



Nebraska Public Power District

Always there when you need us

54.17

NLS2010083
August 30, 2010

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Subject: Revision to Response to Cooper Nuclear Station License Renewal Request for Additional Information
Cooper Nuclear Station, Docket No. 50-298, DPR-46

- References:**
1. Letter from Demetrius L. Willis, Nebraska Public Power District, dated August 20, 2010, "Response to Cooper Nuclear Station License Renewal Request for Additional Information" (NLS2010079).
 2. Letter from Bo Pham, U.S. Nuclear Regulatory Commission, to Brian O'Grady, Nebraska Public Power District, dated August 16, 2010, "Completion of Cooper Nuclear Station License Renewal Review."
 3. Letter from Stewart B. Minahan, Nebraska Public Power District, to U.S. Nuclear Regulatory Commission, dated September 24, 2008, "License Renewal Application" (NLS2008071).

Dear Sir or Madam:

The purpose of this letter is for the Nebraska Public Power District to revise the response submitted in Reference 1 to a Nuclear Regulatory Commission Request (NRC) for Additional Information (Reference 2) related to the Cooper Nuclear Station License Renewal Application (Reference 3). The attached revision is being made after subsequent discussions with the NRC Staff.

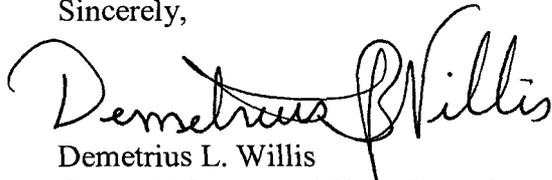
The General Manager of Plant Operations is authorized to sign under oath or affirmation in the absence of the Chief Nuclear Officer in accordance with Regulatory Issue Summary 01-018. Should you have any questions regarding this submittal, please contact David Bremer, License Renewal Project Manager, at (402) 825-5673.

A136
NRR

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 8/30/2010
(Date)

Sincerely,



Demetrius L. Willis
General Manager of Plant Operations

/wv

Attachment

cc: Regional Administrator w/ attachment
USNRC - Region IV

Cooper Project Manager w/ attachment
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector w/ attachment
USNRC - CNS

Nebraska Health and Human Services w/ attachment
Department of Regulation and Licensure

NPG Distribution w/ attachment

CNS Records w/ attachment

Attachment

Revision to Response to Cooper Nuclear Station License Renewal
Request for Additional Information
Cooper Nuclear Station, Docket No. 50-298, DPR-46

The Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) regarding the License Renewal Application (LRA) is shown in italics. The Nebraska Public Power District's (NPPD) revised response to the RAI is shown in block font in underline/strikeout format.

NRC Request: *RAI B.1.25-2*

Background

NUREG-1801, Rev. 1, "Generic Aging Lessons Learned," (the GALL Report) addresses inaccessible medium voltage cables in aging management program (AMP) XI.E3, "Inaccessible Medium Voltage Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements." The purpose of this program is to provide reasonable assurance that the intended functions of inaccessible medium voltage cables (2 kV to 35 kV), that are not subject to environmental qualification requirements of 10 CFR 50.49 and are exposed to adverse localized environments caused by moisture while energized, will be maintained consistent with the current licensing basis. The scope of the program applies to inaccessible (in conduits, cable trenches, cable troughs, duct banks, underground vaults or direct buried installations) medium-voltage cables within the scope of license renewal that are subject to significant moisture simultaneously with significant voltage.

The application of AMP XI.E3 to medium voltage cables was based on the operating experience (OE) available at the time Revision 1 of the GALL Report was developed. However, recently identified industry OE indicates that the presence of water or moisture can be a contributing factor in inaccessible power cables failures at lower service voltages (480 V to 2 kV). Applicable OE was identified in licensee responses to Generic Letter 2007-01, "Inaccessible or Underground Power Cable Failures that Disable Accident Mitigation Systems or Cause Plant Transients," which included failures of power cable operating at service voltages of less than 2 kV where water was considered a contributing factor. The staff has proposed changes to be included in the next revision of the GALL Report AMP XI.E3 to address recently identified OE concerning the failure of inaccessible low voltage power cables, which includes general water intrusion as a failure mechanism and increases the scope of program to include power cables greater than or equal to 480 V.

Issue

The staff has concluded, based on recently identified industry OE concerning the failure of inaccessible low voltage power cables (480 V to 2 kV) in the presence of significant moisture,

that these cables should be included in an AMP. The staff notes that your AMP does not address these low voltage cables.

Request

1. *Provide a summary of the evaluation of recently identified industry OE and any plant-specific OE concerning inaccessible low voltage power cable failures within the scope of license renewal (not subject to 10 CFR 50.49 environmental qualification requirements), and how this OE applies to the need for additional aging management activities by the applicant for such cables.*
2. *Provide a discussion of how Cooper Nuclear Station will manage the effects of aging on inaccessible low voltage power cables within the scope of license renewal and subject to aging management review; with consideration of recently identified industry OE and relevant plant-specific OE. The discussion should include assessment of your AMP description, program elements (i.e., Scope of Program, Parameters Monitored/Inspected, Detection of Aging Effects, and Corrective Actions), and Final Safety Analysis Report summary description to demonstrate reasonable assurance that the intended functions of inaccessible low voltage power cables subject to adverse localized environments will be maintained consistent with the current licensing basis through the period of extended operation.*

NPPD Response:

1. Refer to the previous NPPD response in NLS2010079.
2. In response to Question 2 of GL 2007-01, NPPD stated:

CNS inspection, testing and monitoring practices for inaccessible or underground power cables presently include periodic meggering of 4160 and 480VAC motors and feeder cables. The duct banks for the safety related service water pumps are sloped downward toward manholes with sump pumps and control room alarms for high water level. Plant condition reporting is used to determine root cause and extent of condition where deemed necessary and would be the mechanism for determining the need for, and extent of, any increased cable monitoring.

In consideration of industry operating experience associated with GL 2007-01, and plant specific operating experience, NPPD will expand the scope of the LRA B.1.25 (Non-EQ Inaccessible Medium-Voltage Cable) to include in-scope inaccessible low-voltage power cables. The parameters monitored or inspected, as required by the program, are changed to include in-scope inaccessible low-voltage power cables. The in-scope inaccessible low-voltage power cables will be tested for degradation of the cable insulation at least once every 10 years. Frequency of testing may increase based on test results and operating experience.

The inspection for water in manholes that contain low-voltage and medium-voltage inaccessible power cables subject to aging management review, and which are dewatered automatically by sump pumps, is conducted annually. The inspection for water in the additional manhole containing inaccessible low-voltage power cables subject to aging management review, and which is not dewatered automatically by a sump pump, is conducted semi-annually. The design of this manhole serves to inhibit water intrusion from groundwater and rain. Nevertheless, additional condition-based inspections of this manhole will be performed based on: a) potentially high water table conditions, as indicated by high river level, and b) after periods of heavy rain. The inspection results are expected to indicate whether the inspection frequency should be modified. However, The inspections for water in manholes containing in-scope inaccessible low-voltage power cables will be performed at least once every two years. A proven, commercially available test will be used for detecting deterioration due to wetting of the insulation system for all in-scope inaccessible low-voltage power cables (480 V to 2 kV).

In addition, LRA Sections A.1.1.25 (Non-EQ Inaccessible Medium-Voltage Cable Program) and B.1.25 (Non-EQ Inaccessible Medium-Voltage Cable) is revised to delete the criterion of “exposure to significant voltage” (system voltage for more than 25% of the time) associated with ~~in-scope~~ inaccessible medium-voltage cable.

Corresponding changes to the LRA are shown in Attachment 2 (Changes 1 and 2) of NLS2010079.

Correspondence Number: NLS2010083

The following table identifies those actions committed to by Nebraska Public Power District (NPPD) in this document. Any other actions discussed in the submittal represent intended or planned actions by NPPD. They are described for information only and are not regulatory commitments. Please notify the Licensing Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

| COMMITMENT | COMMITMENT NUMBER | COMMITTED DATE OR OUTAGE |
|--|-------------------------------------|--------------------------|
| <p>Implement the Non-EQ Inaccessible Medium-Voltage Cable Program. [LRA Section B.1.25]</p> <p>Inspections for water accumulation in manholes containing in-scope inaccessible low-voltage and medium-voltage power cables will be performed at least once every two years.</p> <p>In-scope inaccessible low-voltage power cables (cables with operating voltage from 480 V to 2 kV) that are subject to aging management review are included in this program. The in-scope inaccessible low-voltage power cables will be tested for degradation of the cable insulation prior to the period of extended operation and at least once every 10 years thereafter. A proven, commercially available test will be used for detecting deterioration due to wetting of the insulation system for all in-scope inaccessible low-voltage power cables (480 V to 2 kV). [RAI B.1.25-2, Rev. 0]</p> <p>Condition-based inspections of [the manhole not dewatered by a sump pump] will be performed based on: a) potentially high water table conditions, as indicated by high river level, and b) after periods of heavy rain.</p> | <p>NLS2008071-16 Revision 2</p> | <p>January 18, 2014</p> |
| | | |
| | | |
| | | |