UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 E. LAMAR BLVD.
ARLINGTON, TX 76011-4511

April 23, 2014

Mr. Edward D. Halpin
Senior Vice President 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 – NRC INTEGRATED INSPECTION REPORT 05000275/2014002 and 05000323/2014002

Dear Mr. Halpin:

On March 21, 2014, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the Diablo Canyon Power Plant Units 1 and 2. On March 26, 2014, the NRC inspectors discussed the results of this inspection with you and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented two findings of very low safety significance (Green) in this report. Two of these findings involved violations of NRC requirements.

Further, inspectors documented three licensee-identified violations which were determined to be of very low safety significance in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the NRC Enforcement Policy.

If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC resident inspector at the Diablo Canyon Power Plant.

If you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV; and the NRC resident inspector at the Diablo Canyon Power Plant.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, “Public Inspections, Exemptions, Requests for Withholding,” a copy of this letter, its enclosure, and your

response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Wayne C. Walker, Chief
Project Branch A
Division of Reactor Projects

Docket Nos.: 05000275, 05000323
License Nos: DPR-80, DPR-82

Enclosure:

Inspection Report 05000275/2014002 and
05000323/2014002
w/ Attachments: Supplemental Information

cc w/ enclosure:

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Resident Inspector (John.Reynoso@nrc.gov)
Administrative Assistant (Madeleine.Arel-Davis@nrc.gov)
Branch Chief, DRP/A (Wayne.Walker@nrc.gov)
Senior Project Engineer, DRP/A (Ryan.Alexander@nrc.gov)
Project Engineer, DRP/A (Brian.Cummings@nrc.gov)
Project Engineer, DRP/A (Fabian.Thomas@nrc.gov)
Public Affairs Officer (Victor.Dricks@nrc.gov)
Public Affairs Officer (Lara.Uselding@nrc.gov)
Project Manager (Peter.Bamford@nrc.gov)
Branch Chief, DRS/TSB (Ray.Kellar@nrc.gov)
RITS Coordinator (Marisa.Herrera@nrc.gov)
ACES (R4Enforcement.Resource@nrc.gov)
Regional Counsel (Karla.Fuller@nrc.gov)
Technical Support Assistant (Loretta.Williams@nrc.gov)
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RIV/ETA: OEDO (Joseph.Nick@nrc.gov)
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Publicly Avail.	☑Yes ☐ No	Sensitive	☐Yes ☑ No	Sens. Type Initials	RDA

SRI:DRP/A	RI:DRP/A	C:DRS/EB1	C:DRS/EB2	C:DRS/OB	C:DRS/PSB1
THipschman	JReynoso	TFarnholtz	JDixon	VGaddy	MHaire
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C:DRS/PSB2	C:DRS/TSB	SPE:DRP/A	BC:DRP/A	PE:DRP/F	
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000275; 05000323
License:	DPR-80; DPR-82
Report:	05000275/2014002; 05000323/2014002
Licensee:	Pacific Gas and Electric Company
Facility:	Diablo Canyon Power Plant, Units 1 and 2
Location:	7 ½ miles NW of Avila Beach Avila Beach, CA
Dates:	January 1 through March 21, 2014
Inspectors:	T. Hipschman, Senior Resident Inspector J. Reynoso, Resident Inspector B. Parks, Resident Inspector C. Smith, Acting Resident Inspector P. Kaufman, Senior Reactor Inspector, Region I/DRS/EB1 P. Jayroe, Reactor Inspector, PSB2
Approved By:	Wayne Walker, Chief Project Branch A Division of Reactor Projects

SUMMARY

IR 05000275/2014002, 05000323/2014002; 01/01/2014 – 03/21/2014; Diablo Canyon Power Plant; Operability Determinations and Functionality Assessments, Refueling and Other Outage Activities

The inspection activities described in this report were performed between January 1 and March 21, 2014, by the resident inspectors at Diablo Canyon Power Plant and inspectors from the NRC's Region IV office and other NRC offices. Two findings of very low safety significance (Green) are documented in this report. These findings involved violations of NRC requirements. The significance of inspection findings is indicated by their color (Green, White, Yellow, or Red), which is determined using Inspection Manual Chapter 0609, "Significance Determination Process." Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Components Within the Cross-Cutting Areas." Violations of NRC requirements are dispositioned in accordance with the NRC Enforcement Policy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

Cornerstone: Initiating Events

- Green. The inspectors identified a Green non-cited violation of 10 CFR 26.207(a) for Pacific Gas and Electric's (PG&E) inappropriate granting of waivers necessary to mitigate or prevent conditions adverse to safety, and to the extent practicable, rely on the granting of waivers only to address circumstances that could not have been reasonably controlled. Specifically, PG&E supervisors granted multiple fatigue waivers to covered workers during the DCPP Unit 1 February 2014, refueling outage that were determined to be inappropriate based on plant conditions. Immediate corrective action was to enter this condition into their corrective action program as Notification 50615724 for further evaluation.

  The inspectors determined that PG&E's inappropriate granting of waivers in accordance with regulatory requirements was a performance deficiency. This performance deficiency is more than minor and is therefore a finding because it was associated with the human performance attribute of the Initiating Events cornerstone. This performance deficiency adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the resulting increased likelihood of human error could adversely affect the station's defense-in-depth. Using Inspection Manual Chapter (IMC) 0609, Attachment 04, "Initial Characterization of Findings," and Appendix G, Attachment 04, "PWR Refueling Operation: RCS level > 23 feet," the finding is screened as very low safety significance (Green) based on no known effects to the plant safety caused by possible worker fatigue. In addition, because there was no fuel in the reactor core at the time of the work activities, none of the checklist guidelines were impacted.

  This finding has a human performance cross-cutting aspect associated with resources; in that leaders did not ensure that personnel, equipment, procedures, and other resources were available and adequate to support nuclear safety [H.1]. (Section 1R20)

Cornerstone: Mitigating Systems

- Green. The inspectors identified a Green non-cited violation of 10 CFR, Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to follow the operability assessment procedure in considering the tornado atmospheric effects and tornado missile impactive force effects on the emergency diesel generator radiator ventilation plenum and engine exhaust pipes. The licensee took immediate corrective actions to remove potential tornado missiles that may affect the operability of the emergency diesel generators.

  The licensee's failure to account for tornado atmospheric pressure change effects and tornado-generated missile impactive loads is a performance deficiency. Specifically, the operability assessment did not account for the pressure change or impactive loads as described by the Standard Review Plan methodology. This performance deficiency was more than minor because it is associated with the protection against external factors attribute of the Mitigating Systems cornerstone objective and adversely affected the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Using Inspection Manual Chapter 0609, Attachment 04, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process (SDP) For Findings At-Power", dated July 1, 2012, the inspectors determined that the finding could not be screened as Green, or very low safety significance. As a result, a detailed risk evaluation was performed by a senior risk analyst. The detailed risk analysis determined that the calculated tornado missile strike frequency at Diablo Canyon is lower than the 1×10^{-6} threshold in the significance determination process, and therefore, the finding was determined to be of very low safety significance (Green).

  This finding has a problem identification and resolution cross-cutting aspect associated with evaluation; specifically in that the licensee did not thoroughly evaluate the problem to ensure that resolutions addressed the cause(s) and extent of conditions, commensurate with their safety significance [P.2]. (Section 1R15)

Licensee-Identified Violations

Violations of very low safety significance, which were identified by the licensee, have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7.

PLANT STATUS

Unit 1 began the inspection period at full power. On February 9, 2014, Unit 1 was shutdown for a planned refueling outage. On March 13, 2014, Unit 1 returned to operation and began a controlled power ascension to 97 percent reactor power. On March 16, 2014, operators identified seal leakage on reactor coolant pump 1-3 and shutdown the reactor to make repairs. Unit 1 remained in a forced outage at the end of the inspection period.

Unit 2 began the inspection period at full power. On January 9, 2014, Unit 2 reduced power to 50 percent reactor power for planned maintenance to clean main circulating water condensers and tunnels. Unit 2 returned to full power on January 15, 2014. On February 2, 2014, Unit 2 tripped offline due to a fault in a lightning arrester. Unit 2 returned to full power on February 7, 2014. On March 1, 2014, Unit 2 reduced power to 25 percent reactor power in anticipation of severe weather and high ocean swell conditions. Unit 2 returned to full power on March 3, 2014, and remained at full power for the remainder of the inspection period.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Summer Readiness for Offsite and Alternate AC Power Systems

a. Inspection Scope

On January 10, 2014, the inspectors completed an inspection of the station's off-site and alternate-ac power systems. The inspectors inspected the material condition of these systems, including transformers and other switchyard equipment to verify that plant features and procedures were appropriate for operation and continued availability of off-site and alternate-ac power systems. The inspectors reviewed outstanding work orders and open notifications for these systems. The inspectors walked down the switchyard to observe the material condition of equipment providing off-site power sources. The inspectors assessed corrective actions for identified degraded conditions and verified that the licensee had considered the degraded conditions in its risk evaluations and had established appropriate compensatory measures.

These activities constituted one sample of summer readiness due to drought conditions of off-site and alternate-ac power systems, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

.2 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

On February 4, 2014, the inspectors completed an inspection of the station's off-site and alternate-ac power systems. The inspectors inspected the material condition of these systems, including transformers and other switchyard equipment to verify that plant features and procedures were appropriate for operation and continued availability of off-site and alternate-ac power systems. The inspectors reviewed outstanding work orders and open notifications for these systems. The inspectors walked down the switchyard to observe the material condition of equipment providing off-site power sources.

The inspectors verified that the licensee's procedures included appropriate measures to monitor and maintain availability and reliability of the off-site and alternate-ac power systems (230 KV, 500 KV, and startup transformers).

Additionally, the inspectors selected one risk-significant system that was required to be protected from seasonal conditions:

- January 31- February 4, 2014, Unit 1 and 2, storm season preparations for debris loading on intake screens (auxiliary salt water systems)

The inspectors reviewed the licensee's procedures and design information to ensure the components would remain functional when challenged by adverse weather. The inspectors verified that operator actions described in the licensee's procedures were adequate to maintain readiness of these systems. The inspectors walked down portions of these systems to verify the physical condition of the adverse weather protection features.

These activities constituted two samples, one per unit, of readiness for seasonal adverse weather, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

.3 Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

On February 26-27, 2014, the inspectors completed an inspection of the station's readiness for impending adverse weather conditions. The inspectors reviewed plant design features, the licensee's procedures to respond to heavy rains and high winds, and the licensee's planned implementation of these procedures. The inspectors evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant.

These activities constituted one sample of readiness for impending adverse weather conditions, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

.4 Readiness to Cope with External Flooding

a. Inspection Scope

On March 1, 2014, the inspectors completed an inspection of the station's readiness to cope with external flooding. After reviewing the licensee's flooding analysis, the inspectors chose two plant areas that were susceptible to flooding:

- Unit 1, auxiliary salt water vaults
- Unit 2, auxiliary salt water vaults

The inspectors reviewed plant design features and licensee procedures for coping with flooding. The inspectors walked down the selected areas to inspect the design features, including the material condition of seals, drains, and flood barriers. The inspectors evaluated whether credited operator actions could be successfully accomplished.

These activities constituted one sample of readiness to cope with external flooding, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial Walkdown

a. Inspection Scope

The inspectors performed partial system walk-downs of the following risk-significant systems:

- January 31, 2014, Unit 1, pressurizer equipment alignment
- February 10, 2014, Unit 2, component cooling water
- February 27-28, 2014, Unit 1, component cooling water single heat exchanger (1-2) alignment

The inspectors reviewed the licensee's procedures and system design information to determine the correct lineup for the systems. They visually verified that critical portions of the systems were correctly aligned for the existing plant configuration.

These activities constituted three partial system walk-down samples as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

.2 Complete Walkdown

a. Inspection Scope

On March 9, 2014, the inspectors performed a complete system walk-down inspection of the Unit 1 residual heat removal system. The inspectors reviewed the licensee's procedures and system design information to determine the correct residual heat removal system lineup for the existing plant configuration. The inspectors also reviewed open condition reports, temporary modifications, and other open items tracked by the licensee's operations and engineering departments. The inspectors then visually verified that the system was correctly aligned for the existing plant configuration.

These activities constituted one complete system walk-down sample as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

Quarterly Inspection

a. Inspection Scope

The inspectors evaluated the licensee's fire protection program for operational status and material condition. The inspectors focused their inspection on five plant areas important to safety:

- January 2, 2014, Unit 2, emergency diesel generator rooms
- January 28-29, 2014, Unit 1 and 2, auxiliary building, section H, 100 and 115 foot elevations
- February 9, 2014, Unit 1, containment 140,122, and 91 foot elevations
- February 12, 2014, Unit 1, turbine driven auxiliary feedwater pump room, fire zone 3-0-1
- March 9, 2014, Unit 1, containment 140,122, and 91 foot elevations
- March 19, 2014, Unit 2, charging pump rooms

For each area, the inspectors evaluated the fire plan against defined hazards and defense-in-depth features in the licensee's fire protection program. The inspectors evaluated control of transient combustibles and ignition sources, fire detection and

suppression systems, manual firefighting equipment and capability, passive fire protection features, and compensatory measures for degraded conditions.

These activities constituted six quarterly inspection samples, as defined in Inspection Procedure 71111.05.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

On February 27 – 28, 2014, the inspectors completed an inspection of underground bunkers susceptible to flooding. The inspectors selected one underground bunker that contained risk-significant or multiple-train cables whose failure could disable risk-significant equipment:

- Unit 1, underground control voltage conduit run and vault inspections

The inspectors observed the material condition of the cables and splices contained in the bunkers and looked for evidence of cable degradation due to water intrusion. The inspectors verified that the cables and vaults met design requirements.

These activities constitute completion of one bunker/manhole sample, as defined in Inspection Procedure 71111.06.

b. Findings

No findings were identified.

1R08 Inservice Inspection Activities (71111.08)

Completion of Sections .1 through .5, below, constitutes completion of one sample as defined in Inspection Procedure 71111.08.

.1 Inspection Activities Other Than Steam Generator Tube Inspection, Pressurized Water Reactor Vessel Upper Head Penetration Inspections, and Boric Acid Corrosion Control (71111.08-02.01)

a. Inspection Scope

The inspectors observed five nondestructive examination activities and reviewed three nondestructive examination packages that included three types of examinations.

The inspectors directly observed the following nondestructive examinations:

SYSTEM	WELD IDENTIFICATION	EXAMINATION TYPE
Steam Generating	FW-13-01.01 Steam Generator 1-1 Shell/ Head Weld	UItrasonic Test
Pressurizer Relief Valve	WIB-446	Ultrasonic Test
Pressurizer Relief Valve	WIB-447	Ultrasonic Test
Auxiliary Feedwater	DC-1-03-P-P	Visual Test
Reactor Vessel	Internals	Remote Visual Test

The inspectors reviewed records for the following nondestructive examinations:

SYSTEM	WELD IDENTIFICATION	EXAMINATION TYPE
Containment Spray	RB-221-7	Ultrasonic Test
Main Steam	MS-1-3055 Replacement Assembly to pipe Socket Weld	Dye Penetrant
Auxiliary Feedwater	Line 638, Welds 1 thru 4	Visual Test

During the review and observation of each examination, the inspectors verified that activities were performed in accordance with the ASME Code requirements and applicable procedures. There was one relevant indication that was left in service. The inspectors observed the remote visual examination of the reactor pressure vessel inlet nozzle to cold leg 1-3 where clad spalling was identified and compared the results to the video record obtained during the previous 10-year inservice inspection of the reactor pressure vessel internals in 2005. The inspectors verified that licensee evaluated the indication in accordance with the ASME Code and approved procedures. The inspectors also verified that the qualifications of nondestructive examination technicians performing the inspections were current.

The inspectors directly observed a portion of the following two welding activities: (1) installation of vent valve assembly on the raw water suction header line 638 to auxiliary feedwater pumps; (2) replacement of drain valve on line 3055 of the main steam system. The inspectors also reviewed the records for these welding activities:

SYSTEM	WELD IDENTIFICATION	EXAMINATION TYPE
Auxiliary Feedwater	DC-1-03-P-P-Line-638 Installation of Vent Valve to Pipe Socket Weld 1 thru 4	Shielded Metal Arc Welding
Main Steam	MS-1-3055 Replacement Drain Valve Assembly to Pipe Socket Weld	Gas Tungsten ARC Welding

The inspectors verified, by review, that the welding procedure specifications and the welders had been properly qualified in accordance with ASME Code, Section IX, requirements. The inspectors also verified, through observation and record review, that essential variables for the welding process were identified, recorded in the procedure qualification record, and formed the bases for qualification of the welding procedure specifications. Specific documents reviewed during this inspection are listed in Attachment 1.

These actions constitute completion of the requirements for Section 02.01.

b. Findings

No findings were identified.

.2 Reactor Vessel Upper Head Penetration Inspection Activities (71111.08-02.02)

a. Inspection Scope

The licensee did not perform inspections of the reactor vessel upper head penetrations during this refueling outage (1R18). No inspections were performed because the vessel upper head and its assembly were replaced during the 1R16 outage in 2010. Per ASME Code Case N-729-1, inspection frequency for heads with Primary Water Stress Corrosion Cracking resistant materials is fixed. Bare metal visual inspection is to be performed every third refueling outage or 5 calendar years, whichever is less. Therefore the inspectors determined that this section of Inspection Procedure 71111.08 was not applicable during this inspection.

These actions constitute completion of the requirements for Section 02.02.

b. Findings

No findings were identified.

.3 Boric Acid Corrosion Control Inspection Activities (71111.08-02.03)

a. Inspection Scope

The inspectors evaluated the implementation of the licensee's boric acid corrosion control program for monitoring degradation of those systems that could be adversely affected by boric acid corrosion. The inspectors reviewed the documentation

associated with the licensee's boric acid corrosion control walkdown as specified in Procedure ER1.ID2, Revision 7, "Boric Acid Corrosion Control Program." The inspectors also reviewed the visual records of the components and equipment. The inspectors verified that the visual inspections emphasized locations where boric acid leaks could cause degradation of safety-significant components. The inspectors also verified that the engineering evaluations for those components where boric acid was identified gave assurance that the ASME Code wall thickness limits were properly maintained. The inspectors confirmed that the corrective actions performed for evidence of boric acid leaks were consistent with requirements of the ASME Code and 10 CFR 50, Appendix B, requirements. Specific documents reviewed during this inspection are listed in Attachment 1.

These actions constitute completion of the requirements for Section 02.03.

b. Findings

No findings were identified.

.4 Steam Generator Tube Inspection Activities (71111.08-02.04)

a. Inspection Scope

The licensee did not perform inspections of the steam generator tubes. No inspections were required during this outage. No primary side inspections were performed during 1R18 outage because the Unit 1 steam generators were replaced during 1R15 outage in 2009 and were previously inspected during 1R16 outage. Therefore, the inspectors determined this section of Inspection Procedure 71111.08 was not applicable.

These actions constitute completion of the requirements for Section 02.04.

b. Findings

No findings were identified.

.5 Identification and Resolution of Problems (71111.08-02.05)

a. Inspection scope

The inspectors reviewed a selected sample of condition reports which dealt with inservice inspection activities and found the corrective actions for inservice inspection issues were appropriate. From this review the inspectors concluded that the licensee has an appropriate threshold for entering inservice inspection issues into the corrective action program and has procedures that direct a root cause evaluation when necessary. The licensee also has an effective program for applying industry nondestructive examination operating experience. Specific documents reviewed during this inspection are listed in Attachment 1.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11)

.1 Review of Licensed Operator Requalification

a. Inspection Scope

On March 19, 2014, the inspectors observed a portion of an annual requalification test for licensed operators. The inspectors assessed the performance of the operators and the evaluators' critique of their performance.

These activities constitute completion of one quarterly licensed operator requalification program sample, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

.2 Review of Licensed Operator Performance

a. Inspection Scope

The inspectors observed the performance of on-shift licensed operators in the plant's main control room. The inspectors observed the operators' performance of the following activities:

- February 2, 2014, an electrical fault caused by a flashover event of 500 kV phase B lightning arrester resulted in a Unit 2 Reactor trip
- February 5-6, 2014, Unit 2, Mode 3 to Mode 1 following a forced outage due to a lightning arrester flashover
- March 12-13, 2014, Unit 1, plant startup and entry into Mode 2 followed by reactor criticality upon completion of the planned refueling outage

In addition, the inspectors assessed the operators' adherence to plant procedures, including alarm response procedures and other operations department policies.

These activities constitute completion of three quarterly licensed operator performance samples, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed three instances of degraded performance or condition of safety-related structures, systems, and components (SSCs):

- January 7-8, 2014, Unit 1, east roll-up fire door chain failure following actuation

- January 10, 2014, Units 1 and 2, electrical equipment reliability of startup transformers, emergency diesel generators, and switchyard equipment

- January 30, 2014, Units 1 and 2, safety-related pressurizer heater group 1-2 breaker and control, breaker failed to operate

The inspectors reviewed the extent of condition of possible common cause SSC failures and evaluated the adequacy of the licensee's corrective actions. The inspectors reviewed the licensee's work practices to evaluate whether these may have played a role in the degradation of the SSCs. The inspectors assessed the licensee's characterization of the degradation in accordance with 10 CFR 50.65 (the Maintenance Rule), and verified that the licensee was appropriately tracking degraded performance and conditions in accordance with the Maintenance Rule.

These activities constituted completion of three maintenance effectiveness samples, as defined in Inspection Procedure 71111.12.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed three risk assessments performed by the licensee prior to changes in plant configuration and the risk management actions taken by the licensee in response to elevated risk:

- February 9-13, 2014, Unit 1, outage risk assessment for reduced water inventory conditions

- February 24, 2014, Unit 1, functional test of main generator protection scheme risk to 4kV vital buses

- March 1, 2014, Unit 1, removal of start-up transformer from service

The inspectors verified that these risk assessments were performed timely and in accordance with the requirements of 10 CFR 50.65 (the Maintenance Rule) and plant procedures. The inspectors reviewed the accuracy and completeness of the licensee's risk assessments and verified that the licensee implemented appropriate risk management actions based on the result of the assessments.

The inspectors also observed portions of two emergent work activities that had the potential to cause an initiating event, to affect the functional capability of mitigating systems, or to impact barrier integrity:

- January 17, 2014, Unit 1 and 2, identification and repairs to vital buses 4kV electrical cabinet

- February 17, 2014, foreign particles in fuel assemblies AB45 and JJ57

The inspectors verified that the licensee appropriately developed and followed a work plan for these activities. The inspectors verified that the licensee took precautions to minimize the impact of the work activities on unaffected SSCs.

These activities constitute completion of five maintenance risk assessments and emergent work control inspection samples, as defined in Inspection Procedure 71111.13.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed seven operability determinations and functionality assessments that the licensee performed for degraded or nonconforming SSCs:

- January 14-16, 2014, Unit 1 and 2, operability determination of vital buses 4kV electrical cabinet because of loose cabinet bolts and fasteners

- January 23, 2014, Unit 1 and 2, operability determination of safety injection pumps (SI 2-1, SI 1-1, and SI 1-2) with nonconforming casing vent and drain welds

- March 3, 2014, Unit 1, operability determination of reactor vessel and core barrel components due to lower assembly misalignment

- March 7, 2014, Unit 2, operability determination of reactor coolant pump number 2 seal leakage

- March 10, 2014, Unit 1 operability determination of 12kV Bus E blown potential transformer fuse

- March 12, 2014, Units 1 and 2 operability determination of emergency diesel generator tornado missile impacts

- March 12, 2014, Unit 1 operability determination of emergency diesel generator cooling during high winds and hot temperatures

The inspectors reviewed the timeliness and technical adequacy of the licensee's evaluations. Where the licensee determined the degraded SSC to be operable or functional, the inspectors verified that the licensee's compensatory measures were appropriate to provide reasonable assurance of operability or functionality. The inspectors verified that the licensee had considered the effect of other degraded conditions on the operability or functionality of the degraded SSC.

These activities constitute completion of seven operability and functionality review samples, as defined in Inspection Procedure 71111.15.

b. Findings

Introduction. The inspectors identified a Green non-cited violation of 10 CFR, Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to follow the operability assessment procedure in considering the tornado atmospheric effects and tornado missile impactive force effects on the emergency diesel generator radiator ventilation plenum and engine exhaust pipes.

Description. The licensee is performing a design and licensing verification project to review the Final Safety Analysis Report Update (FSARU). In the course of the verification project, the licensee identified that a design change implemented in 1996 to the emergency diesel generator (EDG) ventilation system designed with a different building code standard than required by the FSARU. Specifically, the EDG radiator ventilation plenum was designed for tornado wind loads per Bechtel Topical Report BC-TOP-3A (1974), instead of BC-TOP-3 (1972), as required by the current licensing basis. The method of analysis specified by the BC-TOP-3A standard is less conservative than the licensing basis method of analysis BC-TOP-3. The licensee generated a prompt operability assessment (Notification 50590178) on October 23, 2013, in accordance with procedure OM7.ID12, "Operability Determinations", for the discrepancy between the building codes and standards used in the design of the radiator exhaust plenum.

The inspectors reviewed the prompt operability assessment in Notification 50590178 and found the licensee used the third revision of the Standard Review Plan (SRP) Section 3.3.2, "Tornado Loads," as an alternate method of analysis. However, the inspectors found that the operability assessment did not use the SRP method in its entirety for evaluating tornado effects. Specifically, the SRP states:

> Procedures that are used to transform tornado parameters into effective loads on structures, include the following:
>
> A. The transformation of tornado wind into equivalent loads applied to structures, characteristics of the structures, and the distribution of tornado wind pressure on structures.
>
> B. The transformation of tornado-generated atmospheric pressure changes into applied loads on structures.
>
> C. The transformation of tornado-generated missiles, which are impactive dynamic loads, into equivalent loads on structures.
>
> D. The combination of the above individual loads in a manner that will produce the most adverse total tornado effect on structures.

The licensee's operability assessment failed to include the required load analysis and load combinations of the SRP required by items B, C, and D listed above. The licensee's prompt operability assessment only considered tornado wind load (item A above). Procedure OM7.ID12, "Operability Determinations", Step 5.5.3, requires a

technical basis for the conclusions and engineering judgments of an alternate analytical method.

The inspectors questioned why the licensee's operability assessment failed to include the required loads and load combinations described in the SRP, and as a result, the licensee generated Notification 50592094 on November 1, 2013. The Notification stated that the assumption, "damage by a missile would not significantly block the ventilation path…or collapse of the plenum framework," was valid but would need to be analyzed to meet today's engineering standards. Additionally, Notification 50592094 stated the NRC did not require tornado missile protection for this equipment (from Supplemental Safety Evaluation Report 7), and the lack of a technical basis for excluding tornado missile protection in the diesel generator radiator plenum was not a degraded or non-conforming condition. Again the inspectors questioned the logic of the Notification, noting that the largest missile had the potential to damage large portions of the radiator plenum framework and that NRC Supplemental Safety Evaluation Report 7 exempted certain portions of the switchgear room from tornado missile protection but not the EDG radiator plenum area.

On March 6, 2014, the missile impact analysis used to justify the conclusions in Notification 50592094 was completed. After taking into consideration the atmospheric pressure change effects and missile impact effects, it was determined that local portions of the EDG radiator ventilation plenum and engine exhaust pipes were vulnerable to tornado missile loads and could fail from a missile impact, which could block exhaust flows and affect the safety function of the EDGs. The licensee took immediate corrective actions to remove potential tornado missiles that may affect the operability of the emergency diesel generators.

Analysis. The licensee's failure to account for tornado atmospheric pressure change effects and tornado-generated missile impactive loads is a performance deficiency. Specifically, the operability assessment did not account for the pressure change or impactive loads as described by the SRP methodology. This performance deficiency was more than minor because it is associated with the protection against external factors attribute of the Mitigating Systems cornerstone objective and adversely affected the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Using Inspection Manual Chapter 0609, Attachment 04, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process (SDP) For Findings At-Power" dated July 1, 2012, the inspectors determined that the finding could not be screened as Green, or very low safety significance. As a result, a detailed risk evaluation was performed by a senior risk analyst.

Detailed Risk Evaluation:

The senior risk analyst determined that the subject performance deficiency would affect the core damage frequency only related to tornado initiators. The analyst noted that the dominant risk would result when the postulated tornado impacted a specific location of the site (point-strike probability) and generated a missile or missiles that damaged the diesel radiator plenum or exhaust pipes.

Tornado Occurrence Rate: The analyst estimated the tornado occurrence rate to assess the risk impact of the subject performance deficiency. The analyst performed a review of following data source:

Tornado History Project database (1950 – 2013)
i. Collated by the agency
ii. 163,696 miles^2 for the State of California

The analyst calculated the occurrence rate (F_O) for all tornados in the data set, accounting for missing data. The appropriate equation is as follows:

$F_O = (z * t) \div A$

Where:

z ≡ Average Tornado Area
t = Total Events ÷ Statistical Sample Size
A ≡ Regional Area

The analysts noted that the results of this study correlated with the approach used in documented Individual Plant Evaluation of External Events from other licensees.

The data used for this evaluation is summarized in Table 1.

Table 1

Tornado Statistics

California Area	163,696	miles^2
Statistical Sample Size:	63	Years
Average Tornado Area:	0.06	miles^2
Total Tornado Events:	400	
Including Missing Data:	39	
Site Area	1.17	miles^2

The following calculation was performed:

$F_O = [0.06 \text{ miles}^2 * (439 \div 63 \text{ years})] \div 163{,}969 \text{ miles}^2$

$= 2.55 \times 10^{-6}$/year

Based on the definitions from the Fujita-Pearson Scale, only F2 and greater intensity tornados are capable of producing missiles. The analyst calculated that 90.6 percent of

all documented events were Category F0 or F1. This left approximately 9.4 percent that were stronger than Category F1. Using this information, the analyst calculated that the probability of a tornado generated missile strike hitting at the Diablo Canyon site would be 2.4 x 10^{-7}/year.

Given a strike area of approximately 1000 ft^2, the analyst utilized a missile impact parameter (Ψ) of 3.21 x 10^{-9} per tornado per missile per ft^2 for small targets calculated using the method documented in NUREG/CR-4710, "Shutdown Decay Heat Removal Analysis of a Combustion Engineering 2-Loop Pressurized Water Reactor" Appendix G. The analyst assumed a population of 30,000 potential missiles. This population is approximately the mean of the values used in NUREG/CR-4710. The analyst then calculated the missile strike probability by multiplying the total target area, the applicable missile impact parameter, and the selected number of postulated missiles. The conditional missile strike probability was 9.63 x 10^{-2}.

The missile strike frequency, 2.24 x 10^{-7}, was calculated by multiplying the conditional missile strike probability and the tornado occurrence rate.

Given that the calculated missile strike frequency at Diablo Canyon was lower than the 1 x 10^{-6} threshold in the significance determination process, this finding is of very low safety significance (Green).

This finding had a problem identification and resolution cross-cutting aspect associated with evaluation, specifically in that the licensee did not thoroughly evaluate the problem to ensure that resolutions addressed the cause(s) and extent of conditions, commensurate with their safety significance [P.2].

Enforcement. Title 10 of the Code of Federal Regulations, Part 50, Appendix B, Criterion V, requires in part that activities affecting quality shall be prescribed by procedures of a type appropriate to the circumstances and accomplished in accordance with these procedures. Contrary to this requirement, from October 24, 2013 to March 12, 2014, the licensee failed to accomplish activities affecting quality in accordance with procedures. Specifically, the licensee failed to follow Procedure OM7.ID12, "Operability Determination," when they failed to account for atmospheric pressure effects and tornado missile impactive forces, as described by the alternate analytical method (SRP) used in the operability assessment in accordance with the procedure. As a result, the emergency diesel generator radiator plenum and combustion air exhaust pipes were in an unanalyzed condition. Because this violation was of very low safety significance (Green) and was entered into the licensee's corrective action program as Notifications 50619664 and 50592094, it is being treated as a non-cited violation consistent with Section 2.3.2.a of the NRC's Enforcement Policy: NCV 05000275/2014002-01 and 05000323/2014002-01, "Failure to Follow Procedure Results in Inadequate Operability Assessment."

1R18 Plant Modifications (71111.18)

a. Inspection Scope

On February 20, 2014, the inspectors reviewed one permanent plant modification that affected the containment fan cooler unit design.

The inspectors reviewed the design and implementation of the modification. The inspectors verified that work activities involved in implementing the modification did not adversely impact operator actions that may be required in response to an emergency or other unplanned event. The inspectors verified that post-modification testing was adequate to establish the functionality of the SSC as modified.

These activities constitute completion of one sample of permanent modifications, as defined in Inspection Procedure 71111.18.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed five post-maintenance testing activities that affected risk-significant SSCs:

- March 5, 2014, Unit 1, start-up transformer
- March 5, 2014, Unit 1, containment penetration 9E
- March 7, 2014, Unit 1, containment fan cooler unit 1-2
- March 12, 2014, Unit 1, containment isolation valves on penetration 61 and 63
- March 12, 2014, Unit 1, containment isolation flow control and power-operated valve FCV-662

The inspectors reviewed licensing- and design-basis documents for the SSCs and the maintenance and post-maintenance test procedures. The inspectors observed the performance of the post-maintenance tests to verify that the licensee performed the tests in accordance with approved procedures, satisfied the established acceptance criteria, and restored the operability of the affected SSCs.

These activities constitute completion of five post-maintenance testing inspection samples, as defined in Inspection Procedure 71111.19.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

During the station's forced outage that began on February 2, 2014, the refueling outage that began on February 9, 2014, and the forced outage that began on March 16, 2014, the inspectors evaluated the licensee's outage activities. The inspectors reviewed if the

licensee considered risk in developing and implementing the outage plan, appropriately managed personnel fatigue, and developed mitigation strategies for losses of key safety functions. This verification included the following:

- Review of the licensee's outage plan prior to the outage
- Monitoring of shut-down and cool-down activities
- Verification that the licensee maintained defense-in-depth during outage activities
- Observation and review of reduced-inventory and mid-loop activities
- Observation and review of fuel handling activities
- Monitoring of heat-up and startup activities

These activities constitute completion of one refueling outage sample and two outage activities samples, as defined in Inspection Procedure 71111.20.

b. Findings

Introduction. The inspectors identified a Green non-cited violation of 10 CFR 26.207(a) for PG&E's inappropriate granting of waivers necessary to mitigate or prevent conditions adverse to safety, and to the extent practicable, rely on the granting of waivers only to address circumstances that could not have been reasonably controlled. Specifically, PG&E supervisors granted multiple fatigue waivers to covered maintenance workers during the DCPP Unit 1 February 2014, refueling outage that were determined to be inappropriate based on plant conditions. Immediate corrective action was to enter this condition into their corrective action program as Notification 50615724 for further evaluation.

Description. Beginning February 8, 2014, the resident inspectors reviewed various areas of the PG&E fatigue management program specific to the DCPP Unit 1 refueling outage activities. This review included:

- Procedure OM14.ID1, "Fatigue Management Rule Program"
- Previous year DCPP fatigue management rule audit report
- Daily notifications for waiver requests, self-declaration or fatigue assessments

On February 19, 2014, the inspectors reviewed numerous notifications entered in the licensee's corrective action program and identified an issue with the approval of several waivers related to work hours limits. The inspectors questioned whether the waivers were appropriate and were, in fact, contrary to the intent of 10 CFR 26.207, "Waivers and Exceptions," as well as to DCPP administrative procedure OM14.ID1, "Fatigue Management Rule Program," requirements on covered workers work hours and standards for granting waivers. Specifically, Attachment 3 of OM14.ID1, "Fatigue Management Rule Waiver Form," cites only four circumstances as justification for exceeding work hour limits:

1. Emergency Response Organization minimum Shift Staffing
2. Condition Adverse to Safety
3. Security Threat or Security Outage
4. Necessary to maintain site security

The inspectors identified four Notifications 50554560, 50611021, 50611022, and 5061120 that documented authorizations to grant waivers in accordance to

10 CFR 26.207 requirements on waivers and exceptions to work hour limits. The covered workers doing covered work exceeded both minimum days off and the "72 hours in a 7 day period" requirements.

The notifications cited justifications that included:

- Polar crane modifications and test support scope
- Outage schedule delays,
- Critical path work scope for Unit 1 refueling cycle 18 (1R18)

These notifications documented these justifications for covered work activities by four covered maintenance workers doing modifications to the Unit 1 polar crane. The polar crane is relied on for heavy lifts inside containment, including reactor vessel head removal and installation. The work being done was inside the Unit 1 containment while the reactor vessel was defueled. Preparations were underway to move the core internals and reactor vessel head.

On February 20, 2014, the inspectors expressed their concerns to the DCPP Station Director. On March 4 and 5, 2014, the inspectors discussed the adequate justification of outage-related waivers with the fitness for duty administrator. On March 6, 2014, the inspectors discussed the apparent procedural violations of procedure OM14.ID1, "Fatigue Management Rule Program," with regulatory affairs personnel. On March 10, 2014, the licensee documented in Notification 50615724 that the waivers approved in support of critical path work for the polar crane did not appear to meet the minimum standard for waiver justifications of mitigating a condition adverse to safety. The licensee's evaluation concluded the waivers were not appropriate and changed the status of the waivers from "closed out" to "cancel." Additionally, the licensee identified that multiple waivers for work hour limits that were granted to maintenance personnel were not for situations that were necessary to mitigate or prevent conditions adverse to safety as required by 10 CFR 26.207. Specifically, four contractor maintenance personnel were granted waivers in order to prevent outage schedule delays associated with critical path work for the Unit 1 refueling outage.

Analysis. The inspectors determined that PG&E's inappropriate granting of waivers in accordance with regulatory requirements was a performance deficiency. This performance deficiency is more than minor, and is therefore a finding because it was associated with the human performance attribute of the Initiating Events cornerstone. This performance deficiency adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the resulting increased likelihood of human error could adversely affect the station's defense-in-depth. Using Inspection Manual Chapter (IMC) 0609, Attachment 04, "Initial Characterization of Findings," and Appendix G, Attachment 04, "PWR Refueling Operation: RCS level > 23 feet," the finding is screened as very low safety significance (Green) based on no known effects to the plant safety caused by possible worker fatigue. In addition, because there was no fuel in the reactor core at the time of the work activities, none of the checklist guidelines was impacted.

This finding has a human performance cross-cutting aspect associated with resources; in that leaders did not ensure that personnel, equipment, procedures, and other resources were available and adequate to support nuclear safety [H.1].

Enforcement. Title 10 of the Code of Federal Regulations 26.207(a) states, in part, that to grant a waiver, the licensee shall determine that the waiver is necessary to mitigate or prevent a condition adverse to safety and that licensees shall rely on the granting of waivers only to address circumstances that could not have been reasonably controlled. Contrary to the above, PG&E granted multiple waivers on February 14, 2014, for the work hours requirements for situations that were not necessary to mitigate or prevent conditions adverse to safety and were within PG&E's ability to control. PG&E's immediate corrective actions included cancelling approvals of the waivers and to enter this issue into their corrective action program as Notification 50615724 for further evaluation. Because the violation was determined to be of very low safety significance and was entered into the corrective action program, it is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC's Enforcement Policy: NCV 05000275/2014002-02, "Inappropriate Fatigue Rule Waivers."

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed or reviewed ten risk-significant surveillance tests; and reviewed test results to verify that these tests adequately demonstrated that the SSCs were capable of performing their safety functions:

In-service tests:

- January 22, 2014, Unit 1, main steam safety valve lift test
- March 3, 2014, Unit 1, leak test of safety injection check valves, SI-8974A/B and SI-8919A/B
- March 5, 2014, Unit 1, comprehensive test of safety injection pump 1-1

Containment isolation valve surveillance tests:

- March 11, 2014, Unit 1, containment penetrations 61 and 63, isolation valve leak testing

Reactor coolant system leak detection tests:

- March 7, 2014, Unit 2, reactor coolant system leakrate
- March 17, 2014, Unit 1, reactor coolant system leakrate

Other surveillance tests:

- January 6, 2014, Unit 2, containment temperature surveillance
- January 8, 2014, Unit 1, emergency diesel generator 1-2 room fire system surveillance

- February 12, 2014, Unit 1, reactor coolant system wide range pressure and reactor vessel level indication system transmitter calibration

- March 12, 2014, Unit 2, emergency diesel generator 2-3 monthly surveillance

The inspectors verified that these tests met technical specification requirements, that the licensee performed the tests in accordance with their procedures, and that the results of the test satisfied appropriate acceptance criteria. The inspectors verified that the licensee restored the operability of the affected SSCs following testing.

These activities constitute completion of ten surveillance testing inspection samples, as defined in Inspection Procedure 71111.22.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06)

Training Evolution Observation

a. Inspection Scope

On March 19, 2014, the inspectors observed simulator-based licensed operator requalification training that included implementation of the licensee's emergency plan. The inspectors verified that the licensee's emergency classifications and off-site notifications were appropriate and timely. The inspectors verified that any emergency preparedness weaknesses were appropriately identified by the evaluators and entered into the corrective action program for resolution.

These activities constitute completion of one training observation sample, as defined in Inspection Procedure 71114.06-05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES
Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Security

4OA1 Performance Indicator Verification (71151)

.1 Unplanned Scrams per 7000 Critical Hours (IE01)

a. Inspection Scope

The inspectors reviewed licensee event reports (LERs) for the period of January 1, 2013, through December 31, 2013, to determine the number of scrams that

occurred. The inspectors compared the number of scrams reported in these LERs to the number reported for the performance indicator. Additionally, the inspectors sampled monthly operating logs to verify the number of critical hours during the period. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the data reported.

These activities constituted verification of the Unplanned Scrams per 7000 Critical Hours performance indicator for Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.2 Unplanned Power Changes per 7000 Critical Hours (IE03)

a. Inspection Scope

The inspectors reviewed operating logs, corrective action program records, and monthly operating reports for the period of January 1, 2013, through December 31, 2013, to determine the number of unplanned power changes that occurred. The inspectors compared the number of unplanned power changes documented to the number reported for the performance indicator. Additionally, the inspectors sampled monthly operating logs to verify the number of critical hours during the period. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the data reported.

These activities constituted verification of the Unplanned Power Outages per 7000 Critical Hours performance indicator for Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.3 Unplanned Scrams with Complications (IE04)

a. Inspection Scope

The inspectors reviewed the licensee's basis for including or excluding in this performance indicator each scram that occurred between January 1, 2013, through December 31, 2013. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the data reported.

These activities constituted verification of the unplanned scrams with complications performance indicator for Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review

a. Inspection Scope

Throughout the inspection period, the inspectors performed daily reviews of items entered into the licensee's corrective action program and periodically attended the licensee's corrective action program meetings. The inspectors verified that licensee personnel were identifying problems at an appropriate threshold and entering these problems into the corrective action program for resolution. The inspectors verified that the licensee developed and implemented corrective actions commensurate with the significance of the problems identified. The inspectors also reviewed the licensee's problem identification and resolution activities during the performance of the other inspection activities documented in this report.

b. Findings

No findings were identified.

.2 Annual Follow-up of Selected Issues

a. Inspection Scope

The inspectors selected one issue for an in-depth follow-up:

- On January 3, 2014, the inspectors assessed the licensee's problem identification threshold, cause analyses, extent of condition reviews and compensatory actions due to a non-conforming condition on the Unit 1 emergency diesel generators. The inspectors verified that the licensee appropriately prioritized the planned corrective actions and that these actions were adequate to ensure Unit 1 emergency diesel generator operability during periods of high winds and high temperatures.

These activities constitute completion of one annual follow-up sample, specifically one operator work-around sample, as defined in Inspection Procedure 71152.

b. Findings

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) LER 05000323/2-2013-003-00: Technical Specification 3.6.3 and 3.0.4.a Not Met Due to Human Error

On March 13, 2013, while in operating Mode 5, an operator performing the sealed-valve checklist contained in OP K-10B2, "Sealed Component Checklist for Manual Isolation Components Outside Containment," did not sign the field copy for AIR-S-2-200 being closed, since the service air system was still being used in containment. The operator later incorrectly signed for AIR-S-2-200 being in the closed position while transferring

signatures from the field copy to the master copy. Since AIR-S-2-200 was still open, the independent verifier did not sign the field or master copy. The supervisor failed to notice that the sealed-component checklist was missing the independent verification signature for AIR-S-2-200 and incorrectly signed the checklist as complete. DCPP Unit 2 entered operating Mode 4 on March 18, 2013, at 05:39 am. On March 18, 2013, at 9:30 am, an operator performing step 12.3.4 of Surveillance Test Procedure STP V-7C, "Leak Test of RHR Suction Valves 8701 and 8702," discovered that normally closed AIR-S-2-200 was open. The operator promptly established administrative controls and restored compliance with Technical Specification (TS) 3.6.3, Condition A. TS Surveillance Requirement 3.6.3.4 requires that each manual containment isolation valve be verified closed prior to entry into Mode 4, unless open under administrative controls of Operating Procedure OP 0-12, "Operation of Manual Containment Isolation Valves." However, DCPP personnel failed to verify the containment Penetration 56 flow path was isolated prior to the Mode 4 transition.

The inspectors dispositioned the mispositioned valve as a Licensee Identified Violation (Green) in Section 4OA7 of this inspection report.

No additional deficiencies were identified during the review of this licensee event report. This licensee event report is closed.

.2 (Closed) LER 05000275/1-2013-005-00: Both Trains of Residual Heat Removal Inoperable Due to Circumferential Crack on a Socket Weld

On June 25, 2013, during a walkdown of the Diablo Canyon Unit 1 containment, maintenance personnel noted an accumulation of boric acid on the inlet pipe to residual heat removal system relief valve RHR-I-RV-S70S. Subsequent cleanup of the boric acid accumulation revealed a small active leak. Visual inspection identified that the source of the leak was a circumferential crack on the socket weld. Because the relief valve line was located on a common residual heat removal (RHR) piping header to both RHR trains A and B, operations declared both RHR trains inoperable and performed a plant shutdown to accomplish the weld repair.

The licensee determined that system vibration induced low stress, high-cycle fatigue that caused the socket weld cracking failure. The licensee replaced the failed socket weld with a new weld that has improved fatigue resistance over the original, equal-leg socket weld. Additionally, the licensee will install a new support to reduce the chances of piping vibration amplification.

The inspectors reviewed the event report, as well as the circumstances surrounding the failure of the socket weld, extent of condition, cause analysis, stress analysis report, adequacy of operator response, and the safety significance determination of the failed weld on the operability of the RHR system. No findings or violations of NRC requirements were identified. This licensee event report is closed.

.3 (Closed) LER 05000275/1-2012-006-00: Violation of Technical Specifications due to Incorrect Bases

On August 17, 2012, the licensee determined the Diablo Canyon Units 1 and 2 auxiliary building ventilation system (ABVS) trains had been inoperable for a period longer than allowed by Technical Specification (TS) 3.7.12, "Auxiliary Building Ventilation System."

This condition followed a change made by the licensee to technical specification bases in 2002. On August 17, 2012, PG&E identified this problem and took corrective actions to restore the technical specification bases. Based on the review of the data, it was determined that both trains of ventilation supply fans were occasionally removed from service at the same time for maintenance, and single supply fans were removed from service longer than would have been permitted by TS 3.7.12. The problem was documented in the licensee corrective action program as Notification 50507930. The inspectors reviewed the event report and apparent cause evaluation to verify that the cause of the event was identified and that corrective actions were appropriate. The inspectors concluded that the licensee's corrective actions were appropriate including administrative procedures regarding TS bases changes.

The inspectors dispositioned the mispositioned valve as a Licensee Identified Violation (Green) in Section 4OA7 of this inspection report.

No additional deficiencies were identified during the review of this licensee event report. This licensee event report is closed.

These activities constitute completion of three event follow-up samples, as defined in Inspection Procedure 71153.

4OA6 Meetings, Including Exit

Exit Meeting Summary

The inspectors conducted a debriefing to present preliminary inservice inspection results to Mr. E. Halpin, Senior Vice President and Chief Nuclear Officer, and other members of the licensee staff on February 20, 2014. An exit meeting conference call was held on February 27, 2014, when the inspectors presented the inspection results of the review of inservice inspection activities to Mr. B. Allen, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On March 26, 2014, the inspectors presented the inspection results to Mr. E. Halpin, Senior Vice President and Chief Nuclear Officer, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy for being dispositioned as non-cited violations.

- Technical Specification (TS) 3.6.3 requires that each manual containment isolation valve is verified closed prior to entry into Mode 4, unless open under administrative controls. TS 3.0.4.a specifies that entry into a Mode shall only be made when associated TS-required actions permit continued operation in that Mode for an unlimited period of time. TS 3.6.3, Required Action A.2, requires Diablo Canyon to verify that containment penetration 56 flow path is isolated prior to entering Mode 4 from Mode 5 for isolation

devices inside containment. Contrary to this, on March 18, 2013, DCPP personnel failed to verify the flow path was isolated prior to a transition from Mode 5 to Mode 4, when an operator discovered that Unit 2 service air containment isolation valve AIR-S-2-200 was open.

The performance deficiency was more than minor because it was associated with the human performance attribute of the Barrier Systems Cornerstone, and it adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events, and is therefore a finding. This finding was determined to be of very low safety significance (Green) because the service air system is not a structure, system, or component, only the radiological barrier function of the containment was affected in Mode 4 and Mode 5, the event did not occur during an early time window, and did not occur within eight days of the start of the outage. The licensee entered the issue into the corrective action program as Notification 50549533.

- Title 10 of the Code of Federal Regulations, Part 50, Appendix B, Criterion IX, "Control of Special Processes," requires that, "Measures shall be established to ensure that special processes, including welding, heat treating, and nondestructive testing, are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements."

  Contrary to the above, during original construction in 1974, the licensee failed to ensure that a welding process was performed in accordance with the applicable American Society of Mechanical Engineers (ASME) Code requirements. Small bore piping welds connecting vent and drain valves to safety injection pumps were completed according to a welding procedure specification (WPS) that was written for welding carbon steel to stainless steel. The actual welds connected stainless steel components; therefore, the WPS used did not meet ASME B31.7 (Nuclear Power Piping) and ASME Section IX (Welding, Brazing, and Fusing Qualifications) requirements. Failure to comply with ASME Code welding requirements could result in flaws within safety injection system piping welds. This performance deficiency was more than minor because it was associated with the mitigating systems cornerstone attribute of design control and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The safety significance of this issue was considered very low (Green) because it did not result in a loss of operability or functionality of the safety injection system. The as-built welds were evaluated to have adequate material properties and were determined not to contain flaws and, therefore, did not affect safety injection system operability. This issue was documented in the licensee's corrective action program as Notification Report 50600119.

- Technical Specification (TS) 3.7.12 requires two auxiliary building ventilation system trains be operable in Modes 1, 2, 3, and 4. TS 3.0.3 specifies, in part, that a failure to meet a limited condition for operation requires that actions shall be initiated within one hour to place the unit in Mode 5 within a specific time period.

  Contrary to this, between September 2009 and August 2012, DCPP personel allowed one or both auxiliary building ventilation system supply fans to be inoperable during various periods, resulting in violations of TS 3.7.12 and TS 3.0.3. This performance deficiency was more than minor because it was associated with the mitigating systems

cornerstone attribute of design control and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. A detailed risk evaluation was required to determine the significance of the finding. The risk analyst reviewed the licensee's assumption that adequate cooling would be provided to the emergency core cooling systems by operation of both supply fans from either of the two units. Because the auxiliary building ventilation function was always available; the risk significance of the auxiliary building ventilation system was low; and the periods of time that the system was not operable were relatively short, the risk analyst concluded that the subject finding was of very low safety significance (Green). The licensee entered the issue into the corrective action program as Notification 50507930.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

B. Allen, Site Vice President
T. Baldwin, Manager, Regulatory Services
A. Bates, Director, Engineering Services
P. Gerfas, Assistant Director, Station Director
D. Gonzalez, Lead, Inservice Inspection
E. Halpin, Chief Nuclear Officer
J. Hinds, Director, Quality Verification
T. King, Director, Nuclear Work Management
J. Loya, Supervisor, Regulatory Services
J. MacIntyre, Director, Maintenance Services
M. McCoy, NRC Interface, Regulatory Services
C. Neary, Welding, Engineering Programs
J. Nimick, Director, Operations Services
P. Nugent, Manager, Technical Support
R. Simmons, Manager, Electrical Maintenance
J. Summy, Senior Director, Engineering and Projects
J. Welsch, Station Director R. West, Manager, ICE Systems
M. Wright, Manager, Mechanical Systems Engineering

NRC Personnel

D. Loveless, Senior Reactor Analyst

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000275/2014002-01 0500323//2014002-01	NCV	Failure to Follow Procedure Results in Inadequate Operability Assessment (Section 1R15)
05000275/2014002-02	NCV	Inappropriate Fatigue Rule Waivers (Section 1R20)

Closed

05000323/2-2013-003-00	LER	Technical Specification 3.6.3 and 3.0.4.a Not Met Due to Human Error (Section 4OA3.1)
05000275/1-2013-005-00	LER	Both Trains of Residual Heat Removal Inoperable Due to Circumferential Crack on a Socket Weld (Section 4OA3.2)
05000275/1-2012-006-00	LER	Violation of Technical Specifications due to Incorrect Bases (Section 4OA3.3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

Number	Title	Revision
OP O-28	Intake Management	15
AD7.ID14	Assessment of Integrated Risks	
AD8.DC51	Outage Safety Management Control of Off-site Power Supplies to Vital Buse	16
OP B-8DS2	Core Loading	52
AD8.DC54	Containment Closure	13

Notifications

50534909	50611364	50586410

Section 1R04: Equipment Alignment

Procedures

Number	Title	Revision
OP F-2:1	Component Cooling Water System – Make Available	28
OP K-10E1	Sealed Valve Checklist for Component Cooling Water	6
OP A-4A:11	Pressurizer System Alignment Verification for Plant Startup	30
OP-E-5:IV	Unit 1, Auxiliary Saltwater System During Single CCW Heat Exchanger Operation	11
OP-F-2:VI	Unit 1, CCW System Alignment Verification for Plant Startup	39

Notifications

50606336	50611936	50612919	50612345

Work Orders

60064943	640063377	60066077

Drawings

Number	Title	Revision
106714	Operating Valve Identification Diagram (OVID) - Component Cooling Water	72
106717	Operating Valve Identification Diagram (OVID) -Saltwater	189

Section 1R05: Fire Protection

Procedure

Number	Title	Revision
ECG 18.7	Fire Rated Assemblies	10

Notifications

50504411	50608555	50608784	50608288	50608659
50608702				

Work Orders

60058783	60064480

Drawings

Number	Title	Revision Date
111906-19	Fire Protection – Auxilary Building	April 17, 2013
RA-7	Pre-fire Zone Drawing, H Block 100 foot Elevation, Unit 1	April 17, 2013
RA-15	Pre-fire Zone Drawing, H Block 100 foot Elevation, Unit 2	April 17, 2013
RA-9	Pre-fire Zone Drawing, H Block 115 foot Elevation, Unit 1	April 17, 2013
RA-17	Pre-fire Zone Drawing, H Block 115 foot Elevation, Unit 2	April 17, 2013
RA-30	Pre-fire Strategies, Containment Building Elev. 140 foot, Unit 1	1
RA-33	Pre-fire Zone Drawing, Containment Building Elev. 91-114 foot, Unit 1	1
RA-27	Pre-fire Zone Drawing, Containment Building Elev. 117 foot, Unit 1	2
RA-29	Pre-fire Zone Drawing, Containment Building Elev. 140 foot, Unit 1	2

Section 1R06: Flood Protection Measures

Procedures

Number	Title	Revision
STP M-70D	Inspection of Fire Barriers, Rated Enclosures, Credited Cable Fire Stops, and Equipment Hatches	17
MP M-50.30	Handling of In-Ground Vault Covers and Floor Plugs	18

Notifications

50534909 50613182 50610369

Work Order

60058117

Section 1R08: Inservice Inspection Activities

Procedures

Number	Title	Revision
NDE-UT-2	Ultrasonic Examination of Austenitic Piping	9
NDE-UT-3	Ultrasonic Through Wall Sizing in Pipe Welds	2
NDE-UT-11	UT Thickness Measurement Using a Digital Thickness Gauge	1
NDE-PT-1	Visible Dye Liquid Penetrant Examination	4
NDE VT 2 1	Visual Examination During Section XI System Pressure Test	2
ER1.ID2	Boric Acid Corrosion Control Program	7
STP R-8C	Containment Walkdown for Evidence of Boric Acid Leakage	10
AD4.ID2	Plant Leakage Evaluation	10
AD7.ID11	Fluid Leakage Management Program	1
STP R-8A	Reactor Coolant System Leakage Test	16
TS1.NE1	Flow-Accelerated Corrosion Monitoring Program	6
WPS 5	ASME/ANSI Weld Procedure Specification Welding of P1 Materials with GTAW and/or SMAW ASMEI, ASME III, ASME VIII, ANSI B31.1, and AWS 5,2	8

Other Documents

Number	Title	Revision/Date
TAC NO. MF1427	Diablo Canyon Power Plant, Unit 1-Approval of Request for Relief NDE-RCS-SE-1R18 to Allow use of Alternative Depth-Sizing Criteria	January 3, 2014
TAC NOS. ME7854 AND ME7855	Approval of an Alternative to the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI Examination Requirements for Class 1 and 2 Piping Welds	January 16, 2013
PG&E Letter PSDR-TAM-14-003	Reactor Vessel Inlet Nozzle Cladding Damage Assessment for Diablo Canyon Unit 1	February 2014
	Pacific Gas and Electric, Diablo Canyon Unit 1 Refueling Outage 1R18 February 2014, Steam Generator Degradation Assessment	July 8, 2013 Revision 0
	Quick HIT Self-Assessment Reactor Coolant System Materials Degradation Management Program and Steam Generator Management Program	November 4-6, 2013
MCOE-LTR-14-15	Diablo Canyon 1 Reactor Pressure Vessel Cladding Inspection Assessment and Presumptive Cause Analysis	February 24, 2014 Revision 0
420DC-13.44	ATS Evaluation of Valve SI-1-171 Socket Weld Identified as P8 to P6 Reference Notification 50600119 Task 1	December 2013
1301620.402.R0	Safety Injection Pump - Stress and Fracture Mechanics Evaluation of Type 410 Stainless Steel Weldments	January 17, 2014
10-313	RHR Socket Weld Failure Analysis 13-0379-TR-001	2

Notifications

50471352	50475217	50478508	50479771	50351811
50482641	50484738	50481913	50204112	50481598
50571938	50570623	50550019	50551310	50579839
50578776	50560201	50566923	50508510	50581573
50580298	50611088	50600119	60012366	60065666

Work Orders

60047556	60007663	60048784		

Section 1R11: Licensed Operator Requalification Program and Licensed Operator Performance

Procedures

Number	Title	Revision
OP1.DC23	Control of Posted Plant Signs and Information	7
OP L-2	Hot Standby to Startup Mode	40
TQ-2.DC3	Licensed Operator Training Program	25
STP R-30	Reload Cycle Initial Criticality	17
OM4.ID2	Plant Staff Review Committee (PSRC)	25
OP1.DC1	Administrative Program to Control the Return to Power After a Reactor Trip	11

Notifications

50607983	50607851	50608161	50607231	50607202
50607203				

Other Document

Number	Title	Date
49786	Event Report Diablo Canyon	February 2, 2014

Section 1R12: Maintenance Effectiveness

Procedures

Number	Title	Revision
STP I-1D	Surveillance Testing Procedure Monthly Routine	85
OP A-4A:I	Pressurizer – Make Available	31

Notifications

50606336	50471768	A0481018	50586410	50602558

Work Orders

60064943 60064139

Drawings

Number	Title	Revision
437545	Single Line Diagram Pressurizer Heaters	10
437540	480V System Bus Section 13D	30
458858	Schematic Diagram Pressurizer Heaters, Safety Related	12
437602	Schematic Diagram Pressurizer Heaters	22

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

Number	Title	Revision
ADA.ID8	Identification and Resolution of Loose, Missing, or Damaged Fasteners	13
ADA.DC55	Outage Safety Scheduling	38
MP E-60.1A	Main Generator Protective Circuit Functional Test	1

Notifications

50604077	50603848	50603906	50503338	50603339
50608209	50611137			

Section 1R15: Operability Determinations and Functionality Assessments

Procedure

Number	Title	Revision
ADA.ID8	Identification and Resolution of Loose, Missing, or Damaged Fasteners	13

Notifications

50600119	50600462	50615029	50592094	50599190
50604077	50603848	50603906	50503338	50603339
50612257	50607382	50590178	50592373	50590030
50589999				

Engineering Calculation

Number	Title	Revision
65-T-825	Summary of design criteria for modifications to Turbine Building associated with Diesel Generator airflow improvement	0

Drawings

Number	Title	Revision
4016748	D/G Airflow Modification Turning Vane Support	1
498843	Ventilation Duct Supports for Diesel Engine Generation Room	3
4016751	Emergency Diesel Generator Exhaust Plenum	1

Section 1R18: Plant Modifications

Miscellaneous

DDP 1-24943 DC 663079-122-2

Notification

50610002

Section 1R19: Post-Maintenance Testing

Procedures

Number	Title	Revision
STP I-1C	Routine Weekly Checks Required by Licenses	106
STP V-635	Penetration 35 Containment Isolation Valve Leak Testing	28
STP I-65	Containment Fan Cooler Unit Calibration	11

Notifications

50614620	50512002	50614900	50614649	
50614750	50614862			

Work Orders

64034141	64034206	64110781	64064002	64064058
60066082	64119707	60066627		

Section 1R20: Refueling and Other Outage Activities

Procedures

Number	Title	Revision
STP R-8C	Containment Walk down for Evidence of Boric Acid Leakage	10
OP A-2:11	Reactor Vessel- Draining the RCS to the Vessel Flange – with Fuel in Vessel	46
AD8.ID1	Outage Planning and Management	
CF3.ID20	Work at Risk Process	1
OM14.ID1	Fatigue Management Rule Program	23
AD8.DC55	Outage Safety Scheduling	38
AD8.DC54	Containment Closure	13
MP M-56.6	Door Opening Instructions	3
MP M-7-RX.7	Reactor Vessel Closure Head Removal	4
OP A-2:X	RVRLIS Alignments for Refueling Outages	9
STP M-45A	Containment Inspection Prior to Establishing Containment Integrity	31
AD4.ID3	SISIP Housekeeping Activities	12

Notifications

50608288	50609023	50609348	50609672	50609031
50609031	50609744	50609005	50609279	50608944
50611562	50610472	50610521	50609918	50610523
50610369	50613267	50604432	50613434	50613421
50613004	50613306	50613395	50613375	

Work Order

64093484

Other Documents

Number	Title	Revision/Date
	Diablo Canyon Power Plant Units 1 and 2, Seismically Induced System Interaction Manual	10

C18 R-04-025	Control Room Switch Replacement of Steam Dump Controls	February 11, 2014
1ADM-S-45-012	Containment Closure Valve Status	February 12, 2014
TCP 3991	Transient Combustible Permit, CCW room	February 2, 2014

Section 1R22: Surveillance Testing

Procedures

Number	Title	Revision
STP M-39A3	Emergency Diesel Generator Test CO2 Fire System Operability	16
STP V-24	Leak Test of Safety Injection Pump Recirculation Valves 8974A/B and Recirculation Check Valves 8919A/B	20
STP P-SIP-A11	Comprehensive Test of Safety Injection Pump 11	7
STP 1-7-M.1	Transmitter Calibration Checks and Test Setup	7
MP I-23-T85	Containment Temperature Channels TE-85 thru TE-108	3
STP I-1B	Routine Daily Checks Required by License	103
MP M-4.18A	Check of Main Steam Safety Valve Lift Point	12
STP V-661	Penetration 61 Containment Isolation Valve Leak Testing	17
STP V-663	Penetration 63 Containment Isolation Valve Leak Testing	18
STP-M-9A	Emergecny Diesel Generator Routine Sureveillance Test	95

Notifications

50602722	50613783	50613784	50613108	50602030
50602253	50602227			

Work Orders

64064185	64066543	60064060	64110781	64064002
64064058	60066082	64119707		

Section 4OA1: Performance Indicator Verification

Miscellaneous

Number	Title
DCPP-Event.xls	Plant and Station Event Summary
DCPP-Event.xls	Net Generation Annunciator
Units 1 and 2	2013 Operations Logs

Section 4OA2: Problem Identification and Resolution

Procedures

Number	Title	Revision
OM4.ID14	Notification Review Team (NRT)	22
OM11.ID8	Tampering, Malicious Mischief, and Vandalism	0

Notifications

50599190	50590178	50307598	50603848	50604077
50604182	50605517	50606817	50606707	50606689
50606851	50606654	50606665		

Section 4OA3: Follow-up of Events and Notices of Enforcement Discretion

Procedures

Number	Title	Revision
OP-K-10B2	Sealed Component Checklist for Containment Manual Isolation Components Outside of Containment	25
OP-K-10	Systems Requiring Sealed Components	42

Notification

50549533

Section 4OA7: Licensee-Identified Violations

Notification

50549533

Procedures

Number	Title	Revision
OP-O-12	Operation of Manual Containment Isolation Valves	11
OP-K-10B2	Sealed Component Checklist for Containment Manual Isolation Components Outside of Containment	25

PAPERWORK REDUCTION ACT STATEMENT

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, Control Number 3150-0011. The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget control number.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Information Request

December 30, 2013

Notification of Inspection and Request for Information

Diablo Canyon Nuclear Power Plant

NRC Inspection Report 05000275/2014002

On February 10, 2014, reactor inspectors from the Nuclear Regulatory Commission's (NRC) Region IV office will perform the baseline inservice inspection at Diablo Canyon, Unit 1, using NRC Inspection Procedure 71111.08, "Inservice Inspection Activities." 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 (Section A of the enclosure) identified 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. Michael McCoy of your licensing organization. The tentative inspection schedule is as follows:

Preparation week: February 3, 2014

Onsite weeks: February 10 through February 20, 2014

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 Isaac Anchondo at (817) 200-1152 (isaac.anchondo@nrc.gov).

A.1 ISI/Welding Programs and Schedule Information

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

i. Nondestructive examinations planned for ASME Code Class Components performed as part of your ASME Section XI, risk informed (if applicable), and augmented inservice inspection programs during the upcoming outage.

ii. Examinations planned for Alloy 82/182/600 components that are not included in the Section XI scope (If applicable).

iii. Examinations planned as part of your boric acid corrosion control program (Mode 3 walkdowns, bolted connection walkdowns, etc.)

iv. 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.

i. A list of ASME Code Cases currently being used to include the system and/or component the Code Case is being applied to.

c) A list of nondestructive examination reports which have identified recordable or rejectable indications on any ASME Code Class components 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.

d) A list including a brief description (e.g., system, code class, weld category, nondestructive examination performed) associated with the repair/replacement activities of any ASME Code Class component since the beginning of the last outage and/or planned 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 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 Reactor Pressure Vessel Head

a) Provide a detailed scope of the planned bare metal visual examinations (e.g., volume coverage, limitations, etc.) of the vessel upper head penetrations and/or any nonvisual nondestructive examination of the reactor vessel head including the examination procedures to be used.

   i. Provide the records recording the extent of inspection for each penetration nozzle including documents which resolved interference or masking issues that confirm that the extent of examination meets 10 CFR 50.55a(g)(6)(ii)(D).

   ii. Provide records that demonstrate that a volumetric or surface leakage path examination assessment was performed.

Copy of current calculations for EDY, and RIY as defined in Code Case N-729-1 that establish the volumetric and visual inspection frequency for the reactor vessel head and J-groove welds.

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 shut down, please provide documentation of containment walkdown inspections performed as part of the boric acid corrosion control program.

A.4 Additional Information Related to all Inservice Inspection Activities

a) A list with a brief description of inservice inspection, and boric acid corrosion control program related issues (e.g., Condition Reports) entered into your corrective action program since the beginning of the last refueling outage. For example, a list based upon data base searches using key words related to piping such as: inservice inspection, ASME Code, Section XI, NDE, cracks, wear, thinning, leakage, rust, corrosion, boric acid, or errors in piping examinations.

b) Provide training (e.g. Scaffolding, Fall Protection, FME, Confined Space) if they are required for the activities described in A.1 through A.4.

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

Inservice inspection (examination, planning)

Containment exams

Reactor pressure vessel head exams

Snubbers and supports

Repair and replacement program

Licensing

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 Inspector(s) at the Entrance Meeting (February 10, 2014):

B.1 Inservice Inspection / Welding Programs and Schedule Information

a) Updated schedules for inservice inspection/nondestructive examination activities, including planned welding activities, and schedule showing contingency repair plans, if available.

b) For ASME Code Class welds selected by the inspector 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 welding procedures used to fabricate the welds.

vi. Copies of procedure qualification records (PQRs) supporting the weld procedures from B.1.b.v.

vii. Copies of welder's performance qualification records (WPQ).

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. Readily accessible copies of nondestructive examination personnel qualifications records for reviewing.

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 ASME Code Class components 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) 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 (RPVH)

a) Provide drawings showing the following (if performing any RPVH inspection activities):

i. RPVH and control rod drive mechanism nozzle configurations.

ii. RPVH insulation configuration.

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

b) Copy of the documents which demonstrate that the procedures to be used for volumetric examination of the reactor vessel head penetration J-groove welds were qualified by a blind demonstration test in accordance with 10 CFR 50.55a(g)(6)(ii)(D).

c) Copy of volumetric, surface, and visual examination records for the prior inspection of the reactor vessel head and head penetration J-groove welds.

B.3 Boric Acid Corrosion Control Program

a) Please provide boric acid walk down 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 Codes and Standards

a) Ready access to (i.e., copies provided to the inspector(s) 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.

b) Copy of the performance demonstration initiative (PDI) generic procedures with the latest applicable revisions that support site qualified ultrasonic examinations of piping welds and components (e.g., PDI-UT-1, PDI-UT-2, PDI-UT-3, PDI-UT-10, etc.).

c) Boric Acid Corrosion Guidebook Revision 1 – EPRI Technical Report 1000975.