



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION IV
1600 E. LAMAR BLVD.
ARLINGTON, TX 76011-4511

November 13, 2015

EA 13-090

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 05000275/2015003, 05000323/2015003, and 07200026/2015001**

Dear Mr. Halpin:

On September 30, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Diablo Canyon Power Plant Units 1 and 2. On October 1, and November 12, 2015, the NRC inspectors discussed the results of this inspection with Messrs. James Welsch and Barry Allen, 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. These findings involved violations of NRC requirements; one of these violations was determined to be Severity Level IV under the traditional enforcement process. Further, inspectors documented one licensee-identified violation which was determined to be Severity Level IV 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 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

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Sincerely,

/RA/

Richard L. Smith, Acting Chief
Project Branch A
Division of Reactor Projects

Docket Nos. 05000275, 05000323, 07200026
License Nos. DPR-80, DPR-82, SNM-2511

Enclosure:

Inspection Report 05000275/2015003,
05000323/2015003, and 07200026/2015001
w/ Attachments: Supplemental Information

cc w/ enclosure: Electronic Distribution

E. Halpin

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Letter to Edward D. Halpin from Richard L. Smith dated November 13, 2015

SUBJECT: DIABLO CANYON POWER PLANT – NRC INTEGRATED INSPECTION
REPORT 05000275/2015003, 05000323/2015003, and 07200026/2015001

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000275; 05000323, 07200026
License: DPR-80; DPR-82; SNM-2511
Report: 05000275/2015003; 05000323/2015003; 07200026/2015001
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: July 1 through September 30, 2015
Inspectors: T. Hipschman, Senior Resident Inspector
J. Reynoso, Resident Inspector
M. Stafford, Project Engineer
L. Brookhart, Senior ISFSI Inspector
L. Carson, II, Senior Health Physicist
G. Guerra, CHP, Emergency Preparedness Inspector
J. O'Donnell, CHP, Health Physicist
E. Schrader, Emergency Preparedness Specialist, NSIR/DPR/EP
E. Simpson, ISFSI Inspector-in-Training
C. Smith, Reactor Inspector
Approved By: Richard Smith, Acting Chief
Chief, Project Branch A
Division of Reactor Projects

SUMMARY

IR 05000275/2015003, 05000323/2015003, 07200026/2015001; 07/01/2015 – 09/30/2015; Diablo Canyon Power Plant; Plant Modifications, Radiological Hazard Assessment and Exposure Controls

The inspection activities described in this report were performed between July 1 and September 30, 2015, by the resident inspectors at Diablo Canyon Power Plant and inspectors from the NRC's Region IV office. The report also covers a routine inspection by regional inspectors of operational activities associated with the Independent Spent Fuel Storage Installation. Two findings of very low safety significance (Green) are documented in this report. These findings involved violations of NRC requirements; one of these violations was determined to be Severity Level IV under the traditional enforcement process. 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, "Aspects 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: Mitigating Systems

- Green, Severity Level IV. The inspectors identified a non-cited violation of 10 CFR 50.59(d)(1) which requires, in part, that the licensee shall maintain records of changes in the facility, of changes in procedures, and of tests and experiments made pursuant to paragraph (c) of this section. These records must include a written evaluation which provides the bases for the determination that the change, test, or experiment does not require a license amendment pursuant to paragraph (c)(2). Specifically, the licensee changed the method for combining earthquake loads and loss of coolant accident loads from the absolute summation method to square root sum of the squares (SRSS) method without sufficient justification to demonstrate the change did not require prior NRC approval.

The licensee's failure to implement the requirements of 10 CFR 50.59 and adequately evaluate changes to determine if prior NRC approval is required was a performance deficiency. The licensee entered the issue into the corrective action program as Notification 50811191. In accordance with the licensee's corrective action program, this issue will be addressed by the licensee through a re-evaluation of the methodology change and the required actions that need to be taken by the licensee will be implemented. Additionally, the licensee performed an operability determination for the affected structures, systems, and components that established a reasonable expectation for operability pending final resolution of the issue.

This performance deficiency was more than minor, and therefore a finding, because it was associated with the design control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the reliability, availability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to determine that use of SRSS in the Watts Bar safety evaluation report cited in the PG&E evaluation represented a change in a method of evaluation, in that the Watts Bar safety evaluation report was very narrow in scope and not appropriate for the intended application at Diablo Canyon. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for

Findings At Power,” dated June 19, 2012, Exhibit 2, “Mitigating Systems Screening Questions,” the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not result in the inoperability of the system. Because this performance deficiency had the potential to impact the NRC’s ability to perform its regulatory function, the inspectors also evaluated the performance deficiency using traditional enforcement. Since the violation is associated with a Green finding having very low safety significance, the traditional enforcement violation was determined to be a Severity Level IV violation, consistent with the example in paragraph 6.1.d(2) of the NRC Enforcement Policy. This finding had a cross cutting aspect in the area of human performance associated with design margins because individuals failed to ensure margins were carefully guarded and changed only through a systematic and rigorous process [H.6]. (Section 1R18)

Cornerstone: Occupational Radiation Safety

- Green. The inspectors reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1(a), “Procedures,” for failure to secure a locked high radiation area. Specifically, the padlock on the Letdown Filter 1-1 locking bar was found unlocked. Upon discovery, the licensee guarded the area until properly secured. This issue was entered into the licensee’s corrective action program as Notification 50710852.

The failure to secure a locked high radiation area was a performance deficiency. The performance deficiency was more than minor because, if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, failure to adequately secure the locked high radiation area could result in unintended exposure to high levels of radiation. Using Inspection Manual Chapter 0609, Appendix C, “Occupational Radiation Safety Significance Determination Process,” dated August 19, 2008, the inspectors determined the violation was of very low safety significance (Green) because: (1) it was not an as low as reasonably achievable (ALARA) finding, (2) there was no overexposure, (3) there was no substantial potential for an overexposure, and (4) the ability to assess dose was not compromised. The finding had an avoid complacency cross-cutting aspect, in the area of human performance, because individuals failed to recognize and plan for the possibility of mistakes, even while expecting positive outcomes. Specifically, licensee personnel failed to ensure that the padlock was secured after completing the task [H.12]. (Section 2RS1)

Licensee-Identified Violations

A violation of very low significance, Severity Level IV that was identified by the licensee has been reviewed by the inspectors. Corrective actions planned or taken by the licensee have been entered into the licensee’s corrective action program. This violation and related corrective action tracking numbers are listed in Section 4OA7 of this report.

PLANT STATUS

Unit 1 operated at or near full power for the quarter.

On August 14, 2015, Unit 2 power was reduced to 50 percent to perform scheduled maintenance to clean circulating water boxes. On August 15, 2015, Unit 2 returned to full power following completion of the maintenance activities.

On September 12, 2015, Unit 2 ramped reactor power to 17 percent in order to separate from the grid for planned cleaning of 500 kV insulators. Unit 2 returned to full power on September 17, 2015, and 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)

.1 Summer Readiness for Offsite and Alternate AC Power Systems

a. Inspection Scope

From July 21-24, 2015, the inspectors completed an inspection of the station's off-site and alternate-ac power systems. The inspectors inspected the material condition of high-voltage 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 condition reports 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 of off-site and alternate-ac power systems while under drought conditions, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

.2 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

From July 20-22, 2015, the inspectors completed an inspection of the station's readiness for seasonal extreme weather conditions, including high winds. The inspectors reviewed

the licensee's adverse weather procedures for summer seasonal high temperatures and high-wind weather conditions and evaluated the licensee's implementation of these procedures. The inspectors verified that prior to adverse weather conditions, the licensee had corrected weather-related equipment deficiencies identified during the previous summer's hot, dry weather season.

The inspectors reviewed the licensee's procedures and design information to ensure the systems would remain functional when challenged by dry weather conditions. 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 Unit 1 and 2 onsite switchyard insulators.

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 Walkdown

a. Inspection Scope

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

- July 14, 2015, Unit 2, emergency diesel generator 2-1 air start alignment
- August 4, 2015, Unit 1 and 2, seismic monitoring instrumentation
- September 3, 2015, Unit 2, electric-driven auxiliary feedwater system alignment
- September 16, 2015, Unit 1, emergency diesel generator 1-1

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 four partial system walkdown samples as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

.2 Complete Walkdown

a. Inspection Scope

On August 24-26, 2015, the inspectors performed a complete system walkdown inspection of the Unit 2 containment spray system. The inspectors reviewed the licensee's procedures and system design information to determine the correct

containment spray lineup for the existing plant configuration. The inspectors also reviewed outstanding work orders, open condition reports, and temporary modifications. The inspectors then visually verified that the system was correctly aligned for the existing plant configuration.

These activities constituted one complete system walkdown sample, as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 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:

- July 13 and July 15, 2015, Unit 1 and 2, auxiliary building – Radiologically Controlled Area (RCA) at the 115 foot elevation
- July 23, 2015, Unit 1, cable spreading room, 110 foot elevation
- July 28-29, 2015, Unit 1 and 2, auxiliary building – RCA at the 100 foot elevation
- September 1, 2015, Unit 1 and 2, battery charger and inverter rooms in fire zone A-9, 115 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.

.2 Annual Inspection

a. Inspection Scope

On July 21, 2015, the inspectors observed fire brigade activation for an actual fire event in the Unit 2 turbine building oily waste sump pump 2-1 motor. Based on this observation and fire brigade and operator interviews, the inspectors evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee

staff identified deficiencies, took appropriate corrective actions, and documented lessons learned. Specific attributes evaluated included:

- proper wearing of turnout gear and self-contained breathing apparatus
- proper use and layout of fire hoses
- employment of appropriate firefighting techniques
- sufficient firefighting equipment brought to the scene
- effectiveness of fire brigade leader communications, command, and control
- search for victims and propagation of the fire into other plant areas
- smoke removal operations
- utilization of pre-planned strategies

These activities constituted one annual inspection sample, as defined in Inspection Procedure 71111.05.

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 August 13, 2015, the inspectors observed simulator training for 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 requalification activities.

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

On September 3, 2015, 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 due to unscheduled post-maintenance testing of the turbine driven auxiliary feedwater pump following unplanned maintenance, and placing a second charging pump in service. In addition, the inspectors assessed the operators' adherence to plant procedures, including conduct of operations procedure and other operations department policies.

These activities constitute 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)

a. Inspection Scope

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

- August 3, 2015, Unit 1, diesel generator 1-1 extent of condition following engine run solenoid failure

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.

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

a. Inspection Scope

The inspectors reviewed two routine 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:

- July 29-31, 2015, Unit 1, spent fuel pool instrumentation system remote indication
- September 1, 2015, Unit 1, battery charger maintenance and performance testing

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:

- July 28-29, 2015, Unit 1, spurious output breaker trips on vital uninterruptable power supply inverter IY-14
- September 3, 2015, Unit 2, inboard pump oil leak on auxiliary feedwater pump 2-1

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 four 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 three operability determinations that the licensee performed for degraded or nonconforming SSCs:

- July 21, 2015, operability determination of Unit 1, vital instrument inverter IY-14 output breaker tripped open
- July 28, 2015, operability determination of diesel fuel oil transfer pump 0-1
- August 19, 2015, Unit 2, operability determination of emergency diesel generator 2-3 with as built air start system

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

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

.1 Temporary Modifications

a. Inspection Scope

On July 22-23, 2015, the inspectors reviewed a temporary plant modification to the Unit 1 vital instrument inverter IY-14 output breaker B2 and B3 jumper in support of parallel breaker operation.

The inspectors verified that the licensee had installed this temporary modification in accordance with technically adequate design documents. The inspectors verified that this modification did not adversely impact the operability or availability of affected SSCs. The inspectors reviewed design documentation and plant procedures affected by the modification to verify the licensee maintained configuration control.

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

b. Findings

No findings were identified.

.2 Permanent Modifications

a. Inspection Scope

The inspectors reviewed one permanent plant modification that affected risk significant SSCs:

- Change in methodology for load combinations

The inspectors reviewed the change in methodology for load combinations. Previously, the inspectors documented a licensee identified violation for the reactor coolant system design basis in Integrated Inspection Reports 05000275/2014005 and 05000323/2014005. The NRC verified the appropriateness of the corrective actions for problems documented by the licensee involving plant modifications. Specifically, the NRC reviewed corrective actions, Final Safety Analysis Report Update (FSARU) changes, and a 10 CFR 50.59 evaluation.

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

b. Findings

Introduction. The inspectors identified a Severity Level IV, Green, non-cited violation of 10 CFR 50.59(d)(1) which requires, in part, that the licensee shall maintain records of changes in the facility, of changes in procedures, and of tests and experiments made pursuant to paragraph (c) of this section. These records must include a written evaluation which provides the bases for the determination that the change, test, or experiment does not require a license amendment pursuant to paragraph (c)(2) of this section. Contrary to the above, on November 11, 2013, the licensee failed to include an adequate written evaluation which provided the bases for the determination that the

change did not require a license amendment as required by 10 CFR 50.59(d)(1). Specifically, the licensee changed the method for combining earthquake loads and loss of coolant accident loads from the absolute summation method to square root sum of the squares (SRSS) method without sufficient justification to demonstrate the change did not require prior NRC approval.

Description. The original seismic design basis for the construction license of Diablo Canyon Power Plant Units 1 and 2 was determined to be inadequate after the Hosgri fault zone was discovered. Subsequent evaluations of the Hosgri Event were documented in reports¹, supplements², and hearings which formed the seismic design basis for the plant. These evaluations are referenced in the facility's UFSAR, with excerpts from the Hosgri Evaluation being directly incorporated into the UFSAR as required by per 10 CFR 50.71(e). The Hosgri Evaluation formed the safety basis for seismic design of the Diablo Canyon plant and was approved as a series of licensing amendments.

However, the licensee's level of detail for incorporation of the Hosgri Evaluation into the UFSAR was not complete, and, as a result, UFSAR Table 5.2-6 and UFSAR Table 5.2-8 did not fully document all of the required loading combinations. Specifically, the licensee failed to incorporate the required loading combination of a simultaneous Hosgri earthquake and loss-of-coolant-accident (LOCA) for the reactor coolant system, reactor pressure vessel, reactor coolant pumps, reactor head, pressurizer, steam generators, and associated supports into UFSAR Tables 5.2-6 and 5.2-8. This issue was discovered by the licensee in 2011 and the NRC previously documented a licensee-identified violation for this issue in Integrated Inspection Reports 05000275/2014005 and 05000323/2014005. As a corrective action, the licensee revised the UFSAR Tables 5.2-6 and 5.2-8 to include the required simultaneous Hosgri earthquake and LOCA loading combination. Additionally, in 2013, the licensee completed a 10 CFR 50.59 evaluation to allow the SRSS method as an alternative to the absolute summation method for simultaneous seismic (either Hosgri or Double Design Earthquake) for primary reactor coolant system components and supports.

The Hosgri Evaluation required all the primary reactor coolant system components and supports to be analyzed for Hosgri earthquake loads combined with normal operation loads and LOCA loads using the absolute summation method. As a result, prior to Revision 22, the UFSAR failed to identify the required loading combination of a simultaneous seismic event originating from the Hosgri fault and a LOCA – it only considered a simultaneous double design earthquake and a LOCA. Additionally, prior to Revision 22, it only identified SRSS as the method for combining simultaneous Double Design Earthquake seismic and LOCA loads.

The 10 CFR 50.59 evaluation justified why the change from absolute summation to SRSS was not a departure from a method of evaluation described in the UFSAR used in establishing the design basis. Specifically, the licensee cited that NUREG-0847, "Watts Bar Safety Evaluation Report," dated June 1982, allowed the use of SRSS and was therefore approved for the intended application.

¹ "Seismic Evaluation for Postulated 7.5M Hosgri Earthquake" FSAR Amendment No. 50, dated June 3, 1977, and supplements, Safety Evaluation Report No. 34

² Supplement Numbers 7, 8, and 34 to the Safety Evaluation Report

However, the inspectors found that SRSS represented a change in method of evaluation which would require prior NRC approval because the Watts Bar safety evaluation report (SER) was very narrow in scope and not appropriate for the intended application. Specifically, the inspectors found that the Watts Bar safety evaluation report discussed the use of SRSS for the reactor coolant pump columns, in conjunction with absolute concrete and steel material properties in lieu of design material properties.

Because Diablo Canyon's implementation of SRSS includes all reactor coolant systems, components, and supports, it is outside the scope of the Watts Bar SER and not approved for the intended application. Additionally, the methods and analysis of the Hosgri Evaluation are a method of evaluation unique to Diablo Canyon, which specifies the use of absolute summation in evaluating simultaneous Hosgri earthquake and LOCA loading combinations.

The inspectors provided this concern regarding the adequacy of citing the Watts Bar SER to the licensee who subsequently entered the concern into the corrective action program as Notification 50811191. In accordance with the licensee's corrective action program, this issue will be addressed by the licensee through a re-evaluation of the methodology change and the required actions that need to be taken by the licensee will be implemented. Additionally, at the time of discovery in 2011, the licensee performed an operability determination for the affected SSCs that established a reasonable expectation for operability pending final resolution of the issue. The NRC previously reviewed the operability assessment in Inspection Reports 05000275/2014005 and 05000323/2014005 and did not identify any issues with the technical adequacy.

Analysis. The licensee's failure to implement the requirements of 10 CFR 50.59 and adequately evaluate changes to determine if prior NRC approval is required was a performance deficiency. Specifically, the licensee changed the method for combining earthquake loads and LOCA loads from the absolute summation method to SRSS method without sufficient justification to demonstrate the change did not require prior NRC approval. Because this performance deficiency had the potential to impact the NRC's ability to perform its regulatory function, inspectors evaluated the performance deficiency using traditional enforcement. In accordance with Section 2.1.3.E.6 of the NRC Enforcement Manual, inspectors also evaluated this finding using the significance determination process to assess its significance.

This performance deficiency was more than minor, and therefore a finding, because it was associated with the design control attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the reliability, availability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to determine that use of SRSS in the Watts Bar safety evaluation report cited in the PG&E evaluation represented a change in a method of evaluation, in that the Watts Bar safety evaluation report was very narrow in scope and not appropriate for the intended application at Diablo Canyon. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it was a design or qualification deficiency that did not result in the inoperability of the system. The licensee generated Notification 50811191 in response to this issue.

Since the violation is associated with a Green finding with very low safety significance, the traditional enforcement violation was determined to be a Severity Level IV violation, consistent with the example in paragraph 6.1.d(2) of the NRC Enforcement Policy. This finding had a cross-cutting aspect in the area of human performance associated with design margins because individuals failed to ensure margins were carefully guarded and changed only through a systematic and rigorous process [H.6].

Enforcement. Title 10 of the Code of Federal Regulations (10 CFR) 50.59, "Changes, Tests, and Experiments," Section (d)(1), states, in part, the licensee shall maintain records of changes in the facility, of changes in procedures, and of tests and experiments made pursuant to paragraph (c) of this section. These records must include a written evaluation which provides the bases for the determination that the change, test, or experiment does not require a license amendment pursuant to paragraph (c)(2) of this section.

Contrary to this requirement, on November 11, 2013, the licensee failed to maintain records of changes in the facility, of changes in procedures, and of tests and experiments made as required by paragraph (d) of 10 CFR 50.59, in that the records did not include an adequate written evaluation which provided the bases for the determination that the change, test, or experiment did not require a license amendment pursuant to paragraph (c)(2) of 10 CFR 50.59. Specifically, the licensee changed the methodology of evaluation for combining seismic and LOCA loads from the absolute summation method described in the UFSAR to the square root sum of the squares method, without sufficient justification documented in the evaluation.

The licensee performed an operability determination for the affected SSCs that established a reasonable expectation for operability pending final resolution of the issue. The NRC previously reviewed the operability assessment in Inspection Reports 05000275/2014005 and 05000323/2014005. In accordance with the licensee's corrective action program, this issue will be addressed by the licensee through a re-evaluation of the methodology change and the required actions that need to be taken by the licensee will be implemented. Because this violation was entered into the corrective action program as Notification 50811191 to ensure compliance was restored in a reasonable amount of time, and the violation was not repetitive or willful, this Severity Level IV violation is being treated as a non-cited violation (NCV), consistent with Section 2.3.2.a of the Enforcement Policy. (NCV 05000275/2015003-01; 05000323/2015003-01, Failure to Document an Adequate Evaluation for a Change in Seismic Load Combination Methodology)

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

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

- July 20, 2015, Unit 1, emergency diesel generator 1-1, following maintenance
- July 22, 2015, Unit 2, residual heat removal pump 2-1, returned to service following maintenance
- August 2, 2015, Unit 1, emergency diesel generator 1-3, following maintenance

- August 23, 2015, Unit 2, containment spray pump 2-1, testing following motor and pump maintenance
- September 14, 2015, Unit 1, emergency diesel generator 1-1, following maintenance
- September 23, 2015, Unit 1, emergency diesel generator 1-2, following maintenance
- September 23, 2015, Unit 1, emergency diesel generator 1-3, following maintenance

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 seven 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 seven 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:

- August 20, 2015, Unit 2, containment spray valve full stroke exercise

Reactor coolant system leak detection tests:

- September 29, 2015, Unit 1, train B, reactor coolant system valve stem leakage from RCS-1-8033B, isolation valve for pressurizer spray valve PCV-455B

Other surveillance tests:

- August 2, 2015, Unit 1, diesel generator 1-3, return to service testing and shutdown lockout relay test
- August 20-21, 2015, Unit 2, containment spray pump 2-1, surveillance testing following maintenance
- September 1-2, 2015, Unit 1 vital battery charger technical specification surveillance testing

- September 23, 2015, Unit 1 emergency diesel generator 1-2, extent of condition surveillance testing
- September 24, 2015, Unit 1 emergency diesel generator 1-3, following extent of condition surveillance testing

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 seven 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 inspectors verified the adequacy of the licensee's methods for testing the primary and backup alert and notification system (ANS). The inspectors interviewed licensee personnel responsible for the maintenance of the primary ANS and reviewed a sample of corrective action system reports written for ANS problems. The inspectors 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, and updates; Revision 1, dated June 2013, and Revision 2, dated July 2014.

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 inspectors verified the licensee's emergency response organization on-shift and augmentation staffing levels were in accordance with the licensee's emergency plan commitments. The inspectors 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 inspectors 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 inspectors performed an in-office review of Diablo Canyon Power Plant Emergency Plan, Section 4, "Emergency Conditions," Revision 4.15. This revision aligned the language in the plan to that used in emergency plan implementing procedures with regard to the frequency of issuing follow-up notifications to local response organizations.

The inspectors performed an on-site review of Diablo Canyon Power Plant Emergency Plan, Section 6, "Emergency Measures," Revision 4.15, and Appendix F, "ERO On-Shift Staffing Analysis Report," Revision 4.02. These revisions were performed to restore the criteria for 60-minute emergency response organization augmentation to be consistent with the NRC approved Emergency Plan, Revision 3.03.

These revisions were compared to 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 revision adequately implemented the requirements of 10 CFR 50.54(q)(3) and 50.54(q)(4). The inspectors 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, the revisions are subject to future inspection.

These activities constitute completion of three 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 inspectors reviewed samples of the following documents for the period from November 2013 to July 2015:

- 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
- Emergency response organization and emergency planner training records

The inspectors reviewed summaries of corrective action program reports associated with emergency preparedness and selected 32 to review against program requirements to determine the licensee's ability to identify, evaluate, and correct problems in accordance with planning standards 10 CFR 50.47(b)(14) and 10 CFR Part 50, Appendix E, IV.F. The inspectors verified that the licensee accurately and appropriately identified and corrected emergency preparedness weaknesses during critiques and assessments.

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)

Training Evolution Observation

a. Inspection Scope

On September 9, 2015, 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 licensee in the post-drill critique 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.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Public Radiation Safety and Occupational Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

a. Inspection Scope

The inspectors reviewed select corrective action documents related to exposure controls.

b. Findings

Introduction. The inspectors reviewed a self-revealing, Green non-cited violation of Technical Specification 5.4.1(a), "Procedures," for a failure to secure a locked high radiation area. Specifically, the padlock on the Letdown Filter 1-1 locking bar was found unlocked.

Description. On July 1, 2015, the high radiation area padlock on the Letdown Filter 1-1 locking bar was found in a position that looked closed, but was not actually closed and locked. The discovery was made during the preparations to replace the letdown filter. Upon discovery, this area was guarded until properly secured. A review of the Radiation Protection key control log showed the last issuance of the key to Letdown Filter 1-1 was on June 24, 2015, for the purpose of determining the letdown filter dose rates. Based on the preceding information, the filter housing shield plug and vent valve shield plug to Letdown Filter 1-1 were uncontrolled from June 24, 2015, to July 1, 2015.

Radiation Survey Number 42111, dated July 1, 2015, of Letdown Filter 1-1 documented a dose rate of 1.5 rem per hour at 30 centimeters from the closed filter housing with the filter inside, meeting the technical specification definition of a locked high radiation area (LHRA). This issue was entered into the licensee's corrective action program as Notification 50710852.

Licensee procedure RCP D-220, "Control of Access to High, Locked High, and Very High Radiation Areas," Section 7.7.16, requires a second check of doors, gates, or covers be performed when locked and posted to control access to LHRAs. Licensee staff stated that a second check had been requested, with the expectation that the lock would be verified as closed and locked as required by the procedure. However, the second check never occurred and there was no follow-up to ensure that it had occurred.

Analysis. The failure to secure a locked high radiation area was a performance deficiency. The performance deficiency was more than minor because if left uncorrected it had the potential to lead to a more significant safety concern. Specifically, failure to adequately secure a locked high radiation area could result in unintended exposure to high levels of radiation. Using Inspection Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008, the inspectors determined this finding was of very low safety significance (Green) because: (1) it was not an as low as reasonably achievable (ALARA) finding, (2) there was no overexposure, (3) there was no substantial potential for an overexposure, and (4) the ability to assess dose was not compromised. The finding had an avoid complacency cross-cutting aspect, in the area of human performance, because individuals failed to recognize and plan for the possibility of mistakes, even while

expecting positive outcomes. Specifically, licensee personnel failed to ensure that the padlock was secured after completing the task. [H.12]

Enforcement. Technical Specification 5.4.1(a), "Procedures," states that written procedures shall be established, implemented, and maintained covering the activities recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulation Guide 1.33, Appendix A, Section 7 "Procedures for Control of Radioactivity," includes access control to radiation areas. Licensee procedure RCP D-220, "Control of Access to High, Locked High, and Very High Radiation Areas," Section 7.7.16, states, in part, a second check of doors (or gates, covers, etc.) shall be performed when they are locked and posted to control access to LHRAs, the second check will be completed as soon as practicable, and the second check shall ensure that the gate or door is closed and locked. Contrary to the above, on June 24, 2015, the licensee failed to perform a second check of doors (or gates, or covers) locked and posted to control access to LHRAs to ensure the gate or door was closed and locked. Specifically, the licensee failed to secure the padlock on the Letdown Filter 1-1 locking bar, leaving the filter housing shield plug unlocked, unchecked, and unattended from June 24, 2015, to July 1, 2015. Upon discovery, the licensee guarded the area until the padlock was secured.

Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as Notification 50710852, this violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy. (NCV 05000275/2015003-02; 05000323/2015003-02, Failure to Secure a Locked High Radiation Area)

2RS2 Occupational ALARA Planning and Controls (71124.02)

a. Inspection Scope

The inspectors assessed licensee performance with respect to maintaining occupational individual and collective radiation exposures as low as is reasonably achievable (ALARA). During the inspection, the inspectors interviewed licensee personnel and reviewed licensee performance in the following areas:

- Site-specific ALARA procedures and collective exposure history, including the current 3-year rolling average, site-specific trends in collective exposures, and source-term measurements
- ALARA work activity evaluations/post-job reviews, exposure estimates, and exposure mitigation requirements
- The methodology for estimating work activity exposures, the intended dose outcome, the accuracy of dose rate and man-hour estimates, and intended versus actual work activity doses and the reasons for any inconsistencies
- Records detailing the historical trends and current status of tracked plant source terms and contingency plans for expected changes in the source term due to changes in plant fuel performance issues or changes in plant primary chemistry
- Radiation worker and radiation protection technician performance during work activities in radiation areas, airborne radioactivity areas, or high radiation areas

- Audits, self-assessments, and corrective action documents related to ALARA planning and controls since the last inspection

These activities constitute completion of one sample of occupational ALARA planning and controls as defined in Inspection Procedure 71124.02.

b. Findings

No findings were identified.

2RS4 Occupational Dose Assessment (71124.04)

a. Inspection Scope

The inspectors evaluated the accuracy and operability of the licensee's personnel monitoring equipment, verified the accuracy and effectiveness of the licensee's methods for determining total effective dose equivalent, and verified that the licensee was appropriately monitoring occupational dose. The inspectors interviewed licensee personnel, walked down various portions of the plant, and reviewed licensee performance in the following areas:

- External dosimetry accreditation, storage, issue, use, and processing of active and passive dosimeters
- The technical competency and adequacy of the licensee's internal dosimetry program
- Adequacy of the dosimetry program for special dosimetry situations such as declared pregnant workers, multiple dosimetry placement, and neutron dose assessment
- Audits, self-assessments, and corrective action documents related to dose assessment since the last inspection

These activities constitute completion of one sample of occupational dose assessment as defined in Inspection Procedure 71124.04.

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

40A1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index: Heat Removal Systems (MS08)

a. Inspection Scope

The inspectors reviewed the licensee's mitigating system performance index data for the period of July 2014 through June 2015 to verify the accuracy and completeness of the reported data. 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 mitigating system performance index for heat removal systems for Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index: Residual Heat Removal Systems (MS09)

a. Inspection Scope

The inspectors reviewed the licensee's mitigating system performance index data for the period of July 2014 through June 2015 to verify the accuracy and completeness of the reported data. 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 mitigating system performance index for residual heat removal systems for Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.3 Mitigating Systems Performance Index: Cooling Water Support Systems (MS10)

a. Inspection Scope

The inspectors reviewed the licensee's mitigating system performance index data for the period of July 2014 through June 2015 to verify the accuracy and completeness of the reported data. 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 mitigating system performance index for cooling water support systems for Units 1 and 2, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.4 Drill/Exercise Performance (EP01)

a. Inspection Scope

The inspectors reviewed the licensee's evaluated exercises and selected drill and training evolutions that occurred between April 1, 2014, and June 30, 2015, to verify the accuracy of the licensee's data for classification, notification, and protective action recommendation (PAR) opportunities. The inspectors reviewed a sample of the licensee's completed classifications, notifications, and PARs to verify their timeliness and accuracy. 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 drill/exercise performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.5 Emergency Response Organization Drill Participation (EP02)

a. Inspection Scope

The inspectors reviewed the licensee's records for participation in drill and training evolutions between April 1, 2014, and June 30, 2015, to verify the accuracy of the licensee's data for drill participation opportunities. The inspectors verified that all members of the licensee's emergency response organization (ERO) in the identified key positions had been counted in the reported performance indicator data. The inspectors reviewed the licensee's basis for reporting the percentage of ERO members who participated in a drill. The inspectors reviewed drill attendance records and verified a sample of those reported as participating. 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 emergency response organization drill participation performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.6 Alert and Notification System Reliability (EP03)

a. Inspection Scope

The inspectors reviewed the licensee's records of Alert and Notification System tests conducted between April 1, 2014, and June 30, 2015, to verify the accuracy of the licensee's data for siren system testing opportunities. The inspectors reviewed procedural guidance on assessing Alert and Notification System opportunities and the results of periodic alert and notification system operability tests. 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 alert and notification system reliability performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

40A2 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 Annual Follow-up of Selected Issues

a. Inspection Scope

The inspectors selected two issues for an in-depth follow-up:

- On July 27, 2015, long term corrective actions on ac output breaker on safety-related inverter IY-14 inadvertently tripping open
- During the third quarter of 2015, the inspectors reviewed the licensee's corrective actions for the licensee identified violation documented in Section 40A7 of the NRC Integrated Inspection report 05000275/2014005 and 05000323/2014005 concerning seismic analyses for the reactor coolant system.

In 2011, the licensee identified that modifications to the reactor coolant system did not include all of the design loads as required by the Final Safety Analysis Report Update (FSARU). Specifically, the licensee's seismic analysis of the reactor coolant system equipment and supports did not consider the combination of loads from a loss-of-coolant-accident (LOCA) and an earthquake from the Hosgri fault occurring at the same time. The licensee documented the non-conforming conditions in Notifications 50403188 and 50404966.

Additionally, in May 2011, Diablo Canyon Power Plant (DCPP) staff identified inconsistencies regarding the use of the square root sum of the squares methodology (SRSS) in the FSARU with respect to the Hosgri report evaluation concerning the combination of Hosgri Event load and loop pipe rupture loads. DCPP's licensing bases did not specify nor prohibit the use of SRSS; however, it cited the use of the more conservative absolute sum (ABSUM) technique. This inconsistency could potentially affect the qualification of the primary equipment and supports, including the replacement reactor vessel head and steam generator that were installed in the late 2000's.

Initially, the licensee determined to resolve this inconsistency in its license amendment request 11-05 (PG&E Letter DCL-11-097, dated October 2011), which, in part, requested the use of SRSS method for the evaluation of load combinations of seismic with a loss of coolant accident. On October 25, 2012, (PG&E Letter DCL-12-108), PG&E withdrew the license amendment request due to the issuance of the NRC Letter, "Request for Information Pursuant to Title 10 CFR 50.54(f) Regarding Recommendations 2.1, 2.3 and 9.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident," dated March 12, 2012, and the issuance of NRC Letter, "Diablo Canyon Power Plant, Units Nos. 1 and 2 – NRC Review of Shoreline Fault, dated October 12, 2012. Subsequently, PG&E put the question of incorporating SRSS methodology in their licensing basis requiring a license amendment request or using the 10 CFR 50.59 process into their corrective action process as Notification 50403377. In November 2013, the licensee determined via 10 CFR 50.59 evaluation, LBIE 2013-029, that prior NRC approval was not required.

The inspectors reviewed the 10 CFR 50.59 evaluation and assessed the licensee's problem identification threshold, cause analyses, extent of condition reviews, operability assessment, compensatory and corrective actions. The inspectors documented a Severity Level IV, Green, non-cited violation in Section 1R18 of this report.

The inspectors assessed the licensee's problem identification threshold, cause analyses, extent of condition reviews, and compensatory actions for both selected issues. The inspectors verified that the licensee appropriately prioritized the planned corrective actions and that these actions were adequate.

These activities constitute completion of two annual follow-up samples as defined in Inspection Procedure 71152.

b. Findings

No findings were identified.

40A3 Follow-up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Notice of Violation 07200026/2013001-01, Isolated the canister and placed canister in an unanalyzed condition, violation of 72.48(c)(2)(v), EA-13-090

During the routine Independent Spent Fuel Storage Installation (ISFSI) inspection conducted on April 2-4, 2013, a violation of the NRC regulations was identified and documented in the routine ISFSI NRC Inspection Report 05000275/2013008, 050000323/2013008, and 07200026/2013001 (ML13140A430). The Diablo Canyon ISFSI Final Safety Analysis Report (FSAR) does not include an accident analysis for a situation where the canister is filled with air/water after the lid is welded in place, with the vent and drain port caps closed. This would have resulted in water and fuel in the canister in an isolated condition. The licensee failed to perform an adequate safety review per 10 CFR 72.48 to ensure Procedure HPP-1073-300 followed the process as outlined in Chapter 5 of the FSAR. Federal regulations in 10 CFR 72.48(c)(1) state, in part, that a licensee may make changes to procedures as described in the FSAR, if the change does not create a possibility for an accident of a different type than any previously evaluated in the FSAR. Contrary to this, the licensee failed to follow procedures as described in the FSAR and created the possibility for an accident not previously evaluated in the FSAR. This was determined by the NRC to be a Severity Level IV violation. The violation was cited in a Notice of Violation because Diablo Canyon was notified of a potential non-compliance in its procedure by the cask vendor (Holtec), failed to restore compliance within a reasonable period of time, failed to place the issue in their corrective action program prior to the 2012 campaign, and proceeded to use the procedure that placed seven canisters in an unanalyzed condition from January 2012 through March 2012.

The estimated time period that a canister was in an isolated condition had been estimated to be between forty to sixty minutes. Since the isolation period was of short duration, the resulting pressure increase inside the canister would have been low. Subsequent analysis showed that no appreciable multi-purpose canister (MPC) pressure increase occurred, and the integrity of the 23 previously loaded MPCs was not challenged at the DCPD ISFSI.

The Notice of Violation (NOV) issued with the NRC Inspection Report, on May 20, 2013 (ML13140A430), required Diablo Canyon to submit a written statement to the NRC within 30 days. The reply was required to contain the corrective steps taken to ensure full compliance was achieved. Diablo Canyon submitted the response to the NRC on June 17, 2013 (ML13169A079). The corrective steps taken by the licensee included: (1) revising HPP-1073-300 to address placing the canister in an isolated condition prior to the next loading campaign (Notification 50466943), (2) changing the expectations for processing of vendor technical information to be processed in accordance with the requirements of Procedure CF7.ID4 (Notification 50552345), (3) reviewing all existing vendor technical information to ensure proper entry into the Operating Experience Assessment Program (Notification 50552345), and (4) developing and distributing a meeting notice to communicate the details of the occurrence, including the potential error traps and consequences to the Engineering, Projects, and Maintenance organizations (Notification 50559063).

The NRC responded in a letter to Diablo Canyon's response on July 10, 2013 (ML13193A325). The letter stated that the NRC had concluded that Diablo Canyon's completed and proposed actions appear to adequately address the regulatory noncompliance described in the Notice of Violation and that full implementation of the corrective actions would be reviewed in a future inspection to determine if full compliance had been restored and whether compliance would be maintained.

During the routine ISFSI inspection conducted at Diablo Canyon on June 8-11, 2015, inspectors reviewed the implementation of corrective actions performed by Diablo Canyon in regards to the NOV. The inspectors concluded the licensee had performed adequate corrective actions to restore compliance, address extent of condition, and prevent reoccurrence.

No additional deficiencies were identified during review of this Notice of Violation.

This closes NOV 07200026/2013001-01, "Isolated the canister and placed canister in an unanalyzed condition, violation of 72.48(c)(2)(v), EA-13-090."

.2 (Closed) LER 07200026/1-2013-002: Independent Spent Fuel Storage Installation Casks Vent Path Isolation

On June 17, 2013, the licensee issued Licensee Event Report 1-2013-002 (ML13169A083) in accordance with 10 CFR 72.75(d)(1) and (g) for placing the ISFSI MPCs in an unanalyzed condition (for more information, see above in the Closed NOV 07200026/2013001-01). This event occurred when DCPD installed vent caps on the MPC vent ports according to approved procedures. This configuration removed the vent path and effectively disabled equipment important to safety while the MPCs contained spent fuel and an air/water mixture. This placed the MPC in an isolated condition without any relief path while water was in the MPC. This process was used for 23 casks from 2009 through 2012. Subsequent analysis showed that no appreciable MPC pressure increase occurred, and the integrity of the 23 previously loaded MPCs was not challenged at the DCPD ISFSI.

This issue was discovered by the NRC during the routine ISFSI inspection conducted on April 2-4, 2013, and documented in NRC Inspection Report 05000275/2013008, 050000323/2013008, and 07200026/2013001 (ML13140A430). As part of the review of this event, the inspectors identified one cited violation, NOV 07200026/201301-01, "Isolated the canister and placed canister in an unanalyzed condition, Violation of 72.48(c)(2)(v), EA-13-090." All corrective actions and required responses to this NOV have been completed by the licensee.

No additional deficiencies were identified during the review of the licensee event report.

This licensee event report is closed.

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

40A5 Other Activities

.1 Inspection of the Proposed Interim Actions Associated with Near-Term Task Force Recommendation 2.1 Flooding Hazard Evaluations (TI 2515/190)

a. Inspection Scope

On March 12, 2012, the NRC issued a letter entitled "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights From the Fukushima Dai-Ichi Accident." Enclosure 2 of the March 12, 2012, letter, entitled, "Flooding," requested licensees to re-evaluate flood hazards at their sites using present-day guidance and methodologies consistent with those used for licensing of new reactors. In addition, the enclosure requested that licensees provide documentation of interim actions planned or taken to address the reevaluated hazard where the reevaluated hazard exceeds the design basis.

b. Observations

Summary

The licensee performed a Unit 1 and Unit 2, Flood Hazard Reevaluation which was reported in a PG&E letter DCL-15-034, to the NRC on March 11, 2015 (ML15070A605 and ML15070A606). The report included interim action plans and actions taken to address the reevaluated hazard.

Evaluation of Inspection Requirements

In accordance with the requirements of TI 2515/190, inspectors independently verified that licensee's interim actions will perform their intended function for flooding mitigation. As part of the inspection activities:

- The inspectors performed visual inspection of the relevant flood protection features including external visual inspections for indications of degradation that would prevent its credited function from being performed.
- The inspectors reviewed the licensee use of reasonable simulation at Diablo Canyon Power Plant.
- Flood protection feature functionality was determined using both visual observations and a review of technical documents.

The inspectors verified that issues identified were entered into the licensee's corrective action program.

c. Findings

No findings of significance were identified.

.2 Operation of an Independent Spent Fuel Storage Facility Installation (ISFSI) at Operating Plants (60855.1)

a. Inspection Scope

Operation of an ISFSI

A routine inspection was conducted of the Diablo Canyon ISFSI on June 8-11, 2015 by Region IV, Division of Nuclear Material Safety inspectors. The inspectors observed and evaluated select licensee loading, processing, and heavy load procedures associated with the licensee's current loading campaign. Inspectors performed a review of the dry fuel storage records for ten casks loaded at the ISFSI, since the last NRC ISFSI inspection, to verify that the licensee was loading fuel in accordance with the Technical Specifications (TS) for approved contents. Documents reviewed included MPC loading maps and fuel assembly specific information such as, identification, decay heat (kW), cooling time (years), average U-235 enrichment (%), burn-up values (MWd/MTU), and other information.

The inspectors reviewed Event Notification 51134 issued by the licensee on June 6, 2015 and later updated on June 9, 2015, that concluded that ISFSI license TS 2.1.2 for preferential loading of uniform canisters had not been met for 19 previously loaded canisters. The licensee performed an operability assessment that concluded the casks would continue to perform their design function even though some assemblies with the longest cooling time were not loaded on the periphery of the basket as required by the TS. The inspectors reviewed the licensee's revised procedures to ensure adequate corrective actions were implemented. The inspectors consulted with the office of Nuclear Material Safety and Safeguards regarding compliance with the TS and the operability analysis. The results of this review are documented in Section 40A7.

The inspectors requested documentation related to maintenance of the fuel building cask handling crane, the annual maintenance of the licensee's special lifting devices, and the calibration of various gauges associated with the loading activities. Documents were provided that demonstrated the fuel building cask handling crane was inspected on an annual basis in accordance with the American Society of Mechanical Engineers (ASME) B30.2 safety requirements prior to the 2015 loading campaign. The annual maintenance as required by American National Standards Institute (ANSI) N14.6 for special lifting devices was completed for the following special lifting devices: the HI-TRAC lifting trunnions, lift yoke, lift yoke extension, and the HI-STORM/HI-TRAC lifting brackets. All equipment passed the visual inspection, the dimensional testing, and either the magnetic particle or liquid penetrant non-destructive examinations (NDE).

Inspectors reviewed the radiological conditions at the DCPD ISFSI through a document review of the most recent radiological survey and three years of thermoluminescent dosimeter (TLD) monitoring data from around the ISFSI. A dry cask loading supervisor and one radiation protection (RP) technician accompanied the NRC inspector during a walk-down of the ISFSI pad. A radiological survey was performed by one RP technician with a Geiger-Mueller detector to record gamma exposure rates. The measurements taken by the RP technician and independently confirmed by the NRC inspector (Ludlum Model 19, NRC number 033906, calibration due date of 3/13/2016) were consistent with measurements recorded on the most recent ISFSI site survey. The radiological conditions in and around the ISFSI were as expected for the age and heat-load of the 34 currently loaded spent fuel storage casks. Annual Radiological Environmental Operating

Reports for the DCPD site were reviewed for the last three years. The reports documented the dose equivalent to any real individual located beyond the site controlled area were well below the 10 CFR 72.104(a)(2) requirement of less than 25 millirem per year.

A review of the Corrective Action Program (CAP) associated with the ISFSI was conducted by the NRC inspectors. A list of Notifications issued since the last NRC inspection conducted in April 2013, was provided by the licensee for the cask handling crane and ISFSI operations. When a problem was identified the licensee would document the issue as a Notification in the licensee's CAP.

Of the list of Notifications provided relating to the ISFSI and the cask handling cranes, 28 were selected by the NRC inspectors for further review. The Notifications were related to a variety of issues. The Notifications reviewed were well documented and properly categorized based on the safety significance of the issue. The corrective actions taken were appropriate for the situations. Based on the comprehensiveness of the corrective action reports, the licensee demonstrated a high attention to detail in regard to the maintenance and operation of their ISFSI program and the cask handling crane. No NRC safety concerns were identified related to the Notifications reviewed.

The licensee's 10 CFR 72.48 screenings and evaluations for ISFSI program changes since the last NRC routine ISFSI inspection were reviewed to determine compliance with regulatory requirements. DCPD had performed two 72.48 evaluations since the last NRC ISFSI inspection. The NRC inspectors determined that the licensee had made no 10 CFR 50.59 screenings or evaluations associated with the fuel building cask handling crane since the last inspection. The screenings and the two full evaluations that were reviewed were determined to be adequately evaluated by the licensee.

An on-site review of the Quality Assurance (QA) audits and QA surveillance reports related to dry cask storage activities at the DCPD ISFSI was performed by NRC inspectors. The QA audit reports and surveillances resulted in several Notifications. NRC inspectors reviewed the corrective actions resulting from the Notifications to ensure that the identified deficiencies were properly categorized based on their safety significance and properly resolved. All identified deficiencies had been properly categorized and resolved by the licensee.

b. Findings

No findings of significance were identified.

40A6 Meetings, Including Exit

Exit Meeting Summary

The inspectors debriefed Mr. Jan Nimick, DCPD Station Director, and other members of the licensee's staff of the results of the routine ISFSI inspection on June 11, 2015. A telephonic exit was conducted with Mr. Barry Allen, Vice President of Nuclear Services, and other staff members on July 9, 2015 after the licensee's 30 day report to the NRC was issued for violating Technical Specification 2.1.2 of their ISFSI license (see Section 40A7). The inspectors presented the inspection results to members of the licensee management and staff. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any

materials examined during the inspection should be considered propriety. No propriety information was identified.

On July 23, 2015, the inspectors presented the results of the in-office and on-site inspection of the emergency preparedness program to Mr. Edward 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.

On July 30, 2015, the inspectors presented the radiation safety inspection results to Mr. James Welsch, Site Vice President, Mr. Barry Allen, Vice President, 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 had been returned or destroyed.

On October 1, 2015, the resident inspectors presented the inspection results to Mr. James Welsch, Site Vice President, and other members of the licensee staff. On November 12, 2015, the resident inspectors presented clarifying information regarding the characterization of one of the inspection findings to Mr. Barry Allen, Vice President, Nuclear Services, and other members of the licensee staff. The licensee acknowledged the issues presented at both meetings. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

40A7 Licensee-Identified Violations

The following violation of very low significance, Severity Level IV, was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as a non-cited violation.

- PG&E Part 72 license SNM-2511, Condition #11 requires, in part, that “The licensee shall operate the installation in accordance with the Technical Specifications in the Appendix.” Appendix Technical Specification 2.1.2 requires in part that “Preferential fuel loading shall be used during uniform loading.” Contrary to the above, from July 18, 2009 through June 6, 2015, PG&E failed to load 19 casks in accordance with Appendix Technical Specification 2.1.2 for preferential fuel loading. Specifically, the licensee failed to load fuel assemblies with longest cooling times in the periphery of the basket. This violation was identified by PG&E and placed in their corrective action program. The licensee submitted Event Notification 51134 to the NRC on June 6, 2015 and later updated the Event Notification on June 9, 2015. Following the event notification, PG&E submitted a 30-day report to the NRC on July 6, 2015 (ML15187A239). This violation did not have any safety impact, in that all fuel assemblies met the requirements for burn-up, decay heat, and cooling time. All fuel and casks remain in a safe and analyzed condition. However, in order to re-establish compliance with PG&E’s Part 72 license, the licensee must submit a license amendment request to the NRC.

In accordance with the NRC Enforcement Policy Section 2.2 and IMC 0612 Section 03.23, Part 72, ISFSI inspection findings follow the traditional enforcement process and are not dispositioned through the Reactor Oversight Process or the Significance Determination Process. The violation screened as having very low safety significance, Severity Level IV, and is being treated as an NCV, consistent with Section 2.3.2 a. of the Enforcement Policy. The violation was determined to be more than minor since the violation requires DCPD to request a License Amendment from the

NRC for their Part 72 license in order to restore compliance for the 19 affected casks. The violation was entered into the licensee's corrective action program as Notifications 50706314 and 50706501. Following identification of the issue, the licensee performed an assessment that showed the casks would continue to perform their design function. Corrective actions for this issue included issuing the revised procedure, performing an extent of condition review, providing just-in-time training to Reactor Engineering staff involved, and added an independent third party review requirement for fuel contents loaded into the canister.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

B. Allen, Vice President Nuclear Services
B. Ashbrook, Manager, Emergency Services
T. Baldwin, Director, Nuclear Site Services
D. Evans, Director, Security & Emergency Services
R. Gagne, Foreman, Radiation Protection
P. Gerfen, Director of Operation Services
M. Ginn, Manager, Nuclear Emergency Planning
R. Hagler, Supervisor Tech Services
E. Halpin, Sr. Vice President, Chief Nuclear Officer
C. Harbor, Director, Compliance & Risk
A. Heffner, NRC Interface, Regulatory Services
J. Hinds, Director, Quality Verification
H. Hamzehee, Manager, Regulatory Services
T. Irving, Manager, Radiation Protection
J. MacIntyre, Director of Equipment Reliability
M. McCoy, NRC Interface, Regulatory Services
C. Miller, Engineer, Radwaste
J. Morris, Senior Advising Engineer
J. Nimick, Station Director
E. Nelson, Manager, Licensing Basis Verification Project
A. Peck, Director, Nuclear Engineering
L. Pulley, ISFSI Manager
R. Rogers, ALARA Supervisor, Radiation Protection
L. Sewell, Nuclear Radiation Protection Engineer
R. Simmons, Manager, Nuclear Maintenance
P. Soenen, Supervisor, Regulatory Services
S. Stoffel, Supervisor, Dosimetry
J. Strickland, Director of Tech Services
A. Warwick, Supervisor, Emergency Planning
J. Welsch, Site Vice President
M. Wright, Nuclear Engineering, Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000275/2015003-01	NCV	Failure to Document an Adequate Evaluation for a Change in Seismic Load Combination Methodology (Section 1R18)
05000323/2015003-01		
05000275/2015003-02	NCV	Failure to Secure a Locked High Radiation Area (Section 2RS1)
05000323/2015003-02		

Closed

07200026/201301-01	NOV	Isolated the canister and placed canister in an unanalyzed condition, Violation of 72.48(c)(2)(v), EA-13-090 (Section 4OA3.1)
07200026/2013-002-01	LER	Independent Spent Fuel Storage Installation Casks Vent Path Isolation (Section 4OA3.2)

Section 1R01: Adverse Weather Protection

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision / Date</u>
OM1.ID4	Interface Requirements for Transmission and Distribution Facilities at DCPD	7
OM6.ID6	Heat Stress Management Program	6
ENV.EM2	Ocean Jelly Fish Influx Monitoring and Assessment Program	1
CP M-16	Severe Weather	5
OpESS 2012/01	High Winds Generated Missile Hazards	December 29, 2011
OP AP-35	Grid Disturbance	0

Notifications

50676136	50689872	50795296	50577895
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Work Orders

64110271	64110272
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Section 1R04: Equipment Alignment

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision / Date</u>
OP-D-1:11	Unit 2; Auxiliary Feed water System – Alignment Verification For Plant Startup	29
OP J-6B:I-A	Diesel Generator 2-1 – Alignment Checklist	0
OP J-6B:I-A	Diesel Generator 1-1 – Alignment Checklist	0
OP K-10	Systems Requiring Sealed Components	43

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision / Date</u>
STP I-72B	Reactor Seismic Trip Channels Calibration	23A
OP K-10C	Sealed Valve Checklist for the Containment Spray System, Unit 2	7
OP I-2:1	Containment Spray System Unit 2 – Make Available	20
107712	OVID Valve List	March 28, 2011

Notifications

50273725	50273723	50416001	50037310	50637792
50260674	50804360			

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
106703	OVID Unit 2 Auxiliary Feedwater System	50
458857	Diagram of connection – Seismic Trip Cabinet, Unit 1	9
458916	Diagram of connection – Seismic Trip Cabinet, Unit 2	6
493716	Arrangement and Diagram of Connections – Nuclear Seismic Cabinets, Unit 1	2
495858	Functional Logic Diagram – Seismic Trip, Unit 1	2
495888	Functional Logic Diagram – Seismic Trip, Unit 2	2
499406	Arrangement and Diagram of Connections – Nuclear Seismic Cabinets, Unit 2	2
663231	Solid State Protection System Interaction Diagram	9
693512-6	Seismic Trip Schematic, Unit 1	6
108012	Containment Spray System, Unit 2	27

Section 1R05: Fire Protection

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
TQ1.DC12	Fire Brigade and Emergency Response Training	14
EP M-1	Nonradiological Personnel Injury or Illness	
OM7.ID7	Emerging Issue and Event Investigations	16

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
CP M-6	Fire	35
EP G-3	Emergency Notification of Off-Site Agencies	57

Notifications

50690015	50795479	50794270	50794292	50796754
50796755	50796847	50795612	50797310	

Work Orders

64092332	64092470
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Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u> <u>Date</u>
106723 sheet 12	Cable Spreading Room Supply and Exhaust	128
DCM S-23C	Design Change Memorandum – System 23 C	13
515221	Door Schedule	February 20, 2015
RA-9	Fire Protection Auxiliary Building El. 115'	8
RA-10	FD-PREPLAN-RA-10 Rad Control 115'	3
111906-21	115' Auxiliary Building – Fire Protection	8
RA-17	Fire Protection Auxiliary Building El. 115'	6
RA-18	FD-PREPLAN-RA-18 Rad Control 115'	3
111906-22	115' Auxiliary Building – Fire Protection	6
RA-7	Fire Protection Auxiliary Building EL. 100'	5
RA-8	FD-PREPLAN-RA-08 Rad Control 100'	3
111906-19	100' Auxiliary Building – Fire Protection	5
RA-15	Fire Protection Auxiliary Building EL. 100'	5
RA-16	FD-PREPLAN-RA-16 Rad Control 100'	3
111906-20	100' Auxiliary Building – Fire Protection	5

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

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
AD8.DC55	Outage Safety Scheduling	38
OP AP SD-0	Loss of, or Inadequate Decay Heat Removal	13
OP AP SD-1	Loss of AC Power	19
OP L-4	Normal Operations at Power	89
Operation Policy: B-22	Conducting Training on In-Plant Equipment	4

Lesson

<u>Number</u>	<u>Title</u>
R152S2	Loss of Shutdown Cooling

Section 1R12: Maintenance Effectiveness

Procedure

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OM7.ID12	Operability Determination	33

Notifications

50795831 50795371 50797917 50797909

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
AD4.ID3	SISIP Housekeeping Activities	14
AD7.DC6	On-Line Maintenance Risk Management	21B
AD7.ID14	Assessment of Integrated Risk	6
CF3.ID11	Seismic Configuration Control Program	9
STP M-11D	Station Battery Terminal Voltage and Float Current Monitoring	4
AD13.DC10	Battery Monitoring and Maintenance Program	1
OP J-6B:IX	Diesel Generator Extended On-Line Maintenance	7

Notifications

50803443 50709593 50585721

Work Orders

68034060 68037930

Drawings

<u>Number</u>	<u>Title</u>	<u>Date</u>
C19 D-67-015	Equipment ID 1-67-E-BTC-BTC11 clearance	September 1, 2015

Design Change Notice

2000001450

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OP1.DC17	Control of Equipment Required by Technical Specifications	29
OM7.ID12	Operability Determination	33

Notifications

50709593 5079517 50488952 50585721 50795852
50796661 50682293 50800878 50804360

Clearance

<u>Number</u>	<u>Title</u>	<u>Date</u>
1C19 D-21-079D	Clearance for LS-210 work	July 28, 2015

Section 1R18: Plant Modifications

Drawing

<u>Number</u>	<u>Title</u>	<u>Date</u>
EDT 4000001273	TMOD install: IY14 Output Breaker B3 Jumper	July 10, 2015

Notifications

50709593 50795852 50795417 50811191

Work Order

60080535

Other Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
LBIE 2013-029	Incorporate SRSS/ABSUM for Seismic and LOCA loads	November 6, 2013

Section 1R19: Post-Maintenance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
MP E-21.4A	Diesel Generator Tach-Pak 3 and RPM Indicator Testing/Calibration	19
MP E-21.6	Diesel Generator Electrical Governor and Voltage Regulator Adjustments	19
MP M-21.8	Diesel Engine Governor Actuator Maintenance	24
OM4.ID14	Notification Review Team (NRT)	24
OM7.ID12	Operability Determination	33
STP M-9A.1	Diesel Engine Generator 1-1 Routine Surveillance Test	5
STP M-9A.2	Diesel Engine Generator 1-2 Routine Surveillance Test	5
STP M-9A.3	Diesel Engine Generator 1-3 Routine Surveillance Test	5
STP M-9B	Overspeed Trip Test of Diesel Generators	28
STP M-9D.1	Diesel Generator Full Load Rejection Test	22
STP M-9L	Diesel Generator Shutdown Lockout Relay Test	29
STP M-21-A.1	Diesel Engine Analysis	8
STP M-21-RTS.1	Return Diesel Engine to Service Following Outage Maintenance	15
STP V-302	Diesel Starting Air Receiver Leak Check and Check Valve Exercising	14
STP M-31B	Continuity Testing of RHR pump Appendix R switches	2
AD4.ID6	Foreign Material Exclusion program	22

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
AD13.ID4	Post Maintenance Testing	23
STP P-CSP-21	Routine Surveillance Test of Containment Spray Pump	13

Notifications

50795371	50797827	50797891	50797912	50798064
50798092	50798098	50641685	50754138	

Work Orders

64107917	64083653
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Section 1R22: Surveillance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
STP V-313A	Full Stroke Exercise of Containment Spray Valve CS-9001A	8
MP E-21.4A	Diesel Generator Tach-Pak 3 and RPM Indicator Testing/Calibration	19
MP E-21.6	Diesel Generator Electrical Governor and Voltage Regulator Adjustments	19
MP M-21.8	Diesel Engine Governor Actuator Maintenance	24
OM4.ID14	Notification Review Team (NRT)	24
OM7.ID12	Operability Determination	33
STP M-9A.1	Diesel Engine Generator 1-1 Routine Surveillance Test	5
STP M-9A.2	Diesel Engine Generator 1-2 Routine Surveillance Test	5
STP M-9A.3	Diesel Engine Generator 1-3 Routine Surveillance Test	5
STP M-9D.1	Diesel Generator Full Load Rejection Test	22
STP M-9L	Diesel Generator Shutdown Lockout Relay Test	29
STP M-21-A.1	Diesel Engine Analysis	8
STP M-21-RTS.1	Return Diesel Engine to Service Following Outage Maintenance	15
STP V-3O2	Diesel Starting Air Receiver Leak Check and Check Valve Exercising	14
STP P-CSP-21	Routine Surveillance Test of Containment Spray Pump	13

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
STP M-11D	Station Battery Terminal Voltage and Float Current Monitoring	4
STP M-12B	Battery Charger Performance Test	15
STP R-10	Unit 1 RCS Leakage Evaluation	16
STP R-8A	Unit 1 and 2 RCS Leakage Test	16

Notifications

50806941	50681916	50804360
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Work Orders

64131716	50797827	50797891	50797912	50798064
50798092	50798098	64130734	60075975	

Section 1EP2: Alert and Notification System Testing

Procedures

<u>Title</u>	<u>Date</u>
ANS Reliability PI data records; April 1, 2014 to June 30, 2015	
D CPP ANS System Design Report Update Revision 1	June 2013
D CPP ANS System Design Report Update Revision 2	July 2014

Section 1EP3: Emergency Response Organization Staffing and Augmentation System

Procedures

<u>Title</u>
Various ERO position individuals qualification records
ERO Drill Participation PI data records; April 1, 2014 to June 30, 2015

Section 1EP4: Emergency Action Level and Emergency Plan Changes

Procedures

<u>Number</u>	<u>Title</u>	<u>Date</u>
DCL-15-045	Emergency Plan Section 4 Update and Emergency Plan Implementing Document Update	April 1, 2015

Procedures

<u>Number</u>	<u>Title</u>	<u>Date</u>
DCL-15-074	Updates to the Emergency Plan and Emergency Plan Implementing Procedures	June 15, 2015

Section 1EP5: Maintenance of Emergency Preparedness

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision / Date</u>
	Diablo Canyon Emergency Response plan	
OM10.ID6	Equipment Important to Emergency Response	0
OM7.ID1	Problem Identification and Resolution	46
EP EF-9	Backup Emergency Response Facilities	11
EP EF-11	Alternate Emergency Response Facilities/Incident Command Post (ICP)	2
EP G-3	Emergency Notification of Off-site Agencies	57
	2013 Population Update Analysis	November 24, 2013
	2014 Population Update Analysis	November 24, 2014

Audits/Surveillances

	2015 NRC Baseline Inspection Readiness Assessment	June 5, 2015
Third Period	Quality Performance Assessment Report	2013
First Period	Quality Performance Assessment Report	2014
Second Period	Quality Performance Assessment Report	2014
Third Period	Quality Performance Assessment Report	2014
First Period	Quality Performance Assessment Report	2015
	Emergency Preparedness Program Audit	February 13, 2013
	Emergency Preparedness Program Audit	February 13, 2014
	Emergency Preparedness Program Audit	November 25, 2014

Notifications

50561508	50568582	50569878	50572849	50573691
50574698	50576128	50577630	50578700	50579929
50580301	50584618	50586010	50591456	50594250
50594296	50597569	50601033	50605071	50606479
50628986	50631484	50662158	50664185	50643436
50703078	50705923	50706490	50707411	50707412
50707413	50795649			

Section 1EP6: Drill Evaluation

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
CP M-4	Earthquake	32
EOP E-1.3	Transfer to Cold Leg Recirculation	30
AP-27	Loss of 480V Bus H	5

Section 2RS1: Radiological Hazard Assessment and Exposure Controls

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
RPI.DC6	Radiation Protection Code of Conduct	1
RCP D-220	Control of Access to High, Locked High, and Very High Radiation Areas	45

Notifications

50590243	50614775	50615871	50665560	50690021
50709599	50710852	50578092		

Radiation Survey

<u>Number</u>	<u>Title</u>	<u>Date</u>
42111	15-K-016 RCS Letdown Filter 1-1 change out	July 1, 2015

Section 2RS2: Occupational ALARA Planning and Controls

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
RCP D-200	Writing Radiation Work Permits ALARA Processes	52
RCP D-202	RWP Work Instructions	12
RP1	Radiation Protection	7
RP1.ID1	Requirements for the ALARA Program	8
RP1.ID2	Use and Control of Temporary Radiation Shielding	10
RP1.ID9	Radiation Work Permits	19
RP1.ID15	Risk Assessment	4

Notifications

50662067	50662476	50662510	50662662	50663245
50663456	50663593	50663595	50663600	50666250
50666959	50666980	50666985	50666987	50683491

Radiation Work Permits Closure Packages

<u>Number</u>	<u>Title</u>
RWP 14-0013	2R18 Pre & Post Operations/Maintenance in HRAs
RWP 14-2051	2R18 Reactor Coolant Pump Maintenance
RWP 14-2081	2R18 Core Exit Thermocouple Replacement

Miscellaneous Documents

<u>Title</u>	<u>Date</u>
2015 NRC RFI 010 2J 2R18 Outage ALARA Report	
2015 NRC RFI 009 2I Dose Reduction Plan 2013-2017	May 2013

Section 2RS4: Occupational Dose Assessment

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
RP1	Radiation Protection	7
RP1.ID6	Personnel Dose Limits and Monitoring Requirements	13
RP1.ID10	Embryo/Fetus Protection Program	7
RCP-D-370	Evaluation of Internal Deposition of Radioactive Material	13
RCP-D-420	Sampling and Measuring Airborne Radioactivity	30

Audits and Self-Assessments

<u>Number</u>	<u>Title</u>	<u>Date</u>
50638913	EPRI Alpha Monitoring and Control Guidelines (Rev. 2) Readiness for Implementation	July 22, 2014
	NVLAP On-Site Assessment	April 16, 2013

Notifications

50577813	50578679	50590090	50592682	50599125
50602751	50608922	50610796	50611127	50615816
50615884	50616387	50619104	50629182	50637848
50638014	50642713	50662471	50663508	50663577
50684440	50690374	50695562		

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
	2R18 Alpha Sample Analysis	June 3, 2015
100555-0	Mirion Technologies (GDS), Inc. Certificate of Accreditation	June 11, 2015
100537-0	Pacific Gas & Electric, Diablo Canyon Certificate of Accreditation	October 1, 2013
	Mirion/DCPP TLD NVLAP Comparison and 2014 Blind Spike Performance	July 9, 2015

Section 40A1: Performance Indicator Verification

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision / Date</u>
XI1.DC1	Collection and Submittal of NRC Performance Indicators	12A
AWP EP-001	Emergency Preparedness Performance Indicators	19
MS08	Heat Removal System Consolidated Data Sheets	July 2014 through June 2015
MS09	Residual Heat Removal System Consolidated Data Sheet	July 2014 through June 2015

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision / Date</u>
MS10	Cooling Water System Consolidated Data Sheets	July 2014 through June 2015

Notifications

50656860 50663997

Work Orders

64107499 64117867

Section 40A2: Problem Identification and Resolution

Notification

50488952 50404966 50403189 50403377 50811191

Other Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
LBIE 2013-029	Incorporate SRSS/ABSUM for Seismic and LOCA loads	November 6, 2013

Section 40A3: Follow-up of Events and Notices of Enforcement Discretion

Procedure

<u>Number</u>	<u>Title</u>	<u>Revision</u>
PEP DF-3	Drying, Backfilling, and Sealing the MPC	0

Notifications

50552345 50559063 50466943 5064923 50694921
50655006

Other Document

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1073230	Supplemental Calc to Support MPC Port Cap Violation	0

Section 4OA5: Other Activities

Procedure

<u>Number</u>	<u>Title</u>	<u>Revision</u>
CP M-16	Severe Weather	6
MP M-42-DFS.1	FHB Dry Fuel Storage Rigging and Load Handling	7A
PEP DF-1	MPC and HI-STORM Preparation	0A
PEP DF-2	MPC Loading	0
PEP DF-3	Drying, Backfilling, and Sealing the MPC	0
PEP DF-4	MPC Canister Loading	0
DF1.ID3	Cask Transport Evaluation Program	2A
GQP-9.6	Visual Examination of Welds	14
GQP-9.2	High Temperature LP Examination	8
PCI-CNSTR-T-OP-230	Closure Welding of MPC Canisters at Diablo Canyon	6
OM7.ID1	Problem Identification and Resolution	46
TS23.ID.2	Licensing Basis Impact Evaluations	39
STP I-1A	Routine Shift Checks Required by Licenses	126
PEP R-MPC-32	Determination of Fuel Assemblies and Non-fuel Hardware Qualified for Storage in the MPC-32	3
PEP R-70	MPC-32 Loading Plan Design	3

Notifications

50686761	50803903	50798572	50796697	50553240
50691163	50690526	50565446	50575220	50577850
50686958	50559063	50564602	50578138	50583740
50587467	50595951	50601792	50608921	50610919
50615791	50626737	50632173	50638232	50654982
50694033	50698551	50701395	50702015	50558245
50564080				

Calculation

<u>Number</u>	<u>Title</u>	<u>Revision</u>
9-41291	Alternate ASW Pump Sizing	1

Other Document

<u>Number</u>	<u>Title</u>	<u>Revision / Date</u>
PG&E Letter DCL-1-034 (Enclosure 1)	Diablo Canyon Power Plant Units 1 and 2 Flood Hazard Reevaluation Report	March 2015
1073230	Supplemental Calc to Support MPC Port Cap Violation	0
123450015	Fuel Management Program Audit	October 3, 2013
142060016	ISFSI 2014 October Assessment	0
143370011	ISFSI 2014 November Assessment	0
143370012	ISFSI 2014 December Assessment	0
142060014	ISFSI 2014 August Assessment	0
	DCCP Annual Radiological Operating Report	2012, 2013, 2014
	Diablo Canyon ISFSI FSAR	5
SNM-2511	License for Independent Storage of Spent Fuel	Amendment 3
9000041560	Fuel Assembly and Insert Selection for Loading Campaign #4 Unit 2 portion	0
9000041555	Fuel Assembly and Insert Selection for Loading Campaign #4 Unit 1 portion	0
9000041030	Fuel Assembly and Insert Selection for Loading Campaign #5 Unit 1 portion	0
1000024952	Design Package for ISFSI Expansion	0

72.48 Screens/Evaluations

1000025121	1000024957	1000024952	1000024951	1000024944
LBIE 2013-031	LBIE 2013-020			

Work Orders

64112867	64096091	64107340	64097885	64097884
64088152	64103397	64080588	68036920	

Section 40A7 Licensee Identified Violations

Procedure

<u>Number</u>	<u>Title</u>	<u>Revision</u>
PEP R-MPC-32	Determination of Fuel Assemblies and Non-fuel Hardware Qualified for Storage in the MPC-32	3
PEP R-70	MPC-32 Loading Plan Design	3

Notifications

50706314 50705943 50706313 50705752 50706501

Other Document

<u>Number</u>	<u>Title</u>	<u>Revision</u>
RE-20150515	Engineering Calculation Fuel Assembly Loading Plan Campaign #5 Unit 2 Portion	0

**The following items are requested for the
Occupational Radiation Safety Inspection
at Diablo Canyon
July 27-31, 2015
Integrated Report 2015003**

Inspection areas are listed in the attachments below.

Please provide the requested information on or before **July 6, 2015**.

Please submit this information using the same lettering system as below. For example, all contacts and phone numbers for Inspection Procedure 71124.01 should be in a file/folder titled "1- A," applicable organization charts in file/folder "1- B," etc.

If information is placed on *ims.certrec.com*, please ensure the inspection exit date entered is at least 30 days later than the onsite inspection dates, so the inspectors will have access to the information while writing the report.

In addition to the corrective action document lists provided for each inspection procedure listed below, please provide updated lists of corrective action documents at the entrance meeting. The dates for these lists should range from the end dates of the original lists to the day of the entrance meeting.

If more than one inspection procedure is to be conducted and the information requests appear to be redundant, there is no need to provide duplicate copies. Enter a note explaining in which file the information can be found.

If you have any questions or comments, please contact John O'Donnell at (817) 200-1441 or john.odonnell@nrc.gov.

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.

2. Occupational ALARA Planning and Controls (71124.02)

Date of Last Inspection: October 6, 2014

- A. List of contacts and telephone numbers for ALARA program personnel
- B. Applicable organization charts
- C. Copies of audits, self-assessments, and LERs, written since date of last inspection, focusing on ALARA
- D. Procedure index for ALARA Program
- E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures may be requested by number after the inspector reviews the procedure indexes.
 - 1. ALARA Program
 - 2. ALARA Committee
 - 3. Radiation Work Permit Preparation
- F. A summary list of corrective action documents (including corporate and sub-tiered systems) written since date of last inspection, related to the ALARA program. In addition to ALARA, the summary should also address Radiation Work Permit violations, Electronic Dosimeter Alarms, and RWP Dose Estimates

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are “searchable” so that the inspector can perform word searches.

- G. List of work activities greater than 1 rem, since date of last inspection
Include original dose estimate and actual dose.
- H. Site dose totals and 3-year rolling averages for the past 3 years (based on dose of record)
- I. Outline of source term reduction strategy
- J. If available, provide a copy of the ALARA outage report for the *most recently* completed outages for each unit
- K. Please provide your most recent Annual ALARA Report.

4. Occupational Dose Assessment (Inspection Procedure 71124.04)

Date of Last Inspection: August 5, 2013

- A. List of contacts and telephone numbers for the following areas:
 - 1. Dose Assessment personnel
- B. Applicable organization charts
- C. Audits, self-assessments, vendor or NUPIC audits of contractor support, and LERs written since date of last inspection, related to:
 - 1. Occupational Dose Assessment
- D. Procedure indexes for the following areas
 - 1. Occupational Dose Assessment
- E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.
 - 1. Radiation Protection Program
 - 2. Radiation Protection Conduct of Operations
 - 3. Personnel Dosimetry Program
 - 4. Radiological Posting and Warning Devices
 - 5. Air Sample Analysis
 - 6. Performance of High Exposure Work
 - 7. Declared Pregnant Worker
 - 8. Bioassay Program
- F. List of corrective action documents (including corporate and sub-tiered systems) written since date of last inspection, associated with:
 - 1. National Voluntary Laboratory Accreditation Program (NVLAP)
 - 2. Dosimetry (TLD/OSL, etc.) problems
 - 3. Electronic alarming dosimeters
 - 4. Bioassays or internally deposited radionuclides or internal dose
 - 5. Neutron dose

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are "searchable" so that the inspector can perform word searches.
- G. List of positive whole body counts since date of last inspection, names redacted if desired
- H. Part 61 analyses/scaling factors
- I. The most recent National Voluntary Laboratory Accreditation Program (NVLAP) accreditation report or, if dosimetry is provided by a vendor, the vendor's most recent results