September 8, 2006

Mr. Randall K. Edington
Vice President-Nuclear and CNO
Nebraska Public Power District
P.O. Box 98
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION RE: FOURTH 10-YEAR INTERVAL INSERVICE INSPECTION REQUEST FOR RELIEF NO. RI-13 (TAC NO. MD0281)

Dear Mr. Edington:

By letter dated February 23, 2006, Nebraska Public Power District (the licensee) submitted Relief Request No. RI-13 for its fourth 10-year interval inservice inspection (ISI) and testing program for snubbers at Cooper Nuclear Station (CNS). In response to the Nuclear Regulatory Commission (NRC) staff's request for additional information, the licensee submitted its response in a letter dated August 1, 2006.

The NRC staff has completed its review of relief request RI-13 and the safety evaluation report is enclosed. Based on the information provided in Relief Request No. RI-13, the NRC staff concluded in the enclosed safety evaluation that the proposed alternative to use CNS Technical Requirements Manual T3.7.3 for snubber visual inspection and functional testing provides an acceptable level of quality and safety. Therefore, pursuant to Title 10 of the *Code of Federal Regulations*, Section 50.55a(a)(3)(i), the NRC staff authorizes the proposed alternative for the fourth 10-year ISI interval for CNS.

Sincerely,

/RA/

David Terao, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosure: Safety Evaluation

cc w/encl: See next page

September 8, 2006

Mr. Randall K. Edington
Vice President-Nuclear and CNO
Nebraska Public Power District
P.O. Box 98
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION RE: FOURTH 10-YEAR INTERVAL INSERVICE INSPECTION REQUEST FOR RELIEF NO. RI-13 (TAC NO. MD0281)

Dear Mr. Edington:

By letter dated February 23, 2006, Nebraska Public Power District (the licensee) submitted Relief Request No. RI-13 for its fourth 10-year interval inservice inspection (ISI) and testing program for snubbers at Cooper Nuclear Station (CNS). In response to the Nuclear Regulatory Commission (NRC) staff's request for additional information, the licensee submitted its response in a letter dated August 1, 2006.

The NRC staff has completed its review of relief request RI-13 and the safety evaluation report is enclosed. Based on the information provided in Relief Request No. RI-13, the NRC staff concluded in the enclosed safety evaluation that the proposed alternative to use CNS Technical Requirements Manual T3.7.3 for snubber visual inspection and functional testing provides an acceptable level of quality and safety. Therefore, pursuant to Title 10 of the *Code of Federal Regulations*, Section 50.55a(a)(3)(i), the NRC staff authorizes the proposed alternative for the fourth 10-year ISI interval for CNS.

Sincerely,
/RA/
David Terao, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosure: Safety Evaluation

cc w/encl: See next page

DISTRIBUTION:

PUBLIC	RidsAcrsAcnwMailCenter	
LPLIV R/F	RidsRgn4MailCenter (KKennedy)	
RidsNrrDorl (CHaney/CHolden)	RidsOgcRp	
RidsNrrDorlLpl4 (DTerao)	RidsNrrPMBBenney	GBedi, DCI
JLamb, EDO RIV	RidsNrrLALFeizollahi	TLiu

Accession Number: ML062340548 NRR-028

OFFICE	LPL4/PM	LPL4/LA	CPTB/BC	OGC	LPL4/BC
NAME	BBenney	LFeizollahi	TLiu	AHodgdon	DTerao
DATE	8/24/06	8/24/06	8/10/06	9/4/06	9/8/06

Official Record Copy

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

FOURTH 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM

REQUEST FOR RELIEF RI-13

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

DOCKET NO. 50-298

1.0 INTRODUCTION

By letter dated February 23, 2006, Nebraska Public Power District (the licensee) submitted Relief Request No. RI-13 for its fourth 10-year interval inservice inspection (ISI) and testing program for snubbers at Cooper Nuclear Station (CNS). In response to the staff's request for additional information (RAI), the licensee submitted its response in a letter dated August 1, 2006. The licensee requested relief pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.55a(a)(3)(i) from certain ISI and examination requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (ASME Code), Section XI, 2001 Edition through 2003 Addenda, Article IWF-5000. IWF-5000 references ASME/American National Standards Institute Operation and Maintenance (ANSI OM), Part 4 (OM-4), 1987 Edition with OMa-1988. The CNS fourth 10-year ISI interval is tentatively scheduled to commence October 21, 2006.

2.0 REGULATORY EVALUATION

The ISI of ASME Code Class 1, 2, and 3 components shall be performed in accordance with Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," of the ASME Code and applicable addenda as required by 10 CFR 50.55a(g), except where specific written relief has been granted by the Commission, pursuant to 10 CFR 50.55a(g)(6)(i). Section 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the Nuclear Regulatory Commission (NRC), if: (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code

incorporated by reference in 10 CFR 50.55a(b), 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The applicable edition of Section XI of the ASME Code for the CNS fourth 10-year ISI interval is the 2001 Edition through 2003 Addenda.

The NRC's findings with respect to granting or denying the ISI program relief request are given below:

3.0 TECHNICAL EVALUATION

3.1 Relief Request RI-13

3.1.1 Licensee Relief Request

The licensee requested relief from the ASME Code, Section XI, Article IWF-5000, Paragraphs IWF-5200(a), (b), and (c) and IWF-5300(a), (b), and (c) requirements pursuant to 10 CFR 50.55a(a)(3)(i).

Paragraphs IWF-5200(a) and IWF-5300(a) require that snubber preservice and inservice examinations be performed in accordance with OM-4, using the VT-3 visual examination method described in IWA-2213.

Paragraphs IWF-5200(b) and IWF-5300(b) require that snubber preservice and inservice tests be performed in accordance with OM-4.

Paragraphs IWF-5200(c) and IWF-5300(c) require that integral and nonintegral attachments for snubbers, including lugs, bolting, pins, and clamps, be examined in accordance with the requirements of Subsection IWF.

Paragraph IWA-2213, "VT-3 Examination," states that VT-3 examinations are conducted to determine the general mechanical and structural condition of components and their supports by verifying parameters such as clearance, settings, and physical displacements; and to detect discontinuities and imperfections, such as loss of integrity at bolted or welded connections, loose or missing parts, debris, corrosion, wear, or erosion. VT-3 includes examinations for conditions that could affect operability or functional adequacy of snubbers and constant load and spring type supports.

Relief was requested for all CNS safety-related ASME Code Class 1, 2, and 3 snubbers.

3.1.2 Licensee's Proposed Alternative

CNS proposes to use Technical Requirements Manual (TRM) Section T3.7.3, "Snubbers," to perform visual examination and functional testing of ASME Code Class 1, 2, and 3 snubbers in lieu of meeting ASME Code, Section XI, requirements. The licensee states that personnel performing the visual examination shall be qualified as VT-3 examiners in accordance with ASME Code, Section XI, requirements. The examination of Code Class 1, 2, and 3 snubber integral attachments will be performed in accordance with IWB/IWC/IWD-2500.

3.1.3 Licensee's Basis for Requesting Relief and Alternative (as stated)

In lieu of implementing the Section XI requirements for snubber examination and testing, it is proposed that the preservice/ISI and testing be performed under CNS TRM T3.7.3, "Snubbers," and implementing procedures. The proposed use of the CNS Snubber Program as specified in TRM T3.7.3 as stated below.

> CNS will perform visual examinations of Code Class snubbers in accordance with the CNS Snubber Program described below in lieu of the IWF requirements. Personnel performing the visual examinations shall be qualified as VT-3 examiners in accordance with ASME Section XI requirements. CNS will perform functional testing of Code Class snubbers in accordance with the CNS Snubber Program in lieu of the requirements of IWF-5200 and IWF-5300. The examination of Code Class snubber integral attachments will be performed in accordance with IWB/IWC/IWD-2500.
>
> CNS Snubber Program
>
> The following surveillance requirements apply to all safety related snubbers
>
> 1. Visual Inspection Interval
>
> All snubbers shall be visually inspected in accordance with the schedule given in Table RI-13, "Snubber Visual Inspection Interval." Snubbers may be categorized in groups, "accessible" or "inaccessible" based on their accessibility for inspection during reactor operation and by type, hydraulic or mechanical. These groups may be inspected separately or jointly according to the schedule given in Table RI-13.
>
> 2. Visual Inspection Acceptance Criteria
>
> Visual inspections shall verify (1) that there are no visible indications of damage or impaired OPERABILITY; and (2) attachments to the foundation or supporting structure are secure. Snubbers which appear inoperable as a result of visual inspections may be determined OPERABLE for the purpose of establishing the next visual inspection interval, providing that (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined OPERABLE [. . .]. However, when the fluid port of a hydraulic snubber is found to be uncovered, the snubber shall be determined inoperable and cannot be determined OPERABLE via functional testing for the purpose of establishing the next visual inspection interval. All snubbers connected to an inoperable common hydraulic fluid reservoir shall be counted as inoperable snubbers.
>
> 3. At least once per 18 months, a representative sample, 10% of the total of each type of snubber in use in the plant, shall be functionally tested either

in place or in a bench test. For each snubber that does not meet the functional test acceptance criteria [. . .], an additional 10% of that type of snubber shall be functionally tested.

4. The representative sample selected for functional testing shall include various configurations, operating environments, and the range of size and capacity of snubbers.

   a. In addition to the regular sample, snubbers that failed the previous functional test shall be retested during the next test period. If a spare snubber has been installed in place of a failed snubber, then both the failed snubber (if it is repaired and installed in another position) and the spare snubber shall be retested.

   b. If any snubber selected for functional testing either fails to lockup or fails to move, i.e., frozen in place, the cause will be evaluated, and if caused by manufacturer or design deficiency all snubbers of the same design and subject to the same defect shall be tested or inspected to determine if the defect is present. This testing requirement shall be independent of the requirements stated above for snubbers not meeting the functional test acceptance criteria.

   c. For the snubber(s) found inoperable, an engineering evaluation shall be performed to determine the need for further action or testing on affected components.

5. Hydraulic Snubber Functional Test Acceptance Criteria

   The hydraulic snubber functional test shall verify that:

   a. Activation (restraining action) is achieved within the specified range of velocity or acceleration in both tension and compression.

   b. Snubber bleed, or release rate, where required, is within the specified range in compression or tension.

6. Mechanical Snubber Functional Test Acceptance Criteria

   The mechanical snubber functional test shall verify that:

   a. The force that initiates free movement of the snubber rod in either tension or compression is less than the specified maximum drag force.

   b. Activation (restraining action) is achieved within the specified range of velocity or acceleration in both tension and compression.

c. Snubber release rate, where required, is within the specified range in compression or tension.

7. Snubber Service Life Monitoring

A record of the service life of each snubber [. . .], the date at which the designated service life commences, and the installation and maintenance records on which the designated service life is based shall be maintained.

8. Surveillance Requirement

Concurrent with the first in-service visual inspection and at least once per 18 months thereafter, the installation and maintenance records of each snubber [. . .] shall be reviewed to verify that the indicated service life has not been exceeded or will not be exceeded prior to the next scheduled snubber service life review. If the indicated service life will be exceeded prior to the next scheduled snubber service life review, the snubber service life shall be reevaluated or the snubber shall be replaced or reconditioned so as to extend its service life beyond the date of the next scheduled service life review. This reevaluation, replacement, or reconditioning shall be indicated in the records.

Table RI-13
Snubber Visual Inspection Interval

Number of Inoperable Snubbers			
Population or Category [1, 2]	Column A Extend Interval [3, 6]	Column B Repeat Interval [4, 6]	Column C Reduce Interval [5, 6]
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of inoperable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible, and by type, hydraulic or mechanical. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that

decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of inoperable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C, if that integer includes a fractional value of inoperable snubbers as determined by interpolation.

Note 3: If the number of inoperable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number of inoperable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

Note 5: If the number of inoperable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of inoperable snubbers is less than the number in Column C but greater than the number in Column B, the next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of inoperable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: Each surveillance requirement shall be performed within the specified time interval with a maximum allowable extension not to exceed 25 percent of the surveillance interval.

Snubber visual inspections and testing will be scheduled and performed in accordance with CNS TRM T3.7.3, "Snubbers," during the fourth 10-year ISI interval that is tentatively scheduled to commence on October 21, 2006.

In a response to an RAI dated August 1, 2006, the licensee stated that various CNS procedures are used to implement the requirements of CNS TRM T3.7.3. The licensee states that the TRM only defines inspection requirements and does not contain details about how the requirements are implemented. Various CNS procedures are used to implement the requirements of CNS TRM T3.7.3. The current procedures used to implement the program are:

Procedure 0-CNS-12, "CNS Technical Program Administration" describes how programs are implemented at CNS.

Engineering Procedure 3.39, "Snubber Program," describes the details of how the snubber program is administered.

Surveillance Procedure 6.SNUB.601, "Snubber Operability," implements the surveillance described in the CNS TRM T3.7.3.

Surveillance Procedure 6.SNUB.602, "Service Life Monitoring," implements the service life requirements of the CNS TRM T3.7.3.

Maintenance Procedure, 7.2.34.1, "Snubber Examination," provides details and acceptance criteria for visual inspection of snubbers.

Maintenance Procedure, 7.2.34.2, "Pipe Snubbers Removal and Installation," provides details required for removal and installation of snubbers including as-found and as-left visual examination.

Maintenance Procedure, 7.2.34.3, "Grinnell Figure 200/201 Hydraulic Snubber Maintenance," details refurbishment of CNS hydraulic snubbers.

Maintenance Procedure, 7.2.34.4, "Pacific Scientific PSA-3 AND PSA-10 Snubber Maintenance," details refurbishment of two sizes of PSA snubbers.

Maintenance Procedure, 7.2.34.5, "Pacific Scientific PSA-35 Snubber Maintenance," details refurbishment of PSA-35 snubbers.

Maintenance Procedure, 7.2.34.7, "Grinnell Figure 200/201 Hydraulic Snubber Functional Test," details testing and provides acceptance criteria.

Maintenance Procedure, 7.2.34.8, "Pacific Scientific Snubber Functional Test, details testing and provides acceptance criteria.

Maintenance Procedure, 7.2.34.10, Mechanical and Hydraulic Snubber Pre-Operational Calibration Test," details test bench preparation prior to testing.

The proposed alternative will be used for the entire fourth 10-year interval of the ISI Program for CNS.

3.1.4 NRC Staff Evaluation of Relief Request RI-13

The licensee requested authorization of an alternative to the requirements of the ASME Code, Section XI, paragraphs IWF-5200(a), (b), and (c), and IWF-5300(a), (b), and (c) pursuant to 10 CFR 50.55a(a)(3)(i). The licensee proposed that the visual examinations and functional testing of ASME Code Class 1, 2, and 3 snubbers be performed in accordance with the requirements of CNS TRM T3.7.3 and its procedures, in lieu of meeting the requirements in the ASME Code, Section XI, paragraphs IWF-5200(a), (b), and (c), and IWF-5300(a), (b), and (c).

The applicable edition of Section XI of the ASME Code for the CNS fourth 10-year ISI interval is the 2001 Edition through 2003 Addenda. The ASME Code, Section XI, paragraphs IWF-5200(a), (b), and (c), and IWF-5300(a), (b), and (c) references OM-4, 1987 Edition with OMa-1988.

ASME Code, Section XI, paragraphs IWF-5200(a) and IWF-5300(a) require that snubber preservice and inservice examinations be performed in accordance with OM-4, using the VT-3 visual examination method described in IWA-2213. Paragraphs IWF-5200(b) and IWF-5300(b) require that snubber preservice and inservice tests be performed in accordance with OM-4.

Paragraphs IWF-5200(c) and IWF-5300(c) require that integral and non-integral attachments for snubbers, including lugs, bolting, pins, and clamps, shall be examined in accordance with the requirements of Subsection IWF.

OM-4 specifies the requirements for visual examination (paragraph 2.3), and functional testing (paragraph 3.2) of snubbers. The licensee proposes to use CNS TRM T3.7.3 surveillance requirements for visual inspection and functional testing of all safety-related snubbers. A visual inspection is the observation of the condition of installed snubbers to identify those that are damaged, degraded, or inoperable as caused by physical means, leakage, corrosion, or environmental exposure. To verify that a snubber can operate within specific performance limits, the licensee performs functional testing that typically involves removing the snubber and testing it on a specially designed stand or bench. The performance of visual examinations is a separate process that complements the functional testing program and provides additional confidence in snubber operability.

CNS TRM T3.7.3 incorporates Generic Letter (GL) 90-09, "Alternative Requirements for Snubber Visual Inspection Intervals and Corrective Actions." GL 90-09 acknowledges that the visual inspection schedule (as contained in OM-4) is excessively restrictive and that licensees with large snubber populations have spent a significant amount of resources and have subjected plant personnel to unnecessary radiological exposure to comply with the visual examination requirements. GL 90-09 states that its alternative schedule for visual inspection provides the same confidence level as that provided by OM-4.

CNS TRM T3.7.3 defines inservice examination requirements, method of examination, subsequent examination intervals, failure evaluation, inservice operability test requirements, initial snubber sample size, additional sampling, failure evaluation, test failure mode groups, and corrective actions for the 10 percent sample plan that are similar to those provided by OM-4. OM-4 requirements and TRM T3.7.3 criteria are compared and summarized in the following table and followed by a detailed review:

	Criteria	ASME/ANSI OM Part 4 -1988	Cooper Nuclear Station, TRM T3.7.3 Requirements
Inservice Examination			
1.	Visual Examination	Paragraph 2.3.1.1, Visual Examination, states that snubber visual examinations shall identify impaired functional ability due to physical damage, leakage, corrosion, or degradation.	TRM Technical Surveillance Requirements (TSR) 3.7.3.1 requires that visual inspections shall verify that there are: (1) no indications of damage or impaired operability; and (2) attachments to the foundation or supporting structure are secure.
2.	Visual Examination Interval Frequency	Paragraph 2.3.2.2 provides Examination Interval frequency and additional examination requirements.	TRM Table T3.7.3-1 provides snubber visual inspection interval frequency.
3.	Method of Visual Examination	IWF-5200(a) and IWF-5300(a) requires use of the VT-3 visual examination method described in IWA-2213.	CNS states that personnel performing the visual examinations shall be qualified as VT-3 examiners in accordance with ASME Section XI requirements.
4.	Subsequent Examination Intervals	Paragraph 2.3.2 provides guidance for inservice examination intervals based on the number of unacceptable snubbers discovered.	TRM Table T 3.7.3-1 provides a snubber visual inspection interval based on the number of unacceptable snubbers discovered. These requirements are similar to NRC GL 90-09.

	Criteria	ASME/ANSI OM Part 4 -1988	Cooper Nuclear Station, TRM T3.7.3 Requirements
5.	Inservice Examination Failure Evaluation	Section 2.3.4 states that snubbers not meeting examination and acceptance criteria shall be evaluated to determine the cause of unacceptability.	TRM T3.7.3, Required Action A.1 and A.2 accomplishes the same requirements as OM-4, Paragraph 2.3.4. The licensee states that snubbers which appear inoperable as a result of visual inspections may be determined operable for the purpose of establishing the next visual inspection interval, providing that (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined operable.
Inservice Operability Test			
1.	Inservice Operability Test Requirements	Paragraph 3.2.1.1, Operability Test, states that snubber operational readiness tests shall verify activation, release rate, and breakaway force or drag force by either an in-place or bench test.	TSR 3.7.3-2, Page 3.7-7 states that snubbers shall be functionally tested either in-place or in a bench test. TSR 3.7.3-2(a) states that the hydraulic functional test is to verify (1) activation is achieved within specified range of velocity or acceleration in tension and compression, and (2) bleed rate is within the specified range; and the mechanical snubber functional test is to verify (1) the force that initiates free movement of the snubber rod in either tension or compression is less than the drag force; (2) activation is achieved within the specified range of velocity or acceleration in both tension and compression; and (3) snubber release rate is within the specified range in compression and tension.

	Criteria	ASME/ANSI OM Part 4 -1988	Cooper Nuclear Station, TRM T3.7.3 Requirements
2.	Snubber Sample Size	Paragraph 3.2.3 states that each defined test plan group shall use either a 10 percent sampling plan; a "37 testing sample plan;" or a "55 testing sample plan" during each refueling outage.	TSR 3.7.3.2, Page 3.7.7 states that functional test will be performed on a representative sample of 10 percent of each type (mechanical or hydraulic) of snubber in use in the plant.
3.	Additional Sampling	The snubbers which have been found unacceptable per the testing criteria shall be subject to para. 3.2.3.1 (b), which states that the additional sample size must be at least one-half the size of the initial sample size of the "defined test plan group" of snubbers.	TSR 3.7.3.3, Page 3.7-8 requires an additional 10 percent sample of snubbers for every failed snubber, based on the type of snubbers.
4.	Failure Evaluation	Paragraph 3.2.4.1 states that snubbers not meeting the operability testing acceptance criteria in paragraph 3.2.1 shall be evaluated to determine the cause of the failure.	TSR 3.7.3.4, Page 3.7-8 states that if a snubber being tested either fails to lock up or move, the cause of failure will be evaluated. If the failure is caused by the manufacturer or design deficiency, test or inspect all snubbers subject to the same design deficiency.
5.	Test Failure Mode Groups	Paragraph 3.2.4.2 states that unacceptable snubber(s) shall be categorized into failure mode group(s). A test failure mode group(s) shall include all unacceptable snubbers that have a given failure mode, and all other snubbers subject to the same failure mode.	TRM T3.7.3 does not specifically address "Failure Mode Groups," for unacceptable snubbers. However, TSR 3.7.3.3 and TSR 3.7.3.4 accomplish a similar intent as "Failure Mode Grouping."
6.	Corrective Actions for 10 percent Sample Plan	Paragraph 3.2.5.1 states that unacceptable snubbers shall be repaired, modified, or replaced.	Repair and replacement of unacceptable snubbers will be performed in accordance with IWA-4000.

3.1.5 Inservice Examination Requirements

(1) Visual Examination

TRM TSR 3.7.3.1 states that visual inspections shall verify that: (1) there are no visible indications of damage or impaired operability; and (2) attachments to the foundation or

supporting structure are secure. The visual examination per TRM TSR 3.7.3.1 verifies visible indication of damage or impaired operability of snubbers as well as its attachments and supports. OM-4, paragraph 2.3.1.1, requires snubber visual examinations to identify impaired functional ability due to physical damage, leakage, corrosion, or degradation. Therefore, TRM T3.7.3 snubber visual examination requirements are considered to be equivalent to the snubber visual examination requirements of OM-4 paragraphs 2.3.1.1 and provides an acceptable level of quality and safety.

(2) Visual Examination Interval Frequency

TRM Table T3.7.3-1 provides snubber visual inspection interval frequency requirements which are different than the OM-4 visual inspection interval requirements. Table T3.7.3-1 incorporates the visual inspection interval frequency as specified in GL 90-09, "Alternative Requirements for Snubber Visual Inspection Intervals and Corrective Actions."
GL 90-09 acknowledges that the visual inspection interval frequency (as contained in OM-4) is excessively restrictive and that licensees with large snubber populations have spent a significant amount of resources and have subjected plant personnel to unnecessary radiological exposure to comply with the visual examination requirements. GL 90-09 states that its alternative schedule (interval frequency) for visual inspection provides the same confidence level as that provided by OM-4. Therefore, TRM T3.7.3 provides an acceptable level of quality and safety.

(3) Method of Visual Examination

IWF-5200(a) and IWF-5300(a) require that preservice and inservice examination be performed in accordance with OM-4, using the VT-3 visual examination method described in IWA-2213. IWA-2213 states that VT-3 examinations are conducted to determine the general mechanical and structural condition of components and their supports by verifying parameters such as clearance, settings, and physical displacements; and to detect discontinuities and imperfections, such as loss of integrity at bolts and welded connections, loose or missing parts, debris, corrosion, wear, or erosion. VT-3 includes examinations for conditions that could affect operability or functional adequacy of snubbers and constant load and spring type supports. Under the proposed alternative, the licensee states that personnel performing the visual examination shall be qualified as VT-3 examiners in accordance with ASME Code, Section XI, requirements, and the examination of Code Class snubber integral attachments will be performed in accordance with IWB/IWC/IWD-2500.

Licensee personnel performing the visual examination will be qualified as VT-3 examiners in accordance with ASME Code, Section XI, requirements. The intent and scope of CNS TRM Snubber Program visual inspection requirements are equivalent to the OM-4, VT-3 examination requirements. Therefore, the NRC staff finds the licensee’s method of snubber visual inspection provides an acceptable level of quality and safety and is acceptable.

(4) Subsequent Examination Intervals

TRM Table T3.7.3-1 establishes subsequent snubber visual inspection intervals based on the number of unacceptable snubbers discovered, in lieu of OM-4, paragraph 2.3.2 requirements. These requirements are equivalent to the guidance provided in GL 90-09, which has been

approved for use by the NRC. Therefore, the NRC staff finds that the subsequent examination intervals contained in TRM Table T3.7.3-1 provide an acceptable level of quality and safety.

(5) Inservice Examination Failure Evaluation

OM-4, paragraph 2.3.4.1 requires that snubbers not meeting examination criteria be evaluated to determine the cause of unacceptability. OM-4, paragraph 2.3.4.2 states that snubbers found unacceptable, may be tested in accordance with the requirements of OM-4, paragraph 3.2. The licensee states that TRM T3.7.3, Required Action A.1 and A.2 are equivalent to the requirements of OM-4, paragraph 2.3.4. In the licensee's submittal, snubbers which appear inoperable as a result of visual inspections may be determined operable for the purpose of establishing the next visual inspection interval, providing that (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined operable per TSR 3.7.3.2.a and TSR 3.7.3.2.b, as applicable. However, when the fluid port of a hydraulic snubber is found to be uncovered, the snubber shall be determined inoperable and cannot be determined operable via functional testing for the purpose of establishing the next visual inspection interval. All snubbers connected to an inoperable common hydraulic fluid reservoir shall be counted as inoperable snubbers. The NRC staff finds that the TRM requirements are equivalent to the snubber operability test requirements of OM-4, paragraph 2.3.4, 2.3.4.1, and 2.3.4.2. Therefore, the NRC staff finds that the TRM's inservice examination failure evaluation requirements provide an acceptable level of quality and safety.

3.1.6 Inservice Operability Test Requirements

(1) Inservice Operability Test

TSR 3.7.3-2, Page 3.7-7 states that snubbers shall be functionally tested either in-place or in a bench test. TSR 3.7.3-2(a) states that the hydraulic functional test is to verify (1) activation is achieved within specified range of velocity or acceleration in tension and compression, and (2) bleed rate is within the specified range; and the mechanical snubber functional test is to verify (1) the force that initiates free movement of the snubber rod in either tension or compression is less than the drag force; (2) activation is achieved within the specified range of velocity or acceleration in both in tension and compression; and (3) the snubber release rate is within the specified range in compression and tension. OM-4, paragraph 3.2.1.1, Operability Test, states that snubber operational readiness tests verify activation, release rate, and breakaway force or drag force by either an in-place or bench test. The NRC staff finds that the TRM requirements are equivalent to the snubber operability test requirements of OM-4, paragraph 3.2.1. Therefore, the TRM operability test requirements provide an acceptable level of quality and safety.

(2) Snubber Sample Size

TRM TSR 3.7.3.2, Page 3.7.7 states that an in-place or bench functional test will be performed of a representative sample of 10 percent of each type (mechanical or hydraulic) of snubber in use in the plant. This functional testing will be performed every refueling outage. OM-4, Section 3.2.3 requires either a 10-percent testing sampling plan, a "37 testing sample plan," or a "55 testing sample plan." The CNS is using a 10-percent sample criteria which is equivalent

to the 10-percent sample testing requirements of OM-4. As a result, the number of snubbers tested during outages are considered to be equivalent to the OM-4 requirements. Therefore, the NRC staff finds that the TRM snubber sample size provides an acceptable level of quality and safety.

(3) Additional Sampling

TSR 3.7.3.3, Page 3.7-8 requires an additional 10-percent sample of snubbers for every failed snubber, based on the type of snubber. OM-4, paragraph 3.2.3.1(b) states that the additional sample size must be at least one-half the size of the initial sample size of the "defined test plan group" of snubbers. That is, for a 10-percent sample program, an additional 5 percent of the same type of snubber in the overall population would need to be tested. Therefore, the NRC staff finds that the TRM TSR 3.7.3.3 requirement to sample an additional 10 percent is acceptable and provides an acceptable level of quality and safety.

(4) Inservice Operability Failure Evaluation

OM-4, paragraph 3.2.4.1 requires that snubbers not meeting operability testing acceptance criteria in paragraph 3.2.1 be evaluated to determine the cause of the failure. The cause of failure evaluation requires review of other unacceptable snubbers and to determine whether other snubbers of similar design would require further examination. TSR 3.7.3.4, Page 3.7-8 states that if a snubber being tested either fails to lock up or move, the cause of failure will be evaluated. If the failure is caused by the manufacturer or design deficiency, test or inspect all snubbers subject to the same design deficiency. The NRC staff finds that the TRM requirements are equivalent to the snubber operability test requirements of OM-4, paragraph 3.2.4.1. Therefore, the NRC staff finds that the TRM T3.7.3 requirements related to inservice operability failure evaluation to be equivalent to the OM-4 requirements and provide an acceptable level of quality and safety.

(5) Test Failure Mode Groups

OM-4, paragraph 3.2.4.2 requires that unacceptable snubber(s) be categorized into failure mode group(s). A test failure mode group shall include all unacceptable snubbers that have a given failure mode, and all other snubbers subject to the same failure mode. TRM TSR 3.7.3.3 requires an additional 10-percent sample of snubbers for every failed snubber, based on the type of snubber that failed. During TSR 3.7.3.3 functional testing, if a snubber either fails to lock up or move and failure is determined to be caused by a manufacturing or design deficiency, then TSR 3.7.3.4 requires all snubbers subject to the same design deficiency be tested or inspected to determine if the defect is present. TRM T3.7.3 does not specifically address "Failure Mode Groups." However TSR 3.7.3.3 and TSR 3.7.3.4 accomplish the same intent as "Failure Mode Groups." Therefore, the TRM requirements are considered to be equivalent to the OM-4 requirements and provide an acceptable level of quality and safety.

(6) Inservice Operability Testing Corrective Actions (for 10-percent testing sample plan)

OM-4, paragraph 3.2.5.1 requires that unacceptable snubbers be adjusted, repaired, modified, or replaced. IWF-5400 states that "Repair/replacement activities performed on snubbers shall be in accordance with IWA-4000. Snubbers installed, corrected or modified by repair/replacement activities shall be examined and tested in accordance with the applicable requirements of IWF-5200 prior to return to service." The licensee states that repair and replacement of unacceptable snubbers will be performed in accordance with IWA-4000. Therefore, the NRC staff finds that the TRM corrective actions associated with unacceptable snubbers at CNS are equivalent to the OM-4 requirements and provide an acceptable level of quality and safety.

Based on the above discussions, the staff finds that snubber visual examinations and functional testing, conducted in accordance with CNS TRM T3.7.3, provides reasonable assurance of snubber operability and provides a level of quality and safety equivalent to that of the ASME Code, Section XI, subarticles IWF-5200(a), (b), and (c), and IWF-5300(a), (b), and (c). Therefore, the staff finds the licensee's proposed alternative provides an acceptable level of quality and safety with respect to snubber visual inspection and functional testing. It should be noted that in authorizing Relief Request RI-13, TRM T3.7.3 becomes a regulatory requirement that may be used in lieu of ASME Code, Section XI requirements for performing ISI and testing of snubbers. Changes to these requirements must be reviewed and approved by the NRC staff for authorization pursuant to 10 CFR 50.55a(a)(3) or as an exemption pursuant to 10 CFR 50.12.

4.0 CONCLUSION

Based on the information provided, the staff concludes that the proposed alternative to use CNS TRM T3.7.3 for snubber visual inspection and functional testing provides an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the licensee's alternative is authorized for the CNS fourth 10-year ISI interval. All other requirements of the ASME Code, Section XI, for which relief has not been specifically requested remain applicable, including a third party review by the Authorized Nuclear Inservice Inspector.

Principal Contributor: G. Bedi

Date: September 8, 2006

Cooper Nuclear Station

cc:

Mr. William J. Fehrman
President and Chief Executive Officer
Nebraska Public Power District
1414 15th Street
Columbus, NE 68601

Mr. Gene Mace
Nuclear Asset Manager
Nebraska Public Power District
P.O. Box 98
Brownville, NE 68321

Mr. John C. McClure
Vice President and General Counsel
Nebraska Public Power District
P. O. Box 499
Columbus, NE 68602-0499

Mr. Paul V. Fleming
Licensing Manager
Nebraska Public Power District
P.O. Box 98
Brownville, NE 68321

Mr. Michael J. Linder, Director
Nebraska Department of Environmental Quality
P. O. Box 98922
Lincoln, NE 68509-8922

Chairman
Nemaha County Board of Commissioners
Nemaha County Courthouse
1824 N Street
Auburn, NE 68305

Ms. Julia Schmitt, Manager
Radiation Control Program
Nebraska Health & Human Services R & L
Public Health Assurance
301 Centennial Mall, South
P.O. Box 95007
Lincoln, NE 68509-5007

Mr. H. Floyd Gilzow
Deputy Director for Policy
Missouri Department of Natural Resources
P. O. Box 176
Jefferson City, MO 65102-0176

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
P. O. Box 218
Brownville, NE 68321

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

Director, Missouri State Emergency Management Agency
P. O. Box 116
Jefferson City, MO 65102-0116

Chief, Radiation and Asbestos Control Section
Kansas Department of Health and Environment
Bureau of Air and Radiation
1000 SW Jackson
Suite 310
Topeka, KS 66612-1366

Mr. Daniel K. McGhee
Bureau of Radiological Health
Iowa Department of Public Health
Lucas State Office Building, 5th Floor
321 East 12th Street
Des Moines, IA 50319

Mr. Keith G. Henke, Planner
Division of Community and Public Health
Office of Emergency Coordination
930 Wildwood P.O. Box 570
Jefferson City, MO 65102

Jerry C. Roberts, Director of Nuclear Safety Assurance
Nebraska Public Power District
P.O. Box 98
Brownville, NE 68321

Mr. John F. McCann, Director
Licensing, Entergy Nuclear Northeast
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601-1813