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PG&E Letter DCL-12-110

U.S. Nuclear Regulatory Commission
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10 CFR 50.54(f)

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
Pacific Gas and Electric Company's Response to Recommendation 9.3 Communications Requests 1 and 3 and the Evaluation of Existing Communications Systems Power Supplies

Reference:

1. NRC Letter, "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident," dated March 12, 2012.

2. PG&E Letter DCL-12-048, "60-Day Response to NRC Letter, 'Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident,' dated March 12, 2012," dated May 9, 2012.

3. PG&E Letter DCL-12-061, "Pacific Gas and Electric Company's Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding Emergency Preparedness Aspects of Recommendation 9.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident," dated June 7, 2012.

Dear Commissioners and Staff:

On March 12, 2012, the Nuclear Regulatory Commission (NRC) Staff issued Reference 1. Enclosure 5 of Reference 1 contains specific Requested Actions and Requested Information associated with Recommendation 9.3 for Emergency Preparedness (EP) programs. In accordance with 10 CFR 50.54, "Conditions of licenses," paragraph (f), addressees were requested to submit a written response to the information requests. The letter also provided requested due dates for written responses.

In accordance with Reference 1, Pacific Gas and Electric Company (PG&E) submitted its alternative course of action for providing the requested information in Reference 2. The alternative course of action included revised due dates and the basis for Communications Requests 1 and 3. In accordance with Reference 2, PG&E submitted Reference 3, which described its response to Communications Request 2 and committed to conduct an evaluation of existing communications systems power supplies.

As described in Reference 2, Enclosure 1 of this letter provides PG&E's response to Communications Requests 1 and 3. Enclosure 2 of this letter provides PG&E's conclusions on the evaluation of existing communications systems power supplies.

PG&E is making regulatory commitments (as defined by NEI 99-04) in Enclosure 3 of this letter. This letter includes no revisions to existing regulatory commitments.

If you have any questions, or require additional information, please contact Mr. Terence L. Grebel at (805) 545-4160.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 29, 2012.

Sincerely,

Edward D. Halpin
Senior Vice President – Chief Nuclear Officer

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Enclosures
cc: Diablo Distribution
cc:/enc: Elmo E. Collins, NRC Region IV Administrator
Eric J. Leeds, NRC Director, Office of Nuclear Reactor Regulation
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Joseph M. Sebrosky, NRR Project Manager

Response to 10 CFR 50.54(f) NRC Request for Information (NTTF Recommendation 9.3 Communications, Requests 1 and 3 Pacific Gas and Electric Company

Executive Summary

On March 12, 2012, the Nuclear Regulatory Commission issued a request for information (RFI) in accordance with 10 CFR 50.54(f), "Request for Information Pursuant to Title 10 Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident." Recommendation 9.3 requested addressees to provide an assessment of the current communications systems and equipment used during an emergency event to identify any enhancements that may be needed to ensure communications are maintained during a large-scale natural event.

Pacific Gas and Electric Company (PG&E) conducted an assessment to review Diablo Canyon Power Plant's (DCPP's) capability of Emergency Preparedness communications systems to perform their intended function during a large-scale loss of alternating current (AC) power event.

The assessment was conducted in accordance with the NEI 12-01, Revision 0, "Guideline for Assessing Beyond-Design-Basis Accident Response Staffing and Communications Capabilities." The assessment team conducted walkdowns and reviewed associated documentation and procedures to confirm reasonable protection of current onsite and offsite communications systems.

The assessment team concluded that the fixed and portable satellite phones and portions of the onsite plant telephone network and radio systems will be available during a large scale loss of AC power. Based on the quality, maintenance, and operational contracts of the communications equipment, it was concluded that the communications equipment will be ready for use by trained personnel during a loss of AC power. DCPP personnel are a part of the national communications system, which provides priority communications services during an emergency.

The assessment team identified 11 enhancements. The enhancements will be implemented into two phases. Phase 1 will be completed by December 31, 2013. Phase 2 will be completed by October 27, 2015.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) issued an information request pursuant to 10 50.54(f), 2.1, 2.3, and 9.3 of the Near-Term Task Force (NTTF) review of insights from the Fukushima Dai-ichi accident, dated March 12, 2012.

Enclosure 5 of the letter contains specific Requested Actions and Requested Information associated with Recommendation 9.3 for Emergency Preparedness (EP) programs. This enclosure is divided into two parts (1) Communications and (2) ERO Staffing. This assessment will address the Communications request.

The NRC issued this information request regarding power supplies for communications systems and to determine if additional regulatory action is warranted. This assessment is to review the capability of DCPP communications systems to perform their intended function during a large-scale extended loss of off-site power. This assessment will also provide recommendations for a means to power communications equipment needed to communicate onsite (e.g., radios for response teams and between facilities) and offsite (e.g., cellular telephones and satellite telephones) during a prolonged station blackout (SBO).

NRC Requested Information

NRC Requested Actions

It is requested that addressees assess their current communications systems and equipment used during an emergency event. It is also requested that consideration be given to any enhancements that may be appropriate for the emergency plan with respect to communications requirements of 10 CFR 50.47, Appendix E, and the guidance in NUREG-0696. Also, addressees are requested to consider the means necessary to power the new and existing communications equipment during a prolonged SBO.

NRC Request Assumptions

The NRC requests that the following assumptions be made in preparing responses to this request for information: the potential onsite and offsite damage is a result of a large scale natural event resulting in a loss of all AC power.

In addition, assume that the large-scale natural event causes extensive damage to normal and emergency communications systems both onsite and in the area surrounding the site. It has been recognized that following a large-scale natural event that AC power may not be available to cell and other communications infrastructures.

NRC Requested Information

Addressees are requested to provide an assessment of the current communications systems and equipment used during an emergency event to identify any enhancements that may be needed to ensure communications are maintained during a large-scale natural event meeting the conditions described above.

- Identify any planned or potential improvements to existing onsite communications systems and their required normal and/or backup power supplies,
- Identify any planned or potential improvements to existing offsite communications systems and their required normal and/or backup power supplies,
- Provide a description of any new communications system(s) or technologies that will be deployed based upon the assumed conditions described above, and
- Provide a description of how the new and/or improved systems and power supplies will be able to provide for communications during a loss of all AC power.

Addressees are requested to describe any interim actions that have been taken or are planned to be taken to enhance existing communications systems power supplies until the communications assessment and the resulting actions are complete.

Provide an implementation schedule of the time needed to conduct and implement the results of the communications assessment.

Assessment Methodology

NEI 12-01 provides the methodology for the preparation of assessments to determine the required staff necessary for responding to a beyond-design-basis external event that affects multiple units at a site, and the identification of enhancements that could provide a means to power equipment needed to communicate onsite and offsite during an extended loss of AC power event. The NRC endorsed NEI 12-01 in May of 2012.

Assessment Assumptions (NEI 12-01)

(1) A large-scale external event occurs that results in:

- (a) all onsite units affected
- (b) extended loss of AC power
- (c) impeded access to the units

(2) Initially, all onsite reactors are operating at full power and are successfully shut down.

(3) A Hostile Action directed at the affected site does not occur during the period that the site is responding to a beyond design basis external event.

(4) The event impedes site access as follows:

- (a) Post event time: 0 to 6 hours – No site access. This duration reflects the time necessary to clear roadway obstructions, use alternate routes, mobilize alternate transportation capabilities, etc.
- (b) Post event time: 6 to 24 hours – Limited site access. The site may be accessed by walking, a helicopter, personal vehicle or small boat.
- (c) Post event time: 24+ hours – Improved site access. Site access is restored to a near-normal status and/or augmented transportation resources are available to deliver heavy or big loads, and large numbers of personnel
- (d) A licensee may modify assumption #4 if supported by a documented basis.

(5) Installed sources of AC power, including alternate AC power sources, are not available. These power sources are typically classified as safety-related or governed by augmented quality requirements.

(6) Nonessential loads from DC battery buses are stripped in accordance with plant emergency or abnormal operating procedures, or other response guidelines to extend battery life.

(7) Installed inverters and battery chargers remain available provided they are protected from internal and external flooding events consistent with the current station design.

(8) Diesel fuel oil stored in seismic structures and protected from flooding and wind remains available.

(9) Portable equipment staged for implementation of accident management strategies (e.g., SAMG and EDMG) may be used provided it is stored onsite; is reasonably protected from seismic, wind, and flooding events[1]; is maintained through programmatic controls; and has implementing actions specified in existing procedures or guidelines. This includes use of portable AC and DC power sources.

(10) Offsite infrastructure supporting communications systems is inoperable, or operating with degraded capability, in the area surrounding the site (e.g., cellular telephone or microwave towers, telephone central office buildings, telephone lines, etc.). A licensee has two options for determining the affected area.

(a) Apply a default distance value, in all directions, of approximately 25 miles from the plant site, or
(b) Develop a site-specific distance assumption and document the basis.
(c) Communications infrastructure in locations beyond the area defined above is not significantly impacted by the event.

(11) Communications equipment located at an offsite response facility, and supplied from a backup power source, is assumed to be functional. The availability of this equipment must be determined in conjunction with Assumption #7, above. For example, a diesel generator-powered satellite telephone system at an Emergency Operations Center (EOC) located 4 miles from the plant would be available since the system does not rely upon ground-based communications infrastructure within the affected area. A land-line telephone in the same EOC would not be available due to local infrastructure impacts consistent with Assumption #7.

(12) To be assumed operable, a piece of onsite communications equipment should be in a location, and maintained in a manner, that maximizes survivability following a beyond design basis external event. In particular, the location or manner should reasonably preclude wetting from flooding or impact damage from a seismic event. The equipment itself does not need to be seismically qualified. Equipment should be stored, or otherwise available, in locations that can be readily accessed when needed. To the degree practical, consider potential constraints to equipment access or movement when selecting a storage location. When selecting storage locations, consider criteria presented in regulatory and industry guidance applicable to equipment associated with NRC Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (e.g., FLEX equipment). The

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[1] If applicable per the site emergency plan

above guidance applies to equipment at the point of use (e.g., a radio) as well as any supporting infrastructure components. Such components may include portable power sources, and radio system repeaters and antennas.

(13) End-point equipment identified for a communications link listed below should be used solely for the designated purpose. For example, a satellite telephone assigned to the Control Room should not be credited for performing both Offsite Response Organization (ORO) and NRC notifications.

Reasonable Protection Guidance

Option 1: Reasonable protection from seismic, flooding, and wind is defined using the same criteria for the protection and deployment of Flex Strategies in accordance with NEI 12-06 Revision B-1, dated May 2012.

Option 2: Reasonable protection from seismic, flooding, and wind is defined using the following guidance: It is required that Emergency Preparedness (EP) communication equipment be confirmed as being reasonably protected from a beyond design basis seismic event. It is recommended that utilities use, to the extent possible, the existing guidance provided in EPRI NP-6041 for determination of the seismic/wind design capabilities of structures containing, and structures, systems, and components (SSCs) in the vicinity (adjacent and overhead) of, existing EP Communication equipment. Additionally, existing seismic/wind housekeeping procedures should be used to establish secure storage of EP communication equipment and adjacent SSCs that may pose a potential seismic/wind interaction hazard. Where these procedures and guidance cannot be applied, it should be ensured that EP communication equipment be contained within one or more of the configurations:

(1) In an existing safety related structure designed for the safe shutdown earthquake (SSE), or

(2) In a structure designed to or evaluated equivalent to ASCE 7-10, Minimum Design Loads for Buildings and Other Structures, or

(3) Outside a structure and evaluated for seismic interactions to ensure equipment is not damaged by nonseismically robust components or structures.

SSCs in the vicinity of the EP Communications equipment where these procedures and guidance cannot be applied should also be confirmed to meet the design criteria given in Options 1 or 2 above.

Option 3: Implement alternate and back-up communications systems and plans, given the beyond-design-basis event renders all on site and offsite communications systems inoperable. No assessment is necessary for this option.

Note: Equipment must be stored in a configuration that ensures survivability. Utilize Options 1 or 2 to meet this configuration requirement.

PG&E used criteria in Option 2 to establish the availability of existing communications systems and select storage and protection for the proposed equipment and systems.

References

1. US Nuclear Regulatory Commission (NRC) letter, Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident, dated March 12, 2012.

2. 10 CFR 50.47 Emergency plans – Section (b)

3. 10 CFR 50, Appendix B – Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants

4. 10 CFR 50, Appendix E – Emergency Planning and Preparedness for Production and Utilization Facilities

5. NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

6. NUREG 0696, Functional Criteria for Emergency Response Facilities

7. Federal Register Volume 76, Number 226; dated November 23, 2011; Pages 72560-72600

Objective 1: Evaluate DCPP's ability to maintain required emergency communications, onsite and offsite, during a prolonged SBO.

4.1.1 Notifications to, and communications with, OROs [per 10 CFR Appendix E.IV.D and E.9.a]

Results

1. Refer to Appendix A, Table 4.1.1, for information on PG&E's communication links.

2. Refer to Appendix B, Table 4.1.1, for information on the power supplies of the PG&E communications links.

3. Refer to Appendices C and D for further background information on the applicable communications systems.

Commitment 1:

PG&E procured a satellite phone "football" for the Control Room. The "football" is self-contained in a rugged case with a self-positioning satellite antenna and a 6-hour rechargeable power supply. The "football" has the capability to support a single phone line or single network connection through an external port. The "football" is capable of reaching active cell phones or functional landline phones beyond 25 miles and active satellite phones within 25 miles. Two additional "footballs" have been purchased for the TSC and EOF as shown in Objective 1 Section 4.1.5. This commitment will be placed in service with approved procedures as part of Phase 1, which is scheduled for December 31, 2013.

Commitment 2:

Three communications trailers have been procured to facilitate further communications. The trailers will be outfitted with equipment such as radio repeaters (multiple frequencies), base station radios, satellite uplink, and Voice-Over-Internet Protocol phones. Two of the trailers will be staged onsite and one trailer will be staged offsite. These trailers will be equipped with an onboard diesel generator capable of supplying sufficient power to run all of the installed equipment. These trailers will have antennas at sufficient height such that the range of the radio repeaters and base stations will support onsite communications and emergency response efforts. This commitment will be placed in service with approved procedures as part of Phase 1, which is scheduled for December 31, 2013.

4.1.2 Notifications to, and communications with, the Nuclear Regulatory Commission (NRC) Headquarters Incident Response Center and the appropriate NRC Regional Office Operations Center [*per 10 CFR 50 Appendix E.IV.D and E.9.d*]

Results

1. Refer to Appendix A, Table 4.1.2, for information on PG&E's communication links.

2. Refer to Appendix B, Table 4.1.2, for information on the power supplies of the PG&E communications links.

3. Refer to Appendices C and D for further background information on the applicable communications systems.

Commitments

Refer to Section 4.1.1, Commitment 2, for information on the communications trailers.

4.1.3 Communications between licensee emergency response facilities [*per 10 CFR 50 Appendix E.9.c. Additional links that support performance of critical response functions are also specified.*]

Results

1. Refer to Appendix A, Table 4.1.3, for information on PG&E's communication links.

2. Refer to Appendix B, Table 4.1.3, for information on the power supplies of the PG&E communications links.

3. Refer to Appendices C and D for further background information on the applicable communications systems.

Commitments

Refer to Section 4.1.1, Commitment 2 for information on the communications trailers.

4.1.4 Communications with field/offsite monitoring teams [*per 10 CFR 50 Appendix E.9.c*]

Results

1. Refer to Appendix A, Table 4.1.4, for information on PG&E's communication links.

2. Refer to Appendix B, Table 4.1.4, for information on the power supplies of the PG&E communications links.

3. Refer to Appendices C and D for further background information on the applicable communications systems.

Commitment 3:

The 80 dual band radios (450 MHz and 800 MHz) radios procured for operators and Industrial Fire Officers, and the 75 single band (800 MHz) radios procured for use by the in-plant emergency response teams and offsite responders will be placed in service with approved procedures as part of Phase 1, which is scheduled for December 31, 2013.

Additional Information:

The 800-MHz radios have better in-plant penetration than the 450 MHz radios. The 800 MHz radios will perform better that the 450 MHz radios during line of sight operation. The 450 MHz radio has a greater coverage area than the 800 MHz radio. The 450 MHz and 800 MHz radios will provide widespread communications capabilities at DCPP.

Commitment 4:

PG&E will improve the Operational Support Center (OSC) radio communications by installing a radio console. Installation of the radio console will enable efficient radio communications with field teams. Radios, batteries, and chargers will be relocated to support continued radio communications. The equipment will be placed in service with approved procedures as part of Phase 2, which is scheduled for October 27, 2015.

Commitment 5:

PG&E will relocate onsite Field Monitoring Team (FMT) satellite phones to the onsite FMT vehicle. Currently, the onsite FMT satellite phones are not stored in a structure that is considered to be seismically robust in accordance with NEI 12-01, Revision 0. Relocating the onsite FMT satellite phones to the onsite FMT vehicle will ensure the equipment is reasonably protected since these vehicles meet the guidance of NEI 12-01, Revision 0. The onsite FMT vehicle is outfitted with a car charger. This commitment will be implemented as part of Phase 2, which is scheduled for October 27, 2015.

Refer to Section 4.1.1 above for information on the communications trailers.

4.1.5 Communications with other Federal agencies as described in the site emergency plan (e.g., the US Coast Guard) [*per 10 CFR 50 Appendix E.9.b*]

Results

1. Refer to Appendix A, Table 4.1.5, for information on PG&E's communication links.

2. Refer to Appendix B, Table 4.1.5, for information on the power supplies of the PG&E communications links.

3. Refer to Appendices C and D for further background information on the applicable communications systems.

Enhancements

PG&E procured two additional satellite phone "footballs" for the TSC and EOF. Refer to Section 4.1.1 above for information on the satellite phone "footballs."

Refer to Section 4.1.1 above for information on the communications trailers.

4.1.6 Coordination and direction of onsite and in-plant response teams. This includes teams necessary to affect emergency repairs, firefighting, search and rescue, radiological monitoring, and implementation of Transition Phase coping and severe accident management strategies.

Results

1. Refer to Appendix A, Table 4.1.6, for information on PG&E's communication links.

2. Refer to Appendix B, Table 4.1.6, for information on the power supplies of the PG&E communications links.

3. Refer to Appendices C and D for further background information on the applicable communications systems.

Enhancements

1. Refer to Section 4.1.4 above for information on the hand held radios.

2. Refer to Section 4.1.4 above for information on OSC radio console improvements.

3. Refer to Section 4.1.1 above for information on the communications trailers.

Commitment 6:

PG&E will procure additional spare radio batteries and chargers to ensure that adequate supplies exist to support extended operations. These batteries and chargers will be stored in locations identified as FLEX storage locations. This commitment will be implemented as part of Phase 2, which is scheduled for October 27, 2015.

Commitment 7:

PG&E will procure portable generators and equipment to ensure that adequate power will exist to support extended operations. These generators and associated equipment will be stored in locations identified as FLEX storage locations. This equipment will be

placed in service with approved procedures as part of Phase 2, which is scheduled for October 27, 2015.

Objective 2: Evaluate DCPP's Public Address (PA) System availability.

Results

1. Refer to Appendix A, Table 4.2, for information on DCPP's PA System.

2. Refer to Appendices C and D for further background information on the applicable communications systems.

Commitment 8:

PG&E will relocate the SmartMsg and Zetron pager systems from their current location, which is not considered to be seismically robust per NEI 12-01, Revision 0, guidance to an existing structure that is seismically robust. This commitment will be implemented as part of Phase 2, which is scheduled for October 27, 2015.

Objective 3: Evaluate emergency communications equipment at offsite response organization (ORO) facilities.

Results

1. Refer to Appendix A, Table 4.3, for information on equipment at ORO facilities.

2. Refer to Appendices C and D for further background information on the applicable communications systems.

Communications capabilities available at the ORO facilities that normally receive DCPP notifications of an emergency declaration or a Protective Action Recommendation are provided through a dedicated offsite agency telephone system. This telephone system for San Luis Obispo County is assumed to be unavailable since the telephone infrastructure is within 25 miles of DCPP. The State of California Warning Center is outside of the 25-mile radius of DCPP.

PG&E and San Luis Obispo County have a jointly located EOF. The County resides on the first floor and PG&E on the second floor of the EOF. Initial notifications to the County (NEI 12-01, Section 4.1.1) are made from the Control Room to the Sheriff Watch Commander until the County Emergency Operations Center is activated. Once activated, the EOF is able to communicate face-to-face with County responders. The Control Room, TSC, and EOF each have at least one satellite phone that is expected to be available post event.

Commitment 9:

PG&E will install a fixed mount satellite phone with an externally mounted antenna in the Sheriff Watch Commander's office. This commitment will be placed in service as part of Phase 2, which is scheduled for October 27, 2015.

Commitment 10:

PG&E will procure additional hand held satellite phones for the Control Room, TSC, and EOF to ensure that a dedicated line will be available to perform State and County notifications. This commitment will be placed in service with approved procedures as part of Phase 1, which is scheduled for December 31, 2013.

Objective 4: Evaluate DCPP's ability to notify Emergency Response Organization (ERO) personnel of an emergency.

Results

This area was previously assessed. Information for DCPP was provided to the NRC in PG&E Letter DCL-12-061, dated June 7, 2012.

Previous Commitment

PG&E made the following commitment in PG&E Letter DCL-12-061 with respect to capability to augment emergency response staff given degraded communications capabilities:

"PG&E will revise procedures to include degraded communications capabilities, such that Emergency Response Organization members will automatically respond to their assigned facilities or a designated staging area when made aware of an area-wide disaster (e.g., loss-of grid, natural or man-made disaster, etc.). These procedures will be revised by December 31, 2012."

Objective 5: Evaluate DCPP's systems and equipment to support communications.

Results

This assessment was performed utilizing no reliance upon "multi-use" equipment. All credited lines of communications are dedicated to perform the required function. The credited equipment includes plant private branch exchange (PBX) lines, portable satellite phones, fixed satellite phones, and plant radios. The DCPP PBX lines and plant radios are daily-use systems and are therefore proven to function, as required, to provide adequate communications capabilities. Use of these systems during drills and exercises also demonstrates the functional capability to perform as required.

The ERO demonstrates system functionality of the satellite phones during all drills and exercises where field-monitoring teams participate. The Control Room, TSC, and EOF fixed satellite phones are tested on a quarterly basis for system functionality in accordance with established maintenance and test procedures.

Objective 6: Evaluate DCPP's quality and maintenance requirements of the communications equipment.

Results

This assessment confirmed that programmatic controls are applied to communications equipment to ensure availability and reliability, including the performance of periodic inventory checks and operability testing. DCPP procedure OM10.DC3, "Emergency Response Facilities, Equipment, and Resources" provides for these programmatic controls. OM10.DC3 was developed in accordance with the guidance contained in INPO 10-007, "*Equipment Important to Emergency Response.*"

The DCPP Emergency Plan and its implementing procedures provide the controls and specific requirements for implementing the programmatic controls.

Current DCPP maintenance and test procedures provide reasonable assurance that credited communications equipment is inventoried and tested periodically.

Periodic verification of supporting contracts, specific to supporting communications equipment and power supplies, are conducted annually.

Objective 7: Evaluate DCPP's participation in emergency services provided by the national communications system (NCS) and other communications vendors.

Results

All of the EOF Emergency directors, the security director, the security manager, and the emergency planning manager have government emergency telecommunications service (GETS) cards and wireless priority service (WPS) set up.

Commitment 11:

PG&E will obtain additional access for personnel to use the GETS and WPS services. This commitment will be implemented as part of Phase 2, which is scheduled for October 27, 2015.

Objective 8: Verify that DCPP has arrangements to utilize emergency services by communications providers.

Results

PG&E has contracts in place to utilize emergency services by communications providers. These contracts are verified annually.

Objective 9: Evaluate training that response personnel receive on the location and use of communications systems.

Results

Response personnel have received and/or will receive periodic training, as applicable, on the location and use of communications systems and equipment. The training program provides guidance on communications systems for response personnel through drills and exercises.

The majority of the communications equipment, listed in this assessment, is common business use equipment that is used on a daily basis. The satellite phones (both portable and fixed) are used during drills and exercises to provide opportunities for training and proficiency to the ERO. Training issues identified during drills and exercises are either remediated on the spot, or entered into the corrective action program to determine appropriate actions.

4.1.1 Notifications to, and communications with, OROs [*per 10 CFR 50 Appendix E.IV.D and E.9.a*]

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSEE[(a)]?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSEE[(a)]?	Planned or Potential Improvement Identified?
Control Room (CR)	1 for Unit 1 CR Shift Communicator	Private Branch Exchange (PBX) line	No	Fixed satellite phone	Yes	Yes
	1 for Unit 2 CR Shift Communicator	PBX line	No	No	No	Yes
Technical Support Center (TSC)	1 for Key TSC Communicator	PBX line	No	Fixed satellite phone	Yes	Yes
Emergency Operations Facility (EOF)	1 for Key EOF Communicator	PBX line	No	Fixed satellite phone	Yes	Yes

Notes:

(a) Large Scale External Event (LSEE)

Refer to Objective 1, Section 4.1.1, for additional information.

4.1.2 Notifications to, and communications with, the Nuclear Regulatory Commission (NRC) Headquarters Incident Response Center and the appropriate NRC Regional Office Operations Center [*per 10 CFR 50 Appendix E.IV.D and E.9.d*]

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSEE[a]?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSEE[a]?	Planned or Potential Improvement Identified?
Control Room (CR)	1 for Unit 1 CR for Emergency Notification System (ENS) Communicator 1 for Unit 2 CR for ENS Communicator	Private Branch Exchange (PBX) line PBX line	No No	Fixed satellite phone Fixed satellite phone	No[b] No[b]	Yes Yes
Technical Support Center (TSC)	1 for ENS Communicator	PBX line	No	Fixed satellite phone	No[b]	Yes
Location(s) where Health Physics Network (HPN) communications are performed	1 for Emergency Operations Facility (EOF) HPN Communicator	PBX line	No	Portable satellite phone	Yes	Yes

Notes:

[a] Large Scale External Event (LSEE)

[b] The fixed satellite phones in the CR, TSC and EOF are assumed to be available post event. However, these devices are credited for performing required notifications to, and communications with, Off-Site Response Organizations (OROs) [per 10 CFR 50 Appendix E.IV.D and E.9.a] as noted in Table 4.1.1 and are therefore considered to be unavailable to perform the required communications listed in Table 4.1.2.

Refer to Objective 1, Section 4.1.2, for additional information.

4.1.3 Communications between licensee emergency response facilities [*per 10 CFR 50 Appendix E.9.c. Additional links that support performance of critical response functions are also specified.*] The minimum communications links to support this function are listed below by facility. For example, if the normally used telephone system cannot be restored to service, these links could rely upon some combination of radio, sound-powered and satellite-based communications systems.

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSEE[(a)]?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSEE[(a)]?	Planned or Potential Improvement Identified?
Control Room **(CR)**	1 for Unit 1 to TSC	Private Branch Exchange (PBX) Line[(c)]	Yes	Fixed satellite phone	No[(b)]	Yes
	1 for Unit 2 to TSC	PBX Line[(c)]	Yes	Fixed satellite phone	No[(b)]	
	CR to offsite emergency response facilities	PBX Line	No	Fixed satellite phone	No[(b)]	
Technical Support Center (TSC)	1 each for:					
	• Lead TSC Manager	PBX Line[(c)]	Yes	Fixed satellite phone	No[(b)]	Yes
	• Operations Coordination	PBX Line[(c)]	Yes	Fixed satellite phone	No[(b)]	
	• Maintenance Coordination	PBX Line[(c)]	Yes	Fixed satellite phone	No[(b)]	
	• Engineering Coordination	PBX Line[(c)]	Yes	Fixed satellite phone	No[(b)]	
	• Radiological Support	PBX Line[(c)]	Yes	Fixed satellite phone	No[(b)]	
	1 for each position providing Unit Response Coordination.					
	• Unit 1 Support	PBX Line[(c)]	Yes	Fixed satellite phone	No[(b)]	
	• Unit 2 Support	PBX Line[(c)]	Yes	Fixed satellite phone	No[(b)]	
	TSC to offsite emergency response facilities	PBX Line	No	Fixed satellite phone	No[(b)]	

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSEE[a]?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSEE[a]?	Planned or Potential Improvement Identified?
Operational Support Center (OSC)	1 each for: • Senior/Lead OSC Manager	Private Branch Exchange (PBX) Line[c]	Yes	Radio / Face to Face	Yes	Yes
	• Radiological Support 1 for each position providing Unit In-Plant Team Coordination.	PBX Line[c]	Yes	Radio / Face to Face	Yes	
	• Operations Coordinator	PBX Line[c]	Yes	Radio / Face to Face	Yes	
	• Team Coordinator	PBX Line[c]	Yes	Radio / Face to Face	Yes	
	OSC to offsite emergency response facilities	PBX Line	No	None	No	

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSEE[a]?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSEE[a]?	Planned or Potential Improvement Identified?
Emergency Operations Facility (EOF)	1 each for: • Senior/Lead Manager • Key Protective Measures • Operations Support • Technical Support (as needed to support performance of dose projections, formulation of Protective Action Recommendations (PARs) and plant status updates to Off-Site Response Organizations (ORO) authorities). EOF to onsite emergency response facilities.	 PBX Line PBX Line PBX Line PBX Line PBX Line	 No No No No No	 Fixed satellite phone Fixed satellite phone Fixed satellite phone Fixed satellite phone Fixed satellite phone	 No[b] No[b] No[b] No[b] No[a]	Yes

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSEE[(a)]?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSEE[(a)]?	Planned or Potential Improvement Identified?
Joint Information Center (JIC)	1 for Sr Manager	PSTN	No	Portable satellite phone	Yes	Yes
	JIC to onsite emergency response facilities	PSTN line	No	Portable satellite phone	No	Yes

Notes:

[(a)] Large Scale External Event

[(b)]The fixed satellite phones in the Control Room (CR), Technical Support Center (TSC) and Emergency Operations Facility (EOF) are assumed to be available post event. However, these devices are credited for performing required Notifications to, and communications with, Off-Site Response Organizations [per 10 CFR 50 Appendix E.IV.D and E.9.a] as noted in table 4.1.1 and are therefore considered to be unavailable to perform the required communications listed in Table 4.1.3.

[(c)]The Private Branch Exchange (PBX) lines credited above for the CR, TSC, and Operational Support Center (OSC) will only work onsite to facilitate coordination between the onsite facilities. Use of these PBX lines is not credited to be able to communicate with offsite emergency response facilities or agencies.

Refer to Objective 1, Section 4.1.3, for additional information.

4.1.4 Communications with offsite/field monitoring teams (FMT) [*per 10 CFR 50 Appendix E.9.c*]

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSEE[a]?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSEE[a]?	Planned or Potential Improvement Identified?
Primary location where offsite FMT coordination is performed	1 for offsite FMT coordination from the EOF.	Cell phone/ Private Branch Exchange (PBX) line	No	Portable satellite phone	Yes	Yes
Primary location from which offsite FMTs are deployed	1 for each offsite FMT. • Alpha Team (Offsite FMT) • Bravo Team (Offsite FMT) • Charlie Team (Offsite FMT • FMT 1 (Onsite FMT) [b] • FMT 2 (Onsite FMT) [b]	Cell phone/Radio[c] Cell phone/Radio Cell phone/Radio Cell phone/Radio Cell phone/Radio	No No No No No	Portable satellite phone Portable satellite phone Portable satellite phone Portable satellite phone Portable satellite phone	Yes Yes Yes No No	Yes

Notes:

[a] Large Scale External Event (LSEE)

[b] FMT-1 and FMT-2 onsite FMT kits are located in warehouse B. Warehouse B is not designed to the safe shutdown earthquake at DCPP and therefore the kits are not reasonably protected from seismic interactions.

[c] Radio links identified above for the FMT function are on a different radio system (County Brown Net) than the onsite DCPP system and are therefore not available due to reliance on infrastructure within 25 miles of the plant.

Refer to Objective 1, Section 4.1.4, for additional information.

4.1.5 Communications with other federal agencies as described in the site emergency plan (e.g., the US Coast Guard) [*per 10 CFR 50 Appendix E.9.b*]

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSEE[(a)]?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSEE[(a)]?	Planned or Potential Improvement Identified?
Primary location where communication with Federal agencies is performed	1 for Technical Support Center (TSC) Coordination with Federal agencies	Private Branch Exchange (PBX) line	No	Fixed satellite phone	No[(b)]	Yes
	1 for Emergency Operations Facility (EOF) Coordination with Federal agencies	PBX line	No	Fixed satellite phone	No[(b)]	

Notes:

[(a)] Large Scale External Event (LSEE)

[(b)] The fixed satellite phones in the Control Room, TSC and EOF are assumed to be available post event. However, these devices are credited for performing required Notifications to, and communications with, Off-Site Response Organizations [per 10 CFR 50 Appendix E.IV.D and E.9.a] as noted in table 4.1.1 and are therefore considered to be un-available to perform the required communications listed in table 4.1.5.

Refer to Objective 1, Section 4.1.5, for additional information.

4.1.6 Coordination and direction of onsite and in-plant response teams. This includes teams necessary to affect emergency repairs, firefighting, search and rescue, radiological monitoring, and implementation of Transition Phase coping and severe accident management strategies.

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSEE[(a)]?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSEE[(a)]?	Planned or Potential Improvement Identified?
On-shift staff	Number necessary for on-shift staff to perform Initial Phase coping actions	Private Branch Exchange (PBX) line / Radio[(b)]	Yes	Radio	Yes	Yes
Operational Support Center (OSC) and other site-specific locations as necessary	1 each for: • On-site radiological monitoring 2 each for: • Firefighting (1 for brigade leader and 1 for the brigade) 2 each per unit for: • In-plant radiological monitoring • Search and Rescue • Emergency repairs Site-specific number needed to implement any 2 severe accident mitigation strategies	Radio Radio Radio Radio Radio	Yes Yes Yes Yes Yes	Portable satellite phone Private Branch Exchange (PBX) Line PBX Line PBX Line PBX Line	No Yes Yes Yes Yes	Yes

Notes:

(a) Large Scale External Event (LSEE)

(b) The PBX lines credited above for the Control Room, Technical Support Center, and Operational Support Center will only work onsite to facilitate coordination between the onsite facilities. Use of these PBX lines is not credited to be able to communicate with offsite emergency response facilities or agencies.

Refer to Objective 1, Section 4.1.6.1, for additional information.

4.2 Plant Paging (Announcement) System

Emergency Response Facility	Minimum Communications Links	Is this system available following assumed LSEE[(a)]?	Planned or Potential Improvement Identified?
N/A	See assumptions and discussion in NEI 12-01.	No	Yes

Notes:

[(a)] Large Scale External Event (LSEE)

Refer to Objective 2 for additional information.
In the event that Diablo Canyon Power Plant's public address (PA) system is unavailable, security personnel perform sweeps to provide communications to plant personnel. This is in accordance with existing emergency plan implementing procedures and security plans.

4.3 Communications Equipment at ORO Facilities

Emergency Response Facility	Minimum Communications Links	Primary Method Described in site E-Plan	Primary Method Available following Assumed LSEE[a]?	Backup Method(s) Described in site E-Plan	Backup Method(s) Available following Assumed LSEE[a]?	Planned or Potential Improvement Identified?
Location where Off-Site Response Organizations (OROs) receive notifications of an emergency declaration or a Protective Action Recommendation (as described in the site emergency plan)	San Luis Obispo County Emergency Operations Center (EOC) – inside 25 miles	Dedicated Offsite Agency Telephone System	No	Face to Face communication	Yes[c]	Yes
	State of California Emergency Management Agency Warning Center – outside 25 miles[b]	Dedicated Offsite Agency Telephone System	No	Satellite telephone from DCPP to Land-Line Telephone System at the State	Yes	Yes

Notes:

[a] Large Scale External Event (LSEE)

[b] State of California Emergency Management Agency Warning Center is located more than 25 miles from the site and is therefore assumed to be unaffected by the event at DCPP. The ability to communicate with the state will be contingent upon Diablo Canyon Power Plant's (DCPP's) ability to access outside call infrastructure.

[c] DCPP and San Luis Obispo County have a jointly located emergency operations facility/center. The County resides on the first floor and DCPP on the second.

Refer to Objective 3 for additional information.

NEI 12-01 4.1.1 - Notifications to, and communications with, OROs [per 10 CFR 50 Appendix E.IV.D and E.9.a]

Emergency Response Facility	Minimum Communications Links	Equipment Identified	Primary Power Supply	Alternate Power Supply	Backup Power Supply	Equipment protected from:		
						Seismic Yes/No	Flooding Yes/No	Wind Yes/No
Control Room	1 for U1 Shift Communicator 1 for U2 Shift Communicator	Fixed satellite phone None	PY-TSC None	N/A None	TSC can be cross-tied into a vital bus if needed.	Y	Y	Y
Technical Support Center (TSC)	1 for Key Communicator	Fixed satellite phone	PY-TSC	N/A	TSC can be cross-tied into a vital bus if needed.	Y	Y	Y
Emergency Operations Facility (EOF)	1 for Key Communicator	Fixed satellite phone	EOF	N/A	EOF: 6.6 hours battery and 100kW diesel with 1000 gal tank capable of 120-hour full load run time.	Y	Y	Y

Note:

Refer to Objective 1, Section 4.1.1, for additional information.

NEI 12-01 4.1.2 - Notifications to, and communications with, the Nuclear Regulatory Commission (NRC) Headquarters Incident Response Center and the appropriate NRC Regional Office Operations Center [per 10 CFR 50 Appendix E.IV.D and E.9.d]

Emergency Response Facility	Minimum Communications Links	Equipment Identified	Primary Power Supply	Alternate Power Supply	Backup Power Supply	Equipment protected from:		
						Seismic Yes/No	Flooding Yes/No	Wind Yes/No
Control Room (CR)	1 for Unit 1 CR for Emergency Notification System (ENS) Communicator	None	NA	NA	NA	NA	NA	NA
	1 for Unit 2 CR for ENS Communicator	None	NA	NA	NA	NA	NA	NA
Technical Support Center (TSC)	1 for ENS Communicator	None	NA	NA	NA	NA	NA	NA
Location(s) where Health Physics Network (HPN) communications are performed	1 for Emergency Operations Facility (EOF) HPN Communicator	Portable Sat Phone	EOF	N/A	EOF: 6.6 hours battery and 100kW diesel with 1000 gal tank capable of 120 hour full load run time.	Y	Y	Y

Note:

Refer to Objective 1, Section 4.1.2, for additional information.

NEI 12-01 4.1.3 - Communications between licensee emergency response facilities [per 10 CFR 50 Appendix E.9.c. Additional links that support performance of critical response functions are also specified.] The minimum communications links to support this function are listed below by facility.

Emergency Response Facility	Minimum Communications Links	Equipment Identified	Primary Power Supply	Alternate Power Supply	Backup Power Supply	Equipment protected from:		
						Seismic	Flood	Wind
Control Room (CR)	1 for Unit 1 to TSC	Private Branch Exchange (PBX) Line[(a)]	U1 Comm. RM	None	U1 Comm. RM[(a)]: 24.55 hours battery	Y	Y	Y
	1 for Unit 2 to TSC	PBX Line[(a)]	U1 Comm. RM	None		Y	Y	Y
	CR to offsite emergency response facilities	None	None	None	None	NA	NA	NA
Technical Support Center (TSC)	1 each for:							
	• Lead TSC Manager	PBX Line[(a)]	U1 Comm. RM	None	U1 Comm. RM[(a)]: 24.55 hours battery	Y	Y	Y
	• Operations Coordination	PBX Line[(a)]	U1 Comm. RM	None		Y	Y	Y
	• Maintenance Coordination	PBX Line[(a)]	U1 Comm. RM	None		Y	Y	Y
	• Engineering Coordination	PBX Line[(a)]	U1 Comm. RM	None		Y	Y	Y
	• Radiological Support	PBX Line[(a)]	U1 Comm. RM	None		Y	Y	Y
	1 for each position providing Unit Response Coordination.				U1 Comm. RM[(a)]: 24.55 hours battery			
	• Unit 1 Support	PBX Line[(a)]	U1 Comm. RM	None		Y	Y	Y
	• Unit 2 Support	PBX Line[(a)]	U1 Comm. RM	None		Y	Y	Y
	TSC to offsite emergency response facilities	None	None	None	None	NA	NA	NA
Operational Support Center (OSC)	1 each for:							
	• Senior/Lead OSC Manager	PBX Line[(a)]	U1 Comm. RM	None	U1 Comm. RM[(a)]: 24.55 hours battery	Y	Y	Y
	• Radiological Support	PBX Line[(a)]	U1 Comm. RM	None		Y	Y	Y
	1 for each position providing Unit In-Plant Team Coordination.				U1 Comm. RM[(a)]: 24.55 hours battery			
	• Operations Coordinator	PBX Line[(a)]	U1 Comm. RM	None		Y	Y	Y
	• Team Coordinator	PBX Line[(a)]	U1 Comm. RM	None		Y	Y	Y
	OSC to offsite emergency response facilities	None	None	None	None	NA	NA	NA

Emergency Response Facility	Minimum Communications Links	Equipment Identified	Primary Power Supply	Alternate Power Supply	Backup Power Supply	Equipment protected from:		
						Seismic	Flood	Wind
Emergency Operations Facility (EOF)	1 each for: • Senior/Lead Manager • Key Protective Measures • Operations Support • Technical Support (as needed to support performance of dose projections, formulation of Proactive Action Recommendations (PARs) and plant status updates to Off-Site Response Organization (ORO) authorities). EOF to onsite emergency response facilities	None None None None None	None None None None None	None None None None None	None None None None None	NA NA NA NA NA	NA NA NA NA NA	NA NA NA NA NA
Joint Information Center (JIC)	1 for Sr Manager JIC to onsite emergency response facilities	Portable Sat Phone None	JIC None	N/A None	JIC: 60kW diesel with enough fuel to run for 10 hours at full load before refueling is needed. None	Y NA	Y NA	Y NA

Notes:

[a] The Private Branch Exchange (PBX) lines credited above for the Control Room, Technical Support Center, and Operational Support Center will only work onsite to facilitate coordination between the onsite facilities. Use of these PBX lines is not credited to be able to communicate with offsite emergency response facilities (EOF and JIC).

Refer to Objective 1 Section, 4.1.3, for additional information.

NEI 12-01 4.1.4 - Communications with offsite/field monitoring teams (FMTs) [per 10 CFR 50 Appendix E.9.c]

Emergency Response Facility	Minimum Communications Links	Equipment Identified	Primary Power Supply	Alternate Power Supply	Backup Power Supply	Equipment protected from:		
						Seismic Yes/No	Flooding Yes/No	Wind Yes/No
Primary location where offsite FMT coordination is performed	1 for offsite FMT coordination from the Emergency Operations Facility (EOF).	Portable Sat Phone	EOF	N/A	EOF: 6.6 hours battery and 100kW diesel with 1000 gal tank capable of 120 hour full load run time.	Y	Y	Y
Primary location from which offsite FMTs are deployed	1 for each field/offsite monitoring team.				EOF: 6.6 hours battery and 100kW			
	• Alpha Team (Offsite FMT)	Portable Sat Phone	EOF	N/A	diesel with	Y	Y	Y
	• Bravo Team (Offsite FMT)	Portable Sat Phone	EOF	N/A	1000 gal tank	Y	Y	Y
	• Charlie Team (Offsite FMT)	Portable Sat Phone	EOF	N/A	capable of 120 hour full load run time.	Y	Y	Y
	• FMT 1 (Onsite FMT) [(a)]	Portable Sat Phone	Warehouse B	None	None	N	Y	Y
	• FMT 2 (Onsite FMT) [(a)]	Portable Sat Phone	Warehouse B	None	None	N	Y	Y

Notes:

[(a)] FMT-1 and FMT-2 onsite FMT kits are located in warehouse B. Warehouse B is not designed to the safe shutdown earthquake at Diablo Canyon Power Plant, and therefore the kits are not reasonably protected from seismic interactions.

Refer to Objective 1, Section 4.1.4, for additional information.

NEI 12-01 4.1.5 - Communications with other Federal agencies as described in the Site Emergency Plan (e.g., the US Coast Guard) [per 10 CFR 50 Appendix E.9.b]

Emergency Response Facility	Minimum Communications Links	Equipment Identified	Primary Power Supply	Alternate Power Supply	Backup Power Supply	Equipment protected from:		
						Seismic Yes/No	Flooding Yes/No	Wind Yes/No
Primary location(s) where communication with federal agencies is performed	1 for Technical Support Center Coordination with Federal agencies	None	None	None	None	NA	NA	NA
	1 for Emergency Operations Facility Coordination with federal agencies	None	None	None	None	NA	NA	NA

Note:

Refer to Objective 1, Section 4.1.5, for additional information.

NEI 12-01 4.1.6 - Coordination and direction of onsite and in-plant response teams. This includes teams necessary to affect emergency repairs, firefighting, search and rescue, radiological monitoring, and implementation of Transition Phase coping and severe accident management strategies.

Emergency Response Facility	Minimum Communications Links	Equipment Identified	Primary Power Supply	Alternate Power Supply	Backup Power Supply	Equipment protected from:		
						Seismic Yes/No	Flooding Yes/No	Wind Yes/No
On-shift staff	Number necessary for on-shift staff to perform Initial Phase coping actions	Plant Radio	U2 Comm. RM	None	U2 Comm. RM: 24.46 hours battery	Y	Y	Y
Operational Support Center (OSC) and other site-specific locations as necessary	1 each for: • Onsite radiological monitoring[(a)]	Plant Radio and portable sat phone	U2 Comm. RM Warehouse B[(a)]	None None	U2 Comm. RM: 24.46 hours battery	Y N	Y N	Y N
	2 each for: • Firefighting (1 for brigade leader and 1 for the brigade)	Plant Radio Plant Radio	U2 Comm. RM U2 Comm. RM	None None		Y Y	Y Y	Y Y
	2 each per unit for: • In-plant radiological monitoring • Search and Rescue • Emergency repairs	Plant Radio Plant Radio Plant Radio	U2 Comm. RM U2 Comm. RM U2 Comm. RM	None None None		Y Y Y	Y Y Y	Y Y Y
	Site-specific number needed to implement any 2 severe accident mitigation strategies	Plant Radio	U2 Comm. RM	None		Y	Y	Y

Notes:

[(a)] Field Monitoring Team (FMT)-1 and FMT-2 onsite FMT kits are located in warehouse B. Warehouse B is not designed to the safe shutdown earthquake at Diablo Canyon Power Plant and therefore the kits are not reasonably protected from seismic interactions.

Refer to Objective 1, Section 4.1.6, for additional information.

Diablo Canyon Emergency Response Communications System Descriptions (Current Capabilities)

Communications Systems/Equipment	Alternate methods	System/Equipment Description
Plant Public Address (PA) System	• 450/800 MHz radios • Plant PBX Telephone System • SmartMSG Paging System • Company Intranet messages • Company e-mail • Diablo News Announcements (DNA)	For all emergency classifications, all onsite personnel are notified of the initial classification or escalation of an emergency by recognizable alarms and/or verbal announcements over the plant Public Address (PA) System. Announcements include the emergency classification and response actions to be taken by personnel onsite (such as Emergency Response Organization (ERO), non-ERO, contractor personnel, and visitors). Provisions are made to alert personnel in high noise areas and outbuildings as applicable.
Plant Telephone Network (PTN) Private Branch Exchange (PBX). Includes dedicated tie lines (ATLs).	One-way Communication • Plant PA System • Onsite Plant Pagers • SmartMSG Paging System • Electronic page Two-way Communication • 450/800 MHz radios • Cell phones • Satellite phones	During an emergency, the PTN is the primary communication method for voice communications between emergency response facilities. Plant telephones are located at various locations throughout the plant, including the Control Room (CR), Security Building, laboratories, shops, Technical Support Center (TSC), Operational Support Center (OSC), Emergency Operations Facility (EOF), and other work and equipment operating areas. In addition, phone jacks are located in the CR and at other strategic operating locations throughout the plant. Each phone jack is associated with a telephone number, and when used in conjunction with a portable telephone unit, can communicate with any other telephone in the power plant as well as the company telephone network.
Public Switch Telephone Network (PSTN)	• Cell phones • Plant PA System • Satellite Phones	The PSTN provides standard commercial telephone service through the public infrastructure, consisting of central offices and the wire line and microwave carrier. The commercial telephone system includes connections to Private Branch Exchange (PBX), emergency telephone system, dedicated lines to emergency facilities, and lines to the Joint Information Center (JIC). The commercial vendor provides primary and secondary power for their lines at their central office.
Plant Pager System	• Cell phones • Plant PA System • Satellite Phones • 450/800 MHz radios • Plant PBX Telephone System • PSTN Telephone System	The Plant Paging system provides pager services to all plant personnel, both onsite and off-site. The system consists of an onsite PG&E owned paging terminal, which distributes pages via 2 onsite and 3 off-site paging radios that provide coverage to most of San Luis County and the Northern part of Santa Barbara County. The paging system is used as one of the forms for notifying ERO personnel. It is also used as a backup to the Plant Public Address System via the Smart Message server system which can be accessed from the control room, Secondary Alarm Station (SAS) and the TSC.
NRC Federal Telecommunications System (FTS) ENS, HPN, RSCL, PMCL, ERDS, and MCL lines (Control and TSC)	• 450/800 MHz radios • Plant PBX Telephone System • PSTN Telephone System • Cell phones • Satellite Phones	The Nuclear Regulatory Commission (NRC) installed a dedicated telephone system for their use at Diablo Canyon Power Plant (DCPP). This system, the Federal Telecommunications System (FTS), provides a separate government network for all the essential communications functions anticipated during an emergency. These essential functions are summarized as follows: Emergency Notification System (ENS), Health Physics Network (HPN), Reactor Safety Counterpart Link (RSCL), Protective Measures Counterpart Link (PMCL), Management Counterpart Link (MCL), and Local Area Network (LAN) Access.

Diablo Canyon Emergency Response Communications System Descriptions (Current Capabilities)

Communications Systems/Equipment	Alternate methods	System/Equipment Description
Offsite Cellular Telephones	• PSTN • Onsite Plant Pagers • Plant PBX Telephone System	ERO personnel are provided with cellular telephones which are used for ERO notification/call-out during emergencies. Cell phones are also used by field monitoring teams as a backup means of communications. These phones are not expected to be used in the Control Room or Power Block due to interference with plant equipment and loss of signal to the phone.
Handheld and Fixed Mount Satellite Telephones	• 450/800 MHz radios • Plant PBX Telephone System • PSTN • Cell phones	Handheld satellite telephones enable communications to the EOF FMT Communicator. These satellite telephones are powered by the vehicles battery and are capable of calling any commercial or cellular telephone. These satellite telephones are for outdoor use only (clear view of Southwest sky). DCPP has one fixed satellite telephone within the CR. This satellite phone is permanently installed using an externally mounted antenna and run off alternating current (AC) power. DCPP has one fixed satellite telephone within the TSC. This satellite phone is permanently installed using an externally mounted antenna and run off AC power. DCPP has one fixed satellite telephone within the EOF. This satellite phone is permanently installed using an externally mounted antenna and run off AC power.
ERO Notification System (VANS)	• Initiate an individual phone call-out of ER) personnel, using any functional telephone system and telephone numbers, Emergency Phone List • Satellite Phone	DCPP utilizes an automated ERO Notification System to rapidly notify members of the ERO. The system is activated through any phone capable of dialing an outside line. The call goes to the vendor's hosted servers and associated call centers. Once the chosen scenario is activated, the hosted call centers start to make calls to the ERO utilizing a variety of devices including; pagers, cell phones, home phones, and work phones. Vendor hosting centers are geographically separated such that an event in one state would not likely impact the redundant call center. Implementing procedures specify the course of action to be taken if the ERO Notification System fails.
Plant Radio System (VHF / UHF)	• Plant PBX Telephone System • Local Commercial Telephone System • Cell phones • Plant PA System • Satellite telephones • SmartMSG paging system • Electronic page • Network	The plant has several voice radio systems available for emergency response use in the UHF (Ultrahigh Frequency) and the VHF (Very High Frequency) radio-frequency bands. In the shorter range UHF band, the plant has voice channels available for Plant Operations and Security use, so that personnel from each department can simultaneously utilize radio communications to perform their duties without interfering with or being interfered with by each other. The 450 and 800 MHz Radio System consists of hand-held and console radio communications, using a distributed antenna system operated by Operations, Maintenance, Security (only security currently has an 800 MHz frequency), Radiation Protection, Fire Protection, and Emergency Preparedness.

Diablo Canyon Emergency Response Communications System Descriptions (Current Capabilities)

Communications Systems/Equipment	Alternate methods	System/Equipment Description
Field Monitoring Team (FMT) Communications	• 450/800 MHz radios • Satellite Phones • Network • Plant PBX Telephone System • Electronic page • SmartMSG paging system	FMT communications employs a defense in depth approach utilizing a variety of communications methodologies. The primary form of communication is over the radio using the SLO County Brown Net system which has good coverage in the entire Emergency Planning Zone. Should radio coverage be unavailable, or spotty the FMT's have the ability to switch to cell phones or satellite phones to maintain communications with the Emergency Operations Facility (EOF). FMT's may also be contacted via the DCPP pager system, which also includes the use of the SmatMSG functionality to send text pages.
Dedicated Dispatch Lines in Control Room (CR) that link to General Office (GO)	• Satellite • Cell phones • Network • Plant PBX Telephone System	These lines come off of the plant telephone network. They are one-way tie trunks to the PBX in the San Francisco Corporate Headquarters. These trunks provide direct dial access to the corporate telephone exchange, bypassing the normal dial traffic, and can be accessed only by high priority telephones. The trunks ensure calls by high-priority telephones can be made to selected Corporate Offices as well as providing an alternate access to the PSTN through San Francisco should the local PSTN Exchange in San Luis Obispo be congested.
Verizon Cell Site	• Plant PBX Telephone System • Satellite telephones • 450/800 MHz radios	The Verizon Cell Site provides wireless cell phone capability for plant personnel. The cell site currently has 4 hours of backup battery and no backup generator. Cell phone use is not permitted in the power block but this would not be an issue when the plant is shut down. The connection to the Verizon site is over fiber optic cable on overhead power lines and these cables are not expected to be functional following a beyond-design-basis accident.
Offsite Private Exchange (OPX) at the EOF	• Satellite phone • Public Switch Telephone Network (PSTN) • Cell phones • Network • SmartMSG paging system	The EOF and County Emergency Operations Center (EOC) are co-located near the San Luis Obispo County Sheriff's Department. Included in the building is the County Sheriff's Dispatch Center, which has a dedicated tie line to the Control Room and TSC. This circuit is a common circuit to all these locations and can be accessed from each end. There is an OPX in the EOC Command Center. This extension provides unrestricted access to the power plant, via company owned microwave paths, should the local PSTN be congested. Communication circuits for the EOF include telephone lines from the power plant exchange and additional unlisted telephone lines from the PSTN Network.
Offsite Base Station Radios	• Satellite phone • PSTN • Cell phones • Network • SmartMSG paging system	Offsite base station radios are located at the EOF and the Energy Education Center (EEC). The base stations provide the capability to communicate directly with the plant through the utilization of the local repeater sites and the plant radio system as described above.

Diablo Canyon Emergency Response Communications System Descriptions (Current Capabilities)

Communications Systems/Equipment	Alternate methods	System/Equipment Description
Early Warning Siren System (EWS)	• Backup route alerting	Each PG&E EWS siren site, repeater site, and activation point is designed to be operable in the absence of AC supply power. The EWS is designed to meet the requirements of NUREG-0654/FEMA-REP-1, and employs guidelines set forth in FEMA REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants." The EWS design objective, specified in Appendix 3 of NUREG-0654, is to provide an alert signal within 15 minutes. This signal is initiated in conjunction with broadcasts providing notification and informational or instructional messages to the population on an area-wide basis throughout the NRC minimum ten-mile radius EPZ. The American Nuclear Society (ANS) design report states that, "The stored emergency electrical power supply (SEPSS) for each siren is designed to allow siren operation in standby mode (radio transceivers, testing circuits, sensors fully operational and providing polling data to the activation, control, monitoring) for at least 24 hours without primary AC supply power from the PG&E electric distribution grid. The SEPSS then is designed to be capable, without recharge, of activating the sirens at full design capability for a period of at least 15 minutes."
Back-up Emergency Response Organization (ERO) Notification System (pager system)	• Initiate an individual phone call-out of ERO personnel, using any functional telephone system and telephone numbers, Emergency Phone List • Satellite Phone	The backup ERO notification system effectively relies on the plant pager system and the mountain top repeaters to send a group pager messages out.
Hot Shutdown Panel Phone and Radio	• Plant PBX Telephone System • Satellite telephones • 450/800 MHz radios	Each hot shutdown panel is a single control panel. The hot shutdown panel contains the essential indicator and controls to maintain a unit in hot standby condition for an extended time period. The hot shutdown panel is primarily intended to be used for a situation in which smoke or toxic gas makes the Control Room temporarily uninhabitable. PG&E phone jacks are located near each panel. Portable, hand-held radio units may also be used for communications if required.
Intranet and Network Access	• Plant PBX Telephone System • Satellite telephones • 450/800 MHz radios • Cell phones	The Plant LAN/Wide Area Network (WAN) system is accessible to everyone on site. This system is used by Operations to track all maintenance and project activity that could affect plant operations. The system also provides connectivity to the EOF for support of critical plant events. Network access to PG&E corporate is provided by the Williams Fiber. Most of this system is not battery backed and much of the infrastructure is not in seismically rated buildings.

Existing Communications Equipment Configurations

Current Communication Systems	Primary System Location	Equipment protected from[b]: Seismic Yes/No	Flooding Yes/No	Wind Yes/No	Primary Power Supply	Alternate Power Supply	Backup power availability (e.g., batteries, portable generators, etc.) Yes/No	Comments Will interim actions be taken to enhance the power supplies?
Plant Telephone Network (PTN) Private Branch Exchange (PBX). Includes dedicated tie lines (ATLs).	U1 Comm. RM[a]	Y	Y	Y	• U1 Comm. RM[a]	• None	• U1 Comm. RM[a]: 24.55 hours battery	No planned interim actions.
	U2 Comm. RM	Y	Y	Y	• U2 Comm. RM	• None	• U2 Comm. RM: 24.55 hours battery	
	Bldg 102[a]	N	Y	Y	• Bldg 102[a]	• None	• Bldg 102: 54 hours battery	
	Bldg 104	Y	Y	Y	• Bldg 104	• None	• Bldg 104: 17 hours battery	
	Bldg 109	N	Y	Y	• Bldg 109	• None	• Bldg 109: 25 hours battery	
	500kV Yard	N	Y	Y	• 500kV Yard	• None	• 500kV Yard: 13 hours battery	
Plant Radio System (VHF / UHF)	U2 Comm. RM[a]	Y	Y	Y	• U2 Comm. RM[a]	• None	• U2 Comm. RM[a]: 24.46 hours battery	No planned interim actions.
	Met Tower	N	Y	Y	• Met Tower	• None	• Met Tower: 18.75 hours battery	
	Avila Gate	N	Y	Y	• Avila Gate	• Avila Gate: N/A	• Avila Gate: 24 hours battery	
	Davis Peak	N	Y	Y	• Davis Peak	• Davis Peak: N/A	• Davis Peak: 14 hours battery and 1000 gal propane generator (min 14 days)	
	SLO ECCO	N	Y	Y	• SLO ECCO	• SLO ECCO: N/A	• SLO ECCO: 20 hours battery and diesel generator with 150-hour standby capability.	
Public Address (PA) System	U1 Comm. RM[a]	Y	Y	Y	• U1 Comm. RM[a]	• None	• U1 Comm. RM[a]: 24.55 hours battery	No planned interim actions.
	27 distributed racks (~110 amps)	N	Y	Y	• 27 distributed racks	• None	• 27 distributed racks: No	

Existing Communications Equipment Configurations

Current Communication Systems	Primary System Location	Equipment protected from[b]:			Primary Power Supply	Alternate Power Supply	Backup power availability (e.g., batteries, portable generators, etc.) Yes/No	Comments Will interim actions be taken to enhance the power supplies?
		Seismic Yes/No	Flooding Yes/No	Wind Yes/No				
Plant Pager System	Bldg 102[a] Met Tower U2 Comm. RM Black Butte Williams Hill Red Rock	N N Y N N N	Y Y Y Y Y Y	Y Y Y Y Y Y	• Bldg 102[a] • Met Tower • U2 Comm. RM • Black Butte • Williams Hill • Red Rock	• None • None • None • Black Butte: N/A • Williams Hill: N/A • Red Rock: N/A	• Bldg 102[a]: 54 hours battery • Met Tower: 18.75 hours battery • U2 Comm. RM: 24.55 hours battery • Black Butte: 9 hours battery and 500 gal propane generator (min 7 days) • Williams Hill: 20.4 hours battery and a hydrogen fuel cell generator (min 3 days) • Red Rock: 21 hours battery and 500 gal propane generator (min 7 days)	No planned interim actions.
Fixed Satellite Phones with externally mounted antennas	Control Room Technical Support Center (TSC)[a] Emergency Operations Facility (EOF)[a] Off-Site Emergency Lab (OEL)[a]	Y Y N N	Y Y Y Y	Y Y Y Y	• Control Room • TSC[a] • EOF[a] • OEL[a]	• None • None • EOF: N/A • OEL: N/A	• Control Room • TSC[a] • EOF[a]: 6.6 hours battery and 100kW diesel with 1000 gal tank capable of 120-hour full load run time. • OEL[a]: No battery and no generator	No planned interim actions.
Intranet and Network Access	Bldg 104[a] SONET Ring	Y N	Y Y	Y Y	• Bldg 104[a]	• None	• Bldg 104[a]: 7 hours of battery	No planned interim actions.

Existing Communications Equipment Configurations

Current Communication Systems	Primary System Location	Equipment protected from[(b)]:			Primary Power Supply	Alternate Power Supply	Backup power availability (e.g., batteries, portable generators, etc.) Yes/No	Comments Will interim actions be taken to enhance the power supplies?
		Seismic Yes/No	Flooding Yes/No	Wind Yes/No				
NRC Federal Telecom. System (FTS) lines:	Control Room and TSC coming in on SONET	N	Y	Y	• Met Tower	• None	• Met Tower: 18.75 hours battery	No planned interim actions.
Emergency Notification System (ENS), Health Physics Network (HPN), Reactor Safety Counterpart Link (RSCL), Protective Measures Counterpart Link (PMCL), Emergency Response Data System (ERDS), and Management Counterpart Link (MCL) lines (Control Room, TSC, and EOF)	EOF lines are coming in over microwave and lease lines	N	Y	Y	• Met Tower	• None	• Met Tower: 18.75 hours battery	

Existing Communications Equipment Configurations

Current Communication Systems	Primary System Location	Equipment protected from[b]:			Primary Power Supply	Alternate Power Supply	Backup power availability (e.g., batteries, portable generators, etc.) Yes/No	Comments Will interim actions be taken to enhance the power supplies?
		Seismic Yes/No	Flooding Yes/No	Wind Yes/No				
Dedicated Dispatch Lines in Control Room that link to GO	SONET to PG&E cloud	N	N	N	• U1 Comm. RM	• None	• U1 Comm. RM: 24.46 hours battery	No planned interim actions.
Verizon Cell Site	Bldg 109[a]	Y	Y	Y	• Bldg 109[a]	• None	• Bldg 109[a]: 4 hours of battery	No planned interim actions.
Portable Satellite Phones (Field Monitoring Team (FMT) Kits, Radiation Protection (RP) Access Control, Security, EOF)	Warehouse B	N	Y	Y	• Normal AC	• Warehouse B: N/A	• Warehouse B: N/A	No planned interim actions.
	Bldg 109	N	Y	Y	• Bldg 109	• None	• Bldg 109: 25 hours battery	
	EOF	N	Y	Y	• EOF	• EOF: N/A	• EOF: 6.6 hours battery and 100kW diesel with 1000 gal tank capable of 120-hour full load run time.	
Offsite Private Exchange (OPX) at the EOF	EOF[a]	Y	Y	Y	• EOF[a]	• EOF: N/A	• EOF[a]: 6.6 hours battery and 100kW diesel with 1000 gal tank capable of 120-hour full load run time.	No planned interim actions.
	U1 Comm. RM[a]	N	Y	Y	• U1 Comm. RM[a]	• None	• U1 Comm. RM[a]: 24.46 hours battery	
	Bldg 102[a]	N	Y	Y	• Bldg 102[a]	• None	• Bldg 102[a]: 54 hours battery	
	Tassajera	N	Y	Y	• Tassajera	• Tassajera: N/A	• Tassajera: 14 hours battery and 500 gal propane generator (min 7 days)	
	Morro Bay	N	Y	Y	• Morro Bay	• Morro Bay: N/A	• Morro Bay: 9.3 hours battery	

Existing Communications Equipment Configurations

Current Communication Systems	Primary System Location	Equipment protected from[(b)]: Seismic Yes/No	Flooding Yes/No	Wind Yes/No	Primary Power Supply	Alternate Power Supply	Backup power availability (e.g., batteries, portable generators, etc.) Yes/No	Comments Will interim actions be taken to enhance the power supplies?
	Davis Peak	N	Y	Y	• Davis Peak	• Davis Peak: N/A	• Davis Peak: 14 hours battery and 1000 gal propane generator (min 14 days)	
	500kV	N	Y	Y	• 500kV	• 500kV: N/A	• 500kV: 13 hours battery	
	Black Butte	N	Y	Y	• Black Butte	• Black Butte: N/A	• Black Butte: 9 hours battery and 500 gal propane generator (min 7 days)	
Offsite Base Station Radios	EOF	N	Y	Y	• EOF	• EOF: N/A	• EOF: 6.6 hours battery and 100kW diesel with 1000 gal tank capable of 120-hour full load run time.	No planned interim actions.
	EEC	N	Y	Y	• Energy Education Center (EEC)	• EEC: N/A	• EEC: No battery and no generator	
	Davis Peak	N	Y	Y	• Davis Peak	• Davis Peak: N/A	• Davis Peak: 14 hours battery and 1000 gal propane generator (min 14 days)	

Existing Communications Equipment Configurations

Current Communication Systems	Primary System Location	Equipment protected from[b]: Seismic Yes/No	Flooding Yes/No	Wind Yes/No	Primary Power Supply	Alternate Power Supply	Backup power availability (e.g., batteries, portable generators, etc.) Yes/No	Comments Will interim actions be taken to enhance the power supplies?
Early Warning Siren System	EOF	N	Y	Y	• EOF	• EOF: N/A	• EOF: 6.6 hours battery and 100kW diesel with 1000 gal tank capable of 120 hour full load run time.	Each PG&E EWS siren site, repeater site, and activation point is designed to be operable in the absence of AC supply power. No planned interim actions.
	SLO ECCO	N	Y	Y	• SLO ECCO	• SLO ECCO: N/A	• SLO ECCO: 20 hours battery and diesel generator with 150 hour standby capability.	
	Tassajera	N	Y	Y	• Tassajera	• Tassajera: N/A	• Tassajera: 14 hours battery and 500 gal propane generator (min 7 days).	
	Morro Bay	N	Y	Y	• Morro Bay	• Morro Bay: N/A	• Morro Bay: 9.3 hours battery.	
	Davis Peak	N	Y	Y	• Davis Peak	• Davis Peak: N/A	• Davis Peak: 14 hours battery and 1000 gal propane generator (min 14 days).	
	Black Butte	N	Y	Y	• Black Butte	• Black Butte: N/A	• Black Butte: 9 hours battery and 500 gal propane generator (min 7 days).	
	Arroyo Grande Hill	N	Y	Y	• Arroyo Grande Hill	• Arroyo Grande Hill: N/A	• Arroyo Grande Hill: 25 hours battery.	
	Rowland Peak	N	Y	Y	• Rowland Ridge	• Rowland Ridge: N/A	• Rowland Ridge: 5 days on battery.	
Emergency Response Organization (ERO) Notification System (VANS)	Hosted in Tennessee and Arizona	Y	Y	Y	• N/A outside of 25 miles.	• N/A outside of 25 miles.	• N/A outside of 25 miles.	No planned interim actions.
Hot Shutdown Panel Phone	U1 Comm. RM[a]	Y	Y	Y	• U1 Comm. RM[a]	• None	• U1 Comm. RM[a]: 24.55 hours battery	No planned interim actions.
	U2 Comm. RM	Y	Y	Y	• U2 Comm. RM	• None	• U2 Comm. RM: 24.55 hours battery	

Existing Communications Equipment Configurations

Current Communication Systems	Primary System Location	Equipment protected from[b]:			Primary Power Supply	Alternate Power Supply	Backup power availability (e.g., batteries, portable generators, etc.) Yes/No	Comments Will interim actions be taken to enhance the power supplies?
		Seismic Yes/No	Flooding Yes/No	Wind Yes/No				
Hot Shutdown Panel Radio	U2 Comm. RM[a]	Y	Y	Y	• U2 Comm. RM[a]	• None	• U2 Comm. RM[a]: 24.46 hours battery	No planned interim actions.
Back-up ERO Notification System	See plant pager system above	N	Y	Y	• See plant pager system above.	• See plant pager system above.	• See plant pager system above.	System relies on the plant pager system. No planned interim actions.

Notes:

[a] Designates critical communications rooms associated with identified communications equipment. Loss of these communications rooms either renders the system inoperable or severely degrades system performance.

[b] Reasonably protected was determined using option 2 above as an existing safety-related structure designed for the safe shutdown earthquake.

Results of the Evaluation of Existing Communications Systems Power Supplies

In PG&E Letter DCL-12-061, dated June 7, 2012, PG&E committed to evaluate enhancements to existing communications systems power supplies and provide an implementation schedule as required by Communications Request 3 which will include the results of the evaluation of existing communications systems power supplies.

PG&E conducted a load shedding analysis to evaluate enhancements to existing communications systems power supplies. PG&E has concluded that a load shedding scheme is not a viable means to extend battery run time in a post natural disaster event that causes a loss of alternating current power to communication facilities. This conclusion was based on the minimal amount of load that could be shed from the existing communication systems and the amount of resources it would take to achieve a small gain in battery life. Based on the results of the evaluation, an implementation schedule is not applicable.

Regulatory Commitments

PG&E is making the following regulatory commitments (as defined by NEI 99-04) in this submittal:

	Commitments	Due Date
1.	PG&E procured a satellite phone "football" for the Control Room. The "football" is self-contained in a rugged case with a self-positioning satellite antenna and a 6-hour rechargeable power supply. The "football" has the capability to support a single phone line or single network connection through an external port. The "football" is capable of reaching active cell phones or functional landline phones beyond 25 miles and active satellite phones within 25 miles. Two additional "footballs" have been purchased for the TSC and EOF as shown in Objective 1 Section 4.1.5. This commitment will be placed in service with approved procedures as part of Phase 1, which is scheduled for December 31, 2013.	December 31, 2013
2.	Three communications trailers have been procured to facilitate further communications. The trailers will be outfitted with equipment such as radio repeaters (multiple frequencies), base station radios, satellite uplink, and Voice-Over-Internet Protocol phones. Two of the trailers will be staged onsite and one trailer will be staged offsite. These trailers will be equipped with an onboard diesel generator capable of supplying sufficient power to run all of the installed equipment. These trailers will have antennas at sufficient height such that the range of the radio repeaters and base stations will support onsite communications and emergency response efforts. This commitment will be placed in service with approved procedures as part of Phase 1, which is scheduled for December 31, 2013.	December 31, 2013
3.	The 80 dual band radios (450 MHz and 800 MHz) radios procured for operators and Industrial Fire Officers, and the 75 single band (800MHz) radios procured for use by the in-plant emergency response teams and offsite responders will be placed in service with approved procedures as part of Phase 1, which is scheduled for December 31, 2013.	December 31, 2013

	Commitments	Due Date
4.	PG&E will improve the Operational Support Center (OSC) radio communications by installing a radio console. Installation of the radio console will enable efficient radio communications with field teams. Radios, batteries, and chargers will be relocated to support continued radio communications. The equipment will be placed in service with approved procedures as part of Phase 2, which is scheduled for October 27, 2015.	October 27, 2015
5.	PG&E will relocate onsite Field Monitoring Team (FMT) satellite phones to the onsite FMT vehicle. Currently, the onsite FMT satellite phones are not stored in a structure that is considered to be seismically robust in accordance with NEI 12-01 Revision 0. Relocating the onsite FMT satellite phones to the onsite FMT vehicle will ensure the equipment is reasonably protected since these vehicles meet the guidance of NEI 12-01 Revision 0. The onsite FMT vehicle is outfitted with a car charger. This commitment will be implemented as part of Phase 2, which is scheduled for October 27, 2015.	October 27, 2015
6.	PG&E will procure additional spare radio batteries and chargers to ensure that adequate supplies exist to support extended operations. These batteries and chargers will be stored in locations identified as FLEX storage locations. This commitment will be implemented as part of Phase 2, which is scheduled for October 27, 2015.	October 27, 2015
7.	PG&E will procure portable generators and equipment to ensure that adequate power will exist to support extended operations. These generators and associated equipment will be stored in locations identified as FLEX storage locations. This equipment will be placed in service with approved procedures as part of Phase 2, which is scheduled for October 27, 2015.	October 27, 2015
8.	PG&E will relocate the SmartMsg and Zetron pager systems from their current location, which is not considered to be seismically robust per NEI 12-01 Revision 0 guidance, to an existing structure that is seismically robust. This commitment will be implemented as part of Phase 2, which is scheduled for October 27, 2015.	October 27, 2015

	Commitments	Due Date
9.	PG&E will install a fixed mount satellite phone with an externally mounted antenna in the Sheriff Watch Commander's office. This commitment will be placed in service as part of Phase 2, which is scheduled for October 27, 2015.	October 27, 2015
10.	PG&E will procure additional hand held satellite phones for the Control Room, TSC, and EOF to ensure that a dedicated line will be available to perform State and County notifications. This commitment will be placed in service with approved procedures as part of Phase 1, which is scheduled for December 31, 2013.	December 31, 2013
11.	PG&E will obtain additional access for personnel to use the GETS and WPS services. This commitment will be implemented as part of Phase 2, which is scheduled for October 27, 2015.	October 27, 2015