendon wires or anchorage locations, and since the grease voids were below the ASME Code limit, OPPD is confident in the ability of the tendons to perform their safety function when power operations resume. No further actions are required.

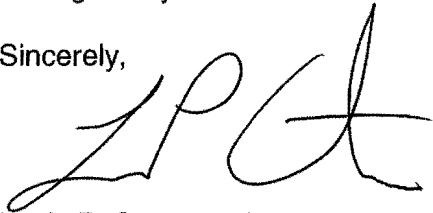
A separate, but related issue pertains to Tendon H-2067. Tendon H-2067 as measured on February 28, 2013 had a void that was slightly less than 4% and thus acceptable by both RG 1.35 and ASME Code criteria. However, during a period of warmer weather subsequent to the inspection, the tendon's lower seal failed resulting in the loss of 45 gallons of grease. Tendon grease is designed to adhere to tendon wires at temperatures up to 145 degrees Fahrenheit, and thus will remain on the wire even after a seal failure. Industry experience has found that even if a duct is drained of grease, the grease remaining on the tendon will continue to provide corrosion protection for over a year.

Tendon H-2067 has sufficient corrosion protection media protecting its wires. However, OPPD is continuing to monitor Tendon H-2067 and will repair the seal and re-grease the tendon on an expedited schedule.

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

No regulatory commitments are contained in this submittal.

Sincerely,

A handwritten signature in black ink, appearing to read 'LPC', with a stylized flourish extending from the end.

Louis P. Cortopassi  
Site Vice President and CNO

LPC/MFR/mle

Attachment: 2013 Containment Helical Tendon Inspections

c: A. T. Howell, NRC Regional Administrator, Region IV  
J. M. Sebrosky, Senior NRC Project Manager  
L. E. Wilkins, NRC Project Manager  
J. C. Kirkland, NRC Senior Resident Inspector

### 2013 Containment Helical Tendon Inspections

