UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 12, 2013

Mr. Oscar A. Limpias
Vice President-Nuclear and CNO
Nebraska Public Power District
72676 648A Avenue
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION - ISSUANCE OF AMENDMENT RE: MODIFICATION OF RENEWED OPERATING LICENSE CONDTION 2.E (TAC NO. MF0692)

Dear Mr. Limpias:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 247 to Renewed Facility Operating License No. DPR-46 for the Cooper Nuclear Station. The amendment consists of changes to the operating license in response to your application dated February 12, 2013.

The amendment modifies the Cooper Nuclear Station license condition 2.E to require incorporation of the commitments listed in Appendix A of NUREG-1944, "Safety Evaluation Report Related to the License Renewal of Cooper Nuclear Station," dated October 2010, in the updated safety analysis report to be managed in accordance with Section 50.59 of Title 10 of the *Code of Federal Regulations*.

A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

Lynnea E. Wilkins, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosures:
1. Amendment No. 247 to DPR-46
2. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

NEBRASKA PUBLIC POWER DISTRICT

DOCKET NO. 50-298

COOPER NUCLEAR STATION

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 247
License No. DPR-46

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Nebraska Public Power District (the licensee), dated February 12, 2013, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-46 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 247, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. In addition, Paragraph 2.E of Renewed Facility Operating License No. DPR-46 is hereby amended to read as follows:

E. The Updated Safety Analysis Report (USAR) supplement, as revised, submitted pursuant to 10 CFR 54.21(d), shall be included in the next scheduled update to the USAR required by 10 CFR 50.71(e)(4), as appropriate, following the issuance of this renewed operating license. Commitment Numbers NLS2008071-01 (Revision 1), NLS2008071-02 through 04, NLS2008071-05 (Revision 1), NLS2008071-06 (Revision 1), NLS2008071-07, NLS2008071-08 (Revision 3), NLS2008071-09, NLS2008071-10, NLS2008071-11 (Revision 1), NLS2008071-12 through 15, NLS2008071-16 (Revision 2), NLS2008071-17 through 22, NLS2008071-23 (Revision 1), NLS2008071-24, NLS2008071-25 (and Supplement 1), NLS2008071-26, NLS2009100-1 (Revision 1), NLS2009100-2, NLS2009100-3, NLS2010019-01, NLS2010019-02, NLS2010044-01, NLS2010050-01 through NLS2010050-03, NLS2010050-04 (Revision 1), NLS2010050-05 (Revision 1), NLS2010050-06, NLS2010062-01, and NLS2010062-02 shall be incorporated in the first update to the USAR required by 10 CFR 50.71(e)(4) following incorporation of the original USAR supplement. Until these respective updates are complete, the licensee may not make changes to the information in the supplement, or the above commitments. Following incorporation of the supplement and commitments into the USAR, the need for Commission approval of any changes will be governed by 10 CFR 50.59.

4. The license amendment is effective as of its date of issuance and shall be implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Michael T. Markley, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License No. DPR-46
and Technical Specifications

Date of Issuance: September 12, 2013

ATTACHMENT TO LICENSE AMENDMENT NO. 247

RENEWED FACILITY OPERATING LICENSE NO. DPR-46

DOCKET NO. 50-298

Replace the following pages of the Renewed Facility Operating License No. DPR-46 and Appendix A Technical Specifications with the enclosed revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Renewed Facility Operating License

REMOVE	INSERT
3	3
5	5
--	6

Technical Specifications

REMOVE	INSERT
--	--

(5) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2419 megawatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 247, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Cooper Nuclear Station Safeguards Plan," submitted by letter dated May 17, 2006.

NPPD shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The NPPD CSP was approved by License Amendment No. 238 as supplemented by a change approved by License Amendment No. 244.

(4) Fire Protection

The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the Cooper Nuclear Station (CNS) Updated Safety Analysis Report and as approved in the Safety Evaluations dated November 29, 1977; May 23, 1979; November 21, 1980; April 29, 1983; April 16, 1984; June 1, 1984; January 3, 1985; August 21, 1985; April 10, 1986; September 9, 1986; November 7, 1988; February 3, 1989; August 15, 1995; and July 31, 1998, subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

performed in July, 2004, in the September 30, 2004 letter response to Generic Letter 2003-01).

(b) The first performance of the periodic assessment of CRE habitability, Specification 5.5.13.c.(ii), shall be within the next 9 months.

(c) The first performance of the periodic measurement of CRE pressure, Specification 5.5.13.d, shall be within 18 months, plus the 138 days allowed by SR 3.0.2, as measured from May 4, 2007, the date of the most recent successful pressure measurement test.

D. (Not Used)

E. The Updated Safety Analysis Report (USAR) supplement, as revised, submitted pursuant to 10 CFR 54.21(d), shall be included in the next scheduled update to the USAR required by 10 CFR 50.71(e)(4), as appropriate, following the issuance of this renewed operating license. Commitment Numbers NLS2008071-01 (Revision 1), NLS2008071-02 through 04, NLS2008071-05 (Revision 1), NLS2008071-06 (Revision 1), NLS2008071-07, NLS2008071-08 (Revision 3), NLS2008071-09, NLS2008071-10, NLS2008071-11 (Revision 1), NLS2008071-12 through 15, NLS2008071-16 (Revision 2), NLS2008071-17 through 22, NLS2008071-23 (Revision 1), NLS2008071-24, NLS2008071-25 (and Supplement 1), NLS2008071-26, NLS2009100-1 (Revision 1), NLS2009100-2, NLS2009100-3, NLS2010019-01, NLS2010019-02, NLS2010044-01, NLS2010050-01 through NLS2010050-03, NLS2010050-04 (Revision 1), NLS2010050-05 (Revision 1), NLS2010050-06, NLS2010062-01, and NLS2010062-02 shall be incorporated in the first update to the USAR required by 10 CFR 50.71(e)(4) following incorporation of the original USAR supplement. Until these respective updates are complete, the licensee may not make changes to the information in the supplement, or the above commitments. Following incorporation of the supplement and commitments into the USAR, the need for Commission approval of any changes will be governed by 10 CFR 50.59.

F. The USAR supplement, as revised, describes certain future activities to be completed prior to and/or during the period of extended operation. The licensee shall complete these activities in accordance with Appendix A of NUREG-1944, "Safety Evaluation Report Related to the License Renewal of Cooper Nuclear Station," dated October 2010, as supplemented by letters from the licensee to the U.S. Nuclear Regulatory Commission (NRC) dated November 15 and 18, 2010. The licensee shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

G. This license is effective as of the date of issuance and shall expire at midnight, January 18, 2034.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Attachments:
Appendices A&B - Technical Specifications
Appendix C - Additional Conditions

Date of Issuance: November 29, 2010

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 247 TO

RENEWED FACILITY OPERATING LICENSE NO. DPR-46

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

DOCKET NO. 50-298

1.0 INTRODUCTION

By application dated September 24, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML083030225), Nebraska Public Power District (NPPD, the licensee) requested renewal of the operating license in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 54 for Cooper Nuclear Station (CNS) for a period of 20 years beyond the January 18, 2014, expiration date. The U.S. Nuclear Regulatory Commission's (NRC's) review of the license renewal application (LRA) is contained in NUREG-1944, "Safety Evaluation Report Related to the License Renewal of Cooper Nuclear Station," dated October 2010 (ADAMS Accession No. ML103070009). Appendix A of NUREG-1944 contains a list of 40 commitments made by the applicant as part of the license renewal review. These commitments are related to completing license renewal-related inspections and implementing, modifying, or enhancing aging management programs that manage the aging effects of systems, structures, and components (SSCs) prior to and during the period of extended operation (PEO). The NRC issued the renewed operating license for CNS on November 29, 2010 (ADAMS Accession No. ML053130313).

By letter dated February 12, 2013 (ADAMS Accession No. ML13050A029), NPPD submitted a license amendment request proposing changes to the renewed operating license for CNS. The proposed changes would modify the CNS renewed facility operating license condition 2.E to allow the commitments listed in Appendix A of NUREG-1944 to be managed in accordance with 10 CFR 50.59. The proposed license condition would reference the list of commitments in Appendix A of NUREG-1944 and clarify that the programs and activities described in the updated safety analysis report (USAR) supplement submitted pursuant to 10 CFR 54.21(d), as revised during the LRA review process, may be changed without prior NRC approval provided the requirements of 10 CFR 50.59 have been satisfied previously.

2.0 REGULATORY EVALUATION

The statements of consideration for the 1995 revision to the Part 54 rule note that, "The license renewal review is intended to identify any additional actions that will be needed to maintain the

functionality of the SSCs in the PEO." These actions can be addressed in the licensing basis by imposing a license condition, providing a description of the action in the USAR supplement, or through commitments made by the applicant during the license renewal review process. The Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-105, "Managing Regulatory Commitments Made by Licensees to the NRC," Revision 4 states, in part, that

> The imposition of obligations (sometimes referred to as regulatory requirements) during routine interactions with licensees should be reserved for matters that satisfy the criteria of 10 CFR 50.36 or are otherwise found to be of high safety or regulatory significance. The major distinction between obligations and other parts of the licensing bases is that changes generally cannot be made without prior NRC approval.
>
> Since commitments made by a licensee in support of a license action, such as a license amendment request, are not legally binding, the staff's safety evaluation (SE) should not rely on commitments as a basis for any part of the staff's approval of a proposed licensing action. Therefore, if the NRC staff needs to rely on a regulatory commitment in an SE, then the staff must escalate the commitment to an obligation, or incorporate it into a mandated licensing basis document.

In accordance with 10 CFR 54.21, applicants submit, as part of the LRA, an USAR supplement. The USAR supplement is revised throughout the course of the LRA review. The USAR supplement may include, as submitted and subsequently expanded throughout the LRA review, additional actions the applicant commits to performing to manage the aging effects of SSCs that are in the scope of license renewal. If a renewed operating license is approved, the USAR supplement, and any additional actions or commitments that are already included therein, would become part of the USAR and managed using 10 CFR 50.59. A separate license condition may be imposed for actions that are of high safety or regulatory significance to be managed in accordance with 10 CFR 50.90.

Since 2005, most license renewal commitments made by licensees have been listed in an Appendix to the NRC staff's safety evaluation report (SER), regardless of whether the commitments were included in the USAR supplement. Although the CNS USAR supplement did not include a list of all the commitments for license renewal, 40 commitments made by CNS during the review were listed in Appendix A of NUREG-1944.

Current License Condition 2.E states,

> The Updated Safety Analysis Report (USAR) supplement, as revised, submitted pursuant to 10 CFR 54.21 (d), shall be included in the next scheduled update to the USAR required by 10 CFR 50.71 (e)(4), as appropriate, following the issuance of this renewed operating license. Until this update is complete, the licensee may not make changes to the information in the supplement. Following incorporation of the supplement into the USAR, the need for Commission approval of any changes will be governed by 10 CFR 50.59.

Current License Condition 2.F states,

> The USAR supplement, as revised, describes certain future activities to be completed prior to and/or during the period of extended operation. The licensee shall complete these activities in accordance with Appendix A of NUREG-1944, "Safety Evaluation Report Related to the License Renewal of Cooper Nuclear Station," dated October 2010, as supplemented by letters from the licensee to the U.S. Nuclear Regulatory Commission (NRC) dated November 15 and 18, 2010. The licensee shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

While the first license condition quoted above allows changes to the license renewal programs and activities described in the USAR supplement if permissible under 10 CFR 50.59, the second license condition requires completion of license renewal programs and activities listed in the USAR supplement in accordance with the commitments listed in Appendix A of NUREG-1944. The current wording implies that any changes to these programs and activities require prior NRC approval of a license amendment application via 10 CFR 50.90, unless those activities were already incorporated into the USAR, and as such, would be governed by the provisions of license condition 2.E.

The primary purpose of the second license condition was to ensure that certain license renewal programs and activities were implemented and/or completed prior to the PEO consistent with Appendix A commitments and that the NRC receive notification of completion to enable verification by NRC inspection. In the case of CNS, the licensee did not incorporate all of its commitments for license renewal into its USAR, therefore, CNS could not use 10 CFR 50.59 to modify those SER, Appendix A commitments that were not listed in the USAR supplement.

Neither license condition requires that commitments listed in Appendix A of NUREG-1944 be incorporated as part of the USAR. CNS included 12 of the 40 commitments listed in Appendix A of NUREG-1944 in the USAR supplement. Therefore, license condition 2.E would apply to those 12 commitments listed in Appendix A of NUREG-1944. Because CNS did not include the remaining 28 SER Appendix A commitments in the USAR supplement, license condition 2.E did not allow those commitments to be modified using 10 CFR 50.59.

Revisions 1 and 2 of NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants [SRP-LR]" (ADAMS Accession Nos. ML052110007 and ML103490036), provide guidance to NRC staff reviewers on LRAs and states in both revisions,

> The summary description of the programs and activities for managing the effects of aging for the period of extended operation in the USAR Supplement should be sufficiently comprehensive, such that later changes can be controlled by 10 CFR 50.59. The description should contain information associated with the bases for determining that aging effects will be managed during the period of extended operation. The description should also contain any future aging management activities, including enhancements and commitments, to be completed before the period of extended operation.

3.0 TECHNICAL EVALUATION

3.1 Proposed Changes to the Renewed Operating License for CNS

In its license amendment request, the licensee proposed to modify license condition 2.E to clarify that the licensee can make changes to the Appendix A of NUREG-1944 list of commitments using the 10 CFR 50.59 process, as opposed to the 10 CFR 50.90 license amendment request process. Specifically, the licensee proposed license condition 2.E to state,

> The Updated Safety Analysis Report (USAR) supplement, as revised, submitted pursuant to 10 CFR 54.21 (d), shall be included in the next scheduled update to the USAR required by 10 CFR 50.71(e)(4), as appropriate, following the issuance of this renewed operating license. Commitment Numbers NLS2008071-01 (Revision 1), NLS2008071-02 through 04, NLS2008071-05 (Revision 1), NLS2008071-06 (Revision 1), NLS2008071-07, NLS2008071-08 (Revision 3), NLS2008071-09, NLS2008071-10, NLS2008071-11 (Revision 1), NLS2008071-12 through 15, NLS2008071-16 (Revision 2), NLS2008071-17 through 22, NLS2008071-23 (Revision 1), NLS2008071-24, NLS2008071-25 (and Supplement 1), NLS2008071-26, NLS2009100-1 (Revision 1), NLS2009100-2, NLS2009100-3, NLS2010019-01, NLS2010019-02, NLS2010044-01, NLS2010050-01 through NLS2010050-03, NLS2010050-04 (Revision 1), NLS2010050-05 (Revision 1), NLS2010050-06, NLS2010062-01, and NLS2010062-02 shall be incorporated in the first update to the USAR required by 10 CFR 50.71 (e)(4) following incorporation of the original USAR supplement. Until these respective updates are complete, the licensee may not make changes to the information in the supplement, or the above commitments. Following incorporation of the supplement and commitments into the USAR, the need for Commission approval of any changes will be governed by 10 CFR 50.59.

The proposed change would enable the licensee to modify the commitments listed in license condition 2.E using 10 CFR 50.59 without the need for prior NRC approval.

3.2 NRC Staff Evaluation

Because the language in CNS license condition 2.F escalates the actions in Appendix A of NUREG-1944 to license conditions, any licensee changes to those actions would require prior NRC approval and a 10 CFR 50.90 license amendment request. These commitments relate to programs and activities for managing aging effects prior to and during the PEO. The NRC staff's license renewal SER relied on the actions listed in Appendix A as the basis for the staff's safety findings. According to LIC-105, actions that are relied upon by the staff should be incorporated in the USAR or escalated to a license condition.

Consistent with the SRP-LR, the NRC staff expected commitments in Appendix A of the CNS license renewal SER to be included in the USAR and managed via 10 CFR 50.59. The 10 CFR 50.59 process will ensure that any changes to the facility, procedures, testing methods or analyses described in the USAR are evaluated via a structured and disciplined approach, and records of the changes are maintained available for NRC inspection. Many of the commitments

involve establishing and/or implementing aging management programs that require periodic inspections, testing and maintenance activities to be completed prior to and during the PEO. The 10 CFR 50.59 process provides assurance that any future modifications to the commitments would not: (1) result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the USAR (as updated); (2) result in more than a minimal increase in the likelihood of occurrence of a malfunction of an SSC important to safety previously evaluated in the final safety analysis report (as updated); (3) result in more than a minimal increase in the consequences of an accident previously evaluated in the USAR (as updated); (4) result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the USAR (as updated); (5) create a possibility for an accident of a different type than any previously evaluated in the USAR (as updated); (6) create a possibility for a malfunction of an SSC important to safety with a different result than any previously evaluated in the USAR (as updated); (7) result in a design basis limit for a fission product barrier as described in the USAR (as updated) being exceeded or altered; or (8) result in a departure from a method of evaluation described in the USAR (as updated) used in establishing the design bases or in the safety analyses. License renewal actions that were of high safety or regulatory significance would be captured in separate and detailed license conditions.

Below is the NRC staff's evaluation of each commitment listed in Appendix A of NUREG-1944. For each commitment, the staff considered whether: (1) the commitment could be managed under 10 CFR 50.59 and (2) the inspection results documented in Inspection Report (IR) 05000298/2012008 or Inspection Procedure (IP) 71003 Phase I (ADAMS Accession No. ML12342A390) indicate the commitments were implemented or completed by the licensee.

3.2.1 List of Commitments

Commitment No. 1:

> Implement the Aboveground Steel Tanks Program. The thickness measurements will be performed at least once during the first ten years of the PEO and periodically thereafter. The results of the initial inspection will be used to determine the frequency of subsequent inspections.

Assessment for Commitment No. 1:

This commitment corresponds to Revision 1 of CNS Commitment No. NLS2008071-01 referenced in the licensee's letter dated July 29, 2010 (ADAMS Accession No. ML102150542). This commitment was revised prior to the issuance of the renewed operating license on November 29, 2010.

Commitment No. 2:

> Enhance the Bolting Integrity Program to include guidance from EPRI NP-5769[1] and EPRI TR-104213[2] for material selection and testing, bolting preload control,

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[1] Electric Power Research Institute, NP-5769, "Degradation and Failure of Bolting in Nuclear Power Plants," April 1988 (ADAMS Accession No. ML003727113).

ISI [inservice inspection], plant operation and maintenance, and evaluation of the structural integrity of bolted joints.

Enhance the program to clarify that actual yield strength is used in selecting materials for low susceptibility to SCC, to clarify the prohibition on use of lubricants containing MoS_2 [molybdenum disulfide] for bolting at CNS, and to specify that proper gasket compression will be visually verified following assembly.

Enhance the program to include guidance from EPRI NP-5769 and EPRI TR-104213 for replacement of non-Class 1 bolting and disposition of degraded structural bolting.

Assessment for Commitment No. 2:

This commitment corresponds to CNS Commitment No. NLS2008071-02 referenced in the licensee's letter dated July 29, 2010.

By letter dated February 12, 2013, the licensee stated that the USAR was revised to include the commitment.

Commitment No. 3:

Implement the Buried Piping and Tanks Inspection Program.

Assessment for Commitment No. 3:

This commitment corresponds to CNS Commitment No. NLS2008071-03 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 4:

Enhance the BWR [Boiling-Water Reactor] Vessel Internals Program to include actions to replace the plugs in the core plate bypass holes based on their qualified life.

Assessment for Commitment No. 4:

This commitment corresponds to CNS Commitment No. NLS2008071-04 referenced in the licensee's letter dated July 29, 2010. Commitment No. 4 was reviewed by inspectors during Phase I of the IP 71003 inspection. The results were documented in IR 05000298/2012008, which states, in part, that

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[2] Electric Power Research Institute, TR-104213, "Bolted Joint Maintenance & Applications Guide," December 1995 (ADAMS Accession No. ML003757012).

> From review of the Cooper Nuclear Station Vessels Internal Program, Revision 19.8, the inspectors verified that Section 12.20, "Core Plate Plugs," specified that the licensee will change the 88 core plate plugs in Refueling Outage 29, which should occur in the fall of 2016. The inspectors verified the licensee had included this activity in their commitment list for Refueling Outage 29. The inspectors reviewed design calculations that demonstrated the core support plate plugs had and effective life of 32 Effective Full Power Years. The inspectors verified that the core support plate plugs will not exceed 32 Effective Full Power Years when the licensee replaces them in fall 2016.
>
> Based on review of the planned actions for replacing the core plate plugs, the inspectors determined that the licensee met the conditions of Commitment 4 by scheduling the replacement of their core plate plugs prior to exceeding 32 Effective Full Power Years and by including this requirement in the Cooper Nuclear Station Vessels Internal Program. This commitment is closed.

By letter dated February 12, 2013, the licensee stated that the USAR was revised to include this commitment. NRC inspection confirmed that the licensee revised the program consistent with the commitment to provide reasonable assurance that replacement of the plugs in the core plate bypass holes would be completed based on their qualified life.

Commitment No. 5:

> Enhance the Containment Inservice Inspection Program to add examination of required accessible areas using a visual examination method and surface areas not accessible on the side requiring augmented examination to be examined using an ultrasonic thickness measurement method in accordance with IWE-2500(b).
>
> Enhance the program to document material loss in a local area exceeding 10% of the nominal containment wall thickness or material loss in a local area projected to exceed 10% of the nominal containment wall thickness before the next examination in accordance with IWE-3511.3 for volumetric inspections.
>
> To ensure the [drywell sand cushion drain] lines are obstruction free, a vacuum test of all eight sand bed drain lines will be performed prior to the period of extended operation (PEO).

Assessment for Commitment No. 5:

This commitment corresponds to Revision 1 of CNS Commitment No. NLS2008071-05 referenced in the licensee's letter dated July 29, 2010. This commitment was revised prior to the issuance of the renewed operating license on November 29, 2010.

Commitment No. 6:

Enhance the Diesel Fuel Monitoring Program to include the use of ASTM Standard D4057 for sampling of the diesel fire pump fuel oil storage tank.

Enhance the Diesel Fuel Monitoring Program to include periodic visual inspections and cleaning of the diesel fuel oil day tanks, the diesel fuel oil storage tanks, and the diesel fire pump fuel oil storage tank.

Enhance the program to include periodic multilevel sampling of the diesel fuel oil day tanks and the diesel fire pump fuel oil storage tank and to include periodic visual inspections as well as ultrasonic bottom surface thickness measurement of the diesel fuel oil day tanks, the diesel fuel oil storage tanks, and the diesel fire pump fuel oil storage tank.

Enhance the program to provide the acceptance criterion of ≤ 10 mg/l for the determination of particulates in the diesel fire pump fuel oil storage tank.

Enhance the program to specify acceptance criterion for UT thickness measurements of the bottom surfaces of the diesel fuel oil day tanks, the diesel fuel oil storage tanks, and the diesel fire pump fuel oil storage tank. The acceptance criteria for UT [ultrasonic test] measurement of tank bottom thickness for the referenced diesel fuel tanks will be based on component as-built information adjusted for corrosion allowance. If measurements show less than the minimum nominal thickness less corrosion allowance, engineering will evaluate the measured thickness for acceptability under the corrective action program. Evaluation will include consideration of potential future corrosion to ensure that future inspections are scheduled before wall thickness becomes unacceptable.

Assessment for Commitment No. 6:

This commitment corresponds to Revision 1 of CNS Commitment No. NLS2008071-06 referenced in the licensee's letter dated July 29, 2010. This commitment was revised prior to the issuance of the renewed operating license on November 29, 2010.

Commitment No. 7:

Enhance the External Surfaces Monitoring Program to clarify that periodic inspections of systems in-scope and subject to aging management review for license renewal in accordance with 10 CFR 54.4(a)(1) and (a)(3) will be performed. Inspections shall include areas surrounding the subject systems to identify hazards to those systems. Inspections of nearby systems that could impact the subject systems will include SSCs that are in-scope and subject to aging management review for license renewal in accordance with 10 CFR 54.4(a)(2).

Assessment for Commitment No. 7:

This commitment corresponds to CNS Commitment No. NLS2008071-07 referenced in the licensee's letter dated July 29, 2010.

By letter dated February 12, 2013, the licensee stated that the USAR was revised to include this commitment.

Commitment No. 8:

> Consideration of the effect of the reactor water environment will be accomplished through implementation of one or more of the following options for the reactor vessel shell and lower head, feedwater nozzles, core spray nozzles and RHR [residual heat removal] pipe transition. In addition, NPPD will review design basis ASME Class 1 component fatigue evaluations to determine whether the CNS locations that have been evaluated for the effects of the reactor coolant environment on fatigue include the limiting component within the reactor coolant pressure boundary. If a more limiting component is identified, NPPD will determine the effects of the reactor coolant environment on its fatigue usage in accordance with the following.
>
> (1) Update the fatigue usage calculations using refined fatigue analyses to determine valid CUFs [cumulative usage factors] less than 1.0 when accounting for the effects of reactor water environment. This includes applying the appropriate F_{en} factors to valid CUFs determined using an NRC-approved version of the ASME code or NRC-approved alternative (e.g., NRC-approved code case). NPPD will use NUREG/CR-6909[3] when determining the effects of the reactor coolant environment on the fatigue life of Alloy 600 components or other nickel alloy components.
>
> (2) Repair or replace the affected locations before exceeding a CUF of 1.0.
>
> The CNS Fatigue Monitoring Program will be enhanced to require the recording of each transient associated with the actuation of a safety/relief valve (SRV).

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[3] U.S. Nuclear Regulatory Commission, NUREG/CR-6909, "Effect of LWR Coolant Environments on the Fatigue Life of Reactor Materials," February 2007 (ADAMS Accession No. ML070660620)

Assessment for Commitment No. 8:

This commitment corresponds to Revision 3 of CNS Commitment No. NLS2008071-08 referenced in letter dated November 15, 2010 (ADAMS Accession No. ML103220098) and by letter dated November 18, 2010 (ADAMS Accession No. ML103300041). This commitment was revised prior to the issuance of the renewed operating license on November 29, 2010. Commitment No. 8 was reviewed by inspectors during Phase I of the IP 71003 inspection. The results were documented in IR 05000298/2012008, which states, in part, that

> The licensee notified the NRC in Letter NLS2011114, "Completion of License Renewal Commitment NLS2008071 – 08," dated December 23, 2011 [(ADAMS Accession No. ML12003A241)], that Commitment 8 was closed. The inspectors determined that the licensee performed Calculation NEDC 08-014, "Reconstitution of Selected Reactor Pressure Boundary Components," Revision 0, which demonstrated that the licensee had sufficient margin to accommodate the anticipated number of cycles up to 60 years of operation. The calculation recommended that the fatigue management be revised to accommodate the environmental factors. The licensee performed Engineering Evaluation 10-023, "Reactor Pressure Boundary Components Fatigue Management Plan," Revision 0, which described the planned method for monitoring fatigue based upon the information in Calculation NEDC 08-014.
>
> The inspectors determined that Procedure 3.20, "Reactor Pressure Vessel and Torus Thermal Transient Review," Revision 18, included a requirement to record each transient associated with the actuation of a safety-relief valve. The licensee had not revised their implementing procedures to incorporate environmental factors and implement the methodology described in Engineering Evaluation 10-023.
>
> Based on review of the actions implemented, the inspectors determined that the licensee had not included all aspects of Commitment 8 in the implementing procedures. This commitment remains open and will be reviewed during the commitment inspection in the fall of 2013.

By letter dated February 12, 2013, the licensee stated that the USAR was revised to include this commitment. NRC inspection concluded that this commitment will be re-reviewed during a future inspection.

Commitment No. 9:

> Enhance the Fire Protection Program to explicitly state that the diesel fire pump engine sub-systems (including the fuel supply line) shall be observed while the engine is running. Acceptance criteria will be revised to verify that the diesel engine does not exhibit signs of degradation while running, such as excessive fuel oil, lube oil, or exhaust gas leakage.

Enhance the program to specify that diesel fire pump engine carbon steel exhaust components are inspected for evidence of corrosion or cracking at least once every five years.

Enhance the program to require visual inspections of fire damper framing to check for signs of degradation.

Enhance the program to require visual inspections of the Halon and CO_2 fire suppression systems at least once every six months to check for signs of degradation in a manner suitable for trending.

Enhance the program to include inspection of cardox hose reels for corrosion. Acceptance criteria will be enhanced to verify no unacceptable corrosion.

Enhance the program to require visual inspection of concrete flood curbs, manways, hatches, and hatch covers on an 18-month basis to check for signs of degradation.

Assessment for Commitment No. 9:

This commitment corresponds to CNS Commitment No. NLS2008071-09 referenced in the licensee's letter dated July 29, 2010.

By letter dated February 12, 2013, the licensee stated that the USAR was revised to include the commitment.

Commitment No. 10:

Enhance the Fire Water System Program to include inspection of hose reels for corrosion. Acceptance criteria will be enhanced to verify no unacceptable corrosion.

Enhance the program to include visual inspection of spray and sprinkler system internals for evidence of corrosion. Acceptance criteria will be enhanced to verify no unacceptable corrosion.

Enhance the program to provide wall thickness evaluations of fire protection piping on system components using non-intrusive techniques (e.g., volumetric testing) to identify evidence of loss of material due to corrosion. These inspections will be performed before the end of the current operating term and at intervals thereafter during the period of extended operation. Results of the initial evaluations will be used to determine the appropriate inspection interval to ensure aging effects are identified prior to loss of intended function.

Enhance the program to add that a sample of sprinkler heads required for 10 CFR 50.48 will be tested or replaced using guidance of NFPA-25 (2002

edition)[4], Section 5.3.1.1.1, before the end of the 50-year sprinkler head service life and at 10-year intervals thereafter during the period of extended operation.

Assessment for Commitment No. 10:

This commitment corresponds to CNS Commitment No. NLS2008071-10 referenced in the licensee's letter dated July 29, 2010.

By letter dated February 12, 2013, the licensee stated that the USAR was revised to include the commitment.

Commitment No. 11:

Enhance the Flow-Accelerated Corrosion Program to update the System Susceptibility Analysis for this program to reflect the lessons learned and new technology that became available after the publication of NSAC-202L Revision 1[5]. Program guidance documents will be revised to stipulate requirements for training and qualification of non-CNS personnel involved in implementing the FAC program.

Assessment for Commitment No. 11:

This commitment corresponds to Revision 1 of CNS Commitment No. NLS2008071-11 referenced in the licensee's letter dated July 29, 2010. This commitment was revised prior to the issuance of the renewed operating license on November 29, 2010.

By letter dated February 12, 2013, the licensee stated that the USAR was revised to include the commitment.

Commitment No. 12:

Enhance the Inservice Inspection - IWF Program to include Class MC piping and component supports.

Enhance the program to clarify that the successive inspection requirements of IWF-2420 and the additional examination requirements of IWF-2430 will be applied.

Assessment for Commitment No. 12:

This commitment corresponds to CNS Commitment No. NLS2008071-12 referenced in the licensee's letter dated July 29, 2010.

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4 National Fire Protection Association, NFPA 25, "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems," January 31, 2002.

5 Electric Power Research Institute, "Recommendations for an Effective Flow-Accelerated Corrosion Program," January 1997.

By letter dated February 12, 2013, the licensee stated that the USAR was revised to include the commitment.

Commitment No. 13:

> Enhance the Masonry Wall Program to clarify that the control house - 161 kV [kiloVolt] switchyard is included in the program.
>
> Enhance the program to clarify that structures with conditions classified as "acceptable with deficiencies" or "unacceptable" shall be entered into the Corrective Action Program.

Assessment for Commitment No. 13:

This commitment corresponds to CNS Commitment No. NLS2008071-13 referenced in the licensee's letter dated July 29, 2010.

By letter dated February 12, 2013, the licensee stated that the USAR was revised to include the commitment.

Commitment No. 14:

> Implement the Metal-Enclosed Bus Inspection Program.

Assessment for Commitment No. 14:

This commitment corresponds to CNS Commitment No. NLS2008071-14 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 15:

> Implement the Non-EQ Bolted Cable Connections Program.

Assessment for Commitment No. 15:

This commitment corresponds to CNS Commitment No. NLS2008071-15 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 16:

> Implement the Non-EQ Inaccessible Medium- Voltage Cable Program.
>
> 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.
>
> In-scope inaccessible low-voltage power cables (cables with operating voltage from 480 V [Volt] 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).

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.

Assessment for Commitment No. 16:

This commitment corresponds to Revision 2 of CNS Commitment No. NLS2008071-16 referenced by the licensee's letter dated July 29, 2010. This commitment was revised prior to the issuance of the renewed operating license on November 29, 2010.

Commitment No. 17:

Implement the Non-EQ Instrumentation Circuits Test Review Program.

Assessment for Commitment No. 17:

This commitment corresponds to CNS Commitment No. NLS2008071-17 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 18:

Implement the Non-EQ Insulated Cables and Connections Program.

Assessment for Commitment No. 18:

This commitment corresponds to CNS Commitment No. NLS2008071-18 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 19:

Enhance the Oil Analysis Program to include viscosity, neutralization number, and flash point determination of oil samples from components that do not have regular oil changes, along with analytical ferrography and elemental analysis for the identification of wear particles.

Enhance the program to include screening for particulate and water content for oil replaced periodically.

Enhance the program to formalize preliminary oil screening for water and particulates and laboratory analyses, including defined acceptance criteria for all

components included in the scope of the program. The program will specify corrective actions in the event acceptance criteria are not met.

Assessment for Commitment No. 19:

This commitment corresponds to CNS Commitment No. NLS2008071-19 referenced in the licensee's letter dated July 29, 2010.

By letter dated February 12, 2013, the licensee stated that the USAR was revised to include the commitment.

Commitment No. 20:

Implement the One-time Inspection Program.

Assessment for Commitment No. 20:

This commitment corresponds to CNS Commitment No. NLS2008071-20 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 21:

Implement the One-time Inspection Small-Bore Piping Program.

Assessment for Commitment No. 21:

This commitment corresponds to CNS Commitment No. NLS2008071-21 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 22:

Enhance the Periodic Surveillance and Preventive Maintenance Program to include the activities described in the table provided in the program description of LRA Section B.1.31.

For each activity that refers to a representative sample, a representative sample will be selected for each unique material and environment combination. The sample size will be determined in accordance with Chapter 4 of EPRI 107514, *Age-Related Degradation Inspection Method and Demonstration*, which outlines a method to determine the number of inspections required for 90% confidence that 90% of the population does not experience degradation.

Assessment for Commitment No. 22:

This commitment corresponds to CNS Commitment No. NLS2008071-22 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 23:

> Enhance the Reactor Vessel Surveillance Program to add that if the CNS license renewal capsule is removed from the reactor vessel without the intent to test it, the capsule will be stored in a manner which maintains it in a condition which would permit its future use, including during the period of extended operation, if necessary.
>
> Enhance the program to ensure that the additional requirements that are specified in the final NRC safety evaluation for BWRVIP-116[6] will be addressed before the period of extended operation.

Assessment for Commitment No. 23:

This commitment corresponds to Revision 1 of CNS Commitment No. NLS2008071-23 referenced in the licensee's letter dated July 29, 2010. This commitment was revised prior to the issuance of the renewed operating license on November 29, 2010.

By letter dated February 12, 2013, the licensee stated that the USAR was revised to include the commitment.

Commitment No. 24:

> Implement the Selective Leaching Program.

Assessment for Commitment No. 24:

This commitment corresponds to CNS Commitment No. NLS2008071-24 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 25:

> Revise procedures to ensure the structures described in the LRA Section B.1.36 table are included in the program.
>
> Revise procedures to ensure the commodities described in the LRA Section B.1.36 table are inspected, as applicable.
>
> Enhance the Structures Monitoring Program to add guidance to inspect inaccessible concrete areas that are submerged or below grade which may become exposed due to excavation, construction or other activities. CNS will also inspect inaccessible concrete areas when observed conditions in accessible areas exposed to the same environment indicate that significant concrete degradation is occurring.

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6 Electric Power Research Institute, BWRVIP-116, "BWR Vessel & Internals Project, Integrated Surveillance Program Implementation for License Renewal," July 2003 (proprietary).

Enhance the Structures Monitoring Program to perform inspections of elastomers (seals, gaskets, and roof elastomers) to identify cracking and change in material properties.

Enhance the Structures Monitoring Program to perform an engineering evaluation of groundwater samples to assess aggressiveness of groundwater to concrete on a periodic basis (at least once every five years). CNS will obtain samples from a well that is representative of the groundwater surrounding below-grade site structures. Samples will be monitored for Sulfates, pH and chlorides.

Enhance the Structures Monitoring Program to add guidance to perform visual structural examinations of wood to identify loss of material and change in material properties.

Enhance the Structures Monitoring Program to add guidance to perform visual structural monitoring of the oil tank bunker crushed rock fill to identify loss of form.

Enhance the Structures Monitoring Program to clarify that structures with conditions classified as "acceptable with deficiencies" or "unacceptable" shall be entered into the Corrective Action Program.

Supplement 1: NPPD will enhance the Structures Monitoring Program procedure to: a) include more detailed guidance on acceptance criteria (using ACI documents ACI 201.1R-92, and ACI 349.3R-96[7]) to preclude potential inconsistent application of inspection criteria, and b) provide more detailed guidance on trending.

Assessment for Commitment No. 25:

This commitment corresponds to CNS Commitment No. NLS2008071-25 and Supplement 1 referenced in the licensee's letter dated July 29, 2010.

By letter dated February 12, 2013, the licensee stated that the USAR was revised to include the non-supplemented portion of this commitment.

Commitment No. 26:

Implement the Thermal Aging and Neutron Irradiation Embrittlement of Cast Austenitic Stainless Steel (CASS) Program.

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[7] American Concrete Institute, ACI 201.1R-92, "Guide for Making a Condition Survey of Concrete in Service Reported by ACI Committee 201," December 1997 and ACI 349-3R-96, "Evaluation of Existing Nuclear Safety-Related Concrete Structures," 1996.

Assessment for Commitment No. 26:

This commitment corresponds to CNS Commitment No. NLS2008071-26 referenced in the licensee's letter dated July 29, 2010. Commitment No. 26 was reviewed by inspectors during Phase I of the IP 71003 inspection. The results were documented in IR 05000298/2012008 (ADAMS Accession No. ML12342A390), which states, in part, that

> The licensee notified the NRC in Letter NLS2011111, "Completion of License Renewal Commitments NLS2009100-2, NLS2009100-3, and NLS2008071-26," dated December 28, 2011 [(ADAMS Accession No. ML12003A212)], that Commitments 26, 28, and 29, were closed. The inspectors determined that the licensee had revised the Updated Final Safety Analysis, Appendix K, to reflect that no susceptible material was present in the reactor vessel; consequently, the licensee planned to conduct no aging management activities, as specified in NUREG-1801, "Generic Aging Lessons Learned (GALL) Report."
>
> From review of the Cooper Nuclear Station Vessels Internal Program, Revision 19.8, the inspectors verified that Section 12.25, "VIP-234, Thermal Aging and Neutron Embrittlement Evaluation of Cast Austenitic Stainless Steels," described the facility cast austenitic stainless steel program. The inspectors verified that the licensee had added the review of cast austenitic stainless steel to their Vessels Internals program.
>
> Based on review of the timeliness and adequacy of the actions implemented, the inspectors concluded that the licensee met the conditions of Commitment 26. This commitment is considered closed since the licensee had established a program in the Cooper Nuclear Station Vessels Internal Program.

NRC inspection confirmed that the licensee implemented the necessary actions consistent with the commitment to provide reasonable assurance that the future review of cast austenitic stainless steel would be completed in accordance with the Vessels Internals program.

Commitment No. 27:

> 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.

Assessment for Commitment No. 27:

This commitment corresponds to Revision 1 of CNS Commitment No. NLS2009100-01 referenced in the licensee's letter dated July 29, 2010. This commitment was revised prior to the issuance of the renewed operating license on November 29, 2010. Commitment No. 27 was reviewed by inspectors during Phase I of the IP 71003 inspection. The results were documented in IR 05000298/2012008, which states, in part, that

> The licensee notified the NRC in NLS2012002, "Completion of License Renewal Commitment NLS2009100-1," Revision 1, dated January 16, 2012 [(ADAMS Accession No. ML12031A248)], that Commitment 27 was closed. The inspectors reviewed Calculation 02-053, "Core Plate Bolt Stress Analysis Report," Revision 3, which accepted the vendor analysis of the loss of pre-load in the core plate rim bolts. Report NEDC-33674P, "Cooper Nuclear Station Core Plate Bolt Stress Analysis Report," dated October 2011, calculated that the core plate rim bolt relaxation using the methodology described in BWRVIP-25, "BWR Core Plate Inspection and Flaw Evaluation Guidelines." The inspectors identified no concerns with the analysis and confirmed that the core plate rim bolt stresses should not exceed American Society of Mechanical Engineers limits.
>
> Based on review of the timeliness and adequacy of the actions implemented, the inspectors concluded that the licensee met the conditions of Commitment 27. This commitment is closed.

By letter dated January 16, 2012 (ADAMS Accession No. ML110840068), the licensee submitted for staff review and approval a plant-specific analysis concerning core plate bolts in fulfillment of Revision 1 to CNS Commitment No. NLS2009100-01. This commitment is still under review by the staff.

Commitment No. 28:

> NPPD will confirm that there are no niobium-bearing CASS materials used for vessel internal components, or provide a flaw evaluation methodology for niobium-bearing CASS internal components for staff review and approval. This will be provided at least two years prior to the period of extended operation. NPPD expects to implement this commitment by a generic analysis sponsored by the BWRVIP in collaboration with EPRI.

Assessment for Commitment No. 28:

This commitment corresponds to CNS Commitment No. NLS2009100-02 referenced in the licensee's letter dated July 29, 2010. Commitment No. 28 was reviewed by inspectors during Phase I of the IP 71003 inspection. The results were documented in IR 05000298/2012008, which states, in part, that

> The inspectors reviewed licensing correspondence, materials information, and the licensee analysis of the content of their cast austenitic stainless steel reactor vessel components. The inspectors reviewed Engineering Evaluation 11-045,

> "Reactor Vessel Internals CASS Material Review," which accepted the evaluation completed by a vendor on the materials of construction for the in-scope cast austenitic stainless steel components. The inspectors verified that the materials specified on design drawings called for material that had no requirements to include niobium. Further, the supplier confirmed that the chemistry specifications for the material used in the cast austenitic stainless steel components at Cooper Nuclear Station did not call for the use of niobium.
>
> Based on review of the timeliness and adequacy of the actions implemented, the inspectors concluded that the licensee met the conditions of Commitment 28. This commitment is closed.

NRC inspection confirmed that the licensee implemented the necessary actions consistent with the commitment to provide reasonable assurance that there would be no niobium-bearing CASS materials used for vessel internal components.

Commitment No. 29:

> NPPD will confirm there are no CASS materials with greater than 25% ferrite or provide a flaw evaluation methodology for CASS internal components with greater than 25% ferrite for staff review and approval. This will be provided at least two years prior to the period of extended operation. NPPD expects to implement this commitment by a generic analysis sponsored by the BWRVIP in collaboration with EPRI.

Assessment for Commitment No. 29:

This commitment corresponds to CNS Commitment No. NLS2009100-03 referenced in the licensee's letter dated July 29, 2010. Commitment No. 29 was reviewed by inspectors during Phase I of the IP 71003 inspection. The results were documented in IR 05000298/2012008, which states, in part, that

> The Electric Power Research Institute submitted BWRVIP-234, "Thermal Aging and Neutron Embrittlement Evaluation of Cast Austenitic Stainless Steels," which evaluated whether the cast components for all boiling water reactor types had enough ferrite content to be of concern. The licensee credited the submittal of BWRVIP-234 in a letter to the NRC as meeting this commitment. The inspectors determined that the result of the NRC review and safety evaluation was being tracked for required corrective actions by Condition Report CNSLO-2011-00258.
>
> Based on review of the timeliness and adequacy of the actions implemented, the inspectors concluded that the licensee had supplied information that demonstrated they did not have greater than 25 percent ferrite as specified in Commitment 29. The inspectors did not close this commitment and will review this commitment further during the Phase 2 inspection in fall 2013. This commitment remains open.

NRC inspection concluded that this commitment will be re-reviewed during a future inspection.

Commitment No. 30:

> 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.

Assessment for Commitment No. 30:

This commitment corresponds to CNS Commitment No. NLS2010019-01 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 31:

> 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.

Assessment for Commitment No. 31:

This commitment corresponds to CNS Commitment No. NLS2010019-02 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 32:

> During the period of extended operation, NPPD will perform periodic volumetric examinations of Class 1 socket weld connections. Three Class 1 socket welds will receive volumetric examination during each 10 year ISI interval. The examination method will be a volumetric examination of the base metal ½" beyond the toe of the socket fillet weld which allows for the use of qualified ultrasonic examination techniques as close as possible to the fillet weld. The volumetric examinations will be performed by certified examiners following guidelines set forth in ASME Section V, Article 4 consistent with the guidelines for examination volume of ½" beyond the toe of the weld as established in MRP-146, "Materials Reliability Program: Management of Thermal Fatigue in Normally Stagnant Non-Isolable Reactor Coolant System Branch Lines."

Assessment for Commitment No. 32:

This commitment corresponds to CNS Commitment No. NLS2010044-01 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 33:

> NPPD will recoat the wetted portion of the CNS torus within three years after entering the PEO.

Assessment for Commitment No. 33:

This commitment corresponds to CNS Commitment No. NLS2010050-01 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 34:

> NPPD will remove sludge and inspect the wetted portion of the torus every refueling outage from now until the torus is recoated.

Assessment for Commitment No. 34:

This commitment corresponds to CNS Commitment No. NLS2010050-02 referenced in the licensee's letter dated July 29, 2010. Commitment No. 34 was reviewed by inspectors during Phase I of the IP 71003 inspection. The results were documented in IR 05000298/2012008, which states, in part, that

> The inspectors reviewed the video from the inspection of the wetted portion of the torus conducted during Refueling Outage 26 and reviewed the results of the sludge removal. The team noted that divers were conducting the torus inspection and removing sludge during this inspection as part of Refueling Outage 27. The licensee will remove sludge and inspect the torus once more in Refueling Outage 28 (fall 2014) since the licensee plans to recoat the torus in Refueling Outage 29 (fall 2016). The inspectors verified the torus recoating was included in the outage schedule for Refueling Outage 29.
>
> Because the licensee will complete the actions related to this commitment in the future, the inspectors did not close this commitment. The inspectors will review the results of the torus inspection performed during the current outage (RE27) in fall 2013. This commitment remains open.

NRC inspection concluded that this commitment will be re-reviewed during a future inspection.

Commitment No. 35:

> NPPD will complete an analysis following each torus inspection that demonstrates that the projected pitting of the torus up to the time that the torus is recoated, will not result in reduction of torus wall thickness below minimum acceptable values.

Assessment for Commitment No. 35:

This commitment corresponds to CNS Commitment No. NLS2010050-03 referenced in the licensee's letter dated July 29, 2010. Commitment No. 35 was reviewed by inspectors during Phase I of the IP 71003 inspection. The results were documented in IR 05000298/2012008, which states, in part, that

> The inspectors reviewed Calculation NEDC 94-214, "Evaluation of Torus Shell Corrosion and the Impact to Structural Integrity of the Torus," Revision 6. The inspectors concluded that the analysis demonstrated that the torus continued to have sufficient margin and material thickness in the torus walls. Further, the licensee did not identify any areas that resulted in a significant increase in corrosion.
>
> Because the licensee will complete the actions related to this commitment in the future, the inspectors did not close this commitment. The inspectors will review the analysis for the current inspection (RE27) in the fall 2013. This commitment remains open.

NRC inspection concluded that this commitment will be re-reviewed during a future inspection.

Commitment No. 36:

> The Buried Piping and Tanks Inspection Program will include a risk assessment of in-scope buried piping and tanks that includes consideration of the impacts of buried piping or tank leakage and of conditions affecting the risk for corrosion. The piping segments and tanks will be classified as having a high, medium or low impact of leakage based on items such as the safety class, the hazard posed by fluid contained in the piping, and the impact of leakage on plant operation. The corrosion risk will be determined through consideration of items such as piping or tank material, soil resistivity, drainage, the presence of cathodic protection, and the type of coating. During the period of extended operation (PEO), examinations of in-scope buried piping and tanks will be performed at a frequency of at least once every 10 years. Examinations of buried piping and tanks during the PEO will consist of visual inspections as well as non-destructive examination (e.g. ultrasonic and guided wave) to perform an overall assessment of the condition of buried piping and tanks. The examinations will include visual inspection of at least eight feet of excavated piping on at least three high-risk in-scope systems, and will examine a minimum of 2% of the total linear feet of high-risk in-scope buried piping during each 10-year period.

Assessment for Commitment No. 36:

This commitment corresponds to Revision 1 of CNS Commitment No. NLS2010050-04 referenced in the licensee's letter dated July 29, 2010. This commitment was revised prior to the issuance of the renewed operating license on November 29, 2010.

Commitment No. 37:

> Prior to the PEO, NPPD will inspect buried piping and tanks in six systems. These systems are diesel generator fuel oil (DGFO), standby gas treatment, high pressure coolant injection (HPCI), service water (SW), condensate makeup (CM), and plant drains. Direct or opportunistic visual inspections of excavated piping will be performed for DGFO, standby gas treatment, plant drains, SW, and CM systems. NPPD will use a non-visual examination method for the emergency condensate storage tank supply to HPCI piping due to its lack of ready access for excavation. In addition, non-visual examination methods may be employed for buried piping in other systems where the piping configuration allows for effective assessment via such methods. The total linear feet of piping inspected using all of the methods discussed above will be a minimum of 2%t of all high-risk in-scope buried piping.

Assessment for Commitment No. 37:

This commitment corresponds to Revision 1 of CNS Commitment No. NLS2010050-05 referenced in the licensee's letter dated July 29, 2010. This commitment was revised prior to the issuance of the renewed operating license on November 29, 2010.

By letter dated February 12, 2013, the licensee stated that the USAR was revised to include the commitment.

Commitment No. 38:

> Irrespective of risk ranking, NPPD will inspect at least one segment of buried piping in each of three in-scope systems, service water, fire protection, and condensate makeup.

Assessment for Commitment No. 38:

This commitment corresponds to CNS Commitment No. NLS2010050-06 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 39:

> NPPD will upgrade the site cathodic protection system prior to the period of extended operation for in-scope piping and buried tanks.

Assessment for Commitment No. 39:

This commitment corresponds to CNS Commitment No. NLS2010062-01 referenced in the licensee's letter dated July 29, 2010.

Commitment No. 40:

> The Buried Piping and Tanks Inspection Program will be revised to ensure that during the PEO the cathodic protection system will be maintained and annually tested in accordance with NACE standards RP0285-2002 and SP0169-2007[8] with a minimum system availability of 90%. If 90% availability is not maintained, the condition will be entered into the corrective action program to evaluate the impact and effect corrective action.

Assessment for Commitment No. 40:

This commitment corresponds to CNS Commitment No. NLS2010062-02 referenced in the licensee's letter dated July 29, 2010.

By letter dated February 12, 2013, the licensee stated that the USAR was revised to include the commitment.

3.2.2 Summary of Commitments

The 10 CFR 50.59 process provides assurance that any future modifications to the commitment would not, among other things: result in more than a minimal increase in the likelihood of occurrence of a malfunction of an SSC important to safety previously evaluated in the USAR (as updated); result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the USAR (as updated); or result in a departure from a method of evaluation described in the USAR (as updated) used in establishing the design bases or in the safety analyses. Based on the above, the NRC staff concludes that Commitment Nos. 1, 3, 5, 6, 14-18, 20-22, 24, 26, 28-36, 38, and 39 may be incorporated into the USAR and managed using 10 CFR 50.59. Additionally, by letter dated February 12, 2013, the licensee stated that the USAR was revised to include commitments 2, 4, 7-13, 19, 23, 25, 27, 37, and 40. The NRC staff concludes that Commitment Nos. 2, 4, 7-13, 19, 23, 25, 27, 37, and 40 may be managed using 10 CFR 50.59.

3.3 Summary of Technical Evaluation

The NRC staff has reviewed the licensee's analysis provided in its submittal dated February 12, 2013, with regard to amending license condition 2.E. The actions in the commitments were relied upon by the NRC staff during the LRA review. According to NRR Office Instruction LIC-101, "License Amendment Review Procedures," Revision 4, if the NRC staff relies on an action in a commitment as the basis for a safety finding, the action needs to be incorporated as part of a mandated licensing basis document, such as the USAR, or escalated to a license condition. As a result of the issuance of the renewed operating license, the commitments for license renewal were escalated to license conditions because they were referenced in license condition 2.F, and the licensee did not incorporate 28 of the 40 commitments (as described in Appendix A of the Cooper Safety Evaluation Report for license renewal) into the CNS USAR.

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[8] NACE International, RP0285-2002, "Standard Recommended Practice - Corrosion Control of Underground Storage Tank Systems by Cathodic Protection," January 2002, and SP0169-2007, "Standard Practice - Control of External Corrosion on Underground or Submerged Metallic Piping Systems," March 2007.

Per the licensee's request in this LAR, the NRC staff concludes that it is acceptable to incorporate the actions in the commitments as part of the USAR for the reasons described in Section 3.2 of this SE, rather than treating the commitments referenced in license condition 2.F as license conditions. Therefore, the commitments can be listed in license condition 2.E.

The NRC staff concludes that that the following wording for license condition 2.E is acceptable:

> The Updated Safety Analysis Report (USAR) supplement, as revised, submitted pursuant to 10 CFR 54.21(d), shall be included in the next scheduled update to the USAR required by 10 CFR 50.71(e)(4), as appropriate, following the issuance of this renewed operating license. Commitment Numbers NLS2008071-01 (Revision 1), NLS2008071-02 through 04, NLS2008071-05 (Revision 1), NLS2008071-06 (Revision 1), NLS2008071-07, NLS2008071-08 (Revision 3), NLS2008071-09, NLS2008071-10, NLS2008071-11 (Revision 1), NLS2008071-12 through 15, NLS2008071-16 (Revision 2), NLS2008071-17 through 22, NLS2008071-23 (Revision 1), NLS2008071-24, NLS2008071-25 (and Supplement 1), NLS2008071-26, NLS2009100-1 (Revision 1), NLS2009100-2, NLS2009100-3, NLS2010019-01, NLS2010019-02, NLS2010044-01, NLS2010050-01 through NLS2010050-03, NLS2010050-04 (Revision 1), NLS2010050-05 (Revision 1), NLS2010050-06, NLS2010062-01, and NLS2010062-02 shall be incorporated in the first update to the USAR required by 10 CFR 50.71(e)(4) following incorporation of the original USAR supplement. Until these respective updates are complete, the licensee may not make changes to the information in the supplement, or the above commitments. Following incorporation of the supplement and commitments into the USAR, the need for Commission approval of any changes will be governed by 10 CFR 50.59.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Nebraska State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has made a final determination that the amendment involves no significant hazards consideration. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) the amendment does not (a) involve a significant increase in the probability or consequences of an accident previously evaluated; or (b) create the possibility of a new or different kind of accident from any accident previously evaluated; or (c) involve a significant reduction in a margin of safety and therefore, the amendment does not involve a significant hazards consideration; (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; (3) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (4) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: H. Jones, NRR/DLR/RSRG

Date: September 12, 2013

September 12, 2013

Mr. Oscar A. Limpias
Vice President-Nuclear and CNO
Nebraska Public Power District
72676 648A Avenue
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION - ISSUANCE OF AMENDMENT RE: MODIFICATION OF RENEWED OPERATING LICENSE CONDTION 2.E (TAC NO. MF0692)

Dear Mr. Limpias:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 247 to Renewed Facility Operating License No. DPR-46 for the Cooper Nuclear Station. The amendment consists of changes to the operating license in response to your application dated February 12, 2013.

The amendment modifies the Cooper Nuclear Station license condition 2.E to require incorporation of the commitments listed in Appendix A of NUREG-1944, "Safety Evaluation Report Related to the License Renewal of Cooper Nuclear Station," dated October 2010, in the updated safety analysis report to be managed in accordance with Section 50.59 of Title 10 of the *Code of Federal Regulations.*

A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,
/RA/

Lynnea E. Wilkins, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosures:
1. Amendment No. 247 to DPR-46
2. Safety Evaluation

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ADAMS Accession No. ML13191A105

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NRR/DLR/RSRG/BC*
NAME	LWilkins	JBurkhardt	BPham
DATE	7/19/13	7/18/13	5/16/13
OFFICE	OGC	NRR/DORL/LPL4/BC	NRR/DORL/LPL4/PM
NAME	MYoung	MMarkley	LWilkins
DATE	7/30/13	9/11/13	9/12/13

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