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

February 6, 2018

Mr. James M. Welsch
Vice President of Nuclear Generation
and Chief Nuclear Officer
Pacific Gas and Electric Company
Diablo Canyon Power Plant
P.O. Box 56, Mail Code 104/6
Avila Beach, CA 93424

SUBJECT: DIABLO CANYON POWER PLANT – NRC INTEGRATED INSPECTION REPORT 05000275/2017004 and 05000323/2017004

Dear Mr. Welsch:

On December 31, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Diablo Canyon Power Plant Units 1 and 2. On January 10, 2018, the NRC inspectors discussed the results of this inspection with Mr. J. Welsch, Vice President of Nuclear Generation and Chief Nuclear Officer, and other members of your staff. The results of this inspection are documented in the enclosed report.

NRC inspectors documented a finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violation or significance of the NCV, 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; and the NRC resident inspector at the Diablo Canyon Power Plant.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at http://www.nrc.gov/reading-rm/adams.html and at the NRC Public Document Room in accordance with 10 CFR 2.390, “Public Inspections, Exemptions, Requests for Withholding.”

Sincerely,

/RA/

Mark S. Haire, Chief
Project Branch A
Division of Reactor Projects

Docket Nos. 05000275 and 05000323
License Nos. DPR-80 and DPR-82

Enclosure:
Inspection Report 05000275/2017004 and
05000323/2017004
w/ Attachment: Supplemental Information

DIABLO CANYON POWER PLANT – NRC INSPECTION REPORT 05000275/2017004 and 05000323/2017004 – February 6, 2018

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000275; 05000323
License:	DPR-80; DPR-82
Report:	05000275/2017004; 05000323/2017004
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:	October 1 through December 31, 2017
Inspectors:	C. Newport, Senior Resident Inspector J. Reynoso, Resident Inspector P. Elkmann, Senior Emergency Preparedness Inspector
Approved By:	Mark S. Haire Chief, Project Branch A Division of Reactor Projects

Enclosure

SUMMARY

IR 05000275/2017004, 05000323/2017004; 10/01/2017 – 12/31/2017; Diablo Canyon Power Plant; Follow-up of Events and Notices of Enforcement Discretion

The inspection activities described in this report were performed between October 1 and December 31, 2017, by the resident inspectors at Diablo Canyon Power Plant and an inspector from the NRC's Region IV office. One finding of very low safety significance (Green) is documented in this report. This finding involved a violation of NRC requirements. The significance of inspection findings is indicated by their color (i.e., Green, greater than Green, White, Yellow, or Red), determined using Inspection Manual Chapter 0609, "Significance Determination Process," dated April 29, 2015. Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Aspects within the Cross-Cutting Areas," dated December 4, 2014 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," dated July 2016.

Cornerstone: Mitigating Systems

- Green. The inspectors identified a self-revealing, non-cited violation of Technical Specification (TS) 5.4.1, "Procedures," for the licensee's failure to provide adequate guidance in operating procedure OP K-11:I, "Operating the Nitrogen Supply System," Revision 28. Specifically, PG&E failed to provide adequate procedural guidance to prevent pressure excursions in the safety-related nitrogen pressure supply system resulting in leakage past the relief valve RV-355 O-ring seat and the inoperability and degradation of safety function of a single train of the Unit 2 safety-related pressurizer power operated relief valves (PORVs).

  The inspectors determined that failing to have adequate procedural guidance for the safety-related nitrogen supply system to the pressurizer PORVs was a performance deficiency. This performance deficiency was considered to be more than minor because it impacted the equipment performance attribute of the Mitigating Systems cornerstone and its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, inadequate procedural guidance resulted in a degraded RV-355 O-ring, excessive nitrogen leakage, and the inoperability of safety-related PORV PCV-455C. Using NRC Manual Chapter 0609, "Significance Determination Process," Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined the finding screened as having very low significance (Green) because: (1) it was not a design deficiency; (2) did not represent a loss of system and/or function; (3) did not represent an actual loss of function of a least a single train for longer than its technical specification allowed outage time; and (4) did not result in the loss of a high safety-significant non-technical specification train. The inspectors determined that the finding did not have a cross-cutting aspect associated with it because it was not representative of current performance as the most recently identified licensee missed opportunity was during a similar event occurring in the year 2000. (Section 4OA3)

PLANT STATUS

Units 1 and 2 began the inspection period at full power.

On December 15, 2017, Unit 1 reduced power to 88 percent for main turbine stop and control valve testing. Unit 1 returned to full power later the same day.

Units 1 and 2 operated at or near 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)

Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

On November 16, 2017, the inspectors completed an inspection of the station's readiness for seasonal extreme weather conditions. The inspectors reviewed the licensee's adverse weather procedures for ocean high swells and circulating water intake management during the storm season and evaluated the licensee's implementation of these procedures. The inspectors verified that prior to the onset of the storm season, the licensee had corrected weather-related equipment deficiencies identified during the previous storm season.

The inspectors reviewed the licensee's procedures and design information to ensure the circulating and auxiliary saltwater systems would remain functional when challenged by debris loading due to high ocean swells. 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 one sample of readiness for seasonal adverse weather, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial Walk-Down

a. Inspection Scope

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

- October 5, 2017, Unit 1, safety injection pump 1-2
- December 11, 2017, Unit 2, emergency diesel generator 2-1

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 two partial system walk-down samples as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

.2 Complete Walk-Down

a. Inspection Scope

On December 15, 2017, the inspectors performed a complete system walk-down inspection of the Units 1 and 2 control room ventilation system. The inspectors reviewed the licensee's procedures and system design information to determine the correct system lineup for the existing plant configuration. The inspectors also reviewed outstanding work orders, open condition reports, in-process design changes, 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 four plant areas important to safety:

- October 11, 2017, Units 1 and 2, auxiliary building fire areas located on the 154 foot elevation

- October 17-18, 2017, Units 1 and 2, emergency diesel generator and exhaust fire zones, located on the 85 foot and 104 foot elevations

- October 19, 2017, Units 1 & 2, radiological controlled area located on the 115 foot elevation

- December 21, 2017, Units 1 and 2, cable spreading rooms located on the 128 foot elevation

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 four 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 November 30, 2017, the inspectors completed an inspection of the station's ability to mitigate flooding due to internal causes. After reviewing the licensee's flooding analysis, the inspectors chose the following plant areas containing risk-significant structures, systems, and components that were susceptible to flooding:

- Units 1 and 2, component cooling water heat exchanger rooms

The inspectors reviewed plant design features and licensee procedures for coping with internal 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 operator actions credited for flood mitigation could be successfully accomplished.

These activities constituted completion of one flood protection measures sample, as defined in Inspection Procedure 71111.06.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

On December 18, 2017, the inspectors completed an inspection of the readiness and availability of risk-significant heat exchangers. The inspectors reviewed the data from performance tests for the Unit 1, component cooling water (CCW) heat exchanger 1-2. Additionally, the inspectors walked down the Unit 1 CCW 1-2 heat exchanger while the access hatch was removed to observe its performance and material condition.

These activities constituted completion of one heat sink performance annual review sample, as defined in Inspection Procedure 71111.07.

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 October 4, 2017, the inspectors observed an evaluated simulator scenario performed by an operating crew. The inspectors assessed the performance of the operators and the evaluators' critique of their performance. The inspectors also assessed the modeling and performance of the simulator during the simulatory training scenario.

These activities constituted 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. At the time of the observations, the plant was in a period of heightened activity. The inspectors observed the operators' performance of the following activities:

- November 2, 2017, Unit 2, test procedure to determine moderator temperature coefficient at power, impacting reactor power and reactor coolant system temperature
- November 22, 2017, Unit 1, quarterly control rod testing, including the pre-job brief
- December 15, 2017, Unit 1, downpower for turbine valve testing, including the pre-job brief

In addition, the inspectors assessed the operators' adherence to plant procedures, including conduct of operations procedure and other operations department policies.

These activities constituted completion of one quarterly licensed operator performance sample, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed one instance of degraded performance or condition of safety-significant structures, systems, and components (SSCs):

- November 21-24, 2017, Units 1 and 2, auxiliary building heating, ventilation, and air conditioning and ventilation air flow evaluation

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 one maintenance effectiveness sample, as defined in Inspection Procedure 71111.12.

b. Findings

No findings were identified.

.2 Quality Control

a. Inspection Scope

On October 25-26, 2017, the inspectors reviewed the licensee's quality control activities through a review of parts installed in the Unit 1 and Unit 2 safety relief valves. The licensee identified some parts purchased as commercial-grade parts but required replacement with quality grade. The licensee has initiated corrective actions to replace the O-rings at the next available opportunity.

These activities constituted completion of one quality control sample, 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 two 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:

- October 22-26, 2017, Unit 2, emergency diesel generator 2-2, extended maintenance outage

- November 27, 2017, Unit 2, motor driven auxiliary feedwater pump 2-2, maintenance outage

The inspectors verified that these risk assessment were performed in a timely manner 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.

Additionally, on November 7-8, 2017, the inspectors observed portions of one emergent work activity, Unit 2, loss of emergency core cooling system redundancy due to inoperable charging pump 2-1, that had the potential to affect the functional capability of mitigating systems or to impact barrier integrity.

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 constituted completion of three 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 six operability determinations that the licensee performed for degraded or nonconforming SSCs:

- October 3, 2017, operability determination of Unit 1 auxiliary feedwater loop 2, flow indicator FI-158 oscillations

- October 10, 2017, operability determination of Unit 1 emergency diesel generator 1-2 load oscillations

- October 13, 2017, operability determination of Unit 1 train A, solid state protection system unexpectedly identified in test mode

- October 24-26, 2017, operability determination of Unit 2 relief valve O-ring failure associated with pilot operated relief valve 455C

- November 15-16, 2017, operability determination of Unit 1 auxiliary building ventilation system damper M-22A with degraded linkage

- December 14, 2017, operability determination of Unit 2 containment spray pump 2-1 bearing sleeve rotation

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

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

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

On November 28, 2017, the inspectors reviewed a permanent modification to the solid state protection system universal logic and safeguards logic board 48 Vdc inputs. 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 operability or functionality of the SSC as modified.

These activities constituted 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:

- October 4-14, 2017, Unit 2, control room ventilation supply fan S-37 maintenace and post-maintenance testing, Work Order 64167426
- October 12, 2017, Unit 1, emergency diesel generator 1-2, mechanical governor replacement and post-maintenance testing, Work Order 60105598
- November 10-11, 2017, Unit 2, centrifugal charging pump 2-1, outboard bearing replacement and post-maintenance testing, Work Order 60105598
- November 15, 2017, Unit 1, auxiliary building exhaust fan E-1, maintenance with belt replacement and post-maintenance testing, Work Order 64153833

- December 12, 2017, Unit 2, emergency diesel generator governor cannon type connector replacement and post maintenance testing, Work Order 60105139

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

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed four 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:

- October 3, 2017, Unit 2, exercising steam supply to auxiliary feedwater pump turbine stop valve FCV-95, per procedure STP V-3R5

Reactor coolant system leak detection tests:

- December 18, 2017, Units 1 and 2, reactor coolant system leakage test, per procedure STP I-1B

Other surveillance tests:

- November 2, 2017, Unit 2, pressurizer and reactor coolant system chemical and volume control system liquid sample, per procedure CAP E-1:IV

- December 12, 2017, Unit 2, train A, solid state protection system actuation logic testing, per procedure STP I-38-A.1

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 constituted completion of four surveillance testing inspection samples, as defined in Inspection Procedure 71111.22.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System Testing (71114.02)

a. Inspection Scope

The inspector verified the adequacy of the licensee's methods for testing the primary and backup alert and notification system. The inspector interviewed licensee personnel responsible for the maintenance of the primary and backup alert and notification system and reviewed a sample of corrective action system reports written for alert and notification system problems. The inspector compared the licensee's alert and notification system testing program with criteria in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1; FEMA Report REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants;" and the licensee's current FEMA-approved alert and notification system design report, "Diablo Canyon Nuclear Power Plant Alert and Notification System Design Report, Early Warning System," Revision 4, dated July 2016. The inspector also reviewed annual preventative maintenance performed on sirens in 2016 and 2017.

These activities constituted completion of one alert and notification system evaluation sample as defined in Inspection Procedure 71114.02.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Staffing and Augmentation System (71114.03)

a. Inspection Scope

The inspector verified the licensee's emergency response organization on-shift and augmentation staffing levels were in accordance with the licensee's emergency plan commitments. The inspector reviewed documentation and discussed with licensee staff the operability of primary and backup systems for augmenting the on-shift emergency response staff to verify the adequacy of the licensee's methods for staffing emergency response facilities, including the licensee's ability to staff pre-planned alternate facilities. The inspector also reviewed records of emergency response organization augmentation tests and events to determine whether the licensee had maintained a capability to staff emergency response facilities within emergency plan timeliness commitments.

These activities constitute completion of one emergency response organization staffing and augmentation testing sample as defined in Inspection Procedure 71114.03.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspector performed an in-office review of revised portions of the Diablo Canyon Power Plant Plant Emergency Plan. This first set of revisions, provided to the NRC on May 12, 2017:

- Updated the roles and responsibilities of emergency response organization (ERO) resources
- Updated the ERO on-shift staffing analysis and emergency action level basis appendices to reflect implementation of the National Fire Protection Association (NFPA) 805 document as the basis for the licensee's fire protection program
- Updated organizational titles

The second set of revisions, provided to the NRC on September 20, 2017:

- Updated the emergency planning zone (EPZ) map to the 2016 version provided by San Luis Obispo County Office of Emergency Services
- Clarified the methods used by the licensee to annually provide public education materials to persons residing in or doing business in the EPZ
- Made minor editorial and typographical revisions

These revisions were compared to their previous revisions, to the criteria of NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, and to the standards in 10 CFR 50.47(b) to determine if the revisions adequately implemented the requirements of 10 CFR 50.54(q)(3) and 50.54(q)(4). The inspector verified that the revisions did not reduce the effectiveness of the emergency plan. This review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, these revisions are subject to future inspection.

These activities constitute completion of two emergency action level and emergency plan change samples as defined in Inspection Procedure 71114.04.

b. Findings

No findings were identified.

1EP5 Maintenance of Emergency Preparedness (71114.05)

a. Inspection Scope

The inspector reviewed the following for the period August 2015 through October 2017:

- After-action reports for emergency classifications and events
- After-action evaluation reports for licensee drills and exercises

- Independent audits and surveillances of the licensee's emergency preparedness program
- Self-assessments of the emergency preparedness program conducted by the licensee
- Licensee evaluations of changes made to the emergency plan and emergency plan implementing procedures
- Drill and exercise performance issues entered into the licensee's corrective action program
- Emergency preparedness program issues entered into the licensee's corrective action program
- Maintenance records for equipment supporting the emergency preparedness program
- Emergency response organization and emergency planner training records

The inspector reviewed summaries of 1,100 corrective action program reports associated with the emergency preparedness program and selected 53 to review against program requirements, to determine the licensee's ability to identify, evaluate, and correct problems in accordance with planning standard 10 CFR 50.47(b)(14) and 10 CFR Part 50, Appendix E, IV.F. The inspector verified that the licensee accurately and appropriately identified and corrected emergency preparedness weaknesses during critiques and assessments.

The inspector reviewed summaries of 168 licensee evaluations of the impact of changes to the emergency plan and implementing procedures, and selected 16 to review against program requirements to determine the licensee's ability to identify reductions in the effectiveness of the emergency plan in accordance with the requirements of 10 CFR 50.54(q)(3) and 50.54(q)(4). The inspector verified that evaluations of proposed changes to the licensee emergency plan appropriately identified the impact of the changes prior to being implemented.

The inspector reviewed summaries of 387 records pertaining to the maintenance of equipment and facilities used to implement the emergency plan, and selected nine to review against program requirements to determine the licensee's ability to maintain equipment in accordance with the requirements of 10 CFR 50.47(b)(8) and 10 CFR Part 50, Appendix E, IV.E. The inspector verified that equipment and facilities were maintained in accordance with the commitments of the licensee's emergency plan.

The inspector reviewed periodic facility walkdown and surveillance records for all emergency response facilities for two calendar quarters. The inspector also toured the Technical Support Center and Operational Support Center to verify they were being maintained in accordance with the requirements of the site emergency plan.

These activities constitute completion of one sample of the maintenance of the licensee's emergency preparedness program as defined in Inspection Procedure 71114.05.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

During the inspection period, the inspectors observed two separate emergency preparedness drills to verify the adequacy and capability of the licensee's assessment of drill performance:

- On October 4, 2017, the inspectors reviewed the drill scenario, observed the drill from the technical support center (TSC), the emergency operations facility (EOF), and the simulator, and attended the post-drill critiques.

- On November 8, 2017, the inspectors reviewed the drill scenario, observed the drill from the TSC, the EOF, and the simulator, and attended the post-drill critiques.

The inspectors verified that the licensee's emergency classifications, off-site notifications, and protective action recommendations were appropriate and timely. The inspectors verified that any emergency preparedness weaknesses were appropriately identified by the licensee in the post-drill critique and entered into the corrective action program for resolution.

These activities constituted completion of two emergency preparedness drill observation samples, as defined in Inspection Procedure 71114.06.

b. Findings

No findings were identified.

.2 Training Evolution Observation

a. Inspection Scope

On October 24, 2017, 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, off-site notifications, and protective action recommendations 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 constituted completion of one training observation sample, as defined in Inspection Procedure 71114.06.

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 Reactor Coolant System Specific Activity (BI01)

a. Inspection Scope

The inspectors reviewed the licensee's reactor coolant system chemistry sample analyses for the period of October 2016 through October 2017 to verify the accuracy and completeness of the reported data. The inspectors observed a chemistry technician obtain and analyze a reactor coolant system sample on November 2, 2017. 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 reported data.

These activities constituted verification of the reactor coolant system specific activity performance indicator for Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.2 Reactor Coolant System Identified Leakage (BI02)

a. Inspection Scope

The inspectors reviewed the licensee's records of reactor coolant system total leakage for the period of October 2016 through October 2017 to verify the accuracy and completeness of the reported data. The inspectors observed the performance of RCS leakage surveillance procedure STP R-10C, "Reactor Coolant System Water Inventory Balance," on December 15, 2017. 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 reported data.

These activities constituted verification of the reactor coolant system leakage performance indicator for Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.3 Drill/Exercise Performance (EP01)

a. Inspection Scope

The inspector reviewed the licensee's evaluated exercises, emergency plan implementations, and selected drill and training evolutions that occurred between

October 2016 and September 2017 to verify the accuracy of the licensee's data for classification, notification, and protective action recommendation (PAR) opportunities. The inspector reviewed a sample of the licensee's completed classifications, notifications, and PARs to verify their timeliness and accuracy. The inspector used Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data. The specific documents reviewed are described in the attachment to this report.

These activities constituted verification of the drill/exercise performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.4 Emergency Response Organization Drill Participation (EP02)

a. Inspection Scope

The inspector reviewed the licensee's records for participation in drill and training evolutions between October 2016 and September 2017 to verify the accuracy of the licensee's data for drill participation opportunities. The inspector verified that all members of the licensee's ERO in the identified key positions had been counted in the reported performance indicator data. The inspector reviewed the licensee's basis for reporting the percentage of ERO members who participated in a drill. The inspector reviewed drill attendance records and verified a sample of those reported as participating. The inspector used Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data. The specific documents reviewed are described in the attachment to this report.

These activities constituted verification of the emergency response organization drill participation performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.5 Alert and Notification System Reliability (EP03)

a. Inspection Scope

The inspector reviewed the licensee's records of Alert and Notification System tests conducted between October 2016 and September 2017 to verify the accuracy of the licensee's data for siren system testing opportunities. The inspector reviewed procedural guidance on assessing alert and notification system opportunities and the results of periodic alert and notification system operability tests. the inspector used Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data. The specific documents reviewed are described in the attachment to this report.

These activities constituted verification of the alert and notification system reliability performance indicator 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 condition report screening 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 Semiannual Trend Review

a. Inspection Scope

The inspectors reviewed the licensee's corrective action program, performance indicators, system health reports, performance improvement, margin management program reports, and other documentation to identify trends that might indicate the existence of a more significant safety issue. The inspectors verified that the licensee was taking corrective actions to address the following identified adverse trends:

- reactor coolant pump (RCP) seal resistance flow issues
- main generator hydrogen leakage issues

These activities constituted completion of one semiannual trend review sample, as defined in Inspection Procedure 71152.

b. Observations and Assessments

The inspectors evaluated a sample of issues and events that occurred over the course of the past two quarters to determine whether issues were appropriately considered as emerging or adverse trends. The inspectors verified that these issues were addressed within the scope of the corrective action program or through department review and documentation in the corrective action program for overall assessment.

The inspectors' review of the trend related to RCP seal resistance flow issues produced the following observation and assessment:

- During the period of June 19 through October 19, 2017, the licensee identified unanticipated changes to RCP seal resistance flow as an adverse trend and initiated a review of actions to taken. The licensee performed immediate actions to adjust RCP seal resistance flow and because of repeated problems, designated an emergent issue owner as an advocate for all operationally related activities to validate the conclusions of this adverse trend. Since the licensee considered this a repeat problem they initiated actions to investigate the adverse trend as documented in Notifications 50938901 and 50947021. The licensee investigation included review of system changes to RCP seal injection flow resistance and considered previous corrective actions and historical data. The licensee determine that the observed trend of RCP seal resistance was not due to system performance or equipment degradation.

  The inspectors evaluated the licensee's response to the negative trend and determined the actions taken were appropriate.

The inspectors' review of the trend related to main generator hydrogen leakage issues produced the following observation and assessment:

- Throughout 2017, several notifications were written regarding issues of hydrogen leakage from the main generators in Units 1 and 2. The licensee evaluated this trend, verified corrective actions, and initiated trend Notifications 50947122 and 50947096. The licensee's planned actions are to monitor the hydrogen leak, provide supplemental ventilation to plant areas, and the initiation of a work order to troubleshoot and repair leaks. Additional actions will be planned based on the results of the troubleshooting activities.

  The inspectors evaluated the licensee's response to the trend and determined the planned actions were timely and appropriate.

c. Findings

No findings were identified.

.3 Annual Follow-up of Selected Issues

a. Inspection Scope

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

- On November 20, 2017, emergency diesel generator excitation diode preventative maintenance.

  The inspectors reviewed licensee's response to industry and NRC operating experience related to the preventative replacement of emergency diesel generator excitation system diodes. The inspectors interviewed PG&E engineering personnel, PG&E corrective action documents, and reviewed program procedures and documentation.

These activities constituted completion of one annual follow-up sample as defined in Inspection Procedure 71152.

b. Findings

No findings were identified.

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

(Closed) LER 05000323/2017-001-00: Relief Valve Leakage Resulting in Inoperable Pressurizer Power Operated Relief Valve

a. Inspection Scope

The inspectors reviewed LER 05000323/2017-001-00 which documented that PG&E violated TS 3.4.11.B, "Pressurized Operated Relief Valves," by not providing adequate operating procedures for placing high pressure nitrogen bottles in service associated with the Unit 2 safety-related nitrogen supply system to the pressurizer power operated relief valves (PORVs). These procedures did not provide adequate steps or precautions to ensure system pressure transients were appropriately mitigated. Subsequently, routine swapping out of high pressure nitrogen bottles resulted in pressure surges on the system header supplying the safety-related pressurizer nitrogen accumulators. Pressure surges sensed by the accumulator relief valves resulted in relief valve chattering and multiple lifts, leading to the damage of the relief valve O-ring seat to the extent that an unanticipated nitrogen leak occurred. As a result, one of two trains of Unit 2 pressurizer PORVs became inoperable.

The unanticipated nitrogen gas leak caused the licensee to enter into an emergency action Alert event because of its impact on oxygen levels in containment and resulted in a NRC identified Green NCV. Details are documented in NRC resident inspection report IR 0500323/2017003, dated October 26, 2017.

This LER is closed with the following finding.

b. Findings and Observations

Introduction. The inspectors identified a Green, self-revealing, non-cited violation of Technical Specification (TS) 5.4.1, "Procedures," for the licensee's failure to provide adequate guidance in operating procedure OP K-11:I, "Operating the Nitrogen Supply System," Revision 28. Specifically, PG&E failed to provide adequate procedural guidance to prevent pressure excursions in the safety-related nitrogen pressure supply system resulting in leakage past the relief valve RV-355 O-ring seat and the inoperability and degradation of safety function of a single train of the Unit 2 safety-related pressurizer PORVs.

Description. On July 28, 2017, an Alert emergency action level was declared due to low oxygen levels inside Unit 2 containment. A containment entry was made to investigate the cause of the low oxygen conditions. Operators discovered excessive nitrogen leakage from the O-ring seat of safety-related relief valve RV-355. RV-355 is a component of the nitrogen supply system. The nitrogen supply system is used to maintain adequate PORV nitrogen accumulator pressure so that in an emergency, the pressurizer PORVs can be cycled to maintain proper reactor coolant system pressure.

A review of plant nitrogen usage since the last maintenance of RV-355 determined that the O-ring seat had become inoperable as early as December 1, 2016, a period of over 8 months from the date of discovery.

A subsequent licensee cause evaluation determined that repetitive nitrogen system header pressure transients due to improper changeout of nitrogen supply bottles was the most likely cause of the observed damage of the RV-355 O-ring. The pressure transients led to relief valve chattering and resulted in O-ring fraying that interfered with proper seating and developed into nitrogen leakage past the valve seat. The licensee analysis determined the PORV remained functional to support accident mitigation since the relief valve was capable of reseating at a nitrogen pressure that allowed crediting PCV-455C to support accident mitigation.

The licensee investigation determined that plant procedures to maintain nitrogen system pressure were not adequate since they did not provide steps or precautions to ensure that switching nitrogen bottles would not result in unnecessary system pressure transients. The licensee cause investigation also determined that pressure transients occurred as operators performed routine switching of high pressure nitrogen bottles at lower than ideal nitrogen header pressure and that operators were not sensitive to lowering nitrogen header pressure having an impact to safety-related components or systems.

A licensee review of operating experience determined that a similar event occurred on January 5, 2000, resulting in excessive seat leakage past RV-355 due to a damaged O-ring. No corrective actions were identified as a result of this previous event.

Analysis. The inspectors determined that failing to have adequate procedural guidance for the safety-related nitrogen supply system to the pressurizer PORVs was a performance deficiency. This performance deficiency was considered to be more than minor because it impacted the equipment performance attribute of the Mitigating Systems cornerstone and its objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, inadequate procedural guidance resulted in a degraded RV-355 O-ring, excessive nitrogen leakage, and the inoperability of safety-related PORV PCV-455C. Using NRC Manual Chapter 0609, “Significance Determination Process,” Attachment 4, “Phase 1 – Initial Screening and Characterization of Findings,“ and Appendix A, Exhibit 2, “Mitigating Systems Screening Questions,” the inspectors determined the finding screened as having very low significance (Green) because: (1) it was not a design deficiency; (2) did not represent a loss of system and/or function; (3) did not represent an actual loss of function of a least a single train for longer than its technical specification allowed outage time; and (4) did not result in the loss of a high safety-significant non-technical specification train.

The inspectors determined that the finding did not have a cross-cutting aspect associated with it because it was not representative of current performance as the most recently identified licensee missed opportunity was during a similar event occurring in the year 2000.

Enforcement. Technical Specification 5.4.1(a), “Procedures,” requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Appendix A, February 1978, “Quality Assurance Program Requirements.” Regulatory Guide 1.33,

Appendix A, Section 3, “Quality Assurance Program Requirements (Operation),” requires instructions for safety-related systems including the pressurizer pressure system. Contrary to the above, PG&E did not establish adequate procedures for the operation of the safety-related nitrogen supply system to the PORVs. Specifically, OP K-11:I, “Operating the Nitrogen Supply System,” Revision 28, failed to include specific steps or precaution details to preclude pressure transients associated with routine changing of high pressure nitrogen bottles used in maintaining pressurizer PORV safety-related nitrogen system accumulator pressure. Corrective actions included revising plant procedures to add specific guidance on switching high pressure nitrogen bottles and to ensure the proper priority is given nitrogen leaks. Because this violation was of very low safety significance (Green) and has been entered into the corrective action program (Notification 50934650) this violation is being treated as an NCV consistent with Section 2.3.2.a of the Enforcement Policy. NCV 05000323/2017004-01, “Failure to Provide Adequate Procedural Guidance in Order to Prevent Relief Valve Seat Damage”

These activities constituted completion of one event follow-up sample, as defined in Inspection Procedure 71153.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On November 3, 2017, the inspector presented the results of the on-site inspection of the licensee’s emergency preparedness program to Mr. J. Nimick, Senior Director, Nuclear Services, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors and been returned or destroyed.

On January 10, 2018, the resident inspectors presented the inspection results to Mr. J. Welsch, Vice President of Nuclear Generation 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.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

T. Baldwin, Director, Nuclear Site Services
P. Gerfen, Station Director
M. Ginn, Manager, Emergency Planning
H. Hamzehee, Manager, Nuclear Regulatory Services
M. Hayes, Manager, Nuclear Radiation Protection
K. Johnston, Director, Nuclear Operations Services
S. Kirven, Director, Security & Emergency Services
D. Madsen, Regulatory Services
M. McCoy, NRC Interface, Regulatory Services
J. Morris, Supervisor, Nuclear Regulatory Services – Compliance
C. Murry, Director, Nuclear Maintenance Services
J. Nimick, Sr. Director, Nuclear Services
P. Nugent, Director, Quality Verification
A. Peck, Director, Nuclear Engineering Services
D. Petersen, Director, Nuclear Work Management
R. Waltos, Acting Director, Engineering
A. Warwick, Supervisor, Nuclear Emergency Planning
J. Welsch, VP, Nuclear Generation & Chief Nuclear Officer
M. Zawalick, Director, Risk & Compliance

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000323/2017001-01	NCV	Failure to Provide Adequate Procedural Guidance in Order to Prevent Relief Valve Seat Damage (Section 4OA3)

Closed

05000323/2-2017-001-00	LER	Relief Valve Leakage Resulting in Inoperable Pressurizer Power Operated Relief Valve (Section 4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

Number	Title	Revision
CP M-16	Severe Weather	14
MA1.ID23	Review of Intake Preparedness for High Debris Loading Event	3

Procedures

Number	Title	Revision
OP O-28	Intake Management	22

Section 1R04: Equipment Alignment

Procedures

Number	Title	Revision
AD13.DC12	Control Room Envelope Habitability Program	3
AD13.DC7	Ventilation Filter Testing Program	2
MP M-23-DMP.1	Control Room Envelope Boundary Damper Maintenance	3
OP B-3A:II	Safety Injection System Alignment Verification for Plant Startup	26B
OP J-6B:I-A	Diesel Generator 2-1 – Alignment Checklist	0

Notifications

50953717	50953817	50953799	50953259	50953814
50947938	50947047	50950391	50947936	50948048

Work Order

64061649

Drawings

Number	Description	Revision
107708	Unit 1, Chemical and Volume Control System, Sheet 5	100
107709	Safety Injection, Sheet 3	51
107709	Safety Injection, Sheet 4	52
107710	Residual Heat Removal, Sheet 2	29
106723	Control Room HVAC	98

Miscellaneous

Number	Description	Revision
DCM S-23F	Control Room Ventilation System	22

Section 1R05: Fire Protection

Procedures

Number	Title	Revision
OM8.ID4	Control of Flammable and Combustible Materials	27A

Notifications

50946899	50946944	50946935	50945660	50937061
50927212	50905951			

Drawings

Number	Description	Revision
RA-9/RA-10	Fire Drawing; Unit 1, Radiological Control Area and H-Block Elev. 115-foot	5
RA17	Fire Drawing; Unit 2, Radiological Control Area and H-Block Elev. 115-foot	4
RA-23A	Fire Drawing; Radiological Control Area North Yard Elev. 115-foot	2
RA-21	H Block Elevation 128', 154' & 164'	6
RA-21/RA-22	Fire Drawing; H-Block Elevation 128-foot	3
050029	Race Way Mechanical Drawing	70
TB-3/14	Unit 1 &2: Turbine Building Fire Drawings Elevation 85 foot	6
TB/6/17	Unit 1 &2: Turbine Building Pre-Fire Drawing Elevation 104 foot	6

Work Orders

68047618	68049702	68047619	6804004

Section 1R06: Flood Protection Measures

Documents

Number	Description	Revision
164775	Reanalysis of Moderate Energy Line Break Requirements	0
FSAR Section 9.5.4.3	Flooding Analysis per General Design Criteria Two	23

Section 1R07: Heat Sink Performance

Procedures

Number	Title	Revision
OP F-2	CCW System	8A
OP F-2: I	CCW Make Available	44

Drawing

Number	Description	Revision
106714	CCW System	59

Miscellaneous

Number	Title
420DC-17.17	DCPP CCW 1-1 and 1-2 Heat Exchanger Tests Pre-1R20

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

Procedures

Number	Title	Revision
OP1.DC10	Conduct of Operations	47
STP R-1A	Exercising Full Length Control Rods	24
STP R-7D	Determination of Moderator Temperature Coefficient at Power	7

Section 1R12: Maintenance Effectiveness

Procedures

Number	Title	Revision
AD9.DC2	Receipt Inspection and Acceptance Testing	7C
AD9.ID11	Supplier Evaluation Process	8
AD9.ID4	Establishing Procurement Technical and Quality	13A
CF3.ID13	Replacement Part Evaluation and CITE	29
MA1.ID17	Maintenance Rule Monitoring Program	31
OP1.DC17	Control of Equip Required by Tech Spec	31A
QCP 10.1	Receipt Inspection Program	16
QCP 10.2	Inspection Activities	22

Procedures

Number	Title	Revision
QCP 10.22	Supplemental Verification Activities at Receipt	1

Notifications

50945055	50951423	

Q3 Notifications

30018780	30013454	30025109

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

Number	Title	Revision
AD7.DC6	On-Line Maintenance Risk Management	24
AD7.ID14	Assessment of Integrated Risk	9
CP M-16	Severe Weather	14
EDG 2-3-RMAs	Risk Management Actions Directive Diesel Generator 2-3	2
OM7.ID7	Emerging Issue and Event Investigations	18A
OP J-6B:IX	Emergency Diesel Generator Extended On-line Maintenance	10
OP J-6B:XI	Diesel Generator Clearing	4
OP O-36	Protected Equipment Postings	16
OP O-36	Protected Equipment Postings	13A
STP M-21-RTS.1	Return Diesel Generator to Service Following Outage Maintenance	16A
STP M-21-SCH	Diesel Engine Inspections	12
STP M-9X	Diesel Engine Generator Operability Verification	28
TS3.NR1	Probabilistic Risk Assessment (PRA)	9

Notifications

50947593	50947612	50947580	50947611	50949531
50949577	50945751	50949717	50950545	

Work Orders

64143808	64139205	64069748

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

Number	Title	Revision
AR PK09-16	Aux FW Sys Leakage/Temp Hi	17
DCM S-12	Containment Spray System	17
MP E-8.1	Centrifugal Charging Pump Motor Overhaul	9
MP I-3-T119	Aux Feedwater Lead #3 Channel TE-119 Calibration	0
MP M-21.8	Diesel Engine Governor Actuator Maintenance	24
OM7.ID12	Operability Determination	36
STP M-15	Integrated Test of Safeguards and Diesel Generator	68
STP M-16D	Operation of Train B Slave Relay K608 (Safety Injection)	43
STP M-21-GOV.6	Diesel Engine Generator Periodic EGB Governor Replacement	0
STP M-9D1	Diesel Generator Full Load Rejection test	26

Notifications

50935776	50934650	50934855	50935058	50950664
50866440	50593543	50946455	50569719	50946354
50946878	50943108	50490173	50944736	50489725
50943141	50947094	50946204	50905453	50946168
50945969	50946368	50946299	50832335	50948842
50946434				

Work Orders

60105023	50954496	50949531	50949662

Other

Number	Description	Revision
30018780	Q3-Notification: 2-inch Valve	0
PO 3501142341	Procurement Order: O-ring 1-1-1/4 inch	0

Drawings

Number	Title	Revision
106703	Auxiliary Feedwater, Sheet 3	71
437579	Schematic Diagram 4 KV Diesel Generator Control No. 11 & 12	43
498036	Schematic Diagram Safeguard Test Cabinet Test Relay Coil Train A	4

Section 1R18: Plant Modifications

Procedures

Number	Title	Revision
CF3.ID22	Minor Design Change Package Summary	0
STP I-38-A.3	SSPS Train A Actuation Logic Test in Modes 5, 6, or Defueled	31
TS3.ID2	Licensing Basis Impact Evaluation	44

Notifications

50700075	50935950	50907728

Drawings

Number	Description	Revision
1082H21	Sheet 17	1
498022	Sheet 1	3
663231	Sheet 149	11
663231	Sheet 150	12

Work Orders

60085067	663231

Miscellaneous

Number	Description	Revision
TB-13-7	Solid State Protection System New Design Universal Logic Board and Safeguards Driver Board 48VDC Input	0

Section 1R19: Post-Maintenance Testing

Procedures

Number	Title	Revision
AD13,ID1	Conduct of Plant and Equipment Tests	14A
AD13.ID4	Post Maintenance Testing	26
MP E-8.1	Centrifugal Pump Motor Overhaul	9
MP M-21.8	Diesel Engine Governor Actuator Maintenance	24
MP M-23-Fan.4	Preventative Maintenance of Ventilation Fans with Dampers	7A
MP M-23-FAN.5	Preventative Maintenance of Control Room Ventilation System	6
OP H-5:IV	Control Room Ventilation System Mode Changes	13
STP M-15	Integrated Test of Safeguards and Diesel Generator	68
STP M-21-GOV.6	Diesel Engine Generator Periodic EGB Governor Replacement	0
STP M-9A3	Routine EDG 2-3 testing	11A
STP M-9D1	Diesel Generator Full Load Rejection test	26

Notifications

50945037	50944866	50929223	50949531	50949717
50949770	50950950	50950333	50946439	50954174
50954272	50946204	50905453	50946168	50946204
50945969	50946368	50946299	50945969	50832335
50948842	50946434	50832335		

Work Orders

60099186	64167426	60092284	60105598	64153833
64126441	60105139	60105023		

Drawings

Number	Description	Revision
496287	Drawing of Electrical Connectors, Unit 2	7

Section 1R22: Surveillance Testing

Procedures

Number	Title	Revision / Date
CAP C-19:III	Boron Analysis	0
CAP E-1:IV	CVCS Influent Sampling	9
CAP E-1:V	Pressurizer Liquid Sample	10
DEI DCPP	2016 Quarterly Dose Equivalent Iodine Sheet	February 11, 2016
RCS Leakage Records	2017 Leak Rate Data Sheets	January 3, 2017
STP I-1B	Routine Daily Checks Required by Licenses	129
STP I-38-A.1	SSPS Train A Actuation Logic Test in MODES 1,2,3, or 4	11
STP I-38-A.2	SSPS Train A SI Reset Timer and Slave Relay K602 Test in Modes 1,2,3, or 4	12
STP R-10C	U-1 Reactor Coolant System Water Balance Inventory	46
STP R-10C	U-2 Reactor Coolant System Water Balance Inventory	12
STP R-7D	Determination of Moderator Temperature Coefficient at Power With Temperature Coastdown	7
STP V-3R5	Exercising Steam Supply to Auxiliary Feedwater Pump Turbine Stop Valve FCV-95	21

Notifications

50909810	50931476	50944848	50888674

Work Orders

64178997

Section 1EP2: Alert and Notification System Testing (71114.02)

Procedures and Documents

Number	Title	Date
	Diablo Canyon Power Plant Alert and Notification System Design Report, Early Warning System, Revision 3	May 2015

Procedures and Documents

Number	Title	Date
	Diablo Canyon Power Plant Alert and Notification System Design Report, Early Warning System, Revision 4	July 2016
	Letter from Mr. Michael Ginn, Manager, Emergency Planning, to Ms. Johanna Johnson, Senior Technological Hazards Program Specialist, FEMA Region IX	November 17, 2016
	Letter from Ms. Johanna Johnson, Acting Chairman, FEMA Region IX Radiological Assistance Committee, to Mr. Michael Ginn, Manager, Emergency Planning	July 14, 2017
	Monthly Tone Alert Radio System Test	April 6, 2017
	Monthly Tone Alert Radio System Test	May 4, 2017
	Monthly Tone Alert Radio System Test	June 1, 2017
	Siren System Annual Preventative Maintenance Records, 2016	
	Siren System Annual Preventative Maintenance Records, 2017	
EP MT-43	EWS Testing and Maintenance, Revision 14	November 25, 2015

Notifications

50800669	50801111	50801288	50805777	50808939
50824252	50827319	50902784		

Section 1EP3: Emergency Response Organization Staffing and Augmentation System (71114.03)

Procedures and Documents

Number	Title	Revision
	Desk Guide: Quarterly ERO On Call Duty Verification Test	
	Evaluation Report for the February 2016 ERO Surveillance	
	Evaluation Report for the April 2017 ERO Surveillance	
	Evaluation Report for the August 2015 ERO Surveillance	
	Evaluation Report for the February 2017 ERO Surveillance	
	Evaluation Report for the June 2016 ERO Surveillance	
	Evaluation Report for the November 2015 ERO Surveillance	

Procedures and Documents

Number	Title	Revision
	Evaluation Report for the November 2016 ERO Surveillance	
	Evaluation Report for the October 2017 ERO Surveillance	
	Evaluation Report for the September 2016 ERO Surveillance	
	Evaluation Report for the September 2017 ERO Surveillance	
EP G-1	Emergency Classification and Emergency Plan Activation	44

Notifications

50802638	50820085	50820259	50820332	50820532
50820593	50836714	50836874	50836936	50836938
50860612	50860613	50871108	50879400	50880200
50881815	50882362	50860128	50860612	50870830
50943996	50943999			

Section 1EP4: Emergency Action Level and Emergency Plan Changes (71114.04)

No additional documents were reviewed

Section 1EP5: Maintenance of Emergency Preparedness (71114.05)

Procedures and Documents

Number	Title	Revision / Date
	2017 Pre-Inspection Self-Assessment	
	Evaluation Report for the Drill conducted April 12, 2017	May 2, 2017
	Evaluation Report for the Drill conducted June 15, 2016	August 23, 2016
	Evaluation Report for the Drill conducted March 15, 2016	July 13, 2016
	Evaluation Report for the Drill conducted September 7, 2017	September 21, 2017
	Evaluation Report for the Exercise conducted August 9, 2015	October 14, 2016

Procedures and Documents

Number	Title	Revision / Date
	Evaluation Report for the Exercise conducted January 27, 2016	March 18, 2016
	Evaluation Report for the Exercise conducted June 29, 2016	September 29, 2016
	Evaluation Report for the Exercise conducted March 2, 2016	July 21, 2016
	Evaluation Report for the Exercise conducted November 2, 2016	November 15, 2016
	Evaluation Report for the Exercise conducted September 16, 2015	October 14, 2016
	Evaluation Report for the Exercise conducted September 17, 2015	October 14, 2016
	Evaluation Report for the Exercise conducted September 21, 2016	October 14, 2016
	Evaluation Report for the Health Physics Drill conducted April 27, 2016	May 28, 2016
	Evaluation Report for the Health Physics Drill conducted December 2, 2015	April 2, 2016
	Evaluation Report for the Health Physics Drill conducted February 15, 2017	May 30, 2017
	Evaluation Report for the Health Physics Drill conducted July 13, 2016	October 17, 2016
	Evaluation Report for the Medical Center Drill conducted August 5, 2015	November 9, 2015
	Evaluation Report for the Medical Drills conducted February 15 and March 29, 2017	April 18, 2017
	Evaluation Report for the Medical Drills conducted July 13 and August 10, 2016	October 13, 2016
	Evaluation Report for the Table Top Exercise conducted August 24, 2016	October 11, 2016
	Event Summary Report: January 14, 2016, Unit 1 and 2, HU4.1	
	Quality Performance Assessment Report, First Period 2016, January 1 through April 30, 2016	
	Quality Performance Assessment Report, First Period 2017, January 1 through April 30, 2017	June 12, 2017

Procedures and Documents

Number	Title	Revision / Date
	Quality Performance Assessment Report, Second Period 2016, May 1 through August 31, 2016	
	Quality Performance Assessment Report, Third Period 2015, September 1 through December 31, 2015	
	Quality Performance Assessment Report, Third Period 2016, September 1 through December 31, 2016	
	Quality Verification Short Form Assessment 161450006, Emergency Preparedness Drill and Exercise Preparation	June 15, 2016
2015-71	50.54(q) Effectiveness Evaluation Form for Procedures G2, RB10, EF1, and EF3 (ACE50706886)	November 4, 2015
2015-94	50.54(q) Effectiveness Evaluation Form for Procedure G1, Revision 44	June 23, 2015
2015-96	50.54(q) Effectiveness Evaluation Form for Procedure G4, Revision 27	June 24, 2015
2015-99	50.54(q) Effectiveness Evaluation Form for Procedure OR3, Revision 10	June 23, 2015
2016-001	50.54(q) Effectiveness Evaluation Form for Procedure R2	January 22, 2016
2016-009	50.54(q) Effectiveness Evaluation Form for replacing equipment used to fill SCBA bottles	March 23, 2016
2016-012	50.54(q) Effectiveness Evaluation Form for Procedure G2, Revision 19	May 16, 2016
2016-016	50.54(q) Effectiveness Evaluation Form for a revision to the MIDAS dose assessment software to correct a data error	May 20, 2016
2016-020	50.54(q) Effectiveness Evaluation Form for a revision to the QuickDose dose assessment software to correct a calculational error	June 8, 2016
2016-035	50.54(q) Effectiveness Evaluation Form for Procedure EF1, Revision 52	October 20, 2016
2016-039	50.54(q) Effectiveness Evaluation Form for Procedure R2, Revision 34	December 7, 2016
2016-046	50.54(q) Effectiveness Evaluation Form for revision of the Noble Gas adjustment factor in QuickDose	December 22, 2016
2017-006	50.54(q) Effectiveness Evaluation Form for Procedure EP1, Revision 53	January 25, 2017

Procedures and Documents

Number	Title	Revision / Date
2017-014	50.54(q) Effectiveness Evaluation Form for replacement of the SPING effluent radiation monitors	April 20, 2017
2017-031	50.54(q) Effectiveness Evaluation Form for the replacement of in-plant radio systems and GPS	August 7, 2017
File Net # 162860009	2017 Emergency Preparedness and FLEX Programs Audit	May 18, 2017
FileNet # 161180009	2016 Emergency Preparedness Audit Report	July 18, 2016
MT-21	Emergency Kits, Revision 13, First Quarter 2016	March 29, 2016
MT-21	Emergency Kits, Revision 13, Second Quarter 2017	June 27, 2017
MT-25	Emergency Procedure Phone Number Verification, First Quarter 2016	January 4, 2016
MT-25	Emergency Procedure Phone Number Verification, Second Quarter 2017	April 7, 2017
MT-26	Control Room, First Quarter 2016	February 3, 2016
MT-26	Control Room, Second Quarter 2017	June 27, 2017
MT-27	Technical Support Center, First Quarter 2016	March 28, 2016
MT-27	Technical Support Center, Second Quarter 2017	June 27, 2017
MT-28	Operational Support Center, First Quarter 2016	March 29, 2016
MT-28	Operational Support Center, Second Quarter 2017	June 27, 2017
MT-29	Emergency Operations Facility, First Quarter 2016	March 28, 2016
MT-29	Emergency Operations Facility, Second Quarter 2017	June 27, 2017
MT-31	Joint Information Center, First Quarter 2016	March 28, 2016
MT-31	Joint Information Center, Second Quarter 2017	June 27, 2017
MT-36	Alternate Technical Support Center and Operational Support Center, First Quarter 2016	March 28, 2016
MT-36	Alternate Technical Support Center and Operational Support Center, Second Quarter 2017	June 28, 2017
MT-50	Offsite Communications Drills, First Quarter 2016	March 14, 2016
MT-50	Offsite Communications Drills, Second Quarter 2017	April 6, 2017
OM07.ID1	Problem Identification and Resolution	50
OM07.ID4	Cause Determinations	

Procedures and Documents

Number	Title	Revision / Date
OM10.ID2	Emergency Plan and Revision	13A
TR-809	Diablo Canyon Power Plant, 2015 Population Update Analysis	November 23, 2015
TR-889	Diablo Canyon Power Plant, 2016 Population Update Analysis	November 22, 2016

Notifications

50654712	50709042	50800121	50802759	50803155
50801095	50801863	50818057	50814638	50824406
50826945	50830536	50830997	50832016	50832030
50832135	50834232	50836936	50843660	50845339
50846256	50854037	50860128	50861894	50869223
50869224	50869447	50869700	50872346	50872780
50875038	50875435	50875818	50875951	50878426
50878451	50878453	50878454	50877640	50879400
50880274	50882362	50910174	50910501	50914042
50914271	50914394	50928217	50934687	50934898
50935077	50934768	50934800	50934801	50934804
50934899	50948805	50948772	50948773	50948774

Corrective Action Program Apparent Cause Evaluations

50692558	50706886	50831644	50934898

Work Orders

50858371	60082207	60086367	60087451	60087758
60090273	60091602	60094275	60094953	60095623
60101260				

Section 1EP6: Drill Evaluation

Procedures

Number	Title	Revision
EOP F-0	Critical Safety Function Status Tree- Attachment 3	21
EP G-3	Diablo Canyon Power Plant Emergency Notification Follow-up	59
EP G-5	Evacuation of Non-essential Site Personnel	14
EP OR-3	Emergency Recovery	10
EP RB-14A	Initial Detection of Fuel Cladding Damage	2
FRH1-C	Diablo Canyon Power Plant Emergency Planning Scenario Synopsis/Event Description – Loss of Heat Sink	16
OP1.DC10	Conduct of Operations	50A
TP TE-15001	Align Makeup Flow Path for TSC Ventilation	1
TQ2.DC15	Licensed Operator Annual Exam Development	8
TQ2.ID4	Simulator Setup Checklist	46

Notifications

50945079	50945121	50945111	50950401	50950401
50950319	50950391	50950324		

Section 4OA1: Performance Indicator Verification

Procedures

Number	Title	Revision
AWP EP-001	Emergency Preparedness Performance Indicators	21
AWP O-001	NRC Performance Indicators: RCS Specific Activity	13
CAP D-6	Specific Activity Determination in Liquid Samples	13
CY2.ID1	Radioactive Effluent Controls Program	14
EP G-1	Emergency Classification and Emergency Plan Activation	44
EP G-3	Emergency Notification of Off Site Agencies	59
EP MT-43	Early Warning System Testing and Maintenance	14
EP RB-10	Protective Action Recommendations	19
STP R.10C	Reactor Coolant System Water Inventory Balance	46

Notifications

50888674	50833906	50804553	50873821	50874637
50868964	50868990	50869144	50869206	50869415
50869446	50804548	50829668	50932838	50938883

Other

Number	Description
	RCS Dose Equivalent Iodine Quarterly Reports
	PG&E DCPP Performance Indicator Program 2016 and 2017
	RCS Leakage Cycle 20 Data Unit 1 and 2 January 16, 2016 through November 30, 2017

Section 4OA2: Problem Identification and Resolution

Procedures

Number	Title	Revision
OM15.ID10	Performance Monitoring Program	0-A
OM15.ID5	DCPP Performance Improvement Program	9-F
OP AP-30	Main Generator Malfunction	15-A
STP M-54	Verification of RCP Seal Injection Flow Resistance	37

Notifications

50946363	50943037	50942993	50895579	50895620
50895621	50895622	50895623	50691797	50669125
50947096	50947122	50947021	50949689	50927785
50938901	50938401			

Miscellaneous

Number	Title	Date
	STARS Alliance Internal OE Notice 2014-009	
INPO Event Report 12-41	Loss of Emergency Diesel Generator Excitation	
IPM 3Q 2017	Station Integrated Performance Monitoring Report	August 10, 2017

Work Orders

64189835

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

Procedures

Number	Title	Revision
OM15.ID10	Performance Monitoring Program	0A
OP K-11:I	Operating the Nitrogen Supply System	28
OP K-20	Miscellaneous Auxiliary Control Board Alarm Response	2

Notifications

50934855 50710432 50926817