



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

August 21, 2019

Mr. James M. Welsch
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 NUCLEAR POWER PLANT, UNITS 1 AND 2 - ISSUANCE
OF AMENDMENT NOS. 233 AND 235, RE: REVISION TO THE EMERGENCY
PLAN TO CHANGE STAFFING AND EXTEND STAFF AUGMENTATION TIMES
FOR EMERGENCY RESPONSE ORGANIZATION POSITIONS
(EPID L-2018-LLA-0248)**

Dear Mr. Welsch:

The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 233 to Facility Operating License No. DPR-80 and Amendment No. 235 to Facility Operating License No. DPR-82 for the Diablo Canyon Power Plant, Units 1 and 2 (Diablo Canyon), respectively. The amendments consist of changes to the Diablo Canyon Emergency Plan in response to your application dated September 12, 2018, as supplemented by letters dated May 2 and July 3, 2019.

The amendments consist of changes to the Diablo Canyon Emergency Plan to revise the emergency response organization staffing composition and extend staff augmentation times from 60 to 90 minutes for certain emergency response organization positions from the time of declaration of an alert or higher emergency classification level.

J. Welsch

- 2 -

A copy of the related Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in dark ink, appearing to read "Singal K. Singal" followed by a stylized flourish.

Balwant K. Singal, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-275 and 50-323

Enclosures:

1. Amendment No. 233 to DPR-80
2. Amendment No. 235 to DPR-82
3. Safety Evaluation

cc: Listserv



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NO. 50-275

DIABLO CANYON NUCLEAR POWER PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 233
License No. DPR-80

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Pacific Gas and Electric Company (the licensee), dated September 12, 2018, as supplemented by letters dated May 2 and July 3, 2019, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, by Amendment No. 233, Facility Operating License No. DPR-80 is hereby amended to authorize revision to the Diablo Canyon Power Plant Emergency Plan to extend staff augmentation times for the emergency response organization as set forth in the Pacific Gas and Electric Company's application dated September 12, 2018, as supplemented by letters dated May 2 and July 3, 2019, and evaluated in the NRC staff's safety evaluation enclosed with Amendment No. 233.
3. This license amendment is effective as of its date of issuance and shall be implemented within 180 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read 'Ho K. Nieh', followed by a stylized flourish.

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

Date of Issuance: August 21, 2019



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NO. 50-323

DIABLO CANYON NUCLEAR POWER PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 235
License No. DPR-82

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Pacific Gas and Electric Company (the licensee), dated September 12, 2018, as supplemented by letters dated May 2 and July 3, 2019, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, by Amendment No. 235, Facility Operating License No. DPR-80 is hereby amended to authorize revision to the Diablo Canyon Power Plant Emergency Plan to extend staff augmentation times for the emergency response organization as set forth in the Pacific Gas and Electric Company's application dated September 12, 2018, as supplemented by letters dated May 2 and July 3, 2019, and evaluated in the NRC staff's safety evaluation enclosed with Amendment No. 235.
3. This license amendment is effective as of its date of issuance and shall be implemented within 180 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read 'Ho K. Nieh' followed by a stylized flourish.

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

Date of Issuance: August 21, 2019



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 233 TO FACILITY OPERATING LICENSE NO. DPR-80
AND AMENDMENT NO. 235 TO FACILITY OPERATING LICENSE NO. DPR-82
PACIFIC GAS AND ELECTRIC COMPANY
DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2
DOCKET NOS. 50-275 AND 50-323

1.0 INTRODUCTION

By application dated September 12, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18255A368), as supplemented by letters dated May 2 and July 3, 2019 (ADAMS Accession Nos. ML19122A494 and ML19184A599, respectively), Pacific Gas and Electric Company (PG&E, the licensee) submitted changes to the Diablo Canyon Power Plant, Units 1 and 2 (Diablo Canyon or DCCP) Emergency Plan (EP) for U.S. Nuclear Regulatory Commission (NRC, the Commission) review and approval pursuant to Section 50.54(q), "Emergency plans," of Title 10 of the *Code of Federal Regulations* (10 CFR). The proposed changes to the Diablo Canyon EP include:

- Removing maintenance personnel from on-shift;
- Removing administrative support positions for the technical support center (TSC), operational support center (OSC), emergency operations facility (EOF), and the joint information center (JIC) from Diablo Canyon's EP figures;
- Applying the term "facility activation" to TSC, OSC, and EOF facility response in a consistent manner, as measured from event declaration;
- Reconfiguring the onsite (out-of-plant) (outside the protected area) field monitoring team (FMT) to utilize one Chemistry and Radiation Protection (C&RP) Technician and one qualified individual as the team driver;
- Extending the requirement for dispatch of the offsite FMT from 60 to 90 minutes for an Alert or a higher emergency classification level (ECL);
- Extending the response time for certain TSC, OSC, EOF, and JIC positions to 90 minutes; and

- Specifying that the Operations Advisor, a 60-minute response position, will report to the control room to provide on-shift support for plant operational oversight, allowing the Shift Manager to focus on the event classification.

The supplemental letters dated May 2 and July 3, 2019, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* (FR) on December 4, 2018 (83 FR 62621).

2.0 REGULATORY EVALUATION

The regulatory requirements and guidance on which the NRC staff based its review are provided below.

2.1 Regulatory Requirements

The planning standards in 10 CFR 50.47(b) establish the requirements that the onsite and offsite emergency response plans must meet for the NRC staff to make an overall finding that there is reasonable assurance that the licensee can, and will, take adequate protective measures in the event of a radiological emergency. Specifically, on-shift and augmented emergency response organization (ERO) staffing is addressed under planning standard 10 CFR 50.47(b)(2), which states:

On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available, and the interfaces among various onsite response activities and offsite support and response activities are specified.

In addition, Appendix E to 10 CFR Part 50, "Emergency Planning and Preparedness for Production and Utilization Facilities," Section IV, "Content of Emergency Plans," Part A, "Organization," states, in part, that "The organization for coping with radiological emergencies shall be described, including definition of authorities, responsibilities, and duties of individuals assigned to the licensee's emergency organization...."

2.2 Regulatory Guidance

Regulatory Guide 1.101, Revision 2, "Emergency Planning and Preparedness for Nuclear Power Reactors," dated October 1981 (ADAMS Accession No. ML090440294), endorses Revision 1 to NUREG-0654/FEMA-REP-1 (hereafter referred to as NUREG-0654), "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," dated November 1980 (ADAMS Accession No. ML040420012). NUREG-0654 provides specific evaluation criteria for complying with the planning standards set forth in 10 CFR 50.47(b). These criteria provide a basis for NRC licensees, and State and local governments to develop acceptable radiological EPs and to improve emergency preparedness.

NUREG-0654, Section II, "Planning Standards and Evaluation Criteria," Evaluation Criteria II.B.1 and II.B.5 address the planning standard of 10 CFR 50.47(b)(2).

Evaluation Criterion II.B.1 states:

Each licensee shall specify the onsite emergency organization of plant staff personnel for all shifts and its relation to the responsibilities and duties of the normal staff complement.

Evaluation Criterion II.B.5 states, in part:

Each licensee shall specify the positions or title and major tasks to be performed by the persons to be assigned to the functional areas of emergency activity. For emergency situations, specific assignments shall be made for all shifts and for plant staff members, both onsite and away from the site. These assignments shall cover the emergency functions in Table B-1 entitled, "Minimum Staffing Requirements for Nuclear Power Plant Emergencies." The minimum on-shift staffing levels shall be as indicated in Table B-1. The licensee must be able to augment on-shift capabilities within a short period after declaration of an emergency. This capability shall be as indicated in Table B-1.

Regulatory Issue Summary 2016-10, "License Amendment Requests for Changes to Emergency Response Organization Staffing and Augmentation," dated August 5, 2016 (ADAMS Accession No. ML16124A002), provides examples of the scope and detail of information that should be provided in license amendment requests (LARs) for ERO staffing changes to facilitate NRC review.

In a letter to the Nuclear Energy Institute dated June 12, 2018 (ADAMS Accession No. ML18022A352), the NRC staff provided alternative guidance to nuclear power plant licensees for Evaluation Criterion II.B.5 in NUREG-0654, for minimum ERO on-shift and augmentation staffing. The letter stated, in part:

The NRC has revised Section II.B, Table B-1 of NUREG-0654, based in part on comments received from the public on the draft Revision 2 of NUREG-0654, located at www.regulations.gov under Docket ID FEMA-2012-0026. The revised ERO staffing guidance has been finalized, and the NRC will include it when the entire NUREG-0654, Revision 2, is ready for issuance. Until then, the NRC staff is making available on an interim basis the ERO on-shift and augmentation staffing plan (attached). Regardless of whether a licensee chooses to use the guidance contained in Revision 1 of NUREG-0654, the attached, or an alternative approach, licensees are still required to adhere to 10 CFR 50.54(q) when revising their ERO staffing plans.

Hereafter, this guidance will be referred to as the "revised NUREG-0654, Table B-1" in this safety evaluation.

3.0 TECHNICAL EVALUATION

The NRC staff has reviewed the licensee's regulatory and technical analyses in support of the proposed changes to the Diablo Canyon EP, as described in the application dated September 12, 2018, as supplemented by letters dated May 2 and July 3, 2019. The staff's technical evaluation of the proposed Diablo Canyon EP changes is detailed below.

3.1 Enhancements

The NRC staff considered the overall enhancements in technology, information availability, and training as described in Section 3.1, "Technical Analysis," of the LAR Enclosure, "Evaluation of Proposed Change," and summarized in the following paragraphs. An evaluation based upon the major functional areas of the Diablo Canyon ERO was performed, and many of the proposed changes are supported by enhancements to equipment (technology) and by procedural, training, and process improvements, as described below. Collectively, these enhancements compensate for the proposed increases in augmentation time and the proposed reduction in available on-shift maintenance expertise.

3.1.1 Plant Computer

The licensee stated that the current plant process computer (PPC) system is a significant upgrade from the original Diablo Canyon plant computer. The PPC system interfaces with both safety-related and nonsafety-related instrument systems, the solid-state protection system, the main annunciator, plant data network, and miscellaneous plant systems, thereby providing activation of control room alarms for many plant conditions and data input for the emergency assessment and response system, the meteorological data system, and the safety parameters display system. Also, the licensee stated that the benefits of the upgraded PPC system include:

- programming capability for automated response such as indication of critical parameter alarms,
- improved plant monitoring capability for emergency functions,
- fewer keystrokes required to switch between graphical displays,
- real time plant data available through graphical displays, and
- real time read-only plant data available on any desktop computer in the ERFs [emergency response facilities].

The PPC system utilizes uninterruptible power for at least 4 hours following a loss of electrical power. Real time, read-only plant data are available on any desktop computer in the ERFs.

3.1.2 Dose Assessment

The licensee stated that dose assessment was originally performed at Diablo Canyon using the emergency assessment and response system, which operated on a mainframe located in the TSC and with a terminal located in the control room. The dose assessment process currently uses an emergency assessment and response system/meteorological information and dose assessment system (MIDAS) methodology that can perform dose assessment using multiple simultaneous releases. MIDAS includes a region-specific meteorology input atmospheric dispersion model, which accounts for non-linear plume transport due to meteorology differences created by sea breeze, hill, and valley influences. Displayed information may be selected from several forms of calculated data and map presentations with superimposed plume boundaries, dose rates, airborne concentrations, population centers, and evacuation routes. This system auto-populates the necessary meteorological and radiation monitor and data, as well as allowing for manual input. Thus, enhancements in dose assessment software have reduced the

time required to perform dose assessments and to provide the results to the Emergency Director.

3.1.3 Automated Call-Out Systems

The licensee stated that the call-out of key emergency organizations was previously accomplished by telephone call trees or with individual radio pagers. The licensee enhanced the ERO activation process by incorporating a voice automated notification system that provides rapid notifications via multiple devices. The system includes use of independent systems that provide primary and secondary sources for the call-out process to improve system reliability.

3.1.4 Procedure Improvements

The licensee stated that emergency action levels now utilize human factored wall-boards to improve classification efficiency. Additionally, emergency operating procedures have been vastly improved through internal operating experience and industry initiatives. Emergency operating procedures now use a symptom-based approach that demands less assessment and interpretation of plant conditions by the operating crews. Overall, the improvements made to procedures reduces operator reliance on the ERO during the initial phases of any event.

3.1.5 Training

The licensee stated that training is used to strategically drive and sustain improved performance at Diablo Canyon. Training is administered through the application of the Systematic Approach to Training to ensure that all training is conducted to the industry-accepted standards required to achieve and maintain accreditation by the National Academy of Nuclear Training.

3.1.6 Radiation Protection Improvements

The licensee stated that the performance of access control and dosimetry is primarily completed using personal electronic dosimeters, which are obtained prior to entry into radiologically controlled areas. Computerized processes require personnel to sign in electronically on radiation work permits (RWPs) that establish the necessary preset warnings/alarms associated with the personal electronic dosimeter. The personal electronic dosimeter is used as a key to unlock turnstiles to allow access to the radiologically controlled areas and verifies entry requirements for the RWP. Use of the electronic dosimetry and the RWP process eliminated the need for access control and dosimetry oversight by a C&RP Technician for initial event response actions. The use of electronic systems for RWP creation and logging on/off the RWP has improved efficiency in the dispatch of personnel into the field and reduced the burden of the on-shift C&RP Technicians. Additionally, remote monitoring via telemetry is available for area radiation monitors, continuous air monitors, and individual personal electronic dosimeter readouts. Remote monitoring data is provided via computer display and available to C&RP Technicians allowing the protective action C&RP Technician to monitor plant conditions and immediate identification of changes in plant status so that updates to plant personnel can be completed in a timely manner. This use of technology enables the on-shift staff to assess plant conditions quickly and efficiently, and with fewer distractions.

3.2 Major Functional Areas

The current Diablo Canyon EP describes the ERO as consisting of personnel staffing the control room, TSC, OSC, EOF, and JIC.

Although the guidance in NUREG-0654 provides that activation of the EOF is expected to occur at a Site Area Emergency or higher ECL, the proposed changes to the Diablo Canyon EP will continue to require all ERFs to activate upon the declaration of an Alert or higher ECL.

In the application dated September 12, 2018, the licensee provided a justification for the proposed Diablo Canyon EP changes that includes a detailed review of each Major Functional Area described in NUREG-0654. As such, the NRC staff's review of the proposed changes to the Diablo Canyon EP is described below by Major Functional Area.

3.2.1 Major Functional Area: Plant Operations and Assessment of Operational Aspects

The current and proposed on-shift staffing for plant operations and assessment of operational aspects are as follows:

Plant Operation Position	Current	Proposed
Shift Manager (Senior Reactor Operator)	1	1
Unit Shift Supervisor (Senior Reactor Operator)	2	2
Control Room Operator (Reactor Operator)	5	4
Non-Licensed Unit Operator	5	5

Currently, the Diablo Canyon EP contains Table 5-1A, "DCPP On-Shift ERO Staffing," which only identifies the required on-shift personnel. The LAR provides a revised Table 5-1, "DCPP On-Shift and Augmented ERO Minimum Staffing," that combines the current Table 5-1A and Table 5-1B, "DCPP Augmented ERO Staffing." The proposed Table 5-1 more closely reflects on-shift and augmented positions in a format similar to NUREG-0654.

The licensee proposes to move one control room operator from this Major Functional Area to the Notification/Communication functional area, which more clearly identifies that one of the current five control room operators on-shift would be performing the communication function. With the proposed changes, the Diablo Canyon EP continues to be consistent with the guidance provided in NUREG-0654.

Based on its evaluation of the above changes, the NRC staff has determined that the proposed Diablo Canyon EP continues to meet the planning standard of 10 CFR 50.47(b)(2) and the requirements in Section IV.A of Appendix E to 10 CFR Part 50 regarding Plant Operations and Assessment of Operational Aspects.

3.2.2 Major Functional Area: Emergency Direction and Control

The Command and Control tasks for Emergency Direction and Control may be transferred directly from the control room to the TSC or EOF depending on which facility was activated first. The licensee proposes to extend this transfer for an additional 30 minutes based on providing an Operations Advisor to the shift. In Attachment 2, "Regulatory Commitments," of the Enclosure to the letter dated May 2, 2019, the licensee provided the following regulatory commitment in support of this extension:

The Operations Advisor pre-qualification, as documented in OM10.ID4, "Emergency Response Organization Management," identifies the Shift

Foreman/SRO [Senior Reactor Operator] license qualification as a desired prerequisite. PG&E commits to revising this procedure to make this prerequisite mandatory for the Operations Advisor position.

This commitment will require the Operations Advisor to have Shift Foreman/SRO license qualification, which will include the necessary training to allow the Operations Advisor to relieve the Shift Manager of the oversight responsibilities. Once the on-shift Shift Manager is relieved of oversight responsibilities, the on-shift Shift Manager will be dedicated to the performance of the Emergency Director Command and Control Function. This will provide one dedicated individual to perform the Shift Manager function and another dedicated individual to perform the Emergency Director Function of Command and Control. Therefore, the proposed change to the Emergency Direction and Control functional area continues to meet the guidance provided in NUREG-0654, Section II, Evaluation Criterion B.2.

Based on an evaluation of the above changes, the NRC staff has determined that the proposed Diablo Canyon EP continues to meet the planning standard of 10 CFR 50.47(b)(2) and the requirements in Section IV.A of Appendix E to 10 CFR Part 50 regarding Emergency Direction and Control.

3.2.3 Major Functional Area: Notification/Communication

The Diablo Canyon EP currently has three on-shift communication/notification positions, one of which is performed by a dedicated operator and two positions that "[m]ay be filled by someone filling another position having functional qualifications." These on-shift communication/notification positions are currently augmented by three additional communicators, who would respond within 60 minutes from the declaration of an Alert or higher ECL.

The proposed Diablo Canyon EP provides for two on-shift individuals dedicated to performing the Notification/Communication function with an additional four individuals responding within 90 minutes of the declaration of an Alert or higher ECL.

Table 5-1 of the proposed Diablo Canyon EP does not change the ability or timing to perform required NRC and State/local notifications from that outlined in the current Diablo Canyon EP and continues to meet the guidance provided in NUREG-0654.

Based on an evaluation of the above changes, the NRC staff has determined that the proposed Diablo Canyon EP continues to meet planning standard of 10 CFR 50.47(b)(2) and the requirements in Section IV.A of Appendix E to 10 CFR Part 50 regarding Notification/Communication.

3.2.4 Major Functional Area: Radiological Accident Assessment

The guidance in NUREG-0654 identifies these position titles or expertise as Health Physics Technicians; however, the revised NUREG-0654, Table B-1 identifies these position titles or expertise as Radiation Protection (RP) Technicians. The proposed Diablo Canyon EP and LAR evaluations identify these positions titles or expertise as C&RP Technicians, except for the proposed Table 5-1, which identifies these positions titles or expertise as RP Technicians. For

the purposes of this safety evaluation, the NRC staff considers these position titles or expertise to be interchangeable and will refer to them as C&RP Technicians for consistency.

This Major Functional Area includes the following major tasks:

Offsite Dose Assessment: The guidance in NUREG-0654 identifies one person to perform the offsite dose assessment function as a 30-minute augmented position. The current Diablo Canyon EP has the Shift Technical Advisor (STA) performing the dose assessment function until relieved by the Unified Dose Assessment Center in the EOF, which is activated within 60 minutes of the declaration of an Alert or higher ECL. The licensee proposes to extend the responsibility for offsite dose assessment to be performed by the STA for an additional 30 minutes.

As identified in Section 3.1 of this safety evaluation, technological improvement in the Diablo Canyon data display systems provide a wide range of plant parameters and associated alarms with detailed trending capability to support rapid and continuous monitoring of plant conditions minimizing the burden of plant event assessment. Examples of these enhancements to event assessment include:

- engineering/core damage assessment display,
- radiological assessment display,
- meteorological display,
- Critical Safety Function Status Trees heads up display, and
- detailed individual Critical Safety Function Status Tree display.

The licensee provides that the STA is trained and qualified in the performance of core damage and dose assessment. Initial core damage assessment is performed using Diablo Canyon procedures that address the first indications of fuel damage due to mechanical metallic impingement on fuel rods or short-duration overheating of the core, which is assumed to be fuel cladding damage. To perform this assessment, the procedure utilizes a set of pre-established radiation values indicative of fuel cladding damage and compares these values to data provided by installed radiation monitors available on the plant data system displays and/or local surveys performed by C&RP personnel. This allows for a quick determination of whether fuel cladding damage exists and supports evaluation of those emergency action levels associated with fuel damage as well as source term selection for performance of dose assessment.

If necessary, the STA can transition to other Diablo Canyon procedures, which provide additional guidance for detailed assessments of post-accident fuel cladding damage and core (fuel melt) damage. These core damage assessment procedures are available for use by the STA and the TSC Reactor Engineer, such that equivalent capability is provided for both the on-shift and the augmented staff.

To further support the extension of Unified Dose Assessment Center personnel response times to 90 minutes, the licensee made the following regulatory commitment in Attachment 2 of the Enclosure to the letter dated May 2, 2019:

...the existing dose assessment capabilities will be revised to add the additional capabilities for use of FMT/PIC [pressurized ion chamber detector] data in the automated and manual menus as well as adding the capability for use of the

automated version of the enhanced dose assessment menu they are currently using in manual mode.

Specifically, MIDAS Menu's H, K-W, and E ... will be added to current CR [control room] Dose Assessment procedural guidance.

Based on the technological improvements, the training and qualification of the STA for the performance of core damage assessment and dose assessment, and the enhancements in offsite dose assessment capability, the NRC staff concludes that there is no loss of function or impact in maintaining offsite dose assessment on-shift for an additional 30 minutes prior to transferring to the EOF Unified Dose Assessment Center.

Offsite Surveys: The guidance in NUREG-0654 identifies two C&RP Technicians to perform the offsite survey function as 30-minute augmented positions, with two additional C&RP Technicians as 60-minute augmented positions. The revised NUREG-0654, Table B-1 recommends two offsite FMTs as minimum staff. Each FMT would consist of a driver and one individual qualified to assess the areas for radiation and contamination.

Table 5-1B in the current Diablo Canyon EP identifies four C&RP Technicians responding within 60 minutes of the declaration of an Alert or higher ECL to perform offsite surveys. Table 5-1 in the proposed Diablo Canyon EP provides that two C&RP Technicians and two vehicle drivers, serving as FMTs, would respond within 90 minutes of declaring an Alert or higher ECL to perform offsite surveys.

In addition to the deployment of offsite FMTs, Diablo Canyon uses a real-time radiation monitoring system, consisting of pressurized ion chamber detectors, that provides continuous measurement and reporting of dose rates in the environment around the Diablo Canyon site. The radiation monitors are located based on population centers and to cover as many land-based compass sectors as possible, while accounting for prevailing wind direction, wind speed, and the topography in the area around the Diablo Canyon site. Each radiation monitor has an uninterrupted electrical power supply, which normally powers the instrument and maintains the battery in a charged condition and would provide power in the event of a loss of 120 volt alternating current electrical power. This effectively supports event classification, as well as onsite and offsite protective actions if warranted, such that performance of this major task within 90 minutes following the declaration of an Alert or higher ECL does not adversely impact site response.

Based on the above, the NRC staff concludes that there is no loss of function or impact on the timing or effectiveness for performing offsite surveys.

Onsite (Out-of-Plant) Surveys: The guidance in NUREG-0654 identifies one C&RP Technician augmenting the on-shift RP Technician within 30 minutes with an additional C&RP Technician augmenting within 60 minutes of declaring an Alert or higher ECL to perform onsite (out-of-plant) surveys.

Table 5-1B of the current Diablo Canyon EP provides for two C&RP Technicians to respond within 60 minutes of the declaration of an Alert or higher ECL to perform onsite (out-of-plant) surveys. Table 5-1 of the proposed Diablo Canyon EP will continue to have a two-person FMT respond within 60 minutes of declaring an Alert or higher ECL to perform onsite (out-of-plant) surveys; however, the licensee proposes to change to composition of the FMT from two C&RP Technicians to one C&RP Technician and one qualified individual as the team driver.

The onsite FMT will continue to have the capability to perform onsite (out-of-plant) surveys within 60 minutes of the declaration of an Alert or higher ECL. Therefore, the NRC staff concludes that the proposed changes will not result in a loss of function or impact the timing for onsite (out-of-plant) surveys.

In-Plant Surveys: The guidance in NUREG-0654 identifies an RP Technician on-shift, augmented by one RP Technician within 30 minutes and an additional RP Technician within 60 minutes of the declaration of an Alert or higher ECL to perform in-plant surveys.

The current Diablo Canyon EP has two C&RP Technicians on-shift with two C&RP Technicians responding within 60 minutes of declaring an Alert or higher ECL to perform in-plant surveys. While the licensee is not proposing a change to either the on-shift or the augmenting C&RP Technicians at 60 minutes, Table 5-1 in the proposed Diablo Canyon EP provides that two additional C&RP Technicians will respond within 90 minutes of the declaration of an Alert or higher ECL to perform in-plant surveys.

Based on the assessment above, the NRC staff concludes that there is no loss of function or impact on the timing or effectiveness for performing in-plant surveys.

Chemistry: The licensee proposed to remove the Chemistry Task from the proposed Table 5-1 based on the elimination of some post-accident sampling requirements and deferring others for 8 to 24 hours after an accident condition. This change does not impact the two C&RP Technicians, who will remain on-shift. Additionally, this duty is not included as a functional area on the revised NUREG-0654, Table B-1. Therefore, the NRC staff finds the removal of the Chemistry Task acceptable.

Based on an evaluation of the above changes, the NRC staff has determined that the proposed Diablo Canyon EP continues to meet the planning standard of 10 CFR 50.47(b)(2) and the requirements in Section IV.A of Appendix E to 10 CFR Part 50 regarding Radiological Accident Assessment.

3.2.5 Major Functional Area: Plant System Engineering, Repair, and Corrective Actions

This Major Functional Area includes the following tasks:

Technical Support: The guidance in NUREG-0654 identifies one on-shift STA, one core/thermal hydraulics engineering expert to be available within 30 minutes, and one electrical and one mechanical engineering expert to be available within 60 minutes of the declaration of an Alert or higher ECL.

The current Diablo Canyon EP identifies a Reactor Engineer, a Mechanical Engineer, and an Electrical Engineer augmenting the on-shift staff within 60 minutes of the declaration of an Alert or higher ECL. The licensee will continue to provide an Electrical Engineer and a Mechanical Engineer augmented staffing within 60 minutes of the declaration of an Alert or higher ECL. However, Table 5-1 in the proposed Diablo Canyon EP provides a Reactor Engineer augmented staffing within 90 minutes of the declaration of an Alert or higher ECL to perform the Core/Thermal Engineer function. As discussed in Section 3.2.4 of this safety evaluation, the licensee provides that the STA is trained and qualified in the performance of core damage assessment and dose assessment.

Due to technological improvements, and the training and qualification of the STA for the performance of core damage assessment capability, the NRC staff concludes that there is no loss of function or impact to the technical support task by maintaining core damage assessment on-shift for an additional 30 minutes prior to transferring to the Reactor Engineer.

Repair and Corrective Actions: The guidance in NUREG-0654 specifies the major task of Repair and Corrective Actions is to be fulfilled on-shift by a total of two personnel and "[m]ay be provided by shift personnel assigned other functions." One person would perform the function of a mechanic and one person would perform the function of an electrician. In addition, the guidance in NUREG-0654 provides that one Electrician and one Instrument and Control (I&C) Technician would respond within 30 minutes, and one mechanic, one rad waste operator, and one additional electrician would respond within 60 minutes of the declaration of an Alert or higher ECL to augment the ERO.

The revised NUREG-0654, Table B-1, indicates that an on-shift repair team is not needed to support the emergency plan. Augmentation of the repair team personnel would be by one mechanic and one electrician within 60 minutes of an Alert or higher ECL. Additional augmentation would add one I&C Technician within 90 minutes of an Alert or higher ECL.

The current Diablo Canyon EP has two electrical/I&C Technicians and one mechanical maintenance (operations) individual on-shift with one mechanical coordinator, one electrical coordinator, and one I&C coordinator responding to the OSC within 60 minutes of the declaration of an Alert or higher ECL.

The proposed Diablo Canyon EP would eliminate the on-shift repair team staffing, while having one mechanical coordinator and one electrical coordinator augmenting within 60 minutes and an I&C coordinator responding within 90 minutes of the declaration of an Alert or higher ECL.

The licensee provides that the emergency core cooling system (ECCS) capability, through redundant and diverse system design, provides the basis for the position that no ECCS repairs or corrective actions are necessary for on-shift personnel prior to augmentation of maintenance personnel. In the unlikely event of an ECCS failure, on-shift licensed, and non-licensed personnel will respond to restore ECCS functions as directed by emergency operating procedures and abnormal operating procedures. The licensee further provides that enhancements in emergency operating procedures and abnormal operating procedures and operations training improvements implemented at Diablo Canyon further reduce the need for on-shift maintenance staff for immediate repair and corrective actions.

In support of eliminating the on-shift repair team staffing, in Attachment 2 of the Enclosures to letters dated May 2 and July 3, 2019, the licensee stated that the Maintenance Coordinators are maintenance foremen with experience in the specific craft or discipline they supervise. This ensures that the respective Maintenance Coordinators have the knowledge and experience to perform maintenance tasks in response to emergencies. In addition, to ensure that work activities can be performed under potentially adverse conditions, the Maintenance Coordinators will have respirator and self-contained breathing apparatus qualifications.

Due to the availability of on-shift operators with the knowledge, skills, and abilities to perform all tasks that may be required to implement the Diablo Canyon abnormal operating procedures and emergency operating procedures, the redundant and diverse ECCS system design, and the augmenting maintenance personnel, the NRC staff finds the requested changes to augmentation times to be acceptable.

Based on an evaluation of the above changes, the NRC staff concludes that the proposed Diablo Canyon EP continues to meet the planning standard of 10 CFR 50.47(b)(2) and the requirements in Section IV.A of Appendix E to 10 CFR Part 50 regarding Plant System Engineering, Repair, and Corrective Actions.

3.2.6 Major Functional Area: Protective Actions (In-Plant)

The guidance in NUREG-0654 specifies the major task of Protective Actions (In-Plant) to be fulfilled on-shift by a total of two personnel and "[m]ay be provided by shift personnel assigned other functions." Additionally, the guidance in NUREG-0654 identifies C&RP Technicians to perform this function as 30-minute augmented positions with two additional C&RP Technicians as 60-minute augmented positions.

In addition to the C&RP Technicians on-shift, the revised NUREG-0654, Table B-1, identifies three C&RP Technicians staffing the OSC within 60 minutes of the declaration of an Alert or higher ECL. The revised NUREG-0654, Table B-1, also lists an additional three C&RP Technicians staffing the OSC within 90 minutes of the declaration of an Alert or higher ECL.

Table 5-1A of the current Diablo Canyon EP has two on-shift C&RP Technicians that may be filled by someone filling another position, which fulfills the radiation protection role. Table 5-1B also provides for augmentation by four C&RP Technicians within 60 minutes of the declaration of an Alert or higher ECL. The notes in the current Table 5-1A also provide that the function of the on-shift C&RP Technician(s) can be filled by personnel assigned another position having functional qualifications.

The proposed Diablo Canyon EP maintains the commitment for two on-shift C&RP Technicians. One of the on-shift C&RP Technicians will be responsible to perform radiation protection major tasks with one C&RP Technician performing the in-plant surveys major task. The licensee proposes to maintain the response time for one C&RP Technician at 60 minutes and extend the response time of one RP Technician to 90 minutes from the declaration of an Alert of higher ECL. Additionally, the licensee proposes to eliminate two C&RP Technicians from the in-plant Protective Action functional area.

The NRC staff finds the improved use of technology regarding access control and electronic area radiation monitoring, and the staffing of two on-shift C&RP Technicians, and one C&RP Technician augmenting within 60 minutes and one C&RP Technician augmenting within 90 minutes of the declaration of an Alert or higher ECL to be acceptable.

Based on an evaluation of the above changes, the NRC staff has determined that the proposed Diablo Canyon EP continues to meet the planning standard of 10 CFR 50.47(b)(2) and the requirements in Section IV.A of Appendix E to 10 CFR Part 50 regarding Protective Actions (In-Plant).

3.2.7 Major Functional Area: Firefighting

The guidance in NUREG-0654 specifies the Firefighting Major Functional Area to be fulfilled on-shift by the Fire Brigade per the site-specific technical specifications. Additionally, the guidance in NUREG-0654 identifies augmentation by local support within 30 minutes.

Table 5-1A in the current Diablo Canyon EP provides that a Fire Department, consisting of five on-shift personnel, will perform the duties of the Firefighting Functional Area. This group also provides medical and rescue functions. The licensee provides that augmentation is provided by local fire support resources, which is clearly identified on the proposed Table 5-1.

The licensee is not proposing a change to the Firefighting Functional Area. Therefore, the proposed Diablo Canyon EP continues to meet the planning standard of 10 CFR 50.47(b)(2) and the requirements in Section IV.A of Appendix E to 10 CFR Part 50.

3.2.8 Major Functional Area: Rescue Operations and First-Aid

The guidance in NUREG-0654 specifies the Rescue Operations and First-Aid Major Functional Area to be fulfilled by two personnel on-shift that may be assigned other functions. Additionally, the guidance in NUREG-0654 identifies augmentation by local support within 30 minutes.

Table 5-1A in the current Diablo Canyon EP provides a note stating that the First Aid and Rescue Operations Major Tasks "[m]ay be performed by someone filling another position having functional qualifications." The licensee provides that the Fire Department, consisting of five on shift personnel, will provide medical and rescue functions as an ancillary duty.

The number of personnel to perform the Rescue Operations and First-Aid Major Functional Area remains unchanged from the current Diablo Canyon EP and continues to meet the guidance provided in NUREG-0654. Therefore, the proposed Diablo Canyon EP continues to meet the planning standard of 10 CFR 50.47(b)(2) and the requirements in Section IV.A of Appendix E to 10 CFR Part 50.

3.2.9 Major Functional Area: Site Access Control and Personnel Accountability

The licensee proposed to remove the Diablo Canyon Watch Commander from Table 5-1A of the current Diablo Canyon EP. The licensee states that responsibility to perform onsite emergency assembly and accountability as described in the Diablo Canyon EP will continue to be performed by Security personnel under the site's Security Plan. The proposed change does not alter the ability or timing to perform site access control and personnel accountability from that outlined in the current Diablo Canyon EP and continues to meet the guidance provided in NUREG-0654. Therefore, the proposed Diablo Canyon EP continues to meet the planning standards of 10 CFR 50.47(b)(2) and the requirements in Section IV.A of Appendix E to 10 CFR Part 50.

3.3 Changes Not Directly Related to NUREG-0654 Major Functional Areas

3.3.1 Defining Facility Activation

The licensee proposes to define "facility activation" as follows:

An Emergency Response Facility is activated when the minimum staff per [Diablo Canyon EP] Table 5-1 is available, and the facility is ready to assume assigned functions...

By using the Major Functional Areas as identified in NUREG-0654, the proposed change defines activation criteria to clearly identify the positions which must be filled so that transfer of the command and control functions can be completed and on-shift personnel can be relieved of

these duties. The proposed definition is consistent with that provided in the notes associated with the revised NUREG-0654, Table B-1 and does not alter the licensee's commitment to activate the ERFs at the declaration of an Alert or higher ECL. Therefore, the NRC staff finds this change acceptable.

3.3.2 Removal of Administrative Positions from the Diablo Canyon EP

The licensee proposes to remove the TSC and OSC positions of Administrative Advisor, as well as TSC, OSC, EOF, and JIC Administrative Support positions, from the Diablo Canyon EP. Diablo Canyon proposes to maintain appropriate administrative and support positions, not required to meet the minimum staffing levels in Table 5-1, in the site's emergency plan implementing procedures.

A review of the current Diablo Canyon EP indicates that these positions perform administrative support tasks and are not required to implement the Diablo Canyon EP. Changes to facility support positions will be maintained in emergency plan implementing procedures and changes controlled under 10 CFR 50.54(q). Therefore, the NRC staff finds this change acceptable.

3.3.3 Extension of Augmentation Time of the JIC Director and the Public Information Officer Positions

The licensee proposes to extend the augmentation time of the JIC Director and the Public Information Officer from 60 minutes to 90 minutes. The JIC Director and Public Information Officer report to the EOF Emergency Director. As noted in Section 3.2.2 of this safety evaluation, the licensee is proposing to extend the time to transfer the Emergency Direction and Control function to the EOF Director for an additional 30 minutes. Changing the response time of the JIC Director and the Public Information Officer to 90 minutes aligns their response time with the rest of the ERO augmenting organization and does not impact any of the above Major Functional Areas. Therefore, the NRC staff finds this change acceptable.

Based on an evaluation of the above changes, the NRC staff has determined that the proposed Diablo Canyon EP continues to meet the planning standard of 10 CFR 50.47(b)(2) and the requirements in Section IV.A of Appendix E to 10 CFR Part 50.

3.4 Summary

The NRC staff performed a technical and regulatory review of the proposed changes to the Diablo Canyon EP. Based on this review, the NRC staff finds that the proposed Diablo Canyon EP continues to meet the planning standards of 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50 and provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Therefore, the NRC staff concludes that the proposed Diablo Canyon EP changes to certain ERO staffing and augmentation times, as described in Table 5-1, "DCPP On-Shift and Augmented ERO Minimum Staffing, and Figures 5-2, "TSC Organization," 5-3, "OSC Organization," 5-4, "EOF Organization," and 5-5, "JIC Organization," of the application dated September 12, 2018, as supplemented by letters dated May 2, 2019, and July 3, 2019, are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of California official was notified of the proposed issuance of the amendments on July 12, 2019. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change the site emergency plan. The amendments change requirements with respect to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, published in the *Federal Register* on December 4, 2018 (83 FR 62621), and there has been no public comment on such finding. The amendments also relate to changes in recordkeeping, reporting, or administrative procedures or requirements. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: R. Hoffman, NSIR/DPR

Date: August 21, 2019

SUBJECT: DIABLO CANYON NUCLEAR POWER PLANT, UNITS 1 AND 2 - ISSUANCE OF AMENDMENT NOS. 233 AND 235, RE: REVISION TO THE EMERGENCY PLAN TO CHANGE STAFFING AND EXTEND STAFF AUGMENTATION TIMES FOR EMERGENCY RESPONSE ORGANIZATION POSITIONS (EPID L-2018-LLA-0248) DATED AUGUST 21, 2019

DISTRIBUTION:

PUBLIC

PM File Copy

RidsACRS_MailCTR Resource

RidsNrrDorl Resource

RidsNrrDorlLpl4 Resource

RidsNrrOd Resource

RidsNrrLAPBlechman Resource

RidsNrrPMDiabloCanyon Resource

RidsRgn4MailCenter Resource

RidsNsirDpr Resource

RHoffman, NSIR

ADAMS Accession No. ML19196A309***Memo dated July 12, 2019**

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NSIR/DPR/RLB/BC*	OGC NLO*
NAME	BSingal	PBlechman	JAnderson	STurk
DATE	7/18/19	7/18/19	7/12/19	8/5/2019
OFFICE	NRR/DORL/LPL4/BC	NRR/DORL/D	NRR/D	NRR/DORL/LPL4/PM
NAME	RPascarelli	CErlanger	HNieh (EBenner for)	BSingal (SLingam for)
DATE	8/8/19	8/9/19	8/21/19	8/21/19

OFFICIAL RECORD COPY