Nebraska Public Power District
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NLS2010074
July 29, 2010

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

Subject: Updated Consolidated Commitment List Associated With the Review of the Cooper Nuclear Station License Renewal Application
Cooper Nuclear Station, Docket No. 50-298, DPR-46

References:
1. Letter from Stewart B. Minahan, Nebraska Public Power District, to U.S. Nuclear Regulatory Commission, dated September 24, 2008, "License Renewal Application" (NLS2008071).
2. Letter from David W. Van Der Kamp, Nebraska Public Power District, to U.S. Nuclear Regulatory Commission, dated March 29, 2010, "Consolidated Commitment List Associated With the Review of the Cooper Nuclear Station License Renewal Application" (NLS2010030).

Dear Sir or Madam:

The purpose of this letter is for the Nebraska Public Power District to provide an updated consolidated list of regulatory commitments made in the Cooper Nuclear Station license renewal application (Reference 1), as revised and supplemented by subsequent correspondence. This attached listing supersedes that provided in Reference 2, and incorporates both new and revised commitments made in more recent correspondence.

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

Sincerely,

David W. Van Der Kamp
Licensing Manager

/wv

Attachment

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NRR

cc: Regional Administrator w/ attachment
USNRC - Region IV

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

Senior Resident Inspector w/ attachment
USNRC - CNS

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

NPG Distribution w/ attachment

CNS Records w/ attachment

Attachment

Updated Consolidated Commitment List Associated With the Review of
the Cooper Nuclear Station License Renewal Application
Cooper Nuclear Station, Docket No. 50-298, DPR-46

This attachment provides an updated consolidated list of the regulatory commitments made pursuant to Cooper Nuclear Station license renewal, as revised or supplemented in docketed correspondence.

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
Implement the aboveground Steel Tanks Program. [LRA Section B.1.1] The thickness measurements will be performed at least once during the first ten years of the period of extended operation and periodically thereafter. The results of the initial inspection will be used to determine the frequency of subsequent inspections. [RAI B.1.1-1]	NLS2008071-01 (Revision 1)	January 18, 2014
Enhance the Bolting Integrity Program to include guidance from EPRI NP-5769 and EPRI TR-104213 for material selection and testing, bolting preload control, ISI, 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 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-Class1 bolting and disposition of degraded structural bolting. [LRA Section B.1.2]	NLS2008071-02	January 18, 2014
Implement the Buried Piping and Tanks Inspection Program. [LRA Section B.1.3]	NLS2008071-03	January 18, 2014
Enhance the BWR Vessel Internals Program to include actions to replace the plugs in the core plate bypass holes based on their qualified life. [LRA Section B.1.9]	NLS2008071-04	January 18, 2014

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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. [LRA Section B.1.10] 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). [RAI B.1.10-1]	NLS2008071-05 (Revision 1)	January 18, 2014
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 $\leq$ 10mg/l for the determination of particulates in the diesel fire pump fuel oil storage tank.	NLS2008071-06 (Revision 1)	January 18, 2014

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
(continued) 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. [LRA Section B.1.12] The acceptance criteria for UT 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. [RAI B.1.12-1]		
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). [LRA Section B.1.14]	NLS2008071-07	January 18, 2014
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 pipe transition. (1) Update the fatigue usage calculations using refined fatigue analyses to determine valid CUFs 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	NLS2008071-08 (Revision 2)	January 18, 2012

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
(continued) version of the ASME code or NRC-approved alternative (e.g., NRC-approved code case). [LRA Section B.1.15] NPPD will use NUREG/CR-6909 when determining the effects of the reactor coolant environment on the fatigue life of Alloy 600 components. [CI 4.3.3.2-1] (2) Repair or replace the affected locations before exceeding an environmentally adjusted CUF of 1.0. [RAI B.1.15-1] 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). [LRA Section B.1.15]		
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.	NLS2008071-09	January 18, 2014

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(continued) 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 a 18-month basis to check for signs of degradation. [LRA Section B.1.16]		
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), 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. [LRA Section B.1.17]	NLS2008071-10	January 18, 2014

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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. [LRA Section B.1.18] Program guidance documents will be revised to stipulate requirements for training and qualification of non-CNS personnel involved in implementing the FAC program. [RAI B.1.18-3]	NLS2008071-11 (Revision 1)	January 18, 2014
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. [LRA Section B.1.20]	NLS2008071-12	January 18, 2014
Enhance the Masonry Wall Program to clarify that the control house – 161 kV 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. [LRA Section B.1.21]	NLS2008071-13	January 18, 2014
Implement the Metal-Enclosed Bus Inspection Program. [LRA Section B.1.22]	NLS2008071-14	January 18, 2014
Implement the Non-EQ Bolted Cable Connections Program. [LRA Section B.1.24]	NLS2008071-15	January 18, 2014
Implement the Non-EQ Inaccessible Medium-Voltage Cable Program. [LRA Section B.1.25]	NLS2008071-16	January 18, 2014
Implement the Non-EQ Instrumentation Circuits Test Review Program. [LRA Section B.1.26]	NLS2008071-17	January 18, 2014
Implement the Non-EQ Insulated Cables and Connections Program. [LRA Section B.1.27]	NLS2008071-18	January 18, 2014
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.	NLS2008071-19	January 18, 2014

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
(continued) Enhance the program to include screening for particulates 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. [LRA Section B.1.28]		
Implement the One-time Inspection Program. [LRA Section B.1.29]	NLS2008071-20	January 18, 2014
Implement the One-time Inspection – Small Bore Piping Program. [LRA Section B.1.30]	NLS2008071-21	January 18, 2014
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. [LRA Section B.1.31]	NLS2008071-22	January 18, 2014
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.	NLS2008071-23 Revision 1	January 18, 2014

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
(continued) Enhance the program to ensure that the additional requirements that are specified in the final NRC safety evaluation for BWRVIP-116 will be addressed before the period of extended operation. [LRA Section B.1.33]		
Implement the Selective Leaching Program. [LRA Section B.1.34]	NLS2008071-24	January 18, 2014
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. 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.	NLS2008071-25 and Supplement 1	January 18, 2014

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
(continued) 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. [LRA Section B.1.36] 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) to preclude potential inconsistent application of inspection criteria, and b) provide more detailed guidance on trending.		
Implement the Thermal Aging and Neutron Irradiation Embrittlement of Cast Austenitic Stainless Steel (CASS) Program. [LRA Section B.1.37]	NLS2008071-26	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

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
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.	NLS2009100-2	January 18, 2012
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.	NLS2009100-3	January 18, 2012
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

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
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."	NLS2010044-01	January 18, 2014
NPPD will recoat the wetted portion of the CNS torus within three years after entering the PEO.	NLS2010050-01	January 18, 2017
NPPD will remove sludge and inspect the wetted portion of the torus every refueling outage from now until the torus is recoated.	NLS2010050-02	January 18, 2017
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.	NLS2010050-03	January 18, 2017
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	NLS2010050-04 Revision 1	January 18, 2014

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
(continued) 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.		
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% of all high-risk in-scope buried piping.	NLS2010050-05 Revision 1	January 18, 2014
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.	NLS2010050-06	January 18, 2014
NPPD will upgrade the site cathodic protection system prior to the period of extended operation for in-scope piping and buried tanks.	NLS2010062-01	January 18, 2014

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
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 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 actions.	NLS2010062-02	January 18, 2014

ATTACHMENT 3 LIST OF REGULATORY COMMITMENTS©[4]

Correspondence Number: NLS2010074

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
None		