March 29, 2007

Mr. John S. Keenan
Senior Vice President and Chief Nuclear Officer
Pacific Gas and Electric Company
Diablo Canyon Power Plant
P.O. Box 770000
San Francisco, CA 94177-0001

SUBJECT: DIABLO CANYON POWER PLANT, UNIT NOS. 1 AND 2 - RELIEF REQUEST NDE-SBR FOR THE SECOND 10-YEAR INTERVAL INSERVICE INSPECTION AND EXAMINATION PROGRAM FOR SNUBBERS (TAC NOS. MD0535 AND MD0536)

Dear Mr. Keenan:

By letter dated March 21, 2006, Pacific Gas and Electric Company, the licensee, submitted Relief Request NDE-SBR for the second 10-year interval inservice inspection and testing program for snubbers at Diablo Canyon Power Plant (DCPP), Unit Nos. 1 and 2. In response to the U.S. Nuclear Regulatory Commission (NRC) staff's request for additional information, the licensee submitted its response by letter dated March 8, 2007.

The NRC staff has completed its review of Relief Request NDE-SBR. The DCPP, Unit No. 1 second 10-year interval commenced on January 1, 1996, and ended on May 7, 2006. The DCPP, Unit No. 2 second 10-year interval commenced on June 1, 1996, and ended on June 30, 2006. Therefore, the second 10-year interval has expired for both Units. The licensee informed the NRC that it had been using an alternative in the second 10-year interval, which had not been authorized and it now seeks relief. The NRC staff has reviewed the licensee's submittal and concludes that the proposed alternative to use DCPP Equipment Control Guideline 99.1, "Snubbers," for snubber visual inspection and functional testing provides an acceptable level of quality and safety. Therefore, the NRC staff concludes that the licensee's request for relief is authorized pursuant to 50.55a(a)(3)(i) for the second 10-year ISI interval. This completes the NRC staff's efforts on TAC Nos. MD0535 and MD0536.

If you have any questions, please call the Project Manager, Mr. Alan Wang, at 301-415-1445.

Sincerely,

/RA/

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

Docket Nos. 50-275 and 50-323

Enclosure: Safety Evaluation

cc w/encl: See next page

If you have any questions, please call the Project Manager, Mr. Alan Wang, at 301-415-1445.

Sincerely,

/RA/

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SECOND 10-YEAR INTERVAL INSERVICE EXAMINATION PROGRAM FOR SNUBBERS

RELIEF REQUEST NDE-SBR

PACIFIC GAS AND ELECTRIC COMPANY

DIABLO CANYON POWER PLANT, UNIT NOS. 1 and 2

DOCKET NOS. 50-275 and 50-323

1.0 INTRODUCTION

By letter dated March 21, 2006 (Reference 5), Pacific Gas and Electric Company, the licensee, submitted Relief Request NDE-SBR for its second 10-year interval inservice inspection (ISI) and testing program for snubbers at Diablo Canyon Power Plant (DCPP), Unit Nos. 1 and 2. In response to the staff's request for additional information (RAI), the licensee submitted its response in a letter dated March 8, 2007 (Reference 6). The licensee requested relief from certain ISI and examination requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI, 1989 Edition, 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 DCPP, Unit No. 1 second 10-year ISI interval commenced on January 1, 1996, and ended on May 7, 2006. The DCPP, Unit No. 2 second 10-year ISI interval commenced on June 1, 1996, and ended on June 30, 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 Title 10 of the *Code of Federal Regulations* (10 CFR) paragraph 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 the DCPP, Unit Nos. 1 and 2 second 10-year ISI interval is the 1989 Edition.

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 NDE-SBR

3.1.1 Component for which Relief is Requested

All DCPP, Unit Nos. 1 and 2 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.

ASME Code, Section XI, IWA-2110, requires Authorized Nuclear Inservice Inspector (ANII) involvement for snubber examination and testing.

ASME Code, Section XI, IWA-6200, requires the preparation of an ISI summary report after each refueling outage.

3.1.3 Licensee's Proposed Alternative

The licensee proposes to use DCPP's Equipment Control Guideline (ECG) 99.1, "Snubbers," and its implementing procedures, 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 proposed alternative and basis for use is provided in the application, as follows:

> For clarification, this 10 CFR 50.55a 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 Subsection IWF as part of the Inservice Inspection (ISI) Program Plan. Specifically, as part of the examinations required by the ISI Program Plan, DCPP will visually examine (VT-3) the ASME Section XI IWF portion of supports in accordance with Subsection IWF. Additionally, the snubber and its pin-to-pin connections to the rest of the support are also included in the VT-3 examination performed in accordance with Subsection IWF.

(a) Visual Snubber Examinations

The DCPP ECG Snubber Program visual inspection requirements for snubbers are comparable with Section XI VT-3 requirements. IWF-5000 requires that the OM Part 4 examinations be performed using the VT-3 visual examination method described in IWA-2213. IWA-2213 reads as follows:

"(a) The VT-3 visual examination shall be conducted to determine the general mechanical and structural condition of components and their supports, such as the verification of clearances, settings, physical displacements, loose or missing parts, debris, corrosion, wear, erosion or the loss of integrity at bolted or welded connections.

(b) The VT-3 examinations shall include examinations for conditions that could affect operability or functional adequacy of snubbers and constant load and spring type supports.

(c) For component supports and component interiors, the visual examination may be performed remotely with or without optical aids to verify the structural integrity of the components."

The DCPP ECG states that:

> "Visual inspections shall verify (1) that there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or support structure are functional, and (3) fasteners for attachment of the snubber to the component and to the snubber anchorage are functional."

The DCPP procedure that implements the ECG snubber inspections includes requirements to inspect for the following conditions:

- Snubbers shall have no visible indication of damage or impaired operability.
- Attachments (including welds) to the foundation or supporting structure shall be functional.
- Fasteners for attachment of the snubber to the component and to the snubber anchorage shall be functional.
- Hydraulic fluid system and supply shall be functional.

The intent and scope of ASME/ANSI OM, Part 4, and the DCPP snubber program are essentially equal, although the Code wording is more detailed than the ECG in listing specific items to be included. However, the implementing procedure for the ECG snubber inspections closely parallels the Code listing. Also, the ECG snubber inspections are performed by personnel that are specifically trained and qualified to perform visual examinations of snubbers.

In a response to the March 8, 2007, RAI, the licensee has committed to revise applicable section(s) of ECG 99.1 to require visual examination for snubbers as stated in IWA-2213 (i.e., all inspectors will be VT-3 qualified for snubber inspection). The application goes on to state:

The DCPP ECG also incorporates the reduced visual inspection frequency table as provided in NRC Generic Letter 90-09, which is similar to the provisions in OM Code Subsection ISTD. This results in a significant reduction in unnecessary radiological exposure to plant personnel, a savings in company resources, and compliance with visual inspection requirements while maintaining the same confidence level in snubber operability as that provided by following Section XI requirements.

(b) Snubber Testing

The DCPP ECG snubber testing requirements for snubbers are comparable with ASME/ANSI OM, Part 4. ASME/ANSI OM, Part 4, requires, in part, that:

"Snubber operational readiness test shall verify the following:

(a) activation is within the specified range of velocity or acceleration in tension and in compression;
(b) release rate, when applicable, is within the specified range in tension and in compression. For units specifically required not to be displaced under continuous load, ability of the snubber to withstand load without displacement;
(c) for mechanical snubbers, drag force is within specified limits, in tension and in compression."

The DCPP ECG states that:

"The snubber functional test shall verify that:

(1) Activation (restraining action) is achieved within the specified range in both tension and compression;
(2) Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range;
(3) For mechanical snubbers, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and
(4) For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement."

The DCPP ECG snubber testing program provides for comprehensive and conservative requirements that are effective in providing a reliable snubber population. This results in increased confidence in plant safety. The use of the DCPP ECG addresses the intent and scope of the requirements in Section XI Article IWF-5000 in a single governing document that can be consistently applied.

(c) Authorized Inspection Agency

Services of an Authorized Inspection Agency (AIA) and Authorized Nuclear Inservice Inspectors (ANIIs) are not included in the OM Code and are not explicitly defined in ASME Section XI for snubber inspections and tests. Similarly, DCPP's snubber inspection and testing in accordance with ECG 99.1 has not included involvement of an AIA or ANIIs in the second 10-year inspection interval. ANII qualification in accordance with ASME QAI-1 does not include knowledge of OM Code examinations and tests for snubber operability nor of DCPP's ECG requirements for snubber inspections, therefore, lack of involvement of an AIA and ANIIs do not result in a reduction of quality and safety.

(d) Reports

Section XI IWA-6000, "Records and Reports," requires owners to prepare the Owners Report for Inservice Inspection, Form NIS-1, for preservice and inservice examination of Class 1 and 2 pressure retaining components and their supports and submit the report to the NRC. However, IWA-6000 is not clear concerning what records and reports are required for snubbers. IWA-6340 clearly does not address records for snubber testing and is not clear regarding snubber examination records. OM Part 4 does clearly require records of snubber examinations and tests to be prepared and maintained by the owner but does not require submittal of any reports to the NRC.

The DCPP Quality Assurance Program maintains records of snubber inspections and tests performed in accordance with the ECG and its implementing

procedures in lieu of the requirements of Section XI and OM Part 4. These records are available for review to demonstrate the acceptability of snubbers at DCPP.
Reports of inspection of Class 1 and Class 2 supports under Subsection IWF, including snubbers, have been submitted as part of the Owners Report of Inservice Inspection under Subsection IWA-6000.

3.1.5 NRC Staff Evaluation of Relief Request NDE-SBR

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 DCPP ECG 99.1 and its procedures 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 DCPP, Unit Nos. 1 and 2 second 10-year ISI interval is the 1989 Edition. The ASME Code, Section XI, paragraphs IWF-5200(a), and (b), and IWF-5300(a), and (b), references 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.

OM-4 specifies the requirements for visual examination (paragraph 2.3), and functional testing (paragraph 3.2) of snubbers. The licensee proposes to use DCPP ECG 99.1 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.

DCPP ECG 99.1 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 some 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 further states that the alternative schedule for visual inspection provides the same confidence level as that provided by OM-4.

The licensee states that integral and nonintegral attachments for snubbers, including lugs, bolting, pins, and clamps, as required by IWF-5200(c) and IWF-5300 (c), be examined in accordance with the requirements of Subsection IWF.

ECG 99.1 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 ECG 99.1 criteria are compared and summarized in the following table and followed by a detailed review:

	Criteria	ASME/ANSI OM Part 4 -1988	DCPP, Unit Nos. 1 and 2, ECG 99.1 Criteria
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.	ECG Surveillance Requirement (SR) 99.1.1 requires that visual inspections verify that there are: (1) no visible 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 provides Examination Interval Frequency requirements.	ECG Table 99.1-1 provides snubber visual inspection interval frequency.
3.	Method of Visual Examination	IWF-5200(a) and IWF-5300(a) require use of the VT-3 visual examination method described in IWA-2213.	The licensee states that the ECG Snubber Program visual inspection requirements are comparable with ASME Section XI, VT-3 requirements. In a response to an RAI, the licensee committed to revise ECG 99.1 to include the VT-3 visual examination.

	Criteria	ASME/ANSI OM Part 4 -1988	DCPP, Unit Nos. 1 and 2, ECG 99.1 Criteria
4.	Subsequent Examination Intervals Frequency	Paragraph 2.3.2 provides guidance for inservice examination intervals based on the number of unacceptable snubbers discovered.	ECG Table 99.1-1 provides a snubber visual inspection interval based on the number of unacceptable snubbers discovered. These criteria are similar to those contained in NRC GL 90-09.
5.	Inservice Examination Failure Evaluation	Paragraph 2.3.4 states that snubbers not meeting examination and acceptance criteria shall be evaluated to determine the cause of unacceptability.	ECG SR 99.1.1 states that snubbers which appear inoperable as a result of visual inspections shall be classified unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that: (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of type that may be generically susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined operable per ECG SR 99.1.4.

	Criteria	ASME/ANSI OM Part 4 -1988	DCPP, Unit Nos. 1 and 2, ECG 99.1 Criteria
Inservice Operability Test			
1.	Inservice Operability Test Requirements	Paragraph 3.2.1.1 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.	ECG SR 99.1.3.a states that snubbers shall be functionally tested either in-place or in a bench test. ECG SR 99.1.4 states that the snubber functional test is to verify (1) activation is achieved within specified range in both tension and compression, and (2) snubber bleed, or release rate is within the specified range; (3) for mechanical snubbers, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and (4) for snubbers specifically required not to displace under continuous load, the ability of the snubber 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 percent sampling plan; a “37 testing sample plan;” or a “55 testing sample plan” during each refueling outage.	ECG SR 99.1.3 states that at least 10 percent of the total of each type of snubber shall be functionally tested either in place or in a bench test.
3.	Additional Sampling	The snubbers which have been found unacceptable per the testing criteria shall be subject to paragraph 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.	ECG SR 99.1.3.a states that for each snubber type that does not meet the functional test acceptance criteria of SR 99.1.4, an additional sample equal to one-half the original sample or 5 percent, whichever is greater, of that type of snubber shall be functionally tested until no more failures are found or until all snubbers of that type have been functionally tested.

	Criteria	ASME/ANSI OM Part 4 -1988	DCPP, Unit Nos. 1 and 2, ECG 99.1 Criteria
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.	ECG SR 99.1.5 states that if a snubber being tested 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.	ECG SR 99.1.5 does not specifically address "Failure Mode Groups," for unacceptable snubbers. However, SR 99.1.5 criteria meets the intent of the OM-4 requirements for addressing "Failure Mode Groups."
6.	Corrective Actions for 10 percent Sample Plan	Paragraph 3.2.5.1 states that unacceptable snubbers shall be repaired, modified, or replaced.	ECG SR 99.1.6 states that snubbers that fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced.

Inservice Inspection Requirements

(1) Visual Examination

ECG SR 99.1.1 states that visual inspections shall verify that there are (1) no visible 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. 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, ECG SR 99.1.1 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

ECG Table 99.1-1 provides snubber visual inspection interval frequency requirements which are different than the OM-4, paragraph 2.3.2 requirements. ECG Table 99.1.1 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 some 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, the NRC staff concludes that ECG 99.1 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.

The licensee states that ECG 99.1 snubber program visual examination criteria are comparable with the ASME Code, Section XI, VT-3 requirements. The DCPP procedure that implements the ECG snubber inspections includes a criterion to inspect for the following conditions:

- Snubbers shall have no visible indication of damage or impaired operability.
- Attachments (including welds) to the foundation or supporting structure shall be functional.
- Fasteners for attachment of the snubber to the component and to the snubber anchorage shall be functional.
- Hydraulic fluid system and supply shall be functional.

The intent and scope of the DCPP ECG Snubber Program examination criteria are equivalent to the OM-4, VT-3 visual inspection requirements. The licensee states that the ECG snubber inspections are performed by personnel that are specifically trained and qualified to perform visual examinations of snubbers. In a response to an RAI, the licensee committed to revise ECG 99.1 to include the VT-3 visual examination method as described in IWA-2213, and to require inspectors to be VT-3 qualified for snubber inspection. 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

ECG Table 99.1.1 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 criteria are identical 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 ECG Table 99.1.1 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. ECG SR 99.1.1 states that snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable 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 irrespective of type that may be generically susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined operable per ECG SR 99.1.4, as applicable. Also, all snubbers connected to an inoperable common hydraulic fluid reservoir shall be counted as inoperable snubbers. Therefore, the NRC staff finds that the ECG's inservice examination failure evaluation criteria provide an acceptable level of quality and safety.

Inservice Operability Test Requirements

(1) Inservice Operability Test

ECG SR 99.1.3.a states that snubbers shall be functionally tested either in-place or in a bench test. ECG SR 99.1.4 states that the snubber functional test is to verify that (1) activation is achieved within specified range in both tension and compression, and (2) snubber bleed, or release rate is within the specified range; (3) for mechanical snubbers, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel; and (4) for snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement. 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 staff finds that the ECG criteria are considered to be equivalent to the snubber operability test requirements of OM-4, paragraph 3.2.1. Therefore, the ECG operability test criteria provide an acceptable level of quality and safety.

(2) Snubber Sample Size

The licensee states that DCPP uses the 10 percent sample plan for snubber functionally testing. ECG SR 99.1.3 states that at least 10 percent of the total of each type of snubber shall be functionally tested either in place or in a bench test. 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." DCPP 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 ECG snubber sample size provides an acceptable level of quality and safety.

(3) Additional Sampling

ECG SR 99.1.3.a states that for each snubber type that does not meet the functional test acceptance criteria of SR 99.1.4, an additional sample equal to one-half the original sample or 5 percent, whichever is greater, of that type of snubber shall be functionally tested until no more failures are found, or until all snubbers of that type have been functionally tested. 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. As such, the ECG SR 99.1.3 criterion to sample an additional 5 percent is 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 review of other unacceptable snubbers and a determination whether other snubbers of similar design would require further examination. ECG SR 99.1.5 states that if a snubber being tested either fails to lockup or fails to move, i.e., is 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. This testing criterion shall be independent of the criteria as specified in ECG SR 99.1.3. Therefore, the NRC staff finds that the SR 99.1.5 criteria related to inservice operability failure evaluation are considered to be equivalent to the OM-4 requirements, and will therefore provide an acceptable level of quality and safety.

(5) Test Failure Mode Groups

OM-4, paragraph 3.2.4.2 requires that unacceptable snubbers 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. ECG SR 99.1.5 states that if a snubber being tested either fails to lockup or fails to move, i.e., is 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. This testing criterion shall be independent of the criteria as specified in ECG SR 99.1.3. ECG SR 99.1.5 does not specifically address "Failure Mode Groups." However, SR 99.1.5 accomplishes the same intent as "Failure Mode Grouping." Therefore, the ECG criteria are considered to be equivalent to the OM-4 requirements, and are acceptable.

(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. ECG SR 99.1.6 states that snubbers that fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Therefore, the NRC staff finds that the ECG corrective actions associated with unacceptable snubbers at DCPP are considered to be equivalent to the OM-4 requirements and will therefore provide an acceptable level of quality and safety.

Authorized Inspection Agency

ASME Code, Section XI, IWA-2110 specifies various inspector duties related to examination and testing activities. IWA-9000 states that an ANII is a person who is employed and has been qualified by an AIA to verify examination, tests, and repair/replacement activities. The DCPP ECG snubber program does not require the use of an ANII for examination and test requirements. DCPP's snubber inspection and testing in accordance with the ECG 99.1 has not included involvement of an AIA or ANIIs in the second 10-year inspection interval. In addition to this, the NRC has endorsed the use of ASME OM Code, Subsection ISTD, for snubber inservice examination and testing. ISTD states that the Owner's responsibility includes qualification of personnel who perform and evaluate examinations and tests in accordance with the Owner's quality assurance program. The ECG criteria meet the intent OM Code. The NRC staff finds that the proposed alternative to use ECG for snubber visual examination and functional testing without involving the ANII in these activities provides an acceptable level of quality and safety.

Record of snubber examinations and testing

ASME Code, Section XI, IWA-6200, provides the requirements for snubber examination and test summary report preparation for snubber inservice examination and test documentation. IWA-6230 requires owners to prepare an Owner's Report for Inservice Inspection, Form NIS-1, for preservice and inservice examination of Class 1 and 2 pressure retaining components and their supports and submit the report to the NRC. The DCPP Quality Assurance Program maintains record of snubber inspections and tests performed in accordance with the ECG and its implementing procedures. These records are available for review to demonstrate the acceptability of snubbers at DCPP. In addition to this, the NRC has endorsed the use of ASME OM Code, Subsection ISTD, for snubber inservice examination and testing. ISTD requirements for snubber examination and test summary report preparation are similar to the ECG requirements. Therefore, the licensee's proposed method of preparing and maintaining records of snubber examinations and tests provides an acceptable level of quality and safety and is acceptable.

Based on the above discussions, the staff finds that snubber visual examinations and functional testing, conducted in accordance with DCPP ECG 99.1, 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 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 DCPP ECG 99.1 for snubber visual inspection and functional testing provides an acceptable level of quality and safety. Therefore, the NRC staff concludes that the licensee's request for relief is authorized pursuant to 50.55a(a)(3)(i) for the second 10-year ISI interval.

5.0 REFERENCES

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

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

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

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

5. Letter from Donna Jacobs, of Pacific Gas and Electric Company, to NRC, "ASME Section XI Inservice Inspection Program Relief Request NDE-SBR," DCPP, Unit Nos. 1 and 2, Docket Nos. 50-275, OL-DPR-80 and 50-323, OL-DPR-82, dated March 21, 2006 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML060930300).

6. Letter from James R. Becker, of Pacific Gas and Electric Company, to NRC, "Response to NRC Request for Additional Information Regarding ASME Section XI Inservice Inspection Program Relief Request NDE-SBR," DCPP, Unit Nos. 1 and 2, Docket Nos. 50-275, OL-DPR-80 and 50-323, OL-DPR-82, dated March 8, 2007 (ADAMS Accession No. ML070780153).

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