



**Nebraska Public Power District**

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54.17

NLS2010019  
March 25, 2010

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

**Subject:** Supplemental Information for the Review of Cooper Nuclear Station License  
Renewal Application  
Cooper Nuclear Station, Docket No. 50-298, DPR-46

**Reference:** 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 provide supplemental information as discussed with the Nuclear Regulatory Commission staff regarding the referenced Cooper Nuclear Station License Renewal Application (LRA). This information is provided in Attachment 1. An associated change to the LRA is provided in Attachment 2.

Should you have any questions regarding this submittal, please contact David Bremer, License Renewal Project Manager, at (402) 825-5673.

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

Executed on 3/25/2010  
(Date)

Sincerely,

Stewart B. Minahan  
Vice President – Nuclear and  
Chief Nuclear Officer

/wv

Attachments

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cc: Regional Administrator w/ attachments  
USNRC - Region IV

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

Senior Resident Inspector w/ attachments  
USNRC - CNS

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

NPG Distribution w/ attachments

CNS Records w/ attachments

Attachment 1

Response to Miscellaneous Topics Regarding  
the License Renewal Application  
Cooper Nuclear Station, Docket No. 50-298, DPR-46

Cooper Nuclear Station (CNS) license renewal project staff has discussed with the Nuclear Regulatory Commission (NRC) staff previous responses to Requests for Additional Information (RAI). Recent discussions are outlined in the summaries of telephone conference calls conducted on January 14, 2010, and January 20, 2010. Resulting from these discussions, and other supplemental communications, the Nebraska Public Power District (NPPD) has elected to make certain regulatory commitments for activities supporting CNS license renewal. Consistent with NPPD standard practice, these commitments are transmitted via this letter to be formally entered on the CNS docket. Additional RAI supplementary information is provided below, as discussed in these conference calls.

Commitments

1. NPPD will implement the plant modifications designed to correct the main steam line support discrepancies noted in RAI B.1.20-1 prior to the period of extended operation.

Reference: Conference call conducted on January 14, 2010.

2. Regarding testing of Boral neutron absorbing material used in the CNS spent fuel pool, NPPD believes that testing performed in 1992 provided an acceptable "baseline" for the Boral neutron absorption capability. However, NPPD agrees to perform another Boral sample coupon neutron attenuation test prior to the period of extended operation (PEO), and an additional test within the first 10 years of the PEO. If satisfactory results are obtained, no further testing would be necessary. NPPD is providing the following regulatory commitment regarding this testing that defines the acceptance criteria for reduction of neutron-absorber capacity based upon assuring 5% subcriticality margin in the spent fuel pool:

"To verify there is no loss of neutron absorbing capacity of the Boral material, NPPD will supplement the Neutron Absorber Monitoring Program to include neutron attenuation testing of representative sample coupons. Acceptance criteria will be that measured or analyzed neutron-absorber capacity required to ensure the 5% subcriticality margin for the spent fuel pool is maintained assuming neutron absorber degradation is the only mechanism. Results not meeting the acceptance criteria will be entered into the CNS Corrective Action Program for disposition. One test will be performed prior to the period of extended operation (PEO), with another confirmatory test performed within the first 10 years of the PEO."

Reference: Conference call conducted on January 14, 2010, regarding the response to RAI 3.3.2.2.6-3.

3. In NLS2009100 (submitted on December 21, 2009, ADAMS Accession Number ML100050070) NPPD committed to provide an analysis of the core plate rim bolts for NRC review. As described in that letter, NPPD planned to meet that commitment through a generic analysis being developed by the Boiling Water Reactor Vessel and Internals Project (BWRVIP). This generic analysis is being performed in collaboration with General Electric-Hitachi and the Electric Power Research Institute. A concern was communicated to NPPD from the NRC that the previously agreed-to commitment wording could be construed as meaning that something less than the entire proprietary calculation would be provided for NRC review. Accordingly, the commitment is revised as follows.

“NPPD will submit (or otherwise make available for NRC review and approval) a complete proprietary version of an analysis of the core plate rim bolts that demonstrates their adequacy considering potential loss of pre-load through the period of extended operation. This will be provided at least two years prior to the period of extended operation. NPPD expects to satisfy this commitment using the generic analysis being developed by the BWRVIP, provided that it is applicable to CNS.”

Reference: Conference call conducted on September 21, 2009, regarding the response to RAI 4.1-1 (with follow-up communications on December 2, 2009, and March 15, 2010).

#### Supplemental Information

1. RAI 2.4-2(c) Follow-up

NPPD provides the following revision to the response to RAI 2.4-2(c) (NLS2009061, ADAMS Accession Number ML092400412):

NRC Request: RAI 2.4-2

*Based on a review of Section 2.4.1, Reactor Building and Primary Containment, of the LRA and Table 2.4-1, it is not clear if the following components have been included in the scope of license renewal and subject to an AMR:*

- c) *Drywell coating*

NPPD Response: RAI 2.4-2(c) – revised

~~Coating is not relied on to maintain function of the drywell. Protective coating is not safety related and is not required to demonstrate compliance with regulations identified in 10 CFR 54.4(a)(3). Failure of the protective coating will not prevent satisfactory accomplishment of a safety function. Accordingly, drywell coating is not within the scope of license renewal.~~

Since protective coatings are not structures, systems, or components, they were not scoped in accordance with the license renewal rule and protective coating is not listed as a separate line item in LRA Table 2.4-1. Protective coatings are treated and maintained as part of the structures and components in the drywell to which they are applied. As such, coatings are in scope of license renewal and subject to aging management review as part of drywell structures and components.

Reference: Conference call conducted on January 20, 2010, regarding the response to RAI 2.4-2(c).

2. A typographical error was found on Page 9 of the summary of the telephone conference call held on January 8, 2010 (ADAMS Accession Number ML100190042). As requested by the NRC staff, this discussion should read:

The applicant provided the following clarifications:

This was discussed in a telephone conference call on November 9, 2009, where the applicant disagreed with the staff's assertion that provisions of GL 89-13 must be applied to CNS closed cooling water systems, because of the oxygen excursion. The staff stated that a commitment to periodic testing is prudent and warranted; and the issue is an open item.

Subsequent to the conference call, the applicant re-reviewed LRA Section B.1.40 (Water Chemistry Control – Closed Cooling Water). It was noted that while an exception was taken to GALL Section XI.M21 (Close-Cycle Cooling Water System) for periodic performance and functional testing, no exception was taken for the periodic internal visual inspections discussed in XI.M3421 Elements 3 and 5. Internal visual inspections will be performed during the period of extended operation when CCW boundaries are opened. These inspections are in addition to the one-time inspection program inspections to verify effectiveness of the water chemistry control program.

Reference: Typographical error.

3. RAI 2.3.3.12 PD-5 Follow-up

The following information is provided to supplement the response to RAI 2.3.3.12 PD-5 (NLS2009095, ADAMS Accession Number ML093370089):

As stated above, components downstream of the Z sump discharge check valves, RW-CV-58CV and RW-CV-59CV, to the floor drain collector tank do not meet any of the criteria of 10 CFR 54.4(a)(1). The failure of these components will not cause the loss of the capability to prevent or mitigate the consequences of accidents which could result in offsite exposures comparable to those referred to in 10 CFR 50.67(b)(2) or 10 CFR 100.11.

The failure of the nine loop seals and associated piping to the Z sump on Drawing LRA-2005-SH02 will also not cause the loss of the capability to prevent or mitigate the consequences of accidents which could result in offsite exposures comparable to those referred to in 10 CFR 50.67(b)(2) or 10 CFR 100.11.

Reference: Conference call conducted on January 14, 2010, regarding the response to RAI 2.3.3.12 PD-5.

4. RAI B.1.15-7(d) Follow-up

*The staff requested a supplement to the response to RAI B.1.15-7 (NLS2009040, June 15, 2009) which: a) explained why there were more startups than shutdowns, and b) either to provide a validated histogram for cycles preceding 1996 (from initial plant start up), or as an alternative, provide a discussion of the cycles accrued for startup and shutdown prior to 1996 (from initial plant start up), in comparison with the 1996 – 2007 trend.*

*The applicant agreed to provide the requested supplement.*

NPPD Position:

- a) Normal startups on the histogram include all plant startups. Many shutdowns are not normal shutdowns, but may result from transients or equipment malfunctions, which are not included in the shutdowns shown on the histogram. For example, a shutdown due to loss of feedwater is categorized as a loss of feedwater. Also including this transient in the shutdown category would amount to double counting the transient. For these reasons, there is not a one-to-one correlation between the number of shutdowns and startups in certain calendar years or over a longer period such as, the period of 1996 through 2007.

- b) During the initial years of plant operation there were more shutdowns for equipment issues and operator errors. Also the plant was on a 12 month refueling cycle which necessitated a startup and shutdown every year. As the staff gained experience, the number of equipment issues and personnel errors diminished. From 1974 to 1984, the first ten years of operation, there were approximately 44 normal shutdowns, 22 loss of feedwater shutdowns, 30 turbine trips, and 50 other scrams. From 1985 through 1994, there were approximately 11 normal shutdowns, five loss of feedwater shutdowns, four turbine trips, and 12 other scrams. From 1995 to 2009, there were approximately 11 normal shutdowns, two loss of feedwater shutdowns, one turbine trip, and 10 other scrams. This clearly shows that the rate of occurrence of startups and shutdowns from 1996 through 2007 is much less than the rate of occurrence prior to 1996. The more recent trend is expected to be representative of future plant performance. Nonetheless, the Fatigue Monitoring Program will continue to track the number of plant transients to ensure that fatigue analyses based on those numbers remain valid through the period of extended operation.

Reference: Conference call conducted on January 14, 2010, regarding the response to RAI B.1.15-7(d).

Attachment 2

Changes to the License Renewal Application  
Cooper Nuclear Station, Docket No. 50-298, DPR-46

This attachment provides changes to the License Renewal Application (LRA) as agreed to in the January 20, 2010, conference call between the Nebraska Public Power District and the Nuclear Regulatory Commission staff. The changes are presented in underline/strikeout format.

1. LRA Section B.1.36 "Structures Monitoring," Program Description is revised to read:

**B.1.36 STRUCTURES MONITORING**

**Program Description**

The Structures Monitoring Program is an existing program that performs inspections in accordance with 10 CFR 50.65 (Maintenance Rule) as addressed in Regulatory Guide 1.160 and NUMARC 93-01. Periodic inspections are used to monitor the condition of structures and structural commodities to ensure there is no loss of intended function. Since protective coatings are not relied upon to manage the effects of aging for structures included in the Structures Monitoring Program, the program does not directly address protective coating monitoring and maintenance. However, observation of the condition of the paint or coating is an effective method for identifying the absence of degradation of the underlying material. Therefore, monitoring of the condition of coatings on SSCs within the scope of the Structures Monitoring Program is implicitly included within that program. To address the potential impact of coating failure on ECCS sumps, the CNS coatings program was established as described in response to GL 98-04 (Ref. CNS letter NLS980166 to NRC, dated Nov. 4, 1998). This CNS coatings program effectively manages the condition of Service Level 1 protective coatings in the containment to ensure coating degradation does not negatively impact the ability of the ECCS sumps to perform their intended functions.

Reference: Conference call conducted on January 20, 2010, regarding the response to RAI B.1.10-5.

Correspondence Number: NLS2010019

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
NPPD will implement the plant modifications designed to correct the main steam line support discrepancies noted in RAI B.1.20-1 prior to the period of extended operation.	NLS2010019-01	January 18, 2014
To verify there is no loss of neutron absorbing capacity of the Boral material, NPPD will supplement the Neutron Absorber Monitoring Program to include neutron attenuation testing of representative sample coupons. Acceptance criteria will be that measured or analyzed neutron-absorber capacity required to ensure the 5% subcriticality margin for the spent fuel pool is maintained assuming neutron absorber degradation is the only mechanism. Results not meeting the acceptance criteria will be entered into the CNS Corrective Action Program for disposition. One test will be performed prior to the period of extended operation (PEO), with another confirmatory test performed within the first 10 years of the PEO.	NLS2010019-02	January 18, 2014
NPPD will submit (or otherwise make available for NRC review and approval) a complete proprietary version of an analysis of the core plate rim bolts that demonstrates their adequacy considering potential loss of pre-load through the period of extended operation. This will be provided at least two years prior to the period of extended operation. NPPD expects to satisfy this commitment using the generic analysis being developed by the BWRVIP, provided that it is applicable to CNS.	NLS2009100-1 (Revision 1)	January 18, 2012