



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
612 EAST LAMAR BLVD., SUITE 400  
ARLINGTON, TEXAS 76011-4125

September 1, 2010

John T. Conway  
Senior Vice President and  
Chief Nuclear Officer  
Pacific Gas and Electric Company  
77 Beale Street, B32  
San Francisco, CA

SUBJECT: DIABLO CANYON POWER PLANT UNIT 1 - NOTIFICATION OF INSPECTION  
(NRC INTEGRATED INSPECTION REPORT 05000275/2010005) AND  
REQUEST FOR INFORMATION

Dear Mr. Conway:

From October 4 through 22, 2010, reactor inspectors from the U.S. Nuclear Regulatory Commission's (NRC) Region IV office will perform the baseline inservice inspection (ISI) at the Diablo Canyon Power Plant Unit 1, using NRC Inspection Procedure 71111.08, "Inservice Inspection Activities," TI 2515/172, "Reactor Coolant System Dissimilar Metal Butt Welds," and NRC Inspection Procedure 71007, "Reactor Vessel Head Replacement Inspection." Experience has shown that this inspection is a resource intensive inspection both for the NRC inspectors and your staff. In order to minimize the impact to your onsite resources and to ensure a productive inspection, we have enclosed a request for documents needed for this inspection. These documents have been divided into two groups. The first group, due by September 24, 2010, (Section A of the enclosure) identifies information to be provided prior to the inspection to ensure that the inspectors are adequately prepared. The second group (Section B of the enclosure) identifies the information the inspectors will need upon arrival at the site. It is important that all of these documents are up to date and complete in order to minimize the number of additional documents requested during the preparation and/or the onsite portions of the inspection.

We have discussed the schedule for these inspection activities with your staff and understand that our regulatory contact for this inspection will be Mr. M. McCoy of your licensing organization. Our inspection dates are subject to change based on your updated schedule of outage activities. If there are any questions about this inspection or the material requested, please contact the lead inspector Ronald A. Kopriva at (817) 860-8104 ([ron.kopriva@nrc.gov](mailto:ron.kopriva@nrc.gov)) or Isaac A. Anchondo at (817) 860-8152 ([Isaac.anchondo@nrc.gov](mailto:Isaac.anchondo@nrc.gov)).

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget,

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Sincerely,

**/RA/**

Gregory E. Werner, Chief  
Plant Support Branch 2  
Division of Reactor Safety

Docket: 50-275  
License: DPR-80

Enclosure:  
Inservice Inspection Document Request

cc:  
Sierra Club San Lucia Chapter  
ATTN: Andrew Christie  
P.O. Box 15755  
San Luis Obispo, CA 93406

Jane Swanson  
San Luis Obispo  
Mothers for Peace  
P.O. Box 3608  
San Luis Obispo, CA 93403

James Grant, County Administrative Officer  
San Luis Obispo County Board of  
Supervisors  
1055 Monterey Street, Suite D430  
San Luis Obispo, CA 93408

Pacific Gas and Electric Company - 3 -

Truman Burns\Robert Kinosian  
California Public Utilities Commission  
505 Van Ness Ave., Rm. 4102  
San Francisco, CA 94102

Jennifer Post, Esq.  
Pacific Gas & Electric Co.  
77 Beale Street, Room 2496  
Mail Code B30A  
San Francisco, CA 94120

Gary Butner  
Chief, Radiologic Health Branch  
California Department of Public Health 3  
P.O. Box 997414 (MS 7610)  
Sacramento, CA 95899-7414

The City Editor of  
The Tribune  
3825 South Higuera Street  
P.O. Box 112  
San Luis Obispo, CA 93406-0112

James D. Boyd, Commissioner  
California Energy Commission  
1516 Ninth Street (MS 31)  
Sacramento, CA 95814

James R. Becker, Site Vice President  
Pacific Gas and Electric Company  
Diablo Canyon Nuclear Plant  
P.O. Box 56, Mail Station 104/6/601  
Avila Beach, CA 93424

Jennifer Tang  
Field Representative  
United States Senator Barbara Boxer  
1700 Montgomery Street, Suite 240  
San Francisco, CA 94111

Chief, Technological Hazards Branch  
FEMA Region IX  
1111 Broadway, Suite 1200  
Oakland, CA 94607-4052

## Electronic distribution by RIV:

Regional Administrator (Elmo.Collins@nrc.gov)  
 Deputy Regional Administrator (Chuck.Casto@nrc.gov)  
 DRP Acting Director (Anton.Vegel@nrc.gov)  
 DRP Acting Deputy Director (Troy.Pruett@nrc.gov)  
 DRS Director (Roy.Caniano@nrc.gov)  
 DRS Acting Deputy Director (Jeff.Clark@nrc.gov)  
 Senior Resident Inspector (Michael.Peck@nrc.gov)  
 Resident Inspector (Tony.Brown@nrc.gov)  
 Branch Chief, DRP/B (Geoffrey.Miller@nrc.gov)  
 Senior Project Engineer, DRP/B (Rick.Deese@nrc.gov)  
 Project Engineer, DRP/B (Greg.Tutak@nrc.gov)  
 Project Engineer, DRP/B (Nestor.Makris@nrc.gov)  
 Reactor Inspector, DRP/B (Christie.Denissen@nrc.gov)  
 DC Administrative Assistant (Agnes.Chan@nrc.gov)  
 Public Affairs Officer (Victor.Dricks@nrc.gov)  
 Public Affairs Officer (Lara.Uselding@nrc.gov)  
 Project Manager (Alan.Wang@nrc.gov)  
 Branch Chief, DRS/TSB (Michael.Hay@nrc.gov)  
 RITS Coordinator (Marisa.Herrera@nrc.gov)  
 Regional Counsel (Karla.Fuller@nrc.gov)  
 Congressional Affairs Officer (Jenny.Weil@nrc.gov)  
 OEMail Resource  
 ROPreports  
 DRS/TSB STA (Dale.Powers@nrc.gov)  
 OEDO RIV Coordinator (Margie.Kotzalas@nrc.gov)  
 Executive Technical Assistant (John.Giessner@nrc.gov)

R: \REACTORS\DC\ 2010005 Unit 1 ISI RFI-RAK

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R. Kopriva	T. Farnholtz		
/RA/	/RA/		
8/30/10	9/1/10		

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## INSERVICE INSPECTION DOCUMENT REQUEST

Inspection Dates: October 4 through 22, 2010

Inspection Procedures: IP 71111.08 "Inservice Inspection (ISI) Activities"  
IP 71007 "Reactor Head Replacement Inspection"  
TI 2515/172 "Reactor Coolant System Dissimilar Metal Butt Welds"

Inspectors: Ronald A. Kopriva, Senior Reactor Inspector (Lead Inspector - ISI)  
Isaac A. Anchondo, Reactor Inspector

### A. Information Requested for the In-Office Preparation Week

The following information should be sent to the Region IV office in hard copy or electronic format (ims.certrec.com preferred), in care of Ronald A. Kopriva by September 24, 2010, to facilitate the selection of specific items that will be reviewed during the onsite inspection week. The inspectors will select specific items from the information requested below and then request from your staff additional documents needed during the onsite inspection week (Section B of this enclosure). We ask that the specific items selected from the lists be available and ready for review on the first day of inspection. Please provide requested documentation electronically if possible. If requested documents are large and only hard copy formats are available, please inform the inspectors, and provide subject documentation during the first day of the onsite inspection. If you have any questions regarding this information request, please call the inspectors as soon as possible.

#### A.1 ISI / Welding Programs and Schedule Information

a) A detailed schedule (including preliminary dates) of:

- i) Nondestructive examinations planned for Class 1 & 2 systems and containment, performed as part of your ASME, Section XI, risk informed (if applicable), and augmented inservice inspection programs during the upcoming outage

Provide a status summary of the nondestructive examination inspection activities vs. the required inspection period percentages for this interval by category per ASME, Section XI, IWX-2400. *\*Do not provide separately if other documentation requested contains this information*

- ii) Reactor pressure vessel head examinations planned for the upcoming outage
- iii) Examinations planned for Alloy 82/182/600 components that are not included in the Section XI scope (If applicable)

- iv) Examinations planned as part of your boric acid corrosion control program (Mode 3 walkdowns, bolted connection walkdowns, etc.)
- v) Welding activities that are scheduled to be completed during the upcoming outage (ASME, Class 1, 2, or 3 structures, systems, or components)
- b) A copy of ASME, Section XI, code relief requests and associated NRC safety evaluations applicable to the examinations identified above.
- c) A list of nondestructive examination reports (ultrasonic, radiography, magnetic particle, dye penetrate, Visual VT-1, VT-2, and VT-3), which have identified relevant conditions on Code Class 1 & 2 systems since the beginning of the last refueling outage. This should include the previous Section XI pressure test(s) conducted during start up and any evaluations associated with the results of the pressure tests. Also, include in the list the nondestructive examination reports with relevant conditions in the reactor pressure vessel head penetration nozzles that have been accepted for continued service. The list of nondestructive examination reports should include a brief description of the structures, systems, or components where the relevant condition was identified.
- d) A list with a brief description (e.g., system, material, pipe size, weld number, and nondestructive examinations performed) of the welds in Code Class 1 and 2 systems which have been fabricated due to component repair/replacement activities since the beginning of the last refueling outage or are planned to be fabricated this refueling outage.
- e) If reactor vessel weld examinations required by the ASME Code are scheduled to occur during the upcoming outage, provide a detailed description of the welds to be examined and the extent of the planned examination. Please also provide reference numbers for applicable procedures that will be used to conduct these examinations.
- f) Copy of any 10 CFR Part 21 reports applicable to your structures, systems, or components within the scope of Section XI of the ASME Code that have been identified since the beginning of the last refueling outage.
- g) A list of any temporary noncode repairs in service (e.g., pinhole leaks).
- h) Please provide copies of the most recent self-assessments for the inservice inspection, welding, and Alloy 600 programs.

A.2 New Reactor Pressure Vessel Head (If not previously provided per Inspection Procedure 71007)

- a) Updated schedule of all manufacturing and installation activities.

- b) A list of vessel welds and attachment welds on the new reactor vessel head.
- c) A list of the standards and/or requirements that will be used to evaluate indications identified during nondestructive examination of the new reactor vessel head (flaw indications).

#### A.3 Boric Acid Corrosion Control Program

- a) Copy of the procedures that govern the scope, equipment, and implementation of the inspections required to identify boric acid leakage and the procedures for boric acid leakage/corrosion evaluation.
- b) Please provide a list of leaks (including Code class of the components) that have been identified since the last refueling outage and associated corrective action documentation. If during the last cycle, the unit was shutdown, please provide documentation of containment walkdown inspections performed as part of the boric acid corrosion control program.
- c) Please provide a copy of the most recent self-assessment performed for the boric acid corrosion control program.

#### A.4 Steam Generator Tube Inspections

- a) A detailed schedule of:
  - i) Steam generator tube inspection, data analyses, and repair activities for the upcoming outage (If occurring)
  - ii) Steam generator secondary side inspection activities for the upcoming outage. (If occurring)
- b) Please provide a copy of your steam generator inservice inspection program and plan. Please include a copy of the operational assessment from the last outage and a copy of the following documents as they become available:
  - i) Degradation assessment
  - ii) Condition monitoring assessment
- c) If you are planning on modifying your technical specifications such that they are consistent with Technical Specification Task Force Traveler TSTF-449, "Steam Generator Tube Integrity," please provide copies of your correspondence with the NRC regarding deviations from the standard technical specifications.
- d) Copy of steam generator history documentation given to vendors performing Eddy Current testing of the steam generators during the upcoming outage.
- e) Copy of steam generator Eddy Current data analyst guidelines and site validated Eddy Current technique specification sheets. Additionally, please provide a copy

of EPRI, Appendix H, examination technique specification sheets qualification records.

- f) Identify and quantify any steam generator tube leakage experienced during the previous operating cycle. Also provide documentation identifying which steam generator was leaking and corrective actions completed or planned for this condition (If applicable).
- g) Provide past history of the condition and issues pertaining to the secondary side of the steam generators (including items such as loose parts, fouling, top of tube sheet condition, crud removal amounts, etc.).
- h) Please provide copies of your most recent self-assessments of the steam generator monitoring, loose parts monitoring, and secondary side water chemistry control programs.
- i) Please also indicate where the primary, secondary, and resolution analyses are scheduled to take place.
- j) Please provide a summary of the scope of the steam generator tube examinations, including examination methods such as bobbin, rotating pancake, or plus point, and the percentage of tubes to be examined. *\*Do not provide these documents separately if already included in other information requested.*

A.5 Materials Reliability Program (MRP-139): Primary System Piping Butt Weld Inspection and Evaluation Guideline Activities

- a) A list with verification that the baseline inspections of all applicable dissimilar metal butt welds have been completed and any dissimilar metal butt welds that have not been completed with justification for not having completed.
- b) Verification that baseline inspection of hot leg and cold leg temperature dissimilar metal butt welds have been included in the inspection program and that the schedules for the baseline inspections are consistent with the baseline schedules in MRP-139.
- c) A list and schedule (examination dates) of all dissimilar metal butt weld examinations planned for the upcoming refueling outage. If none are scheduled, then data from previous examinations should be available for review.
- d) A list and schedule for any welding to be performed on dissimilar metal butt welds in the upcoming outage. If no welding will be performed then records of previous welding on dissimilar metal butt welds and postweld nondestructive examination documentation.
- e) A list and schedule of any stress improvement activities planned for the upcoming refueling outage. If none are scheduled, then qualification reports for any stress improvements previously performed should be available for review.



- f) Documentation and description of how the baseline and inservice inspection specifications in MRP-139 are satisfied at your facility.
- g) A list of weld locations controlled by MRP-139 which includes the MRP-139 weld category, pre-mitigation volumetric examination date, type of mitigation or stress improvement, post mitigation volumetric examination date, and plans for future MRP-139 required examinations.

A.6 Additional Information Related to All Inservice Inspection Activities

- a) A list with a brief description of inservice inspection, boric acid corrosion control program, and steam generator tube inspection related issues (e.g., condition reports) entered into your corrective action program since the beginning of the last refueling outage (for Unit 1). For example, a list based upon data base searches using key words related to piping or steam generator tube degradation such as: inservice inspection, ASME Code, Section XI, nondestructive examination, cracks, wear, thinning, leakage, rust, corrosion, boric acid, or errors in piping/steam generator tube examinations.

- b) Please provide names and phone numbers for the following program leads:

Inservice inspection contacts (examination, planning)

Containment exams

Reactor pressure vessel head exams

Snubbers and supports

Repair and replacement program manager

Licensing contact

Site welding engineer

Boric acid corrosion control program

Steam generator inspection activities (site lead and vendor contact)

- B. Information to be provided onsite to the inspectors at the entrance meeting (October 4, 2010):

B.1 ISI/Welding Programs and Schedule Information

- a) Updated schedules for inservice inspection/nondestructive examination activities, including steam generator tube inspections, planned welding activities, and schedule showing contingency repair plans, if available.
- b) For ASME, Code Class 1 and 2 welds selected by the inspectors from the lists provided from section A of this enclosure, please provide copies of the following documentation for each subject weld:
  - i) Weld data sheet (traveler)
  - ii) Weld configuration and system location

- iii) Applicable Code edition and addenda for weldment
  - iv) Applicable Code edition and addenda for welding procedures
  - v) Applicable weld procedures used to fabricate the welds
  - vi) Copies of procedure qualification records supporting the weld procedures from B.1.b.v
  - vii) Copies of mechanical test reports identified in the procedure qualification records above
  - viii) Copies of the nonconformance reports for the selected welds (If applicable)
  - ix) Radiographs of the selected welds and access to equipment to allow viewing radiographs (If radiographic testing was performed)
  - x) Copies of the preservice examination records for the selected welds
  - xi) Copies of welder performance qualifications records applicable to the selected welds, including documentation that welder maintained proficiency in the applicable welding processes specified in the weld procedures (at least 6 months prior to the date of subject work)
  - xii) Copies of nondestructive examination personnel qualifications (Visual inspection, penetrant testing, ultrasonic testing, radiographic testing), as applicable
- c) For the inservice inspection related corrective action issues selected by the inspectors from Section A of this enclosure, provide a copy of the corrective actions and supporting documentation.
  - d) For the nondestructive examination reports with relevant conditions on Code Class 1 and 2 systems selected by the inspectors from Section A above, provide a copy of the examination records, examiner qualification records, and associated corrective action documents.
  - e) A copy of (or ready access to) the most current revision of the inservice inspection program manual and plan for the current Interval.
  - f) For the nondestructive examinations selected by the inspectors from Section A of this enclosure, provide a copy of the nondestructive examination procedures used to perform the examinations (including calibration and flaw characterization/sizing procedures). For ultrasonic examination procedures qualified in accordance with ASME Code, Section XI, Appendix VIII, provide documentation supporting the procedure qualification (e.g., the EPRI performance demonstration qualification summary sheets). Also, include

qualification documentation of the specific equipment to be used (e.g., ultrasonic unit, cables, and transducers including serial numbers) and nondestructive examination personnel qualification records.

## B.2 Reactor Pressure Vessel Head

- a) Provide the nondestructive personnel qualification records for the examiners who will perform examinations of the reactor pressure vessel head
- b) Provide drawings showing the following: (If a visual examination is planned for the upcoming refueling outage)
  - i) Reactor pressure vessel head and control rod drive mechanism nozzle configurations
  - ii) Reactor pressure vessel head insulation configuration

The drawings listed above should include fabrication drawings for the nozzle attachment welds as applicable.

- c) Copy of nondestructive examination reports from the last reactor pressure vessel head examination.
- d) Copy of evaluation or calculation demonstrating that the scope of the visual examination of the upper head will meet the 95 percent minimum coverage required by NRC Order EA-03-009 (If a visual examination is planned for the upcoming refueling outage).
- e) Provide a copy of the procedures that will be used to identify the source of any boric acid deposits identified on the reactor pressure vessel head. If no explicit procedures exist which govern this activity, provide a description of the process to be followed including personnel responsibilities and expectations.
- f) Provide a copy of the updated calculation of effective degradation years for the reactor pressure vessel head susceptibility ranking.
- g) Provide a copy of the vendor qualification report(s) that demonstrates the detection capability of the nondestructive examination equipment used for the reactor pressure vessel head examinations. Also, identify any changes in equipment configurations used for the reactor pressure vessel head examinations which differ from that used in the vendor qualification report(s).

## B.3 Boric Acid Corrosion Control Program

- a) Please provide boric acid walkdown inspection results, an updated list of boric acid leaks identified so far this outage, associated corrective action documentation, and overall status of planned boric acid inspections.

- b) Please provide any engineering evaluations completed for boric acid leaks identified since the end of the last refueling outage. Please include a status of corrective actions to repair and/or clean these boric acid leaks. Please identify specifically which known leaks, if any, have remained in service or will remain in service as active leaks.

#### B.4 Steam Generator Tube Inspections

- a) Copies of the examination technique specification sheets and associated justification for any revisions.
- b) Copy of the guidance to be followed if a loose part or foreign material is identified in the steam generators.
- c) Please provide a copy of the Eddy Current testing procedures used to perform the steam generator tube inspections (specifically calibration and flaw characterization/sizing procedures, etc.). Also include documentation for the specific equipment to be used.
- d) Please provide copies of your responses to NRC and industry operating experience communications such as Generic Letters, Information Notices, etc. (as applicable to steam generator tube inspections) *\*Do not provide these documents separately if already included in other information requested such as the degradation assessment.*
- e) List of corrective action documents generated by the vendor and/or site with respect to steam generator inspection activities.

#### B.5 Codes and Standards

- a) Ready access to (i.e., copies provided to the inspectors for use during the inspection at the onsite inspection location, or room number and location where available):
  - i) Applicable editions of the ASME Code (Sections V, IX, and XI) for the inservice inspection program and the repair/replacement program.
  - ii) EPRI and industry standards referenced in the procedures used to perform the steam generator tube Eddy Current examination.

Inspector Contact Information:

Ronald A. Kopriva  
Senior Reactor Inspector  
817-860-8104  
[Ron.kopriva@nrc.gov](mailto:Ron.kopriva@nrc.gov)

Isaac A. Anchondo  
Reactor Inspector  
817-860-8152  
[Isaac.Anchondo@nrc.gov](mailto:Isaac.Anchondo@nrc.gov)

Mailing Address:  
US NRC Region IV  
Attn: Ronald A. Kopriva  
612 E. Lamar Blvd, Suite 400  
Arlington, TX 76011