

April 20, 2010

LICENSEE: Nebraska Public Power District

FACILITY: Cooper Nuclear Station Power Plant

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE CALL HELD ON
JANUARY 20, 2010, BETWEEN THE U.S. NUCLEAR REGULATORY
COMMISSION STAFF AND NEBRASKA PUBLIC POWER DISTRICT,
RELATED TO A CLARIFICATION FOR CERTAIN RESPONSES TO
REQUESTS FOR ADDITIONAL INFORMATION, FOR COOPER
NUCLEAR STATION LICENSE RENEWAL

The U.S. Nuclear Regulatory Commission staff and representatives of Nebraska Public Power District held a telephone conference call on January 20, 2010, to discuss clarifications for certain responses to requests for additional information for Cooper Nuclear Station license renewal.

Enclosure 1 provides a listing of the participants, and Enclosure 2 contains a brief description of the conference call.

The applicant had an opportunity to comment on this summary.

/RA/

Tam Tran, Project Manager
License Renewal Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosures:
As stated

cc w/encls: See next page

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DATE	3/18/10	4/13/10	4/13/10	4/20/10	4/20/10

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LIST OF PARTICIPANTS FROM THE
TELEPHONE CONFERENCE CALL FOR
COOPER NUCLEAR STATION
LICENSE RENEWAL APPLICATION

January 20, 2010

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F. Farzam	NRC
A. Sheikh	NRC
J. Gavula	NRC
S. Gardocki	NRC
B. Lehman	NRC
D. Bremer	Nebraska Public Power District (NPPD)
W. Victor	NPPD
J. Sweley	NPPD
D. Lach	Entergy
A. Cox	Entergy
T. Ivy,	Entergy
J. Robinson	Entergy
R. Ahrabli	Entergy

COOPER NUCLEAR STATION POWER PLANT
LICENSE RENEWAL APPLICATION
(Brief description of the conference call)

The U.S. Nuclear Regulatory Commission (NRC) staff and representatives of NPPD, held a telephone conference call on January 20, 2010, to discuss clarifications for certain responses to requests for additional information listed below.

Clarification for RAI 2.3.4.2.CM-3 response

The Staff and the applicant discussed RAI 2.3.4.2 CM-3, regarding the Condensate Storage Tanks (CST) in scope for license renewal in the applicant's letter of response (NLS2009095). The Staff reiterated that in modes 4 and 5, the CNS Technical Specification requires the operability of two low pressure ECCS (a safety-related system) during shutdown operations. The Condensate Storage Tank is allowed by the Technical Specifications to be a water source for this safety-related system in modes 4 and 5, and in situations when the suppression pool is unavailable. The Technical Specification Bases explains the safety basis for this TS is to prevent fuel uncover during a drain down event. Additionally, the CNS USAR credits CST inventory as an alternate mean for filling the Spent Fuel Pool. Therefore, the CST has an (a)(2) function and should be included within the scope of license renewal.

The applicant provided a detailed discussion of this issue to the staff during the conference call of 1/18/2010. The Staff indicated that this item would remain as an Open Item.

Clarification for RAI B.1.10-5 and RAI 2.4-2(c) responses

In RAI 2.4-2(c), the staff requested clarification on the exclusion of the Drywell coating from the scope of license renewal. In response to RAI 2.4-2(c), the applicant stated that the protective coating is excluded from the scope of license renewal since (1) it is not safety related; and (2) the failure of the protective coating will not prevent satisfactory accomplishment of a safety function.

In RAI B.1.10-5, the staff requested the applicant to provide more information on the CNS service level 1 coating program. In response to RAI B.1.10-5, the applicant stated that the CNS service level 1 coating program (1) provides specific instructions for maintenance of safety related coatings applied to concrete and steel surfaces within the drywell and torus; and (2) ensures that service level 1 coating is applied and maintained such that the coating will not become detached creating potential debris.

The response to RAI 2.4-2(c) is not consistent with the response to RAI B.1.10-5 relative to safety function classification. The staff requested the applicant to clarify this inconsistency.

The applicant provided the following clarifications:

The applicant provided a discussion of this issue to the staff during the conference call of 1/14/2010. This item was revisited at length during the 1/20/2010 call. It was agreed that protective coating is maintained as part of the monitoring program of the in-scope structures and components. It was further agreed that a supplemental response to RAI 2.4-2 (c) will be submitted to clarify that the protective coating will be considered in the scope of license renewal.

The staff also accepted that since there is no line item in the GALL AMR tables for coatings, it was not necessary to revise the CNS LRA AMR tables. However, the staff and the applicant agreed that it is appropriate to include discussion of the GL 98-04 coatings program in Appendix B of the LRA. The applicant agreed to discuss this program within the B.1.36 Structures Monitoring Program description. The staff agreed that this is acceptable.

Subsequent to the conference call, the following change to LRA Section B.1.36 was proposed to the staff:

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.

The staff review of the proposed resolution: the above statement is not acceptable to the staff because it only addresses coatings in the containment. Structures Monitoring Program scope defined in Section B.1.36 of the LRA includes 33 structures/components. Majority of these structures/components are located outside containment. The 10 elements of Structures Monitoring Program in Section B.1.36 does not address coating inspection or frequency.

Clarification for RAI B.1.18-5 response

In its response dated November 4, 2009, the applicant stated: “use of CHECWORKS satisfies the criterion for predictive modeling in the FAC Program, but the CHECWORKS software is not used to verify compliance with regulatory commitments.” The applicant also stated: “it should be noted that the use of CHECWORKS is not characterized as a regulatory commitment for future action proposed in the LRA, since the established FAC Program already includes the use of CHECWORKS as the analytical tool for predictive modeling.” The staff requested the applicant to clarify whether or not it commits to use CHECWORKS during the period of extended operation, in following GALL Section XI.M17 (which credits use of a predictive code, such as CHECWORKS). The staff has a concern that the outputs of predictive software shall

be validated so that wall thinning predictions can be relied upon for an effective aging management program.

The applicant provided the following clarifications:

The applicant provided a discussion of this issue to the staff during the 1/14/2010 conference call. This item was revisited during the 1/20/2010. Among other things, the applicant acknowledged that the use of predictive software (such as CHECWORKS) in conformance with GALL was an implicit commitment. The Staff took issue with the characterization of this commitment as "implicit." During the conference call, the applicant clarified that it had made in the LRA an ongoing commitment for a flow accelerated corrosion (FAC) program that follows the guidelines of NSAC-202L. Accordingly, the applicant stated that it amends its previously position to be:

"Regarding the credit taken in the LRA for conforming to the GALL and to EPRI NSAC-202L (which references use of CHECWORKS or similar predictive software), NPPD acknowledges that the USAR supplement Section A.1.1.18 includes the commitment to follow this during the PEO."

The staff indicated that this issue would be resolved.

Torus coating

In its response dated July 29, 2009, the applicant stated that there are no current plans to recoat the interior of the entire torus. The applicant further stated that the torus will continue to be inspected as required by ASME Section XI, Subsection IWE during the period of extended operation, and indications will be evaluated to determine the appropriate corrective actions, including recoating if necessary.

The staff reviewed the CNS response to RAI B.1.10-2 and requested the applicant to provide additional information in RAI B.1.10-6. The staff concern was that the large number of repairs, excessive zinc depletion, and pitting at thousands of locations to the torus during the last 35 years indicate that the integrity of the torus coating cannot be relied upon during the period of extended operation and have significantly exceeded its useful life. Normal life of the torus coating is 15-20 years. In addition, CNS internal documents concerning self assessment of the torus coating have previously recommended recoating of the torus. Therefore, the staff requested the applicant to provide detailed justification for not making a commitment to recoat the torus prior to the start of period of extended operation.

In its response to RAI B.1.10-6, dated December 21, 2009, the applicant stated a total of approximately 2200 coating repairs have been made to the torus shell since 2001. Out of these 2200 locations, 18 locations had pits where the nominal thickness has been reduced by greater than 10 percent of the nominal shell thickness. The applicant also stated that engineering evaluation was performed that determined that loss of material at the 18 pits was acceptable. Therefore, applicant has not performed any supplementary volumetric (UT) examination at these 18 pits that are located under water. However, the applicant performs augmented visual testing (VT) of the wetted surfaces of the torus once during each inspection period (3 times in 10 years) as required by the ASME Code. The applicant further stated that it has no plans to perform UT examination of the wetted surface of the torus shell because divers visually inspect

the shell surface from the inside every other outage. In conclusion, the applicant stated that the CNS ASME Section XI, IWE program provide will effective aging management of the torus during the period of extended operation; however, recoating remains an option, if warranted in the future.

The staff reviewed the applicant's response to the RAI B.1.10.6, and found it unacceptable because it does not provide commitment to recoat the torus shell internal surface before the period of extended operation. The applicant did not address the issue of how torus coating can last 60 years when the normal life of this coating is only 15-20 years. In addition, the applicant did not provide the coating repairs performed to the torus before 2001 during the first 25 years of the plant operation. According to NUREG 1522, "Assessment of Inservice Conditions of Safety-Related Nuclear Plant Structures," the applicant identified numerous pits in 4 of the 16 bays of the torus and coating was repaired at 150 locations in these 4 bays, during 1993. Based on current degree of coating failure, it does not appear that the existing coating is suitable for service beyond the current licensing period of 40 years. Depletion of zinc coating has reduced the ability to provide corrosion protection to the exposed steel substrate and localized coating failures have exposed areas of bare steel. If the zinc remained available in sufficient quantities, localized bare metal surrounded by intact coating should not be exhibiting active corrosion as it has been.

The applicant has not been managing the coating failures by making coating repairs to areas that have had localized coating failures, whether above or below the waterline. This has apparently resulted in localized galvanic corrosion with high corrosion rates (pitting), instead of very low and predictable general corrosion rates. It has also contributed to the amount of sludge and corrosion products collecting in the suppression pool. Instead, the applicant has been allowing corrosion and applying an epoxy coating intended to arrest the pitting. The applicant was attempting to manage the pitting corrosion in the context structural integrity without correcting the causes. The available data indicate that the condition worsened over time, so this method of aging management is not being successful. Pitting corrosion rates are typically much higher and less predictable than general corrosion rates, and a through-wall pit would impact containment integrity without necessarily impacting structural integrity.

The staff has concluded that while the applicant met their obligations under the ASME Code; however, the ASME Code does not address consideration of plant life extension or determination of when a coating should be replaced. The normal life of the zinc coating which was applied to the torus is 15-20 years and is not suitable for service beyond the current licensing period of 40 years. In addition, thousands of coating repairs have been performed and extensive localized coating failures have been observed in the torus shell. Therefore this issue is unresolved and will be tracked as a new open item.

No further discussion took place other than the staff indicated that this is a new open item.

Memorandum to: Nebraska Public Power District from J. Daily dated April 20, 2010

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Cooper Nuclear Station

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Cooper Nuclear Station

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Cooper Nuclear Station

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