

September 23, 2015

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

SUBJECT: ISSUANCE OF AMENDMENT RELATED TO CHANGES TO THE EMERGENCY  
PLANNING REQUIREMENTS FOR HUMBOLDT BAY POWER PLANT UNIT 3 -  
(TAC NO. J53019)

Dear Mr. Halpin:

The Commission has issued the enclosed Amendment No. 46 to Facility Operating License No. DPR-7 for the Humboldt Bay Power Plant Unit 3 (HBPP) and Amendment No. 4 to Independent Spent Fuel Storage Installation (ISFSI) License No. SNM-2514 for the Humboldt Bay ISFSI. These amendments approve the revised emergency plan in response to your application dated June 30, 2014, as supplemented March 27, 2015. The amendments revise the HBPP License and the Humboldt Bay ISFSI License to approve the revised Emergency Plan.

As discussed in the enclosed safety evaluation, the U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the proposed changes to the HBPP Site Emergency Plan and concluded that the proposed changes meet the applicable standards in 10 CFR 50.47(b), "Emergency plans," the requirements of Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities" to 10 CFR Part 50, and the emergency planning requirements contained in 10 CFR 72.32. The revised Emergency Plan provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the HBPP site. Therefore, the licensee's proposed changes to the HBPP Site Emergency Plan, as outlined in the letters referenced above, are considered acceptable for use at the HBPP site including the Humboldt Bay Independent Spent Fuel Storage Installation.

The Commission's regular biweekly *Federal Register* notice will include the Notice of Issuance of this amendment.

Approval of this amendment request does not change the conduct of the decommissioning activities and had been determined to adequately meet the commission's emergency planning requirements, and therefore involves no significant hazards consideration and results in no significant change in the types or significant increase in the amounts of any effluents that may be released offsite. The changes approved by this amendment are a reduction in the emergency planning function commensurate with the ongoing and anticipated reduction in

radiological source term at the HBPP site. The remaining radiological sources at the HBPP Site are not likely to create an unplanned/unanticipated increase in radiation or airborne radioactivity levels within the Restricted Area or outside of the Restricted Area that would require the response plan activities that are being reduced. As a result, the approval of this amendment request will not result in a significant increase in individual or cumulative public or occupational radiation exposure. Therefore, pursuant to 10 CFR 51.22(c)(9) the Commission has determined that the issuance of this amendment is categorically excluded and, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Should you have any questions regarding this action, please contact me at 301-415-3017 or via e-mail at [John.Hickman@nrc.gov](mailto:John.Hickman@nrc.gov).

Sincerely,

*/RA/*

John B. Hickman, Project Manager  
Reactor Decommissioning Branch  
Division of Decommissioning, Uranium Recovery  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 50-133

Enclosures:

1. Amendment
2. Safety Evaluation

cc w/Enclosures:

Humboldt Bay Service List

radiological source term at the HBPP site. The remaining radiological sources at the HBPP Site are not likely to create an unplanned/unanticipated increase in radiation or airborne radioactivity levels within the Restricted Area or outside of the Restricted Area that would require the response plan activities that are being reduced. As a result, the approval of this amendment request will not result in a significant increase in individual or cumulative public or occupational radiation exposure. Therefore, pursuant to 10 CFR 51.22(c)(9) the Commission has determined that the issuance of this amendment is categorically excluded and, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared.

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Should you have any questions regarding this action, please contact me at 301-415-3017 or via e-mail at [John.Hickman@nrc.gov](mailto:John.Hickman@nrc.gov).

Sincerely,

*/RA/*

John B. Hickman, Project Manager  
Reactor Decommissioning Branch  
Division of Decommissioning, Uranium Recovery  
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Office of Nuclear Material Safety  
and Safeguards

Docket No.: 50-133

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1. Amendment
2. Safety Evaluation

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Humboldt Bay Service List

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PACIFIC GAS AND ELECTRIC COMPANY

DOCKET NO. 50-133

HUMBOLDT BAY POWER PLANT, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 46  
License No. DPR-7

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Pacific Gas and Electric Company (the licensee), dated June 30, 2014, as supplemented March 27, 2015, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;
  - B. The facility will be maintained in conformity with the application, as amended, the provisions of the Act, and the applicable rules and regulations of the Commission;
  - C. There is reasonable assurance: 1) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public; and 2) that such activities will be conducted in compliance with applicable portions of 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. 46, License No. DPR-7 is hereby amended to authorize Revision 7 to the Humboldt Bay Site Emergency Plan, as set forth in Pacific Gas and Electric Company's application dated June 30, 2014, as supplemented by letter dated March 27, 2015, and evaluated in the NRC staff's safety evaluation dated September 23, 2015.
3. This license amendment is effective as of the date of issuance and shall be implemented within 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Larry W. Camper, Director  
Division of Decommissioning, Uranium Recovery  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Date of Issuance: September 23, 2015

SAFETY EVALUATION BY OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

RELATED TO AMENDMENT NO. 46 TO FACILITY OPERATING LICENSE NO. DPR-7

PACIFIC GAS AND ELECTRIC COMPANY

HUMBOLDT BAY POWER PLANT, UNIT 3

DOCKET NO. 50-133

1.0 INTRODUCTION

On July 2, 1976, Humboldt Bay Power Plant (HBPP) Unit 3 was shut down for annual refueling and to conduct seismic modifications. In 1983, an updated economic analysis indicated that restarting Unit 3 would probably not be cost-effective, and in June 1983, the Pacific Gas and Electric Company (PG&E) announced its intention to decommission the unit. On July 16, 1985, the U.S. Nuclear Regulatory Commission (NRC) issued Amendment No. 19 to the HBPP Unit 3 Operating License (Reference 1) to change the status to possess-but-not-operate and the plant was placed into a SAFSTOR<sup>1</sup> status.

The transfer of spent fuel from the spent fuel pool (SFP) to the Independent Spent Fuel Storage Installation (ISFSI) was completed in December 2008, and the decontamination and dismantlement phase of HBPP Unit 3 decommissioning has commenced.

In a letter dated June 30, 2014 (Reference 2), as supplemented by a letter dated March 27, 2015 (Reference 3), PG&E submitted a license amendment request for prior approval of proposed changes to the Humboldt Bay Site Emergency Plan. Specifically, the proposed changes reflect a reduction in the emergency planning function commensurate with the ongoing and anticipated reduction in radiological source term at the Humboldt Bay site as well as the transfer of spent fuel from the SFP to the ISFSI.

2.0 REGULATORY EVALUATION

This safety evaluation addresses the impact of the proposed changes on the Humboldt Bay Site Emergency Plan. The relevant regulatory requirements, as exempted and guidance on which the NRC based its acceptance are as follows:

2.1 Regulations

- 10 CFR 50.47(b)(1) states, in part: "Primary responsibilities for emergency response. . . have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis;"

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<sup>1</sup> A method of decommissioning in which a nuclear facility is placed and maintained in a condition that allows the facility to be safely stored and subsequently decontaminated (deferred decontamination) to levels that permit release for unrestricted use.

- 10 CFR 50.47(b)(2) states, in part: "... adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available ...;"
- 10 CFR 50.47(b)(4) states, in part: "A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee...;"
- 10 CFR 50.47(b)(8) states: "Adequate emergency facilities and equipment to support the emergency response are provided and maintained;"
- 10 CFR 50.47(b)(14) states in part: "Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities...;"
- 10 CFR Part 50, Appendix E, Section IV.A.2, states, in part: "A description of the onsite emergency response organization (ERO)...;"
- 10 CFR Part 50, Appendix E, Section IV.F.2.b, states, in part: "Each licensee at each site shall conduct a subsequent exercise of its emergency plan every 2 years.;"
- 10 CFR 72.32(a)(3) states in part: "A classification system for classifying accidents as Alerts;"
- 10 CFR 72.32(a)(5) states in part: "A brief description of the means of mitigating the consequences of each type of accident, including those provided to protect workers onsite, and a description of the program for maintaining the equipment;"
- 10 CFR 72.32(a)(6) states in part: "A brief description of the methods and equipment to assess releases of radioactive materials;" and
- 10 CFR 72.32(a)(12) states, in part: "Provisions for conducting semiannual communications checks with offsite response organizations and biennial onsite exercises to test response to simulated emergencies."

## 2.2 Guidance

- Revision 1 to NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (Reference 4), provides a common reference and guidance source for nuclear facility operators to develop radiological emergency response plans.
- Spent Fuel Project Office Interim Staff Guidance (ISG) – 16, "Emergency Planning" (Reference 5), provides emergency plan review guidance applicable to facilities licensed pursuant to the regulatory requirements found at 10 CFR Part 72.
- The Nuclear Energy Institute (NEI) document NEI 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors" (Reference 6), was endorsed by



the NRC as generic (non-plant-specific) emergency action level (EAL) scheme development guidance in a letter dated March 28, 2013 (Reference 7).

### 3.0 TECHNICAL EVALUATION

The NRC staff has reviewed the licensee's regulatory and technical analyses in support of its proposed emergency plan changes, as described in PG&E's application and subsequent letter. The staff's technical evaluation is detailed below.

#### 3.1 Background

PG&E submitted the HBPP, Unit 3 Emergency Plan (Reference 8) to reflect the permanently shut down and defueled condition of the site to the NRC on April 4, 1985. On April 29, 1987, the NRC issued a Safety Evaluation Report (SER) (Reference 9) approving the HBPP, Unit 3 Emergency Plan, Revision 0, SAFSTOR. The NRC found that the postulated dose to the general public from any reasonably conceivable accident would not exceed the U.S. Environmental Protection Agency (EPA) Protective Action Guides (PAGs) beyond the exclusion area boundary (EAB). The NRC concluded that the licensee's emergency plan was acceptable in view of the reduced offsite radiological consequences associated with the decommissioning plant status and provided reasonable assurance that adequate protective measures could and would be taken in the event of a radiological emergency at HBPP Unit 3 during SAFSTOR.

On December 15, 2003 (Reference 10), PG&E submitted a license application in accordance with 10 CFR Part 72 to the NRC to construct and operate an ISFSI on the HBPP site. On November 17, 2005 (Reference 11), the NRC issued a site-specific Materials License No. SNM-2514 to PG&E for an ISFSI at the HBPP site. The associated SER approved the proposed Humboldt Bay ISFSI Emergency Plan that was based on the regulatory requirements of 10 CFR 72.32(a).

In a letter dated December 14, 2007 (Reference 12), PG&E submitted an emergency plan which consolidated the separate HBPP Unit 3 and the Humboldt Bay ISFSI emergency plans into a single plan. The NRC approved this consolidated Humboldt Bay Site Emergency Plan in a letter dated August 27, 2008 (Reference 13). The consolidated plan took effect after the transfer of fuel from the SFP to the ISFSI was completed on December 11, 2008.

On August 14, 2012 (Reference 14), PG&E submitted a letter requesting an exemption from specific emergency planning requirements of 10 CFR 50.47, "Emergency plans," and 10 CFR Part 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," for the Humboldt Bay facility related to a rulemaking that amended the NRC's emergency planning regulations (76 *Federal Register* (FR) 72560; November 23, 2011). These exemptions were granted by the NRC in a letter dated December 20, 2012 (Reference 15).

#### 3.2 Proposed Changes

In its June 30, 2014 application (Reference 2), PG&E provided Revision 7 to the Humboldt Bay Site Emergency Plan for review. The staff presented a request for additional information (RAI) in a letter dated January 14, 2015 (Reference 16). PG&E's response to the RAI, dated

March 27, 2015 (Reference 17), included changes to the emergency plan as originally submitted.

The major changes PG&E is requesting in Revision 7 of the Humboldt Bay Site Emergency Plan are: the removal of the EALs associated with HBPP; transition to ISFSI EALs based on NEI 99-01, Revision 6 (Reference 6); changes in the emergency response organization (ERO); changes to emergency response equipment; and a change in frequency of a site exercise from annual to biennial.

### 3.3 Evaluation

#### *ISFSI EALs and Removal of HBPP Unit 3 Related EALs*

Decommissioning and dismantlement activities at HBPP continue to reduce the radioactive source term at the site. These radionuclide sources are not readily dispersible in their present condition but may become more readily dispersible during decontamination and dismantlement activities. Appendix A to Revision 10 of the HBPP, Unit 3 Defueled Safety Analysis Report, dated February 4, 2014 (Reference 18) provides an analysis of the applicable accidents at the HBPP, Unit 3. For an applicable accident, the significant reduction of radioactive source term as compared to the radioactive source term present during operation and the lack of a high energy transportation means for the radioactive material that is present prevents levels from reaching the thresholds of the existing EALs for an unplanned/unanticipated increase in radiation levels. Radioactive source term controls and administrative controls limit evaluated accident scenarios to less than the current threshold for a Notification of Unusual Event. The HBPP no longer has a liquid radioactive effluent discharge pathway to Humboldt Bay. Airborne release pathways are scheduled for demolition prior to implementation of the proposed revision to the emergency plan. Airborne radioactivity monitoring is performed in accordance with the radiation protection program. Radiological effluent controls and methodology for assessment of offsite dose in the event of an unanticipated release are maintained in the Offsite Dose Calculation Manual.

The SAFSTOR accidents formally described in the HBPP, Unit 3 Defueled Safety Analysis Report (DSAR) (Reference 18) were predicated on a source term consisting of the spent fuel or greater than class C (GTCC) waste. With all of the spent fuel and GTCC waste transferred to the ISFSI, there are no longer any SAFSTOR accidents described in the HBPP, Unit 3 DSAR that increase the risk to the health and safety of the public. The proposed Humboldt Bay Site Emergency Plan is based on only events related to the ISFSI, and as such, the EALs are only associated with events at the ISFSI. PG&E's application states that these EALs were developed using the guidance in NEI 99-01, Revision 6 (Reference 6). The staff's review verified that the proposed EALS are consistent with the guidance in NEI 99-01, Revision 6.

Because of the very low risk of consequences to public health and safety resulting from the postulated SAFSTOR accidents related to the Humboldt Bay ISFSI, no potential emergencies are classified as higher than an Alert in accordance with the regulations in 10 CFR 72.32, "Classification of Accidents." Classification of emergencies as no higher than an Alert also maintains consistency with the requirements of 10 CFR 50.47(b)(4) regarding standardized emergency classification and action level schemes. The staff finds that the EALs and event types, as described above, are consistent with the current conditions at the site, as well as the

applicable regulations and guidance documents. Therefore, the staff finds these changes acceptable.

### *Changes to the ERO*

By letter dated August 27, 2008 (Reference 13), the NRC approved an ERO augmentation of three personnel – an Emergency Coordinator, a Security Coordinator, and at least one other individual selected at the discretion of the Emergency Coordinator. In the proposed emergency plan, a member of PG&E staff is “on-call” and available by phone for consultation and guidance, if needed, instead of reporting to the site. The licensee states an event severe enough to cause confinement boundary damage to a spent fuel storage cask and classification of an Alert would most likely make immediate access to the site by offsite personnel impossible due to possible flooding and infrastructure damage to the surrounding area. The on-shift organization that is on-shift 24 hours per day, 365 days a year is responsible for performing emergency response activities and may be augmented with additional personnel at the discretion of the Emergency Coordinator.

As discussed in the November 17, 2005, SER (Reference 11), with the interim storage in the below grade vault, the vault structure provides additional protection to the storage casks from several accident scenarios (i.e., tornado/missile hazards, tsunamis, floods, explosions). Also, the vault structure is designed to withstand 1.8 meters [6 feet] of water head under flood conditions. The water resistance of the vault could minimize any potential release of radioactive material in the unlikely event that the confinement boundary was compromised.

Initial surveys would be conducted by trained on-shift personnel. On-shift personnel will perform initial radiation survey/assessment using a variety of instrumentation including a dose rate instrument, an air sampler, and a frisker, to determine that the entry criterion for an Alert has been achieved. A revised implementing procedure specific to the ISFSI, will contain an overview of the facility, depicting any suspect point(s) of a challenged confinement barrier and radiological data at the suspect point and perimeter (similar to a typical survey map). Tools will be available to onsite personnel to convert air sample results with an assumed radionuclide mix to dose rates. Radiation safety expertise will be available via telecommunications to assist with further assessment actions. Radiation protection qualified personnel will conduct follow-up surveys to determine the extent of condition or additional radiological recovery actions when they can access the ISFSI during the recovery phase, should an accident occur.

If mitigation is required, pre-staged material is available to shield or cover the affected area by trained onsite personnel. The capability for mitigation is influenced by the low number of casks in vault structure (five casks of spent fuel and one container of GTCC waste) that would be available as a source of radioactive release and the design of the vault with bolted down vault lids.

For this requested change, the staff considered several factors in its evaluation of the proposed change: (1) the storage of the fuel (below grade in a vault with water resistant bolted vault lid) could minimize any potential release of radioactive material in the unlikely event that the confinement boundary was compromised; (2) the ability of the on-shift personnel to perform radiological surveys/assessment provides for timely assessment; and (3) the ability of the on-shift personnel to perform mitigative measures to shield and/or cover the affected area using

pre-staged materials and equipment available onsite to minimize any radiological release. Based on these factors, the staff finds that the licensee adequately compensates for the proposed changes to the ERO.

Based on the above analysis, the staff concludes that the planning standards of 10 CFR 50.47(b)(1) and 10 CFR 50.47(b)(2), the requirements in 10 CFR Part 50, Appendix E, Section IV.A, as exempted, and the requirements of 10 CFR 72.32(a)(5) and 10 CFR 72.32(a)(6) pertaining to responsibilities for emergency response are addressed in an acceptable manner in the Humboldt Bay Site Emergency Plan, considering the current status of the facility. The staff finds the changes acceptable.

#### *Changes to emergency response equipment*

The proposed emergency plan removes the statement that site organization vehicles are available to be used for offsite monitoring in the event of a radiological emergency. As discussed previously, decommissioning and dismantlement activities at HBPP continue to reduce the radioactive source term at the site. These radionuclide sources are not readily dispersible in their present condition but will become more readily dispersible during decontamination and dismantlement activities. Appendix A to Revision 10 of the HBPP, Unit 3 Defueled Safety Analysis Report dated February 4, 2014 (Reference 18), provides an analysis of the applicable accidents at the HBPP, Unit 3. This analysis provides that due to this reduced source term and the lack of a transportation method for a radioactive release, offsite monitoring is no longer required. Onsite personnel will be qualified for use of radiation monitoring equipment for monitoring conditions related to the declaration of an Alert. Dose rate and air sampling instruments are available at the site for radioactive release assessment.

The NRC previously approved the Emergency Plan for HBPP on April 29, 1987 (Reference 9), which eliminated offsite emergency planning for HBPP, based on the permanently shutdown and defueled status of the reactor and the low likelihood of any credible accident resulting in radiological releases requiring offsite protective measures. The staff further finds that with the ongoing decommissioning and dismantlement activities at HBPP, this likelihood of the radiological release is further reduced such that offsite monitoring in the event of a radiological emergency would not be needed.

The staff concludes that the planning standard of 10 CFR 50.47(b)(8), and the requirements in 10 CFR Part 50, Appendix E, Section IV. E, as exempted, and 10 CFR 72.32(a)(5) pertaining to emergency facilities and equipment are addressed in an acceptable manner in the Humboldt Bay Site Emergency Plan, considering the current status of the facility. The staff finds the changes acceptable.

#### *Change to site exercise frequency*

PG&E proposes to change the frequency of an exercise from annually to biennially. Radiological/health physics, medical, and fire drills will continue to be conducted annually.

The staff reviewed the requested change and finds that, although it is a relaxation of what is required by the Humboldt Bay Site Emergency Plan, the change is consistent with the

requirements in 10 CFR Part 50, Appendix E, Section IV. F, as exempted, and 10 CFR 72.32.(a)(12). The Humboldt Bay Site Emergency Plan has a more frequent exercise requirement than what is required by regulation.

The staff concludes that the requirements in 10 CFR Part 50, Appendix E, Section IV. F, as exempted, and 10 CFR 72.32(a)(12), pertaining to drills and exercises are addressed in an acceptable manner in the Humboldt Bay Site Emergency Plan, and is consistent with other installations in a similar state of decommissioning. The staff finds this change acceptable.

#### 4.0 CONCLUSION

The NRC staff finds that the proposed changes in Revision 7 to the Humboldt Bay Site Emergency Plan meet: the standards in 10 CFR 50.47(b), as exempted; the requirements in Appendix E of Part 50, as exempted; the emergency planning requirements contained in 10 CFR 72.32; and the guidance provided in Interim Staff Guidance – 16. The review considered the permanently shut down and defueled status of the reactor, the transfer of spent fuel and GTCC waste to the ISFSI, and the low likelihood of any credible accidents resulting in radiological releases requiring offsite protective measures. These evaluations were supported by the previously documented licensee and staff accident analyses. The staff concludes that the Humboldt Bay Site Emergency Plan provides: (1) an adequate basis for an acceptable state of emergency preparedness, and (2) in conjunction with arrangements made with offsite response agencies, reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the HBPP facility. Therefore, the NRC staff concludes that the licensee's proposed changes to the Humboldt Bay Site Emergency Plan in its application dated June 30, 2014 and as supplemented by the letter dated March 27, 2015, are acceptable.

#### 5.0 REFERENCES

1. Letter from U.S. Nuclear Regulatory Commission to Pacific Gas and Electric Company, "Amendment of License No. DPR-7 to Possess-But-Operate Status," dated July 16, 1985 (ADAMS Legacy No. 8507260040).
2. Letter from Pacific Gas and Electric Company to U.S. Nuclear Regulatory Commission, "Humboldt Bay Unit 3 and ISFSI-License Amendment Request for Proposed Revision to Humboldt Bay Site Emergency Plan," dated June 30, 2014 (Agency-wide Documents Access and Management System (ADAMS) Accession No. ML14182A476).
3. Letter from Pacific Gas and Electric Company to U.S. Nuclear Regulatory Commission, "Humboldt, Unit 3 and ISFSI-Responds to Request for Additional Information Regarding License Amendment Request for a Proposed Revision to the Emergency Plan," dated March 27, 2015 (ADAMS Accession No. ML15099A578).
4. U.S. Nuclear Regulatory Commission and Federal Emergency Management Agency, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," NUREG-0654/FEMA-REP-1, Rev.1 dated November 1980 (ADAMS Accession No. ML040420012).

5. Spent Fuel Project Office Interim Staff Guidance – 16, “Emergency Planning,” dated June 14, 2000. (ADAMS Accession No. ML003724570).
6. NEI 99-01, Revision 6, Development of Emergency Action Levels for Non-Passive Reactors, dated November 2012 (ADAMS Accession No. ML12326A805).
7. Letter from U.S. Nuclear Regulatory Commission to NEI “Technical Evaluation for the Endorsement of NEI 99-01, Revision 6,” dated March 28, 2013 (ADAMS Accession No. ML12346A463).
8. Letter from Pacific Gas and Electric Company to U.S. Nuclear Regulatory Commission, “Emergency Plan to Support Decommissioning and SAFSTOR,” dated April 4, 1985 (ADAMS Legacy No. 8504190169).
9. Letter from U.S. Nuclear Regulatory Commission to Pacific Gas and Electric Company, “Humboldt Bay Power Plant, Unit No. 3 Decommissioning, Safety Evaluation Report,” dated April 29, 1987 (ADAMS Legacy No. 8705060214).
10. Letter from Pacific Gas and Electric Company to U.S. Nuclear Regulatory Commission, “License Application for Humboldt Bay Independent Spent Fuel Storage Installation,” dated December 15, 2003 (ADAMS Accession No. ML033640440 (package)).
11. Letter from U.S. Nuclear Regulatory Commission to Pacific Gas and Electric Company, “Issuance of Materials License No. SNM-2514 for the Humboldt Bay Independent Spent Fuel Storage Installation (TAC No. L23683),” dated November 17, 2005 (ADAMS Accession No. ML053220239 (package)).
12. Letter from Pacific Gas and Electric Company to U.S. Nuclear Regulatory Commission, “Proposed Emergency Plan Revision Requiring Prior NRC Approval,” dated December 14, 2007 (ADAMS Accession No. ML073540069).
13. Letter from U.S. Nuclear Regulatory Commission to Pacific Gas and Electric Company, “Humboldt Bay Power Plant Unit 3 – Proposed Changes to the Emergency Plan (TAC No. J00340),” dated August 27, 2008 (ADAMS Accession No. ML082110367).
14. Letter from Pacific Gas and Electric Company to U.S. Nuclear Regulatory Commission, “Request for Exemption from Specific 10 CFR 50 Requirements Regarding Enhancements to Emergency Preparedness Regulations,” dated August 14, 2012 (ADAMS Accession No. ML12236A327).
15. Letter from U.S. Nuclear Regulatory Commission to Pacific Gas and Electric Company, “Safety Evaluation Input on Humboldt Bay Power Plant, Unit 3, Request for Exemption from Emergency Planning Requirements,” dated December 20, 2012 (ADAMS Accession No. ML12348A812).

16. Letter from U.S. Nuclear Regulatory Commission to Pacific Gas and Electric Company "Humboldt Bay Emergency Plan RAI Ltr." dated January 14, 2015 (ADAMS Accession No. ML15007A433).
17. Letter from Pacific Gas and Electric Company to U.S. Nuclear Regulatory Commission, "Response to Request for Additional Information Regarding the License Amendment Request for a Proposed Revision to the Humboldt Bay Site Emergency Plan," dated March 27, 2015 (ADAMS Accession No. ML15099A578).
18. Letter from Pacific Gas and Electric Company to U.S. Nuclear Regulatory Commission, "Revision 10 to the Defueled Safety Analysis Report and Revision 31 to the Humboldt Bay Quality Assurance Plan," dated February 4, 2014 (ADAMS Accession No. ML14035A514).

Principal Contributor: Michael Wasem

Dated: September 23, 2015