March 16, 2007

Mr. J. V. Parrish
Chief Executive Officer
Energy Northwest
P.O. Box 968 (Mail Drop 1023)
Richland, WA 99352-0968

SUBJECT: COLUMBIA GENERATING STATION - REQUEST FOR RELIEF NO. 3ISI-07 FOR THE THIRD 10-YEAR INSERVICE INSPECTION INTERVAL PROGRAM (TAC NO. MD1170)

Dear Mr. Parrish:

By letter dated December 15, 2005, as supplemented by letters dated April 27, 2006, and February 22, 2007, Energy Northwest (the licensee) submitted requests for relief 3ISI-01 and 3ISI-03 through 3ISI-07 from certain requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI, for the third 10-year inservice inspection (ISI) interval at Columbia Generating Station (CGS). The ASME Code, Section XI, of record for CGS for the third 10-year ISI interval is the 2001 Edition with 2003 Addenda. The third 10-year ISI interval at CGS began on December 13, 2005, and ends on December 12, 2015.

Based on the information provided in the submittal, the U.S. Nuclear Regulatory Commission (NRC) staff concluded that relief request 3ISI-07 was acceptable. Relief requests 3ISI-01 and 3ISI-03 through 3ISI-06 will be addressed by separate NRC correspondence. For relief request 3ISI-07, the licensee's proposed alternative is authorized pursuant to paragraph 50.55a(a)(3)(i) of Title 10 of the *Code of Federal Regulations* based on the determination that the proposed alternative provides an acceptable level of quality and safety.

The above alternative is authorized for the third 10-year interval ISI program for CGS. All other requirements of the ASME Code, Section XI, for which relief has not been specifically requested remain applicable, including third-party review by the Authorized Nuclear Inservice Inspector.

The detailed results of the NRC staff's review are provided in the enclosed safety evaluation. If you have any questions concerning this matter, please call Mr. F. Lyon of my staff at (301) 415-2296.

Sincerely,

/RA/

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

Docket No. 50-397

Enclosure: Safety Evaluation

cc w/encl: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

THIRD 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM

REQUEST FOR RELIEF NO. 3ISI-07

ENERGY NORTHWEST

COLUMBIA GENERATING STATION

DOCKET NO. 50-397

1.0 INTRODUCTION

By letter dated December 15, 2005 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML053620391), as supplemented by letters dated April 27, 2006 (ADAMS Accession No. ML061250154), and February 22, 2007 (ADAMS Accession No. ML070650343), Energy Northwest (the licensee) submitted relief requests pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(g)(6)(i) associated with its third 10-year interval inservice inspection (ISI) program at Columbia Generating Station (CGS). The third 10-year ISI interval began on December 13, 2005, and is scheduled to end on December 12, 2015. The American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI, 2001 Edition with 2003 Addenda is the ISI code of record for the CGS third 10-year interval ISI program.

The licensee's relief request 3ISI-07 requested relief from certain ISI and examination requirements of the ASME Code, Section XI, Article IWF-5000. IWF-5000 references ASME/American Nuclear Standards Institute (ANSI), "Code for Operation and Maintenance of Nuclear Power Plants" (OM), Part 4 (OM-4), 1987 Edition with OMa-1988 Addenda.

The NRC approved a similar relief request from the licensee for the second 10-year interval ISI program (ADAMS Accession No. 9608070303, dated August 1, 1996).

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 Nuclear Regulatory Commission (NRC or the Commission), pursuant to 10 CFR 50.55a(g)(6)(i). Paragraph 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the 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 CGS for the third 10-year ISI interval is the 2001 Edition with 2003 Addenda.

The NRC's finding with respect to authorizing or denying the ISI program relief request is given below:

3.0 TECHNICAL EVALUATION

3.1 Relief Request 3ISI-07

3.1.1 Component for which Relief is Requested

All CGS safety-related ASME Code Class 1, 2 and 3 snubbers (pin-to-pin inclusive).

3.1.2 Code Requirements

The ASME Code, Section XI, Article IWF-5000, provides ISI requirements for snubbers.

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.

3.1.3 Licensee's Proposed Alternative

The licensee proposes to use CGS's Licensee Controlled Specification (LCS) 1.7.3, "Snubbers," and its Bases B 1.7.3, to perform visual examinations and functional testing of ASME Code Class 1, 2 and 3 snubbers (pin-to-pin inclusive) in lieu of meeting ASME Code, Section XI, requirements.

3.1.4 Licensee's Basis for Requesting Relief (as stated)

> The snubber examination and test boundary will consist of the snubber assembly. Snubber examinations and tests will be performed per [CGS's] Licensee Controlled

Specification 1.7.3 and [its Bases] B 1.7.3. Personnel performing snubber examinations and testing will be qualified in accordance with the Owner's quality assurance program.

ASME [Code] Section XI examination boundary of a support containing a snubber will not include the snubber assembly (pin-to-pin inclusive). The Section XI boundary will continue to be inspected under examination category F-A by the VT-3 method.

Repair/replacement activities on snubbers will continue to be performed in accordance with [ASME Code] Section XI.

The requirements for snubber examination and testing detailed in the Licensee Controlled Specifications Requirement for Operability 1.7.3 are similar to those specified in [ASME Code] Section XI.

10 CFR 50.55a(b)(3)(v) states, "Subsection ISTD, Article IWF-5000, "Inservice Inspection Requirements for Snubbers," of the ASME BPV [Boiler and Pressure Vessel] Code, Section XI, provides inservice inspection requirements for examinations and tests of snubbers at nuclear power plants. Licensees may use Subsection ISTD, "Inservice Testing of Dynamic Restraints (Snubbers) in Light-Water Reactor Power Plants," ASME OM Code, 1995 Edition through the latest edition and addenda incorporated by reference in paragraph (b)(3) of this section, in place of the requirements for snubbers in Section XI, IWF-5200(a) and (b) and IWF-5300(a) and (b), by making appropriate changes to their technical specifications or licensee-controlled documents. Preservice and inservice examinations must be performed using the VT-3 visual examination method described in IWA-2213."

The above rulemaking allows examination and testing of snubbers per the latest NRC-approved ASME OM Code edition and addenda.

The ASME Section XI [Committee] on March 3, 2005, approved ballot BC 04-608 that revises [ASME Code] Section XI to delete references to snubber testing and eliminates duplication with the ISTD requirements for snubber inspections. This ballot further clarifies jurisdiction boundaries between the two Codes and eliminates VT-3 requirements for the examination of snubber assembly (pin-to-pin inclusive).

The proposed alternative will reduce duplication of snubber examination requirements between Section XI and Energy Northwest's [the licensee's] snubber program that is based on the Licensee Controlled Specifications [or OM Code]. The proposed alternative will replace the test and examination requirements of IWF-5200 and IWF-5300 with the test and examination requirements contained in Energy Northwest's [the licensee's] snubber program [based on the LCS and its Bases]. Granting the proposed alternative as described herein provides an acceptable level of quality and safety, and does not adversely impact the health and safety of the public.

3.1.5 NRC Staff Evaluation of Relief Request 3ISI-07

The licensee requested authorization of an alternative to the requirements of the ASME Code, Section XI, paragraphs IWF-5200(a) and (b), and IWF-5300(a) and (b). 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 CGS LCS 1.7.3, and its Bases B 1.7.3 in lieu of meeting the requirements in the ASME Code, Section XI, paragraphs IWF-5200(a) and (b), and IWF-5300(a) and (b).

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

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 nonintegral attachments for snubbers, including lugs, bolting, pins, and clamps, shall be examined in accordance with the requirements of Subsection IWF. The licensee states that the relief request includes only the snubber and its pin-to-pin connections and does not include the remaining portion of the Section III NF support containing a snubber. As required by IWF-5200(c) and IWF-5300(c), the examination of the remaining portion of the support, including integral and nonintegral attachments for supports containing snubbers will be performed in accordance with Section XI boundary inspected under examination category F-A by the VT-3 method as part of the ISI Program.

OM-4 specifies the requirements for visual examination (paragraph 2.3), and functional testing (paragraph 3.2) of snubbers. The licensee proposes to use the LCS 1.7.3 surveillance requirements and its Bases B 1.7.3 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.

LCS Bases B 1.7.3 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.

LCS 1.7.3 and its Bases defines inservice examination requirements, examination interval, 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% sample and 37 sample plans that are similar to those provided by OM-4. OM-4 requirements and LCS 1.7.3 and its Bases criteria are compared and summarized in the following table and followed by a detailed review:

	Criteria	ASME/ANSI OM Part 4 -1987 including 1988 Addenda	CGS's LCS 1.7.3 and its Bases B 1.7.3
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.	LCS Bases Surveillance Requirements (SR) 1.7.3.1.c requires that visual inspections shall verify that there are: (1) no indications of damage or impaired operability; (2) attachments to the foundation or supporting structure are functional; and (3) fasteners for attachment of the snubber to the component and to the snubber anchorage are functional.
2.	Visual Examination Interval Frequency	Paragraph 2.3.2.2 provides examination interval frequency and additional examination requirements.	Table B 1.7.3-1 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.	CGS states that snubber assembly (pin-to-pin inclusive) visual examination is performed by persons qualified by the Owner's Quality Assurance (QA) program. Snubber support structure will continue to be examined by VT-3 qualified person.
4.	Subsequent Examination Intervals	Paragraph 2.3.2 provides guidance for inservice examination intervals based on the number of unacceptable snubbers discovered.	Table B 1.7.3-1 provides a snubber visual inspection interval based on the number of unacceptable snubbers discovered. These requirements are similar to those contained in GL 90-09.
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.	LCS Bases SR 1.7.3.1.c states that snubbers which appear inoperable as result of visual inspections shall be classified as unacceptable. Further, LCS Bases SR 1.7.3.1.g functional test failure analysis will be used to determine the cause of unacceptability (failure).

	Criteria	ASME/ANSI OM Part 4 -1987 including 1988 Addenda	CGS's LCS 1.7.3 and its Bases B 1.7.3
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.	LCS Bases SR 1.7.3.1.e states that snubbers shall be functionally tested either in-place or in a bench test. LCS Bases SR 1.7.3.1.f states that the snubber functional test is to verify: (1) activation is achieved within specified range of velocity or acceleration in tension and compression; (2) bleed rate, or release rate where required, is present in both tension and compression, within the specified range; (3) the force required to initiate or maintain motion is within the specified range; and (4) the ability to withstand load without displacement.
2.	Snubber Sample size	Paragraph 3.2.3 states that each defined test plan group shall use either a 10% sampling plan; a "37 testing sample plan;" or a "55 testing sample plan" during each refueling outage.	LCS Bases SR 1.7.3.1.e states that an in-place or bench functional test will be performed on a (1) 10% sample of the total of each type of snubber; or (2) representative sample of 37 snubbers.
3.	Additional Sampling	(a) 10% Testing Sample Plan: Paragraph 3.2.3.1(b) states that for any snubber(s) determined to be unacceptable as a result of testing, an additional sample of at least one-half the size of the initial sample lot shall be tested. or (b) 37 Testing Sample Plan: Paragraph 3.2.3.2(b) states that for any snubber(s) determined to be unacceptable as a result of testing, an additional random sample of at least one-half the size of the initial sample lot shall be tested.	(a) 10% Testing Sample Plan: LCS Bases SR 1.7.3.1.e(1) requires that for each snubber of a type that does not meet the functional test acceptance criteria of SR 1.7.3.1.f, an additional 5% of that type of snubber shall be functionally tested until no more failures are found or until all snubbers have been functionally tested. or (b) 37 Testing Sample Plan: The licensee states that LCS Bases SR 1.7.3.1.e(2) requirements are same as of the OM-4 Code.

	Criteria	ASME/ANSI OM Part 4 -1987 including 1988 Addenda	CGS's LCS 1.7.3 and its Bases B 1.7.3
4.	Inservice Operability 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.	LCS Bases SR 1.7.3.1.g, "Functional Test Failure Analysis" states that an engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen in place, the cause of failure will be evaluated. If the failure is caused by the manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested.
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.	LCS Bases SR 1.7.3.1.e states that the unacceptable snubbers may be categorized into failure mode group(s). A failure mode group shall include all unacceptable snubbers that have a given failure mode and all other snubbers subject to that same failure mode.
6.	Corrective Actions for 10% Testing Sample Plan or 37 Testing Sample Plan	Paragraph 3.2.5.1 states that unacceptable snubbers shall be repaired, modified, or replaced.	LCS Bases SR 1.7.3.1.h states that snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers that have repairs which might affect functional test results shall be tested to meet the functional test criteria before installation.

Inservice Examination Requirements

(1) Visual Examination

LCS Bases Surveillance Requirement 1.7.3.1.c states that visual inspections shall verify that there are: (1) no indications of damage or impaired operability; (2) attachments to the

foundation or supporting structure are functional; and (3) fasteners for attachment of the snubber to the component and to the snubber anchorage are functional. The visual examination, in accordance with LCS SR 1.7.3.1.c, verifies visible indications of damage or impaired operability of snubbers as well as their 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, LCS 1.7.3 snubber visual examination requirements are considered to be equivalent to the snubber visual examination requirements of OM-4 paragraph 2.3.1.1 and are acceptable.

(2) Visual Examination Interval Frequency

LCS Bases Table B 1.7.3-1 provides snubber visual inspection interval frequency requirements which are different than the OM-4 visual inspection interval requirements. Table B 1.7.3-1 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, this alternative provides an acceptable level of quality and safety.

(3) Method of Visual Examination

IWF-5200(a) and IWF-5300(a) requires 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. The licensee states that snubber assembly (pin-to-pin inclusive) visual examination is performed by persons qualified by the Owner's QA program. Snubber support structures will continue to be examined by VT-3 qualified personnel using the visual examination methods described in IWA-2213. Visual examination of snubber assemblies (pin-to-pin inclusive) will be performed to meet the visual inspection acceptance criteria as described in the LCS Bases SR 1.7.3.1.c. This visual examination is comparable to IWA-2213. Therefore, the NRC staff finds that the licensee's method of snubber visual inspection provides an acceptable level of quality and safety and is acceptable.

(4) Subsequent Examination Intervals

LCS Bases Table B 1.7.3-1 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 LCS Bases Table B 1.7.3-1 provide an acceptable level of quality and safety and are acceptable.

(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 paragraph 3.2. LCS Bases SR 1.7.3.1.c states that snubbers which appear inoperable as result of visual inspections shall be classified as unacceptable. Further, LCS Bases SR 1.7.3.1.g functional test failure analysis will be used to determine the cause of unacceptability (failure). Therefore, the NRC staff finds that the LCS's inservice examination failure evaluation requirements provide an acceptable level of quality and safety.

Inservice Operability Test Requirements

(1) Operability Test

LCS Bases SR 1.7.3.e.1 states that snubbers shall be functionally tested either in-place or in a bench test. Bases SR 1.7.3.1.f states that the snubber functional test is to verify that: (1) activation is achieved within specified range of velocity or acceleration in tension and compression; (2) bleed rate, or release rate where required, is present in both tension and compression, within the specified range; (3) the force required to initiate or maintain motion is within the specified range; and (4) the ability to withstand load without displacement is present. OM-4, paragraph 3.2.1.1, 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 staff finds that the LCS requirements are equivalent to the snubber operability test requirements of OM-4, paragraph 3.2.1. Therefore, the LCS operability test requirements provide an acceptable level of quality and safety.

(2) Snubber Sample Size

LCS Bases SR 1.7.3.1.e states that an in-place or bench functional test will be performed on a representative of a (1) 10% sample of the total of each type of snubber; or (2) representative sample of 37 snubbers. OM-4, Section 3.2.3, requires either a 10% testing sampling plan, a "37 testing sample plan," or a "55 testing sample plan." CGS is using a 10% sample plan or 37 snubber plan criteria which is equivalent to the 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 LCS snubber sample size provides an acceptable level of quality and safety.

(3) Additional Sampling

(a) 10% Testing Sample Plan: 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% sample program,

an additional 5% of the same type of snubber in the overall population would need to be tested. LCS Bases SR 1.7.3.1.e(1) requires that for each snubber of a type that does not meet the functional test acceptance criteria of SR 1.7.3.1.f, an additional 5% of that type of snubber shall be functionally tested until no more failures are found or until all snubbers have been functionally tested.

(b) 37 Testing Sample Plan: OM-4, paragraph 3.2.3.2(b), states that for any snubber(s) determined to be unacceptable as a result of testing, an additional random sample of at least one-half the size of the initial sample lot shall be tested. The licensee stated in its submittal that LCS Bases SR 1.7.3.1.e requirement of snubber testing in accordance with LCS Bases Figure B 1.7.3-1, provides similar results as required by paragraph 3.2.3.2(b).

Therefore, the LCS requirements of additional sampling are considered acceptable.

(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 the review of other unacceptable snubbers and determination of whether other snubbers of similar design would require further examination. LCS Bases SR 1.7.3.1.g, “Functional Test Failure Analysis,” states that an engineering evaluation shall be made of each failure to meet the functional test acceptance criteria in order to determine the cause of the failure. If any snubber selected for functional testing either fails to lock up or fails to move, i.e., frozen in place, the cause of failure will be evaluated. If the failure is caused by the manufacturer or design deficiency, all snubbers of the same type subject to the same defect shall be functionally tested. Therefore, the NRC staff finds that the LCS requirements related to inservice operability failure evaluation are equivalent to the OM-4 requirements, and are acceptable.

(5) Test Failure Mode Groups

OM-4, paragraph 3.2.4.2, requires that unacceptable snubbers be categorized into failure mode groups. 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. LCS Bases SR 1.7.3.1.e states that the unacceptable snubbers may 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 that same failure mode. During a phone call to clarify the requirements for failure mode groups, the licensee stated that the verb "may be" is intended to mean that the licensee may (1) categorize the unacceptable snubbers into failure type-mode groups and sample snubbers from each failure mode group or (2) all the unacceptable type snubbers are tested and, therefore, the unacceptable snubbers do not need to be categorized into failure mode groups. Therefore, the LCS requirements are considered to be equivalent to the OM-4 requirements, and are acceptable.

(6) Inservice Operability Testing Corrective Actions (for 10% testing sample plan or 37 snubber plan)

OM-4, paragraph 3.2.5.1, requires that unacceptable snubbers be adjusted, repaired, modified, or replaced. LCS Bases SR 1.7.3.1.h states that snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers that have repairs which might affect functional test results shall be tested to meet the functional test criteria before installation. Therefore, the NRC staff finds that the LCS corrective actions associated with unacceptable snubbers at CGS are considered to be equivalent to the OM-4 requirements.

Based on the above discussions, the staff finds that snubber visual examinations and functional testing, conducted in accordance with LCS 1.7.3 and its Bases, 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) and (b) and IWF-5300(a) and (b). Therefore, the NRC staff finds the licensee's proposed alternative provides an acceptable level of quality and safety with respect to snubber visual inspection and functional testing.

4.0 CONCLUSION

Based on the information provided, the NRC staff concludes that the proposed alternative to use LCS 1.7.3 and its Bases 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 CGS's third 10-year ISI interval.

5.0 REFERENCES

Code of Federal Regulations, "Domestic Licensing of Production and Utilization Facilities," Part 50, Chapter I, Title 10, "Energy," Section 50.55a, "Codes and standards."

GL 90-09, "Alternative Requirements for Snubber Visual Inspection Intervals and Corrective Actions," dated December 11, 1990.

American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components.

American Society of Mechanical Engineers "Operation and Maintenance Code," Inservice Testing of Nuclear Power Plant Components.

Letter from WS Oxenford, of Energy Northwest, to NRC, "Columbia Generating Station, Docket No. 50-397, Submittal of the Third Ten-Year Interval Inservice Inspection Program Plan and 10 CFR 50.55a Requests 3ISI-01 through 3ISI-07 for Columbia Generating Station," dated December 15, 2005.

Letter from WS Oxenford, of Energy Northwest, to NRC, "Columbia Generating Station, Docket No. 50-397, Response to Request for Additional Information Regarding Relief Request 3ISI-07" dated February 22, 2007.

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