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

July 14, 2016

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

SUBJECT: DIABLO CANYON POWER PLANT - NOTIFICATION OF AN NRC TRIENNIAL FIRE PROTECTION BASELINE INSPECTION (NRC INSPECTION REPORT 05000275/2016008 and 05000323/2016008) AND REQUEST FOR INFORMATION

Dear Mr. Halpin:

The purpose of this letter is to notify you that the U.S. Nuclear Regulatory Commission (NRC), Region IV staff will conduct a triennial fire protection baseline inspection at the Diablo Canyon Power Plant in October 2016. The inspection team will be comprised of five reactor inspectors from the NRC Region IV office. The inspection will be conducted in accordance with Inspection Procedure 71111.05XT, "Fire Protection – NFPA 805 (Triennial)," the NRC's baseline fire protection inspection procedure.

The schedule for the inspection is as follows:

- Information gathering visit: August 30 – 31, 2016
- On-site inspection: October 3 – 7, 2016
  October 17 – 21, 2016

The purpose of the information gathering visit is to obtain information and documentation needed to support the inspection and to become familiar with the fire protection program, fire protection features, safe shutdown success paths, plant layout, and mitigating strategies to address Section B.5.b of NRC Order EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures," dated February 25, 2002, and 10 CFR 50.54(hh)(2).

The team leader will participate in the information gathering visit to select the fire areas for evaluation, identify additional documents needed to support the inspection, obtain unescorted access, and meet with the key personnel who will support the inspection. The fire area selection will require a walkdown of candidate fire areas with key personnel from your staff. The enclosures to this letter provide an initial list of the documents the team will need for their review.

During the information gathering visit, the team leader will also discuss the following inspection support administrative details: (1) office space size and location; (2) specific documents requested to be made available to the team in their office spaces; (3) arrangements for reactor site access (including radiation protection training, security, safety, and fitness for duty requirements); and (4) the availability of knowledgeable plant staff and licensing organization personnel to serve as points of contact during the inspection.

We request that during the on-site inspection weeks you ensure that copies of analyses, evaluations, or documentation regarding the implementation and maintenance of the station fire protection program, including the success path necessary to achieve and maintain the nuclear safety performance criteria, be readily accessible to the team for their review. Of specific interest for the fire protection portion of the inspection are those documents which establish that your fire protection program satisfies NRC regulatory requirements and conforms to applicable NRC and industry fire protection guidance (i.e., fire protection compliance assessment documents). For the 10 CFR 50.54(hh)(2) portion of the inspection, those documents implementing your mitigating strategies and demonstrating the management of your commitments for the strategies are of specific interest. Also, personnel should be available at the site during the inspection who are knowledgeable regarding those plant systems required to achieve and maintain safe and stable plant conditions, including the electrical aspects of the nuclear safety capability assessment, reactor plant fire protection systems and features, and the station fire protection program and its implementation.

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

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

Your cooperation and support during this inspection will be appreciated. If you have questions concerning this inspection or the inspection team's information or logistical needs, please

contact Dr. Steven Alferink, the team lead inspector, in the Region IV office at (817) 200-1548 or steven.alferink@nrc.gov.

Sincerely,

/RA/

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

Docket Nos. 50-275 and 50-323
License Nos. DPR-80 and DPR-82

Enclosures:
1. Triennial Fire Protection Inspection Document Request
2. Mitigating Strategies Document Request

cc w/encl: Electronic Distribution

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Distribution:
See next page

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DATE	7/14/16	7/14/16					

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Letter to Edward D. Halpin from Gregory E. Werner, dated July 14, 2016

SUBJECT: DIABLO CANYON POWER PLANT - NOTIFICATION OF AN NRC TRIENNIAL FIRE PROTECTION BASELINE INSPECTION (NRC INSPECTION REPORT 05000275/2016008 and 05000323/2016008) AND REQUEST FOR INFORMATION

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Triennial Fire Protection Inspection Document Request

The documents and information requested below should generally be made available to the inspection team during the inspection. Electronic format is the preferred format, except where specifically noted. If electronic files are made available via the internet-based inspection management system (IMS), then the remote document access must allow inspectors to download, save, and print the documents in the NRC's regional office.

If IMS is utilized, it is recommended that a separate folder be used corresponding to each item listed below and that multiple documents within each folder be combined into a ZIP file before uploading. Electronic files on compact disc or paper records (hard copy) are also acceptable.

To allow review before the on-site information gathering visit, the following documents should be made available to the team in the regional office no later than August 15, 2016:

- Post-fire nuclear safety capability, systems, and separation analysis (request A.1)
- Fire hazards analysis and/or NFPA 805 design basis document (request A.2)
- Fire probabilistic risk assessment (PRA) summary document or full PRA document (request A.3)
- NFPA 805 transition report, developed in accordance with NEI 04-02 (request A.4)
- Fire risk evaluations (i.e., NFPA 805, Section 2.4.3) (request A.5)
- Plant change evaluations (i.e., NFPA 805, Section 2.4.4) (request A.6)
- Analysis that demonstrates nuclear safety performance criteria can be achieved and maintained for those areas that require recovery actions (request A.7)

Based on a review of the above seven items, the team leader should identify a preliminary list of fire areas being considered for inspection prior to the on-site information gathering visit. During the information gathering visit, or shortly thereafter, the fire areas selected for inspection will be determined.

This document request is based on typical documents that a generic plant might have. As such, this generic document request is not meant to imply that any specific plant is required to have all of the listed documents. It is recognized that some documents listed below may not be available for your plant. In addition, the document titles listed below are based on typical industry document names; your plant-specific document titles may vary.

To allow review before the on-site inspection weeks, the following documents should be made available to the team in the regional office no later than September 12, 2016.

A. DESIGN AND LICENSING BASIS DOCUMENTS

A.1 Post-fire nuclear safety capability, systems, and separation analysis.

A.2 Fire hazards analysis and/or NFPA 805 design basis document.

A.3 Fire PRA summary document or full PRA document (if summary document not available).

A.4 NFPA 805 transition report, developed in accordance with NEI 04-02.

A.5 Fire risk evaluations (i.e., NFPA 805, Section 2.4.3).

A.6 Plant change evaluations (i.e., NFPA 805, Section 2.4.4).

A.7 Analysis that demonstrates nuclear safety performance criteria can be achieved and maintained for those areas that require recovery actions.

A.8 Fire protection program and/or fire protection plan.

A.9 List of post-fire safe shutdown components (i.e., safe shutdown equipment list).

A.10 Fire protection system design basis document.

A.11 List of applicable NFPA codes and standards and issuance dates (i.e., codes of record).

A.12 List of deviations from (a) NFPA codes of record or (b) NFPA 805 fundamental fire protection program and design elements (i.e., NFPA 805, Chapter 3).

A.13 NFPA compliance review report.

A.14 Copy of licensee submittals and NRC safety evaluation reports that are specifically listed in the facility operating license for the approved fire protection program.

A.15 Copy of NRC safety evaluation reports that form the licensing basis for:

- Fire protection program
- Post-fire nuclear safety capability

A.16 List of nuclear safety capability design changes completed in the last three years (including their associated 10 CFR 50.59 and NFPA 805 plant change evaluations).

A.17 Facility operating license.

A.18 Technical Specifications (electronic format only).

A.19 Technical Requirements Manual (electronic format only).

A.20 Updated Final Safety Analysis Report (electronic format only).

B. GENERAL PLANT DESIGN DOCUMENTS

B.1 Piping and instrumentation diagrams (P&IDs) and legend list for components used to achieve and maintain nuclear safety performance criteria for (electronic format and C-size paper drawings):

- Fires outside the main control room
- Fires in areas requiring recovery actions at other than primary control stations

B.2 Piping and instrumentation diagrams and legend list for fire protection systems, including the fire water supply; water suppression sprinklers; and deluge, CO_2, and Halon systems (electronic format and C-size paper drawings).

B.3 Yard layout drawings for underground fire protection buried piping (electronic format and C-size paper drawings).

B.4 AC and DC electrical system single line diagrams, from off-site power down to the highest safety-related bus level (typically 4kV, EDG bus) (electronic format and C-size paper drawings).

B.5 Single line diagrams for motor control centers (MCCs) that supply post-fire nuclear safety component loads (only for selected fire areas) (electronic format and C-size paper drawings).

B.6 Equipment location drawings which identify the physical plant locations of post-fire nuclear safety capability equipment (electronic format and C-size paper drawings).

B.7 Plant layout drawings which identify (electronic format and C-size paper drawings):

- Plant fire area boundaries
- Combustible control zone drawings
- Areas protected by automatic fire suppression and detection
- Locations of fire protection equipment

C. CLASSIC FIRE PROTECTION

C.1 Copy of fire protection program implementing procedures (e.g., administrative controls, surveillance testing, and fire brigade).

C.2 List of calculations and engineering analyses, studies, or evaluations for the fire protection system, including the fire water system.

C.3 Hydraulic calculation or analysis for fire protection water system.

C.4 Last two completed surveillances of fire protection features in the selected fire areas (detection, suppression, damper inspections, damper tests, penetration inspections, barrier inspections, etc.).

C.5 List of routine tests, surveillances, and preventive maintenance on fire pumps, including pump controllers and batteries.

C.6 Last two completed annual fire pump pressure and flow tests.

C.7 Last two completed monthly and/or quarterly fire pump tests.

C.8 Last two completed fire loop flow tests and loop flushes.

C.9 CO_2 and Halon initial discharge testing or calculation that determined appropriate concentrations and soak or hold times can be achieved (only for selected fire areas).

C.10 Last five hot work permits (at power).

C.11 Last five transient combustible permits (at power).

C.12 For fire brigade drills, provide the following:

- Last five fire brigade drill critiques
- Last drill critique for a drill with off-site fire department support
- Last unannounced drill critique
- Last back-shift drill critique
- Dates, shifts, and locations of unannounced drills for last three years
- Summary of any unsatisfactory drill performance items for last three years
- Last unannounced drill critique by a qualified individual independent of the licensee's staff

C.13 For fire brigade equipment provide the following:

- Procedure for inventory and inspection
- Most recent inspection and inventory results

C.14 Fire brigade qualifications, including self-contained breathing apparatus (SCBA), and training lesson plans.

C.15 Copy of the mutual aid agreement for the "first-due" local fire department that is currently in effect.

C.16 Copy of the evaluation or analysis of the effects of fire suppression activities on the ability to achieve the nuclear safety performance criteria (only for selected fire areas) demonstrating:

- The automatic or manually actuation of a suppression system, due to a fire in a single location, will not indirectly cause damage to the success path
- The inadvertent actuation or rupture of a suppression system will not indirectly cause damage to the success path

- Adequate drainage for areas protected by water suppression systems
- The hydrostatic rating of any floor penetration seals installed within the fire areas that are credited with keeping water from leaking into fire areas below

C.17 Pre-fire plans for all fire areas.

C.18 For emergency lighting units, provide the following:

- Copy of performance-based emergency light assessments
- List of preventive maintenance tasks, frequencies, and bases
- Most recently performed monthly or quarterly functional test
- Most recently performed battery discharge performance test or conductance measurement test
- Emergency lighting units battery loading analysis
- Vendor manual(s) for on-site inspector use
- Results of black-out testing (if performed)
- Maintenance Rule program information related to the emergency lighting system
- Compensatory measures taken when emergency lighting units are out of service
- Drawings showing emergency light locations and lamp orientation

C.19 Impairment log (at start of inspection) for fire protection features that are out of service.

C.20 Fire protection screening reviews for recent design changes, modifications, or temporary modifications (i.e., an NFPA 805 plant change evaluation that screened out) in the last three years.

C.21 List of penetration seal work, re-work, or installation activities, in the last three years.

C.22 List of fire wrap work, re-work, or installation activities, in the last three years.

C.23 Fire protection system health reports for the two most recent quarters.

C.24 Fire protection program health reports for the two most recent quarters.

C.25 Emergency lighting system health reports for the two most recent quarters.

C.26 List of fire protection system design changes completed in the last three years (including their associated 10 CFR 50.59 and NFPA 805 plant change evaluations).

C.27 List of fire protection system NFPA 805 engineering equivalency evaluations completed in the last three years.

C.28 Licensee evaluations of industry operating experience concerning fire protection issues completed in the last three years.

D. ELECTRICAL

D.1 Identify whether the cables in the selected fire areas are predominantly thermoset or thermoplastic. Specifically identify any thermoplastic cable in the selected fire areas.

D.2 Nuclear safety circuit coordination analysis for fuse and breaker coordination of nuclear safety capability components (only for selected fire areas).

D.3 Administrative or configuration control procedures that govern fuse replacement (e.g., fuse control procedures).

D.4 Maintenance procedures that verify breaker over-current trip settings to ensure coordination remains functional for post-fire nuclear safety capability components.

D.5 Electrical system health reports for the two most recent quarters.

D.6 Last surveillance demonstrating operability of those components operated from the primary control stations.

D.7 Schematic or elementary diagrams for circuits to be reviewed (samples to be identified by the inspector) (C-size paper drawings).

D.8 Cable routing for components and equipment credited for post-fire nuclear safety capability systems and components (only for selected fire areas).

D.9 List of post-fire nuclear safety capability system and component design changes completed in the last three years.

D.10 List of identified fire induced circuit failure configurations (only for selected fire areas).

E. OPERATIONS

E.1 List of calculations and engineering analyses, studies, or evaluations for the nuclear safety capability methodology.

E.2 List of licensed operator job performance measures (JPMs) for operator actions required to achieve and maintain post-fire nuclear safety performance criteria.

E.3 List of non-licensed operator training associated with non-licensed operator actions to achieve and maintain post-fire nuclear safety performance criteria (including JPMs, in-field training walkdowns, simulations, or initial qualification).

E.4 Lesson plans for post-fire nuclear safety capability training for licensed and non-licensed operators.

E.5 For recovery actions, provide the following:

- Manual action feasibility study
- Operator time critical action program
- Timelines for time-critical recovery actions
- Timeline validations

E.6 Thermal hydraulic calculation or analysis that determines the time requirements for time-critical manual operator actions.

E.7 Operating procedures to achieve and maintain nuclear safety performance criteria from the control room with a postulated fire in the selected fire areas.

E.8 Operating procedures to achieve and maintain nuclear safety performance criteria from outside the control room with a postulated fire in the control room, cable spreading room, or any area requiring recovery actions (other than recovery actions performed in the control room or primary control stations) and any associated procedure basis documents.

E.9 For safe shutdown equipment and tools, provide the following:

- Procedure for inventory and inspection
- Most recent inspection and inventory results

E.10 List of procedures that implement cold shutdown repairs.

E.11 For cold shutdown repairs, provide the following:

- Procedure for inventory and inspection (i.e., needed tools, material, etc.)
- Most recent inspection and inventory results

E.12 For radio communications, provide the following:

- Communications plan for firefighting and post-fire safe shutdown manual actions
- Repeater locations
- Cable routing for repeater power supply cables
- Radio coverage test results
- Radio dead spot locations in the plant

E.13 For telephone, plant pager or sound powered phone systems, if relied upon to achieve and maintain safe and stable conditions, provide the following:

- Communications plan for firefighting and post-fire safe shutdown manual actions

- Locations of phone, pager units, sound powered phone jacks and sound powered phone headsets

- Cable routing including power supply cables

E.14 Environmental and habitability evaluations for post-fire operator actions (temperature, smoke, humidity, SCBAs, etc.).

F. ADMINISTRATIVE CONTROL, OVERSIGHT, AND CORRECTIVE ACTION PROGRAMS

F.1 Corrective actions for fire-induced circuit failures (including but not limited to NRC IN 92-18), both single and multiple spurious actuations (only for selected fire areas).

F.2 Corrective actions associated with operator actions to achieve and maintain post-fire nuclear safety performance criteria.

F.3 Self-assessments, peer assessments, and audits of fire protection activities for the last three years.

F.4 Self-assessments, peer assessments, and audits of post-fire nuclear safety capability methodology for the last three years.

F.5 List of open and closed condition reports for the fire protection system for the last three years.

F.6 List of fire event analysis reports for the last three years.

F.7 List of open and closed condition reports for emergency lighting units for the last three years.

F.8 List of open and closed condition reports for post-fire nuclear safety capability issues for the last three years. This includes issues affecting the nuclear safety capability analysis, fire hazards analysis, NFPA 805 design basis, fire risk evaluations, plant change evaluations, post-fire operating procedures and/or training, timeline evaluations for operator actions, and supporting engineering evaluations, analysis, or calculations.

F.9 List of procedures that control the configuration of the fire protection program, features, and post-fire nuclear safety capability methodology and system design.

MITIGATING STRATEGIES DOCUMENT REQUEST

G. 10 CFR 50.54(hh)(2) MITIGATING STRATEGIES DOCUMENTS

G.1 List of all changes to regulatory commitments made to meet the requirements of, Section B.5.b of NRC Order EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures," dated February 25, 2002, and Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54(hh)(2).

G.2 List of procedures and guidelines that were revised or generated to implement the mitigating strategies. These could be extensive damage mitigation guidelines (EDMGs), severe accident management guidelines (SAMGs), emergency operating procedures (EOPs), abnormal operating procedures (AOPs), etc.

G.3 A matrix that shows the correlation between the mitigation strategies identified in Nuclear Energy Institute, 06-12, Revision 2, "B.5.b Phase 2 & 3 Submittal Guideline," issued December 2006, and the site-specific procedures or guidelines that are used to implement each strategy.

G.4 List of engineering evaluations or calculations that were used to verify the engineering bases for the mitigating strategies.

G.5 Piping and instrumentation diagrams and legend list or simplified flow diagrams for systems relied upon in the mitigating strategies. These could be the type used for training (electronic format and C-size paper drawings).

G.6 List of modification packages or summary descriptions of modifications with simplified drawings for necessary facility changes to implement the mitigating strategies.

G.7 List of routine tests, surveillances, and preventive maintenance for equipment and tools needed to implement 10 CFR 50.54(hh)(2) strategies.

G.8 For equipment and tools needed to implement 10 CFR 50.54(hh)(2) strategies, provide the following:

- Procedures for inventory and inspection
- Most recent inspection and inventory results

G.9 List of 10 CFR 50.54(hh)(2) strategies, if any, which have implementing details that differ from that documented in the submittals or the safety evaluation report.

G.10 Site general arrangement drawings that show the majority of buildings and areas referenced in 10 CFR 50.54(hh)(2) documents (electronic format and C-size paper drawings).

G.11 Training records, training matrix, and lesson plans related to 10 CFR 50.54(hh)(2).

G.12 Copies of memoranda of understanding (MOU) (e.g., with local fire departments) required to implement any mitigating strategies.