UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 9, 2017

Mr. Edward D. Halpin
Senior Vice President, Generation
and Chief Nuclear Officer
Pacific Gas and Electric Company
Diablo Canyon Power Plant
P.O. Box 56, Mail Code 104/6
Avila Beach, CA 93424

SUBJECT: DIABLO CANYON POWER PLANT, UNIT 1 – RELIEF REQUEST NDE-RCS-SE-1R20 TO ALLOW USE OF ALTERNATE DEPTH SIZING CRITERIA FOR THE FOURTH INSERVICE INSPECTION INTERVAL (CAC NO. MF8454)

Dear Mr. Halpin:

By letter dated October 10, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16284A001), as supplemented by letters dated November 10, 2016, and January 18, 2017 (ADAMS Accession Nos. ML16315A335 and ML17018A132, respectively), Pacific Gas & Electric Company (the licensee) submitted Relief Request (RR) NDE-RCS-SE-1R20 for relief from the requirements set forth in American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (ASME Code), Section XI, for the Diablo Canyon Power Plant (DCPP), Unit 1, reactor vessel nozzle to safe-end and safe-end to piping welds. Specifically, the relief is requested from the root mean square error depth sizing accuracy requirement specified by Appendix VIII, Supplement 14, of the ASME Code, Section XI for performance demonstration of the ultrasonic testing. Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), paragraph 50.55a(g)(5)(iii)[1], the licensee requested relief on the basis that meeting the Code requirement would be impractical for the facility.

The U.S. Nuclear Regulatory Commission (NRC) staff reviewed the licensee's submittal and determined that it is impractical for the licensee to comply with the ASME Code, Section XI, Appendix VIII, qualification requirement. The NRC staff also determined that the proposed alternative provides reasonable assurance of structural integrity and leak tightness of the subject welds. Granting relief pursuant to 10 CFR 50.55a(g)(6)(i) is authorized by law and will not endanger life or property or the common defense and security, and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility. Accordingly, the NRC staff concludes, as set forth in the enclosed safety evaluation, that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(g)(5)(iii). Therefore, the NRC staff grants this RR, NDE-RCS-SE-1R20, at DCPP, Unit 1, for the fourth 10-year inservice inspection interval which started on May 7, 2015, and is scheduled to end on November 2, 2024.

[1] The licensee requested relief pursuant to 10 CFR 50.55a(g)(5)(iv) in error. Based on discussions with the licensee, relief should have been requested pursuant to 10 CFR 50.55a(g)(5)(iii).

All other ASME Code, Section XI requirements for which relief was not specifically requested and approved in the subject request for relief remain applicable, including third-party review by the Authorized Nuclear Inservice Inspector.

If you have any questions, please contact the Senior Project Manager, Balwant K. Singal, at 301-415-3016 or via e-mail at Balwant.Singal@nrc.gov.

Sincerely,

Robert J. Pascarelli, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-275

Enclosure:
Safety Evaluation

cc w/encl: Distribution via Listserv

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELIEF REQUEST NDE-RCS-SE-1R20

FOR THE FOURTH INSERVICE INSPECTION PROGRAM

PACIFIC GAS AND ELECTRIC COMPANY

DIABLO CANYON POWER PLANT, UNIT 1

DOCKET NOS. 50-275

1.0 INTRODUCTION

By letter dated October 10, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16284A001), as supplemented by letters dated November 10, 2016, and January 18, 2017 (ADAMS Accession Nos. ML16315A335 and ML17018A132, respectively), Pacific Gas and Electric Company (the licensee) submitted a Relief Request (RR) NDE-RCS-SE-1R20 for relief from the requirements set forth in American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (ASME Code), Section XI "Rules for Inservice Inspection of Nuclear Power Plant Components," for the Diablo Canyon Power Plant (DCPP), Unit 1, reactor vessel nozzle to safe-end and safe-end to piping welds.

Specifically, the relief is requested from the root mean square error (RMSE) depth sizing accuracy requirement specified by Appendix VIII, Supplement 14, "Qualification Requirements for Coordinated Implementation of Supplements 10, 2, and 3 for Piping Examinations Performed from the Inside Surface," of the ASME Code, Section XI for performance demonstration of the ultrasonic testing (UT). Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), paragraph 50.55a(g)(5)(iii)[2], "ISI [Inservice Inspection] program update: Notification of impractical ISI Code requirements," the licensee requested relief on the basis that meeting the Code requirement would be impractical for the facility.

2.0 REGULATORY EVALUATION

Section 50.55a(g)(4), "Inservice inspection standards requirement for operating plants," of 10 CFR 50.55a, states, in part, that throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) that are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements, except design and access provisions and preservice examination requirements, set forth in Section XI of editions and addenda of the ASME Code that become effective subsequent to editions specified in paragraphs (g)(2) and (3) of 10 CFR 50.55a and that are incorporated by reference in

[2] The licensee requested relief pursuant to 10 CFR 50.55a(g)(5)(iv) in error. Based on discussions with the licensee, relief should have been requested pursuant to 10 CFR 50.55a(g)(5)iii).

paragraph (a)(1)(ii) of 10 CFR 50.55a, to the extent practical within the limitations of design, geometry, and materials of construction of the components.

Section 50.55a(g)(4)(ii), "Applicable ISI Code: Successive 120-month intervals," of 10 CFR 50.55a states, in part, that inservice examination of components and system pressure tests conducted during successive 120-month inspection intervals must comply with the requirements of the latest edition and addenda of the Code incorporated by reference in paragraph (a) of 10 CFR 50.55a 12 months before the start of the 120-month inspection interval (or the optional ASME Code Cases listed in NRC Regulatory Guide (RG) 1.147, Revision 17, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1" (ADAMS Accession No. ML13339A689), when using Section XI, that are incorporated by reference in paragraph (a)(3)(ii) of 10 CFR 50.55a), subject to the conditions listed in paragraph (b) of 10 CFR 50.55a. However, a licensee whose ISI interval commences during the 12- through 18-month period after July 21, 2011, may delay the update of its Appendix VIII program by up to 18 months after July 21, 2011.

Section 50.55a(g)(5)(iii) of 10 CFR, states:

> If the licensee has determined that conformance with a [ASME] [C]ode requirement is impractical for its facility the licensee must notify the NRC and submit, as specified in § 50.4, information to support the determinations. Determinations of impracticality in accordance with this section [10 CFR 50.55a] must be based on the demonstrated limitations experienced when attempting to comply with the Code requirements during the inservice inspection interval for which the request is being submitted. Requests for relief made in accordance with this section [10 CFR 50.55a] must be submitted to the NRC no later than 12 months after the expiration of the initial or subsequent 120-month inspection interval for which relief is sought.

Section 50.55a(g)(6)(i), Impractical ISI requirements: Granting of relief," of 10 CFR 50.55a, states:

> The Commission will evaluate determinations under paragraph (g)(5) of this section [10 CFR 50.55a] that [ASME] [C]ode requirements are impractical. The Commission may grant such relief and may impose such alternative requirements as it determines are authorized by law, will not endanger life or property or the common defense and security, and are otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

Section 50.55a(g)(6)(ii)(F), Augmented ISI requirements: Examination requirements for Class 1 piping and nozzle dissimilar-metal butt welds," of 10 CFR, states:

> (1) Licensees of existing, operating pressurized-water reactors [PWRs] as of July 21, 2011, must implement the requirements of ASME Code Case N-770-1 ["Alternative Examination Requirements and Acceptance Standards for Class 1 PWR Piping and Vessel Nozzle Butt Welds Fabricated With UNS N06082 or UNS W86182 Weld Filler Material with or without Application of Listed Mitigation Activities Section XI, Division 1,"] subject to the conditions specified in paragraphs (g)(6)(ii)(F)(2) through (10) of this section [10 CFR 50.55a], by the first refueling outage after August 22, 2011.

Based on the above, and subject to the following technical evaluation, the NRC staff finds that regulatory authority exists for the licensee to request and the NRC to authorize the alternative requested by the licensee.

3.0 TECHNICAL EVALUATION

3.1 Background

By letter dated January 3, 2014 (ADAMS Accession No. ML13350A151), the NRC staff granted a similar RR for the third 10-year ISI interval of DCPP, Unit 1. The third 10-year ISI interval of Unit 1 ended on May 6, 2015.

By letter dated January 16, 2013 (ADAMS Accession No. ML12353A130), the NRC staff approved implementation of the risk-informed ISI (RI-ISI) program for the Class 1 piping welds (Examination Category B-F and B-J) and the Class 2 piping welds (Examination Category C-F-I and C-F-2) in the third 10-year ISI interval of DCPP, Units 1 and 2. The third 10-year ISI interval ended on May 6, 2015, for Unit 1, and on March 12, 2016, for Unit 2. The licensee developed the RI-ISI program in accordance with the NRC-approved methodology of the Electric Power Research Institute (EPRI) Topical Report (TR)-112657, Revision B-A, "Revised Risk-Informed Inservice Inspection Evaluation Procedure" (ADAMS Accession No. ML013470102).

3.2 Component Affected

The affected components are ASME Code Class 1 piping welds in the reactor coolant system, which include:

- Dissimilar metal (DM) welds (i.e., nickel based welds)
    - Four reactor pressure vessel (RPV) outlet (hot leg) nozzle to safe-end DM butt welds with inner diameter (ID) of 29 inches and wall thickness of 2.5 inches that the licensee classified as Inspection Item A-2 in accordance with ASME Code Case N-770-1, Table 1, are:

      WIB-RC-1-1 (SE) Loop 1
      WIB-RC-2-1 (SE) Loop 2
      WIB-RC-3-1 (SE) Loop 3
      WIB-RC-4-1 (SE) Loop 4

    - Four RPV inlet (cold leg) nozzle to safe-end DM butt welds with ID of 27.5 inches and wall thickness of 2.38 inches that the licensee classified as Inspection Item B in accordance with ASME Code Case N-770-1, Table 1, are:

      WIB-RC-1-18 (SE) Loop 1
      WIB-RC-2-20 (SE) Loop 2
      WIB-RC-3-18 (SE) Loop 3
      WIB-RC-4-18 (SE) Loop 4

      The licensee stated that the materials of construction of the above components and welds (both hot and cold legs) are as follows (Reference: Figure 1 of the

Enclosure to the letter dated November 10, 2016): carbon steel nozzles (SA-508) welded to stainless steel safe-ends (SA-182 Type 316) by Inconel 182 weld metal. The ID surfaces of the nozzles are stainless steel clad.

- Similar metal welds (i.e., austenitic stainless steel welds)

  - Four RPV outlet safe-end to pipe butt welds with ID of 29 inches and wall thickness of 2.5 inches that the licensee classified as Examination Category R-A, Item Number R1.20 (elements not subject to a damage mechanism), in accordance with EPRI TR-112657, Revision B-A, (Table 1 of ASME Code Case N-578-1) are:

    WIB-RC-1-1 Loop 1
    WIB-RC-2-1 Loop 2
    WIB-RC-3-1 Loop 3
    WIB-RC-4-1 Loop 4

    The licensee stated that the materials of construction of the above components and welds are as follows (Reference: Figure 1 of the Enclosure to the letter dated November 10, 2016): stainless steel safe-ends (SA-182 Type 316) welded to stainless steel pipes (A-376 Type 316) by 308 austenitic stainless steel weld metal.

  - Four RPV inlet safe-end to elbow butt welds with ID of 27.5 inches and wall thickness of 2.38 inches that the licensee classified as Examination Category R-A, Item Number R1.20 (elements not subject to a damage mechanism), in accordance with EPRI TR-112657, Revision B-A, (Table 1 of ASME Code Case N-578-1).

    WIB-RC-1-18 Loop 1
    WIB-RC-2-20 Loop 2
    WIB-RC-3-18 Loop 3
    WIB-RC-4-18 Loop 4

    The licensee stated that the materials of construction of the above components and welds are as follows (Reference: Figure 1 of Enclosure to letter dated November 10, 2016): stainless steel safe-ends (SA-182 Type 316) welded to cast austenitic stainless steel (CASS) elbows (A-351 CF8M) by 308 austenitic stainless steel weld metal.

It is required that the UT procedures demonstration, equipment, and personnel qualification meet applicable supplements of Appendix VIII of ASME Code, Section XI, prior to utilizing UT for the examination of the above RPV hot and cold leg nozzle to safe-end DM butt welds and nozzle safe end to pipe, or elbow, austenitic butt welds.

3.3 Applicable Code Edition and Addenda

The code of record for the fourth 10-year ISI interval is the 2007 Edition through 2008 Addenda of the ASME Code.

3.4 Duration of Relief Request

The licensee submitted this RR for the fourth 10-year ISI interval, which started on May 7, 2015, and is scheduled to end on November 2, 2024.

3.5 ASME Code Requirement

Requirements for the ISI of DM welds

The ASME Code ISI requirements applicable to the DM welds in this RR originate in Table IWB-2500-1 of ASME Code, Section XI. However, the regulations under 10 CFR 50.55a(g)(6)(ii)(F) mandate augmented inspection in accordance with ASME Code Case N-770-1 with conditions, for the DM welds that contain Alloy 82/182. ASME Code Case N-770-1 (Table 1), Inspection Items A-2 and B, require the RPV hot and cold leg nozzle to safe-end DM butt welds to be volumetrically examined by the UT. Footnote No. 4 of Code Case N-770-1 (Table 1) requires that UT procedure demonstration and personnel qualification meet applicable supplements of ASME Code, Section XI, Appendix VIII.

Requirements for the ISI of similar metal welds

The ASME Code ISI requirements applicable to the similar metal welds in this RR originate in Table IWB-2500-1 of ASME Code, Section XI. Alternative to the ASME Code requirements is the DCPP's RI-ISI program that was developed by the licensee in accordance with the NRC-approved methodology in EPRI TR-112657, Revision B-A, and that was authorized by the NRC staff in a safety evaluation dated January 16, 2013. In both the ASME Code requirements and the NRC safety evaluation, it is required that the austenitic welds under this request be volumetrically examined by the UT, and that the UT procedures and personnel be demonstrated and qualified in accordance with applicable supplements of ASME Code, Section XI, Appendix VIII.

For the CASS elbow side of the welds in this RR, it is required that the UT meets Supplement 1 of ASME Code Section XI Appendix III.

Applicable Supplements of ASME Code, Section XI, Appendix VIII

For this RR, applicable supplements of Appendix VIII are: Supplement 10 "Qualification Requirements for Dissimilar Metal Piping Welds," and Supplement 14 "Qualification Requirements for Coordinated Implementation of Supplements 10, 2, and 3 for Piping Examinations Performed from the Inside Surface."

In accordance with Supplements 10 and 14, it is required that the UT procedures, equipment, and personnel be qualified for flaw depth sizing, and that the flaw depths estimated by the UT as compared with the true depths, not to exceed 0.125-inch RMSE.

3.6 Impracticality of Compliance and Basis for Relief

The licensee stated that, although the vendors contracted by utilities have qualified for flaw detection and length sizing in accordance with Supplements 10 and 14 requirements for inspections performed from ID surface of the weld, the UT qualification for flaw depth sizing has not yet been successful to meet the required 0.125-inch RMSE. To date, no vendor has been capable of meeting the 0.125-inch RMSE criterion for flaw depth sizing from the ID surface.

Therefore, relief from the Appendix VIII qualification requirement (i.e., 0.125-inch RMSE for the ID depth sizing of Supplements 10 and 14) is sought due to impracticality to meet the required RMSE criteria.

There are procedures and personnel qualified in accordance with Appendix VIII to examine the welds and depth-size detected flaws from the outer diameter (OD) surface using the UT. For the welds in this RR, the licensee described the difficulties associated with inspecting them from the OD. The licensee stated that while the OD surface of the welds in this RR could be accessed (i.e., through removable covers in the refueling cavity floor that lead to an annulus that surrounds the reactor vessel), there would be a significant radiological dose associated with inspecting them from the OD. The licensee estimated that conducting the UT from the OD would result in total personnel radiation exposure in excess of 5.6 roentgen equivalent man (rem) using automated UT and 6.8 rem using manual UT. Attempts to reduce dose levels by shielding are impractical due to the essentially omnidirectional source from the reactor and coolant piping.

In addition, the licensee stated that the cold leg safe-end to CASS elbow welds are not suitable for the OD examinations due to configuration, and are also limited to a single sided scanning only.

3.7 Proposed Alternative

The licensee proposed an alternative to the ID flaw depth sizing RMSE criteria in Supplements 10 and 14 of Appendix VIII. The licensee proposed that in the event a flaw is detected in the welds covered by this RR and requires depth sizing, the licensee will add the difference between the required RMSE of 0.125 inch and the vendor demonstrated RMSE value to the measured depth of a detected flaw. In the letter dated January 18, 2017, the licensee provided the following additional information.

- The licensee stated that its contracted vendor's demonstrated RMSE for the DM weld examination is 0.189 inch. Therefore, the licensee will add 0.064 inch (i.e., 0.189 - 0.125 = 0.064) to the measured depth of a detected flaw.

- The licensee stated that its contracted vendor's demonstrated RMSE for the austenitic stainless steel weld examination is 0.245 inch. Therefore, the licensee will add 0.12 inch (i.e., 0.245 - 0.125 = 0.12) to the measured depth of a detected flaw.

The licensee proposed that all ID examinations will be augmented with the ID surface eddy current testing (ET).

The licensee proposed that the Appendix VIII qualified UT will also be used to inspect the CASS side of the cold leg elbow to safe-end welds in lieu of the requirements in Supplement 1 of Appendix III to ASME Code, Section XI.

In addition, the licensee proposed the following.

- For flaws detected in the DM weld and measured by the UT as less than 50 percent through-wall depth, adding the proposed correction factor (0.189 - 0.125 = 0.064) to the depth of any flaw found by the UT prior to flaw evaluation for flaws less than 50 percent through wall satisfactorily reduces the effect of the increased sizing error associated with not meeting the ASME Code required 0.125-inch RMSE.

- For flaws detected in the austenitic stainless steel weld and measured by the UT as less than 50 percent through wall depth, adding the proposed correction factor (0.245 - 0.125 = 0.12) to the depth of any flaw found by the UT prior to flaw evaluation for flaws less than 50 percent through wall satisfactorily reduces the effect of the increased sizing error associated with not meeting the ASME Code required 0.125-inch RMSE.

- For flaws detected (in DM and/or austenitic weld) and measured by the UT as 50 percent through wall depth or greater, and to remain in service without mitigation or repair, the licensee will perform a flaw evaluation and submit for NRC review and approval prior to reactor startup. The flaw evaluations shall include the inner profile of the weld, pipe and nozzle in the region at and surrounding the flaw, an estimate of the percentage of potential surface areas with UT probe lift-off, and information on mechanism, which caused the flaw.

3.8 NRC Staff Evaluation

The NRC staff has evaluated this RR pursuant to 10 CFR 50.55a(g)(6)(i). The NRC staff's evaluation focused on: (1) whether a technical justification exists to support the determination that the ASME Code requirement is impractical; (2) that imposition of the Code required RMSE criteria would result in a burden to the licensee; and (3) that the licensee's proposed alternative (accepting a correction factor in this case) provides reasonable assurance of structural integrity and leak tightness of the subject welds. The NRC staff determined that if the above specified criteria are met, then the requirements of 10 CFR 50.55a(g)(6)(i) (i.e., granting the requested relief will not "endanger life or property or the common defense and security, and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility"), will also be met.

Impracticality of compliance

The NRC staff notes that continuous efforts have been made by the industry to qualify the inspection vendors' UT procedures and personnel for depth sizing examinations performed from the ID surface of both the DM (nickel based) butt welds and the similar metal (austenitic stainless steel) butt welds in piping since 2002. To date, there has not been any inspection vendor capable of meeting the qualification requirement of the RMSE of not greater than 0.125 inch established by the ASME Code (Supplements 10 and 14, Appendix VIII, Section XI) for the UT procedures from the ID surface. Even enhancements in examination such as use of commercially available advanced UT systems, advances in procedure, transducer design, electronics, and software have not resulted in the desired improvements in performance to meet the required criteria. Therefore, the NRC staff concluded that obtaining 0.125-inch RMSE for the ID depth sizing examinations qualification limit, as is required by the ASME Code, Section XI, Supplements 10 and 14, Appendix VIII, is impractical.

Burden of compliance

The NRC staff notes that utilities, inspection vendors, and industry have made every effort including enhancements and repeated attempts to meet the ASME Code required ID depth sizing RMSE criteria (0.125-inch RMSE), but, all efforts were unsuccessful. The NRC staff found that the industry's efforts have shown the impracticality of obtaining the required RMSE, given the challenges of weld geometry, rough ID surfaces, multiple materials, and

microstructural anisotropies. Therefore, imposing the ASME Code requirements could result a burden upon the facility.

Safety significance of correction factor

In July 2012, the NRC staff reviewed the proprietary Performance Demonstration Initiative (PDI) program (administered by the EPRI data) used in blind tests. This review was conducted to verify the information and analysis presented by industry in the public meeting held between the NRC, PDI, EPRI, and industry on March 16, 2012 (ADAMS Accession No. ML12097A071), and June 18 and 19, 2012 (ADAMS Accession Nos. ML12173A517 and ML12173A522). Based on this review, the NRC staff determined that:

i. Adding the industry proposed correction factor (i.e., procedure RMSE - 0.125 inch) to the depths of any flaw found by the UT prior to flaw evaluation for flaws less than 50 percent through wall, satisfactorily reduces the effect of the increased sizing error associated with not meeting the ASME Code required 0.125-inch RMSE.

   In this RR, the procedure RMSE (contracted vendor's demonstrated RMSE) for the DM weld examination is 0.189 inch. Therefore, a correction factor of 0.064 inch (i.e., 0.189 - 0.125 = 0.064) will be added to the measured depth of a detected flaw. Should the licensee's vendor demonstrate an improved depth sizing RMSE prior to the performance of examinations of the subject DM welds, the improved RMSE will be substituted for 0.189-inch RMSE.

   Also, in this RR, the procedure RMSE (contracted vendor's demonstrated RMSE) for the austenitic stainless steel weld examination is 0.245 inch. Therefore, a correction factor of 0.12 inch (i.e., 0.245 - 0.125 = 0.12) will be added to the measured depth of a detected flaw. Should the licensee's vendor demonstrate an improved depth sizing RMSE prior to the performance of examinations of the subject austenitic welds, the improved RMSE will be substituted for 0.245-inch RMSE.

ii. If any cracks are detected and measured by the UT as 50 percent through wall depth or greater and are to remain in service without mitigation or repair, a flaw evaluation shall be performed and submitted for NRC review and approval prior to reactor startup. Requiring NRC approval prior to restart when a flaw with a depth of 50 percent through wall or greater is discovered and is to be remain in service without mitigation or repair addresses the NRC staff's concern regarding the possibility of large undersizing errors in deep flaws.

The flaw evaluations shall include:

a. The inner profile of the weld, pipe, and nozzle in the region at and surrounding the flaw,

b. An estimate of the percentage of potential surface areas with UT probe lift-off, and

c. Information on the mechanism, which caused the crack.

All UT examinations from the ID will be augmented with ID surface ET to determine whether or not the flaws detected by UT are surface connected.

Therefore, the NRC staff finds that adding the proposed correction factor to the depth of a detected flaw for a flaw measured less than 50 percent through wall depth, obtaining NRC review and approval prior to startup for a flaw measured as 50 percent through wall depth or greater, and augmenting all UT with the ET, provide reasonable assurance of structural integrity and leak tightness of the subject welds.

4.0 CONCLUSION

The NRC staff determines that it is impractical for the licensee to comply with the ASME Code, Section XI, Appendix VIII, qualification requirement (i.e., ID depth sizing 0.125-inch RMSE). The NRC staff also determines that the proposed alternative provides reasonable assurance of structural integrity and leak tightness of the subject welds. Granting relief pursuant to 10 CFR 50.55a(g)(6)(i) is authorized by law and will not endanger life or property or the common defense and security, and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility. Accordingly, the NRC staff concludes, as set forth above, that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(g)(5)(iii). Therefore, the NRC staff grants this RR, NDE-RCS-SE-1R20, at DCPP, Unit 1, for the fourth 10-year ISI interval which started on May 7, 2015, and is scheduled to end on November 2, 2024.

All other ASME Code, Section XI, requirements for which relief was not specifically requested and approved herein by the NRC staff remain applicable, including the third party review by the Authorized Nuclear In service Inspector.

Principal Contributor: Ali Rezai, NRR/DE/EPNB

Date: March 9, 2017

SUBJECT: DIABLO CANYON POWER PLANT, UNIT NO. 1 – RELIEF REQUEST NDE-RCS-SE-1R20 TO ALLOW USE OF ALTERNATE DEPTH SIZING CRITERIA FOR THE FOURTH INSERVICE INSPECTION INTERVAL (CAC NO. MF8454) DATED MARCH 9, 2017

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