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PG&E Letter DCL-08-040

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Power Plants (DCPP) Units 1 and 2
ASME Section XI Inservice Inspection Program Relief Request NDE-SBR for the Third Ten-Year Interval Inservice Inspection to Allow Use of Alternate Requirements for Snubber Inspection Frequency

Dear Commissioners and Staff:

Pursuant to 10 CFR 50.55a(a)(3)(i), Pacific Gas and Electric Company (PG&E) hereby requests NRC approval for Inservice Inspection (ISI) Relief Request NDE-SBR.

This request for relief is associated with the use of an alternative to the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, for ISI and testing of snubbers for the third 10-year interval of Diablo Canyon Power Plant (DCPP) Units 1 & 2 ISI Program. The third 10-year interval began May 8, 2006, for Unit 1, and July 1, 2006, for Unit 2.

Enclosure 1 provides the 10 CFR 50.55a Relief Request NDE-SBR, which requests an alternative to the requirements of ASME Section XI. It also provides the bases for the proposed alternative. This alternative would be the continued use of DCPP Equipment Control Guideline (ECG) 99.1, "Snubbers," as the governing set of requirements for snubber inspection and testing, and is similar to the relief request for the second 10-year inspection interval which was approved by the NRC on March 29, 2007. Additional proposed changes are requested in this alternative to clarify the implementation of the snubber visual examination program, the qualification of the inspectors, the additional inspection criteria for acceptable snubbers, the use of visual aids for snubbers remotely located, and the definition of "drag" in the ECG.

Enclosure 2 provides DCPP ECG 99.1, Proposed Revision 6, and the associated bases for your reference.

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NRR

To support the implementation of additional proposed changes in the upcoming Unit 1 Fifteenth Refueling Outage scheduled for January 2009, PG&E requests approval of this 10 CFR 50.55a Relief Request NDE-SBR by December 2008. Approval of this relief request will allow DCPP to continue to utilize the existing ECG requirements to govern snubber inspection and testing during the third 10-year interval.

PG&E makes no regulatory commitments (as defined by NEI 99-04) in this letter.

If you have any questions or require additional information, please contact Stan Ketelsen at (805) 545-4720.

Sincerely,

for

James R. Becker
Site Vice President and Station Director

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Enclosures
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cc/enc: Elmo E. Collins, Regional Administrator, NRC Region IV
Michael S. Peck, NRC Senior Resident Inspector
Alan B. Wang, Project Manager, Office of Nuclear Reactor Regulation
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Enclosure 1
PG&E Letter DCL-08-040

Request for Relief NDE-SBR for
Inservice Inspection and Testing of Snubbers for the Third 10-Year Interval
of Diablo Canyon Power Plant Units 1 & 2 Inservice Inspection Program

10 CFR 50.55a Relief Request NDE-SBR

**Proposed Alternative
in Accordance with 10 CFR 50.55a(a)(3)(i)**

--Alternative Provides Acceptable Level of Quality and Safety--

1. ASME Code Component(s) Affected

Diablo Canyon Power Plant (DCPP) Units 1 and 2 all Section XI Code Class 1, 2, and 3 snubbers.

2. Applicable Code Edition and Addenda

American Society of Mechanical Engineering (ASME) Boiler and Pressure Vessel Code, Section XI, 2001 Edition with 2003 Addenda.

3. Applicable Code Requirement

An alternative is requested to the following ASME Section XI requirements for inspection and testing of snubbers:

(a) Preservice/Inservice examinations in accordance with ASME/ANSI OM, Part 4, IWF-5200(a), IWF-5300(a).
(b) Preservice/Inservice tests in accordance with ASME/ANSI OM, Part 4, IWF-5200(b), IWF-5300(b).
(c) Third-Party Authorized Inspection Agency (AIA) inspection activities for snubber examination and testing in accordance with IWA-2210.
(d) Reporting of snubber examinations and testing in accordance with IWA-6200.

4. Reason for Request

ASME Section XI, 2001 Edition with 2003 Addenda, Subarticles IWF-5200 (a) and (b), and IWF-5300 (a) and (b), specify that snubber preservice/inservice examinations and tests be performed in accordance with ASME/ANSI OMa, 1988, Part 4.

Snubber inspections and tests at DCPP Units 1 & 2 are currently performed under Equipment Control Guideline (ECG) 99.1, "Snubbers," and its implementing procedures. The current inspection/testing program as defined by the ECG provides for an acceptable level of quality and safety equal to or greater than that of ASME Section XI. Utilizing the ECG's examination frequency would result in a significant reduction in unnecessary radiological exposure to plant personnel. This is a savings in

company resources, while maintaining the same confidence level in snubber operability as that provided by following ASME Section XI requirements.

5. Proposed Alternative and Basis for Use

In lieu of implementing the Section XI requirements for snubber examination and testing, it is proposed that the preservice/inservice inspection (ISI) and testing be performed under DCPP ECG 99.1, and implementing procedures. In addition to similar change in the inspection frequency in the Relief Request for the second 10-year interval which has been approved by the NRC, the following proposed changes are made to the snubber inspection program:

- Visual examinations of snubbers will not be part of the ISI VT-3 program. All snubber examinations will be in accordance with DCPP snubber inspection implementing procedures. This examination will use the VT-3 Method as described in IWA-2213.
- Qualification of the inspectors who examine snubbers will be the responsibility of DCPP. They will be qualified to the DCPP program training procedures. Inspectors who examine snubbers will not be required to be VT-3 qualified.
- Two additional criteria are included to identify unacceptable snubber indications, specifically, the snubber is not bound against obstructions which will restrict the action of snubber, and that snubbers shall not be positioned so that they are less than 1/2 inch (approximately) from the end of the stroke in tension or compression.
- The use of visual aids will be allowed to perform snubber inspections from a distance when snubbers are remotely located as long as the snubber examination elements can be verified.
- Snubber "drag" definition in ECG 99.1 is clarified to be more consistent with the OM Code definition and the industry practice.

The proposed alternative and basis for use is discussed in Sections (a) through (d) below.

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 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. The snubber and its pin-to-pin connections will be examined and tested in accordance with the DCPP ECG Snubber Program. Visual inspections for snubbers will be performed using the VT-3 examination method as described in IWA-2213. All personnel who perform snubber examinations and tests will be qualified in accordance with DCPP procedures.

(a) Visual Snubber Examinations

The DCPP ECG Snubber Program visual inspection requirements for snubbers are comparable with OM Part 4 examinations, and are performed using the VT-3 examination method described in IWA-2213. IWA-2213 reads as follows:

"VT-3 examinations are conducted to determine the general mechanical and structural condition of components and their supports, by verifying parameters such as clearances, settings, 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."

The DCPP ECG states that:

"Visual inspections shall verify (1) that there are no visible indications of impaired functional ability due to physical damage, leakage, corrosion, or degradation, (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 DCPP procedure that implements the ECG snubber inspections includes, or will include the requirements to inspect for the following unacceptable indications:

- 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.
- Snubber is not bound against obstructions which will restrict the action of snubber.

- Snubbers shall be positioned so that they are no less than 1/2 inch (approximately) from the end of stroke in tension or compression.
- Hydraulic fluid system and supply shall be functional.

NOTE: Visual examinations may be conducted with the use of aids such as flashlights, binoculars, or digital cameras where the snubber is remotely located as long as the above elements can be verified.

The intent and scope of the ASME/ANSI OM, Part 4, and the DCPP snubber program are essentially equal, the implementing procedure for the ECG snubber inspections ensures snubbers have no visible indications of damage or impairing operability. In addition, the ECG snubber inspections ensure the snubber attachment to the foundation or supporting structure up to and including the fasteners for connecting the snubbers to the pipe attachment are secure and component attachment are intact. Also, the ECG snubber inspections are performed by personnel that are specifically trained and qualified to perform examinations of snubbers.

The DCPP ECG also incorporates the reduced visual inspection frequency table as provided in NRC Generic Letter 90-09, "Alternative Requirements for Snubber Visual Inspection Intervals and Corrective Actions," which is similar to the provisions of Table 4252-1 of OM Code Subsection ISTD. Utilization of this examination frequency 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, where applicable, is within the specified range in tension and in compression. For units specifically required not to displace under continuous load, ability of the snubber to withstand load without displacement shall be demonstrated;
(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 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.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods."

The DCPP ECG snubber testing program provides for comprehensive and conservative requirements that are effective in maintaining 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 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 third 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 and tests. Therefore, exclusion of services of an AIA and ANIIs do not result in a reduction of quality or safety.

(d) Reports

Section XI IWA-6000, "Records and Reports," requires owners to prepare the 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. However, IWA-6000 is not specific concerning what records and reports

are required for snubbers. IWA-6340 clearly does not address records for snubber testing and is not specific 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.

Conclusion

Snubber inspections and tests at DCPP are currently performed under ECG 99.1. The current inspection/testing program as defined by the ECG provides for an acceptable level of quality and safety equal to or greater than that of ASME Section XI.

6. Duration of Proposed Alternative

Snubber visual inspections and testing are scheduled and performed in accordance with ECG 99.1 during the third 10-year inspection interval.

7. Precedents

The NRC approved DCPP, Unit Nos. 1 and 2 – Relief Request NDE-SBR on March 29, 2007, for the second 10-year interval ISI and examination program for snubbers using the snubber program described in ECG 99.1 (TAC Nos MD0535 and MD0536)

The NRC approved McGuire Nuclear Station Unit 2 Relief Request RR-03-002 on November 22, 2004, to allow the use of their Selected Licensee Commitment 16.9.15 for their third 10-year ISI interval for snubber testing/inspection. (TAC No. MC2384)

Susquehanna Steam Electric Station Units 1 and 2 Relief Request 3RR-03 was approved by the NRC on September 24, 2004, to allow the use of their Technical Requirements Manual snubber program for their third 10-year ISI interval for snubber testing/inspection. (TAC Nos. MC1185 and MC1186)

Equipment Control Guideline 99.1, "Snubbers"
Proposed Revision 6

99.1 MISCELLANEOUS

99.1 Snubbers

ECG 99.1 All snubbers shall be OPERABLE. The only snubbers excluded from this requirement are those installed on nonsafety-related systems and then only if their failure or failure of the system on which they are installed would have no adverse effect on any safety-related system.

APPLICABILITY: MODES 1, 2, 3, and 4. MODES 5 and 6 for snubbers located on systems required OPERABLE in those MODES.

ACTIONS

----------NOTE----------

Prior to exceeding the Completion Time of any Required Action, a 10 CFR 50.59 evaluation must be approved by the PSRC justifying the acceptability of exceeding the Completion Time.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more snubber(s) inoperable.	A.1 Enter TS LCO 3.0.8. AND	Immediately
	A.2 Perform risk evaluation required by TS LCO 3.0.8 per the bases of this ECG AND	Immediately
	A.3 Evaluate any non-seismic function(s) performed by the snubber. AND	Immediately
	A.4 Perform an engineering evaluation per SR 99.1.5.	72 hours
B. Required Action(s) and associated Completion Time of Condition A not met.	B.1 Declare attached component or supported system inoperable and follow the appropriate Technical Specification or ECG for that system.	Immediately

SURVEILLANCE REQUIREMENTS

----------NOTES----------

1. Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program.
2. As used in this ECG, type of snubber shall mean snubbers of the same design and manufacturer, irrespective of capacity.

	SURVEILLANCE	FREQUENCY
SR 99.1.1	Visual Inspections a. Snubbers may be categorized as inaccessible or accessible during reactor operation. Each of these categories (inaccessible and accessible) may be inspected independently or jointly according to the schedule determined by Table 99.1-1. The visual inspection interval for each category of snubber shall be determined based upon the criteria provided in Table 99.1-1, and the first inspection interval determined using this criteria shall be based upon the previous inspection interval as established by the requirements in effect before License Amendment Nos. 66 and 65.	Per Table 99.1-1
	Visual Inspection Acceptance Criteria b. Visual inspections shall verify (1) that there are no visible indications of impaired functional ability due to physical damage, leakage, corrosion, or degradation, (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. All visual inspectors are to be ~~VT-3~~ qualified for the snubber inspections performed. All ASME Section XI, Code Class 1, 2 or 3 snubbers are to be inspected using the VT-3 ~~visual~~ examination method as described in IWA-2213. 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 SR 99.1.4. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the ACTION requirements shall be met.	

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 99.1.2	Transient Event Inspection a. A visual inspection shall be performed of all hydraulic and mechanical snubbers attached to sections of systems that have experienced unexpected, potentially damaging transients as determined from a review of operational data. b. In addition to satisfying the visual inspection acceptance criteria, freedom-of-motion of mechanical snubbers shall be verified using at least one of the following: (1) manually induced snubber movement; or (2) evaluation of in-place snubber piston setting; or (3) stroking the mechanical snubber through its full range of travel.	Within 6 months following transient event.
SR 99.1.3	Functional Tests A representative sample of snubbers of each type shall be tested using one of the following sample plans. The sample plan shall be selected prior to the test period and cannot be changed during the test period. The NRC Regional Administrator shall be notified in writing of the sample plan selected for each snubber type prior to the test period or the sample plan used in the prior test period shall be implemented: a. 10% Sample Plan: At least 10% of the total of each type of snubber shall be functionally tested either in place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria of SR 99.1.4, an additional sample equal to 1/2 the original sample or 5%, 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.	During the first refueling shutdown. AND 24 months thereafter during shutdown.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 99.1.3 Functional Tests (continued) b. "37" Sample Plan: An initial, random sample of 37 snubbers shall be selected from a population or type and shall be functionally tested in accordance with Figure 99.1-1. "C" is the total number of snubbers of a type or population found not meeting the acceptance requirements of SR 99.1.4. The cumulative number of snubbers tested is denoted by "N". At the end of each day's or lot's testing, the new values of "N" and "C" (previous day's or lot's total plus current day's or lot's increments) shall be plotted on Figure 99.1-1. If at any time the point plotted falls in the "Reject" region, all snubbers of that type or population shall be functionally tested. If at any time the point plotted falls in the "Accept" region, testing of snubbers of that type or population may be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type or population shall be tested until the point falls in the "Accept" region or the "Reject" region, or all the snubbers of that type or population have been tested. c. "55" Sample Plan: An initial, random sample of 55 snubbers shall be functionally tested. For each snubber type or population which does not meet the functional test acceptance criteria, another sample of at least one-half the size of the initial sample shall be tested until the total number tested is equal to the initial sample size multiplied by the factor, 1 + C/2, where "C" is the number of snubbers found which do not meet the functional test acceptance criteria. The results from this sample plan shall be plotted using an "Accept" line which follows the equation N = 55(1 + C/2). Each snubber point should be plotted as soon as the snubber is tested. If the point plotted falls on or below the "Accept" line, testing of that type or population of snubber may be terminated. If the point plotted falls above the "Accept" line, testing must continue until the point falls in the "Accept" region or all the snubbers of that type or population have been tested.	(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 99.1.3	Functional Tests (continued) d. Testing equipment failure during functional testing may invalidate that day's testing and allow that day's testing to resume anew at a later time provided all snubbers tested with the failed equipment during the day of equipment failure are retested. The representative sample selected for the functional test sample plans shall be randomly selected from the snubbers of each type and reviewed before beginning the testing. The review shall ensure, as far as practicable, that they are representative of the various configurations, operating environments, range of size, and capacity of snubbers of each type. Snubbers placed in the same location as snubbers which failed the previous functional test shall be retested at the time of the next functional test but shall not be included in the sample plan. If during the functional testing, additional sampling is required due to failure of only one type of snubber, the functional test results shall be reviewed at that time to determine if additional samples should be limited to the type of snubber which has failed the functional testing.	
SR 99.1.4	Functional Test Acceptance Criteria 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. Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.	

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 99.1.5	Functional Test Failure Analysis An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode. Unacceptable snubber(s) shall be categorized into test failure mode groups. 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. The following failure modes shall be used: • design/manufacturing • application induced • maintenance/repair/installation • isolated • unexplained For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components to which the inoperable snubbers are attached were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the design service. 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 type subject to the same defect shall be functionally tested. This testing requirement shall be independent of the requirements stated in SR 99.1.3 for snubbers not meeting the functional test acceptance criteria.	Per Required Action A.4 above.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 99.1.6	Functional Testing of Repaired and Replaced Snubbers Snubbers that fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers that have repairs which might affect the functional test results shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom-of-motion test must have been performed within 12 months before being installed in the unit. All snubber maintenance/repair activities are to be performed per Diablo Canyon Mechanical Maintenance Procedures MP M-55.1, MP M-55.2, MP M-55.3 and MP M-55.4, and when appropriate, per the applicable vendor procedure (s). All replacement/modified snubber(s) shall have a proven suitability for its application and environment.	Before installation in the unit.
SR 99.1.7	Snubber Service Life Program The service life of hydraulic and mechanical snubbers shall be monitored to ensure that the service life is not exceeded between surveillance inspections. The maximum expected service life for various seals, springs, and other critical parts shall be determined and established based on engineering information and shall be extended or shortened based on monitored test results and failure history. Critical parts shall be replaced so that the maximum service life will not be exceeded during a period when the snubber is required to be OPERABLE. The parts replacements shall be documented and the documentation shall be retained in accordance with FSAR Section 17.17.	24 months

FIGURE 99.1-1
FOR SNUBBER FUNCTIONAL TEST – "37" SAMPLE PLAN
(SEE SR 99.1.3.b)

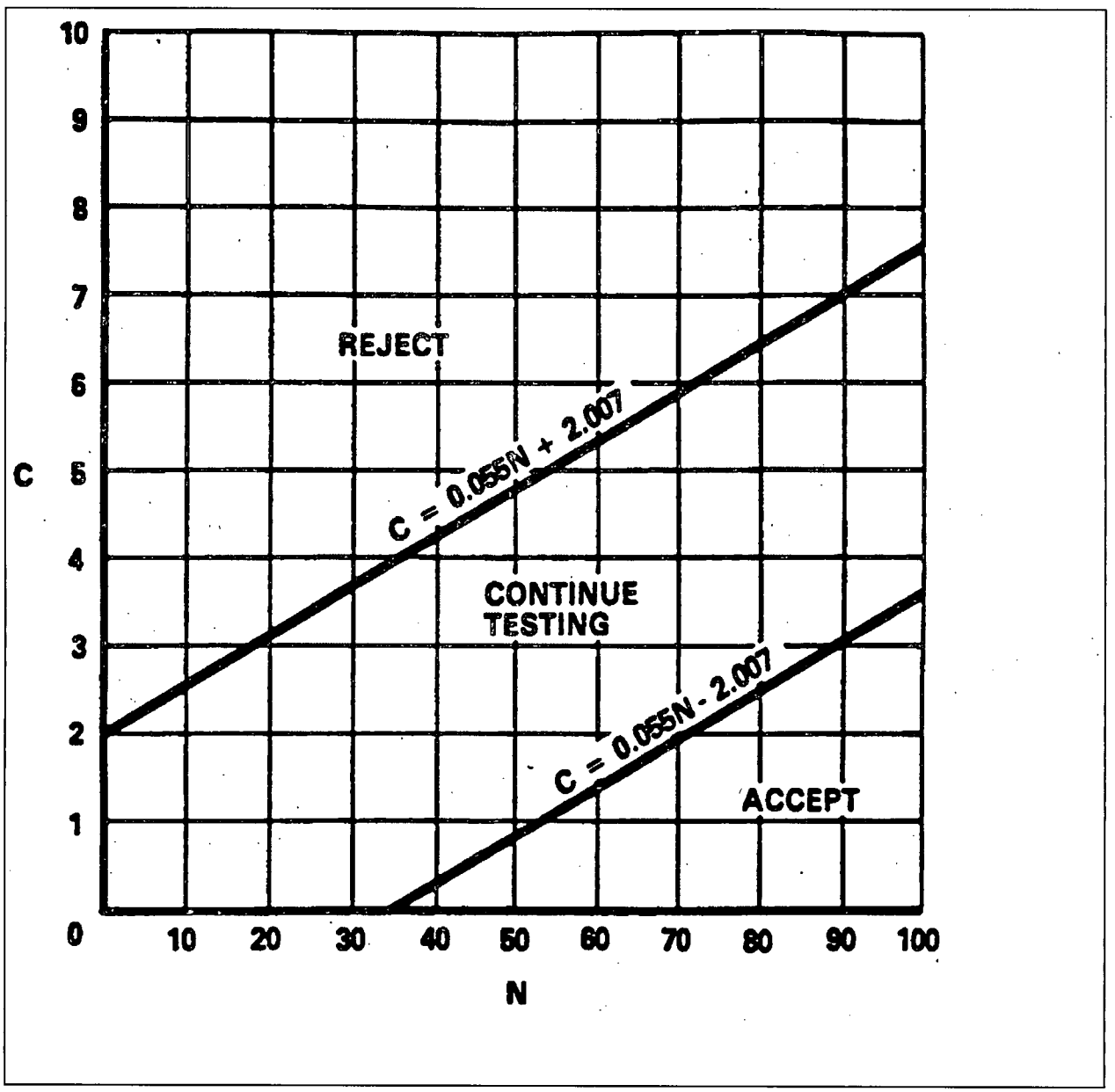

Table 99.1-1
SNUBBER VISUAL INSPECTION INTERVAL

Category Size (Notes 1 and 2)	NUMBER OF UNACCEPTABLE SNUBBERS		
	Column A Extend Interval (Notes 3 and 6)	Column B Repeat Interval (Notes 4 and 6)	Column C Reduce Interval (Notes 5 and 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
400	8	18	36
500	12	24	48
750	20	40	78
1000 or greater	29	56	109

NOTE 1: The next visual inspection interval for a snubber category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the decision must be made and documented before any inspection and this decision shall be used as the basis upon which to determine the next inspection interval for that category.

NOTE 2: Interpolation between category sizes and the number of unacceptable 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 unacceptable snubbers as determined by interpolation.

NOTE 3: If the number of unacceptable 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 unacceptable 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 unacceptable 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 unacceptable 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 unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Column B and C.

NOTE 6: The provisions of SR 0.2 are applicable for all inspection intervals up to and including 48 months.

BASES

BACKGROUND

This ECG is provided to ensure that all snubbers are required OPERABLE to ensure that the structural integrity of the reactor coolant system and all other safety-related systems is maintained during and following a seismic or other event initiating dynamic loads.

Component standard supports are those metal supports which are designed to transit loads from the pressure-retaining boundary of the component to the building structure. A snubber is designed to provide no transmission of force during normal plant operations, but function as rigid support when subjected to dynamic transient loadings. Snubbers are chosen in lieu of rigid supports in areas where restricting thermal growth during normal operation would induce excessive stresses in the piping nozzles or other equipment. However, in the presence of dynamic transient loadings, which may be induced by seismic events as well as by plant accidents and transients, a snubber functions as a rigid support. The location and size of the snubbers are determined by stress analysis based on different combinations of load conditions, depending on the design classification of the particular piping.

Snubbers are classified and grouped by design and manufacturer but not by size. For example, mechanical snubbers utilizing the same design features of the 2-kip, 10-kip, and 100-kip capacity manufactured by Company "A" are of the same type. The same design mechanical snubbers manufactured by Company "B" for the purposes of this Technical Specification would be of a different type, as would hydraulic snubbers from either manufacturer.

A list of individual snubbers with detailed information of snubber location and size and of system affected is available at the plant in accordance with Section 50.71(c) of 10 CFR Part 50. The accessibility of each snubber is determined and approved by the Plant Staff Review Committee. The determination is based upon the existing radiation levels and the expected time to perform a visual inspection in each snubber location as well as other factors associated with accessibility during plant operations (e.g., temperature, atmosphere, location etc.), and the recommendations of Regulatory Guides 8.8 and 8.10. The addition or deletion of any mechanical snubber is performed in accordance with Section 50.59 of 10 CFR Part 50.

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES	Pipe and equipment supports, in general, are not directly considered in designing the accident sequences for theoretical hazard evaluations. Therefore, the function of the snubbers is not essential in mitigating the consequences of a DBA or transient.
LCO	This ECG requires that all Class 1 snubbers utilized on safety related equipment be OPERABLE. Snubbers that are utilized on non-safety related equipment or systems, are also required to be OPERABLE if a failure could have an adverse effect on a safety related system or equipment. Individual snubbers may be removed from service for functional testing within the limits established in Technical Specification LCO 3.0.8 and this ECG without violating these requirements although Required Actions and Completion Times still apply.
APPLICABILITY	The operability of required snubbers is required in Modes 1, 2, 3, and 4. For Modes 5 and 6, the operability is limited to those snubbers located on systems which need to be Operable in Modes 5 and 6.

(continued)

BASES (continued)

ACTIONS

A.1

For conservatism, TS LCO 3.0.8 shall be entered immediately. If system effect is unknown at the time of discovery, the 12-hour action, associated with LCO 3.0.8.b, shall be entered pending determination that

1) the snubber does not affect more than one train or subsystem of a multiple train or subsystem supported system or

2) TS LCO 3.0.8 cannot be applied.

A.2

Risk associated with entry into LCO 3.0.8 resulting from snubber maintenance activities or emergent operability issue must be assessed and managed.

For Modes 1-4: On the affected system(s), implement compensatory measures, such as postings, rescheduling maintenance activities, and briefings of plant operators, as appropriate to enhance the availability of the affected equipment.

If the snubber affects only one train of a TS system or subsystem,

1) Exit TS LCO 3.0.8.b and enter TS LCO 3.0.8.a (72-hour action). The start time of TS LCO 3.0.8.a entry should be the time when TS LCO 3.0.8.b was entered and not when TS LCO 3.0.8.b is exited.

2) Ensure that at least one train of the AFW system is available (not necessarily OPERABLE).

3) Ensure no maintenance work is planned on the available AFW system until this TS LCO is exited.

If the snubber affects more than one train of a system or subsystem,

1) Comply with TS LCO 3.0.8.b.

2) Ensure one train of AFW system is available (not necessarily OPERABLE)

   OR

   An alternate means of core cooling such as feed and bleed using the steam generators, or firewater system using the steam generators, or aggressive secondary cooldown using the steam generators is available. (Reference 8)

3) Ensure no maintenance work is planned on the available AFW system until this TS LCO is exited.

For Modes 5, 6 or during core offload:

Review the outage safety schedule and ensure that a diverse means of performing the required safety function is available (not necessarily OPERABLE). For example, if a snubber is rendered Inoperable on the normal charging line, the ability to add borated water via the SI system would be a diverse means of performing the required safety function.

(continued)

BASES

ACTIONS (continued)

A.3

An engineering evaluation of the non-seismic function(s) (if any) of the inoperable snubber shall be performed immediately.

1) If the analysis concludes that the supported TS system is OPERABLE for its non-seismic load function, then TS LCO 3.0.8 may be applied to this inoperable snubber. In this case, TS LCO 3.0.8 remains applicable.

2) If the analysis concludes that the supported TS system is inoperable for its non-seismic function, then immediately declare the affected SSC inoperable, and exit TS LCO 3.0.8. The provisions of LCO 3.0.8 would no longer apply.

3) The following shall be documented for the purpose of making them available on a recoverable basis for NRC staff inspection:

   - The design function of the inoperable snubber (i.e., seismic vs. non-seismic).
   - Implementation of any applicable restrictions (such as one AFW train available, etc.) required in Required Action A.2.
   - The associated plant configuration (such as plant mode, power level, and any applicable Tech Spec Action, etc.)

A.4

Perform an Engineering evaluation per SR 99.1.5 on the attached component. The purpose of this engineering evaluation is to determine if the component to which the inoperable snubber is attached has been adversely affected by the inoperability of the snubber. This is to ensure that the component remains capable of meeting its design function.

B.1

If Required Action under Condition A and the associated completion time cannot be met, declare attached components or support system inoperable and follow the appropriate Technical Specification or ECG for that system.

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

Permanent or other exemptions from the surveillance program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life destructive testing was performed to qualify the snubber for the applicable design conditions at either the completion of its fabrication or at a subsequent date. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

Revision 3 to ECG 99.1 extended the frequency for SR 99.1.3 and 99.1.7 from 18 months to 24 months, to be consistent with 24 month fuel cycles. The bases for allowing this extension were 1) the extension was consistent with reference 7, and 2) a review of snubber operational, maintenance, and surveillance testing history has demonstrated that the snubbers are reliable and can be expected to perform their required function when tested on a 24 month interval.

SR 99.1.1 Visual Inspections

This surveillance comprises a visual inspection of the snubbers. The visual inspections are designed to detect obvious indications of inoperability of the snubbers.

The visual inspection frequency is based upon maintaining a constant level of snubber protection during an earthquake or severe transient. The method for determining the next interval for the visual inspection of the snubbers is provided based upon the number of unacceptable snubbers found during the previous inspection, the category size, and the previous inspection intervals per NRC Generic letter 90-09. As a result, the required inspection intervals vary inversely with the number of inoperable snubbers found during an inspection. A snubber is considered unacceptable if it fails to satisfy the acceptance criteria of the visual inspection. Any inspection whose results require a shorter inspection interval will override the previous schedule.

SR 99.1.2 Transient Event Inspection

If the plant has experienced an unexpected, potentially damaging snubber transient, a visual inspection must be performed on all snubbers attached to sections of systems that have experienced the transients as determined from a review of operational data. In addition to the visual inspection and satisfying the visual inspection acceptance criteria, the freedom-of-motion of the mechanical snubber(s) shall be verified using at least one of the following:

1) manually induced snubber movement; or

2) evaluation of in-place snubber piston setting; or

3) stroking the mechanical snubber through its full range of travel.

The 6 month time requirement for the post transient event inspection is based on industry practice.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 99.1.3 Functional Tests

To provide assurance of snubber functional reliability, one of three functional testing methods is used with the stated acceptance criteria:

1) Functionally test 10 percent of each type of snubber either in place or in a bench test For each snubber of a type that does not meet the functional test acceptance criteria, an additional sample equal to ½ the original sample or 5%, 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.(see SR 99.1.3.a), or

2) Functionally test a sample size and determine sample acceptance or rejection using Figure 99.1-1 (see SR 99.1.3.b), or

3) Functionally test a representative sample size and determine sample acceptance or rejection using the stated equation (see SR 99.1.3.c).

NOTE: Figure 99.1-1 was developed using "Wald's Sequential Probability Ratio Plan" as described in "Quality Control and Industrial Statistics" by Acheson J. Duncan.

SR 99.1.4 Functional Test Acceptance Criteria

Functional testing result shall be evaluated according to the acceptance criteria in this section. These acceptance criteria are comparable with those in ASME/ANSI OM, Part 4.

SR 99.1.5 Functional Test Failure Analysis

Each failure to meet the functional testing acceptance criteria shall have an engineering evaluation to determine the cause of failure.

This testing requirement shall be independent of the requirement stated in SR 99.1.3 for snubbers not meeting the functional test acceptance criteria. The DCPP approach to snubber failure analysis meets the intent of the requirements of ASME/ANSI OM, Part 4.

SR 99.1.6 Functional Testing of Repaired and Replaced Snubbers

Snubbers which have failed to meet either the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test results shall be tested to meet the functional test criteria before installation in the unit. Mechanical snubbers shall have met the acceptance criteria subsequent to their most recent service, and the freedom of motion test must have been performed within 12 months prior to being installed in the plant.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 99.1.7 Snubber Service Life Program

The service life of hydraulic and mechanical snubbers shall be monitored to ensure that the service life is not exceeded between surveillance inspections. It is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubber, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.) The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life. Critical parts shall be replaced so that the maximum service life will not be exceeded during a period when the snubber is required to be OPERABLE.

The parts replacements shall be documented and the documentation shall be retained in accordance with FSAR Section 17.17.1 (Reference 5).

The DCPP snubber Service Life Monitoring Program meets the intent of the requirements of subsection ISTD 6000 of the ASME OM Code and utilizes the service life monitoring methodology found in non-mandatory Appendix F of the ASME OM Code.

(continued)

BASES (continued)

REFERENCES

1. License Amendment Request 94-05, "Relocation of Selected 3/4.7 Technical Specifications in Accordance with NRC Final Policy Statement and NUREG-1431".
2. License Amendments 106 (Unit 1) and 105 (Unit 2), dated July 6, 1995.
3. License Amendment Request 91-02, "Revision of Snubber Visual Inspection Intervals and Corrective Action Technical Specifications per NRC Generic Letter 90-09".
4. License Amendments 66 (unit 1) and 65 (Unit 2), dated September 19, 1991.
5. FSAR Section 17.17.1, "DCPP Lifetime Records."
6. ASME/ANSI OM Part 4, OMa-1988 Addenda to the OM-1987 Edition.
7. License Amendments 185 (Unit 1) and 187 (Unit 2), dated March 7, 2006.
8. AR A0644804 AE 16.
9. TSTF-IG-05-03, "Implementation Guidance For TSTF-372, Revision 4, "Addition of LCO 3.0.8, Inoperability of Snubbers."
10. Response to NRC Request for Additional Information Regarding ASME Section XI Inservice Inspection Program Relief Request NDE-SBR (PG&E Letter DCL-07-027), dated March 8, 2007.
11. Safety Evaluation by the Office of Nuclear Reactor Regulation, Second 10-Year Interval Inservice Examination Program for Snubbers, Relief Request NDE-SBR, dated March 29, 2007.

To Be Determined
Effective Date