

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Pacific Gas and Electric Company, for authority to decrease its rate and charges for electric and gas service and increase rates and charges for pipeline expansion service-test year 1996 general rate case consolidated with I9502015.

A.94-12-005
(Filed: December 9, 1994)

Commission Order Instituting Investigation into rates, charges, service and practices of PG&E; consolidates with A9412005; authority applies to A9212043 et al.

I.95-02-015
(Filed: February 22, 1995)

Commission Order Instituting Rulemaking, to develop standards for electric system reliability and safety pursuant to D96-09-073. Consolidated with I95-02-015

R.96-11-004
(Filed: November 6, 1996)

PUBLIC VERSION

**PACIFIC GAS AND ELECTRIC COMPANY'S
ANNUAL REPORT ON COMPLIANCE
WITH GENERAL ORDER 166
COMPLIANCE PERIOD: JULY 1, 2017 TO JUNE 30, 2018**

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Dated: October 31, 2018

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PUBLIC VERSION

**PACIFIC GAS AND ELECTRIC COMPANY'S
ANNUAL REPORT ON COMPLIANCE
WITH GENERAL ORDER 166
COMPLIANCE PERIOD: JULY 1, 2017 TO JUNE 30, 2018**

Pursuant to General Order 166, Standard 11, Pacific Gas and Electric Company (PG&E) hereby submits its annual report on compliance with General Order 166 for the period July 1, 2017 through June 30, 2018 (Compliance Period). This report documents PG&E's compliance with each of the thirteen standards of the General Order.

Standard 1. Emergency Response Plan

Standard One requires PG&E to prepare an emergency response plan and update the plan annually. The 2017 PG&E Emergency Response Plan (Plan) consists of the following three individual plans that pertain to the General Order:

1. Company Emergency Response Plan (CERP) (Exhibit A)
2. Electric Annex (Exhibit B)^{1/}
3. Emergency Communications Plan (Summary in Exhibit C)

1/ PG&E's Fire Prevention Plan and Electric Emergency Plan (EEP) for Capacity Emergencies are included as appendices to the Electric Annex. The EEP is also filed separately with the CPUC.

The Plan covers each of the ten required elements specified in Standard One. Attached as Exhibit D is a table identifying the ten elements and where each element is found within the CERP, the Electric Annex, or other individual plans.

PG&E reviewed each of the three individual plans during the Compliance Period, and made updates, as appropriate. A description of the updates is attached as Exhibit E.

Standard 2. Mutual Assistance Agreements

Standard Two requires PG&E to negotiate mutual assistance agreements with other utilities. PG&E has a mutual assistance agreement with the California Utilities Emergency Association (CUEA), representing a number of other California electric and gas utilities. PG&E also has agreements with the Western Area Power Administration (WAPA) and Western Regional Mutual Assistance Group (WRMA), an association of electric and gas utilities in the Western U.S. and Canada, including Arizona Public Service, Avista Corporation, BC Hydro, Bonneville Power, Los Angeles Department of Water & Power, PacifiCorp, Public Service Company of New Mexico, Sacramento Municipal Utilities District, Southern California Edison, and Southwest Gas. In addition, PG&E has a mutual assistance agreement with Trinity County Public Utilities District (TCPUD), Florida Power and Light (FPL), and Puerto Rico Electric Power Authority (PREPA). The agreements incorporate the items listed in Standard Two, and copies of these agreements are included in Exhibit F.

Standard 3. Emergency Training and Exercises

Standard Three requires PG&E to conduct annual emergency training and exercises using PG&E's Company Emergency Response Plan and to evaluate its response to an exercise or incident. PG&E complied with this standard by completing the following during the Compliance Period:

- A. PG&E exercised its Plan in its annual exercise held on August 8 – 9, 2017. The goal of the company-wide Catastrophic Earthquake Functional Exercise (FE) was to allow all lines of business to evaluate their plans and procedures, as to how PG&E would respond to a catastrophic earthquake impacting the service area. The participants of this FE were expected to respond to the simulated incident as they would to a real incident to validate PG&E response plans and to identify any gaps in plans, processes, and procedures that could be addressed to further prepare PG&E for a future response.

Based on the scenario used in this FE, there was damaged infrastructure throughout the impact area of the scenario, identified as offshore Eureka to Hollister, especially within a few

miles of the San Andreas Fault. Hundreds of thousands of gas and electric customers were without service in the scenario. (Refer to Exhibit G for additional details.)

The two-day exercise involved nearly 340 employees as active participants, and the following agencies as observers:

- American Red Cross (ARC)
- Association of Bay Area Governments (ABAG)
- California Highway Patrol (CHP)
- California Independent System Operator (CAISO)
- California National Guard (CNG)
- California Office of Emergency Services (Cal OES)
- California Public Utilities Commission (CPUC)
- California Utilities Emergency Association (CUEA)
- Consolidated Edison of New York (Con Edison)
- Department of Homeland Security (DHS)
- Department of Water Resources (DWR)
- Edison Electric Institute (EEI)
- Federal Emergency Management Agency (FEMA)
- Golden Gate National Recreation Area (GGNRA)
- Lifelines
- Marin County Sheriff's Office
- Northern California Grantmakers
- San Francisco Bay Area Water Emergency Transportation Authority (WETA)
- San Francisco Department of Emergency Management (SF DEM)
- San Francisco Fire Department (SFFD)
- San Francisco Police Department (SFPD)
- Southern California Edison (SCE)
- United States Coast Guard (USCG)

B. Standard Three also requires PG&E to submit an evaluation on its response to an exercise or Major Outage, where that outage serves in lieu of the annual emergency exercise. The Company's Earthquake Exercise Summary is included in Exhibit G.

- C. PG&E also met the requirements of Standard Three by conducting several additional training programs to prepare designated personnel for emergencies and major outages. These programs included web-based and instructor-led Incident Command System (ICS) courses and trainings/exercises at the emergency and coordination center, regional, divisional, and transmission levels.

PG&E's emergency preparedness training program emphasizes the value of using ICS to set objectives, measure performance, create manageable spans of control, and plan event response. PG&E offered online ICS Fundamentals training, which combines concepts from ICS-100 and ICS-200 in a single web-based training. During the Compliance Period, 452 employees completed the ICS Fundamentals course.

In addition, during the Compliance Period:

- 415 people completed a web-based training on PG&E's CERP;
- a combined total of 221 people completed Planning and Intelligence Section Chief, Situation Unit, Resource Unit, Advance Planning, Demobilization Unit, Cyber Response for the Emergency Operations Center (EOC), Type II Mobile Command Vehicle Transport, Introduction to Base Camp, Advanced Base Camp, EOC and Gas Emergency Center Logistics, Introduction to Emergency Finance Section, or Orientation to EOC training; and
- the following emergency preparedness and response training sessions were conducted at the regional, divisional, and transmission levels during the Compliance Period:
 - Preparedness trainings were held throughout the service area, with a combined total of 269 attendees. The trainings addressed: storm response, PG&E's emergency plans and tech-down procedures, incident management (ICS roles and responsibilities), Outage Management Tool, job packet creation, emergency activations, and Electric Transmission / Distribution coordination calls, and related matters.
 - Region and division emergency centers were tested in the form of emergency activations, emergency management trainings, and exercises during the Compliance Period. For example, trainings focused on preparing PG&E personnel for personal preparedness, summer heat, lightning, and wildfires. Staff were trained on the following: operational communication, resource management,

outage assessment, and dispatching. In addition, actual emergency incident activations provided incident management teams with hands-on experience that offered the opportunity to implement trainings previously received.

- At the electric transmission level, PG&E participated in the California Electric Training Advisory Committee's (CETAC's) training and exercise program. Through this program, 105 PG&E system dispatchers, outage coordinators, transmission system operators, lead system operators, and operating engineers were trained in emergency operations over a five-week period during April and May of 2018. The training also facilitated coordination between PG&E and other utilities during transmission-level emergencies.
- Additional transmission-level exercises during the compliance period included:
 - three regional transmission restoration exercises (with a combined total of 425 participants);
 - PG&E's Systemwide Restoration Exercise in November 2017, where 160 people participated, including external agencies, such as Sacramento Municipal Utility District (SMUD), Trans Bay Cable (TBC), Modesto Irrigation District (MID), North American Reliability Corporation (NERC), Northern California Power Authority (NCPA), California Department of Water Resources (CDWR), Silicon Valley Power (SVP), and Western Area Power Authority (WAPA); and
 - an annual Electric Emergency Plan (EEP) For Capacity Emergencies exercise on May 9, 2018 with 18 participants, that focused on managing capacity shortages by simulating the implementation of rotating outages.

- D. Per the requirements in Standard Three, notices were sent to the appropriate state and local authorities at least ten days in advance of the August 8 – 9, 2017 exercise, including the CPUC on July 17, 2017, and the majority of the agencies listed in 3A, such as Cal OES, San Francisco Department of Emergency Management (SF DEM), and Marin County Sheriff's Office on July 6, 2017.

PG&E also met the requirements of Standard Three by participating in exercises that were led by our governmental partners. As described below, some external trainings and

exercises during the Compliance Period were hosted by local agencies, but included planners and participation from operational area, regional, and state-level entities.

- In August 2017, PG&E attended Kern County OES's "Black Sky Drill" in Bakersfield, which simulated a nation-wide electrical grid failure. As part of this exercise, PG&E's emergency plans for large-scale outages were discussed.
- In November 2017, PG&E's incident management personnel, Emergency Preparedness and Response (EP&R) department, Electric Transmission Emergency Center (ETEC), and Grid Control Center System Dispatchers participated in the NERC's Electric Information Sharing and Analysis Center's (E-ISAC) GridEx IV full-scale exercise, an exercise designed to simulate widespread cyber/physical attacks on electric and other critical infrastructures across North America. The exercise involved electric utilities; local, regional, state, provisional, and federal government agencies in law enforcement, first response, and intelligence community functions; critical infrastructure cross-sector partners (ISACs and other utilities); and supply chain stakeholder organizations. The PG&E cyber exercise series also included an Executive Tabletop Exercise (TTX) for PG&E's Corporate Incident Management Council (CIMC).
- In January 2018, PG&E participated in Alameda County OES's Regional Critical Infrastructure Security and Resilience Toolbox Initiative Exercise in Dublin and discussed electric outages and restoration efforts.
- In January 2018, PG&E participated in the City of Richmond's Earthquake Tabletop Exercise in Richmond and discussed safety, electrical outages, and restoration following an earthquake.
- In February 2018, PG&E participated in Yolo County's Workshop and Tabletop Exercise in Woodland on addressing the impacts of heat stress and extreme heat events. As part of the exercise, PG&E discussed how extreme heat can impact electrical infrastructure.
- In March 2018, local, regional and State OES and PG&E participated in a regional tabletop exercise hosted by the Oakland Athletics (A's) baseball team and the Oakland Coliseum in Oakland to discuss a power outage, as a result of an earthquake, during a professional sports event.

- Over five weeks in April/May 2018, 110 PG&E Transmission System Dispatchers and Hydroelectric operators participated in the Peak Reliability Coordinator Restoration exercises for the Western Electricity Coordinating Council (WECC).
- In May 2018, PG&E participated in the United States Forest Service's (USFS) state-wide incident management team workshop in McClelland, which included a tabletop exercise. PG&E led the tabletop exercise in collaboration with USFS's incident management teams that focused on coordination between the USFS and utilities. Information was also exchanged between various utilities and liaison staff, and the teams were advised on the elements of PG&E's comprehensive Community Wildfire Safety Program (CWSP), launched in March 2018.^{2/}
- In May 2018, PG&E attended the 2018 Placer County's EOC Functional Exercise in Auburn, where PG&E served as an agency representative for electric transmission and distribution during a simulated large-scale flood, involving multiple communities and jurisdictions.

Standard 4. Communications Strategy

Standard Four requires PG&E to develop a strategy for informing the public and relevant agencies of a Major Outage, as defined by this General Order.

- A. PG&E's strategy for communicating with the media, customers, regulatory agencies, and other governmental organizations is contained in its emergency plans entitled Company Emergency Response Plan (Exhibit A), Electric Annex (Exhibit B), and Emergency Communications Plan (Summary in Exhibit C).
- B. PG&E's coordination and communication strategy with state and local governmental agencies is contained within the Emergency Communications Plan (Summary in Exhibit C) and the Electric Annex (Exhibit B). Also, PG&E makes contact information for state and local government agencies widely available through the use of a website to all PG&E emergency personnel internally. All names and phone numbers of county OES contacts are listed by link in the Electric Annex (Exhibit B), are included in the Emergency Communications Plan (Summary in Exhibit C), and are maintained by PG&E's Government Relations organization.

^{2/} Additional information on PG&E's Community Wildfire Safety Program can be found at pge.com/wildfiresafety.

- C. For all operational issues, the Grid Control Center is the official point of contact with the CAISO and will notify the CAISO within ten minutes of any transmission-related outages.^{3/} PG&E's plan for communicating and coordinating with the CAISO is contained in the Electric Annex (Exhibit B) and the Emergency Communications Plan (Summary in Exhibit C).

Standard 5. Activation Standard

Standard Five requires PG&E to coordinate internal activities during a Major Outage in a timely manner. PG&E's activation levels and the resource management process are set forth in the CERP (Exhibit A) and Electric Annex (Exhibit B).

PG&E did not experience a Major Outage, as defined by this General Order, during the Compliance Period.

Standard 6. Initial Notification Standard

Standard Six requires PG&E to notify relevant individuals and agencies of a Major Outage or other newsworthy event in a timely manner.

PG&E's initial notification procedures are set forth in the Electric Annex (Exhibit B). PG&E generally treats "newsworthy events" as incidents which fall within the category of Level 3 or greater emergencies where the EOC is activated, as set forth in the CERP (Exhibit A) and Electric Annex (Exhibit B). PG&E notified the Commission and the Warning Center at Cal OES of the following emergency events that met this criteria during the Compliance Period:

- October 9, 2017 Northern California Wildfires
- November 27, 2017 Third-Party Data Breach
- December 16, 2017 High Winds and Extreme Fire Risk
- June 23, 2018 June Heat Event

PG&E did not experience a Major Outage, as defined by this General Order, during the Compliance Period.

Standard 7. Mutual Assistance Evaluation Standard

Standard Seven requires PG&E to evaluate the need for mutual assistance during a Major Outage, as defined by this General Order. PG&E's mutual assistance standard is set forth in the CERP (Exhibit A) and Electric Annex (Exhibit B).

3/ Pacific Gas and Electric *Transmission Operating Procedures*. (Utility Procedure: TD-1400P-01).

While PG&E did not experience a Major Outage, as defined by this General Order, during the Compliance Period, PG&E provided mutual assistance during Hurricane Irma in September 2017, and Hurricane Maria from December 2017 to March 2018. PG&E also received mutual assistance for the California Wildfires in October 2017.

In response to the request for mutual assistance support, PG&E provided 146 employees, and approximately 28,000 service hours toward Florida's restoration efforts. The deployment included 124 line workers, equipment operators, safety specialists, and support personnel, while 22 customer service representatives in California answered hotlines, providing seamless service to customers in Florida.

In response to Hurricane Maria, PG&E provided approximately 10 Incident Management Team members to support the incident command with multiple shifts, providing situation status, safety, logistics, and other emergency service expertise.

In October 2017, several major wildfires spread throughout Northern California. These fires raised nationwide attention about the growing impact of extreme weather conditions. Other utilities provided 30 crews or 142 electric personnel, 114 gas personnel, and over 57,000 hours of service toward PG&E's efforts to restore service to customers.

Exhibit K highlights PG&E's provision as well as use of mutual assistance during the Compliance Period to maintain and restore service to PG&E's customers and customers of other utilities. Exhibit L provides more information on PG&E's customer service mutual assistance response to Hurricane Irma.

Standard 8. Major Outage and Restoration Estimate Communication Standard

Standard Eight requires PG&E to inform the public and relevant public safety agencies of the estimated time for restoring power during a Major Outage. PG&E did not experience a Major Outage, as defined by this General Order, during the Compliance Period.

Standard 9. Personnel Redeployment Planning Standard

Standard Nine requires PG&E to train additional personnel to assist with emergency activities during a Major Outage, (i.e., assessing damage and performing safety standby activities). PG&E's personnel redeployment plan for performing safety standby activities and assessing damage during a Major Outage is set forth in Section 3 of the Electric Annex (Exhibit B).

During the Compliance Period, PG&E conducted trainings for those who may perform safety standby or damage assessment in lieu of their normal duties. Throughout the Compliance Period:

- Safety standby trainings were conducted for 1,299 non-traditional emergency response employees (such as Meter Readers, Gas Service Representatives, Gas Maintenance and Construction, Gas Transmission and Regulation, Work & Resource Inspectors, Mappers, Estimators, etc.). The training included information on how to: (1) identify hazards in the electric distribution system, (2) standby hazards safely, and (3) maintain safety for the public and themselves until qualified electric personnel arrive at the scene.
- 41 PG&E electric estimators were trained to safely perform rapid emergency field assessments during emergency response situations.

Standard 10. Annual Pre-Event Coordination Standard

Standard 10 requires PG&E to annually coordinate emergency preparations with the appropriate state, county, local agencies, and the CAISO.

As a member of the CUEA, PG&E met with Cal OES to discuss emergency planning and response issues, as well as opportunities to support the respective organizations in a large-scale emergency during the Compliance Period. PG&E's Emergency Preparedness and Response Department's assigned representative on the Energy Committee of the CUEA met with the CUEA Executive Director (PG&E's liaison with the State Operations Center), and members of gas, electric and pipeline utilities on emergency planning and response issues.

As a member of the Western Regional Mutual Assistance Group, PG&E met during the Compliance Period with gas, electric, water, and pipeline utilities throughout the Western United States, including Hawaii, and Western Canada. The discussion involved emergency planning and response issues and opportunities to support the respective organizations in a large-scale emergency, including impacts to critical infrastructure.

Throughout the compliance period, PG&E participated in numerous discussions concerning mutual assistance to explore partnerships and areas for collaboration, to prepare and respond to weather events, and to share and discuss utility restoration, technology, and tools used in response and to interface with government partners. These discussions brought together external partners to work towards coordination and collaboration across the state of California, including but not limited to, CAISO, Cal OES, FEMA, San Diego Gas and Electric (SDG&E) and Southern California Edison (SCE).

PG&E also shared System Dispatcher Operating Procedures and the Electric System Restoration Guideline with the CAISO. The CAISO Operating Procedures were similarly shared with PG&E in order to coordinate our individual responses in emergency situations.

PG&E also invited state, county and local public agencies in its service territory to participate in the Company's trainings and exercises, as described in Section 6.3.1 of the Electric Annex and in Standard Three of this compliance report.

In addition, during the Compliance Period, PG&E conducted electric safety trainings and workshops for the following public agencies:

- 502 separate First Responder Workshops were held throughout PG&E's service area, including 8,232 participants. The workshops were designed to educate first responders on emergencies involving electric and natural gas utility equipment and services. In the workshops, information was provided on electric and gas utility infrastructure, how to recognize emergency conditions, best practices in handling utility-specific emergencies, the "do's and don'ts" when on the scene of an emergency, and other first responder safe practices. (Refer to Exhibit I for a list of agencies that participated in the First Responder Workshops.)
- On August 26, 2017, Cal OES held the annual California Day of Preparedness in old Sacramento that was co-sponsored with PG&E. During this event, PG&E provided electrical safety information and demonstrations to the 5,000 attendees on how to safely exit a vehicle if there is a downed wire on a vehicle. Additionally, PG&E shared information on how the utility supports first responders in the field and directs and manages restoration work using emergency vehicles, such as the mobile command vehicle that was on display at the event. PG&E also had a bucket truck on display to spur conversations on restoration work and had electric and gas safety board demonstrations especially oriented for family audiences. For this event, PG&E also organized various booths about gas, electric and power generation safety, customer service support, 811 services, and emergency preparedness and response.
- During the Compliance Period, PG&E provided the following substation safety trainings focused on safe tactical entry, safe navigation in an energized substation, and review of emergency response plans:
 - September 18-20, 2017 Substation J Training for Oakland Fire Department in Oakland
 - October 16-18, 2017 Larkin Substation Training for San Francisco Fire Department in San Francisco

- November 8-10, 2017 Substation X Training for Oakland Fire Department in Oakland
- December 11-13, 2017 Mission Substation Training for San Francisco Fire Department in San Francisco
- March 28-30, 2018 Substation I Training for Oakland Fire Department in Oakland
- June 5-7, 2018 Lexington Street Substation E Training for San Francisco Fire Department in San Francisco
- On September 21, 2017, PG&E participated in a panel discussion hosted by Assemblyman Turnbull on disaster preparedness and safety in Berkeley. PG&E provided information on utility preparedness and emergency response.
- On October 7, 2017, PG&E provided electrical safety training information to participating public agencies and to the public at the Fleet Week event in San Francisco.
- On November 8 – 9, 2017 in Reno, PG&E attended the Fire Shows West Conference, where electrical safety information was provided to several hundred fire agency representatives from across California and other western states, and follow up trainings were scheduled for those agencies located within PG&E's service territory.
- On November 15, 2017 in San Francisco, PG&E hosted a Cybersecurity Partners Meeting with the Federal Bureau of Investigation (FBI), Cal OES, Lawrence Livermore National Lab (LLNL), EEI, CAISO, and San Francisco Department of Emergency Management (SF DEM). The meeting was an opportunity for external stakeholders and partners to learn more about how PG&E prepares for and responds to cyber incidents, with particular emphasis on information coordination with partners, intelligence and investigation protocols, and communicating with customers. The following issues were discussed in the event of a major cyber breach incident:
 - PG&E's mandatory and courtesy notification mechanisms
 - Managing organizational emergency intelligence and investigation
 - Industry and regulatory agency response and coordination with utility partners
 - Tools to manage customer privacy
 - Recent cyber events that are changing our threat landscape
- On February 27, 2018, PG&E attended the International Association of Fire Chief's Wildland Urban Interface Conference in Reno and distributed electrical safety information to fire agency and land management organizations across multiple western states.

- At the Firehouse World Conference on March 5 – 7, 2018 in San Diego, PG&E promoted the availability of its Public Safety Workshops and electrical safety training to local, state, and federal firefighting agencies within PG&E’s service territory and provided information on how PG&E interacts with fire agencies during incidents impacting electrical infrastructure.
- From March 2018 through the end of the Compliance Period, PG&E provided a series of Community Wildfire Safety Program (CWSP) Workshops to educate public agencies and other partners of PG&E’s planned emergency response procedures. Specifically, these workshops provided information on PG&E’s CWSP, including PG&E’s Wildfire Safety Operations Center (WSOC) operations, increased meteorological data gathering, increased fuel reduction under power lines, electrical system infrastructure hardening, and Public Safety Power Shut-off (PSPS) procedures.
- PG&E performed the following CWSP Workshops during the Compliance Period:
 - March 8, 2018 to the Sierra/Sacramento Valley’s Emergency Medical Services (EMS) Agency in Redding. (Also provided safety information to EMS responders and Medical Directors on PG&E’s Gas and Electrical Safety trainings.)
 - April 30, 2018 to CAL FIRE’s Tuolumne-Calaveras Unit Chief and Tuolumne County’s Office of Emergency Services (OES) Director in Sonora.
 - May 3, 2018 to the Amador County Fire Chief’s Association in Sutter Creek.
 - May 9, 2018 to the Calaveras County Fire Chief’s Association in San Andreas.
 - May 10, 2018 to the Oakhurst Emergency Preparedness Task Force in Oakhurst. This task force is comprised of emergency management agencies from Madera County, including CAL FIRE Madera-Mariposa-Merced Unit, Sierra National Forest, Madera County Sheriff, Madera County Public Works, Madera County Public Health Department, Madera County Social Services, American Red Cross, Sierra Telephone, and other local partners.
 - June 13, 2018 to the Amador County Animal Response Team in Martell.
 - June 14, 2018 to the CAL FIRE Fresno-Kings Unit and Fresno County Fire Department in Sanger.
 - June 18, 2018 to the Kern County Fire Department executive staff in Bakersfield.
- On March 26 and May 23, 2018, PG&E provided trainings in Redding and Round Mountain involving staff at PG&E’s Round Mountain Substation and firefighters from CAL FIRE and

Shasta County Fire Department to educate local firefighters on PG&E's comprehensive transmission substation, emergency response plans, and the inherent dangers involving fires in and around the 500kV facility.

- On March 28, 2018, PG&E provided safety information and demonstrations to Napa County Agriculture workers on wire-down incidents and how to handle irrigation piping near energized lines in California's wine grape fields. The event was hosted by the 2018 California Agriculture Exposition at Napa Community College in Napa.
- PG&E provided personal preparedness and emergency planning information and training to PG&E employees at the Power Generation Safety Summit in Antioch on March 28, 2018 and in San Francisco on March 29, 2018, with Contra Costa Fire Protection District and San Francisco Fire Department as attendees.
- On March 31, 2018, PG&E provided electrical safety and preparedness training to key stakeholders from Santa Clara County in San Jose.
- On April 13, 2018, PG&E provided training in Cottonwood involving staff at PG&E's Cottonwood Substation and firefighters from CAL FIRE, Shasta County Fire Department, Cottonwood Fire Protection District, and Anderson Fire Protection District to educate local firefighters on PG&E's comprehensive transmission substation, emergency response plans, and the inherent dangers involving fires in and around the 230kV facility.
- On April 18, 2018, PG&E discussed its response to the October 2017 wildfires, preparedness, and future emergency response for the next fire season at the CAL FIRE Incident Management Team Workshop in Riverside.
- On May 3, 2018, PG&E facilitated a Powerline Equipment Familiarization Course and CWSP overview to fire prevention staff from the Amador-El Dorado, Tuolumne-Calaveras, and Madera-Mariposa-Merced CAL FIRE Units and Tuolumne County Fire Departments in Sonora.
- On May 15, 2018, PG&E hosted the 4th annual Wildland Fire Kickoff Meeting in San Ramon. Attendees included PG&E representatives and public-sector agencies from CAL FIRE, USFS, the Bureau of Land Management, Cal OES, the National Interagency Fire Center Predictive Services Office, and various local government agencies to discuss this year's fire season potential. PG&E also presented information on our Fire Prevention Plan, CWSP, and discussed lessons learned from the 2017 fire season.

- On June 1, 2018, PG&E provided training in Oroville involving staff at PG&E's Table Mountain Substation and firefighters from CAL FIRE and Butte County Fire Department to educate local firefighters on PG&E's comprehensive transmission substation, emergency response plans, and the inherent dangers involving fires in and around the 500kV facility.
- On June 16, 2018, PG&E and San Francisco Fire Department participated in a joint training and exercise in San Francisco to test the full capabilities of the carbon dioxide unit for responding to electrical fires in underground vaults and indoor electrical substations.
- PG&E provided the following additional electric safety trainings during the Compliance Period:
 - September 14, 2017 to the Santa Cruz County Public Works Department in Santa Cruz.
 - November 16, 2017 to the County of Santa Cruz Parks Department in Ben Lomond.
 - November 30, 2017 to the City of Walnut Creek Public Works Department in Walnut Creek.
 - February 12 and 20, 2018 to the Alameda County Water Department in Fremont.
 - May 5, 2018 to the Atascadero Fire Department at their open house in Atascadero.

To further comply with Standard 10, PG&E confirmed contacts and communication channels, and exchanged emergency planning and response information with public agencies in more than 100 meetings. Refer to Exhibit J for details on dates, agencies, and topics.

Standard 11. Annual Report

Standard 11 requires PG&E to submit an annual report describing compliance with these standards and to report on the number of available repair and maintenance personnel. This document constitutes PG&E's annual report on compliance with General Order 166 for the Compliance Period; a description of all changes to the PG&E Emergency Response Plan is attached as Exhibit E. The number of repair and maintenance personnel in each personnel classification for the Compliance Period is attached as Exhibit H.

Standard 12. Restoration Performance Benchmark for a Measured Event

Standard 12 provides PG&E may be subject to a restoration performance benchmark for measured events. However, PG&E did not experience a Major Outage or measured event, as defined by this General Order, during the Compliance Period.

Standard 13. Call Center Benchmark for a Measured Event

Standard 13 provides PG&E may be subject to a call center performance benchmark for measured events. However, PG&E did not experience a Major Outage or measured event, as defined by this General Order during the Compliance Period.

Respectfully Submitted,

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2018 GO 166 Filing Redactions

Redactions have been made to the following pages of the filing:

Exhibit	Page Number	Description of Redaction
A	165	Meeting call in number, code and pin
A	180	Mobile command vehicle storage locations
A	182	Commander mobile command vehicle storage locations
A	184	Lt. Commander mobile command vehicle storage locations
A	186	Sprinter mobile command vehicle storage locations
A	187	Emergency communications trailer storage locations
B	3-32	Two maps
F-2	A-1 to A-5	Names, emails and telephone numbers of mutual aid parties
F-4	Appendix A	Trinity contacts
F-7	Multiple Pages	Names, addresses and telephone numbers of mutual aid parties

2018 List of Exhibits

Exhibit A	Company Emergency Response Plan (CERP)
Exhibit B	Electric Annex
Exhibit C	Emergency Communications Plan Summary
Exhibit D	Location of Required Elements of Standard 1
Exhibit E	Summary Description of Plan Changes
Exhibit F	Mutual Assistance Agreements <ul style="list-style-type: none">• Exhibit F1 – American Gas Association (AGA) Mutual Assistance Agreement• Exhibit F2 – California Utilities Emergency Association (CUEA) Mutual Assistance Agreement• Exhibit F3 – Florida Power and Light (FPL) Mutual Assistance Agreement• Exhibit F4 – Trinity County Public Utilities District Mutual Assistance Agreement• Exhibit F5 – Western Area Power Administration (WAPA) Mutual Assistance Agreement• Exhibit F6 – Western Region Mutual Assistance (WRMA) Agreement• Exhibit F7 – Puerto Rico Electric Power Authority (PREPA) Memorandum of Understanding
Exhibit G	2017 Company Earthquake Exercise Summary
Exhibit H	Personnel Report July 2017 to June 2018
Exhibit I	PG&E First Responder Workshops
Exhibit J	Standard 10 Additional External Agency Coordination Meetings July 1, 2017 to June 30, 2018
Exhibit K	Mutual Assistance Received July 2017 to June 2018
Exhibit L	Customer Service Mutual Assistance to Hurricane Irma

Exhibit A

Company Emergency Response Plan (CERP)



*Pacific Gas and
Electric Company®*

Company Emergency Response Plan (CERP)



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August 31, 2017

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June 30, 2017

Dear PG&E team member,

Attached please find the 2017 Company Emergency Response Plan (CERP) which includes detailed information about PG&E's in-place plans and protocols to conduct a safe, efficient and coordinated response to emergencies.

Each year, the Emergency Preparedness and Response (EP&R) department incorporates best practices and lessons learned from the previous year's emergency incidents and feedback from over 75 subject matter experts and planning leads.

Some of the enhancements in the 2017 CERP include the following:

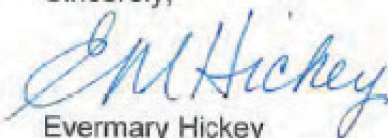
- Indexed to provide easier access to information
- ~125 commonly referenced acronyms added to the list of acronyms
- Citations indicate source(s) of information and date(s) the information was verified
- Threat Landscape scenarios added to emergency planning assumptions
- Mutual Assistance and Demobilization are now stand alone sections
- Emergency facilities updated to include the following locations: Distribution Control Centers (DCC), Enterprise Network Operations Center (ENOC), Fairfield Security Control Center (FSCC)
- ARCOS information added
- New information appearing in the CERP for the first time highlighted with a ▲

Let's make sure you and your team are prepared and PG&E is ready to respond:

1. **Get CERP** – Familiarize yourselves with the [Guidance Document Library - Emergency Response](#) (GDL) resources, including PG&E's emergency preparedness and response policy, standards and the CERP and annexes relevant to your emergency role¹
2. **Have CERP** – Download the CERP to your electronic devices to have it available in a tech-down situation²
3. **Take CERP** – Complete the online CERP training EPRS-9010 WBT available for all PG&E employees through the PG&E Academy

If you have any questions, comments or ideas to be included in the next version of the CERP, complete the [CERP Change Request Form](#) located in the GDL and submit it to EPRCERP@pge.com

Sincerely,



Evermary Hickey
Director, Emergency Preparedness and Response Support
Emergency Preparedness and Operations

¹ Full URL is <http://pgeweb/guidance/pages/EmergencyResponse.aspx>

² To put a pdf document on your iPhone or iPad: 1. tap the pdf, 2. tap share icon (square with an up arrow); 3. tap "Copy to iBooks" to open the attachment in iBooks.

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Preface

This section contains Pacific Gas and Electric Company (PG&E) provides information related to the ownership and maintenance of this document.

Document Control

Emergency Preparedness and Response (EP&R) maintains this Company Emergency Response Plan (CERP). This section shows the revisions to the plan and approval of the plan by the persons responsible for its preparation, maintenance and update.


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Change Record

Changes made to the 2017 plan from the 2016 revision are noted in the table below.

2016 Section	2017 Section	Change Type	Change Detail
1.5 and others	1.6 and others	Update in Version 3.2	Corrected titles of VP Electric Transmission Operations and SVP Gas Operations. Added PG&E Emergency Preparedness Departments section to Table 1.1 CERP Base Plan Organization.
1.6 and others	1.7, 5.1, 6.1, 10.4, 10.6, 12.3, 13.5, 14.2, 16, E	Update in Version 3.1	VP Electric Transmission replaced VP Electric Distribution as the officer with authority for Emergency Preparedness and Response.
1.3	1.3	Update in 3.1	Mission, vision and culture statements updated
—	▲	New	Visual indicator of a new section not in the 2016 CERP
—	2.3.3	New	Added Energy Supply to Company Overview
—	3.3.1	New	Weather related scenarios added Emergency Scenarios
—	3.3.3	New	Cybersecurity
—	3.4	New	Threat Landscape
—	3.5	New	Annex Development
—	4.6	New	Catastrophic Incident Organization Consideration Added “carve” concept with text, images and tabular example
—	5.5	New	Power Generation (Hydro / Fossil / Solar / Fuel Cell) Emergency Preparedness added to §5.5 to ensure representation of all PG&E primary LOBs. Text reviewed by identified SMES.
—	6.14.2	New	Historian position and description added
—	7	New	EOC General Staff elevated to solo-selection status
—	8.2.1	New	Electric Distribution Control Centers (DCC) added to facilities list; in 2016 was referenced in §5.2 PG&E EMO (bulleted list) and referenced in §2.3.2 Functional Areas to §2.3.2.1 Electric
—	8.2.4	New	ENOC Enterprise Network Operations Center
—	8.2.5	New	Fairfield Security Control Center was referenced in the 2016 CERP in §2.3.1 Company Organization - Facilities (bulleted list), §5.2 PG&E Emergency Management Organization (parenthetical) in Control Center Staff (bulleted list) and §6.3.2.6 Triggers - Physical Security
—	8.2.6	New	Rancho Cordova Information Operations Center was referenced in the 2016 CERP in §2,3,1 Company Organization - Facilities (bulleted list)
—	Table 10.2	New	ARCOS description and graphic
—	14.1.5	New	Dual Commodity Coordination and Communication added, including a table for Gas and Electric Coordination Process Flow
—	E.6	New	Sample Initial Briefing
—	Index	New	Added index to facilitate search and retrieval of information
—	Footnotes	New	Added footnotes to provide additional clarity and support text by identifying source of material
—	Various	Correction	Edits to wording, subject-verb agreement, updated titles
—	Various	Correction	Corrected references that identified SOPP as System Outage Prediction Program; rather than Storm Outage Prediction Program.

2016 Section	2017 Section	Change Type	Change Detail
Various	Various	Correction	Converted text to tables to enhance comprehension
Various	Various	Enhancement	Consolidated text when similar information appeared in multiple sections
Various	Various	Enhancement	Organizational charts and other graphics updated, format made consistent, clarity of images improved
Various	2.1–2.4	Correction	Numbers relating to customers and assets validated. Inconsistencies eliminated and numbers consolidated into §2. Sources cited and SME information coordinated through PIO.
Preface	Preface	Update	Updated document preparer, reviewers, approver and owner; updated change record and change request form
1	1	Update	Introduction
1.5	5.1	Consolidation	Emergency Management and Preparedness Groups moved to §5 PG&E Emergency Management Organization (EMO); Business Continuity Planning consolidated into EP&R section; former work group “EMAP” added to EP&R section
1.5.1.1	6.2	Update	Electric Emergency Management and Public Safety moved to §6.2 and retitled Electric Emergency Management to be consistent with §6.1. Text reviewed by identified SME.
1.5.2	5.3	Consolidation	Gas System Operations Emergency Preparedness moved to §5.3 Gas Emergency Planning Team. Text reviewed by identified SMEs; business unit names updated for consistency.
1.5.3	5.2	Consolidation	Electric Emergency Management and Public Safety moved to §6.2 and retitled Electric Emergency Management to be consistent with §6.1. Text reviewed by identified SME
1.5.4	5.4	Consolidation	Diablo Canyon Power Plant (DCPP) Emergency Preparedness Program moved to §5.4 and renamed to Diablo Canyon Power Plant (DCPP) Emergency Preparedness Text reviewed by identified SMES.
2	2	Update	Company Overview; consolidated numbers from various areas to this section
2.2.3	2.4	Enhancement	Added examples of Non-Core customers; Deleted reference to gas transportation services.
2.3	2.1	Consolidation	Company Organization - consolidated content in Territory section
2.3.1 2.3.2.1 2.3.2.2 A.2	8.2 8.2.2, 8.2.3, 8.2.5, 8.2.6	Enhancement Consolidation	Control Centers information pulled from 2016 §2.3.1 (Fairfield, Rancho Cordova), §2.3.2.1 (Electric) and §2.3.2.2 (Gas); Electric Transmission / Vacaville Grid Control Center added to facilities list; in 2016 was referenced in Company Organization - §2.3.1 Facilities (bulleted list), §2.3.2.1 Electric (described), §A.2 PG&E Acronyms
3	3	Enhancement	Added Emergency to section title
3.2.1	3.2.2	Consolidation	2016 Catastrophic Incident Planning Assumptions incorporated into this section; title changed from Planning Assumptions for Catastrophic Emergencies
5	6	Enhancement	Content enhanced; title changed from Emergency Organization and Responsibilities to PG&E Emergency Management Organization
5.1	6.1	Consolidation	CIMC updated; Operating Executives eliminated; members merged into CIMC to match 2017 corporate structure
5.2.1	6.1	Consolidation	Operating Executives section deleted; membership streamlined into CIMC and updated to reflect 2017 organizational structure

2016 Section	2017 Section	Change Type	Change Detail
5.2, 5.2.3.3.1, 5.3.6	7.1.3	Enhancement	Electric Transmission Emergency Center (ETEC) enhanced from 2016 CERP
5.2.3.1	4.4.1, 4.4.2, 4.5.3	Update	Single Command and Unified Command were moved from a roles section to a concepts section
5.2.3.2	6.3	Enhancement	2016 Command Staff (2016 pp. 5-6 to 5-8) elevated to full section status, 2017 §6 EOC Command Staff. Positions reviewed/updated by SMEs; organizational charts updated; illustrative photos added
5.2.3.2.1	6.1	Update	Adjusted references to “Operating Executives” to read “LOB executives” and/or “leadership”
5.2.3.3–5.2.3.3.6	7	Enhancement	2016 General Staff (2016 pp. 5-8 through 5-17) elevated to full section status, 2017 §7 EOC General Staff. Positions reviewed/updated by SMEs; organizational charts updated; illustrative photos added
Figure 5.3 in 5.2.3.3.1	Figure 7.1	Update	Operations Section organization chart updated to reflect three-tier positions, including Deputy Operations Section Chief, Admin Support, Gas Operations Tech Specialist, Vegetation Management and IT Branch
5.2.3.3.6	7.2	Update	Org chart added for Intelligence and Investigations Section (I&I) and Cyber Security Unit deleted
5.2.4–5.2.6	4.1–4.6	Enhancement	Topics of "Dual Commodity Response," "Catastrophic Incident Organization Considerations," and "Area Command" were moved from a “people” section to concept section and reordered. Intelligence and Investigations section added to org charts.
5.2.5	3.2.2	Consolidation	2016 Catastrophic Incident Considerations were incorporated into §3.2.2 Catastrophic Incident Planning Assumptions
5.3	8	Upgrade	2016 5.3 Emergency Facilities elevated to be its own section, 2017 §8 Introductory information added
5.3.1–5.3.8	8.1 8.1.1–8.1.7	Enhancement	Emergency Centers order rearranged to reflect activation progression based on incident escalation. EOC added to this section
5.3.2	6	Update	Gas Emergency Center description updated
Table 5.3 in 5.3.9	6.9	Consolidation	PIO information removed from Support and Coordination Centers table; added to PIO section of EOC Command Staff
5.3.9.1, 5.3.9.3–5.3.9.8	Table 8.1	Consolidation	Consolidated Support and Coordination Center text and table to be consistent and one source of information
5.3.9.2	6.9	Consolidation	Consolidated PIO information under EOC Command staff; removed “people” from facilities section
5.4	9	Enhancement	Title changed from External Stakeholders to External Relationships; content rearranged to follow emergency response scale-up principle, e.g., local, state, national
6	10	Enhancement	Concept of Operations renumbered and reorganized to follow emergency incident progression
6.1.3	—	Deleted	ShakeCast/EDM (Electric Damage Model) deleted
6.2	1.4	Consolidation	Response priorities consolidated
6.3.1	10.1	Update	Levels of Emergency and Activation Criteria chart updated

2016 Section	2017 Section	Change Type	Change Detail
6.3.2–6.3.2.6	10.6	Enhancement	Activation authority and triggers updated and reformatted into a table for ease of viewing
6.4	3.3.1, 10.12	Enhancement	Storm Outage Prediction Program (SOPP) Model description updated
6.4–6.4.9	10.7–10.16	Update	Updated and renumbered to fit 2017 flow
7	11, 12, 13	Upgrade	Resource Management, Mutual Assistance and Demobilization Upgraded - Separated 1 chapter into 3; Added content to each
7	12	Upgrade	Mutual Assistance
7	13	Upgrade	Demobilization
8	14	Update	Coordination and Communication
9	15	Update	Emergency Financial Guidance
10	16	Update	Training and Exercises
10.1–10.1.1.3	16.1	Consolidation	Consolidated Multi-Year Training and Exercise Planning (MYTEP), Training, ICS Courses, Annual Training and Cross Training
10.1.2–10.1.2.2	16.2	Consolidation	Consolidated Exercises, Company Emergency Response Plan Exercise, and Emergency Operations Plan Exercises
10.1.2.3	16.3	Update	Post-Exercise After Action Reports / Improvement Plans updated and renamed to be After Action Reports and Improvement Plans
A.1	I.2	Update	Deleted obsolete terms, e.g. “operating executives” (a group that was streamlined into the CIMC)
A.2, A.3	I.1	Update	Combined PG&E and ICS acronym lists into one resource; added 115 acronyms not previously captured
B	C	Update	Organizational charts updated to include I&I, historian and other positions
C	D	Update	Renamed to Incident Command System (ICS), text updated, duplicate copies of the Planning P deleted; meetings elevated to separate appendix E
C	E	Upgrade	Separated from 2016 Appendix C; Rearranged to reflect meetings at start of an incident and meetings / working sessions in each operational period; Tactics Meeting added “Provides plan and status during Dual Commodity events” per T3SN request (5/18/17); Updated and reformatted to clarify “this is not a meeting” entries; Adjusted references to “Operating Executives” to read “LOB executives” and/or “leadership.”
E.3	—	Deleted	Government contacts reference deleted

2017 CERP Change Request Form

To request changes, corrections or additions to the CERP, submit a completed copy of [EMER-2002F Company Emergency Response Plan \(CERP\) Change Request Form](#)¹ to EPRCERP@pge.com.

Proposed change(s) that impact the organizational structure, plan role accountability, critical emergency response operations, or response activities at key facilities will be incorporated within 60 days. Other request(s) received:

- Before April 30, 2018, requests will be incorporated into the current annual review cycle.
- After April 30, 2018, requests will be incorporated in the following annual review.

SUBMISSION INFORMATION

Submitted By: _____

Change Topic Subject Matter Expert: _____

Title: _____

Title: _____

Phone: _____

LAN ID: _____

Phone: _____

LAN ID: _____

Has this submission been reviewed by a departmental SME? ☐ Yes ☐ No

Note: Submissions of changes that have **not** had SME review may require a longer review and approval process, depending on complexity and scope of change requested, and should therefore be submitted as early as possible.

CERP REFERENCE INFORMATION

Type of revision:

- ☐ Correction
☐ Addition
☐ Deletion

Section:

- ☐ 1 Introduction
☐ 2 Company Overview
☐ 3 Risk/Hazard Overview & Emergency Planning Assumptions
☐ 4 Incident Management Command Concepts & Guidelines
☐ 5 PG&E Emergency Preparedness Departments
☐ 6 PG&E Emergency Management Organization
☐ 7 EOC General Staff
☐ 8 Emergency Facilities

- ☐ 9 External Relationships
☐ 10 Concept of Operations
☐ 11 Resource Management
☐ 12 Mutual Assistance
☐ 13 Demobilization
☐ 14 Coordination and Communication
☐ 15 Emergency Financial Guidance
☐ 16 Training and Exercises
☐ Appendices (please specify below)
☐ Other (please specify below)

Reason:

- Information is
☐ Incorrect
☐ Incomplete
☐ Obsolete
☐ Other (please specify):

Proposed content change (attach additional pages and reference information if necessary):

Submit to EPRCERP@pge.com or contact Aimee M. Felker (415-973-2283) to discuss submission options.

FOR EMERGENCY PREPAREDNESS AND RESPONSE USE ONLY – DO NOT WRITE BELOW THIS LINE

Revision Immediacy Type: ☐ Immediate ☐ Annual

Date Received: _____ Date Closed: _____ Completed by: _____

¹ https://edrm.comp.pge.com/D2/servlet/Download?auth=basic&event_name=open&version=CURRENT&id=09131aad84b6b448&_docbase=pge_ecm

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1 Introduction

1.1 Purpose

The purpose of the Company Emergency Response Plan (CERP), herein referred to as “the CERP” or “the Plan,” is to assist Pacific Gas and Electric (PG&E) personnel with safe, efficient and coordinated response to an emergency incident affecting gas or electric generation, distribution, storage and/or transmission systems within the PG&E service territory or the people who work in these systems.

The CERP:

- Provides a broad outline of PG&E’s organizational structure
- Describes actions undertaken in response to emergency situations
- Presents a response structure that
 - Has clearly defined roles and responsibilities
 - Identifies coordination efforts with outside organizations, e.g., government, media, other gas and electric utilities, essential community services, vendors, public agencies, first responders and contractors

1.2 Scope

PG&E utilizes common emergency response protocols and follows a recognized incident command system. For purposes of the CERP, this all-hazards approach applies to any natural disaster or man-made situation (e.g., fires, floods, storms, earthquakes, terrorist- or cyber-attack) that threatens life and property or requires immediate action to protect or restore service or critical business functions to the public. Actions described in the CERP apply to incidents that:

- Affect or threaten service in a significant part of the company’s service territory
- Affect or threaten service to a significant percentage of PG&E’s customers
- Require system-wide coordination, including significant involvement by various lines of business (LOBs) and/or other support departments

1.3 PG&E’s Vision and Guiding Principles

PG&E is committed to safely and reliably deliver affordable and clean energy to our customers and communities every single day, while building the energy network of tomorrow. With a sustainable energy future as our North Star, we will meet the challenge of climate change while providing affordable energy for all customers.

The safety of our customers, employees, contractors and the communities we serve is PG&E’s top priority. We constantly work to safeguard our gas and electric systems to minimize the risk of service interruptions. When conditions permit, crews work safely and as quickly as possible to restore service to our customers.

Our Mission

To safely and reliably deliver affordable and clean energy to our customers and communities every single day, while building the energy network of tomorrow.

Our Vision

With a sustainable energy future as our North Star, we will meet the challenge of climate change while providing affordable energy for all customers.

Our Culture

We put safety first.
 We are accountable. We act with integrity, transparency and humility.
 We are here to serve our customers.
 We embrace change, innovation and continuous improvement.
 We value diversity and inclusion. We speak up, listen up and follow up.
 We succeed through collaboration and partnership. We are one team.

"I believe these statements effectively capture our company's story of growth and success. They convey our fundamental purpose, set a bold agenda for us over the next decade and beyond, and speak to the most essential qualities that all of us at PG&E must embody."

Geisha Williams
 CEO and President,
 PG&E Corporation



Together, Building
a Better California

Figure 1.1 PG&E's Mission, Vision and Culture Statements²

1.4 PG&E's Emergency Planning and Response Priorities

At PG&E all emergency planning and response activities are governed by the following priorities:

- Protect health and welfare of the public, PG&E responders and others
- Protect property of the public, PG&E and others
- Inform customers, governmental agencies and representatives, the news media and other constituencies
- Restore gas and electric service and power generation
- Restore critical business functions and move to resume business as usual

These priorities are maintained through all phases of response to an emergency and are the foundation of the CERP base plan:

- Consistent incident management, planning and response concepts, processes and procedures
- Scalable staffing model to provide emergency support as needed across the enterprise

² Image from <http://pgweb/topics/mvc> on 7/31/17

- Respond to all emergency incidents safely, transparently and with a strong sense of urgency
- Align PG&E's planning and response efforts with the needs of the communities it serves
- Use industry best practices to conduct emergency operations
- Establish close working relationships with external emergency public parties consistent with the National Incident Management System (NIMS) principles

1.5 Document Organization

The company emergency response plan includes a base plan, annexes and appendices (see Figure 1.2 above).

The base plan is applicable company-wide and is generally referred to as “the CERP.” Emergency management plans flow from general emergency response concepts and guidelines to specific emergency management organizational structures, roles, responsibilities and processes, much of which is found in the appendices and annexes.

Annexes are technically CERP appendices to the base plan. However, they are packaged separately for ease of reference and are generally referred to as the “[Topic] Annex.” The sections below further describe the CERP base plan and annexes.

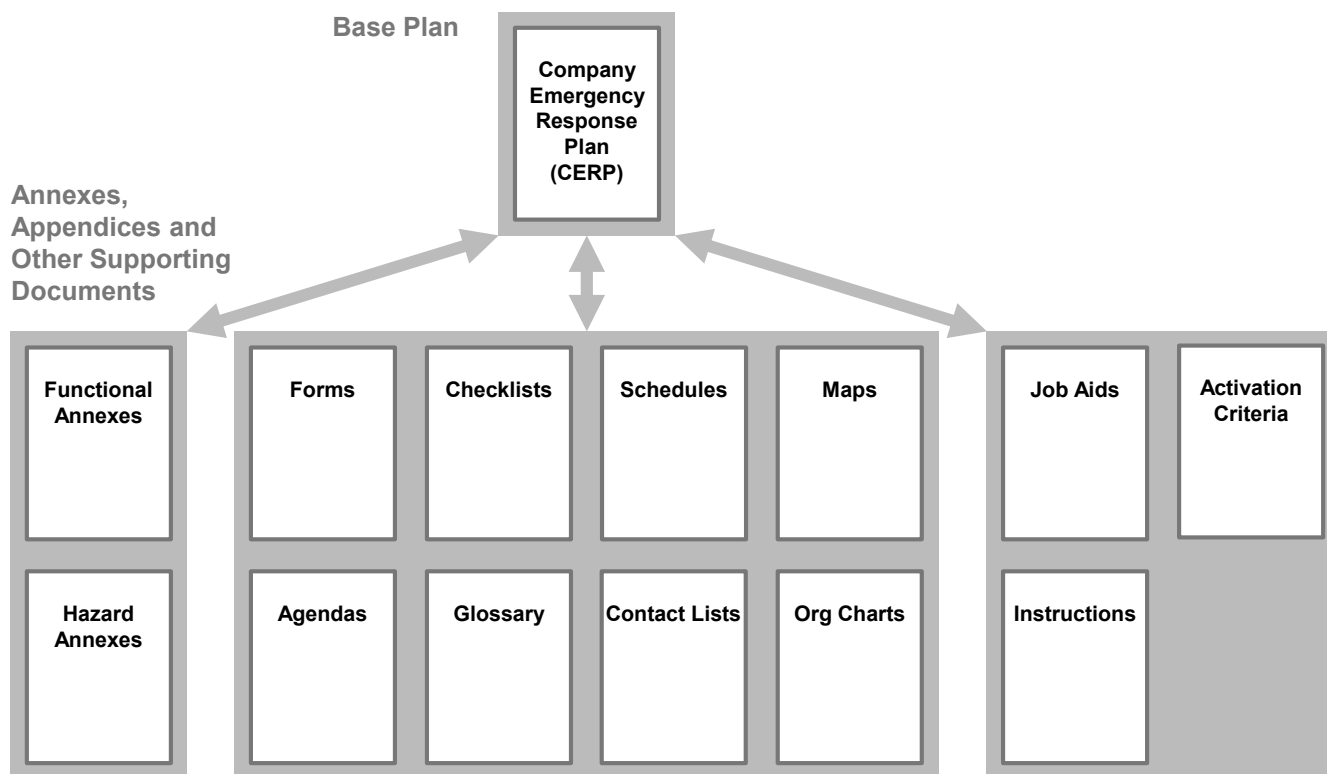


Figure 1.2 Company Emergency Response Plan and Supporting Documents

1.6 CERP Base Plan

The base plan is generally referred to as “the CERP”; it is organized as follows:

Table 1.1 CERP Base Plan Organization

CERP Section	Topic Content
Document Organization	Table of Contents; Lists of Tables and Figures
Preface	Document approvals, controls, and change record
1 Introduction	The Plan's purpose, scope, guiding principles, emergency planning and response priorities, plan maintenance, and regulatory authorities
2 Company Overview	PG&E's organizational and operational structure and customers
3 Risk/Hazard Overview and Emergency Planning Assumptions	How PG&E applies risk management to emergency response, planning assumptions, and scenarios
4 Incident Management Command Concepts and Guidelines	PG&E's emergency management concepts and guidelines, including dual commodity response and unified command
5 PG&E Emergency Preparedness Departments	PG&E's emergency teams
6 PG&E Emergency Management Organization	Corporate Incident Management Council (CIMC), EOC organizational chart, and position descriptions for EOC command staff
7 EOC General Staff	EOC organizational charts and position descriptions for each section
8 Emergency Facilities	Emergency centers, control rooms, support and coordination centers, and emergency field facilities, including mobile command vehicles (MCVs)
9 External Relationships	PG&E's relationships with and responsibilities to industry organizations and local, state and federal agencies
10 Concept of Operations	PG&E's emergency plan activation, levels of emergencies, triggers and authorities to activate emergency centers, response sequence, and damage modeling
11 Resource Management	Planning, tracking and management crew and material resources in relationship to emergency preparedness and response
12 Mutual Assistance	PG&E's mutual assistance agreements, strategy, process and documentation as well as EEI Resource Allocation Management Program and National Response Effort
13 Demobilization	PG&E's emergency demobilization roles, responsibilities and processes
14 Coordination and Communication	How PG&E disseminates emergency response information internally, to executives, to external stakeholders, and to the public
15 Emergency Financial Guidance	How PG&E manages its finances during an incident and recovers costs through its Major Events Balancing Account (MEBA) and Catastrophic Event Memorandum Accounting (CEMA)
16 Training and Exercises	How PG&E plans, conducts and evaluates emergency training
Appendices	Supplemental materials, including annexes, to define or provide additional detail on acronyms and terms, the Incident Command System (ICS), meetings, agendas, schedules, MCVs, etc.

1.6.1 CERP Annexes

Annexes are detailed emergency response plans for specific operations, functions or hazards. They reference back to the CERP and other annexes, or specific procedures. Annexes are reviewed annually and are structured similarly to the CERP.

Table 1.2 CERP Annexes

Annex Type	Topic Content
Functional Annexes	<ul style="list-style-type: none"> • Electric • Gas • Power Generation • Nuclear • Human Resources (HR) • Logistics • Emergency Communications Plan • Workforce Management/Contact Center Operations (WFM/CCO) • Information Technology (IT)/Communications
Hazard Annexes	<ul style="list-style-type: none"> • Cybersecurity • Earthquake

1.7 Plan Maintenance

The VP Electric Transmission Operations owns the CERP. Maintaining the CERP is delegated to the EP&R department. EP&R reviews and updates the CERP with input from subject matter experts (SMEs) in Electric, Gas, Law, Corporate Affairs, Regulatory Affairs, Customer Care, Energy Supply, Information Technology, Human Resources, Shared Services and Finance; feedback from other areas is incorporated as needed.

The CERP is updated and approved annually by July 1 and is published in PG&E's [Guidance Document Library](#) (GDL). Functional, LOB and hazard-specific annexes to the CERP are updated annually by October 1 and also published in the GDL.

As part of the annual update process, EP&R revises the CERP training curricula for internal responders to the Emergency Operations Center (EOC). Additional training is implemented through specialized classes and practical exercises. PG&E's internal training and exercise program is a multi-year program that focuses on the CERP and focused procedures and specific hazards. For more information on this program, see Chapter 16 or [EMER-1001S, "Business Continuity and Emergency Operations Plan, Training, Exercise and Critique Standard."](#)

1.8 Regulations and Authorities

The CERP, including the base plan and its annexes, is reviewed and updated annually in accordance with PG&E's [Emergency Preparedness and Response Policy](#)³ and the California Public Utilities Commission (CPUC):

- [General Order 166, "Standards for Operation, Reliability and Safety During Emergencies and Disasters"](#)⁴
- [General Order 112-F, "State of California Rules Governing Design, Construction, Testing, Operation, and Maintenance of Gas Gathering, Transmission, and Distribution Piping Systems," Subpart C, 143.6, "Compatible Emergency Response Standard,"](#)⁵ which cites federal regulation [49 CFR § 192.615, "Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards: Operations - Emergency Plans"](#)⁶

The CERP, including documentation of revisions, is filed annually with the CPUC. Sections containing confidential or sensitive information are filed under seal with the CPUC and are required to be redacted from any public release.

³ Effective date 01/04/2016, revision date 08/24/2016 Rev 1, see link above or https://edrm.comp.pge.com/D2/servlet/Download?auth=basic&event_name=open&version=CURRENT&id=09131aad858dc8f8&%20_docbase=pge_ecm

⁴ To access CPUC GO 166, see link above or http://www.cpuc.ca.gov/gos/GO166/GO166_startup_page.html

⁵ GO112-F states that "all Gas utilities shall use, at a minimum, the Incident Command System (ICS) as a framework for responding to and managing emergencies and disasters involving multiple jurisdictions or multiple agency responses. The ICS used by utilities must be compatible with the ICS used by the first responder community within the State of California and as detailed in California Government Code Section 8607(a)." To access GO112-F see link above or <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M163/K327/163327660.PDF>

⁶ For the text of 49 CFR § 192.615, see https://www.ecfr.gov/cgi-bin/text-idx?node=se49.3.192_1615.

2 Company Overview

2.1 Territory

Pacific Gas and Electric Company (PG&E), incorporated in California in 1905, is one of the largest dual commodity natural gas and electric utilities in the United States. Based in San Francisco, California, the company is a subsidiary of PG&E Corporation. In total, PG&E service, territory and assets include:

Area

- 70,000-square-mile
- 47 of California's 58 counties
- North to Eureka
- East to the Sierra Nevada
- South to Bakersfield
- West to the Pacific Ocean

Assets

- ~24,000 employees⁷
- >125,147 miles of electric transmission and distribution lines⁸
- ~48,800 miles of natural gas transmission and distribution pipelines

Customers⁹

- ~5.4M electric customers (accounts)
- ~4.3M natural gas customers (accounts)

⁷ 2016 Year End data published in the annual shareholders report, February 2017; provided by Customer Service Business Operations Specialist

⁸ Data provided by Electric Operations Communications Representative, Principal 06/08/2017. In March 2017 PG& E updated its electric distribution circuit mileage to 106,000 miles from 141,000 circuit miles. The company recently expanded the use of its Geographic Information System (GIS) technology to map the distribution part of its system and provide more accurate information about the expanse of our distribution system.

⁹ 2016 Year End data published in the annual shareholders report, February 2017; provided by Customer Service Business Operations Specialist

2.2 PG&E Organizational Structure

In 2016, PG&E streamlined its organizational and governance structure. Several organizations were realigned and/or eliminated. Effective March 1, 2017 the PG&E Corporation and Utility structure is:

Table 2.1 PG&E Organizational Structure

2017 Structure	Responsibilities
Compliance and Ethics	Responsible for proactively maintaining compliance with laws, regulations and internal policies while also promoting a culture of transparency and speaking-up to identify and correct problems before they become more serious
Human Resources	Responsible for supporting PG&E's goals by unlocking employees' potential to be their best: to be healthy, safe and productive to provide excellent customer service.
General Counsel	Responsible for Legal Affairs, Corporate Relations, Regulatory Affairs, Land and Environment Management and Enterprise Records and Information Management (ERIM). In 2016, Land and Environment Management was part of Safety and Shared Services
Finance and Risk	Includes Business and Performance Management, Enterprise Continuous Improvement (ECI)
Strategy and Policy	Includes Energy Policy and Procurement, California External and Federal Affairs
Information Technology and Supply Chain	In 2016, Supply Chain (sourcing) was part of Safety and Shared Services
Electric Operations	Responsible for operation of the Electric LOB activities, including operating the Transmission and Distribution operations, Strategy and Asset Management, Business and Performance Management, dispatch of Electric personnel, as well as Transportation Services (previously part of Safety and Shared Services)
Generation	Responsible for nuclear and non-nuclear (hydro, fossil, solar and fuel cells) power generation
Customer Care and Corporate Real Estate (CRESS)	Responsible for operation of the contact centers, dispatch of field personnel, the billing process from meter to payment, all local offices, customer relations, energy efficiency programs and corporate real estate (previously part of Safety and Shared Services)
Gas Operations	Responsible for operation of the Gas LOB activities, including the gas Transmission and Distribution operations, Asset and Risk Management, Regulatory Strategy, Business Performance Management, dispatch of Gas field personnel, as well as Aviation Services
Safety, Health and Enterprise Corrective Action Program (ECAP)	Responsible for providing internal services, including health and safety management; environmental services; and other support services

2.3 PG&E Operational Structure

To help manage the large service area, PG&E established regions, divisions, areas and districts. Each level has specific duties and structure to facilitate efficient and effective communication and coordination.

2.3.1 Electric Operations

Electric Operations includes Transmission and Distribution:

Type	Distribution ¹⁰	Transmission	Total Miles
Overhead	81,047	18,287	99,334
Underground	25,634	179	25,813
Total	106,681	18,466	125,147

- 4 regions – Northern, Bay Area, Central Coast and Central Valley
- 19 divisions
- 55 districts

Distribution

- 784 Distribution substations¹¹
- 3 Distribution Control Centers
 - Rocklin, Fresno and Concord
- >125,000 line circuit miles¹²
- Inter-connected with electric power systems throughout 14 US states, 2 Canadian provinces, and parts of Mexico

Transmission

- 92 Transmission substations¹³
- 60 Transmission -switching stations¹⁴
- 2 transmission control centers¹⁵



See page 129 for a larger map and further details of Electric Transmission and Distribution.

¹⁰ Verified 06/12/2017 by Manager, Electric Asset Data Management

¹¹ Verified 06/12/2017 by Manager, Electric Asset Data Management

¹² Data provided by Electric Operations Communications Representative, Principal 06/08/2017. In March 2017 PG&E updated its electric distribution circuit mileage to 106,000 miles from 141,000 circuit miles. The company recently expanded the use of its Geographic Information System (GIS) technology to map the distribution part of its system and provide more accurate information about the expanse of our distribution system. PG&E has been using GIS technology since 1990 for things like environmental planning permits, FERC licensing, property management, new business development, emergency response, compliance and risk management, etc. and now has integrated the distribution system into that platform. By having the precise mapping data, PG&E will be able to better pinpoint potential disruptions in the system, as well as the potential for quicker restoration in certain situations.

¹³ Substation information provided by Manager, Elec. Transmission Asset Strategy, 06/14/2017; data source 2017 FERC Filing.

¹⁴ Transmission-switching station information provided by Manager, Elec. Transmission Asset Strategy, 06/14/2017; data source 06/13/2017 SAP.

- Vacaville Grid Control Center (VGCC) – manages real-time transmission operations and is the single point of contact for transmission and distribution (T&D) operations with the California Independent System Operator (CAISO)
- San Francisco Transmission Operations Center (TOC) – performs contingency studies, next-day analysis, handles all telecom clearances and maintains full functionality as the backup facility for the VGCC
- Connects to distribution substations from which electricity is distributed to individual customers through step-down transformers

2.3.2 Gas Operations

Gas Operations includes transmission, distribution, storage and Gas Operations Center.

Type	Transmission	Distribution	Total Miles
Pipeline	~6,800	~42,000	~48,800

Transmission

- 7 Transmission field service areas¹⁶
- 11 Transmission districts
- ~6,800 miles of transmission pipeline
- Transports gas from interconnections with interstate pipelines owned by third parties that feed natural gas from all of the major natural gas basins in western North America, including western Canada, the U.S. Southwest and the Rocky Mountains
- Moves gas into and out of PG&E's 3 underground and other third party owned natural gas storage facilities
- Feeds the distribution system directly

Distribution

- 2 Distribution regions – North and South
- 18 Distribution divisions
- ~42,000 miles of distribution pipeline

Storage

- 3 underground storage facilities:
McDonald Island, Los Medanos, and Pleasant Creek



See pages 130 and 131 for a larger map and further details of Gas Operations.

¹⁵ Transmission control center information provided by Manager, Elec. Transmission Asset Strategy, 06/14/2017.

¹⁶ Figure 2.2 Field Services Areas, GERP version 6.0 p. 2-8

Gas Control Center

- Located in San Ramon and includes:
 - Gas Dispatch and Scheduling
 - Gas Transmission Control Center (GTCC)
 - Gas Distribution Control Center (GDCC)

2.3.3 Energy Supply

PG&E's Energy Supply business consists of hydroelectric and fossil generation.¹⁷

Hydroelectric ¹⁸	Fossil
3,900 MW power generated*	1485 MW total generation capacity
68 powerhouses	3 facilities
96 storage reservoirs	

Hydroelectric

- Utilizes 16 river basins stretching nearly 500 miles*
- Generates power for ~4 million homes*
- Additional detail for each hydro area may be found at the following links:
 - [Drum Spaulding Map](#)
 - [Feather River Map](#)
 - [Kings-Crane Map](#)
 - [Motherlode Map](#)
 - [Potter Valley Map](#)
 - [Shasta Map](#)

Fossil generation

- 3 facilities in Maxwell, Eureka and Antioch
- Fuel cell sites in the Bay Area
- Solar photovoltaic facilities throughout the service territory
- 1485 MW total generating capacity



See page 132 for a larger map of Energy Supply.

¹⁷ Unless noted, values provided by Hydro Licensing 04.14.2017 based on Hydro O&M and Fossil Solar intranet pages; figures with an asterisk (*) were pulled from [PG&E Company Profile](https://www.pge.com/en_US/safety/how-the-system-works/hydroelectric-system/hydroelectric-system.page) (https://www.pge.com/en_US/safety/how-the-system-works/hydroelectric-system/hydroelectric-system.page), 06/15/2017.

¹⁸ Numbers validated by Manager, SQS Engineering Standards 06.08.2017 and reflect sale of Merced Falls.

2.3.4 Nuclear

The Diablo Canyon Power Plant (DCPP) is PG&E's nuclear facility located on approximately 1,000 acres in San Luis Obispo County. DCPP includes¹⁹:

DCPP	Generation
Capacity	2,240 MW
Annual Electricity	18,000 gigawatt-hours

- 2,240 MW total plant generation capacity
- 2 Westinghouse Pressurized Water Reactor units
- 18,000 gigawatt-hours of electricity annually
- ~12,000 acres of land that is managed by PG&E



See page 133 for a larger map of the Diablo Canyon Power Plant Emergency Planning Zone.

¹⁹ DCCP statistics and map validated by Nuclear Communications Senior Manager, Communications 06/12/2017.

2.4 Customers

PG&E serves approximately 5.4 million electric customers and 4.3 million natural gas customers.²⁰ Customers are categorized based on public safety considerations, potential impact(s) resulting from a sustained outage and CPUC requirements for service reliability. The four primary customer categories are:

Table 2.2 PG&E Customers

Type	Customer Base	Who
Essential	<p>Electric customers who:</p> <ul style="list-style-type: none"> • Provide essential public health, safety and security services, • Are essential to grid stability • Are designated by the CPUC • Receive priority restoration • Are exempt from rotating outages ordered by the CAISO 	<ul style="list-style-type: none"> • Fire and Police • Hospitals and skilled nursing facilities • Water, Sewage and Communication services, if supporting emergency efforts • Air traffic and sea navigation control • Petroleum refineries and other facilities in the critical fuels chain of production
Critical	<p>Electric customers who risk significant</p> <ul style="list-style-type: none"> • Physical damage • Revenue loss • Data loss <p>Restoration prioritization is dependent on outage situation</p>	<ul style="list-style-type: none"> • Major tourist attractions • Arenas • Community facilities • Call Centers • Research, biotech food storage and manufacturing facilities • Academic, medical and residential institutions
Core	<p>Gas customers whose accounts are:</p> <ul style="list-style-type: none"> • Uninterruptable • Service provided except during rare cold days 	<ul style="list-style-type: none"> • Residential accounts • Small commercial accounts
Non-Core	<p>Gas customers whose accounts are:</p> <ul style="list-style-type: none"> • Interruptible • Service provided during normal conditions • May be interrupted during high demands 	<ul style="list-style-type: none"> • Power Plants • Industrial • Large Commercial <p>Examples include:</p> <ul style="list-style-type: none"> ◦ Oil Refineries ◦ Hospitals ◦ Universities ◦ Food Processors

²⁰ 2016 Year End data published in the annual shareholders report, February 2017; provided by Customer Service Business Operations Specialist, Senior reflects Electric Customers (average for the year) 2016: 5,349,691 Gas Customers (average for the year) 2016: 4,442,379; slightly different numbers are reflected on [PG&E's company profile](https://www.pge.com/en_US/about-pge/company-information/profile/profile.page) (or https://www.pge.com/en_US/about-pge/company-information/profile/profile.page, accessed 06/15/2017).

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3 Risk/Hazard Overview and Emergency Planning Assumptions

Enterprise Risk Management (ERM) has a process for identifying, responding, monitoring and mitigating risk to the company. That process and associated responsibilities are detailed [Utility Standard RISK- 5001S Enterprise and Operational Risk Management Standard](#), updated 10/04/2016. An overview is provided below.

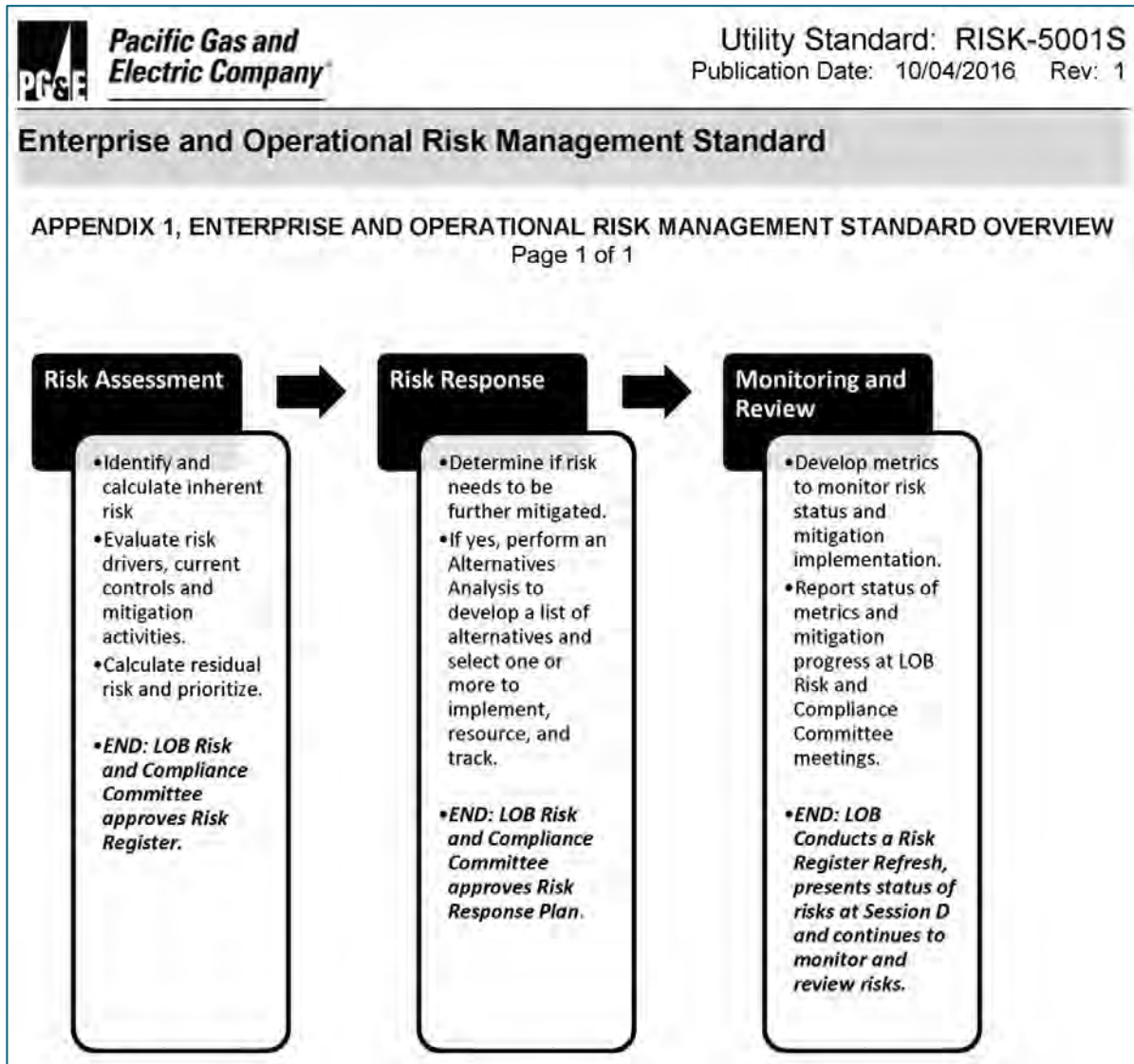


Figure 3.1 RISK-5001S, “Enterprise and Operational Risk Management Standard”

3.1 Risk Overview

Each LOB risk manager reviews the business' strategic objectives, processes, people, assets, infrastructure and technology. Then, working with SMEs and industry experts, the risk manager methodically identifies and assesses risks that would threaten the LOB's ability to meet its objectives.

In consultation with the LOB Risk and Compliance Committee, the risk manager develops an efficient and cost-effective means to mitigate or accept the risk. Based on an informed analysis of the risk, the plan may be to avoid, reduce, transfer or accept the risk. After the Risk Response Plan is approved and initiated, the risk manager monitors and reports progress.

Table 3.1 depicts PG&E's risk management process, who is responsible for specific actions and what the desired outcomes of those actions are.

Table 3.1 Risk Overview

Phase	Responsible	Actions	Outcome
Risk Assessment Identify and Evaluate	Risk Manager Risk Owner Enterprise and Operational Risk Management SME(s)	<ul style="list-style-type: none"> Identify primary risk, drivers and controls Review historical incident data Conduct root cause analysis Calculate residual risk and prioritize actions 	LOB Risk and Compliance Committee <ul style="list-style-type: none"> Approves Risk Register
Risk Response	Risk Manager Risk Owner	<ul style="list-style-type: none"> Determine if mitigations are needed If yes - develop alternatives and implement, resource and track one or more 	LOB Risk and Compliance Committee <ul style="list-style-type: none"> Approves Risk Response Plan
Monitoring and Review	Risk Manager Risk Owner Stakeholder(s) SME(s)	<ul style="list-style-type: none"> Monitor to ensure mitigation efforts are effective Review risk drivers, controls and mitigation Brainstorm additional activities to reduce the impact or likelihood of the risk occurring Calculate the risk if the proposed mitigation were selected 	LOB <ul style="list-style-type: none"> Conducts Risk Register Refresh Presents status at Risk and Compliance Session (Session D) Continues to monitor and review Addresses one or more of the primary drivers Improves or enhances existing or new controls Introduces new mitigations and controls

3.2 Emergency Planning Assumptions

3.2.1 General Planning Assumptions

PG&E recognizes that emergencies can result from natural or man-made incidents and that any incident may adversely impact people, property and the environment. Thus, the CERP is based on the following assumptions:

- Consistent emergency response principles and processes apply to most incidents.
- Practices should easily integrate with external first responders by incorporating compatible NIMS processes, when feasible.
- Response is scaled according to the incident(s), location(s), impact(s) and resources available or needed to safely and efficiently restore service.
- Resources may be moved throughout local and regional divisions as needed; EOC approval is not required.
- Generally, situations are best handled at the most local level and the EOC will not activate for single Operations Emergency Center (OEC) or Regional Emergency Center (REC) incidents.
- However, the EOC may be activated to support local (OECs), regional (RECs) single or dual commodity, planned, or unplanned incidents. Staffing and command is adjusted as appropriate to address the situation. Significant events will have Command and Control established by EP&R at the EOC, Alternate EOC (AEOC), or a site designated by the Incident Commander (IC).



Figure 3.2 Incident Scale, Resource Needs, and ICS Response Structure

3.2.2 Catastrophic Incident Planning Assumptions

Incorporates 2016 CERP §5.2.5, Catastrophic Incident Considerations.

PG&E's emergency preparedness and response plans, including the CERP, address a response to a major catastrophic event, such as an earthquake. In planning, as in all situations, public and employee safety is PG&E's priority. Table 3.2 lists assumptions and their external, company and employee impacts. The initial two assumptions on which PG&E plans for catastrophic events are:

- PG&E's "make safe first" focus may delay service restoration.
- In the event of a catastrophic event, the EOC will coordinate response and restoration priorities.

Table 3.2 Catastrophic Incident Planning Assumptions

Impact	Assumption
External	<ul style="list-style-type: none"> • First responders may not be able to respond immediately • Roadways and bridges may be unpassable • Key infrastructure and facilities may be damaged and inaccessible • A catastrophic event may attract local, state, national and international public, media, government and regulatory interest
Company	<ul style="list-style-type: none"> • Multiple commodities may be impacted • Employees may be delayed or unable to report to work due personal impacts of the incident, thereby diminishing workforce capabilities • Inability to access critical sites may impact calculating estimated time of restoration (ETOR) • Staff may be relocated to designated or ad hoc locations • PG&E's State OES Liaisons may need to report to the State Operations Center (SOC) to support the State of California Office of Emergency Services (OES) and/or Regional Emergency Operations Center (REOC) in the affected region • Substantial mutual assistance may be needed • Mutual assistance will be requested through PG&E's existing agreements
Employees	<ul style="list-style-type: none"> • Additional emergency on-call teams not currently on rotation may be needed. • Field Incident Management Teams (IMTs) from unaffected areas may have to travel significant distances to the disaster area • Employees may be grouped together based on skill sets to create an IMT or specific taskforce or "strike team" • PG&E employees who are certified to initiate first aid and/or CPR may serve a dual role and need to perform minor injury and/or life-saving measures

3.3 Emergency Scenarios

3.3.1 Weather Related Emergencies

▲ Adverse weather is the primary modulator of unplanned outage activity on the grid. In order to mitigate the considerable operational risk caused by adverse weather, PG&E's Meteorology Operations and Analytics team developed a storm damage prediction model, the Storm Outage Prediction Project Model, or SOPP Model for short. The model leverages over 20 years of historical weather and outage data along with high resolution weather forecasts and real-time weather data. The model runs daily (more often during storm events) to predict the following:

- Sustained Outages (SO)
- Customers Experiencing Sustained Outages (CESO)
- Resources (Troublemakers and Crews) needed to respond and repair
- Standby 911 Emergency Events
- Location and timing of specific adverse weather elements: precipitation, wind, heat, lightning and snow

The SOPP Model allows for advance planning and preparation before storm events; however, other emergency situations are less predictable.

DSO SOPP Model Forecast															
Issued: Tuesday, June 20, 2017 07:43															
Transformer Level Outages and Above															
				Cat				Staffing				Qualitative Weather			
				Cat 1				Normal, but have a plan				Sig. Adverse weather unlikely			
				Cat 2				Have a plan for escalation				Adverse weather possible			
				Cat 3				Staffing & Timing as Directed				Adverse weather likely			
				Cat 4				Staffing & Timing as Directed				Extreme weather possible			
				Cat 5				Staffing & Timing as Directed				Extreme weather likely			
				Tuesday 6/20/2017				Wednesday 6/21/2017				Thursday 6/22/2017			
Outages by Division				SO	CESO	TM	CR	SO	CESO	TM	CR	SO	CESO	TM	CR
Northern (NR)				46	6000	28	18	54	7800	33	22	68	11700	39	27
Humboldt				6	500	5	3	7	600	5	3	9	800	6	4
Sonoma				7	900	5	3	11	2100	7	5	15	2900	10	7
North Valley				9	600	6	4	10	700	7	5	11	800	7	5
Sacramento				14	3000	7	5	16	3400	9	6	21	4500	10	7
Sierra				10	1000	5	3	10	1000	6	3	12	2700	6	4
Bay Area (BA)				16	5100	12	7	23	7300	15	9	43	15000	27	18
North Bay				4	600	3	2	7	1100	5	3	11	3200	7	5
San Francisco				1	400	2	1	2	900	2	1	2	900	2	1
East Bay				2	900	2	1	3	1400	2	1	4	1800	3	2
Diablo				9	3200	6	3	11	3900	6	4	26	9100	15	10
Central Coast (CC)				31	7400	21	13	35	8500	23	15	74	20500	45	31
Peninsula				3	700	2	1	4	900	3	2	6	1300	3	2
Mission				5	1400	3	2	5	1400	3	2	14	4100	9	6
De Anza				4	700	3	2	4	700	3	2	13	3400	9	6
San Jose				9	3300	5	3	11	4000	6	4	27	9800	15	11
Central Coast				6	800	5	3	7	1000	5	3	8	1100	6	4
Los Padres				4	500	3	2	4	500	3	2	6	800	3	2
Central Valley (CV)				50	10100	26	17	51	10300	27	18	61	12600	29	20
Stockton				11	3000	6	4	11	3000	6	4	16	4300	7	5
Yosemite				13	2100	6	4	13	2100	6	4	15	2500	7	5
Fresno				16	3000	9	6	16	3000	9	6	17	3200	9	6
Kern				10	2000	5	3	11	2200	6	4	13	2600	6	4
PG&E SYSTEM				143	28600	87	55	163	33900	98	64	246	59800	140	96

Figure 3.3 Sample DSO SOPP Model Forecast

3.3.2 Earthquakes

Historically, in California, earthquakes have posed significant risk and, thus, PG&E's risk scenarios, forecasting and emergency preparedness also focus on earthquake response.

While any number of scenarios could serve as the basis for developing the emergency response outlined in this Plan, PG&E uses catastrophic earthquake incidents that have the potential to significantly impact the following 10 counties in the Bay Area significantly: Alameda, Santa Clara, Contra Costa, San Francisco, San Mateo, Marin, Santa Cruz, Napa, Sonoma and Solano. The processes and procedures developed to address such scenarios can be tested in full-scale emergency exercises conducted by EP&R.

PG&E uses damage modeling information to estimate the impacts of earthquakes, the potential damages, and the number of emergency resources needed to restore service.

The following example scenarios and others are included in the damage model library:

- Napa Earthquake – Magnitude 6.0
- Hayward Fault – Magnitude 7.0
- Rodgers Creek Fault Earthquake – Magnitude 7.2
- San Andreas Fault – Magnitude 7.9
- San Andreas Fault (Peninsula Segment) – Magnitude 7.2
- Rodger’s Creek Fault Earthquake – Magnitude 7.0



Figure 3.4 Napa Earthquake, August 24, 2014

These scenarios represent incidents that may result in a significant impact to PG&E’s service territory. For more information, refer to the Earthquake Annex.

3.3.3 Cybersecurity

PG&E increasingly relies on electronic Information Systems to improve efficiency. Electronic systems may store sensitive employee and customer information or control physical structures that deliver energy safely.

A cyber incident is one or more occurrences of unexpected or unwanted activity in a network or system that actually results in adverse consequences to an information systems or the information the system stores, processes or transmits. To be declared an incident the activity must cross a threshold of business impact that justifies the activation of the incident response plan.

Responding rapidly and in a coordinated fashion is essential to fulfilling PG&E’s mission – and in many cases a regulatory requirement. The National Institute of Standards and Technology (NIST)’s Cybersecurity Framework (CSF) consists of five primary functions:



In 2017, PG&E updated its Cyber Hazard Annex to the Company Emergency Response Plan (CERP) and conducted training and exercise to test the plan.

3.4 Threat Landscape

Threats are incidents that have not yet occurred but have a reasonable potential to occur. Dynamic threats are based on risk analysis and timely intelligence received from one or more sources.²¹

It is imperative that PG&E be aware of physical and cyber threats that may affect the company so that we may respond quickly and effectively.

Responding to a “threat” may include:

- Conducting a situational awareness call
- Opening the EOC in a monitoring mode
- Notifying staff via Send Word Now (SWN) or through e-page alerts

3.5 Annex Development

Additional annexes to the CERP may be developed based on PG&E’s risk identification and analysis process, priorities and events perceived to be a threat, including emergency preparations for planned events, such as major sporting events and celebrations held within the territory, e.g., SuperBowl50 or NBA, MLB, and NFL championship celebrations.²²

Possible hazard-specific annexes can be identified via the corporate risk identification process described earlier in this section.

Threat *noun*

(1) Indication of an approaching or imminent menace;

(2) Negative event that can cause a risk to become a loss, expressed as an aggregate of risk, consequences of risk and the likelihood of the occurrence of the event.

A threat may be a natural phenomenon such as an earthquake, flood, storm, or a manmade incident such as fire, power failure, sabotage, etc.

²¹ Definition from <http://www.businessdictionary.com/definition/threat.html> accessed 06/20/2017

²² NBA = National Basketball Association (Warriors), MLB = Major League Baseball (Giants, Athletics), NFL = National Football League (49ers, Raiders), and NHL = National Hockey League (Sharks)

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4 Incident Management Command Concepts and Guidelines

PG&E aligns its emergency preparedness and response practices and structure with:

- National Incident Management System (NIMS)
- Standardized Emergency Management System (SEMS)
- Incident Command System (ICS)

Under the NIMS, SEMS and ICS organizational structures, there are Command and General Staff positions. General Staff consists of five primary sections, Operations, Intelligence and Investigations, Planning and Intelligence, Logistics, and Finance and Administration.

The PG&E emergency response model is organized, and the Emergency Operations Center (EOC) is staffed, using principles from NIMS, SEMS and ICS:

- Follow a unified approach, i.e., a single chain of command, adaptable to meet situational needs
- Manage by a unified set of objectives, when possible, for single and dual commodity incidents
- Manage equipment, facilities, personnel, procedures and communications effectively
- Standardize operational structures and terminology to enable disparate groups to work and communicate together in a predictable, coordinated manner

4.1 Collaboration With Other Utilities

PG&E works collaboratively with other utilities to identify best emergency preparedness practices and participates in trade association meetings held by:

- Edison Electric Institute (EEI)
- Western Electricity Coordinating Council (WECC)
- American Gas Association (AGA)
- California Utilities Emergency Association (CUEA)
- Western Energy Institute (WEI)

As a member of WEI, EEI and AGA, PG&E meets with utilities throughout the United States and Canada. Discussions through the Western Region Mutual Assistance Agreement (WRMAA), which is governed by WEI, and through other trade associations, involve emergency planning and response issues and opportunities to support each other in a large-scale emergency.

4.2 National Incident Management System (NIMS)

NIMS is designed to provide guidance to government organizations, non-profits and private sector businesses to work cohesively to manage incidents resulting from all hazards, regardless of their size, complexity or location. The purpose of NIMS is to reduce loss of life, damage to property, and harm to the environment.

The main concepts and principles of NIMS are:

- Flexibility – The NIMS framework allows maximum flexibility for multiagency, multi-jurisdictional and multidisciplinary coordination adaptable to events that are scheduled, incidents that provide warning or notice, and incidents that provide no notice.
- Standardization – NIMS provides an organized set of standardized operational structures that is critical in allowing disparate organizations and agencies to work together in a predictable, coordinated manner.

The five components of NIMS are:

- Preparedness
- Resource Management
- Communication and Information Management
- Command and Management
- Ongoing Management and Maintenance

4.3 Standardized Emergency Management System (SEMS)

SEMS outlines the fundamental structure for response to emergency incidents in California. This system integrates California's emergency management entities and standardizes key elements of response phase planning and execution.

The main concepts and principles of SEMS include:

- ICS – An incident management system developed to improve preparedness and response capabilities and coordination of government, private and non-profit entities.
- Multi-/inter-agency coordination – Coordination of affected agencies and organizations to coordinate emergency response activities as well as resource allocations.
- Mutual Aid – A system designed to obtain additional resources for response from non-affected jurisdictions.
- Operational Area concept – Management and coordination of information, resources and priorities among local governments. The Operational Area is the link between local and regional levels of emergency management coordination.

4.4 Incident Command System (ICS)

ICS is an incident management system developed to improve preparedness and response capabilities and coordination of government, private and non-profit entities. ICS is designed to effectively manage equipment, facilities, personnel, procedures and communications within an organization. See Appendix D for additional details on ICS.

The main concepts and principles of ICS include:

- Use of common terminology – ICS uses common terminology and clear language to allow diverse incident management and support roles to work together.
- Modular organization structure – The ICS organizational structure is designed to be flexible and able to scale up or down dependent on incident size and complexity.

- Management by objectives – ICS emphasizes planning and management of incidents by focusing on objectives. The planning process used assists responders in prioritizing and formulating the incident objectives to guide the response efforts.

ICS is a flexible and scalable response that may change or grow depending on incident complexity. ICS allows for Single Command, Unified Command, and Area Command of an incident, as described below.

4.4.1 Single Command

Single Command (also called Single Incident Command) is when one Incident Commander (IC) has full responsibility for incident management. Single Command may be simple, involving only an IC, or a complex organizational structure requiring multiple emergency centers to open.

Every emergency incident begins as Single Command with one IC.²³ Initially, the first responder to the incident automatically becomes the IC and has overall command responsibility until:

- A more appropriately qualified person relieves him/her, e.g., the on-call supervisor
- Changes in the incident require jurisdictional or agency changes, e.g., fire or police
- Such a change makes good management sense
- Responsibility for specific functions is delegated
- Relief personnel arrive as part of the normal personnel shift change

4.4.2 Unified Command

A Unified Command structure is often used when multiple agencies respond to the incident, have a portion of responsibility for the incident, and share the incident management.

In a Unified Command:

- Participating ICs equally share command and responsibility
- Each Commander retains his/her own authority
- The rule of one will apply; there will be one:
 - Coordinated Incident Action Plan (IAP) to direct all activities
 - Single Command and General Staff organization
 - Communication voice

4.4.3 Area Command

Area Command is an organization established to oversee the management of large incidents or multiple incidents to which several Incident Management Teams (IMTs) have been assigned. Area Command has the responsibility to set overall strategy and priorities, allocate critical resources according to priorities, ensure that incidents are properly managed, and ensure that objectives are met and strategies followed. For further details on the use of Area Command, consult LOB functional annexes and see also Section 4.6.

²³ Other positions may be left unfilled based on the needs and circumstances of the particular incident; however, there will always be an incident commander.

4.5 Dual Commodity Response

A dual (or multiple) commodity incident is managed as a single coordinated event with:

- One set of incident objectives
- One Incident Action Plan (IAP)
- One Operations Section
- One single coordinated process for resource management

An integrated incident organization may be used in a shared facility or base camp, rather than activating separate ICPs and OECs for Gas, Electric and other LOB. This integrated structure scales up/down as needed, based on incident needs. Management and reporting relationships include several options:

- Single Command – The IC oversees the emergency response of both Gas and Electric (or other LOB).
- Unified Command – ICs from Gas and Electric (or other LOB) make joint decisions in an ICP, OEC or base camp.
- Single Command with a Deputy Incident Commander – An IC from one commodity and a Deputy IC from another commodity manage the emergency response.

4.5.1 Criteria for Which Commodity Has Authority

When two or more LOB representatives (most frequently Gas and Electric) are available to serve in the IC role, the following guidelines determine the IC and Operations Section Chief:

- Experience and training of the IC and Operations Section Chief
- Potential serious threat to the health, welfare or property of the public, employees, PG&E responders and others
- Incident complexity and commodity impact factors, including volume of customers, infrastructure impact, resource requirements, and response duration

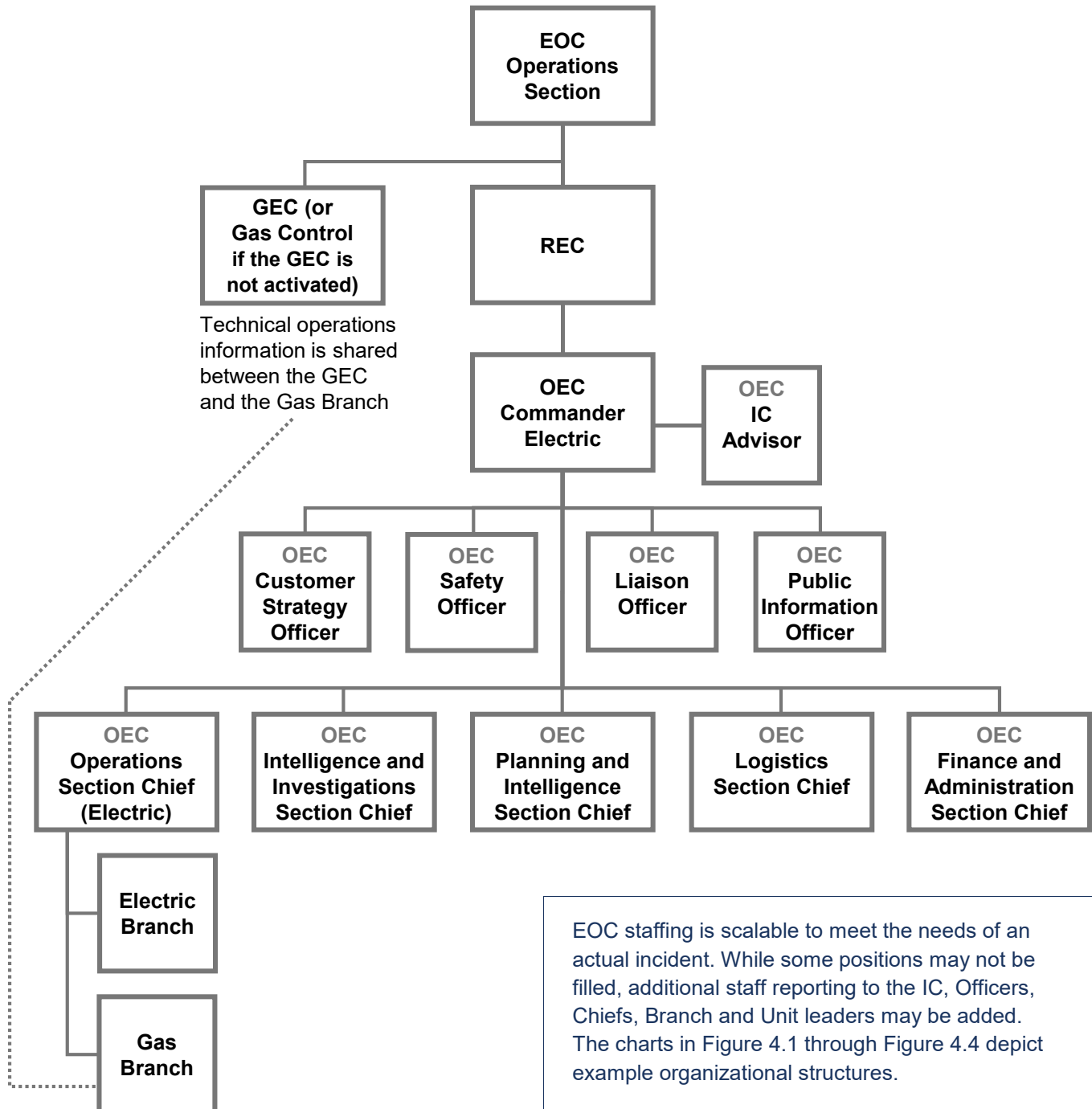
Ultimately, the EOC or highest-level activated emergency center can make the final decision on which commodity has authority over an incident.²⁴

4.5.2 Single Command for a Dual Commodity Incident

In a dual commodity incident, one option is Single Command, that is, assigning a single trained IC to oversee the overall response. Figure 4.1 and Figure 4.2 depict example organization charts with a single OEC Commander from Electric or Gas, as well as the reporting relationships. (For instances where the IC adds a Deputy IC from another line of business to provide situation-specific expertise, see Section 4.5.4.)

²⁴ Depending on the incident, the IC may start as one commodity before command is transferred to another commodity (e.g., the initial OEC Commander may be from Electric, then after restoration is complete, command is transferred to an OEC Commander from Gas). Also, until the IC arrives, the first company supervisor on the scene takes command of resources.

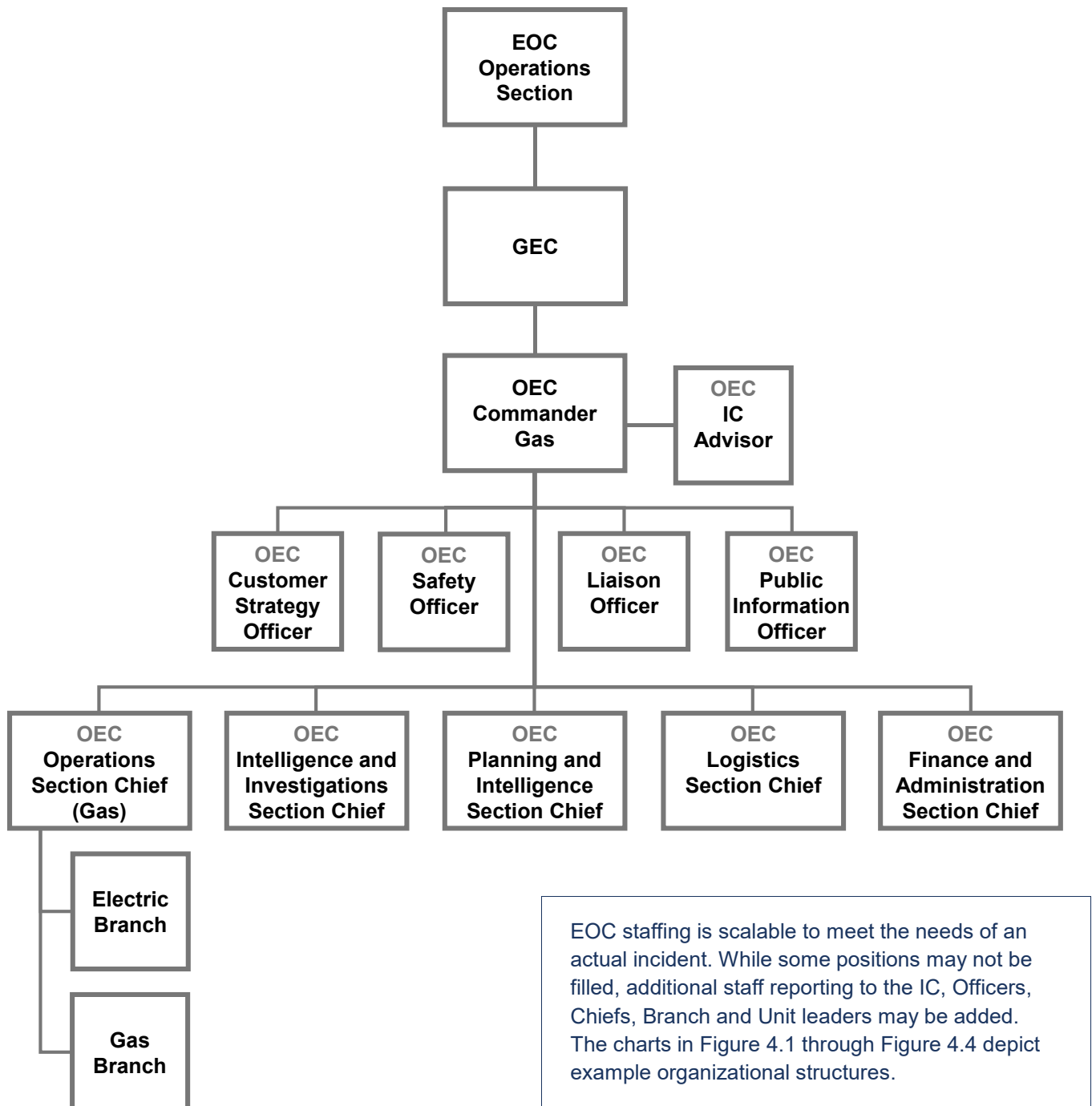
In Figure 4.1, Electric has the most potential serious threat and greatest number of customers impacted by the incident; Gas supports Electric. The OEC Commander and Operations Section Chief are from Electric and oversee both Gas and Electric Operations. There is a direct reporting relationship to the Electric Regional Emergency Center (REC), and technical operations information is exchanged between the Gas Emergency Center (GEC) and Gas Branch.



Note. This organization chart has been simplified to focus on the core incident management team structure at one OEC for a dual commodity incident. Other activated OECs and base camps are not included on this diagram.

Figure 4.1 Example of OEC Reporting Relationships for Electric Command of a Dual Commodity Incident

In Figure 4.2, Gas has the most potential serious threat and greatest number of customers impacted by the incident; Electric supports Gas. The OEC Commander and Operations Section Chief are from Gas, and they oversee both Gas and Electric Operations. There is a direct (solid line) reporting relationship to the GEC.



Note. In the rare instance that a Gas incident occurs when an REC is already activated for an Electric incident, such as during a storm, the Electric Branch would have a communications (dotted line) relationship to the REC. In ICS, the positions are scalable, and are activated depending on the need.

Figure 4.2 Example of OEC Reporting Relationships for Gas Command of a Dual Commodity Incident

4.5.3 Unified Command for a Dual Commodity Incident

At PG&E, Unified Command can be used at emergency response locations, i.e., OECs, ICPs and base camps. (For RECs, GEC and EOC, see Sections 4.5.2 and 4.5.4.) Unified Command is the recommended structure for significant catastrophic incidents, such as earthquakes. ICs from different commodities make joint decisions and speak as one voice. Any differences are worked out within the Unified Command. The ICs concur on the selection of section chiefs. The Operations Section Chief has full authority to implement the tactics in the IAP. Figure 4.3 shows an example of Electric and Gas representatives in a Unified Command at an OEC.

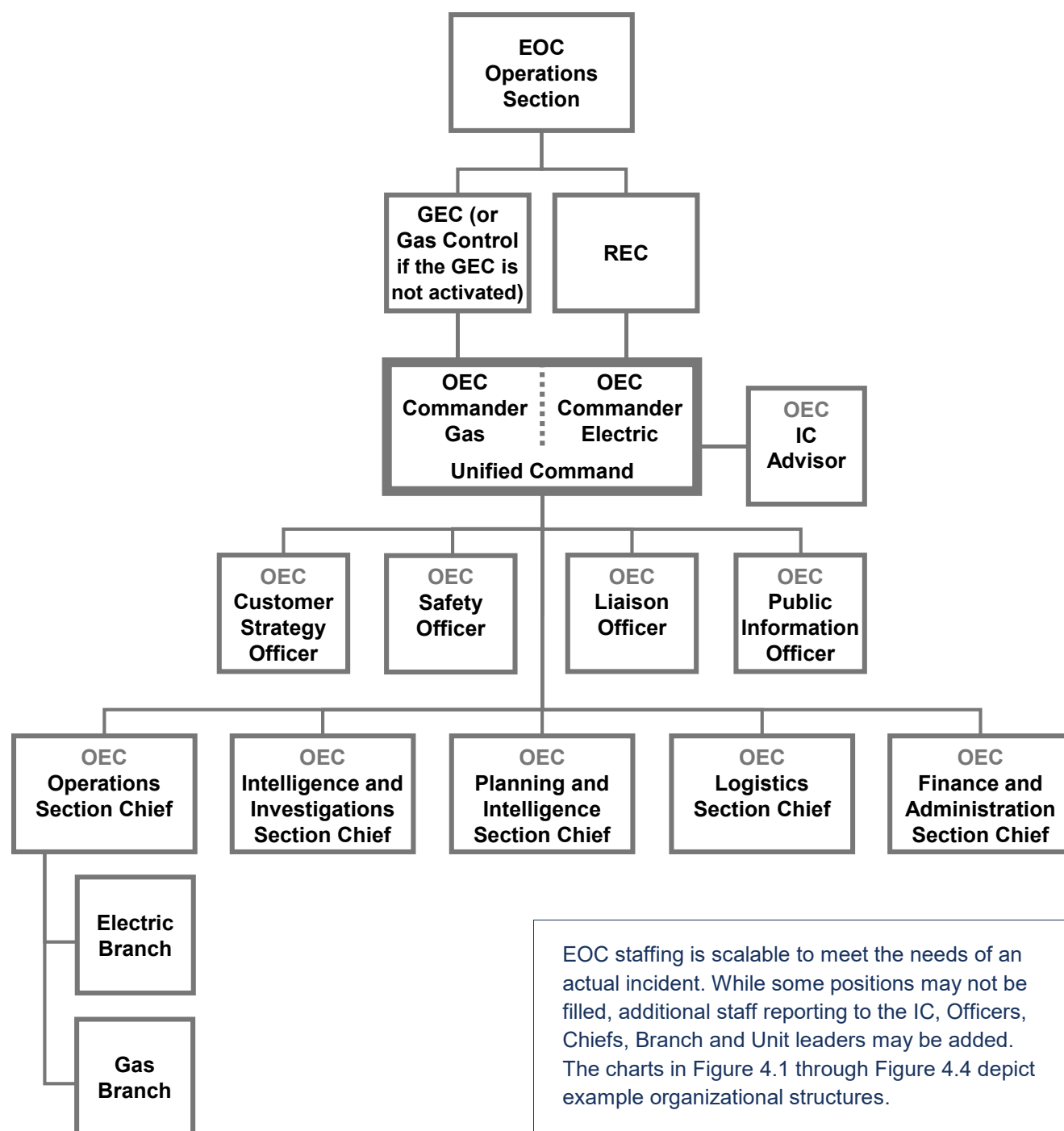


Figure 4.3 Example of OEC Reporting Relationships for Unified Command of a Dual Commodity Incident

4.5.4 Single Command With a Deputy Incident Commander for a Dual Commodity Incident

In this option, the commodity that has the most potential serious threat or greatest number of customers impacted may take on the role of the IC and Operations Section Chief, but the less impacted commodity may serve as the Deputy IC, as in Figure 4.4.

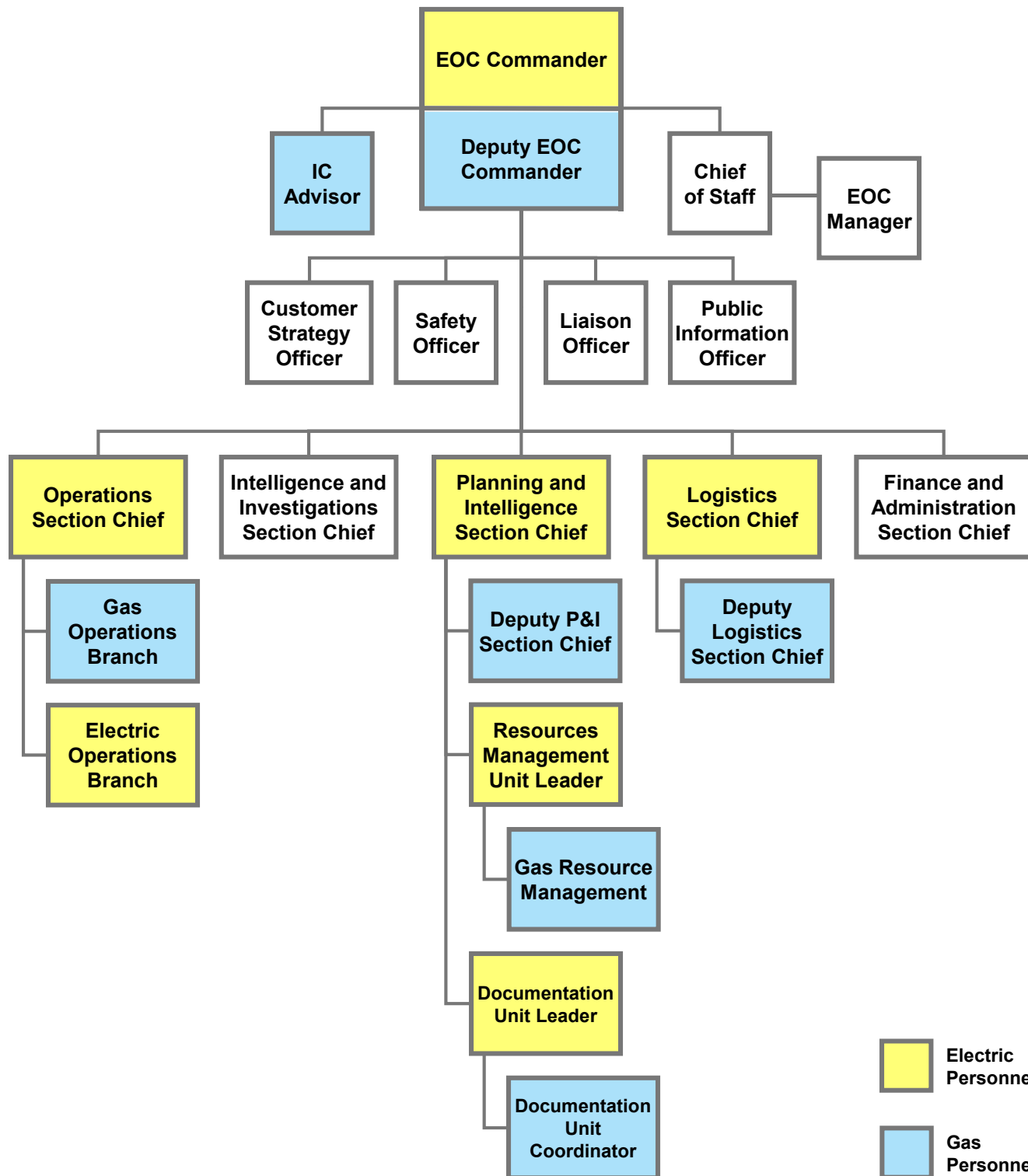


Figure 4.4 Example of Single Command With a Deputy Incident Commander for a Dual Commodity Incident

The IC has the option to appoint one or more Deputies. A Deputy IC may be designated to represent the less impacted commodity, to perform specific tasks, or to perform the IC function in a relief capacity. An assigned Deputy IC must be fully trained/qualified to assume the IC's position. The Gas and Electric Branches (and other LOBs) still report to the Operations Section Chief.

In the EOC, Single Command with a Deputy Incident Commander is often used for a dual commodity incident. For example, Figure 4.4 depicts an EOC Commander from Electric and a Deputy EOC Commander from Gas. The Gas positions in blue are pre-designated to report to the EOC during dual commodity incidents. These positions will initially be staffed from the oncoming GEC On-Call team (the next team up for rotation). If additional Gas personnel are needed at the EOC, the EOC Commander or Deputy EOC Commander will approve the staffing request. The Gas Operations Branch Director would then contact the GEC Director or On-Call GEC Director who will secure available staffing.

4.6 Catastrophic Incident Organization Considerations

A catastrophic incident affects the company and the ability to conduct business operations. A catastrophic incident may:

- Include multiple emergency incidents
- Affect a large number of customers
- Incur a significant cost
- Cause significant infrastructure risk/damage

The full mobilization of company resources is needed to respond, and mutual aid resources are needed. This level of emergency may have heavy media interest and actual reputational risk. The EOC and Executive Team are activated.

The IMT consisting of an Incident Commander and Command and General Staff personnel appropriate to the incident quickly come together when needed to respond. Because employees and IMT teams close to the incident may be affected and unable to respond, IMTs from other unaffected areas of the service territory will be mobilized to the incident area.

▲ During a catastrophic incident, such as a large earthquake, the amount of damage within a division may be overwhelming; thus the EOC Commander, Operations Section Chief, and local IMTs may choose to further subdivide an impacted location into smaller areas (see also Section 4.4.3, "Area Command"). The smaller areas are called "carves" and may act as multiple OECs within a division.



Figure 4.5 Example of Carver Boundaries in the SF Division

PG&E has carved out specific geographical areas within existing divisions. The naming convention for these “divisions within divisions” is the home division identifier, followed by the carver division name, using phonetic alphabet letters A–G. For example, San Francisco Alpha division is SF-ALPHA.

Setting up carves is situation dependent. For example in a storm incident, the OEC might take the lead, whereas in a significant earthquake activation, the EOC would identify the carves. The table below illustrates operational carving criteria.²⁵

Table 4.1 Example of Operational Carving Criteria

Workload Hours	Action
Greater than 7500	Carve is needed
Between 5000–7500	Carve is at the IC’s discretion
Less than 5000	Carve is not needed

²⁵ Criteria from the draft 2017 Operational Section Chief training, 06/19/2017.

5 PG&E Emergency Preparedness Departments

The PG&E emergency management structure includes dedicated full-time staff whose primary responsibilities are emergency management related. Other teams that stand up as needed.

The Emergency Response Teams and certain work sites, such as the Control Centers, are PG&E departments and/or facilities whose primary function is to manage day-to-day emergency operations, as well as to prepare for and support PG&E's emergency response; some teams are made of cross-functional LOB personnel.

The Incident Management Teams (IMTs), Corporate Incident Management Council (CIMC), and Field Facilities are identified and ready to quickly come together when needed to respond to an incident, as described in Chapter 6.

5.1 Emergency Preparedness and Response (EP&R)

As noted earlier, the EP&R team is a component of the Electric Transmission Operations organization and is responsible for company-wide emergency preparedness and response. In July 2017, EP&R moved to Electric Transmission Operations from Electric Distribution. Earlier in 2017, the Emergency Management Advancement Program (EMAP), part of Electric Distribution Emergency Management, merged into EP&R, thus giving EP&R a three-team focus of: pre-incident strategy and analytics; incident all-hazards planning; and post-incident business continuity. Each unit responds when the EOC activates.

EP&R protocols are based on industry standards, utility practices and PG&E's post-incident analysis to adopt continuous improvements, including:

- Developing corporate emergency strategy, preparedness, response and business continuity policies, standards and procedures
- Developing, maintaining and promoting PG&E's company-wide emergency response and business continuity plans
- Supporting PG&E LOBs and cross-functional teams to develop, review and test functional and hazard-specific annexes and business continuity plans (BCPs)
- Integrating enterprise risks into the IT Disaster Recovery Plans (DRPs), emergency response and critical facility plans maintained by PG&E's Corporate Real Estate (CRESS) department.
- Building and maintaining internal and public partnerships
- Sponsoring internal and external emergency preparedness events, including annual company exercises and functional/hazard specific exercises
- Maintaining the Emergency Operations Center (EOC), including displays of and access to, technologies and systems used to provide situational awareness
- Developing tools, people and processes in place **before** a large disaster strikes
- Establishing processes that are scalable to any hazard

- Developing new technologies in the areas of damage modeling, earthquake early warning systems and identification and prioritization of natural and man-made hazards and risk

More information about the EP&R team is available on the [EOC Resources](#) intranet site.²⁶

5.2 Electric Emergency Management

The Electric Distribution Operations Emergency Management (EDO EM) team, working with other leaders across Electric Operations, develops and recommends a strategic direction for electric emergency preparedness, emergency response and public partnerships. EDO EM also serves as a liaison with public safety agencies during emergencies.

EDO EM responsibilities include:

- Responds to emergency centers and supports electric distribution emergency incidents
- Facilitates Electric emergency response and business continuity planning, as well as maintaining related documents, such as the Electric Annex, Electric Emergency Plan for Capacity Emergencies and BCPs
- Conducts training and exercises to ensure the readiness of Regional Emergency Center (REC) and Operations Emergency Center (OEC) personnel
- Trains and coordinates emergency activities with public safety agencies
- Conducts performance monitoring of key operations and reliability metrics
- Submits an annual filing to CPUC for G.O. 166
- Manages the Automated Roster Callout System (ARCOS), an automated callout and scheduling system that PG&E uses to assemble and track first responders and repair crews

More information about EDO EM is available on the [Emergency Management](#) intranet site.²⁷

5.3 Gas Emergency Planning Team

The Gas Emergency Planning Team, reports up to the senior director of Gas System Operations and includes Emergency Preparedness Coordinators (EPCs) who respond to local and regional activated emergency centers. The team is responsible for:

- Maintaining the Gas Emergency Response Plan (GERP)
- Conducting annual GERP training and exercises
- Supporting Gas personnel during emergency incidents

More information about the Gas Emergency Planning Team is available on the [Gas Emergency Planning and Public Awareness](#) intranet site.

²⁶ Complete URL as of 06/14/2017 is <https://sps.utility.pge.com/sites/EOempmo/EOC/default.aspx>.

²⁷ Complete URL as of 06/14/2017 is <http://pgeweb/electric/emergency/Pages/default.aspx>.

5.4 Diablo Canyon Power Plant (DCPP) Emergency Preparedness

The Senior Vice President, Generation and Chief Nuclear Officer is responsible for overall emergency preparedness at DCP. Day-to-day management is delegated to the Emergency Planning Manager whose department:

- Ensures a highly trained Emergency Response Organization (ERO) is ready to respond
- Prepares and updates detailed emergency plans and procedures
- Maintains emergency response facilities, equipment and resources within strict federal regulations that govern the program, including
 - The ERO's rotating on-call teams to ensure that continuous 24-hour operations can be sustained
- Coordinates emergency preparedness integration with local, state and federal government agencies and the PG&E corporate Emergency Preparedness and Response organization

More information about DCP Emergency Planning is available on the [DCPP Emergency Planning](#) intranet site.

5.5 Power Generation Emergency Preparedness

▲ Power Generation Emergency Preparedness supports hydro, fossil, solar and fuel cell generation and reports up to the director of Safety, Quality and standards and includes Public Safety and security.

The team is responsible for:

- Maintaining the Emergency Response Plans (ERP) and Emergency Action Plans EAP)
- Conducting annual training and exercises
- Supporting Power Generation personnel during emergency incidents

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6 PG&E Emergency Management Organization

The next two chapters describe PG&E's Corporate Incident Management Council (CIMC) and the EOC Command and General Staff structure. The positions described below specifically refer to the CIMC and EOC staff positions; however, depending on the situation, other activation centers may have the same or similar staffing structure:

- The CIMC is chaired by the CEO of PG&E Corporation, or a President of PG&E Company designated by the CEO, and includes executives representing all areas of the company (see Section 6.1).
- The Command Staff is led by the Incident Commander (IC)—who, in the EOC, may be referred to as the EOC Commander—and includes the Deputy IC, Officers and Support Staff (see Sections 6.2 to 6.14).
- The General Staff consists of five sections, with each section led by a Section Chief who reports to the IC (see Sections 7.1 to 7.5).

Officers and Section Chiefs have additional direct reports; each office and section is described in detail further in this chapter. In the EOC, sections are distinguished by the color of the vest worn while on duty.

6.1 Corporate Incident Management Council (CIMC)

Pacific Gas and Electric Corporation, the holding company for Pacific Gas and Electric Company, sets the strategic direction for the company and is responsible for communications with PG&E's Board of Directors, shareholders, financial investors and elected government representatives.

The PG&E Corporate Incident Management Council (CIMC) provides executive oversight, policy advice and strategic planning. The CIMC consists of the CEO, Gas and Electric presidents, senior vice presidents, chief information officer, and other incident critical roles described in Table 6.1. In 2016 a company-wide reorganization resulted in the merger of the CIMC and Operating Executives leadership teams.

The Director EP&R, CEO Chief of Staff, and Director Corporate Security, among others, support the CIMC.

Table 6.1 Corporate Incident Management Council (CIMC) – Members

Council Member	Responsibilities
President and Chief Executive Officer (CEO)	<ul style="list-style-type: none"> Chaired by the CEO of PG&E Corporation or a President of PG&E Company designated by the CEO Provides executive oversight Advises on policy Communicates with the Board Members regarding issues of national attention affecting PG&E Participates in strategic planning and decision-making on long-term recovery activities Authorizes financial support of an event May issue a company statement, if needed²⁸ <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>* Denotes PG&E Corporation All others PG&E Company</p> </div>
President and Chief Operating Officer (COO)	
Executive Vice President (EVP) and General Counsel*	
Senior Vice President (SVP) and Chief Information Officer	
SVP Electric Operations	
SVP HR and Chief Diversity Officer	
SVP Gas Operations	
SVP Chief Ethics and Compliance Officer & Deputy GC*	
SVP Gen and Chief Nuclear Officer	
SVP and Special Counsel to the Chairman*	
SVP, Strategy and Policy	
SVP, Energy Policy and Procurement	
SVP and Chief Financial Officer*	
Vice President (VP) Electric Transmission Operations	
VP and Chief Security Officer	

Corporate Incident Management Council (CIMC) – Support Staff

CIMC Support Staff	Responsibilities
Director EP&R	<ul style="list-style-type: none"> Serves as the CIMC Coordinator
Director of Corporate Security	<ul style="list-style-type: none"> Serves as the company liaison contact with law enforcement
Chief of Staff to the CEO	<ul style="list-style-type: none"> Assists the CIMC Committee and CIMC Coordinator
SMEs	<ul style="list-style-type: none"> Consulted to assist the CIMC in formulating strategies
Delegates	<ul style="list-style-type: none"> Designated to serve in CIMC members' absence
Alternate Staff	<ul style="list-style-type: none"> Assigned by the Chair to augment the CIMC in a protracted incident Ensures that critical information is immediately shared with CIMC members <p>Note:</p> <ul style="list-style-type: none"> Support and alternate staff have no decision-making authority CIMC retains its full decision-making responsibilities

²⁸ The PIO serves as PG&E's official POC for outgoing announcements.

6.2 Incident Management Teams (IMTs)

An IMT is comprised of an IC (or emergency center commander) and the Command and General Staff personnel assigned to an incident. IMTs, when assembled, have direct authority to plan and execute the response.

PG&E has both field and EOC-level IMTs. Various IMTs are trained to respond to and work at the EOC, at a PG&E Incident Command Post (ICP), or in one of the company's emergency centers. IMTs may contain only overhead staff (officers, chiefs and commanders) or a full complement of support staff for all ICS positions. IMTs may consist of on-call staff or other employees called in to respond to a particular incident.

Some IMTs are on-call according to a scheduled rotation calendar posted at the beginning of the year. DCP, Gas, Government Relations, IT and many of the coordination centers currently use this model. However, teams may be made up of any combination of first responders, SMEs and other employees throughout the enterprise.

Members of PG&E IMTs include Commanders, Command Staff, and General Staff of the OECs, RECs and EOC.

6.3 EOC Command Staff

The organizational chart in Figure 6.1 below displays the EOC Command Staff top-level structure. A comprehensive EOC organizational chart for a full catastrophic event is available in Appendix C, while individual EOC sections are described and displayed in this chapter and Chapter 7.

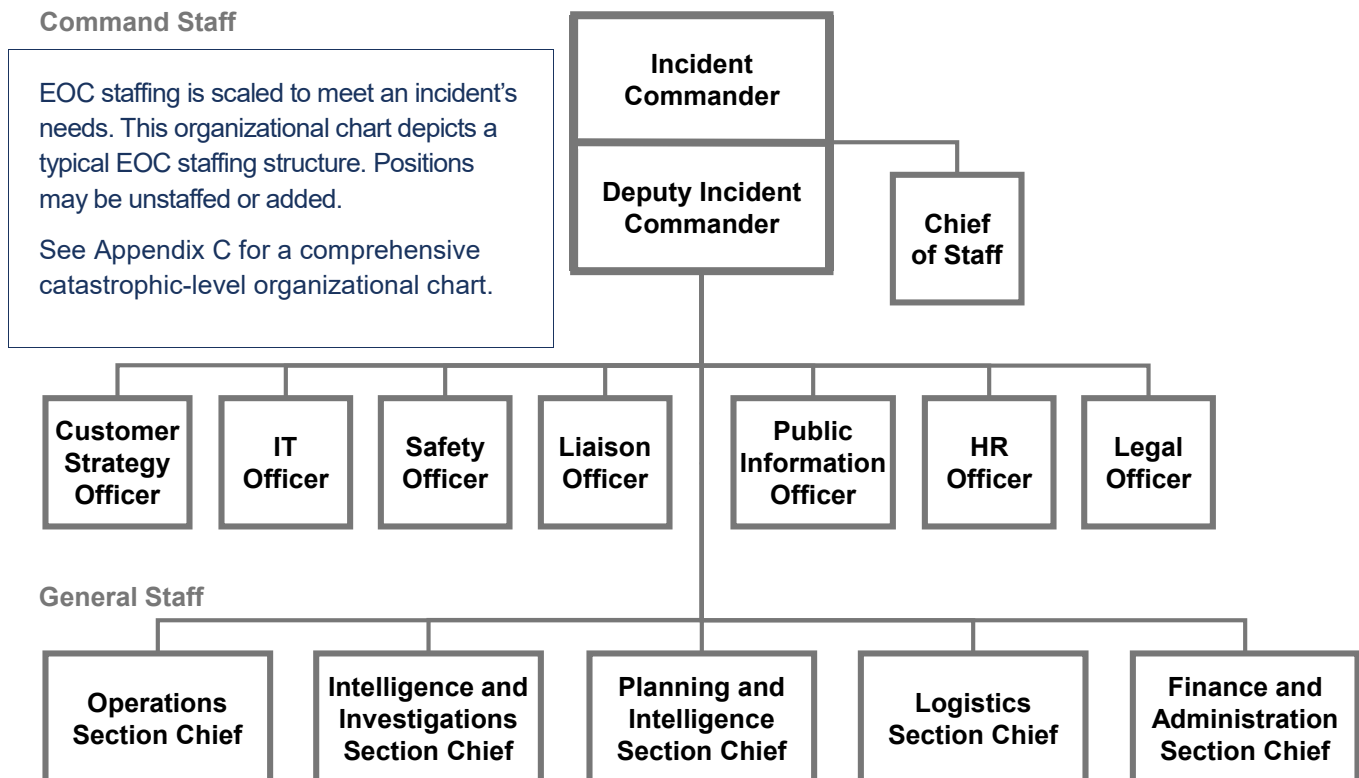


Figure 6.1 PG&E Command System (ICS) Structure As Used in the EOC

The positions described below specifically refer to the EOC staff positions; however, depending on the situation, other activation centers may have the same or similar staffing structure. In the EOC, sections are distinguished by the color of the vest worn while on duty.

The Command Staff is led by the Incident Commander (IC)—who, in the EOC, may be referred to as the EOC Commander—and includes the Deputy IC, Officers and Support Staff. The General Staff consists of five sections, with each section led by a Section Chief who reports to the IC. Officers and Section Chief have additional direct reports. Each office and section is described in detail further in this chapter.

Table 6.2 identifies direct reports to the Incident Commander. It does not include subordinate reports, e.g., EOC Manager or Historian who report to the Chief of Staff, or those who report up to officers.

Table 6.2 EOC Roles That Report Directly to the Incident Commander

EOC Role	Vest Color
Command Staff	
Incident Commander (IC)	Navy Blue with Neon Stripe
Deputy IC	Navy Blue
IC Advisor ²⁹	White
Chief of Staff	Black
Officers	
• Legal Officer	White
• Safety Officer (SO)	White
• Public Information Officer (PIO)	Tan
• Customer Strategy Officer (CSO)	White
• Human Resources Officer (HRO)	White
• Liaison Officer (LNO)	White
General Staff	
Sections	
• Operations	Royal Blue
• Intelligence and Investigations (I&I)	Light Blue
• Planning and Intelligence (P&I)	Red
• Logistics	Yellow
• Finance and Administration	Green

²⁹ The IC Advisor is generally not staffed for electric events.

6.4 Incident Commander (IC)

As noted previously, as part of the PG&E's emergency management practice, there is always an assigned IC on-call who is in charge of company emergency operations. When working in an emergency center, the IC becomes the "Commander" of the facility from which they are running operations. For example, the IC at the EOC is called the "EOC Commander" but is generally called "the IC" for ease of conversation.

The IC is responsible for:

- Notifying emergency personnel, executive leadership, and external agencies of activation per the emergency plan checklists
- Assessing incident priorities and resource needs
- Overall management of the incident, including:
 - Developing and implementing the response strategy
 - Coordinating the response strategy with external agencies, when appropriate
 - Making management decisions during an incident within the scope of authority
 - Coordinating with LOB executives on policy issues beyond that scope
- Operational responsibilities, including:
 - Making appropriate policy decisions
 - Resolving section conflicts
 - Setting strategic objectives
 - Directing the tactical response to the emergency incident
 - Coordinating with and providing regular communication to PG&E executives and the CIMC when activated
 - Approving and overseeing the Incident Action Plans (IAPs)
 - Approving all communications strategies in consultation with the PIO
 - Setting the operational period
 - Establishing orders and directives necessary for effective operations
- Documentation responsibilities, including:
 - Initiating and maintaining incident log

6.5 Deputy Incident Commander

The Deputy Incident Commander:

- Has the same authority as the IC
- Acts as the IC in his/her absence
- May have one or more deputies and may delegate responsibilities in accordance with the needs of the incident



Figure 6.2 Incident Command Center

6.6 IC Advisor

At PG&E the IC Advisor has typically been used to support ICs from Gas Operations.

6.7 Legal Officer

The Legal Officer:

- Provides advice and counsel on legal matters related to the incident
- Reviews media releases and public information
- Monitors compliance with regulatory and reporting processes
- Develops and communicates the document retention plan
- Assists in incident investigations

6.8 Safety Officer (SO)

The SO:

- Monitors safety conditions in the field
- Advises the IC on all matters relating to operational safety
- Develops measures and messages for improving safety and health awareness of all assigned personnel
- Tracks work-related injuries
- Performs investigations as necessary.

6.9 Public Information Officer (PIO)

Each level of PG&E's emergency response may have a PIO and/or public information function. However, when staffing the EOC, the PIO's role is to provide strategic communications counsel to the IC. The PIO:

- Oversees the Public Information Office
- Develops all internal and external communications strategy and messaging during an emergency
- Obtains IC approval of all public information
- Ensures that all information being shared with external audiences is timely, accurate and consistent.
- Ensures that the CSO and LNO in the EOC are aligned on communications strategy and objectives

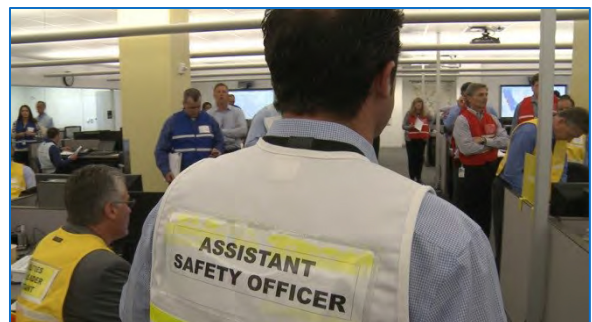


Figure 6.3 EOC Operational Briefing
(Note vest colors denoting position)

- Escalates significant issues to the IC for additional guidance on potential actions and strategies.

The Public Information Office:

- Develops and implements communication strategy to ensure “one voice” communications
- Coordinates emergency communication activities with other agencies, media, customers, etc., through verbal replies, on-camera interviews, written statements, press releases and social media
- Responds to real-time media requests for information, interviews and status
- Conducts press conferences and manages press questions and queries
- Staffed by PIO, CSO, LNO, Government and Regulatory Relations Officers
- In a DCPD emergency, the EOC PIO integrates with the DCPD Joint Information Center (JIC) in San Luis Obispo to ensure timely, accurate and consistent messaging
- Additional communications information is available in Chapter 14, “Coordination and Communication,” and the External Communications Annex.

6.10 Customer Strategy Officer (CSO)

The Customer Strategy Officer:

- Serves as an advocate for customers by
 - Providing updates to customers
 - Addressing customer issues
 - Communicating high-priority outage concerns to the emergency operations team
- Develops customer communication strategy in coordination with the other customer focused teams, including
 - Customer Contact Emergency Coordination Center (CCECC)
 - CSOs in the RECs/OECs
 - Public Information Office

6.11 Liaison Officer (LNO)

The LNO is primarily responsible for being the point of contact for representatives of government agencies, non-governmental organizations and/or private entities. In either a Single or Unified Command Structure, representatives from assisting or cooperating agencies and organizations coordinate through the LNO.

Depending on the scale of the incident, the LNO may also have agency representatives reporting to them. Liaison staff could include representatives from:

- Community Relations
- State Government Relations
- Federal Affairs
- State Agency Relations
- Local Government Relations
- Regulatory Relations
- Public Safety

6.12 Human Resources Officer (HRO)

The HRO:

- Represents HR and its emergency response team in the EOC and providing HR guidance and updates to the EOC Commander.
- Responsible for the management of all human resources and workforce needs for the incident/event, including:
 - HR policies and program development and adherence
 - Labor relations issue mitigation and union communications
 - Impacted employee and retiree lodging and support
 - Employee and family emergency messaging processes and communications
 - HR Emergency Response Team activities,
 - HR advice and counsel
 - Coordinates with the Public Information Office to develop workforce communications, as directed by the EOC Commander Information Technology (IT) Officer
 - Utilizes Send Word Now (SWN) for emergency communication to employees and retirees

6.13 Information Technology Officer (ITO)

The IT Officer:

- Advises the EOC Commander on all matters relating to IT and Cybersecurity
- Coordinates with the IT Branch Director and the Intelligence / Investigations Section Chief, when activated.
- Can escalate significant issues to the EOC Commander for additional guidance on potential actions.
- May be activated for a significant cybersecurity or IT incident, or at the request of the EOC Commander for incidents where IT is significantly impacted

6.14 Chief of Staff

The Chief of Staff:

- Assists the EOC Commander who may delegate duties to the Chief of Staff, such as approving draft intelligence reports
- Directs the work of the EOC Manager and Historian

6.14.1 EOC Manager

The EOC Manager:

- Ensures the timely and effective opening of the EOC
- Maintains supplies and assists with the operations, setup, activation and maintenance of the EOC

6.14.2 Historian

▲ The historian position was established in early 2017 to document high level decisions regarding the overall incident.

The Historian:

- Compiles key points, action items and decisions
- Documents at a high level how response was conducted

The historian ensures that key decisions and actions are identified, recorded and maintained as part of the official incident record. The historian is positioned in the Command Staff to facilitate communication and access to key decision makers.

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7 EOC General Staff

The EOC General Staff consists of:

- Operations Section
- Intelligence and Investigations (I&I)
- Planning and Intelligence (P&I)
- Logistics
- Finance and Administration

EOC staffing is scaled to meet an incident's needs. The organizational charts in this section depict a typical EOC staffing structure. Positions may be unstaffed or added.

7.1 Operations Section

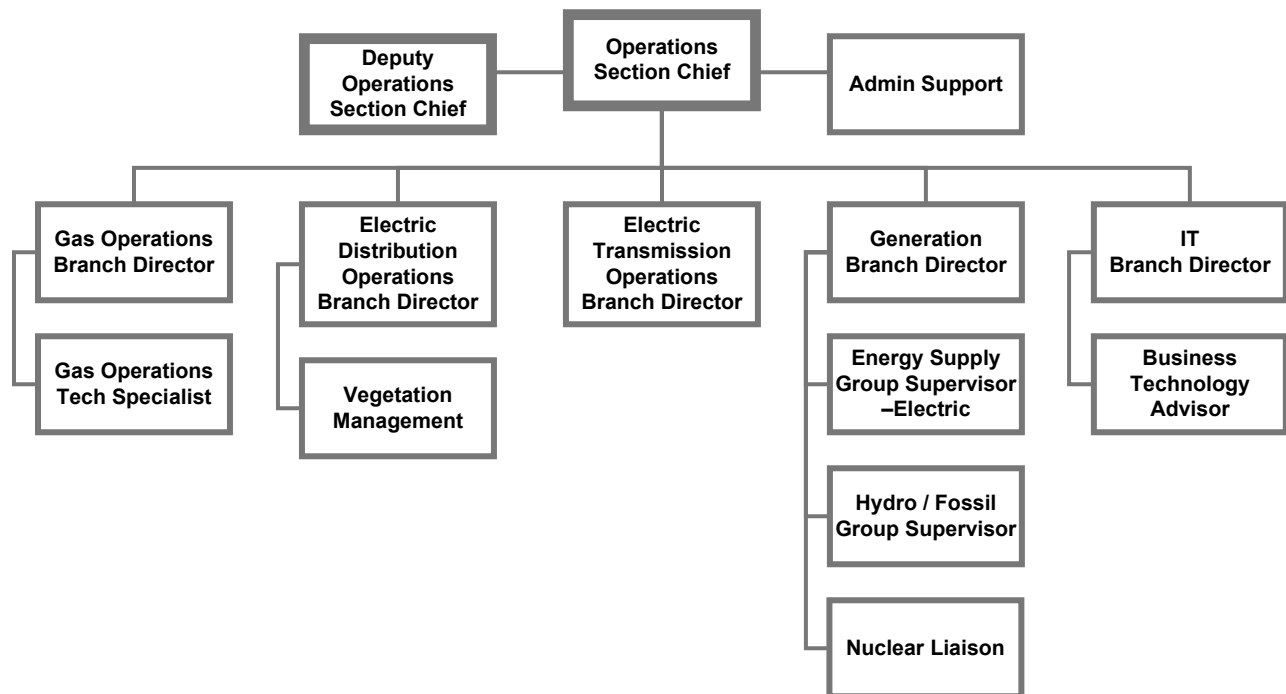


Figure 7.1 General Staff - Operations Section

The Operations Section implements the assessment and restoration strategy and achieves the incident objectives set by the IC and communicated in the IAPs. In most emergencies, the Operations Section ensures coordination with other EOC sections and emergency centers, such as the RECs.

The Operations Section, led by the Operations Section Chief, consists of the following five branches, any or all of which may be activated, depending on the nature of the emergency:

- Gas
- Electric Distribution
- Electric Transmission, including Vegetation Management
- Generation, including Hydro/Fossil, Nuclear and Energy Supply
- Information Technology

7.1.1 Gas Operations Branch

The EOC's Gas Operations Branch coordinates the recovery and restoration of PG&E's gas distribution and transmission systems. Execution of gas service restoration and repair will be coordinated from the GEC.

The Gas Operations Branch will be represented by a select number of individuals in the EOC to support strategic planning and coordination with Electric.

The Branch Director:

- Must have the authority to make decisions on behalf of Gas
- Interfaces with the Electric Branch Director and others in the EOC to develop restoration strategy
- Ensures that Gas emergency management response activities are integrated into the overall response strategy and there is effective coordination and communication between Gas and Electric
- Reports out for Gas Operations at the command and general staff meetings



Figure 7.2 Operations Staff Wearing Royal Blue Vests

7.1.2 Electric Distribution Operations Branch

The Electric Distribution Operations Branch coordinates the recovery and restoration of PG&E's electric distribution system. The branch also provides information on customer outages and field operational challenges to the EOC.

The Branch Director directs the work of the RECs, who then perform the tactical planning, mobilize resources within their regions, and guide multiple OECs in the field performing restoration activity.

7.1.3 Electric Transmission Operations Branch

The Electric Transmission Operations Branch coordinates with the Electric Transmission Emergency Center (ETEC) to manage the restoration of the electric transmission system.

The Electric Transmission Branch Director:

- Verifies that the Vacaville Grid Control Center (VGCC) is in close coordination with the CAISO for operational communications
- Verifies that ETEC is reporting the status of the damage and restoration efforts
- Coordinates with the Command Staff to ensure timely and accurate communications with CAISO's on-call communications representative

7.1.4 Generation Branch

The Generation Branch secures gas and electric energy supplies to serve PG&E customers by safely, efficiently and effectively operating generating resources and administering the gas and electric transactions portfolio.

The Generation Branch includes the following units:

- Nuclear Liaison
- Energy Supply Group
- Hydro/Fossil Group

In the event of a generation emergency, the Generation Branch is:

- Responsible for restoring or replacing electric supplies to satisfy retail load and for managing the emergency at the plant level

In the event of a nuclear emergency at DCP, the Generation Branch is:

- The interface between the plant's Emergency Operations Facility (EOF) and the company's EOC

7.1.5 Diablo Canyon Power Plant Emergency Response Organization (ERO)

In the EOC, the nuclear liaison falls under the Generation Branch. A liaison in San Francisco integrates plant response with the utility's emergency organization and facilitates requests for information and company support with the DCP emergency response facilities.

The DCP ERO is grouped into assigned teams for rotating on-call duties and to ensure that continuous 24-hour operations can be sustained. The DCP ERO is trained in, and the DCP Emergency Plan incorporates, the following functional responsibilities:

- Plant Operations and Assessment of Operational Aspects
- Emergency Direction and Control
- Notification and Communication
- Radiological Assessment
- Plant System Engineering, Repair and Corrective Actions
- In-Plant Protective Actions
- Firefighting
- First Aid and Rescue Operations
- Site Access Control and Personnel Accountability
- Resource Allocation and Administration
- Public Information

7.1.6 Information Technology (IT) Branch

The IT Branch:

- Manages the protection and restoration of technology
- Coordinates with the Operations and Logistics sections to establish technology restoration priorities
- Develops a strategy to restore technology services associated with the emergency incident
- Acts as a liaison with the IT Coordination Center (ITCC) to lead the execution of established priorities and strategies for IT

7.2 Intelligence and Investigations (I&I) Section

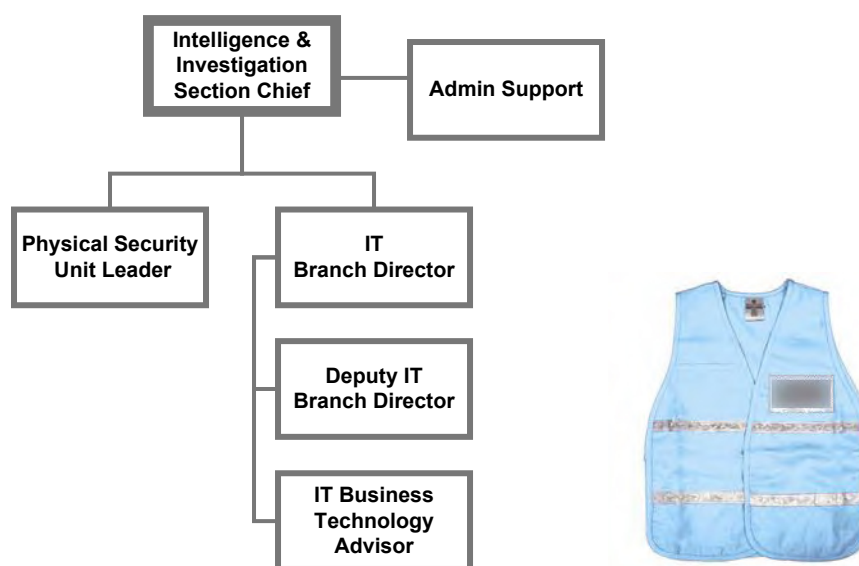


Figure 7.3 General Staff - Intelligence and Investigation Section Chief

▲ The Intelligence and Investigations (I&I) function may be activated, at the discretion of the Incident Commander, in cases where PG&E seeks to:

- Integrate intelligence and information collection, analysis and sharing for incidents that may be the result of criminal activities, e.g., cyberattacks, physical attacks on critical infrastructure, and terrorist attacks
- Determine the cause and origin of an incident
- Manage classified intelligence

The Incident Command System provides for organizational flexibility and the I&I function can be embedded in the Planning Section, Operations Section, Command Staff, or as a separate general staff section. At PG&E, the I&I function is likely to be activated as a separate general staff section.

The I&I Section at PG&E helps ensure intelligence/investigations operations and activities are properly managed and coordinated to:

- Prevent/deter additional activity, incidents or attacks, where possible
- Collect, process, analyze, secure and appropriately disseminate intelligence information
- Conduct a thorough investigation
- Identify, document, process, collect, safeguard, examine and store evidence
- Determine the source or cause and control spread and impact, where possible

In addition, the I&I Section is responsible for developing, conducting and managing information related to security plans and operations, as directed by the Incident Commander. These may include information security and operational security activities, as well as the complex task of ensuring that sensitive information of all types (e.g., classified information, sensitive law enforcement information, proprietary and personal information, or export-controlled information) is handled in a way that not only safeguards the information, but also ensures that it gets to those who need access to it so that they can effectively and safely conduct operations.

The I&I Section Chief oversees the I&I Section, which may activate the following units, as needed.

7.2.1 Physical Security Unit

The Physical Security Unit:

- May be assigned to I&I instead of the Logistics Section
- Supports investigation operations, as directed by the I&I Section Chief
- Acts as the primary liaison with law enforcement

7.2.2 IT Branch Director

The IT Branch Director:

- May be assigned to I&I section when an incident involves cybersecurity. For most emergency activations, e.g., storm or natural disaster events, the IT Branch reports to the Operations Section Chief
- Manages protection and restoration of IT technologies
- Establishes technology assessment and restoration priorities and develops an IT response strategy for the incident
- Liaises with ITECC to lead execution of the established strategy for IT

7.3 Planning and Intelligence (P&I) Section

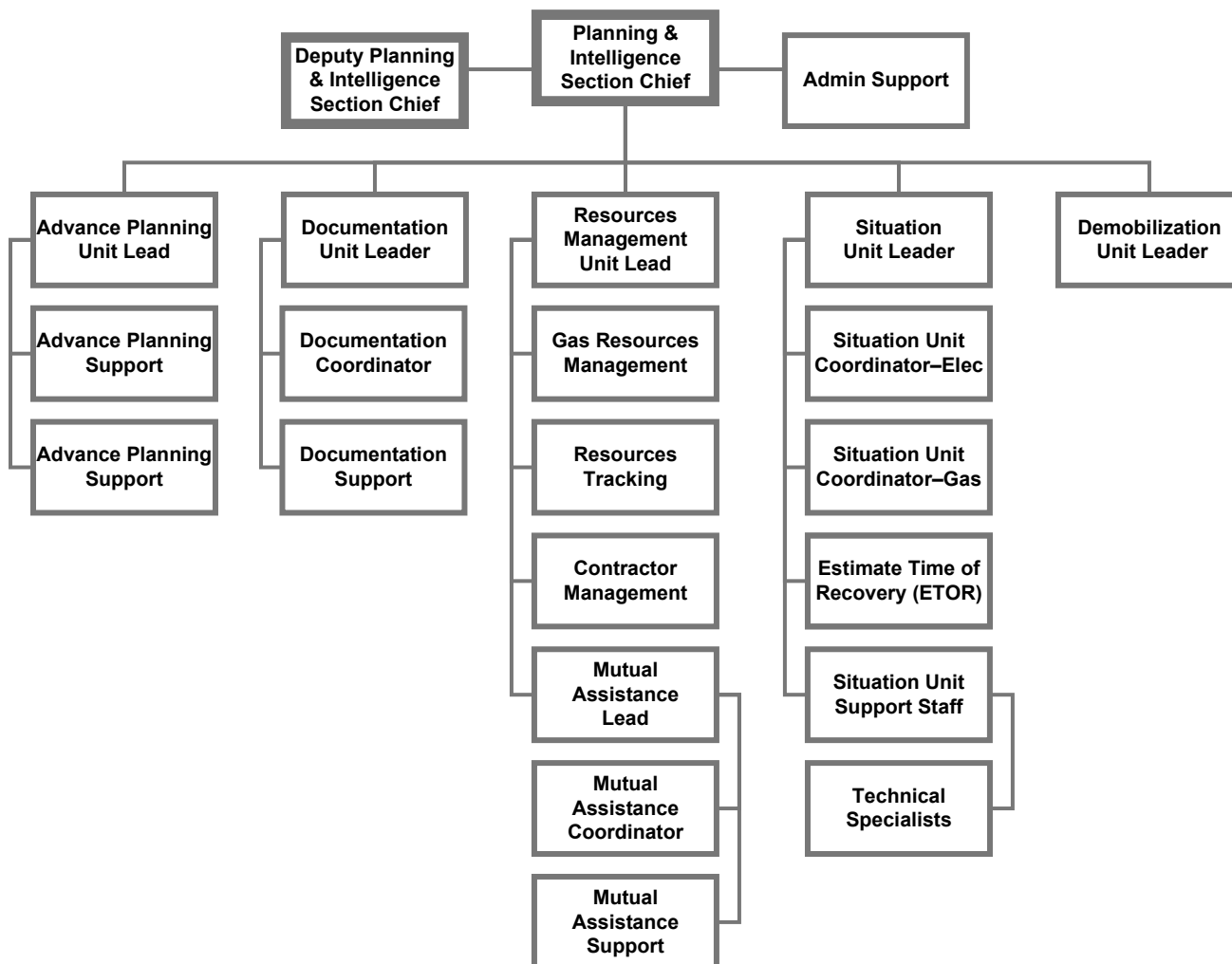


Figure 7.4 General Staff – Planning and Intelligence Section

The P&I Section is responsible for collecting, evaluating and displaying incident intelligence and information. This section prepares incident action plans (IAPs), long-range, contingency and demobilization plans. Additionally, this section gathers situational intelligence, maintains incident documentation and tracks resources assigned to the incident.

The P&I Section Chief oversees the P&I Section, which contains the following units:

- Advanced Planning
- Documentation
- Resources Management, including Gas, Tracking, Contractor and Mutual Assistance
- Situation, including Electric, Gas, ETOR and Technical Specialists
- Demobilization

7.3.1 Advance Planning Unit

The Advance Planning Unit:

- Includes representatives from Gas, Electric and Generation, as appropriate to the incident
- Runs damage models pertinent to the emergency
- Develops an Advance Plan consisting of potential response and recovery-related issues likely to occur beyond the next Operational Period
- Develops Restoration Work Plans that include resource requirements to repair assets and restore service
- Reviews all available status reports, action plans and other significant documents
- Determines potential future impacts in the event of a disaster, particularly issues which modify the overall strategic EOC objectives



Figure 7.5 P&I Staff Wearing Red Vests

7.3.2 Documentation Unit

The Documentation Unit:

- Oversees the collection, organization and retention of incident information, including EOC Unit Logs, forms, reports, EOC Action Plans and other documents related to the response
- Prepares, assembles and distributes the EOC Action Plan for each Operational Period
- Works closely with the historian to capture meeting notes, action items and decisions

7.3.3 Resources Management Unit

The Resources Management Unit:

- Determines what resources have been assigned to the incident and needs for further resources so that crew have appropriate relief and reinforcements
- Coordinates crew movement within and across the service territory
- Manages and responds to an incident's crew logistics needs, including contractors and mutual assistance partners
- Contributes data to the development of the EOC Action Plan

7.3.4 Situation Unit

The Situation Unit:

- Collects and analyzes incident information
- Develops situation reports and intelligence
- Ensures that displays contain accurate information
- Participates in the operational planning process
- Conducts situation updates at meetings and briefings as requested by the P&I Section Chief

7.3.4.1 Technical Specialists

Depending on incident complexity, technical specialists have special skills that may be helpful or necessary to the response and are activated only when needed. Technical specialists may be placed anywhere they are needed in the EMO. Thus, technical specialists may be assigned to other sections or in the command staff and report up to the appropriate section chief, officer or commander.

Technical specialists include:

- Weather
- GIS mapping
- Geosciences information
- Business continuity, which:
 - Serves as a point of contact for departments implementing business continuity plans (BCPs) and for Alternate Company Headquarters (ACHQ) operations
 - Shares information on the incident with LOB business continuity coordinators
 - Tracks status of departments implementing BCPs
 - Works with IT Branch and Facilities Unit to monitor estimated time of restoration for facilities and IT systems that are disrupting business activity

7.3.5 Demobilization Unit

The Demobilization Unit:

- Determines objectives, priorities and constraints on demobilization
- Reviews incident resource records to determine scope of the demobilization effort
- Identifies surplus resources and probable release times
- Prepares the Demobilization Plan
- Monitors implementation of the Demobilization Plan

7.4 Logistics Section

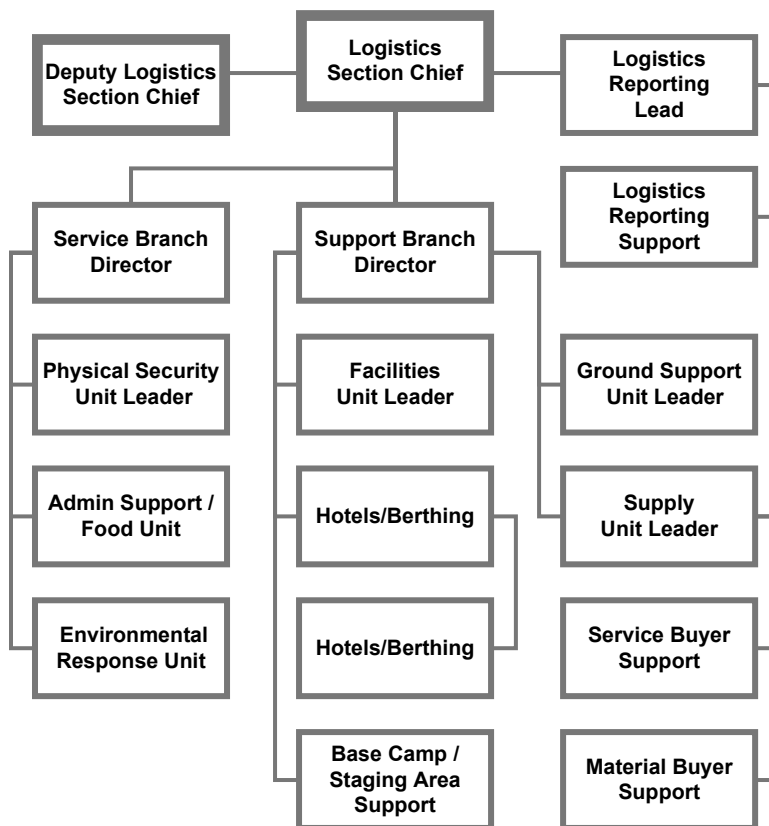


Figure 7.6 General Staff - Logistics Section

The Logistics Section Chief (LSC) oversees the Logistics Section, which consists of Logistics Reporting and the two branches below, either of which may be activated, depending on the nature of the emergency. The Logistics Section (Figure 7.6) secures resources, supplies, food, lodging, vehicles and equipment rentals, fuel and medical services, as well as maintains equipment and communications for incident personnel.

7.4.1 Service Branch

The Service Branch is responsible for the physical security of all facilities, administrative/food support, and for environmental response issues.

The Service Branch Director oversees the Service Branch, which contains the following units.

7.4.1.1 Physical Security Unit

The Physical Security Unit:

- Ensures security of company assets and personnel
- Coordinates with external law enforcement agencies

7.4.1.2 Food/Admin Support

Food/Admin Support:

- Orders food as necessary for EOC staff
- Takes messages and tracks open issues until closed



Figure 7.7 Logistics Staff Wearing Yellow Vests

7.4.1.3 Environmental Response Unit

The Environmental Response Unit:

- Maintains situational awareness of potential environmental issues in the EOC and the field.
- Provides expertise on hazardous materials/waste management, water quality, air quality, biological resources and cultural resources.

7.4.2 Support Branch

The Support Branch:

- Manages critical suppliers and emergency equipment and materials
- Sets up and maintains required facilities to support the incident, which may include base camps, staging areas and micro sites
- Coordinating all activities related to the evaluation, inspection, emergency response and restoration of company real estate assets/buildings
- Maintaining and fueling vehicles
- Organizing transportation, including:
 - Executive transportation
 - Fleet and aircraft transports
 - Equipment rentals
 - Personnel transport

The Support Branch Director (SUBD) oversees the Support Branch, which contains the following units.

7.4.2.1 Facilities Unit

The Facilities Unit:

- Ensures efficient operation of the Facility Coordination Center (FCC)
- Compiles data on the status of company facilities and provides reports, as requested
- Coordinates emergency response and restoration activities as related to impacts to company real estate assets
- Sets up Alternate Company Headquarters (ACHQ) and Alternate EOC (AEOC)

7.4.2.2 Base Camps/Staging Area Unit

The Base Camps/Staging Area Unit:

- Works with third party service providers to coordinate initial setup of base camps
- Provides support for base camp needs that are escalated to the EOC

7.4.2.3 Hotels/Berthing Unit

The Hotels / Berthing Unit:

- Arranges for lodging for EOC and field operations personnel, as requested

7.4.2.4 Ground Support Unit

The Ground Support Unit:

- Arranges for services/repairs of vehicles and equipment
- Arranges and coordinates shuttling employees
- Manages vehicle and equipment rentals
- Manages vehicle/equipment fueling
- Coordinates Aviation Services requests

7.4.2.5 Supply Unit

The Supply Unit:

- Issues emergency Purchase Orders for goods and services
- Coordinates with the Materials and Transportation Coordination Center (MTCC) and critical suppliers for material needs

7.5 Finance and Administration Section

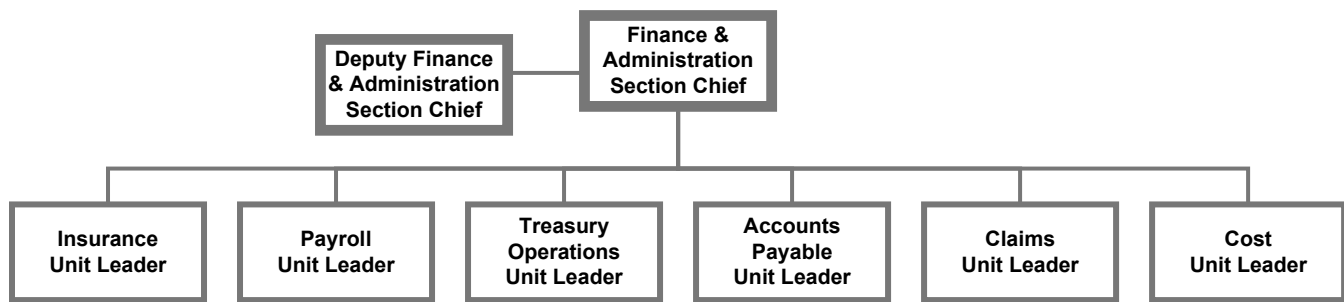


Figure 7.8 General Staff – Finance and Administration Section

The Finance and Administration Section is responsible for

- Providing charging guidelines
- Communicating the appropriate field orders to capture time and expense to those responding
- Ensuring sufficient funds are available to pay our vendors and employees
- Providing cost analysis and forecasting for the incident
- Notifying our insurance carriers about the incident
- Tracking potential claims for compensation for injury or damage to life or property.

As we start to demobilize, the finance section partners with Emergency Program Management to perform multiple tasks that help ensure our costs are captured correctly:

- In-Lieu of meal reconciliations
- MEBA / CEMA qualification audits
- Timely closing of EOC orders

The team also partners with Sourcing and the Emergency Management team to:

- Ensure timely recording of costs, Estimated Goods Receipts or accruals as necessary to ensure our financial records are accurate.

The Finance and Administration Chief oversees the Finance and Administration Section, which includes the following units.

7.5.1 Insurance Unit

The company maintains insurance policies for incidents over a certain dollar threshold.

The Insurance Unit:

- Ensures PG&E's insurance carriers are aware of the incident and ultimately, that our claims for reimbursement are filed in a timely manner

7.5.2 Payroll Unit

The Payroll Unit:

- Ensures PG&E has a back-up plan should our financial systems be temporarily disrupted
- Ensures employees continue to be paid in a timely manner



Figure 7.9 Finance Staff Wearing Green Vests

7.5.3 Treasury Operations Unit

The Treasury Operations Unit:

- Ensures that the company has sufficient cash on hand to meet our operational needs required to immediately respond to the incident.

7.5.4 Accounts Payable Unit

The Accounts Payable Unit:

- Ensures PG&E's main suppliers are get paid in a timely manner, especially if our financial systems are temporarily disrupted as a result of the incident

7.5.5 Cost Unit

The Cost Unit:

- Ensures that individuals who are responding to the incident
 - have the correct charging guidelines
 - are aware of the appropriate field orders to be used when charging their time.
- Ensures that a forecast is being created that provides an estimate of total cost to be incurred (expense and capital)

7.5.6 Claims Unit

The Claims Unit:

- Ensures awareness of any claims that might be filed against the company due to delays in our response
- Ensures awareness of any safety issues that may have been created due to how we responded to the incident

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8 Emergency Facilities

This section describes PG&E's emergency management facilities. Like the personnel structure described in the previous chapter, some work sites, such as the Control Centers, are permanent teams and facilities whose primary function is to manage day-to-day emergency operations, as well as to prepare for and support PG&E's emergency response. Other field facilities are stood up when needed to respond to an incident.

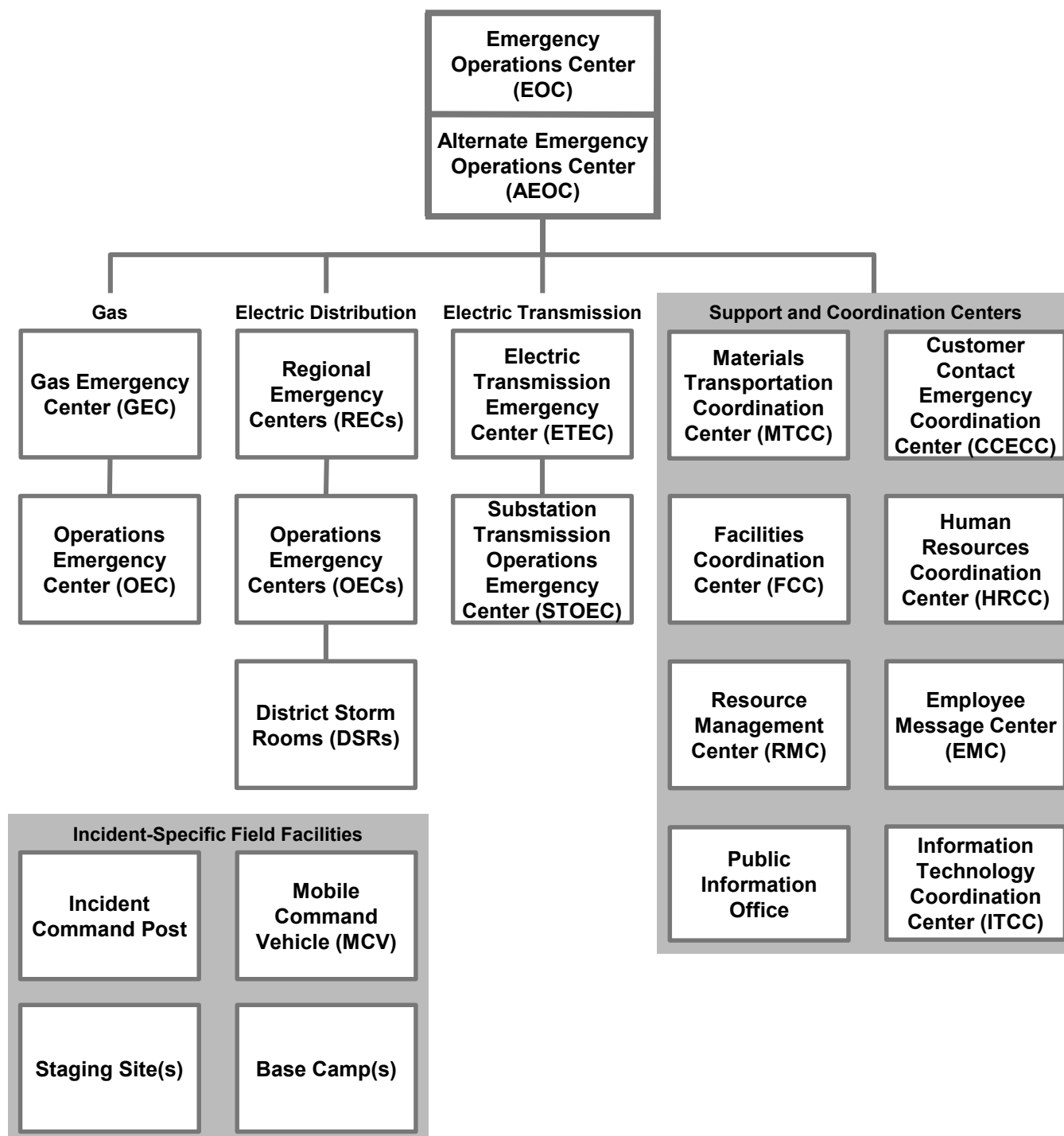


Figure 8.1 PG&E Emergency and Support/Coordination Centers

Emergency and Support/Coordination Centers are an important part of PG&E's emergency response. Depending on the level of the incident, command and control may be executed at any one of PG&E's designated Emergency or Coordination Centers.

PG&E has four primary types of emergency facilities:

- Emergency Centers
- Control Centers
- Support and Coordination Centers
- Emergency Field Facilities

Each facility type may consist of multiple units and each unit may have numerous components.

8.1 Emergency Centers

Following the principle that an initial response is local and emergencies may scale up (before then scaling back to operations as usual), the descriptions below start with the smallest, most local facility, e.g., District Storm Room, and work up to the EOC.

8.1.1 District Storm Rooms (DSRs)

DSRs are primarily electric assets whose main function is to manage the local restoration effort during all levels of emergencies. The DSR is generally located in a Service Planning and Maintenance yard. DSR staff consists of corresponding positions found in the OEC and REC, as well as local support, such as troubleman, gas service representatives (GSRs), meter technicians, estimators, mappers, and maintenance and construction (M&C) crews.

8.1.2 Substation Transmission Operations Emergency Center (STOEC)

STOEC provides field outage information to the ETEC for prioritization and restoration consideration, provides updates on ongoing transmission outages, and coordinates damage assessment, information dissemination, movement of transmission line and substation manpower and equipment, and other technical support to assist operating departments in restoring service. STOEC reports to ETEC.

8.1.3 Electric Transmission Emergency Center (ETEC)

ETEC is the emergency center for Transmission System Operations. ETEC provides support system restoration support, transmission outage prioritization, and block calculator support to PG&E System Dispatch Vacaville (SDV) and System Dispatch Rocklin (SDR). ETEC serves as a hub which coordinates support between STOEC, the EOC, Electric Operations, Transmission Line, Substation, News, other departments and external entities.

ETEC activates at SDV's or SDR's request or when the California Independent System Operator (CAISO) initiates load curtailments. ETEC is staffed with 3-4 persons, some of which will be from the Transmission Operations Engineering (TOE) group. If the EOC is activated, ETEC reports to the Electric Transmission Operations Branch Director.

ETEC's primary location is in 77 Beale Street, San Francisco; an alternate location is at the Grid Control Center at 4940 Allison Pkwy, Vacaville.

8.1.4 Operations Emergency Center (OEC)

PG&E has OECs strategically located throughout the service territory, 18 for Gas and 17 for Electric. OEC staff provides oversight and support at a divisional level. The OEC consists of corresponding positions that are found in both the REC and EOC. The OEC directs and coordinates the personnel necessary to assess damage, secure hazardous situations, restore service, and communicate information internally and externally.

OECs may support more than one incident at a time and may have several ICPs reporting into them. The OECs report incident status to the REC, if the corresponding regional center has been activated.

During a dual commodity incident, an integrated incident organization may be used in a shared facility, rather than activating separate OECs for Gas, Electric and other LOB. For more information, see Section 4.5, “Dual Commodity Response.”

8.1.5 Regional Emergency Center (REC)

PG&E currently has four RECs:

- Northern
- Bay Area
- Central Coast
- Central Valley

An REC can be activated to support multiple OECs open in a particular region, or to coordinate resource movement between regions or mutual assistance crews from outside the company. OECs report to an REC when it is activated. As an incident escalates, the REC becomes the point of contact for information and managing escalated OEC issues.

When the EOC is activated, the REC communicates operational status, resource requests and logistical needs to the EOC, including OEC status.

8.1.6 Gas Emergency Center (GEC)

The GEC activates in support of gas, OEC operations for level 3 or higher emergencies, and EOC operations for dual commodity emergencies. Further, during dual commodity emergencies, the GEC will provide support to the EOC in Operations, Planning and Intelligence, and Logistics. If the EOC is not activated, the GEC will manage an overall gas incident. During an EOC activation, the GEC Director reports to the Gas Operations Branch in the EOC.

The GEC serves as both the primary emergency center and regional emergency center for Gas Operations. Whereas Electric Operations has OECs, RECs and the EOC, Gas Operations emergency structure has OECs and the GEC but no regional centers.

8.1.7 Emergency Operations Center (EOC)

PG&E has one primary (EOC) and one alternate (AEOC) emergency center. The EOC is a designated location at which incident management activities are coordinated. When the EOC is activated, the EOC Commander establishes priorities for the incident and supports the emergency centers and field responders.

EOC members:

- Provide set system-level objectives and strategies
- Support the EMO
- Communicate the status of the emergency response to senior management, emergency centers and departments involved in the emergency incident
- Coordinate internal resource deployments between regions and the use of contractors and mutual assistance, as needed
- Compile system-wide status and damage information and ensure information systems are functioning properly
- Approve all incident communications and coordinate with external agencies, such as the California Office of Emergency Services (Cal OES), SOC, and the SOC's Utility Operations Center (UOC)

The primary EOC, located at 245 Market Street in San Francisco, is a dedicated “hot site” equipped with all necessary equipment, supplies, information and data systems, backup power, and other resources needed to conduct prompt and effective emergency response activities.

The designated AEOC, located at 3301 Crow Canyon Boulevard, San Ramon, in the San Ramon Valley Conference Center (SRVCC), is activated if the EOC is inaccessible.

During significant emergency incidents, PG&E may activate additional emergency centers to support the primary EOC activities. These emergency centers manage the work in a defined geographic region. They are responsible for directing resources to implement actions and for reporting status and progress through the emergency center chain of command and ultimately to the EOC.

See Chapters 6 and 7 for EOC staffing and organizational information.

8.2 Control Centers

8.2.1 Electric Distribution Control Center (DCC)

▲ Distribution Control Centers (DCCs) are a centralized location where the real-time operation of the electric distribution grid is monitored and managed—this includes both planned and emergency outages. If an outage occurs, the Distribution Operator (DO) in the DCC helps RMC to restore service to customers by directing field resources to operate distribution devices in the field and to substations to reconfigure or re-energize the distribution grid. Distribution Control Centers are located in Concord, Fresno and Rocklin.

8.2.2 Electric Transmission / Vacaville Grid Control Center (VGCC)

The Vacaville Grid Control Center in (VGCC) manages real-time transmission operations and is the single point of contact for transmission and distribution (T&D) operations with the California Independent System Operator (CAISO).³⁰

VGCC is staffed 24 hours per day, 365 days per year, and is in daily contact with the California Independent System Operator (CAISO) to monitor the power flows, receive clearance requests, and establish system restoration priorities, etc.

The VGCC deals with Level 1 and Level 2 emergencies involving electric transmission; the San Francisco Transmission Operations Center (TOC) is the backup facility for the VGCC

8.2.3 Gas Control Center

PG&E's Gas Transmission and Distribution control centers (collectively referred to as the Gas Control Center, GCC) monitor and control the flow of gas across the system 24 hours per day, 365 days per year, to ensure that it is received and delivered safely and reliably to customers. The GCC personnel manages and operates the gas transmission and distribution systems in accordance with federal regulations such as 49 CFR § 192.631, "Control Room Management."³¹

PG&E's Control Room Management (CRM) Operations Manual contains the standards, procedures, plans and processes that collectively address how GCC personnel conduct their work activity under normal, abnormal and emergency operating conditions, including a 911 notification process.

For gas hazards and dig-ins near electric facilities, where there is a potential or confirmed ignition hazard, follow the communication and coordination process in Section 14.1.5.1, "Gas and Electric Coordination Process," which applies to both control centers and field personnel.

For all dual (or multiple) commodity incidents, see Section 4.5, "Dual Commodity Response."

³⁰ The CAISO has overall operational control of our electric transmission facilities, as well as those of Southern California Edison, San Diego Gas & Electric, and others.

³¹ For the text of 49 CFR § 192.631, see https://www.ecfr.gov/cgi-bin/text-idx?node=se49.3.192_1631.

8.2.4 Enterprise Network Operations Center (ENOC)

▲ ENOC was formed in 2013 when IT leadership merged the Telecom Control Center (TCC), Computer Operations Center (COC) and SAP Ops.³² Described as IT's central nerve center, ENOC is responsible for managing alarms and alerts received from existing monitoring tools. ENOC responsibilities include:

- Eyes on the Glass
- Incident and Event Management
- Escalation and Clearances
- Operations Support and OSS Tools
- ENOC is staffed 24/7/365.

8.2.5 Fairfield Security Control Center

▲ The Fairfield Security Control Center (FSCC), provides the backbone of the company's IT major systems. The facilities received a significant upgrade in 2012, which built out the Data Center, also known as the Fairfield Annex—the sister of the Rancho Cordova Data Center. The Fairfield Annex allows data traffic to flow between the two mirrored centers and provides redundancy.³³

Corporate security monitors alarms and serves as the initial point of notification of system issues. The FSCC is staffed 24/7/365.

8.2.6 Rancho Cordova Information Operations Center (RCIOC)

▲ In 2013, PG&E built out a state-of-the-art data center in Rancho Cordova. This Center provides storage, backup and operational services, including but not limited to storing critical customer information, assisting field crews working on downed power lines, and safeguarding PG&E from cyber threats. The RCIOC is staffed 24/7/365.

8.3 Support and Coordination Centers

In addition to the above emergency centers responsible for field operations, PG&E may activate additional Support and Coordination Centers that directly support the EOC and PG&E's restoration, customer service, and communications efforts.

Each center activates based on situational need and ultimately reports up to a parent function in the EOC. The table below describes these centers (in alphabetical order), their functions, and who has the authority to activate (in bold) and command.

³² Description culled from [IT Tailboard](https://sps.utility.pge.com/sites/ENOC/_layouts/15/WopiFrame.aspx?sourcedoc=/sites/ENOC/shared_documents/ENOC%20Tailboard.doc&action=default&DefaultItemOpen=1), "The Enterprise Network Operations Center (ENOC) is here!" (https://sps.utility.pge.com/sites/ENOC/_layouts/15/WopiFrame.aspx?sourcedoc=/sites/ENOC/shared_documents/ENOC%20Tailboard.doc&action=default&DefaultItemOpen=1) and ENOC The Central Nerve Center for IT (https://sps.utility.pge.com/is/pcf/_layouts/15/WopiFrame.aspx?sourcedoc=/is/pcf/ipf2013/2013%20Y-4%20Network%20SCADA%20Upgrade/SLA%20%20OLA/ENOC%20Overview%20March%202014.pptx&action=default&DefaultItemOpen=1), both accessed 06/28/2017.

³³ Description captured from <https://sps.utility.pge.com/Sites/IO/SitePages/Home.aspx> 06/22/2017.

Table 8.1 Support and Coordination Centers

Initials	Coordination Center Function	Activate and Command Authority
CCECC	Customer Contact Emergency Coordination Center <ul style="list-style-type: none"> Coordinates response to emergencies through the WFM Routing Team Compiles and reports facility, operational and customer status information 	Manager, Customer Technology and Call Routing Customer Strategy Officer PIO
FCC	Facilities Coordination Center <ul style="list-style-type: none"> Communicates facility impacts to the EOC/GEC Dispatches civil engineering, building and environmental support specialists to inspect damaged facilities Coordinates with the other centers to identify and address critical facility issues affecting emergency response Staffed by CRESS, Geosciences and Substation Engineering 	Director of Corporate Real Estate EOC Logistics Section Facilities Unit Leader
HRCC	Human Resources Coordination Center <ul style="list-style-type: none"> Coordinates emergency communications, labor relations, HR advice and counsel, and impacted employee and retirees Maintains an HR common operating picture (COP), including situational awareness of the EMC and HR Base Camp Activates the Emergency Message Center to connect employees and their families to exchange messages during significant incidents 	HRCC Unit Leader HR Officer Assistant HRO
ITCC	Information Technology Coordination Center <ul style="list-style-type: none"> Supports IT and telecommunications emergency services Manages major technology interruptions Develops and implements the overall response through technology assessment and restoration Manages cybersecurity incidents across all LOBs, including control systems and network infrastructure Provides support services to Emergency and Coordination Centers and the EOC 	EOC Operations Section IT Branch Director ITCC Group Supervisor (if EOC is not activated) EOC Commander GEC Manager Senior Vice President and CIO
MTCC	Materials and Transportation Coordination Center <ul style="list-style-type: none"> Coordination of emergency materials, procurement and transportation activities Staffed with representatives from Warehouse Operations, Materials Field Services, Logistical Planning and Traffic 	Manager of Warehouse Distribution EOC Logistics Section Supply Unit Leader (SPUL)
RMC	Resource Management Centers <ul style="list-style-type: none"> Provides clerical and estimating resources support 	

8.4 Emergency Field Facilities

Field facilities are temporary and, at times, portable emergency response sites set up to facilitate restoration and response. The most common types of field facilities are:

- Base Camps
- Staging Areas
- Micro Sites
- Incident Command Posts (ICPs)
- Mobile Command Vehicles

8.4.1 Base Camps

Base camps are set up when there is a need to support crews in the field because a permanent facility is not accessible, non-operational, or not close enough to be of any advantage to the field responders. Base camps provide human comfort and sustenance facilities, connectivity to electronic information systems, printers to create work packages, and communication with the OECs, RECs and EOC.

Base camps may:

- Function as an OEC or ICP
- Be staffed with an Incident Management Team (IMT)
- Be scaled to meet the incident need
- Be scaled to fit the site location
- Contain food preparation and/or service facilities
- Provide showers and sleeping accommodations
- Contain sleeping dorms and/or tents
- Have IT infrastructure to provide work packages and full-service connectivity
- Contain material lay-down areas
- Have vehicle refueling stations
- Have tents or trailers to serve as temporary work space



Figure 8.2 Base Camp

8.4.2 Staging Area

A staging area is typically where out-of-area crews report upon arrival and prior to demobilizing. PG&E staff may be limited to a Logistics person and an Operations Section Crew Supervisor who:

- Orient incoming PG&E, contractor and Mutual Assistance crews
- Hand out welcome packets having information pertaining to safety, the assigned base camp, maps and construction information specific to the area they are being assigned
- Provide safety briefings
- Collect or confirm receipt of essential paperwork, such as crew lists and emergency contact information
- Issue work assignments
- Confirm crews have met the appropriate criteria to be released, including time sheets and exit checklists

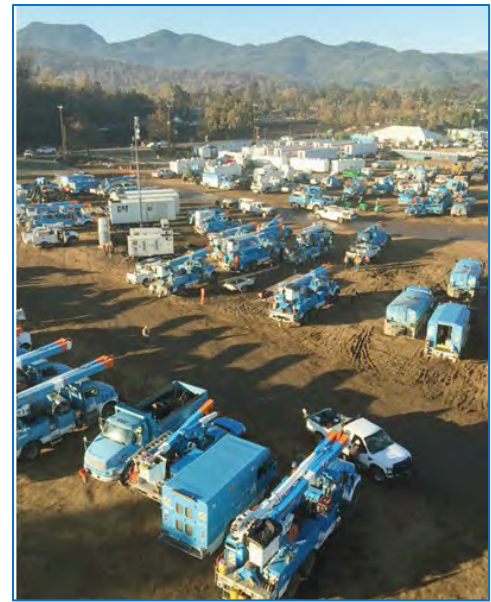


Figure 8.3 Incident Command Post

8.4.3 Micro Sites

A micro site functions as a satellite to a base camp. These smaller sites avoid the traffic issues present at the larger base camps and are intended to allow for speedier deployment of resources by placing them closer to the damaged areas. (Work packages are generally developed at the base camp and delivered to the micro sites for distribution to crews). In some instances, food service is provided at a micro site.

Requests for base camps, staging areas and micro sites are routed through the EOC Commander, who then works with P&I and Operations to confirm the need and to determine locations. Once need is confirmed and locations are determined, Logistics is assigned the responsibility to construct the sites.

8.4.4 Incident Command Post (ICP)

The ICP is a field location where the primary tactical-level, on-scene incident command functions are performed. During a minor incident, activities of on-scene response personnel are typically managed at a gas or electric ICP location.

For larger events, the ICP can be managed at an ICP location or co-located at a base camp, e.g., during a wildfire response.

8.4.5 Mobile Command Vehicles (MCV)

An MCV is a specialized vehicle that can be deployed to and stationed at the scene of an emergency for one or more days. The MCV can act as an ICP or an emergency center, if warranted. MCVs help facilitate communication between response crews, command staff and government agencies. Transportation Services (TS) and IT personnel work together to ensure the MCVs operate properly.

The types of MCVs available are:

Emergency Communications Trailers (ECTs)

- Used to enhance radio communications in the event of poor radio coverage
- Acts as mobile radio repeaters by augmenting radio coverage and providing better communications for crews and other emergency responders working in affected areas during emergencies and restoration efforts
- Utilizes a multi-band radio scanner installed to pick up local communications and other radio equipment that allows it to facilitate interoperability with other agencies, such as CAL FIRE and Cal OES

Type I Commander

- Used for Electric and Gas emergencies
- Outfitted for large, multi-day incidents
- For additional information see: [EMER-4011P-01, Operating Procedures for Type 1 Mobile Command Vehicle Commander](#) and [EMER-4011P-02, Operating Procedures for Communication Center in Type 1 Mobile Command Vehicle Commander](#)



Figure 8.4 Mobile Command Vehicle

Type II Lieutenant (Lt.) Commander

- Mid-size motor coach

Type III Sprinter

- Used for short-duration incidents that do not require extensive capabilities
- For additional information see: [EMER-4010P-01, Operating Procedures for Type III Mobile Command Vehicle Sprinter](#) and [EMER-4010P-02, Operating Procedures for Communications Center in Type III Sprinter](#)

See Appendix F for vehicle storage locations and equipment specifications, e.g., size, fuel capacity, generator run time, and installed equipment, including radios, phones, work stations, printers, etc.

9 External Relationships

This chapter follows PG&E's emergency response assumptions stated in Section 3.2: generally, situations are best handled at the most local level. Thus, this chapter is arranged according to relationship proximity. For example, local community-based groups precede state and federal level organizations. Also, industry and professional organizations with whom PG&E has an established relationship or contract appear first, as they may range span local, state, national and international boundaries. Thus, this chapter is arranged as follows:

- Industry
- Local Community Based Organizations (CBOs) and Non-Governmental Organizations (NGOs)
- Local Government
- State
- Federal

9.1 Industry

PG&E works collaboratively with other utilities and trade associations to identify emergency planning and response best practices and provide mutual assistance. PG&E's primary partners are:

- California Utilities Emergency Association (CUEA)
- Western Regional Mutual Assistance Association (WRMAA)
- Western Electricity Coordinating Council (WECC)
- American Gas Association
- Edison Electric Institute (EEI)



9.2 Local Community Based Organizations (CBOs) and Non-Governmental Organizations (NGOs)

NGOs and CBOs provide housing, food, health services, mental health services, debris removal, clothing, transportation, financial assistance and other assistance to those affected by a disaster.

California Voluntary Organizations Active in Disaster (VOAD) serves as a forum where organizations share knowledge and resources throughout a disaster's life-cycle to help communities prepare for and recover from disasters.

NorCal or SoCal VOAD may coordinate among non-profits, community-based organizations, government agencies and for-profit companies.

9.3 Local Government–Office of Emergency Services (OES)–Operational Areas

Local governments respond to protect lives, property and the environment during an emergency by deploying field-level emergency response personnel, e.g., law enforcement, fire, public works, activating emergency operations centers and issuing orders to protect the public. Generally, the order of emergency service actions is: prepare, respond, recover and mitigate.

The California Emergency Services Act authorizes each county Board of Supervisors to designate an Operational Area (OA) lead agency to serve as primary point of contact and emergency response coordination. In most counties, that OA lead agency is the Office of Emergency Services (OES). SEMS incorporates ICS for a standard organizational structure and terminology at all emergency management levels in the state.

The Operational Area:

- Coordinates planning for the Operational Area / County and activates the Operational Area EOC and emergency operations plans
- Coordinates among local “political subdivisions” and the regional level of state government
- Maintains communications with the state Regional Emergency Operations Center (REOC), local emergency operations centers and other agencies
- Requests resources from the state, as needed

9.4 California State Government

Generally contact with an outside agency is coordinated through the Liaison function in the EOC, the Legal Advisor, or in some cases through the Operations Section.

PG&E would also establish direct contact with certain federal agencies, such as the Department of Energy (DOE) or the Department of Transportation (DOT), that directly regulate or have operational interaction with PG&E. Contact would generally be through the Liaison function in the EOC, the Legal Advisor, or in some cases through the Operations Section.

State of California Resources

Cal OES	Office of Emergency Services
Cal-EMA	now Cal OES
SOC	State Operations Center
SEP	State Emergency Plan
CA-EFs	California Emergency Functions
CNRA	California Natural Resources Agency
CEUA	California Utilities Emergency Association

California Office of Emergency Services (Cal OES)

- Is assigned to effectively prepare for, prevent, respond to and recover from all threats, crimes, hazards and emergencies
- Cal OES also provides emergency response assistance for nuclear power stations in California as outlined in the State of California’s “Nuclear Power Plant Emergency Response Plan”
- Manages the SOC and maintains the SEP, both described below

State Operations Center (SOC)

- Is the primary point of coordination for all state agencies
- In Mather, California
- PG&E's Liaison function includes a direct connection to Cal OES's SOC through the mutual assistance agreement with CUEA
- PG&E's Liaison would work with the SOC to request federal resources from FEMA and other federal agencies

State Emergency Plan (SEP)

- Outlines the state-level strategy to support local governmental efforts during emergencies
- Establishes the California Emergency Functions (CA-EFs), deemed essential to emergency management, led by a state agency to function within the four phases of mitigation, preparedness, response and recovery
- EF 12-Utilities Annex outlines the role of the California Natural Resources Agency (CNRA) and CUEA to support the utility infrastructure system throughout California

Depending on the nature of the emergency, PG&E will also establish direct contact with certain state agencies that directly regulate or have operational interaction with PG&E. This contact would generally be through the Liaison function in the EOC, the Legal Advisor, or in some cases through the EOC Operations Section. These agencies and their interfaces with PG&E are described below.

Office of the Governor

- Is responsible for giving energy policy direction to all state agencies.
- In the event of an emergency, PG&E's State Government Relations team is responsible for contacting the Governor's office on behalf of the Liaison Officer in the EOC.

California State Legislature

- Responsible for passing the statutory framework implemented by the Administration and the CPUC
- In the event of an emergency, PG&E's State Government Relations team is responsible for contacting the leaders of the California State Legislature on behalf of the Liaison Officer in the EOC

California Energy Commission (CEC)

- Officially named the California Energy Resources Conservation and Development Commission
- Is the state's primary energy policy and planning agency
- Is responsible for the licensing of all thermal power plants over 50 MW;
- Overseeing funding programs that support public interest energy research;
- Advancing energy science and technology through research, development and demonstration

- Providing market support to existing, new and emerging renewable technologies.
- Forecasting future energy needs used by the CPUC in determining the adequacy of utilities' electricity procurement plans
- In the event of an emergency, PG&E's State Agency Relations team is responsible for contacting the CEC on behalf of the Liaison Officer in the EOC.

California Air Resources Board (ARB)

- Is the state agency charged with setting and monitoring Greenhouse Gas (GHG) and other emission limits
- Responsible for adopting and enforcing regulations to meet Assembly Bill 32, the California Global Warming Solutions Act of 2006
- In the event of an emergency, State Agency Relations is responsible for contacting the ARB on behalf of the Liaison Officer in the EOC

California Public Utilities Commission (CPUC)

- Regulates investor-owned electric and natural gas utilities operating in California³⁴
- In the event of an emergency, Regulatory Relations is responsible for contacting the CPUC on behalf of the Liaison Officer in the EOC, as well as specific operational notifications made by the EOC Operations Section

California Department of Public Health (CDPH)

- Provides emergency response assistance for nuclear power stations in California as outlined in the State of California "Nuclear Power Plant Emergency Response Plan"
- May direct businesses in responding to pandemics and other public health emergencies
- In the event of an emergency, the DCPH or the Safety Officer in PG&E's EOC is responsible for contacting and interacting with the CDPH

California Department of Forestry and Fire Protection (CAL FIRE)

- Provides fire protection and stewardship for over 31 million acres of privately owned wild lands
- Provides various emergency services in 36 of California's 58 counties
- In the event of an emergency, the Operations Section often at the local command post is responsible for contacting CAL FIRE

California Independent System Operator (CAISO)

- Largest of about 40 balancing authorities in the western interconnection
- Handles an estimated 35 percent of the electric load in the West

A balancing authority is an entity responsible for operating a transmission control area. It matches generation with load and maintains the electric frequency of the grid.

³⁴ Including PG&E, Southern California Edison (SCE), San Diego Gas and Electric Company (SDGE) and Southern California Gas Company (SoCal Gas)

- Manages the flow of electricity for about 80% of California.
- Monitors the transmission system at all times
- Operates two control centers:
 - Folsom Main headquarters houses one of the most modern control centers in the world
 - Alhambra Control Room in Southern California is a fully-functioning facility that is ready to assume control of the grid within minutes.

9.5 United States Federal Government

Generally contact with an outside agency is coordinated through the Liaison function in the EOC, the Legal Advisor, or in some cases through the Operations Section.

However, depending on the nature of the emergency, PG&E may also establish direct contact with certain federal agencies, such as the Department of Energy (DOE) or the Department of Transportation (DOT), that directly regulate or have operational interaction with PG&E.

Department of Homeland Security (DHS)

- Is designated as the primary federal agency to execute the NRF and integrate other interagency plans such as the National Contingency Plan for Oil and Hazardous Materials (HAZMAT)
- Is the parent agency of the Federal Emergency Management Agency (FEMA)
- Is supported by the United States Coast Guard (USCG), a military service and a branch of the armed forces of the United States at all times positioned within the DHS, except when operating as a service in the Navy
- The United States Coast Guard may be requested to assist in emergency actions involving vessels and persons offshore, including following emergencies at DCP
- Depending on the nature of the emergency, PG&E generally coordinates with FEMA but may coordinate with other branches of the DHS that have responsibility for addressing cybersecurity and other terrorist activity

Federal Emergency Management Agency (FEMA)

- Is a branch of the DHS
- Has oversight of security for all gas-related incidents and requires timely notification following a gas-related incident
- Serves as the coordinator of federal resources
- Coordinates the assistance to affected state and local governments under the Stafford Act and the National Response Framework (NRF) which
 - Is an all-hazard, multi-discipline plan that establishes a single, comprehensive framework for the management of domestic incidents

- Outlines the specific roles and responsibilities of various federal agencies and departments to support federal coordination of resources in response to natural or man-made disasters
- Provides mechanisms for an expedited and proactive federal response to prevent, prepare, respond and recover from incidents
- Organizes the federal response into 14 Emergency Support Functions (ESFs), grouping capabilities and resources into functions of the primary and support agencies

Federal Energy Regulatory Commission (FERC)

- Regulates transmission of electricity and the terms and rates of wholesale electricity sales in interstate commerce
- Regulates transmission and sale of natural gas for resale in interstate commerce
- Regulates interconnections of transmission systems with other electric systems and generation facilities
- Regulates tariffs and conditions of service of regional transmission organizations including CAISO
- Monitors dam safety, including requiring the preparation of emergency action plans for dam operations.
- Approves and enforces mandatory standards governing the reliability of the nation's electricity transmission grid, including standards
 - To protect the nation's bulk power system against potential disruptions from cyber and physical security breaches
 - To prevent market manipulation
 - To supplement state transmission siting efforts in certain electric transmission corridors that are determined to be of national interest
- Delegated enforcement of the Electric Reliability Standards to the North American Electric Reliability Corporation (NERC) and the Western Electricity Coordinating Council (WECC)

Department of Transportation (DOT)

- Regulates the safe and secure movement of hazardous materials and natural gas through its Pipeline and Hazardous Materials Safety Administration (PHMSA),

National Transportation Safety Board (NTSB)

- Is an independent federal agency charged by Congress to determine the probable cause of transportation accidents, including accidents on pipelines

Nuclear Regulatory Commission (NRC)

- Responds to incidents under its statutory authorities and responsibilities in accordance with the NRF and, if applicable, as an integral part of the overall response by the federal government

Department of Energy (DOE)

- Is the primary federal point of contact within the energy industry for information sharing and requests for assistance from private and public sector owners and operators
- Has the capability to dispatch radiological assistance teams to aid in radiological monitoring and provide technical guidance to state and local agencies during an emergency at DCP
- FEMA's NRF ESF #12-Energy describes the DOE's role to support energy asset owners and operators in maintaining and restoring energy systems and system components

Environmental Protection Agency (EPA)

- Provides trained health physics personnel, field sampling equipment and laboratory facilities for assessment and radiological monitoring during an emergency at DCP

United States Congress

- House of Representatives
- United States Senate
- Responsible for passing the statutory framework that is implemented by the various federal agencies
- In the event of an emergency, PG&E's Federal Affairs team based in Washington, DC establishes a liaison with California's congressional delegation on behalf of PG&E's Liaison Officer in San Francisco

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10 Concept of Operations

10.1 Emergency Plan Activation

To ensure a consistent and well-coordinated emergency response, PG&E developed a five-tier incident classification scheme. Level 1 represents the least damage to PG&E's systems and Level 5 represents a catastrophic incident. The schema puts in context an incident's complexity and the actions that may be required. This information is summarized in Table 10.1.

Table 10.1 Incident Levels and Emergency Center (EC) Activation

Type	Level	Description	Centers Activated*
Routine	1	Routine <ul style="list-style-type: none"> Incident involves a relatively small number of customers Local resources are sufficient Little to no media coverage 	ICP
Elevated	2	Elevated <ul style="list-style-type: none"> A pending or local incident requires more than routine operations Resources may need to move within the region Increased media interest 	ICP OEC
Serious	3	Serious <ul style="list-style-type: none"> Incident involves large numbers of customers Resources may need to move between regions Potential increased, actual or imminent negative media interest 	ICP OEC REC GEC EOC or AEOC
Severe	4	Severe <ul style="list-style-type: none"> Incident includes extended multiple incidents and affects many customers Escalating, company impact and/or Resources, contractors and mutual aid may be shared between region; May have heavy media interest and potential reputational risk 	ICP OEC REC GEC EOC or AEOC
Catastrophic	5	Catastrophic <ul style="list-style-type: none"> Incident includes multiple emergencies, affects many customers, business operations Significant cost and infrastructure risk/damage Full mobilization of PG&E, contractor and mutual aid resources May have heavy media interest and actual reputational risk EOC and Executive Team are activated 	ICP OEC REC GEC EOC or AEOC

Please note the following distinctions regarding activation criteria:

- Situational need and the IC's discretion determine which centers are activated; virtual EOC and/or multiple centers may be activated.**
- Workload is the primary unit used to determine the need to escalate.
- A dual commodity incident will default to the higher level; e.g., if an incident is rated Electric Level 4 and Gas Level 2, the EOC will staff to a Level 4 event.

*Acronyms stand for: Incident Command Post (ICP), Operations Emergency Center (OEC), Regional Emergency Center (REC), Gas Emergency Center (GEC), and (Alternate) Emergency Operations Center (AEOC or EOC)

See also Appendix B, "Levels of Emergency and Activation Criteria for PG&E," and LOB- and Hazard-specific annexes for more comprehensive charts with LOB- and hazard-specific examples.

10.2 Level 1 Incidents

Level 1 emergencies require no special trigger and are managed locally following existing procedures. In an escalating incident, local management will notify the 24-hour EOC On-call EOC Commander about the nature of the incident and the potential for escalation.

The on-scene Initial Assessment Team and EOC on-call commander use an activation matrix to determine whether to activate the appropriate emergency operations plan.

10.3 Level 2 Incidents

Declaration of emergency incidents at Level 2 or greater can be triggered at PG&E in two ways:

- An escalation of a Level 1 emergency
- Recognition of a company-wide emergency, e.g., an earthquake or other sudden and widespread incident.

If the plan is activated for a Level 2 emergency, a local OEC may be activated.

10.4 Level 3 Incidents

If the plan is activated for a Level 3 emergency, an REC may be activated and possibly the EOC (and/or GEC for a gas emergency). It is at the IC's discretion whether to activate the EOC and, if appropriate to the situation, whether a back-up or alternate EOC facility should be opened.

The decision to activate the EOC for a Level 3 emergency is based on whether a response to the emergency will be served by managing resources and operations centrally and whether prioritization for the use of resources is necessary.

Authority to declare a Level 3 or greater emergency and to activate the EOC rests with the following personnel or their pre-designated alternates:

- Pre-designated ICs
- VP Electric Transmission Operations
- SVP Electric Operations
- SVP of Gas

In their absence, any company senior officer may make the decision to activate the EOC.

Additional LOBs may request that the EOC be opened to support an emergency response. Requests to open the EOC are made to the Director EP&R, who submits this request to the VP Electric Transmission Operations. If the Director EP&R is not available, the request may be submitted to the managers who report to the Director EP&R. Generally, the Manager Business Continuity and Emergency Response is the primary backup to the Director as that position is also responsible for opening the EOC. The managers reporting to the Director EP&R are:

- Manager, Business Continuity and Emergency Response
- Manager, All-Hazards Planning and Response Support
- Manager, Strategic Development

10.5 Level 4 and Level 5 Incidents

If the plan is activated for a Level 4 or Level 5 emergency, the EOC is activated. In addition, in the event of major emergency, such as an earthquake, the Director EP&R or a pre-designated alternate may initiate activation of the EOC without the prior approval of the IC or designated alternate. An AEOC may be activated, depending on the emergency situation specifics and to ensure the health and welfare of the public, PG&E responders and others.

10.6 Triggers and Authorities to Activate Emergency Centers

This section describes the typical use of different emergency centers and their reporting structures. Each emergency center has its own activation protocols; Gas and Electric Operations also each have protocols for activation that can be found in their LOB annexes. Emergency center commanders use the Electric Incident Level Matrix and OEC Activation Guidelines to determine whether to activate the emergency operations plan and at what level to activate an emergency center.

While various personnel in the EOC On-call roster can recommend the activation of a plan or facility to the appropriate emergency center commander, the decision to activate an emergency center is at the discretion of the Commander and is based on the complexity of the incident.

As stated throughout this document, generally and especially for events for which there is warning, such as winter storms, emergency centers most adjacent to an impacted area activate first; as an incident develops or additional support is needed, other emergency centers activate to support the incident.

Figure 10.1 illustrates the progression of emergency center activations, i.e., from local OECs to the EOC. Table 10.2 details in escalating order the activation requirements and triggers.

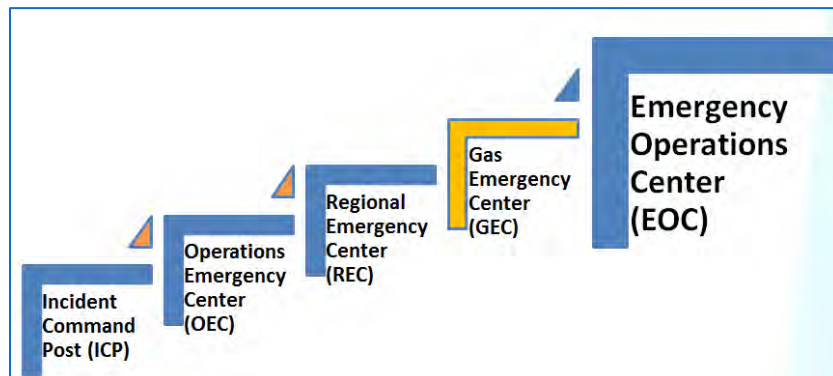


Figure 10.1 Emergency Center Activation Progression

Table 10.2 Emergency Center Activation Authority and Triggers

Activation Authority	Activation Triggers
<p>Electric OEC activation authority:</p> <ul style="list-style-type: none"> • Pre-designated ICs • VP Electric Transmission Operations • SVP Electric Operations • SVP of Gas • Designees or delegates 	<p>OEC activation may occur under any of the following criteria.</p> <ul style="list-style-type: none"> • Major Emergency Event where: <ul style="list-style-type: none"> ◦ A division exceeds the total number of transformer and above outages noted in the OEC Activation Requirements Procedure, and ◦ The outages are stable, with the majority of outages unassigned • Pre-Event where: <ul style="list-style-type: none"> ◦ A division's SOPP forecast is Category 2 or above and PG&E predicts that the event will ultimately meet the Major Emergency Event criteria. • A wildfire that does not meet the Major Emergency Event or Pre-Event criteria where: <ul style="list-style-type: none"> ◦ The wildfire event is under way, ◦ PG&E de-energizes electric distribution facilities to mitigate public safety and/or first responder risk, including at the request of responding agencies, such as CAL FIRE, US Forest Service and/or City or County government, and ◦ PG&E mobilizes resources from outside the affected district to address the wildfire event. • By direction of any Electric director. • As requested by Electric leadership below the director level. <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Costs may be changed to the Major Emergency Balancing Account (MEBA); see Emergency Financial Guidance.</p> </div>
<p>Gas OEC activation authority:</p> <ul style="list-style-type: none"> • OEC commander • GTCC manager • GDCC manager • M&C supervisor • M&C superintendent • GT O&M supervisor • GT O&M superintendent 	<p>The Gas Incident Level Matrix and Gas Emergency Response Plan (GERP) specify:</p> <ul style="list-style-type: none"> • Staff authorized to activate the emergency operations plan, • Triggers for emergency center activation, and • Guidance for establishing the appropriate level of activation <p>A Level 1 gas emergency requires no triggers and is managed by the local supervisor following existing standards and procedures. At the scene, activities of on-scene response personnel are typically managed at a Gas M&C or GT O&M ICP location.</p> <p>The IC or delegate serves as the single point of contact with all off-site, e.g., Gas Control Center and other PG&E, e.g., company communications, groups.</p> <p>An OEC may be activated to support the ICP</p> <p>Gas OEC activation reasons include, but are not limited to:</p> <ul style="list-style-type: none"> • Gas Dispatch and Scheduling receiving more than 20 calls within the first hour of a gas-related incident appearing to occur within a localized area or district • > 200 estimated customer outages • Incidents requiring out-of-area GSR resources or out-of-region M&C personnel • > 50 unplanned service interruptions or re-light efforts forecast to last >12 hours • Planned or unplanned local or backbone curtailments • Certain cold weather incidents • High-profile gas incident with significant media interest

Activation Authority	Activation Triggers
Gas OEC activation—continued.	<ul style="list-style-type: none"> • High-profile gas commercial or industrial customer incident • Gas distribution or transmission incident that will likely result in customer outages, e.g., single line feed to commercial or multiple residential customers • Multiple (or potential for) gas transmission system outages and resource limitations • Dig-in or line rupture with blowing gas or backbone transmission line • Odorant equipment incident: High to low odorant levels in gas line, or uncontrolled odorant release to atmosphere or pipeline
Electric ETEC / STOEC activation authority: <ul style="list-style-type: none"> • Director Transmission Operations • Director Transmission Line • Director Substation • Designees or delegates 	Electric Transmission Emergency Center (ETEC) and Substation Transmission Operations Center (STOEC) activation reasons include, but are not limited to: <ul style="list-style-type: none"> • Level 3 or greater emergency • At the request of the System Dispatcher • Incidents that affect the Bulk Electric System
ITCC activation authority: <ul style="list-style-type: none"> • ITCC group supervisor (if the EOC is not activated) • IT branch director • IT officer 	<div style="border: 1px solid black; padding: 10px; margin-bottom: 10px;"> <p>Level 1 and Level 2 emergencies require no triggers to activate and are managed by: ENOC Service Manager for IT incidents or Cybersecurity department in coordination with ENOC and TSC for level 1 cyber incidents; Cybersecurity Incident Response Team (CS-IRT) and Cybersecurity Incident Management Team (CS-IMT) for level 2 cyber incidents</p> </div> <p>Information Technology Control Center (ITCC) activation reasons include, but are not limited to:</p> <p>Level 3 or greater IT emergency with a significant impact to business operations</p> <ul style="list-style-type: none"> • The recognition of a company-wide emergency such as would occur in a complex or widespread cyber or technology incident • A trigger in Gas, Electric or Generation operations is met as a result of a technology service disruption or cyber emergency • The ITCC Group Supervisor may recommend activating the EOC to the on-call IT Branch Director and on-call IT Officer who will determine if the event meets the appropriate incident criteria. The request to activate the EOC is submitted to the Director EP&R. • The IT and Cybersecurity Annexes to the CERP provide additional details on activation triggers and guidance for establishing the appropriate level of activation • Using the activation matrix and <i>Information Technology PG&E Incident Levels</i> criteria, the ENOC Service Manager may recommend activation of the ITCC.³⁵

³⁵ Full link reference: http://pgweb/topics/epr/Documents/LOB%20Matrices/incidentlevelsactivationmatrix--IT_061815.pdf as of 06/19/2017; other access point is <http://pgweb/topics/epr> see PG&E Incident Level and LOB Reference Sheets

Activation Authority	Activation Triggers
Electric REC activation authority: <ul style="list-style-type: none"> • REC Commander • Designees or delegates 	Electric Regional Emergency Center (REC) activation reasons include, but are not limited to: <ul style="list-style-type: none"> • A Level 3 or greater emergency • Multiple OECs are activated • At the request of the OEC Commander, EOC Commander, or EOC On-call
EOC and/or GEC activation and location authority: <ul style="list-style-type: none"> • SVP Gas Operations • SVP Engineering Construction and Operations (Gas) • VP Gas Engineering Design • VP Gas Major Projects and Programs • VP Gas Transmission and Distribution (GT&D) Operations • VP Electric Transmission Operations • Senior Director Gas System Operations • Senior Director Corporate Security • Director Electric Emergency Management • Director Gas Transmission • Director Gas Transmission Operations and Maintenance • GEC Commander • EOC Commander 	EOC and/or GEC activation reasons include, but are not limited to: <ul style="list-style-type: none"> • Loss of transmission or distribution facilities that causes or is likely to cause outages to more than 5,000 customers (for less than 5,000 customers, GEC activation is optional, depending on other criteria) • Significant harm to the public • Damage to PG&E's brand reputation • National media attention • Technology failure that causes multiple mission-critical processes to activate Business Continuity Plans • Significant issues regarding employee resources availability • Significant life safety or environmental impact • Need for communication/coordination to support a major gas incident • Earthquake significantly affecting PG&E services territory or system operations • Terrorist threat specific to a gas facility – based on Corporate Security alerts • High-profile gas commercial or industrial customer incident • Backbone gas curtailment, planned or unplanned • Failure of critical equipment that could lead to backbone or local transmission curtailments • Major media contact, e.g. county, state and national level media • Cold Weather Day (CWD) or below-freezing temperatures, based on forecasts <div style="border: 1px solid black; padding: 10px; margin-top: 20px;"> <p>Personnel authorized to activate the EOC also have the authority to determine which EOC site is to be opened:</p> <p>Primary Site – San Francisco Alternate Site – San Ramon Other Site – TBD Virtually – Phone / Internet</p> </div>

Activation Authority	Activation Triggers
<p>EOC activation authority for physical security incidents:</p> <ul style="list-style-type: none"> • Director Corporate Security • Manager Asset Protection & Physical Security* • Manager, Security Investigations & Operations* • Manager Physical Security – Security Operations Center* 	<p>EOC activation reasons include, but are not limited to:</p> <ul style="list-style-type: none"> • A physical attack on a PG&E facility • A physical attack on a PG&E employee • The request to activate the EOC is submitted to the Director EP&R, or pre-designated alternate <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>A physical attack on a PG&E facility or employee will result in the notification of Corporate Security through the Security Control facility in Fairfield.</p> </div>

10.7 Emergency Response Sequence

All employees involved with emergency response should become familiar with:

- The CERP
- Applicable functional and hazard-specific annexes
- Relevant emergency centers' contact lists.

The following sections discuss preparing and responding to emergencies, starting with weekly situational awareness calls and on-call rotations through activation, notification, assessment and restoration. For additional details on restoration and deactivation procedures, see Chapter 11, "Resource Management," Chapter 12, "Mutual Assistance," and Chapter 13, "Demobilization."

PG&E's emergency readiness and response sequence may be summarized by the following steps described below and throughout the CERP:

1. Pre-incident Readiness
2. Make Safe and 911 Stand-by
3. Establish Command
4. Notify
5. Assess Damage
6. Restore
7. Demobilize

10.8 Readiness

10.8.1 Weekly Situational Awareness Call

EP&R hosts a Weekly Situational Awareness Call (WSAC) to enhance situational awareness across the company when business is in its steady state. This enterprise-wide conference call held during non-emergency events allows all LOBs to provide status updates to each other. Topics to discuss include, but are not limited to:

- Safety
- Large clearances in progress or anticipated
- Media inquiries
- Network upgrades that may compromise 24/7 Control Center operations
- Status of gas, electrical and generation systems
- Customer Care

10.8.2 On-Call Teams

Currently the EOC has four on-call teams: Alpha, Bravo, Charlie and Delta. In January 2018, the on-call roster will include a fifth team, Echo. EOC on-call staff is sourced from across the PG&E enterprise. Each team is on-call for a two-week period and is expected to report to the EOC or the alternate EOC within the time frame determined by the IC, if activated.

Each team has:

- EOC Commander
- Command Staff
- General Staff
 - Operations
 - Intelligence and Investigations
 - Logistics
 - Planning and Intelligence
 - Finance and Administration
 - Customer Care

The Director EP&R maintains an EOC On-call roster, with appropriate contact information, for key emergency response personnel and is responsible for issuing the call to activate the EOC.

On-call teams also exist at field emergency centers and control centers and in the Gas and Electric Emergency Preparedness groups. More information on how the LOBs use the on-call teams can be found in their respective annexes to this CERP.

10.8.3 Pre-Incident Monitors

When a signal of an impending incident is received, emergency centers may be activated or other preparatory actions may be taken. These actions include, but are not limited to:

- Conference calls
- Placing personnel on alert status
- Advising employees to pack overnight bags
- Reviewing emergency plans
- Identifying key personnel available for restoration activities
- Pre-staging personnel
- Evaluating supplies and equipment
- Canceling or postponing non-critical meetings

Pre-incident preparations should be incorporated into the emergency response and restoration operations at every level of PG&E's emergency management organization. The EOC Commander will direct appropriate proactive measures when identified triggers have been met

10.9 Make Safe and 911 Standby

For those situations where hazardous conditions have been identified and prompt attention is required, e.g., wire down, field crews are responsible to "make safe" any incident before restoration can begin. For additional details on make safe, refer to the specific functional annexes to this CERP.

A 9-1-1 callback process within PG&E has been implemented to ensure timely response to public safety agencies standing by PG&E facilities. PG&E deploys standby personnel to relieve public safety agency personnel until qualified gas or electric resources are available to assess and repair our facilities. For additional information, refer to the Gas and Electric Annexes.

10.10 Establish Command

For emergencies involving a single commodity or LOB, a company officer or a pre-designated qualified individual overseeing that commodity or LOB may act as the IC or emergency center commander. Pre-designated EOC Commanders have the authority to make decisions and commit to expenditures consistent with the level of emergency they are qualified for and PG&E's delegation of authority.

For emergencies involving more than one commodity or LOB, one of the PG&E's senior officers or a pre-designated qualified individual may act as the EOC Commander. As part of its on-call roster process, EP&R maintains a list of qualified EOC Commanders.

10.11 Notification

10.11.1 Internal Call-Out Procedures

Each emergency center maintains call-out procedures to ensure adequate staffing levels for any and every emergency. When warranted by the magnitude of a significant emergency, e.g., earthquake, all levels of PG&E emergency management operations are expected to report immediately to their assigned location for emergency assignment.

Notification to the EOC on-call teams is initiated by the Director EP&R. Send Word Now (SWN) and ARCOS are two methods used to contact on-call teams and request their status, direct them to report or connect them instantly to a conference call.

LOB call-out procedures can be found in their associated functional annexes.

For escalating incidents, each line of business maintains appropriate notification processes, electronic mail and paging lists to notify personnel about the emergency and provide reporting and contact information. Personnel report to pre-designated emergency center locations or to another assigned location within the notified time period appropriate to the incident.

When a decision is made to open the EOC, the authorized IC or officer notifies the Director EP&R which EOC (primary or alternate) is being activated and the time frame for activation. The Director then notifies the EOC on-call manager, who readies the facility for use³⁶. If the Director is unavailable, the EOC manager is notified directly by the EOC on-call IC. The authorized IC or officer also notifies the EOC on-call to activate the EOC personnel. When the EOC is activated, the EOC On-call manager or designee uses the notification process outlined in the EOC activation procedures.

In the event of a significant natural disaster, such as an earthquake, notification may be challenging or impossible. In this situation, PG&E personnel who have a role in the emergency organization have been instructed to report to pre-defined locations even if they have not received official notification. If travel conditions prevent emergency personnel from reporting to their pre-defined locations, they are instructed to report to the nearest PG&E business office or service center and contact the EOC or their designated center for further direction.

At Diablo Canyon, notification should occur within 10 minutes of the start of an incident and supplemental emergency organization personnel will be on-site at pre-designated locations within 60 minutes.

³⁶ The primary EOC can be active immediately; the AEOC requires two hours of set up time from notification.

If the primary EOC has been activated, or if circumstances or changing conditions make it unsafe or unwise to continue to operate at that location, arrangements for transportation to the Alternate EOC (AEOC) will be made by the Logistics section. The EOC manager is responsible for coordinating the set-up of the alternate EOC in San Ramon. The primary EOC can be active immediately; the AEOC requires two hours of set up time from notification.

10.11.2 External Notification

Once the EOC is activated, the LNO in the EOC, with input from the PIO, is responsible for ensuring all required regulatory and informational notifications are made. The LNO is responsible for documenting and providing records of these notifications to the Documentation Unit in the EOC or other appropriate-level emergency center.

The LNO will direct the Government Relations teams to notify, as appropriate: Government officials that represent the affected area; Local OES and city/county officials; Office of the Governor of the State of California and the California State Senate and Assembly; and members of Congress and the United States Senate

The LNO will direct the Regulatory Relations team or pre-designated personnel in the appropriate LOB to notify, as appropriate and within the required time-specific period: CAISO, CPUC and DOT.

For incidents occurring at DCP, the Control Room at the plant will notify the San Luis Obispo County Sheriff's Office, the State Warning Center and the Nuclear Regulatory Commission Operations Officer by telephone. The notification includes specific information on the incident, identifies affected population areas and protective measures that may be necessary and includes a provision for message authentication by the government agencies.

For a summary of external notifications for emergency center activations and outages, refer to Table 10.3 below. For additional details on external agency communication / coordination and outage notifications / reporting, refer to Chapter 14, "Coordination and Communication."

Table 10.3 External Agency / Stakeholder Notifications
Table Notes: For additional details see notes on next page.

External Agency / Stakeholder	Reporting Criteria	Required Time Frame	Responsible Department
CPUC Energy Division of Emergencies	EOC Activation or major electric outage	1 hour	EOC Manager
Cal OES Warning Operations Center	EOC Activation or major electric outage	1 hour	EOC Manager
CAISO, WECC, NERC	Disruptive event that has the potential to or impacts the BES	Day of event	VGCC
DOE	Event that has potential to or impacts the BES	1 or 6 hours, based on event	VGCC
DOT	Reportable Gas Incidents	1 hour	District/Division IC compiles info, Gas CPUC/DOT On-Call Representative file reports
CPUC	Reportable Gas Incidents	2 working hours, 4 non-working hours	District/Division IC compiles info, Gas CPUC/DOT On-Call Representative file reports
San Luis Obispo County Sheriff's Office Watch Commander CA State Warning Center	Declaration of Unusual Event Site Area Emergency General Emergency	15 minutes of declared emergency	DCPP
NRC Operations Officer	Declaration of Unusual Event Site Area Emergency General Emergency	1 hour or ASAP if due to Hostile Action	DCPP
Local OES City/County Officials CA Governor & Legislature US Congress	Courtesy notification to government officials that represent the affected area	As appropriate	LNO Local, State or Federal Government Relations
Cal OES	Cal OES Warning Center criteria are listed above. No specific threshold for other notifications	As appropriate	EP&R
CUEA	No specific threshold	As appropriate	EP&R
CEC	No specific threshold	As appropriate	LNO State Agency Relations
FBI	Major law enforcement matter	As needed	Corporate Security Cybersecurity
SEC	No specific threshold	As appropriate	Legal Officer
Media Outlets, Social Media, PGE.com	No specific threshold	As appropriate	Corporate Relations PIO
Customers	Outages	As CSO determines	CSO

Table Notes:

- CPUC = California Public Utilities Commission
 - Cal OES = California Office of Emergency Services
 - CAISO = California Independent System Operator
 - VGCC = Vacaville Grid Control Center
 - WECC = Western Electricity Coordination Council
 - NERC = North American Reliability Corporation
 - DOT = (US) Department of Transportation
 - CUEA = California Utilities Emergency Association
(Table notes continued)
 - CEC = California Energy Commission
 - FBI = (US) Federal Bureau of Investigation
 - SEC = (US) Securities and Exchange Commissions
- Customer notifications – Automated electric outage notification is made to residential customers. Commercial customers opt in at PGE.com for information on current electrical outages. Additional communications are made, as determined by CSO.
 - External agency notifications refer to procedures or regulations noted under reporting criteria and the functional and hazard-specific annexes to the CERP, e.g., refer to PG&E's Cybersecurity Annex for notifications to E-ISAC, Cyber Emergency Response Team (US-CERT), insurance carriers / brokers, CA Attorney General, U.S. Department of Health and Human Services, etc.
 - CPUC and Cal OES – G.O. 166, Standard 6, specifies an initial notification following a major outage or other newsworthy event. PG&E generally treats newsworthy events as incidents which fall into the category of Level 3 or greater emergency. Refer to Section 14.5, "Outage Notifications and Reporting," for the CPUC's definition of a major outage.
 - CAISO, WECC and NERC – Use Form OE-417 (Electric Emergency Incident and Disturbance Report) and the Event Reporting Form attachment in NERC Reliability Standard EOP-004-2.
 - Reportable gas incidents – Refer to Utility Procedure TD-4413P-01.
 - Nuclear incidents – Refer to the DCCP Emergency Plan Nuclear Annex.

ARCOS**Automated Crew Callout System**

▲ A tool that enables PG&E to quickly obtain real-time views into:

- Which crews are where
- Who is available to work
- Cost of response

Figure 10.2 ARCOS – Automated Crew Callout System

10.12 Damage Modeling

In order to prepare effectively for an emergency response, advance planning is necessary. PG&E has developed tools to assist in predicting potential damage to our facilities, infrastructure and to test what may be needed to restore power to our customers.

Preplanning consists of:

- Identifying hazards
- Developing response and mitigation measures for those identified hazards
- Developing tools using both internal proprietary information and publicly accessible information to aid in predicting, defining and responding to certain emergency scenarios, such as:
 - Damage modeling
 - Scenario creation
 - Storm Outage Prediction Program (SOPP)

A significant aspect of emergency planning and response involves the use of damage modeling information to estimate the impacts of earthquakes, storms and other potential causes that would trigger a need for an emergency response. PG&E uses several modeling tools:

DASH - Dynamic Automated Seismic Hazard

The Dynamic Automated Seismic Hazard (DASH)³⁷ reports provide information necessary to prioritize inspections following an earthquake. DASH reports currently exist for gas distribution, gas transmission, gas stations, power generation facilities and corporate real estate facilities.

SOPP - Storm Outage Prediction Program

In order to mitigate the considerable operational risk caused by adverse weather, PG&E developed a storm damage prediction model, the Storm Outage Prediction Project Model, or SOPP Model for short. The model leverages over 20 years of historical weather and outage data along with high resolution weather forecasts and real-time weather data to predict outages and the resources required for repair.

See Section 3.3.1 for additional information about the SOPP.



Figure 10.2 Dynamic Automated Seismic Hazard (DASH) Site



Figure 10.3 PG&E Meteorology Services

³⁷ See PG&E Dashboard at <http://www2/dashweb>

10.13 Damage Assessment

There are two key steps to the damage assessment process:

- Field personnel initially assess the damage and make repairs, if possible.
- Office personnel manage the information to ensure the assessment information is timely and accurate throughout the restoration process.

In order to facilitate prioritization of restoration and resource deployment, information is required regarding damage sustained and estimates of work required to restore equipment to operations. Local facility management, Resource Management Center (RMC) employees and field personnel are trained to identify and report the condition of damaged equipment to the OEC. The OEC will consolidate the damage assessment and pass the information up to the REC or GEC; the information is then passed to the P&I Section in the EOC, if it is activated.

Damage assessment may take considerable time following an emergency and requires specially qualified personnel to complete correctly. The EOC P&I Section may use modeling and monitoring software and pre-established loss estimates to initiate planning and then will refine the estimates as valid data is received from the field.

The Initial Damage Evaluation (IDE) program provides immediate response guidance for earthquakes. The [Gas Pipeline Earthquake Plan and Response Procedure – Risk Management Instruction \(RMI-04\)](#) provides key damage assessment response protocols based on IDE procedures for Gas.

The P&I Section provides consolidated damage assessments, outage estimates, ETOR forecasts and models from weather and geosciences whenever possible to the Command and General staff of the activated emergency centers.

10.14 Resource Management

In any work situation, but especially in an emergency event, resources must be managed and work prioritized. These priorities, noted as the incident objectives in the incident action plan (IAP), are operationally driven and are primarily focused on restoring as many customers as safely and efficiently soon as possible.

The IAP includes these incident objectives and reflects the tactics necessary to manage an incident during an operational period.³⁸ Priorities may need to be modified, however, to accommodate the needs of the communities we serve. Changes to an incident's objectives/priorities are reflected in updates to the IAP

Work may also need to be coordinated with other infrastructure repairs that may be occurring simultaneously by other utilities, government agencies and property owners. The EOC will manage priority-setting in a coordinated manner whenever possible by working with local government and other impacted utilities.

See Sections 11 and 12 for additional details on resource management and mutual assistance.

³⁸ An operational period is the period of time scheduled for executing a given set of actions in the IAP. For example, the length of the operational period may be 12 hours at the start of the incident and adjusted over time, as operations require.

10.15 Restoration

Both Gas and Electric organizations have detailed processes, tools and technology to develop restoration plans. During any activation, it is the responsibility of field crews to assess the expected time of restoration based on the current situation and with current resources. For more details on Gas and Electric restoration tools, refer to the Gas and Electric Annexes to this CERP.

Any unmet resource needs should be communicated up to the appropriate emergency center. Unmet needs and long restoration times may indicate a need to bring in resources from another part of the service territory or to seek mutual assistance from another company. Mutual assistance during a dual-commodity incident is handled through the EOC.

10.16 Demobilization

Demobilization is the process of scaling down from an emergency to business as usual.

Refer to Section 13 for demobilization information.

11 Resource Management

Note: In the 2016 CERP, Resource Management, Mutual Assistance and Demobilization was one section (§7). Effective with the 2017 CERP, each category is separated and has its own section. This accommodates new information and facilitates presentation, organizing and indexing.

This section describes PG&E's approach to managing resources so that service is restored promptly. Managing work crews, equipment and material resources includes, but is not limited to:

- Organizing
- Assigning
- Directing
- Tracking

11.1 Resource Check-In and Check-Out Process

The P&I Resource Unit will establish and oversee the check-in and check-out function at designated incident locations and emergency centers.

Resource management begins with accurate check-in and check-out processes of available personnel, including non-PG&E contract and mutual assistance crews. Understanding which resources are available during an incident is critical to an effective response. Keeping accurate accounts of all checked-in personnel is essential for personnel safety, accountability and fiscal control and vital for tracking resources to ensure efficient restoration of services.

11.2 Resource Allocation

Decisions regarding allocation and deployment of resources are based on priorities that govern assessment or restoration work. Additional criteria to be considered include:

- Location of resources
- Time to mobilize
- Crew size, expertise, equipment
- Financial impact

When personnel are redeployed across regional boundaries at PG&E, priority will be given to using resources with appropriate expertise that are nearest to the need. As these resources are exhausted, personnel from a greater distance or with a higher level of skill will be used. If these resources are also exhausted, crews from other utilities and contractors will be requested.

11.3 Resource Planning Roles and Responsibilities in the EOC

Resource Management in the EOC is coordinated between the following positions:

Table 11.1 Resource Planning Roles and Responsibilities in the EOC

Position	Responsibilities
Incident Commander (IC)	<ul style="list-style-type: none"> Reviews resource plans with P&I Chief and Advance Planning to drive ETOR requirements. Approves resource plan.
P&I Section Chief	<ul style="list-style-type: none"> Serves as a liaison between the P&I functions and the IC. Helps to collect requirements and facilitate discussion between Logistics and Operations.
Advanced Planning	<ul style="list-style-type: none"> Develops staffing and restoration plans for the next operational period based on damage models, predictive forecasts, real-time outage and leak information, and restoration strategies. Incorporates feedback from the Resource Management Unit to develop ETORs based on current staffing, outages and projected system damage.
Resource Management Unit Leader	<ul style="list-style-type: none"> Builds current base resource plan and anticipates staffing requirements based on the work plan provided by Advanced Planning. Works closely with Advanced Planning and Resource Tracking to build staffing plans and signal the need for additional resources.
Resource Tracking	<ul style="list-style-type: none"> Oversees crew transfers between regions and divisions and tracks resources. Works closely with the Resource Management Unit Leader to coordinate inter-region and division transfers to ensure that the required crews reach their destination.
Mutual Assistance	<ul style="list-style-type: none"> Coordinates with external stakeholders and utilities to provide additional support during large-scale emergency events. Serves as an interface between Logistics and the Resource Management Unit to close any staffing gaps.
Contractor Management	<ul style="list-style-type: none"> Coordinates with the Resource Management Unit to acquire contractors to meet resource demands. This position is similar to Mutual Assistance Support.

11.3.1 EOC Resources Process

Figure 11.1 below defines requirements for each step of the EOC resource allocation process which Gas and Electric both follow. Within the GEC, the Resource Unit and Demobilization Unit duties are combined under the Resource Unit.

The process is:

- Repeated throughout the duration of the event
- Planned in advance if an impending storm could cause significant damage
- Updated frequently as new restoration or damage model information is received

To determine resource needs, the Resource Management Unit initially uses damage models to help align resource staffing levels with the amount of work that needs to be completed in an area. Predictive damage models are used as a starting point for restoration until more accurate assessment information from the field and outage and leak management tools can be obtained. More information about damage modeling is located in section 10.12.

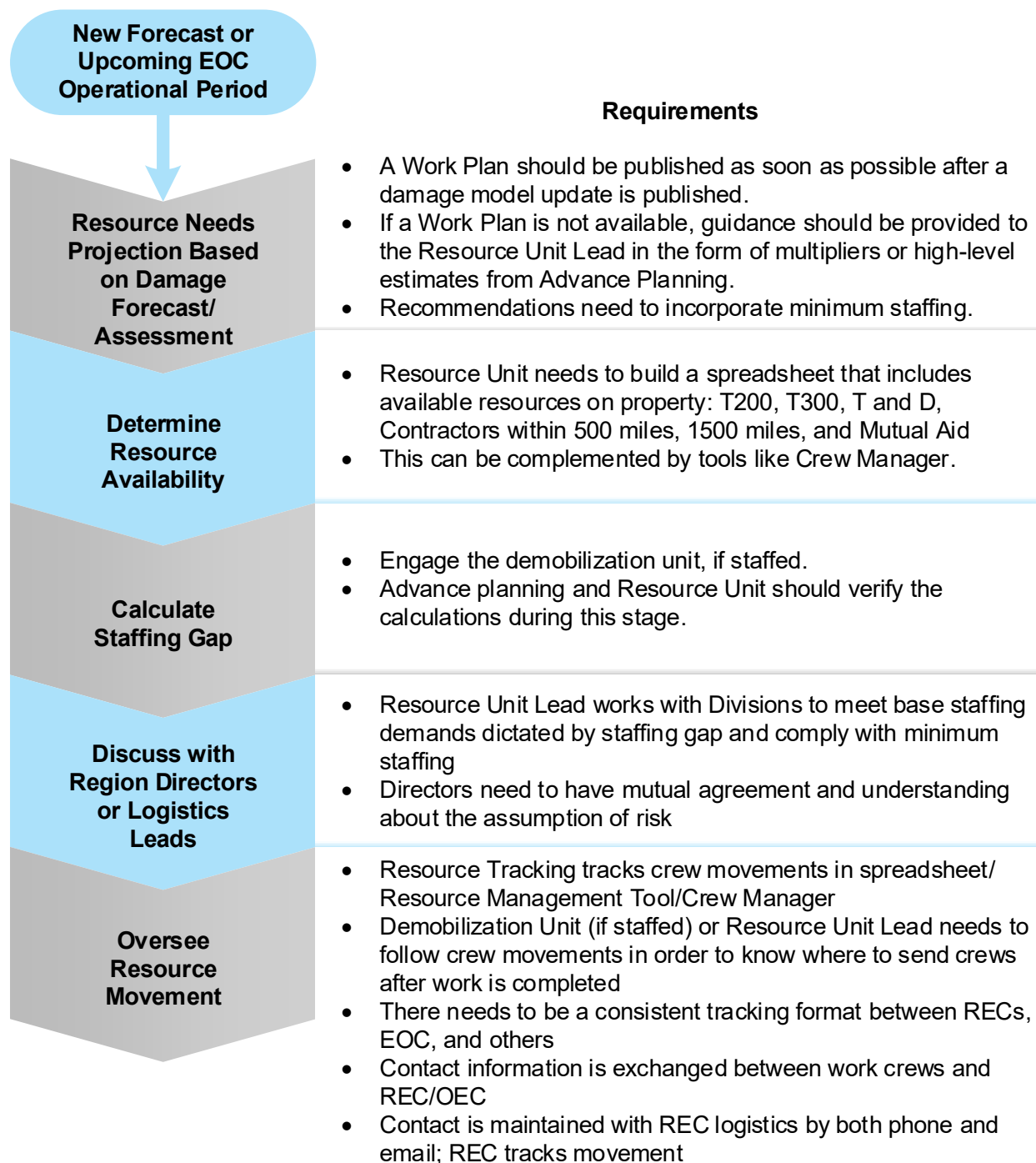


Figure 11.1 EOC Resource Allocation Process Map

11.4 Moving Resources

During emergencies, resources are ordered and managed by different roles, as depicted in the table below.

Table 11.2 Resource Management

Emergency Center	Ordering Authority	Managing Authority
No Emergency Center Activated	<i>Electric:</i> <ul style="list-style-type: none"> Local Supervisor or above <i>Gas:</i> <ul style="list-style-type: none"> Region General Construction Superintendent or GEC On-Call 	<i>Electric:</i> <ul style="list-style-type: none"> Local Supervisor or above <i>Gas:</i> <ul style="list-style-type: none"> Region General Construction Superintendent or GEC On-Call
OEC STOEC	<ul style="list-style-type: none"> Logistics Section Chief 	<ul style="list-style-type: none"> Resource Unit Leader
REC GEC ETEC	<ul style="list-style-type: none"> Logistics Section Chief 	<ul style="list-style-type: none"> Resource Unit Leader
EOC	<ul style="list-style-type: none"> EOC Logistics Section Chief (non-personnel request) EOC Resource Management Unit Leader (personnel) 	<ul style="list-style-type: none"> EOC Resource Unit

Additional information on the resource movement authorization, request and tracking processes is available in the respective LOB functional annexes.

11.5 Deployment Order

Decisions regarding allocation and deployment of resources should be based on priorities that govern assessment or restoration.

The typical order for requesting and deploying personnel resources includes, but is not limited to:

- Local
 - Title 200 (T200) Distribution – Service Planning and Maintenance crews
 - T300 Distribution – General Construction crews
 - T300 Transmission and T200 Transmission³⁹
 - Contract from within the impacted division
- Out of Division
 - T300 Distribution
 - T300 Transmission and T200 Transmission³⁹
 - T200 Distribution
 - Contract from within the impacted region

³⁹ Given there are no Transmission impacts or risk.

- Out of Region
 - T300 Distribution
 - T300 Transmission and T200 Transmission³⁹
 - T200 Distribution
 - Contract from less impacted regions
- Non-Electric Resources
- Employees called in off vacation
- Non-PG&E Resources
 - Contract crews from outside utilities (contract crews may be used before GC Transmission Line, depending on the incident)⁴⁰
 - Mutual assistance crews
 - Government resources

11.6 Vehicle and Equipment Rentals

Logistics handles requests for vehicle and equipment rentals.

Rental Central within Transportation Services is responsible for fulfilling all company rental needs, e.g., light and heavy duty, vehicles, generators, construction equipment, portable restrooms, barges, ground support movement, shoring, trench plates and tools.

The EOC Ground Support Unit Leader, the Base Camp Ground Support Unit Leader, the Staging Area Ground Support Unit Leader, or the Micro Site Ground Support Unit Leader, when activated, will work directly with the rental team to fulfill all vehicle and equipment rental requests. OEC, REC and GEC Logistics will coordinate rental requests directly with the Rental Central team, unless they require additional support from the next highest emergency center in their hierarchy.

Rental Central at 530-757-5959 is staffed 24 hours a day, 7 days a week, 365 days a year.

⁴⁰ For efficiency and cost effectiveness, consider contract crew support prior to requesting mutual assistance.

11.7 Materials

Logistics is responsible for managing and supporting PG&E materials requirements during an emergency activation, with support by the Warehouse Operations and Materials Field Services (MFS) departments via the Materials and Transportation Coordination Center (MTCC).

The MTCC:

- Works with Materials Planning and Materials Field Services representatives to oversee and support any emergency materials requirements not available at the service centers and various other warehouses throughout the system.
- Will oversee all inventory replenishment activities, including purchase order placement, transferring inventory between facilities, and expediting open orders, as needed.

The EOC Supply Unit Leader or the Base Camp Supply Unit Leader, when activated, will work directly with the MTCC to fulfill all material requirements.

OEC, REC and GEC Logistics will coordinate material via the local MFS personnel at the service centers.

11.8 PG&E Contract Crew Support

PG&E has contracts in place to use contract crew and/or equipment resources during incidents where company resources alone are not able to restore our Electric and Gas infrastructure in a timely manner. In day-to-day operations, Sourcing works with contractors directly.

11.8.1 Contracts for Emergency Response

During an emergency event, the P&I Contractor Resources Unit is responsible for determining the number of crews needed, managing the contracts, and issuing emergency purchase orders.

Prior to emergency situations, the Sourcing Department issues contract agreements on an annual basis to provide assistance in restoring Electric or Gas service during an emergency response. Agreements are established with contractors to provide assistance upon request and include furnishing personnel, equipment and/or expertise in a specified manner.

11.8.2 Contract Crew Request

Once a need arises for contract crews, the Contractor Management lead in Resources makes an initial call to determine current contractor availability on property.

If more contract crews are needed, the Contract Logistics Manager contacts the contractors for additional resources.

If there is still a shortage of resources, the Mutual Assistance process is followed to obtain contract crews from other utilities. For additional information, refer to Chapter 12, "Mutual Assistance." Additional details on contract crews, resource acquisition and management can be found in the LOB annexes.

12 Mutual Assistance

Note: In the 2016 CERP, Resource Management, Mutual Assistance and Demobilization was one section (§7). Effective with the 2017 CERP, each category is separated and has its own section. This accommodates new information and facilitates presentation, organizing and indexing.

The utility industry has a strong track record of maintaining high levels of reliability. At times, however, hurricanes, earthquakes, storms and other natural disasters cause significant damage to the energy grid and can create widespread power outages. During these events, utilities must respond safely, swiftly and efficiently to restore service to affected customers.

Restoring power after a major storm is a complex task and a speedy restoration requires significant logistical expertise, along with skilled line workers and specialized equipment. Electric companies affected by significant outages often turn to the industry's mutual assistance network—a voluntary partnership of electric companies from across the country—to help speed restoration.

Mutual assistance is an essential part of the electric power industry's service restoration process and contingency planning. The mutual assistance network is a cornerstone of electric utility operations during emergencies.⁴¹

Different types of mutual assistance include, but are not limited to, utilizing local (utility to utility), in-state (CUEA), regional (WRMAA) and national (EEI and AGA) cooperative agreements established through:

- Mutual Assistance Agreements (MAAs)
- EEI's Resource Allocation Management Program (RAMP-UP)

12.1 Mutual Assistance Agreements

PG&E has agreements with other utilities to provide assistance on request by furnishing personnel, equipment and/or expertise in a specified manner. These mutual assistance agreements:

- Are established prior to any specific incident
- Follow standardized procedures
- Require specific authorizations before crews are provided/or received

PG&E has mutual assistance agreements with:

- American Gas Association (AGA)
- California Utilities Emergency Association (CUEA)
- Western Area Power Administration Agreement (WAPAA)

⁴¹ Edison Electric Institute Mutual Assistance

<http://www.eei.org/issuesandpolicy/electricreliability/mutualassistance/Pages/default.aspx>, accessed June 9, 2017, 13:16

- Western Energy Institute (WEI)⁴²
- Western Region Mutual Assistance Agreement (WRMAA)
- Edison Electric Institute (EEI)
- Florida Power and Light (FPL)
- Trinity County Public Utilities District (PUD)

12.2 Mutual Assistance Strategy

Generally, mutual assistance efforts are coordinated by the EOC, because requesting additional resources through mutual assistance is considered when the following conditions are met:

- All PG&E resources have been committed
- Service restoration cannot be completed within established targets
- Additional resources are likely to significantly reduce the time needed to complete restoration
- Mobilization and travel time of mutual assistance crews will allow those crews to be in place in a timely fashion
- Obtaining crews from other utilities within California or beyond follows a rule of start local and reach (further) out as needed. Mutual assistance crews are solicited from:
 - 1st Other utilities
 - 2nd Within California (CEUA)
 - 3rd From regional agreements (WRMAA)
 - 4th From national (EEI and AGA) cooperative agreements

12.3 Mutual Assistance Process

Obtaining crews from other utilities within California or beyond follows a common process:

- Relay Need
 - EOC P&I Resources Management / Mutual Assistance units work with Operations and Logistics
- Receive Approval
 - IC or VP Electric Transmission Operations approves request for external assistance
- Request Resources
 - Director EP&R requests assistance from CUEA, WRMAA or other agreement
- Receive and Task Crews
 - Field supervisor checks crews in

⁴² WEI agreement is expressed through WRMAA.

- Restore Customers
 - Collective PG&E, contract and mutual assistance crews
- Re-evaluate Needs
 - OECs, RECs, P&I Resources Management and Mutual Assistance, others as appropriate
- Release Crews
 - When Demobilization Plan is approved, crews will begin to be released based on varying criteria, including but not limited to current location/distance from home base, time committed/completed, home-territory needs, etc.
- Report In
 - External crew notifies Mutual Assistance unit upon safe arrival home
- Resolve Documentation and Remit Payment
 - Mutual Assistance lead works with Finance and Electric Emergency Management to collect, review, process and approve invoices for payment

12.4 Documenting Mutual Assistance Work

The EOC Finance and Administration Section will ensure all applicable time for mutual assistance personnel is logged and tracked, including any associated costs for equipment repairs and required personnel expenses.

Mutual assistance agreements with contractors and other utilities require the responding agency to submit a detailed billing of work. Mutual assistance from other utilities requires the detailed submittal of a bill to PG&E within 90 days from their demobilization. The Emergency Recovery Program will provide oversight to ensure invoice accuracy and prompt payment to responding utilities.

12.5 EEI Resource Allocation Management Program (RAMP-UP)

EEI's Resource Allocation Resource Program (RAMP-UP) is a network-based application designed to provide a cohesive process to allocate and track resources nationwide among requesting utilities.

The tool can be used for NREs and RMAG events and allows users to:

- Offer resources
- Request resources
- Match resource requests with offers
- Produce standardized reports
- Provide situational awareness to NREC, NMART and EEI

RAMP-UP is scalable to handle a single regional event, multi-regional events, and can scale up to support all seven regions simultaneously.

12.6 National Response Event (NRE)

A National Response Event (NRE) is a natural or man-made event that is forecasted to cause or causes widespread power outages impacting a significant population or several regions across the U.S. NREs require resources from multiple Regional Mutual Assistance Groups (RMAGs). A Chief Executive Officer (CEO) or designated officer from an Edison Electric Institute (EEI) member utility may request to initiate the NRE process when multiple RMAGs cannot adequately support the resource requirements of the requesting utilities.

An NRE is an electric utility event:⁴³

- That is expected to or has impacted two or more RMAGs, or
- Whose resource requirements are greater than the impacted RMAGs can provide, or
- Where multiple events create a resource constraint or competition between RMAGs

The CEO, or designated officer, from an EEI member utility may make a request to initiate the NRE process by directly contacting the President of EEI, or designee, who would then host a conference call with:

- The CEO(s)
- The CEO Policy Committee on Reliability and Business Continuity Chairs
- The National Response Executive Committee (NREC) Chair

The NREC Chair is authorized to decide whether to activate, not activate, or delay deciding to activate/not activate the NRE. In addition to reviewing/validating a request to activate an NRE, the NREC:

- Is responsible to the EEI Board of Directors
- Resolves any issues from the resource allocation process
- Develops procedures and processes covering emergency assistance arrangements between participating companies to respond to an NRE
- Activates the National Mutual Assistance Resource Team (NMART)

Once the NRE is activated, all of the available resources are allocated at the national level across individual companies and RMAGs, according to the NRE process. Figure 12.1 and Figure 12.2 depict the activation process and NRE Roles and Responsibilities.

NMART is responsible for:

- Collecting information regarding damage
- Determining available and requested resources
- Allocating resources
- Although the NRE was developed for an electrical event, its concepts and process can be adapted to include other commodities.

⁴³ Information taken from the NRE Playbook, August 2015; prior to final review this information will be checked against the recently revised 2017 NRE Playbook and updated if appropriate.

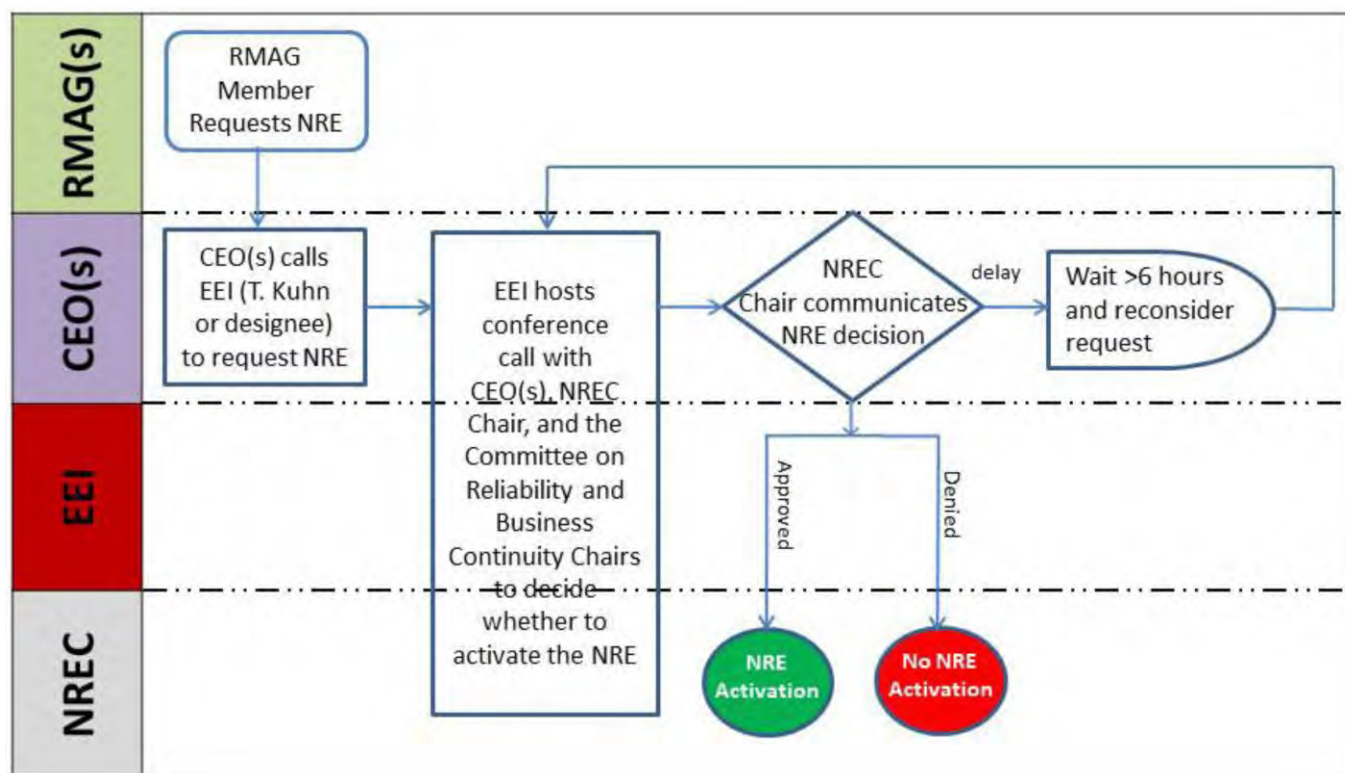


Figure 12.1 National Response Event (NRE) Activation Process Map⁴⁴

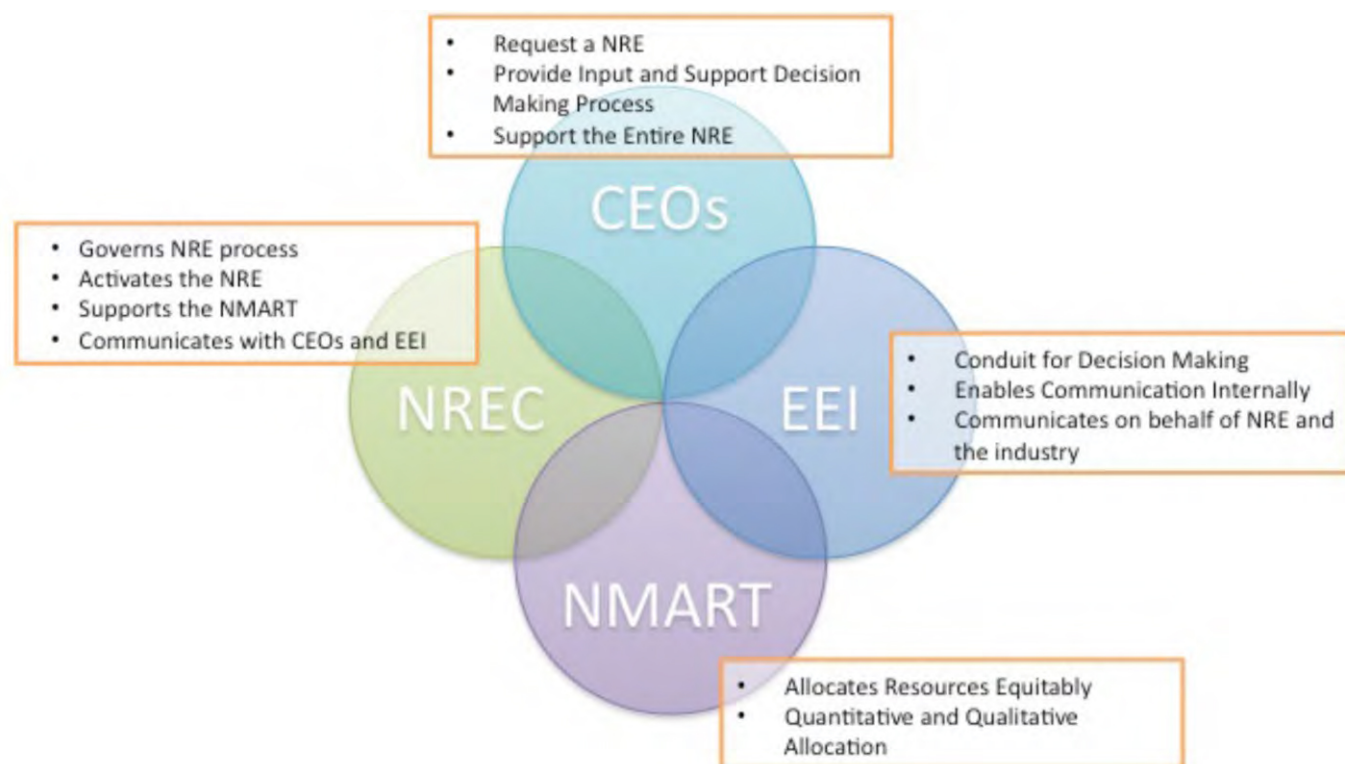


Figure 12.2 NRE Roles and Responsibilities⁴⁴

⁴⁴ Edison Electric Institute, National Response Event Playbook, May 2017

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13 Demobilization

Note: In the 2016 CERP, Resource Management, Mutual Assistance and Demobilization was one section (§7). Effective with the 2017 CERP, each category is separated and has its own section. This accommodates new information and facilitates presentation, organizing and indexing.

Demobilization includes overseeing and validating the safe and efficient return of resources to their original location and status when they are no longer needed to support the response.

Planning for demobilization starts soon after the resource mobilization process begins to facilitate accountability of resources. For example, near the start of the incident, the Demobilization Unit Leader works closely with the Resource Unit Leader to track resources, identify excess resources and create a demobilization plan.

Since the Resource Unit Leader's volume of work is greater than the Demobilization Unit Leaders', Resource and takes a lead role. As service is restored, fewer resources are required and the demobilization process begins to dominate. The Resource Unit Leader's volume decreases as the Demobilization Unit Leader's volume of work increases. Lead roles switch as the responsibilities shift to implementing and monitoring the demobilization plan.⁴⁵

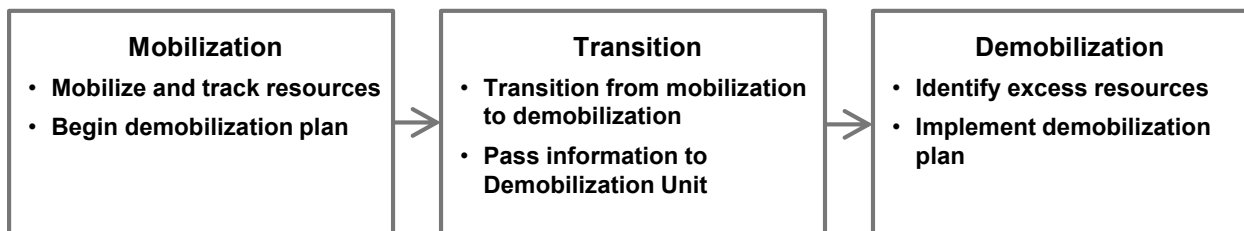


Figure 13.1 Progression from Mobilization to Demobilization

Throughout the resource acquisition, management and demobilization continuum, communication is essential. Communication may be initiated from the bottom up or from the top down. Ultimately, the highest level activated emergency center makes decisions on whether resources can demobilize or should be reallocated.

This decision is based on information

- Passed up from the lower level emergency centers
- Garnered through analytic tools
- Acquired from other emergency centers and/or field staff

As noted earlier and throughout this company emergency response plan, maintaining safety is a priority. To ensure personnel safety and to prevent resources from being released in one area when they are needed in another, it is essential that the chain of command, proper-communications and the demobilization process are followed.

⁴⁵ If the Resource Unit and Demobilization Unit are not staffed during an incident, the Planning and Intelligence Section Chief is responsible for these functions. In smaller incidents, or if a Demobilization Unit is not assigned, the Resource Unit Leader may assume both the Resource and Demobilization units duties, e .g., in the Gas Emergency Center (GEC), the Resource Unit currently handles the demobilization duties.

13.1 Demobilization Roles and Responsibilities

The following includes responsibilities by Section/Unit in the demobilization process.

13.1.1 Resource Unit Leader

The Resource Unit Leader:

- Identifies excess resources in collaboration with the Section Chiefs and Demobilization Unit and informs their emergency center commander.
- Checks with the Resource Unit at the next level's emergency center to see if resources are needed elsewhere and whether demobilization is authorized. The highest level activated emergency center makes the ultimate decision to demobilize resources. For example, when open, the EOC takes into account information and recommendations from the Regional Emergency Center (REC) / Operations Emergency Center (OEC), but it ultimately makes final demobilization decisions.
- Once approval is secured to demobilize, the Resource Unit notifies their Logistics Section and the Demobilization Unit of the excess resources.
- The District Storm Room (DSR)/OEC Resource Unit Leader releases/checks out resources in ARCOS Crew Manager with the estimated time of arrival (ETA) to their home Region/Division. The receiving DSR/OEC's Resource Unit Leader checks in the resources returning to home base during work hours to confirm arrival. (The Supervisor checks them in if the home DSR/OEC is not activated.)

13.1.2 OEC/REC Demobilization Unit Leader

The OEC/REC Demobilization Unit Leader:

- In collaboration with the Resource Unit, assesses the current and projected resource needs and obtains the identification of surplus resources and probable release times.
- Forwards demobilization instructions for field resources from the EOC.
- Creates the demobilization plan and monitors its implementation for their emergency center. [The demobilization plan includes the release priorities, demobilization process, any specific release procedures, responsibilities for implementing the demobilization plan and directories, if needed (e.g., maps, telephone listings, etc.).]
- Communicates with the sending and receiving offices, as well as the released personnel, to ensure the safe and efficient return of resources.
- Maintains a Demobilization Log, as needed, until the transition to ARCOS Crew Manager is complete.

13.1.3 EOC Demobilization Unit Leader

The EOC Demobilization Unit Leader:

- Creates the demobilization plan for the EOC.
- Work with Operations Section Chief and Resource Unit to identify excess resources.

- Creates instructions for the RECs/Gas Emergency Center (GEC) to direct REC and OEC demobilization of field resources (e.g., order for the demobilization of resources, demobilization checklist and safety considerations).
- Is responsible for the demobilization of outside contract, mutual assistance crews and out of region PG&E crews (i.e., communicates with the RECs who is coming back and when, notifies the contract unit to release crews, calls outside utilities to notify them when resources have been released, confirms the number acquired equals number released).
- Keeps the sending and receiving GEC/REC Logistics Chiefs and Resource Units apprised of resource movement between Regions during the demobilization process.
- Monitors the implementation of the demobilization plan.

13.1.4 Planning and Intelligence Section Chief

The Planning and Intelligence Section Chief:

- Reviews and approves the demobilization plan.
- Assumes responsibility for the Resource and Demobilization Units, if these functions are not staffed.

13.1.5 Emergency Center Commander

The Emergency Center Commander:

- Approves the demobilization plan for their emergency center.

13.1.6 Safety Officer

The Safety Officer:

- Identifies any special safety considerations for the demobilization plan.

13.1.7 Logistics Section Chief

The Logistics Section Chief:

- Oversees the deactivation of all activated Logistics resources including those in the EOC, FCC, MTCC and any base camps, staging areas or micro sites that were activated

13.1.8 District Storm Room (DSR) or Incident Work Area Supervisors

The District Storm Room (DSR) or Incident Work Area Supervisors:

- DSR or Incident Work Area Supervisor refers to those supervisors overseeing resources working on the incident.
- Ensures employees fill out and sign the individual or group Employee Demobilization Checklist Release Form (ICS 221).

13.1.9 Home Supervisor

The Home Supervisor:

- When the DSR/OEC is not activated, checks receiving resources in, confirming arrival.

13.1.10 Traveling Resource (Resources Released)

The Traveling Resource (Resources Released):

- Contacts home OEC (or home supervisor, if the home OEC is not activated) upon arrival.

13.2 Overall Demobilization of Resources

For Level 3 or greater emergencies, a Demobilization Unit should be established in the P&I Section in the EOC to plan for the efficient demobilization of crews. When the IC determines that the additional personnel brought in for emergency response are no longer needed, the plan for demobilizing these crews will be implemented. The plan will include:

- Notifications to local management about resources being returned to their control
- A formal process for demobilizing mutual assistance and contract crews, including debriefing by PG&E staff
- Provisions for final accounting and billing

13.3 Demobilization Order

The order for demobilization is executed in reverse of the deployment order detailed in Section 11.5.

13.4 Demobilization of Base Camps

When base camps, staging areas or micro sites are directed to deactivate, the responsible Logistics personnel at those sites will ensure all demobilization steps listed in their position checklists are followed. This document is located in the Logistics Emergency Resource Guide.

13.5 Demobilization of Materials

The MTCC will manage the demobilization plan for material issued during an emergency event. Material Field Services (MFS) personnel at the service centers, base camps or micro sites, if activated, will work with the MTCC to determine where unused / excess material will be delivered.

Normally, all material is redirected to the issuing distribution center to be returned to stock, which ensures expenditures are credited back to the storm order the material was charged out to. Since order numbers are typically assigned to the county where the material is required, this is the best way to ensure orders are properly allocated to where the material is consumed. In some unique situations, material may be reassigned to one of the service centers, or other locations, based on the emergency event.

13.5.1 Demobilization of Equipment, Vehicles and Rentals

Rental Central within Transportation Services is responsible for fulfilling all company rental needs (e.g., light and heavy duty vehicles, generators, construction equipment, portable restrooms, barges, ground support movement, shoring, trench plates and tools).

The EOC Ground Support Unit Leader, or the Base Camp or Staging Area Ground Support Unit Leader, when activated, will work directly with the Rental Center team to coordinate the demobilization of all equipment, vehicles and other rentals that are requested through the EOC or Base Camp. OEC and REC Logistics will coordinate demobilization of their submitted rental requests directly with Rental Central, unless they require additional support from next highest emergency center in their hierarchy.

13.5.2 Deactivation of Emergency Centers

Emergency centers will be deactivated when they are no longer needed to support restoration efforts, when critical business services have been restored and when work is reverting to “business as usual.”

If the EOC has been activated, the decision to deactivate will be made by the EOC Commander in consultation with the VP Electric Transmission Operations and the EOC Command and General Staff and will be communicated to all emergency centers, the company as a whole, key external constituencies, and regional government EOCs.

13.5.3 Demobilization Where Gas Supports Electric

In the event Gas resources are supporting a primarily Electric response and the GEC is not activated, (e.g., following a wildfire or storm where electric facilities are impacted), a Gas Resource Unit representative will be assigned to the EOC. The Gas Resource Unit is responsible for tracking Gas resources and will work under the direction of the Electric Resource Unit Leader. The Gas Resource Unit is also responsible for demobilizing their line of business resources and working closely with the Electric Demobilization Unit Leader.

13.5.4 EOC After Action Reports (AARs)

Following an activation of the EOC, EP&R prepares an After Action Report (AAR). The process involves:

- EP&R solicits and analyzes feedback from EOC staff who supported the activation
- EP&R drafts and obtains AAR approval from Director EP&R, Regulatory Relations, and Law
- EP&R develops and disseminates an Improvement Plan to the appropriate EM departments within the affected LOBs
- Each LOB confirms issues are valid for his/her area and need resolution
- Director EP&R determines appropriate corrective actions, including reviewing emergency operations plans to determine whether modifications need to be made
- Director EP&R tracks individual action items as appropriate for the LOB

- Director EP&R tracks status of action items
- Action items may be input into the Enterprise Correction Action Program (ECAP). All action items are assigned ownership and a due date for completion and are distributed to affected lines of business⁴⁶
- EP&R reports action item status monthly to the VP Electric Transmission Operations
- EP&R responds to requests for AARs
- Requests for a copy of any AAR must be submitted to the Business Continuity Manager and the Director EP&R for approval

⁴⁶ As of June 13, 2017, the tracking process is in transition; the to-be process will track items in ECAP

14 Coordination and Communication

Public Information Officer (PIO) and the External Communications Annex During an emergency, incident communication links will be established and maintained throughout all levels of the EMO to support the delivery of regular status updates to internal stakeholders, customers, external agencies and the media.

These reporting requirements do not replace established PG&E internal and external reporting requirements.

Internal reporting requirements include:

- Operations leadership
- Safety Health and Claims (SH&C)
- Corporate Security
- Environmental Operations
- Gas Control Center.

External reporting requirements may include the:

- CPUC
- CAISO
- WECC

In local emergencies it is essential for field personnel to coordinate their activities with local public safety and other first responders to provide for the safe restoration of service. As an emergency grows in size, the necessity for internal and external coordination also grows. It becomes essential to manage communications effectively. When activated, the EOC becomes the single point of coordination for information dissemination, including:

- Damage assessment information, restoration priorities, provision of customer outage information, movement of manpower and equipment and implementation of mutual assistance
- Interaction with government agencies, including Cal OES and the CPUC, except for operational communications addressed in specific emergency plans and known to EOC personnel
- Communication with customers and the media

14.1 Internal Communication

Internal coordination during emergencies is largely managed through the use of ICS. ICS requires a structured “Planning Process,” which includes regularly scheduled meetings that follow an operational planning cycle and are repeated in each operational period. Referred to as the Planning “P,” this process is discussed further in Appendix D.

14.1.1 Communication Process and the EOC Action Plan

When the EOC is activated, information is gathered from a variety of sources. This information is reviewed with the EOC Commander at tactics and planning meetings. An EOC Action Plan⁴⁷, issued by the P&I Section and made widely available to emergency personnel, assures a common understanding of the objectives, tactics and plans for communications, logistics and other specifics of the company's response.

Use of ICS in the EOC also identifies specific channels for formal communications so that the proper individuals are made aware of activities that may impact them.

Sharing of information on the company's response to the emergency with non-emergency personnel is managed exclusively by the PIO.

14.1.2 Intelligence Reporting

The schedule for providing current information will be established soon after the activation of each EMO level. Reporting schedules to the EOC will be designed to allow sufficient time for compiling, analyzing and summarizing information before reporting to the next level. The EOC P&I Section Chief will prepare and communicate the reporting schedule.

14.1.3 Pre-Incident Reporting

Pre-incident summary reporting offers the Director EP&R and/or the incident Commanders at the OEC, REC, GEC and EOC facilities an assessment of readiness plans. Refer to the Gas and Electric annexes to this CERP for commodity-specific pre-incident planning processes.

14.1.4 Intelligence Summary and Situation Reports

Upon request, all identified emergency centers provide intelligence summaries to the EOC Operations and the P&I Section Chiefs. The EOC Situation Unit also creates a system-level intelligence summary at intervals determined by the P&I Section Chief. The Intelligence Summary typically includes information on customer impact, damaged equipment or assets, weather and other incident summary information.

For details, refer to the [EOC Intelligence Summary Report Instructions](#), which is also a template for creating the EOC Intelligence Summary Report. The Situation Unit also creates other situation reports, as determined by the EOC P&I Chief.

14.1.5 Dual Commodity Coordination and Communication

▲ Field, control center, and emergency center personnel must coordinate response and restoration efforts in the event of an actual or potential dual commodity incident.

⁴⁷ The EOC Action Plan (EAP) may be generically referred to as the Incident Action Plan (IAP).

14.1.5.1 Gas and Electric Coordination Process

For gas hazards and dig-ins near electric facilities, where there is a potential or confirmed ignition hazard, refer to the [Gas and Electric Coordination Process Flow](#)⁴⁸ which graphically displays the detailed communication and coordination process between Gas and Electric Control Centers and field personnel. Table 14.1 outlines the teams' responsibilities.

Table 14.1 Dual Commodity Incident – Gas and Electric Coordination

Gas Field Personnel	Gas Control Center (GCC)	Electric Transmission / Distribution Control Center
<ul style="list-style-type: none"> Identifies potential gas hazard/dig-in Determines if an overhead electric ignition hazard exists Notifies Gas Control Makes safe Isolates the leak Follows existing protocol and procedures Resolves the gas hazard/dig-in Notifies Gas Control when the situation is safe, e.g., gas is not blowing 	<ul style="list-style-type: none"> Receives notification of a potential gas hazard / dig-in from Gas Dispatch, field personnel or SCADA Determines if Electric T&D facilities are in the isolation area^a Notifies Gas field personnel and the appropriate VGCC or DCC of a potential ignition hazard <p>If there is a confirmed immediate Gas/Electric hazard:</p> <ul style="list-style-type: none"> Requests that electric facilities are de-energized Participates in IC coordination calls with Electric Control Centers, when held Notifies Gas field personnel if Electric facilities are de-energized Updates electric control center(s) regularly until the situation is considered safe and when the hazard is controlled 	<ul style="list-style-type: none"> Confirms specific electric facilities affected Determines strategy and requirements for the isolation of ET/ED facilities and impacts, following existing protocol and procedures <p>If not an immediate ignition hazard:</p> <ul style="list-style-type: none"> May facilitate an IC call to determine need to de-energize Isolates the electric hazard, as needed Notifies Gas Control <p>For an immediate ignition hazard:</p> <ul style="list-style-type: none"> Isolates the electric hazard Notifies Gas Control that the electric hazard is isolated Restores electric service after Gas Control confirms gas hazard is controlled Notifies Gas Control, once electric service is restored

14.1.5.2 Emergency Center Organization Options

During a dual (or multiple) commodity incident, an integrated incident organization may be used in a shared facility, rather than activating separate ICPs and OECs for Gas, Electric and other LOB. This allows for one set of incident objectives, one IAP, one Operations Section, and a single coordinated process for resource ordering. See Section 4.5, "Dual Commodity Response," for further information, including:

- Guidance for which commodity has authority
- Information on the reporting relationships from the OECs to the RECs, GEC and EOC
- EOC staffing for a dual commodity incident

⁴⁸ <https://sps.utility.pge.com/sites/EOempmo/EM/EmergencyPlans/Shared Documents/2017 CERP Review/CERP 2017 Linked Documents/Gas and Electric Coordination - Communication Process Final 6-28-17.pdf>

14.2 Executive Communications

PG&E's Corporate Incident Management Council (CIMC) consists of senior executive leaders. (For CIMC members, see Section 6.1 on page 37.) The CIMC typically delegates direct support of emergency incidents.

The VP Electric Transmission Operations, Director EP&R, or EOC Commander may initiate Executive Briefing calls and/or EOC conference calls to consult with or inform the CIMC of situations that may be:

- A threat to the company
- A cause of significant financial and business impacts
- A national branding issue
- A form of domestic terrorism
- A major cybersecurity hazard
- A national response event (NRE)

At the start of a significant incident, the VP Electric Transmission Operations, Director EP&R, or EOC Commander convenes the Executive Briefing conference call to hear a report on conditions and receive an initial incident briefing, including the following data points:

- Type of emergency
- Severity and location of the emergency
- Emergency centers being activated
- Incident Commander
- Any known system operational status

Additionally, this initial call serves as the “call to action” during a no-notice incident, such as a catastrophic earthquake or cybersecurity incident, and the EP&R staff initiates catastrophic emergency response protocols, including activation of the EOC and deploying electronic messaging to EOC staff and other emergency response personnel.

Additional calls to the executives are scheduled at the discretion of the VP Electric Transmission Operations, Director EP&R, or EOC Commander. These calls should not be confused with ICS Planning “P” calls. For sustained operations, meeting frequency is agreed on and the next meeting is scheduled. Generally, meetings are held more frequently at the beginning of an incident and may occur more than once during an operational period.

Depending on the incident, executives may also receive an executive summary that provides an incident status update. As an example, the update may include some or all of the following (depending on incident complexity):

- Risk level and concerns
- Incident status, e.g., information about weather, wildfire, cybersecurity, etc.
- Emergency centers activated
- Numbers of customers impacted, outages, and customers restored
- Public or employee safety incidents
- Employee status

- Communications
- Resources
- Additional statistics, e.g., CAIDI, SAIDI, CESCO, wires down, 911 standby requests, outage trend, etc.

14.3 External Communication

14.3.1 Coordination at the California State Level

All activities at the state level will be in coordination with PG&E's LNO at the EOC. A representative will be assigned to the UOC at the SOC, run by the CUEA, to align efforts with government and other utility companies. Coordination will continue at the SOC, unless a Federal Joint Field Office (JFO) is opened. A representative of the LNO may be assigned to work with the Emergency Support Functions/Emergency Functions at the SOC or JFO.

The manager of ICS and EM and the manager of Partnerships and Outreach will:

- Confirm the type and level of incident(s) involved
- Communicate to the state Office of Emergency Services and Regional Office
- Report to the CUEA Utilities Operations Center (UOC) as an agency representative or to work in the UOC
- If needed, report to the Regional Emergency Operations Center (REOC)
- Establish communications with the LNO in the PG&E EOC
- Establish a communications plan with the activated Gas and/or Electric public safety specialist (PSS) teams
- Communicate with the public safety first responders in the impacted area
- Establish communications with the Northern California Regional Intelligence Center (NCRIC)
- Become part of the Liaison Government Relations Team
- The manager of Partnerships and Outreach and the Liaison Government Relations team establishes a liaison tactics conference call that will be in cadence with the PG&E EOC planning process
- Ensure good communication flow from and to the public sector emergency preparedness and response agency representatives activated at the FEMA/Cal OES/county/city EOCs

The Planning and Intelligence Section may communicate with other utilities through established standard communication protocols and agreements and will regularly brief Command Staff on these communications. Local field personnel may coordinate their activities with public safety personnel as necessary and will keep local management informed of these interactions.

14.3.2 Coordination with CAISO

The coordination and communication with CAISO for real-time operations is the responsibility of the VGCC. Other communications when the EOC is activated are managed under the Operations Section of PG&E's EOC.

There is also ongoing communication and coordination that normally takes place through PG&E Regulatory Relations Affairs and External Communications, which would continue as part of the Liaison Officer and PIO functions in the EOC.

14.3.3 Coordination at the Local Level

In the event of an emergency, PG&E's Local Government Relations team is responsible for contacting the OES and other city/county officials depending on the level of the emergency. Those contacts may include the city/county executive officer, elected officials and department heads. Depending on the level of the emergency and involvement of company facilities, Local Government Relations may also staff the local County / Operational Area EOC. All Local Government Relations personnel coordinate their work through the LNO in PG&E's EOC, REC and/or OEC.

In a catastrophic incident when there is not enough Liaison staff to meet the requests of counties and public agencies, the manager of Public Partnerships and Outreach will coordinate with the senior public safety specialists (PSSs) to deploy them to county OES offices and/or specific incident command posts.

Additionally, EP&R and Government Relations partners and collaborates with many non-governmental organizations and public safety agencies, such as the Red Cross, Salvation Army, fire and law enforcement, to prepare, plan, train and respond to emergencies. In addition, emergency management procedures include outreach activities such as:

- Pre-incident planning
- Sharing fire prevention plans
- Reviewing emergency action plans
- First responder workshops
- Training for tabletop/functional exercises
- After-action reviews
- Participating and representing PG&E on federal, state and local emergency management boards and committees

The DCPPE emergency plan describes coordination with local government agencies, including San Luis Obispo County authorities. San Luis Obispo County has the lead role in coordinating public protective action decisions for an emergency at the station. The county has prepared an emergency plan specifically applicable to DCPPE, the "San Luis Obispo County/Cities Nuclear Power Plant Emergency Response Plan." The plan is activated on notification by PG&E of a declared emergency incident at DCPPE.

For an updated list of government contacts, refer to the Emergency Communications Annex or Electric Annex.

14.3.4 Coordination with Community-Based and Non-Governmental Organizations

PG&E partners with a number of non-governmental organizations (NGOs) and community-based organizations (CBOs) before, during and after emergency incidents. The LNO, or an assigned PG&E representative, may communicate with non-governmental organizations (e.g., Red Cross) through the Operational Area EOCs of the affected counties. If the County / Operational Area EOC is not open, the PG&E OEC Liaison Officer directly interfaces with these organizations. Some activities PG&E coordinates with these organizations include:

- Providing volunteers at shelters and donation distribution centers
- Providing donations to be used in affected areas
- Distributing gift cards or other monetary support directly to affected residents
- Providing in-kind donations, such as equipment to be used during cleanup and restoration activities

14.4 Communicating With the Public and the Media

14.4.1 The Role of the Public Information Office

PG&E's PIO will serve as the company's official point of contact for outgoing announcements and briefings to employees, the media, customers and all other key audiences. It will also coordinate with government agency communication counterparts on media briefs and public information release schedules. The Public Information Office will manage dissemination of critical information to employees and customers through the news media, social media, contact centers and online at pge.com.

Corporate Relations representatives based at field locations throughout the service area will act as local PIOs and will work with local media.

14.4.2 The Role of the Customer Strategy and Contact Center

The CSO will work closely with the PIO and LNO to communicate to our customers. The CSO serves as an advocate for our customers by providing updates to and addressing issues with our customers and, subsequently, communicating high priority outage concerns to our operations team.

14.4.3 PG&E Customers

In an emergency, the primary points of contact for PG&E customers are PG&E's contact centers or pge.com.

The contact centers are open 24 hours a day, seven days a week (24/7) and they continue to be the primary avenue customers use to report emergencies. Contact centers provide multilingual, telephonic services, including Telecommunications Device for the Deaf/Teletypewriter (TDD/TTY) for customers who are speech and hearing-impaired. These centers also respond to email contacts that may be made through the company website.

Depending on the nature of the emergency, the large number of customers wishing to speak with PG&E agents may necessitate the use of recorded messages, interactive voice response (IVR) and other technology. In these circumstances, the CSO will coordinate messaging with the PIO in the EOC to provide current information advising customers through the media on measures they should take if they need to contact PG&E.

The company website, pge.com, also provides customers with current information on electric outages. Customers can report electric outages and subscribe to automatic updates via text, voice message or email.

14.4.4 Communicating With the Media

PG&E's Corporate Relations department fosters information exchange between customers, employees and the media. Corporate Relations employees collaborate with key decision-makers within PG&E to formulate comprehensive and clear responses to issues the company is managing, to build brand awareness and to establish the company narrative for a given emergency event.

During an emergency, this department ensures that the company is speaking with "one voice" and that the messages our customers and other external stakeholders read and hear are timely, true, accurate and consistent with PG&E's vision and values.

Corporate Relations is staffed 24/7 to provide customers with timely and accurate information across all news, online and social media channels. PG&E maintains a 24-hour media line at (415) 973-5930. This line is available for media inquiries and for employees to report situations that may require communications support for customers and media.

The DCCP emergency plan describes coordination with media through the DCCP JIC. The principal function of the DCCP JIC is to provide information to the general public through the media for issues pertaining to plant operations. The DCCP JIC is co-located with San Luis Obispo County's PIO and staff. The DCCP JIC may also be staffed by spokespersons from other local, state and federal emergency response agencies, including law enforcement, fire and school officials. The DCCP JIC staff coordinates communications and messaging with the Public Information Office in PG&E's EOC.

14.4.5 Communicating With the Financial Investment Community

Announcements and briefings covering potentially material impact will be coordinated with Investor Relations to ensure compliance with securities law. Persons authorized to speak on behalf of PG&E Corporation directly to the investment community are the chairman, chief executive officer, chief operating officer, chief financial officer, vice president of investor relations and the investor relations staff.

14.5 Outage Notifications and Reporting

Both Gas and Electric have detailed procedures around notification to the CPUC and under what circumstances reports and notifications are required.

In general, for Electric, the CPUC G.O. 166 states that a major outage occurs when 10 percent of PG&E's serviceable customers experience a simultaneous, non-momentary interruption of service. A measured incident is defined as a major outage resulting from non-earthquake,

weather-related causes and affecting between 10 percent (simultaneous) and 40 percent (cumulative) of PG&E's customer base. See the Electric Annex to this plan for more information regarding G.O. 166 and for details on when a measured incident begins and ends.

For Gas, any incident level can be reportable. CPUC and DOT reportable criteria are contained in [Utility Procedure TD-4413P-01, Procedure for Reportable Gas Incidents](#). The Gas Control Center makes the determination and arranges the reporting. See the Gas Annex to this plan for more information regarding this procedure.

For additional details on external agency notifications, refer to Table 10.3.

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15 Emergency Financial Guidance

It is imperative to follow PG&E's financial guidance and requirements. In an emergency preparedness and response situation, documentation is especially critical so that incurred costs may be recovered through PG&E's Major Event Balancing Account (MEBA) or Catastrophic Event Memorandum Accounting (CEMA) filings. Unsupported costs, i.e., without documentation or proper approvals, will not be reimbursable or recoverable.

When a significant event impacts PG&E's assets and ability to provide safe and reliable electricity and gas to customer additional resources may be required. To predict recovery costs, PG&E employs various forecasting models, e.g., historical, outage, resources and facility types, that help Finance develop a restoration cost estimate for:

- Internal accounting and planning
- On-hand cash management
- External investors and lending institutions
- Insurance carriers
- Debt rating agencies

This estimate and subsequent documentation will:

- Enable our Treasury group know how much cash may be needed in a relatively short period of time. With the estimate and a review of current cash on hand, Treasury will then determine in what manner the additional cash should be raised
- Enable PG&E to notify our insurance carriers to ensure that they are aware of the incident, existing or anticipated damage and to anticipate forthcoming claims. Appropriate documentation will be needed to verify claim requests are related to the incident
- Conform to CUEA and WRMAA agreements
- Support timely recording of costs, estimated goods receipts and accruals
- Enable quick response to internal and external audit or data requests
- Provide current actual data from which future estimates will be built
- Facilitate prompt payment of third party contractors and/or mutual aid assistance invoices by showing services provided aligned predicted needs

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16 Training and Exercises

With regard to emergency training and exercises, PG&E's VP Electric Transmission Operations uses threat and hazard identification, risk and capability assessments, new strategies, past AARs, and Improvement Plans (IPs) to determine PG&E's emergency preparedness and response strategy and program priorities.⁴⁹

EP&R is responsible for communicating and coordinating PG&E's emergency preparedness training and company emergency exercise program for all LOBs. However, the development of emergency plans and procedures is a decentralized responsibility that cascades throughout the company.

Each LOB is encouraged to develop a LOB-focused MYTEP to augment the EP&R MYTEP.

16.1 Training

PG&E trains its employees on emergency preparedness and response, the updated company plan, which is updated annually and annexes. Training is offered via several formats including:

- On the job
- In the form of tailboards
- As web-based and instructor-led training courses (WBTs and ILTs)
- Through simulated emergency exercises

ICS principles are used extensively during PG&E's emergency preparedness and response efforts. ICS training courses are updated regularly and available to all emergency and coordination center personnel.

In 2016, the PG&E Learning Governance Committee authorized the profiling of all EOC On-Call personnel complete the web-based training (WBT) EPRS-9009 ICS Fundamentals and EPRS-9010 Company Emergency Response Plan.

- EPRS-9009 – ICS Fundamentals is an introduction to the core principles of the ICS, PG&E's emergency response framework, the EOC and its functions.
- EPRS-9010 – Company Emergency Response Plan (CERP) is an introduction to the CERP and overview of current-year changes. Refreshed yearly after the CERP is updated and published, EOC on-call staff must remain current with this annual training.

Additional ICS and other emergency role or function specific courses have been and continue to be, developed. Completion is recommended but not mandated.

Each EMO leader is responsible to ensure:

- Emergency response personnel are knowledgeable about the plans they support and trained to perform the functions outlined in the CERP, LOB and hazard-specific annexes
- Adequate workforce redundancy for each emergency response position.

⁴⁹ For more information on how PG&E identifies and categorizes risks, refer to Section 3.1.

- Cross-training new or less experienced personnel in various emergency roles facilitates development of an adequate emergency response workforce.
- Training completion is documented.⁵⁰

To track compliance and currency of completed training courses, training records are maintained locally for tailboards and task-specific or on-the-job training. Records for web-based or instructor lead trainings (WBT and ILT, respectively) are maintained in a central database managed by the PG&E Learning Academy.

The [EOC Resources](#) SharePoint contains EOC organizational charts, additional training materials and section specific resources, such as Finance's Major Event Charging Guidelines, Position Descriptions, forms, job aids and quick guides, document templates and sample reports.

16.2 Exercises

EP&R is responsible for developing and maintaining PG&E's company emergency exercise. The emergency exercise is:

- Objective-driven
- Designed to assess the adequacy of emergency plans, including
 - Situational Awareness
 - Operational Communications
 - Operational Coordination
 - Public Information and Warning
 - Logistics (Critical Resources)
- Allows participants to practice the duties, tasks and operations they would be expected to perform in a real emergency
- Adapted from the Homeland Security Exercise and Evaluation Program (HSEEP) to serve a utility
- Tests its emergency plans on an ongoing basis and no-less frequently than once per calendar year

The VP Electric Transmission Operations is responsible for ensuring that the CERP is exercised at least annually. Similarly, each EMO officer and director is responsible for ensuring that the LOB and hazard-specific annexes to the CERP are exercised at least annually.

Both the CERP and annex exercises are based on emergency management program priorities and test the specific operational components included in the CERP and annexes. Exercises can be conducted in tabletop, functional and full-scale formats. The exercise format is selected based on the capabilities and objectives identified.

⁵⁰ For emergency plans that do not have a specific training code, supervisors may complete and submit to the PG&E Academy an ad-hoc form with course number TECH-0038 to document completion.

Depending on the scenario, exercises may include participation from other departments or from external public agencies. Generally, PG&E invites representatives from federal, state and local agencies to participate in or observe the annual CERP exercise. Which agencies are invited may depend on the exercise scenario or location and may include the following:

- Local emergency management agencies and offices of emergency services
- CPUC
- CAISO
- CEC
- Cal OES
- American Red Cross (ARC)

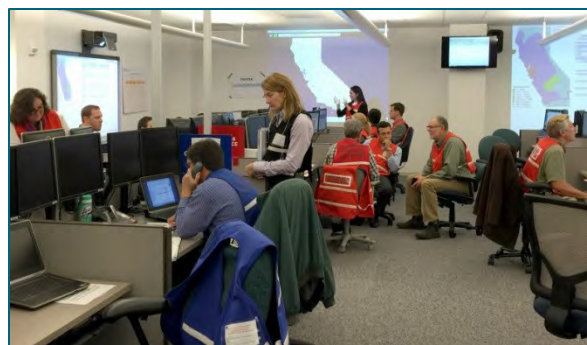


Figure 16.1 Company Exercise EOC 2015

16.3 After Action Reports and Improvement Plans (AARs and IPs)

The AAR document summarizes key information related to exercise scenario and evaluation. Using the PG&E-approved AAR template, length and development timeframe of the AAR depends on the exercise type and scope. The Director EP&R is responsible for ensuring the AAR is completed for the annual exercise(s) of the CERP. Similarly, the officer or director responsible for an LOB emergency plan should ensure an exercise is conducted and an AAR for that exercise is completed.

Officers and/or directors assign personnel to assess exercises, gather feedback, determine corrective actions, complete actions and update tracking system as appropriate.⁵¹ Corrective actions may include, but are not limited to:

- Reviewing emergency operations plans to determine whether modifications are needed
- Modifying and re-testing the plan
- Updating and conducting additional training

EP&R tracks the completion of action items, reports monthly to the VP Electric Transmission Operations, and closes out an issue when all action items related to that incident or exercise are completed. Officers and/or Directors review and approve the corrective actions once they are complete.

⁵¹ As of June 13, 2017, the tracking process is in transition; the to-be process will utilize ECAP.

As mentioned in Section 13.5.4, action items may be input into the CAP program. All action items are assigned ownership and a due date for completion and are distributed to affected lines of business:⁵²

- Available on mobile application, CAP helpdesk or paper submissions
- Introduced to company-wide June 26, 2017 via PG&E's Daily Digest

A Message from Nick Stavropoulos
President and Chief Operating Officer

Team:

Our ability to keep the public and our workforce safe relies on each of us feeling empowered to speak up when we see something that just doesn't look right. Geisha and I are counting on everyone to flag issues big or small because we can't fix what we don't know about.

Corrective Action Program Now Available Company-Wide

As of this morning, the [Corrective Action Program \(CAP\)](#) is available to all PG&E employees looking to report issues they encounter on the job. If you're not familiar with CAP, it creates a simple and easy to use way for employees to identify issues so we can take action to correct the issue, whether it's a broken piece of equipment, a process improvement or a behavior we need to change in a certain work group. If you're new to CAP, here are the three ways to submit issues:

- Download the [CAP App](#)
- Call the CAP Helpdesk at (855) 85-GO-CAP
- Complete the [paper form](#)

Over the last several years we've seen a lot of progress using CAP. Employees have submitted more than 44,187 issues through CAP with 35,334 closed out, creating innumerable improvements across the enterprise. Diablo Canyon has been using it for more than three decades. Gas adopted it in 2014, and Electric CAP went live in November 2016.

Your involvement enhances our safety culture and makes PG&E a better place to work. With all of us working together to identify and resolve issues, we can become a stronger, better and safer company.

Be safe,

Nick

Figure 16.2 CAP Roll Out to All PG&E Employees

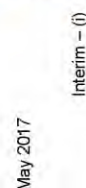
⁵² As of June 13, 2017, the tracking process is in transition; the to-be process will track items in ECAP

Electric Transmission and Distribution

Systems Operations and Control	
Rocklin DCC	
Fresno DCC	
Concord DCC	

Figure A.1 Electric Transmission and Distribution

Gas T&D Construction	
Gas Programs	
Director – Michael Ritter (707)338-9663	
Work Streams	Derek Cedars (925) 324-2791
Dsbn Const Engr	Michael Coakley (415) 385-5576
Execution Ops Suppt	Steven Fischer (415) 725-1471
SCADA Workstream	Jeffery Thomas (925) 876-1367
Work Execution	Matt Ventura (916) 862-3401
Construction Management	
Director – Pierre Bigras (925) 324-4158	
Const Mgmt, CC	Joe Covey (408) 505-3634
Const Mgmt, Bay	Bill Czabaranek (925) 216-8391
Sr Mgr, CM	Steven Delledera (925) 658-0693
Gas Safety	John Gliginas (415) 310-7813
Central. Insp.	Jerry Rice (530) 519-3316
Const Mgmt, CV	Norman Soares (209) 495-7429
Const Mgmt, No	Ron Whyte (916) 995-1759
Sr Manager Pipeline Field Svcs-Roy Surges (925) 788-6486	
GC M&C SCADA	Pete Demartini (650) 537-1611
Distribution General Construction	
Director – Ross Leverett (209) 576-5586	
GC North	John Costanza (925) 989-1552
GC Bay East	John Fiske (925) 246-3955
GC Central Valley	Larry Hartsell (209) 769-0754
GC Central Coast	Omar Macay (415) 760-0621
GC Bay West	Rick Salaz (408) 309-0783
Gas for Electric	Ronda DeRosa (408) 718-3440
Transmission General Construction	
Director – Mike Seitz (925) 785-5761	
Traffic Control	Felipe Betancourt (209) 576-6651
Central Operations	Ron Huggins (916) 402-3621
Transmission North	Mitch Freese (707) 696-0564
Transmission South	Kevin Ward (925) 876-7023
LNG/CNG	
Steve Sheridan – Manager (209) 402-5706	
NDE/Welding Operations	
Steve Simon – Manager (925) 352-7227	



Gas T&D Operations		
Gas Program Manager – Kim Gozelski (I) (925) 968-8313		
Gas Pipeline Operations and Maintenance		
Director – William Mojica (925) 596-3203		
North Area	Curtis Tonetti	(530) 351-3570
Bay Area North	Lance Johnson	(925) 381-0756
Bay Area South	Matt McLaughlin	(408) 483-4160
Central Area	Jason Klemm	(925) 588-1984
South Area	Rick Bezanson	(209) 482-5410
Gas Storage	Jody Garcia	(925) 597-1057
Maintenance & Construction – North		
Director – Dennis MacAleese (510) 730-9973		
Work Readiness	Hanibal Shamoieil (I)	(209) 564-1081
M&C: EB / MI	Kevin P. Souza	(510) 684-1415
D/I Non-Leak	Mark Embree (I)	(510) 325-7928
M&C: SO/NB	Kevin F. Souza	(707) 260-9904
M&C: SACR	Ty Turner	(530) 906-0805
M&C: HU/SI/NV	Dave Ferguson (I)	(530) 227-4535
Maintenance & Construction – South		
Director – Kelly Ball (408) 204-5340		
M&C: FR / KE	Joe Cummins	(559) 240-4956
M&C: ST / YO	John Martin	(209) 404-0221
M&C: SJ/DA	Bryan McCallum	(408) 309-9951
M&C: SF	Chuck Martinez (I)	(415) 725-4306
M&C: PN/CC	John Kemp	(408) 833-3178
LS Process	Scott Farrell (I)	(209) 482-5410
LM Process	Erik Kurtz	(209) 617-2431
Compliance Programs		
Director – Donnie Jue (I) (510) 760-4225		
Corrosion – North	Augie Ledesma	(916) 201-4225
Corrosion – South	Darryl Williams	(530) 941-4225
Locate & Mark, North	Jeff Carroll	(925) 781-4225
Locate & Mark, South	Dominick Amparano (I)	(408) 601-4225
Corrective Preventative Maint.,	Jason Shehan (I)	(408) 521-4225
Gas Quality Management	Andy Wells	(925) 231-4225
Public & Pipeline Safety	Vivian	(925) 231-4225
Document Management	Wendy	(925) 231-4225

Figure A.2 Gas Transmission and Distribution Operations and Construction

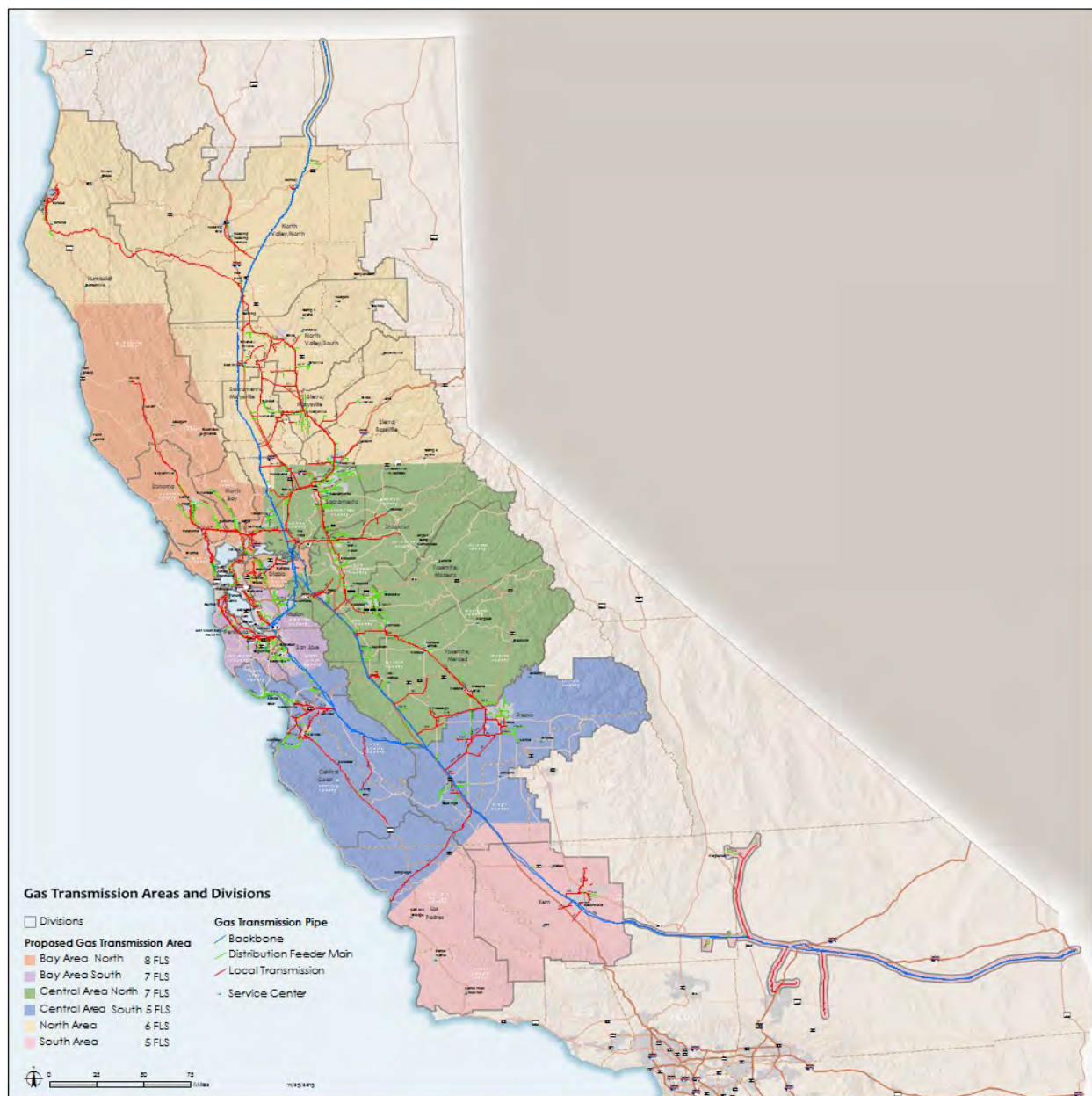


Figure A.3 Gas Transmission System



Figure A.4 Generation System

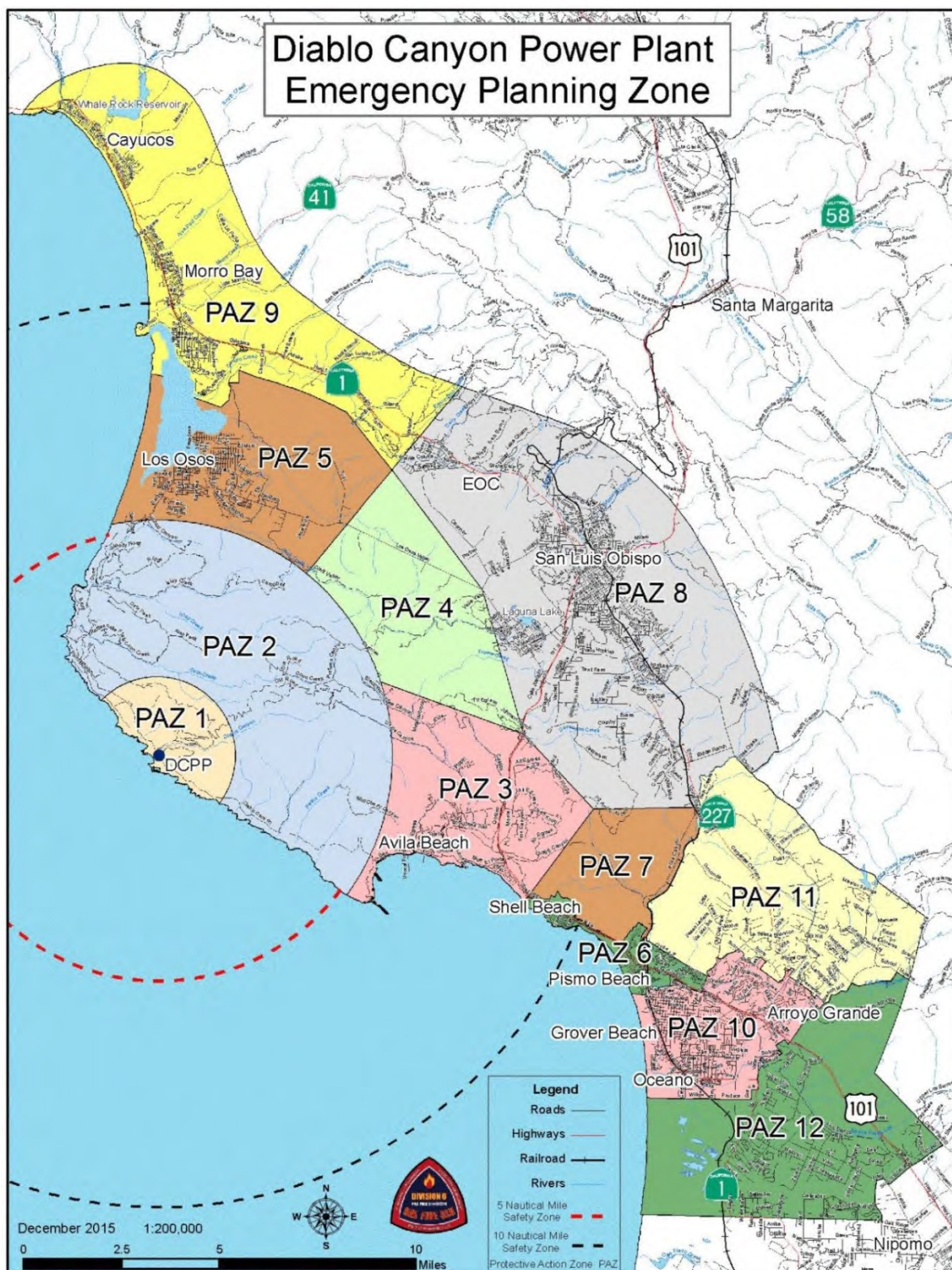


Figure A.5 DCPP Emergency Planning Zone

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Appendix B. Levels of Emergency and Activation Criteria for PG&E

A few concepts to note regarding PG&E incident level activation criteria:

- Resource Calculations

Workload is the primary unit used to determine the need to escalate.

- Level Descriptions
- Diablo Canyon Power Plant uses the following emergency classification labels, as required by the Nuclear Regulatory Commission (NRC) and is grounded in federal law [10 CFR 50.47(b)]:
 1. Unusual Event
 2. Alert
 3. Site Area Emergency
 4. General Emergency
- PG&E's Geosciences organization recommends the qualitative description of "significant earthquake" rather than listing a specific magnitude for Levels 3-5.

Level Setting

During an incident in which more than one commodity is impacted, the overall company incident level will default to the highest level.

For example, if an incident causes Electric to be at a Level 4 and Gas at a Level 2, the company EOC will be at a Level 4.

Activating Mobile Command Vehicles

An MCV can be activated at any level.

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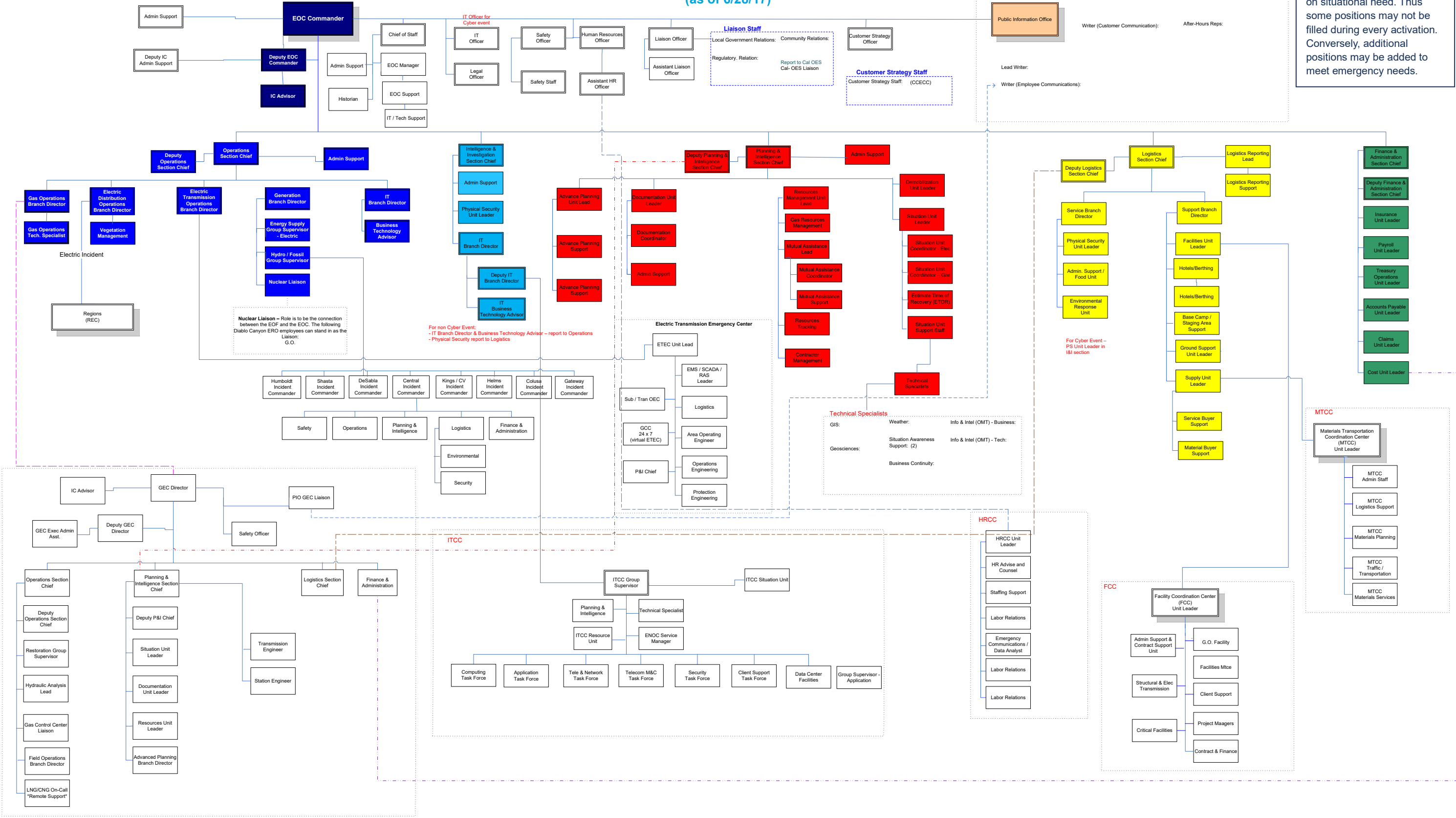
Table B.1 Levels of Emergency and Activation Criteria for PG&E

Type	Level	Impact	Resources	External Interest	Activations (As needed)	Electric and Gas	Power Generation	Cyber and IT
Routine	1	Routine <ul style="list-style-type: none"> small # customers 	<ul style="list-style-type: none"> local routine response 	<ul style="list-style-type: none"> little to no interest 	<ul style="list-style-type: none"> ICP 	<ul style="list-style-type: none"> car/pole accident gas leak routine response 	<ul style="list-style-type: none"> small on-site oil or chemical spill DCPP potential plant safety degradation, possible security threat, no radiation release requiring off-site monitoring expected 	<ul style="list-style-type: none"> no unusual cyber activity normal known hacking, virus or other malicious activity IT application or network device failure, performance degradation, etc.
Elevated	2	Elevated <ul style="list-style-type: none"> a pending potential incident local emergency 	<ul style="list-style-type: none"> local or within the region more than routine response 	<ul style="list-style-type: none"> increased media interest 	<ul style="list-style-type: none"> ICP (OEC) 	<ul style="list-style-type: none"> 2-4 times average EDO workload 20,000 to 100,000 customers out 5-7 ET Outages/Area of Responsibility (AOR) <24 hour restoration is typical but could be up to 2 days OEC Communications Only w/ OEC activation possible moderate winter storm, winds 30-40 mph (EDO) or >35 mph (ET) 1-2 days gas restoration regular shift with some on extended overtime moderate winter storm major over-odorization dig-in equipment failure causing significant interruption or multiple leaks Cold Winter Day (CWD) operations with gas curtailment strategy 	<ul style="list-style-type: none"> fire, flood, small chemical release, oil spill into waterway canal leak earthquake magnitude >5.0 DCPP Same as Level 1 	<ul style="list-style-type: none"> unusual cyber activity critical vulnerability discovered, no exploits reported critical vulnerability exploited, no significant impact identified a new virus discovered with the potential to spread quickly across PG&E credible warnings of increased probes or scans against PG&E or the industry compromise of non-critical systems, no loss of data or operational impact IT network infrastructure failure a facility or geographic area data center issues impacting multiple systems
Serious	3	Serious <ul style="list-style-type: none"> large # customers 	<ul style="list-style-type: none"> mainly within the region may need to move between regions 	<ul style="list-style-type: none"> increased media interest actual or imminent negative coverage 	<ul style="list-style-type: none"> ICP OEC (REC) (GEC) (EOC) (ETEC) (STOEC) (REC) (GEC) (EOC) 	<ul style="list-style-type: none"> 4-10 times EDO workload 100,000 to 300,000 customers out 7-10 ET Outages/AOR, restoration is 1-3 days significant winter storm, winds 35-50 mph (EDO) or >50 mph (ET) 2-4 day gas restoration resources on 12-16 hour schedules outside resources brought in from other divisions gas-related fire, injury or significant property damage earthquake, landslide or wildfire with major gas transmission impacts with severe gas distribution interruptions 	<ul style="list-style-type: none"> significant earthquake large chemical release into sparsely populated area gas supply line failure unscheduled or uncontrolled release fatality in waterway, serious dam or waterway leak. DCPP Actual or higher-potential plant safety impact, real security/hostile action threat radiation release within EPA PAGs DCPP ERF and county EOC activation, localized media interest 	<ul style="list-style-type: none"> significant cyber risk increased hacking, virus or other malicious activity could compromise secure or critical systems containing confidential or restricted information or result in a distributed denial of service attack critical IT infrastructure or applications unavailable to >1 LOB or geographical area for a time exceeding their assigned Recovery Time Objective (RTO) significant disruption to critical SCADA, EMS, RAS, etc. systems call center impacted significantly significant voice communications disruption

Type	Level	Impact	Resources	External Interest	Activations (As needed)	Electric and Gas	Power Generation	Cyber and IT
Severe	4	Severe <ul style="list-style-type: none"> large # customers extended multiple incidents company impacted 	<ul style="list-style-type: none"> mainly from multiple regions general contractors used mutual aid may be needed 	<ul style="list-style-type: none"> heavy media interest potential reputational risk 	<ul style="list-style-type: none"> ICP ETEC STOEC OEC REC GEC EOC 	<ul style="list-style-type: none"> 10-32 times EDO workload 300,000 to 750,000 customers out 2-6 days restoration, 10-14 ET Outages/AOR, OECs, RECs, GEC and EOC activated. major windstorm, winds 40-60 mph (EDO) or >60 mph (ET) and significant earthquake >5 day gas restoration rotating shifts implemented GC resources mobilized across regions contractors may be required curtailment of routine work gas-related explosion pipeline rupture with significant public safety issues significant earthquake affecting multiple divisions with confirmed injuries, fatalities or severe property damage major gas transmission impacts with severe gas distribution interruptions 	<ul style="list-style-type: none"> significant earthquake affecting more than one hydro area large chemical release into populated area gas supply line failure/explosion low-hazard dam failure and severe waterway failure DCPP (Site Area Emergency) critical plant operations compromised and possible systems failures hostages/plant damage due to hostile action radiation release beyond site boundary expected to be within EPA PAGs DCPP ERF activation local, state and national media interest 	<ul style="list-style-type: none"> high cyber risk of increased hacking, virus or other malicious cyber activity that targets or compromises PG&E's core infrastructure an exploit for a critical vulnerability exists that has the potential for severe damage a critical vulnerability is being exploited and there has been significant impact attackers have gained administrative privileges on compromised systems multiple damaging or disruptive virus attacks multiple denial of service attacks against critical infrastructure services IT: Significant / Large IT events with escalated impact to multiple LOBs or geographic areas unplanned, prolonged data center outage Contact Center down critical Operational Technology (OT) systems or the Utility Data Network (UDN) disrupted for prolonged period
Catastrophic	5	Catastrophic <ul style="list-style-type: none"> multiple incidents large # customers significant cost, infrastructure risk and/or damage ability to conduct business impacted 	<ul style="list-style-type: none"> full mobilization of company resources mutual aid resources are needed 	<ul style="list-style-type: none"> heavy media interest actual reputational risk 	<ul style="list-style-type: none"> ICP OEC ETEC STOEC REC GEC EOC 	<ul style="list-style-type: none"> >32 times EDO workload >750,000 customers out >14 ET Outages AOR >6 days restoration mutual aid needed OECs, RECs, GEC and EOC activated major to catastrophic storm incident, wind >60 mph (EDO) or >75 mph (ET) >10 days estimated gas restoration rotating shifts implemented mutual aid needed, major earthquake with uncontrolled risk of injury or fatality multiple pipeline ruptures with significant public safety issues multiple uncontrolled major gas releases or gas-fed fires across system with long duration gas interruption expected 	<ul style="list-style-type: none"> Multiple fatalities widespread property damage, e.g., high hazard dam failure) outside assistance needed. DCPP (General Emergency) Real/imminent substantial core damage potential loss containment integrity, site control loss due to hostile action radiation release beyond site exceeds EPA PAGs, DCPP ERF activation 	<ul style="list-style-type: none"> Severe risk of hacking, virus, or other malicious activity resulting in widespread outages and/or significantly destructive compromises to systems with no known remedy or that debilitates PG&E's critical infrastructure services Complete network failures, mission critical application failures, compromise or loss of administrative controls of critical system, loss of critical supervisory control and data acquisition (SCADA) systems potential for or actual loss of lives or significant impact on the health or economic security of the state extensive / widespread, prolonged IT events with escalated impact across multiple LOBs critical network and computing infrastructure impacted simultaneously, e.g., data centers, contact centers, transmission and data networks

Appendix C. Emergency Operations Center Org Chart

Figure C.1 Emergency Operations Center Org Chart
(as of 6/28/17)



This organizational chart depicts a typical EOC staffing plan. As noted earlier in this document, staffing is based on situational need. Thus some positions may not be filled during every activation. Conversely, additional positions may be added to meet emergency needs.

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Appendix D. Incident Command System (ICS)

D.1 ICS Overview

PG&E has implemented/integrated key concepts from ICS within our response to emergencies.

The Incident Command System (ICS) is a standardized all-hazard incident management system. It provides a systematic, proactive approach for all levels of government, nongovernmental organizations (NGOs) and the private sector to work together in order to reduce the loss of life and property and harm to the environment.

The ICS framework can grow or shrink to meet different needs. This flexibility makes it a very cost-effective and efficient management approach for both small and large situations.

ICS is based on proven management principles, implemented through a wide range of management features including the use of common terminology, clear text and a modular organizational structure. ICS emphasizes effective planning, including management by objectives and reliance on an IAP.

Maintaining a manageable span of control ensures full use of all incident resources. Finally, ICS supports responders and decision makers by providing the data they need through effective information and intelligence management.

PG&E first responders interface with police, fire and other agencies that are trained to use ICS. If the incident is too large or grows beyond the control of the first responder, he/she should call for his/her supervisor or on-call supervisor.



**Figure D.1 PG&E Public Safety Specialists
With San Mateo First Responders**

D.1.1 Common Terminology and Clear Text

The ability to communicate within ICS is absolutely critical. ICS establishes common terminology, allowing diverse incident management and support entities to work together. Common ICS positions titles are used, such as Officer, Chief, Director, Supervisor, or Leader. Your ICS title most likely will not reflect your “PG&E daytime title.”

All communication should:

- Be in plain English
- Use clear text
- Avoid PG&E specific acronyms, codes or jargon.

D.1.2 Modular Organization

The ICS organizational structure is flexible and based on the size and complexity of the incident. In ICS, only those functions or positions necessary for a particular incident will be filled.

As incident complexity increases, the organization expands as functional responsibilities are delegated. When needed, separate functional elements can be established.

As the ICS organizational structure expands, the number of management positions also expands to address the requirements of the incident adequately.

D.1.3 Planning Process and Incident Action Plan

All levels of the PG&E organizational structure must have a clear understanding of the actions required to manage the incident. Slight variations may be effected in the organization structure to accommodate PG&E's utility model.

Management by objectives is an approach used in our incident command to communicate actions throughout the entire PG&E organization. Therefore, considerable emphasis is placed on effective planning. The planning process provides the foundation for successful resolution of incidents. The planning process will:

- Provide a clear and accurate picture of the current situation and resource status
- Effectively predict probable courses of the incident (best and worst case)
- Involve alternative strategies (plan A, B, C and D)
- Create a foundation for an Incident Action Plan (IAP)

D.1.4 Span of Control

Span of control pertains to the number of individuals that one leader can manage effectively during an emergency. Span of control is the key to effective, efficient and safe incident management. For an effective span of control, one leader should not manage more than seven people.

Along with span of control, the ICS uses unity of command, meaning that each person is accountable to only one designated leader to whom he/she reports at the scene of an incident. These principles clarify reporting relationships and eliminate the confusion caused by multiple, conflicting directives.

D.1.5 Accountability

Effective accountability during incident operations is essential at all levels. Individuals must abide by PG&E policies and guidelines and any applicable local, state or federal rules and regulations. The following guidelines are suggested:

- **Check-in:** All responders, regardless of agency affiliation, must report in to receive an assignment in accordance with the procedures established by the Incident Commander
- **Incident Action Plan:** Response operations must be directed and coordinated as outlined in the IAP. However, since ICS is flexible and therefore enables responders to adapt to the changing conditions of the emergency

- **Unity of command:** Each individual involved in an incident operation will be assigned to only one supervisor
- **Span of control:** Supervisors must be able to supervise and control their subordinates adequately, as well as communicate with and manage all resources under their supervision
- **Resource tracking:** Supervisors must record and report resource status changes as they occur

ICS is used extensively in PG&E's emergency response and specific training is offered on the PG&E Intranet under Tools > PG&E@Work For Me > My Learning.

- **EPRS-9009WBT – ICS Fundamentals** is offered internally as a web-based training (WBT) and provides an introduction to the core principles of the ICS, the emergency response framework PG&E uses to respond to emergency incidents or events. EPRS-9000 is a pre-requisite course for all employees taking part in emergency response and restoration work involving emergency centers (EOC/GEC/REC/OEC).
- **EPRS-9010 – Company Emergency Response Plan** is updated annually and a pre-requisite for all EOC on-call employees.

Training materials on specific roles or functions in PG&E's ICS structure have been and continue to be, developed. Courses are offered to emergency center staff on an on-going basis as they are developed and/or revised.

D.2 PG&E's Planning Process and the Planning "P"

Effective planning provides the foundation for successful mitigation of incidents. All Command and General Staff participate in the planning process and in developing the IAP. The planning process must:

- Provide a clear and accurate picture of the current situation and resource status
- Effectively predict probable courses of the incident (best and worst cases)
- Involve alternative strategies (plans A, B, C and D)
- Create a foundation for a realistic IAP for the next operational period. (Note: The IAP is a product of the planning process.)

There are five primary phases of the planning process that are generally the same regardless of the type and complexity of the incident. The IC on simple incidents must develop and communicate a simple plan through oral briefings. Incidents that are more complex require a more complete, time-consuming planning process and written IAP prepared by an entire Incident Management Team (IMT).

D.2.1 Five Phases of the Planning Process

1. Understand the Situation

This first phase involves gathering, recording, analyzing and displaying a clear and accurate picture of the incident evolving at the moment.

2. Establish Incident Objectives and Strategy

The second phase involves determining an effective strategy and formulating and prioritizing the incident objectives. The strategy and objectives must consider alternative strategies.

3. Develop the Plan

The third phase involves determining the tactical direction and the specific resources needed for implementing the strategy for one operational period.

Prior to formal planning meetings, each member of the Command and General Staff is responsible for gathering necessary information so that together, they can successfully and collectively develop the plan.

4. Prepare and Disseminate the Plan

The fourth phase involves preparing the plan in a format that is appropriate for the size and complexity of the incident.

For initial response, this will likely be notes for an oral briefing and oral assignments or orders. For incidents with multiple operational periods, more formal written IAPs are necessary.

5. Execute, Evaluate and Revise the Plan

The fifth phase of this cyclical process is to execute and evaluate the plan in order to ensure success.

The command team must regularly compare planned progress with actual progress. Adjustments in the plan can then be made as new information emerges, or conditions change, or adjustments can be implemented in the IAP for the next operational period.

D.2.2 The Planning “P”

The Planning “P” is a guide to the process and steps involved in planning for an incident (see Figure D.2).

The leg of the “P” describes the initial response period. Once the incident begins, the steps are:

- Notifications (using PG&E’s notification matrix for guidance)
- Initial Response and Assessment (using PG&E’s Assessment Matrix for guidance)
- Incident Briefing Using ICS 201
- Initial Command (IC)/Unified Command (UC) meeting

At the top of the leg of the “P” is the beginning of the first operational planning period cycle. In this circular sequence, the steps are:

- IC/UC Develop/Update Objectives Meeting
- Command and General Staff Meeting
- Preparing for the Tactics Meeting

- Tactics Meeting
- Preparing for the Planning Meeting
- Planning Meeting
- IAP Prep and Approval
- Operations Briefing

At this point, a new operational period begins. The next steps are to:

- Execute Plan
- Assess Progress, after which the cycle begins again.

Also included in PG&E's Planning "P" are additional EOC meetings or calls. Meetings and timing may vary depending on the incident and at the discretion of the EOC Commander. For instance:

- The Initial Executive Briefing may occur during the initial response during Operational Period 1. A follow up briefing may occur after the Planning Meeting
- EOC Staff Briefing for the night shift may occur before the evening EOC Operational Update Call

See Appendix E and 0 for additional meeting descriptions, template and samples.

The PG&E Planning “P”

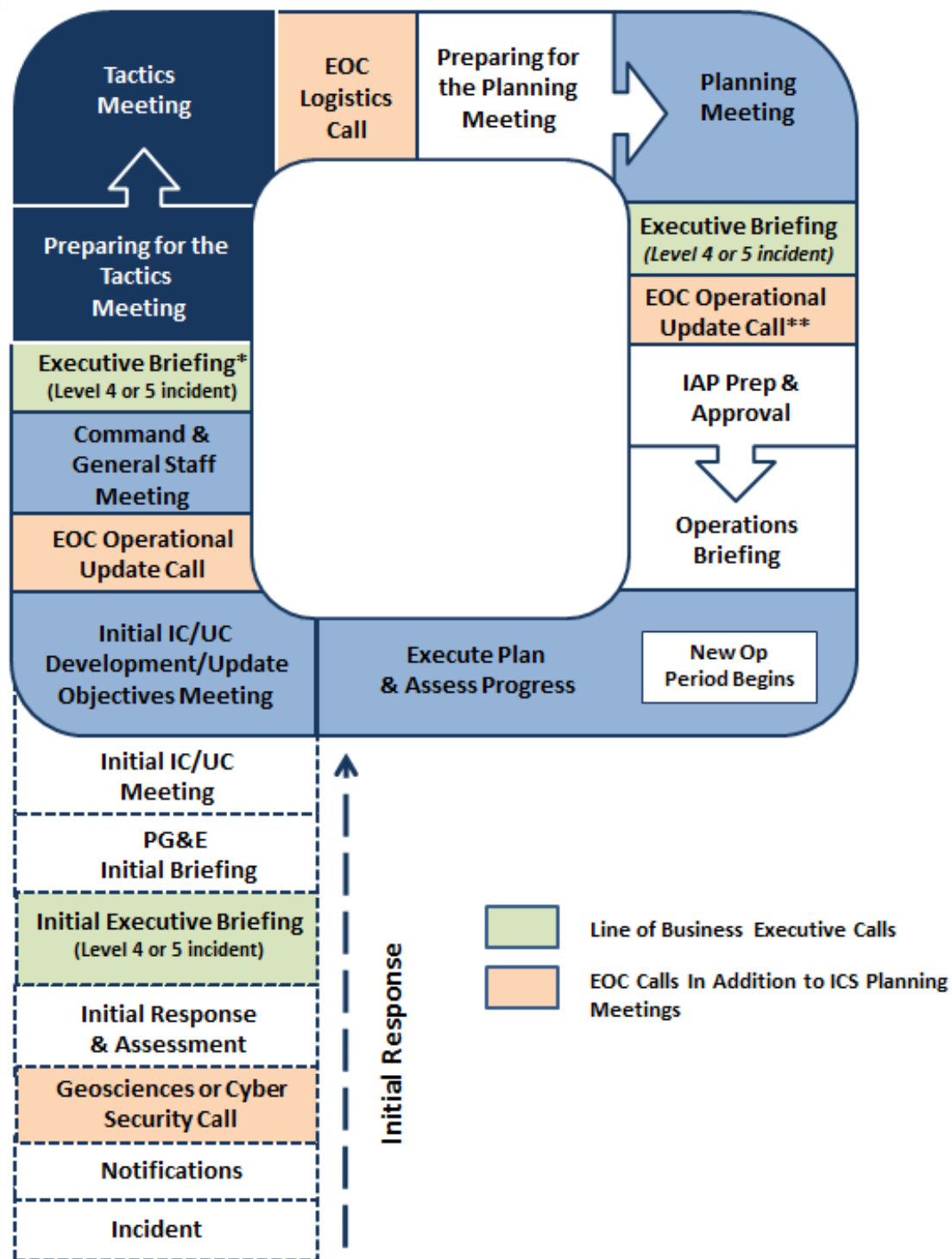


Figure D.2 PG&E’s Planning “P”

Appendix E. Meeting and Report Schedules With Sample Agendas

This section outlines the “day at the EOC.” During an incident, the EOC’s daily flow follows the Planning P steps described in detail in Appendix D and noted below.

- Understand the Situation
- Establish Incident Objectives and Strategy
- Develop the Plan
- Prepare and Disseminate the Plan
- Execute, Evaluate and Revise the Plan

The initial cycle involves a series of calls, meetings and briefings to gain an initial understanding of the situation and its impact. Following this period, meetings are interspersed with on-going work in the field and EOC, planning, drafting reports and meetings.

It is important to note, however, PG&E’s emergency response is scalable to meet the specific needs of the incident and resources. Thus, the meeting and report cycles outlined here may be adjusted.

E.1 Meetings at the Start of an Incident

The immediate action following an incident is to understand the situation and conduct a thorough size-up to obtain information needed to make initial management decisions.

Table E.1 Initial Meetings

Activity	Purpose	When	Facilitator	Attendees
Initial Call	Determine whether to activate the EOC	After a major earthquake	Geosciences Manager	<ul style="list-style-type: none"> • VP Electric Transmission Operations • Director EP&R • Manager, Geosciences
Initial Call	Determine whether to activate the EOC	After discovery of a major cyber incident	Director of Cybersecurity	<ul style="list-style-type: none"> • VP Electric Transmission Operations • Director EP&R • Director, Cybersecurity
Initial Executive Briefing	<ul style="list-style-type: none"> • Establish command • Provide initial direction • Obtain LOB information • Exchange information with executives • Clarify expectations • Establish time of next call 	At the onset of a no-notice event, following the Initial Call	VP Electric Transmission Operations or designee	<ul style="list-style-type: none"> • EOC Commander • Director EP&R • LOB Executives/designees • CIMC (optional attendance)
Initial IC/UC Meeting	<ul style="list-style-type: none"> • Determine roles and authorities • Set expectations 	When the IC/UC is formed	Current IC/UC or P&I Section Chief	Only the ICs who will make up the Unified Command (UC)
Incident Briefing	<ul style="list-style-type: none"> • Inform staff • Set expectations 	Transition from Initial Response to Operations	IC or P&I Section Chief	<ul style="list-style-type: none"> • IC/UC • Command & General staff

E.1.1 Geosciences or Cybersecurity Call

After a major earthquake, the Geosciences Manager discusses with the VP Electric Transmission Operations and Director EP&R whether to activate the EOC. Similarly, after the discovery of a major cybersecurity incident, the Director of Cybersecurity makes an initial call to the VP Electric Transmission Operations and Director EP&R.

E.1.2 Initial Executive Briefing

When – At the onset of a no-notice event, following the Geosciences or Cybersecurity Call

Facilitator – VP Electric Transmission Operations or designee

Attendees - EOC Commander, Director EP&R and LOB executives. If a LOB executive is not available, his/her designee may attend. Other senior executives not listed (CIMC members) are optional to attend.

Purpose –The objective of the Initial Executive Briefing is for the VP Electric Transmission Operations to inform LOB leadership about the incident, establish command, and to give an initial report, i.e., open the EOC, report to AEOC in San Ramon, activate the Executive Mobilization Plan, stand down, etc. Only limited situational awareness may be available and instruction is given to gain intelligence from each line of business.

In addition to the items listed in the Executive Briefing Agenda, leadership will also have the opportunity to ask questions and/or provide any known information for their LOB, such as:

- Status of LOB
- Have LOBs activated their emergency and/or business continuity plans?
- What emergency centers are open?
- Do you know of any effects so far on daily operations? Field staff reporting?
- Is the restoration strategy clear?
- What are the incident priorities?
- What are the anticipated resource needs?
- Status of local, state, federal response?
- Employee status?

The call ends with clarification of expectations and the time of the next call.

See: Cybersecurity Annex for additional topics that may be reported during a cyber incident.

E.1.3 Incident Briefing

In the Incident Briefing, the Incident Commander/Unified Commander:

- ☐ Receives briefing from the IC/UC or P&I Section Chief using ICS 201 (see Appendix E.6)
- ☐ Assesses operational requirements
- ☐ Determines current/future organizational and response requirements and objectives

The agenda for the Incident Briefing (ICS 201) Agenda is a modified ICS 201 Incident Briefing form. Key agenda items include:

- ☐ Current situation
- ☐ Priorities, issues and objectives
- ☐ Current and planned actions
- ☐ Current incident management organization
- ☐ Resource assignments
- ☐ Resources in transit or ordered
- ☐ Facilities established
- ☐ Incident potential

E.1.4 Initial IC/UC Meeting

When – The IC/UC is formed prior to the first meeting

Facilitator – Current IC/UC or P&I Section chief

Attendees – Only ICs that will make up the UC

The following personnel contribute to the Initial IC/UC meeting:

Incident Commander/Unified Commander

- ☐ Negotiates UC participation
- ☐ Clarifies UC roles & responsibilities
- ☐ Negotiates and agrees on jurisdictional boundaries
- ☐ Negotiates and agrees on name of the incident
- ☐ Negotiates and agrees on overall incident management organization
- ☐ Negotiates and agrees on location of ICP, facilities and support
- ☐ Negotiates and agrees on operational period length and start time
- ☐ Negotiates and agrees on Deputy IC assignments; other key Command and General Staff and technical support, as needed

Operations

- ☐ Briefs UC members on current operations

Planning

- ☐ If available, facilitates and documents meeting

Logistics and Finance/Administration

- ☐ May not be activated at this time

Safety Officer

- ☐ Advises of major safety concerns

E.1.5 EOC Initial Briefing

When – Upon activation of the EOC

Facilitator – EOC Commander

Attendees – EOC Staff

The following personnel contribute to the EOC Initial briefing:

Incident Commander

- ☐ Provides information on what is known so far, high-level objectives and activities.

Safety Officer

- ☐ Advises of major safety concerns

E.2 Meetings and Work Sessions in Each Operational Period

After the incident parameters are understood, objectives and planning begins. The IC/UC establishes incident objectives that cover the entire course of the incident. For complex incidents, it may take more than one operational period to accomplish the incident objectives. The cyclical planning process is designed to take the overall incident objectives and break them down into tactical assignments for each operational period. It is important that this initial overall approach to establishing incident objectives establish the course of the incident, rather than having incident objectives only address a single operational period.

In addition to establishing the incident objectives, the IC/UC will establish the next operational period. The IC/UC will work with the P&I Section Chief to develop a schedule of all the Planning “P” meetings for the operational period.

Table E.2 Operational Period Meetings and Work Sessions

Activity	Purpose	When	Facilitator	Attendees
IC/UC Objectives Meeting	<ul style="list-style-type: none"> Identifies priorities, limitations and constraints Develops objectives Develops Command and General Staff tasks Agrees on UC workload 	Prior to Command and General Staff Meeting	IC/UC member or P&I Section Chief	C/UC members Selected staff
EOC Operational Update Call	<ul style="list-style-type: none"> Share situation status Discuss limiting factors, critical resource needs, weather and safety 	Immediately after incident occurs	P&I Section Chief	EOC Section Chiefs Transmission/Substation, Branch Directors Power Generations Officers: Liaison; HR; Customer Strategy; PIO, Resource Unit Leader; REC ICs; SO&C; Sub / Tline Directors; GEC Commander

Activity	Purpose	When	Facilitator	Attendees
Command and General Staff Meeting	<ul style="list-style-type: none"> Gather input or to provide immediate direction that cannot wait until the planning process is completed 	<p>Prior to Tactics meeting</p> <p>This meeting occurs as needed and should be as brief as possible.</p>	P&I Section Chief	<p>IC/UC members</p> <p>Situation Unit Leader</p> <p>Documentation Unit Leader</p>
Executive Briefing This is a LOB call and not an EOC operational call	<ul style="list-style-type: none"> Obtain a status on each LOB Provide situational awareness Identify operational barriers Provide known event details and discussion of critical next steps Communicate policies and decisions are consistently 	Typically after the Command and General Staff Meeting and following the Planning Meeting.	EOC Commander or designee	<p>EOC Commander</p> <p>Director EP&R</p> <p>LOB Executives</p> <p>CIMC (optional)</p>
Work session to prepare for the Tactics Meeting	<ul style="list-style-type: none"> Develops draft strategies and tactics for each operationally oriented incident objective Develops/outlines Operations Section organization for next operational period 	Prior to Tactics meeting	P&I Section Chief	<p>Operations Section Chief</p> <p>Safety Officer</p>
Tactics Meeting				
Preparing for the Planning Meeting				
Planning Meeting				
IAP Preparation and Approval				
Operations Period Briefing				

E.2.1 IC/UC Objectives Meeting

When – Prior to Command and General Staff Meeting

Facilitator – IC/UC member or P&I Section Chief

Attendees – IC/UC members and selected staff

Command

- ☐ Identifies incident priorities
- ☐ Identifies priorities, limitations and constraints
- ☐ Develops incident objectives
- ☐ Identifies key procedures
- ☐ Develops tasks for Command and General Staff
- ☐ Agrees on division of UC workload

Operations

- ☐ May be present, if required

Planning

- ☐ Facilitates and documents meeting
- ☐ Proposes draft objectives to command

E.2.2 EOC Operational Update Call

When – Prior to the Command and General Staff Meeting

Facilitator – P&I Section Chief

Attendees – Section Chiefs (P&I, Operations, Logistics and Finance): Officers (Liaison; HR; Customer Strategy and Public Information); Branch Directors (Electric Distribution, Transmission/Substation, Power Generation Operations); Resource Unit Leader; REC ICs; SO&C; Sub / Tline Directors; GEC Commander

The purpose of this call is to share situation status between the EOC and RECs, GEC and ETEC, discuss limiting factors, critical resource needs, weather and safety. Information from this meeting will be used to later develop restoration strategies and to confirm objectives. For a detailed agenda, refer to the [EOC Resources SharePoint](#).

E.2.3 Command and General Staff Meeting

The IC/UC may meet with the Command and General Staff to gather input or to provide immediate direction that cannot wait until the planning process is completed. This meeting occurs as needed and should be as brief as possible.

When – Prior to Tactics meeting

Facilitator – P&I Section Chief

Attendees – IC/UC members, Situation Unit Leader and Documentation Unit Leader

Command

- ☐ Reviews key decisions, priorities, constraints, limitations, objectives and procedures
- ☐ Presents/reviews functional work assignments (tasks) to the Command and General Staff members
- ☐ Reviews status of open actions, work assignments (tasks) from previous meetings

Operations

- ☐ Provides update on current operations

Planning

- ☐ Facilitates and documents meeting
- ☐ Sets up meeting room

Situation Unit Leader

- ☐ Provides update on current situation and projections if available

Documentation Unit Leader

- ☐ Documents meeting and distributes meeting materials

E.2.4 Executive Briefing

When – Typically after the Command and General Staff Meeting and following the Planning Meeting. (The cadence and timing of Executive Briefings is determined by the EOC Commander, who governs the need for and frequency, of these calls.)

Facilitator – EOC Commander or designee

Attendees – EOC Commander, Director EP&R and LOB Executives. If a LOB Executive is not available, their designee may attend. Other senior executives not listed (i.e., CIMC members) are optional to attend.

Purpose: This Executive Briefing call is held with the LOB executives to:

- Obtain a status on each LOB
- Provide situational awareness throughout the company outlining the response and restoration efforts
- Identify operational barriers where assistance may be needed from other LOBs
- Provide executives and line of business leaders with known event details and discussion of critical next steps
- Ensure policies and decisions are communicated consistently

The Executive Briefing is a LOB call and is **not** an EOC operational call. It is scheduled by the VP Electric Transmission Operations, EOC Commander, Planning and Intelligence Section Chief, or designee. The timing and content of this call may be revised based on factors, such as the type and onset of the emergency, magnitude of damage and expected duration. For a detailed agenda, refer to the [EOC Resources SharePoint](#).

See: Cybersecurity Annex for additional topics that may be reported during a cyber incident.

E.2.5 Preparing for the Tactics Meeting

When – Prior to Tactics meeting; this is a work session, not a meeting

Facilitator – P&I Section Chief

Attendees – Operations Section Chief and Safety Officer

Operations

- ☐ Develops draft strategies and tactics for each operationally oriented incident objective

- ☐ Develops alternative or contingency strategies and tactics
- ☐ Outlines work assignments (tactics) and required resources using ICS Form 215
- ☐ Develops/outlines Operations Section organization for next operational period

Planning

- ☐ Facilitates process
- ☐ Reviews incident objectives and agrees on those that are the responsibility of the Operations Section to complete
- ☐ Ensures Technical Specialists are included and prepared to contribute as appropriate
- ☐ Presents situation information and provides projections

Safety Officer

- ☐ Begins to develop the Hazard Risk Analysis ICS 215a

E.2.6 Tactics Meeting

The purpose of the Tactics meeting is to review the tactics developed by the Operations Section Chief.

When – Prior to Planning meeting

Facilitator – P&I Section Chief

Attendees – Safety Officer; Section Chiefs (P&I, Operations and Logistics); Unit Leaders (Resources, Situation and Documentation) and Technical Specialist, as needed

Planning

- ☐ Sets up meeting room
- ☐ Facilitates meeting
- ☐ Presents current situation and provides projections
- ☐ Presents resources status (RESTAT)
- ☐ Documents meeting

Operations

- ☐ Briefs current operations
- ☐ Presents strategies, tactics and resource needs using the Operational Planning Worksheet ICS 215
- ☐ Identifies alternative strategies
- ☐ Presents the Operations Section organization
- ☐ Provides plan and status during Dual Commodity events

Safety

- ☐ Identifies potential hazards and recommends mitigation measures
- ☐ Presents the Incident Safety Analysis ICS 215a

Logistics

- ☐ Contributes logistics information as necessary
- ☐ Determines support requirements based on the ICS 215 (i.e., facilities and other logistical infrastructure)
- ☐ Prepares to order needed resources

- ☐ Presents situation information and provides projections

E.2.7 Preparing for the Planning Meeting

When – Prior to Planning meeting

Facilitator – P&I Section Chief

Attendees – [THIS IS A WORK SESSION, NOT A MEETING](#)

Following the Tactics meeting, preparations are made for the Planning meeting, to include the following actions coordinated by the Planning Section:

- Review the ICS Form 215 developed in the Tactics Meeting.
- Review the ICS Form 215A, Incident Safety Analysis (prepared by the Safety Officer), based on the information in the ICS Form 215.
- Assess current operations effectiveness and resource efficiency.
- Gather information to support incident management decisions.

Command

- ☐ Prepares further guidance/clarification
- ☐ As needed, meets informally with appropriate staff members

Operations

- ☐ Prepares ongoing operations update (ICS form 209)
- ☐ Prepares final draft of ICS 215
- ☐ Provides overlap plans and status updates, as needed, during dual commodity events⁵³
- ☐ Coordinates with other staff (District Storm Rooms in an electric incident), as needed

Planning

- ☐ Sets up meeting room
- ☐ Develops resource, support and overhead requests and submits to Logistics after the Planning meeting
- ☐ Publishes/distributes meeting schedule and ensures attendees are prepared (posted agenda)
- ☐ Makes duplicate documents for Command that are needed to support presentations
- ☐ Evaluates the current situation and decide whether the current planning is adequate for the remainder of the operational period (i.e., until next plan takes effect)
- ☐ Advises the IC and the Operations Section Chief of any suggested revisions to the current plan as necessary
- ☐ Establishes a planning cycle for the IC
- ☐ Determines Planning meeting attendees in consultation with the Incident Commander
- ☐ Establishes the location and time for the Planning meeting.
- ☐ Ensures that planning boards and forms are available
- ☐ Notifies necessary support staff about the meeting and their assignments
- ☐ Ensures that a current situation and resource briefing will be available for the meeting
- ☐ Obtains an estimate of resource availability for use in planning for the next operational period

⁵³ Dual commodity incidents are most commonly, but not exclusively, Gas and Electric incidents.

- ☐ Obtains necessary policy, legal, or fiscal constraints for use in the Planning Meeting

Logistics

- ☐ Prepares resources orders to support IAP (submitted after the Planning meeting)
- ☐ Prepares for Planning meeting
- ☐ Verifies support requirements for Finance/Administration
- ☐ Verifies financial and administrative requirements

E.2.8 Planning Meeting

When – After the Tactics meeting

Facilitator – P&I Section Chief

Attendees – IC/UC, Command and General Staff, Situation Unit Leader, Documentation Unit Leader and Technical Specialists, as needed

The Planning meeting provides the opportunity for the Command and General Staff to review and validate the operational plan as proposed by the Operations Section Chief. Attendance is required for all Command and General Staff. Additional incident personnel may attend at the request of the P&I Section Chief or the IC. The P&I Section Chief conducts the Planning meeting following a fixed agenda.

The Operations Section Chief delineates the amount and type of resources they will need to accomplish the plan. The P&I Section's Resources Unit needs to work with the Logistics Section to accommodate.

At the conclusion of the meeting, the P&I Section staff will indicate when all elements of the plan and support documents are required to be submitted so that the plan can be collated, duplicated and made ready for the Operational Period Briefing.

Command

- ☐ Ensures all of Command's direction, priorities and objectives have been met
- ☐ Provides further direction and resolves differences as needed
- ☐ Gives tacit approval of proposed plan

Operations

- ☐ Provides overview of current operations
- ☐ Presents a plan of action that includes strategies, tactics, contingencies, resources, organization structure and overall management considerations (i.e., divisions/groups)

Planning

- ☐ Facilitates meeting
- ☐ Briefs current situation
- ☐ Provides projections
- ☐ Documents meeting

Logistics

- ☐ Briefs logistical support/services and resource ordering status
- ☐ Discusses operational facility issues

Finance/Admin

- ☐ Briefs administrative and financial status/projections, etc.

Command Staff

- ☐ Discusses and resolves any safety, liaison and media considerations and issues

For a detailed EOC Planning Meeting agenda, refer to the [EOC Resources SharePoint](#).

E.2.9 IAP Preparation and Approval

THIS IS NOT A MEETING, BUT A PERIOD OF TIME

The next step in the incident planning process is IAP preparation and approval.

For simple incidents of short duration, the IAP will be developed by the IC and communicated to subordinates in a verbal briefing. The planning associated with this level of complexity does not demand the formal planning process.

When - Immediately following the Planning meeting, the P&I Section Chief assigns the deadline for products.

Certain conditions result in the need for the IC to engage a more formal process. A written IAP should be considered whenever:

- Two or more OECs are involved in the response.
- The incident continues into the next operational period.
- A number of ICS organizational elements are activated (typically, when General Staff Sections are staffed).
- It is required by PG&E policy.
- A hazmat incident is involved.

Command

- ☐ Reviews, approves and signs the IAP

Operations

- ☐ Provides required information for inclusion into the IAP
- ☐ Works with Planning to ensure that the chart and ICS 204(s) are complete

Planning

- ☐ Facilitates gathering of required documents and assembles the IAP
- ☐ Reviews the IAP for completeness
- ☐ Provides completed IAP to IC/UC for review/approval
- ☐ Makes sufficient copies of the IAP
- ☐ Distributes IAP to appropriate team members and files the original

Logistics

- ☐ Reviews Logistics Section products for completeness (ICS218, etc.)
- ☐ Provides logistics information for IAP
- ☐ Verifies resources ordered/status

Finance/Admin

- ☐ Verifies financial and administrative requirements for IAP

E.2.10 Operations Period Briefing

When – Approximately one hour prior to shift change

Facilitator – P&I Section Chief

Attendees – IC/UC, Command and General Staff, Branch Directors, Division Supervisors, Task Force/Strike Team Leaders, Unit Leaders and others, as appropriate

The Operations Period Briefing is conducted at the beginning of each operational period and presents the IAP to supervisors of tactical resources.

Following the Operations Period Briefing, supervisors will meet with their assigned resources for a detailed briefing on their respective assignments.

Command

- ☐ Provides guidance and clarification
- ☐ Provides leadership presence and motivational remarks

Operations

- ☐ Provides Operations Briefing for the next operational period
- ☐ Ensures ICS 204 tasking is clear

Planning

- ☐ Sets up briefing area
- ☐ Facilitates Command and General Staff and other attendee briefing responsibilities
- ☐ Resolves questions
- ☐ Explains support plans as needed

Logistics

- ☐ Briefs security, environmental, facilities, transportation, supply and field support (base camp, staging area or micro site) issues

Finance/Admin

- ☐ Briefs administrative issues and provides financial report

Staff Briefs

- ☐ Operations, Logistics, Safety, Public Information and inter-agency and intelligence issues

E.3 Execute Plan and Assess Progress

This is the operational phase and involves a cycle of actions, reporting, planning and further actions

The Operations Section directs the implementation of the plan. Supervisory personnel within the Operations Section are responsible for implementation of the plan for the specific operational period. The plan is evaluated at various stages in its development and implementation.

The Operations Section Chief (OSC) may make the appropriate adjustments during the operational period to ensure that the objectives are met and effectiveness is assured.

Incident Commander (IC/UC)

- ☐ Monitors ongoing incident management activities
- ☐ Considers best response practices, evaluates prior decisions, direction, priorities and task assignments

Operations

- ☐ Monitors ongoing operations and makes strategic and tactical changes as necessary
- ☐ Measures and ensures progress against assigned objectives

E.4 Special Purpose Meetings

Special Purpose meetings are most applicable to larger incidents requiring an operational period planning cycle, but may also be useful during the initial response phase.

E.4.1 Business Management Meeting

This meeting is used to develop and update the Business Management Plan for finance and logistical support. The agenda could include documentation issues, cost sharing, cost analysis, finance requirements, resource procurement and financial summary data.

Attendees normally include the Finance/Administration Section Chief (FSC), Cost Unit Leader (COST), Procurement Unit Leader (PROC), Logistics Section Chief (LSC), Situation Unit Leader (SITL) and Documentation Unit Leader (DOCL).

E.4.2 Agency Representative (AREP) Meeting

This meeting is held to update agency representatives (AREPs) and ensure that they can support the IAP. It is conducted by the Liaison Officer (LNO) and attended by AREPs. The meeting is most appropriately held shortly after the Planning meeting in order to present the IAP for the next operational period. It allows for minor changes should the plan not meet the expectations of the AREPs.

E.4.3 Media Briefing

This meeting is conducted at a field location near the incident or at one of the following rooms: Conference Room A in the General Office, the Auditorium Foyer in the General Office, or room B-107 at the San Ramon Valley Conference Center when the Alternate EOC is activated. The purpose is to brief the media and the public on the most current and accurate facts. The briefing is set up by the PIO, moderated by an IC/UC spokesperson and features selected

spokespersons. Spokespersons should be prepared by the Public Information Office to address anticipated issues. The briefing should be well planned, organized and scheduled to meet the media's needs.

E.4.4 Technical Specialist Meeting

Meetings to gather Technical Specialist input for the IAP.

E.4.5 Demobilization Planning Meeting

This meeting is held to gather demobilization functional requirements from Command and General Staff. Functional requirements include safety, logistics, fiscal considerations and release priorities that would be addressed in the plan. The DMOB then prepares a draft Demobilization Plan to include the functional requirements and distributes to the Command and General Staff for review and comment.

Attendees normally include Command, Operations, P&I, Logistics and Finance Section Chiefs, LNO, SO, Intelligence Officer, PIO and Demobilization Unit Leader (DMOB).

E.4.6 Public Meetings

Public meetings are held to communicate with the public the progress being made and other important information to keep them informed and understanding the operations and management of the incident.

E.5 EOC Forms

The following forms that combine to form the EOC Action Plan can be found via these SharePoint links, [ICS Forms Used in EOC Action Plan](#) and [Other ICS Forms](#).

EOC Form Name (ICS form name if different)	ICS Form Number	Prepared By
EOC Action Plan Workbook Blank Template		
EOC Action Plan Workbook Maps		
EOC Action Plan Workbook With Forms		
Initial Incident Briefing (becomes the Initial Action Plan)	201	Incident Commander
Incident Objectives	202	Planning Section Chief
EOC Organization List (Organization Alignment List)	203	Resources Unit Leader
Assignment List	204	Resources Unit Lead & Operations Section Chief
Communications	205A	Communications Unit Leader
Medical Plan	206	Medical Unit Leader
Organization Chart	207	Resources Unit Leader
Safety Message	208	Safety Officer
Incident Status Summary	209	Situation Unit Leader
Status Change Card	210	Communications Leader
Check In and Out Log (Check-in List)	211	Resources Unit / Check-in Recorder
General Message	213	Any message originator
Unit Log	214	All staff
Operational Planning Worksheet	215	Chief
Incident Safety Analysis (Hazard Risk Analysis Worksheet)	215A	Operations Sections Chief and Safety Officer
Radio Requirements Worksheet	216	Communications Unit
Radio Frequency Assignment Worksheet	217	Communications Unit
Support Vehicle Inventory	218	Ground Support Unit
Resource Status Card	219	Resources Unit
Air Operations Summary	220	Operations Section Chief or Air Branch Chief
Field Employee Demobilization Release (Demobilization Checkout)	221	Demobilization Unit Leader
Crew Performance Rating Form	224	n/a
Incident Personnel Performance Rating Form	225	n/a
Individual Performance Rating Form	226	n/a
Daily Meeting Schedule	230	

E.6 Initial Incident Briefing Form (Modified ICS 201)

PG&E EOC Initial Briefing Includes PG&E versions of the ICS 201 Initial briefing form, ICS 208 Safety Message, ICS 230 and 230A Meeting and Reports Schedules, respectively. It is appended below or can be downloaded from [Initial Briefing forms](https://sps.utility.pge.com/sites/EOempmo/EOC/Planning%20and%20Intelligence/C.%20Forms%20and%20Tools/Documentation%20Unit/Initial%20EOC%20Action%20Plan%20Template%20Feb.%202017.docx) (or <https://sps.utility.pge.com/sites/EOempmo/EOC/Planning%20and%20Intelligence/C.%20Forms%20and%20Tools/Documentation%20Unit/Initial%20EOC%20Action%20Plan%20Template%20Feb.%202017.docx>)


Brief Description of the Event							
Operational Period Objectives							
1							
2							
3							
4							
Weather Forecast							
Link to DSO weather forecast and SOPP Model: http://weather/dso/							
Activations:							
<input type="checkbox"/>	EOC	<input type="checkbox"/>	Bay Area REC	<input type="checkbox"/>	Central Coast REC	<input type="checkbox"/>	Central Valley REC
<input type="checkbox"/>	ETEC		BA Divisions		CC Divisions		CV Divisions
<input type="checkbox"/>	STOEC	<input type="checkbox"/>	Diablo	<input type="checkbox"/>	CC (Santa Cruz)	<input type="checkbox"/>	Fresno
<input type="checkbox"/>	MTCC	<input type="checkbox"/>	East Bay OEC	<input type="checkbox"/>	San Jose/DeAnza	<input type="checkbox"/>	Kern
<input type="checkbox"/>	ITCC	<input type="checkbox"/>	North Bay	<input type="checkbox"/>	Los Padres	<input type="checkbox"/>	Stockton
<input type="checkbox"/>	HRCC	<input type="checkbox"/>	San Francisco	<input type="checkbox"/>	Mission	<input type="checkbox"/>	Yosemite
<input type="checkbox"/>	GEC			<input type="checkbox"/>	Peninsula		
<input type="checkbox"/>	CCECC						
<input type="checkbox"/>	FCC Logs						
Command Staff				General Staff			
Position:		Name:		Position:		Name:	
EOC Commander				Operations Section Chief			
Deputy EOC Commander				Deputy Operations Section Chief			
IC Advisor				P&I Section Chief			
Liaison Officer				Deputy P&I Section Chief			
Safety Officer				Logistics Section Chief			
Customer Strategy Officer				Deputy Logistics Section Chief			
Public Information Officer (PIO)				Finance & Admin Section Chief			
Human Resources Officer				Deputy Finance & Admin Chief			
Full EOC Organization List and Emergency Center Communications Phone List (ICS 203, 205A)							
Link to Full EOC Organization List (ICS 203) and Emergency Center Communications List (ICS 205A): https://sps.utility.pge.com/sites/EOempmo/EOC/EOC%20Incidents/Forms/AllItems.aspx?View=%7BAD067417%2D243C%2D44D9%2D8374%2DB924CDB44C48%7D							
Prepared By: <name here>				Approved By: <name here>			

E.6.1 ICS 208 – EOC Safety Message

SAFETY MESSAGE	
Major Hazards and Risks	
•	
•	
•	
Narrative	
Prepared By:	Approved By:

E.6.2 ICS 230 – EOC Meeting Schedule

Meeting Schedule (Commonly-held meetings are included.)					
Time	Call / Meeting Name	Purpose	Facilitator	Attendees	Call / Location
Operational Period 1					
0700	Incident Occurs				
0715	Geosciences or Cyber Security Call	Discuss incident and need to activate EOC.	Geosciences Manager	VP Electric Transmission Operations, Director EP&R, Geosciences Manager (earthquake), Director Cybersecurity (cybersecurity incident)	Call
0730-0800	Executive Briefing (Level 4/5)	Line of business call where the VP Electric Transmission Operations informs the line of business (operating) executives about the incident, activation of the EOC, and requests situational information for the next call.	Director of EP&RS	Executive Team (CIMC), Director EP&R	Call
0845	EOC Objectives Meeting	Review priorities, limitations and constraints. Create EOC objectives.	EOC Commander or P&I Section Chief	EOC Commander, P&I and Operations Section Chiefs	EOC Exec Conference Room
0915	EOC Initial Briefing	Provide information on what we know so far, high-level objectives, activities, and safety to the first shift.	EOC Commander, Safety Officer	EOC Staff	EOC (room 118)
0930	EOC Update Call	Share situation status, discuss limiting factors, critical resource needs, weather, and safety. (Information will be used to later develop restoration strategies and to confirm objectives.)	P&I Section Chief	EOC Members: <u>Section Chiefs:</u> P&I, Operations, Logistics & Finance <u>Branch Directors:</u> Electric Distribution, Sub/Tline, Power Generation & Operations; <u>Officers:</u> Liaison; HR; Customer Strategy & PIO; Resource Unit Leader; <u>ICs:</u> GEC, REC & SO&C	Dial In

Meeting Schedule (Commonly-held meetings are included.)					
Time	Call / Meeting Name	Purpose	Facilitator	Attendees	Call / Location
1030	EOC Command & General Staff Meeting	<ul style="list-style-type: none"> Review information from Operational Update Call to validate objectives. IC gives direction to Command & General staff, including incident objectives and priorities. 	P&I Section Chief	EOC Commander, Command & General Staff, Situation Unit Leader, Documentation Unit	EOC Exec Conference Room
1100	EOC Operations / Logistics Call	Operations status, resource plan, mutual assistance	Operations Section Chief	EOC Operations & Logistics; Regional ICs, System Operations, Restoration, Transmission, Substation	Dial In
1200	EOC Supply Chain Logistics Call	Logistics team discusses material and other resource needs for the next Operational Period to support tactics. (Not crew movement.)	Logistics Section Chief	<u>Logistics</u> : EOC, REC, GEC, MTCC & Base Camp	Dial In
1430	EOC Objectives Meeting	Review priorities, limitations and constraints. Review EOC objectives for the next operational period.	EOC Commander or P&I Section Chief	EOC Commander, P&I Section Chief, Operations Section Chief	EOC Exec Conference Room
1530	EOC Tactics Meeting	Discuss crew and other resource needs for the next Operational Period. Develop/review primary and alternate strategies to meet Incident Objectives for the next Operational Period.	Operations Section Chief	<u>Section Chiefs</u> : Operations, P&I &, Logistics; <u>Unit Leaders</u> : Resource Management & Advanced Planning	EOC Operations Room
1630	EOC Supply Chain Logistics Call	Logistics team discusses material and other resource needs for the next Operational Period to support tactics. (Not crew movement.)	Logistics Section Chief	<u>Logistics</u> : EOC, REC, GEC, MTCC & Base Camp	
1730	EOC Planning Meeting	Review status and finalize strategies and assignments to meet Incident Objectives for the next Operational Period.	P&I Section Chief	<u>Determined by the IC/UC</u> , e.g. P&I Section Chief, Documentation Unit Leaders, Technical Specialists, Command & General Staff, Situation &	EOC Exec Conference Room

Meeting Schedule (Commonly-held meetings are included.)					
Time	Call / Meeting Name	Purpose	Facilitator	Attendees	Call / Location
1830	Executive Briefing (Level 4/5)	PG&E is in a steady-state active restoration and response. This is an LOB call where each LOB provides a brief update of assessment, impact, limitations.	Director of EP&RS	Executive Team (CIMC), Director of EP&RS	Call
1900	EOC Staff Briefing—Night Shift	Provide objectives, activities, and safety to next shift	EOC Commander, Safety Officer	EOC Staff	EOC (room 118)
2000	EOC Update Call	See above	See above	See above	Dial In
0400 next day (subject to change)	EOC Validation Call	Confirm if the plan is still valid or if changes still need to be made	P&I Section Chief	<u>EOC</u> : Section Chiefs: P&I, Operations & Logistics; <u>Unit Leaders</u> Situation & Resource Management; <u>Regions</u> : REC ICS & Logistics Leads	Dial In
Approved By: (EOC Commander or P&I Section Chief)				Date/Time:	

E.6.3 ICS 230A – EOC Report Schedule

Sample EOC Report Schedule				
Date/Time	Report Name	Purpose	Responsible	Send To
As needed	Summary Report	Provides data on customers impacted, restored & remaining	Situation Unit Leader	EOC Command & General Staff
0800	Weather Forecast Sent	Provide a snapshot in time of the current count & information	Technical Specialist - Weather	EO EOC Out
~ 1 hr. after activation	Initial EOC Action Plan	Contains objectives reflecting incident strategy, actions & supporting information for the next operational period	Documentation Unit Leader	EO EOC Out Gas South Out Gas North Out
1000	Restoration Work Plan Update Report	Contains crew staffing plan for the next operational period.	Advanced Planning Unit Leader	IC & Resource Management & Documentation Unit Leaders
1200	EOC Intelligence Summary Report	Provides a snapshot in time of the current situation status	Situation Unit Leader	Documentation Unit Leader
1400	Weather Forecast Sent	Provide a snapshot in time of the current information	Technical Specialist - Weather	EO EOC Out
1600	Restoration Work Plan (if there are significant changes)	Contains updates, if any, to the crew staffing plan for next operational period.	Advanced Planning Unit Leader	IC & Resource Management & Documentation Unit Leaders
1730	Draft EOC Action Plan for next Op Period	Contains objectives reflecting incident strategy, actions, & supporting information for the next operational period	Documentation Unit Leader	IC & P&I Section Chief; Documentation Unit Leader
1900	EOC Intelligence Summary Report	Provides a snapshot in time of the current situation status	Situation Unit Leader	Documentation Unit Leader
1900	EOC Action Plan Draft for next Op Period Approved	Contains objectives reflecting incident strategy, actions, & supporting information for the next operational period	Documentation Unit Leader, IC, P&I Section Chief	IC, P&I Section Chief
2000	Weather Forecast Sent	Provide a snapshot in time of the current count and information	Technical Specialist - Weather	EO EOC Out
0700 next day	Final EOC Action Plan For Op Period Sent	Contains objectives reflecting incident strategy, actions, & supporting information for the next operational period	Documentation Unit Leader	EO EOC Out Gas South Out Gas North Out
Approved By: (EOC Commander or P&I Section Chief)			Date/Time:	

E.7 EOC Position Checklists and Tools

The EOC position checklists and related forms and tools are found on [EOC Resources](#) SharePoint site. Within this site, information is available on the following sections:

- Command Staff
- Operations
- Planning and Intelligence
- Logistics
- Finance and Administration

Hardcopies of the checklists are also found in binders in the EOC, separated by section.

E.8 EOC Agendas

The following EOC Agendas are found on the [EOC Resources](#) SharePoint site:

- Executive Briefing Call Agenda (line of business call)
- EOC Operational Update Call Agenda
- EOC Tactics Meeting Agenda (updated 2017.05.08)
- EOC Planning Meeting Agenda
- Additional Agendas By EOC Section:
 - Logistics--EOC Logistics Call, Human Resources, Corporate Security, Shared Services
 - Command Staff--Corporate Communications, Customer Care and External Relations
 - Operations--Diablo Canyon, Electric Operations, Energy Management, Gas Operations, Information Technology, Power Generation

Refer to Appendix E for details on EOC meetings and other Planning “P” meeting agendas. Refer to E.9, E.10 and E.11 for sample EOC meeting and report schedules.

See the Cybersecurity Annex for additional topics that may be reported during a cyber incident.

E.8.1 Command Call Agenda

Conference Call Info	
<p>Conference Host: EOC Commander</p> <p>Conference Facilitator: Deputy Incident Command</p> <p>Conference Attendees: Executives, LOB Leaders, EOC Command Staff and Section Chiefs, prior IST/EWCG reps</p>	
<p>Purpose of Call:</p> <ul style="list-style-type: none"> • Provide known event details • Identify next critical steps • Discuss initial internal and external communications • Timeline of calls, releases, etc. • Ensure policies and decisions are communicated consistently • Identify Operational Barriers where assistance is needed from other business units • Provide Situational Awareness to Corporation <p>Confirm the following Incident Objectives and their Priorities:</p> <ul style="list-style-type: none"> • Protect the health and welfare of the public, PG&E responders, and others • Protect the property of the public, PG&E, and others • Restore gas and electric service and power generation • Restore critical business functions and move towards business as usual • Inform customers, governmental officials, media and other stakeholders/constituents 	

	Report Item	Functional Area	Reporting	Notes
1	Provide OPENING COMMENTS <ul style="list-style-type: none"> • Event recap • Potential damages • Request for information • Ensure Notification protocol 	EOC Commander		
2	Safety <ul style="list-style-type: none"> • Event Driven stats – injuries/deaths/safety issues • Field Support status 	Safety		
3	Environmental <ul style="list-style-type: none"> • Sensitive Environmental issues • Containment/Identification/Isolation/Evacuations • Remediation • Regulatory factors • Resource Summary • Initial Work plan 	Environmental		

	Report Item	Functional Area	Reporting	Notes
4	Weather <ul style="list-style-type: none"> • Current weather • Forecast for restoration (storms, wind events, cold weather days) • Earthquake Impact • Location(s) • Magnitude • Duration • Aftershock probability • Shakemap from USGS • Potential impact 	Weather Geosciences		
5	Electric Operations <ul style="list-style-type: none"> • Damage Assessment • Resource Summary • Preliminary Work Plan 	Electric Operations - Distribution, Sub & Trans		
6	Power Generation <ul style="list-style-type: none"> • Damage Assessment • Resource Summary • Preliminary Work plan 	Energy Supply – Generation		
7	Diablo Canyon <ul style="list-style-type: none"> • Damage Assessment • Resource Summary • Preliminary Work plan 	Energy Supply – DCPD		
8	Gas Operations <ul style="list-style-type: none"> • Damage Assessment • Resource Summary • Preliminary Work plan 	Gas Operations – Trans & Dist		
9	Energy Procurement/Supply <ul style="list-style-type: none"> • Damage Assessment • Resource Summary • Initial Work plan 	Energy Supply - Energy Procurement		
10	Logistics Supply Chain <ul style="list-style-type: none"> • Materials availability • Potential Base Camps • Resource Summary (including Contracted Resources) • Preliminary Work plan 	Logistics Section Officer		
11	Information Technology <ul style="list-style-type: none"> • Assessment • Deployment of emergency supplies (radios, phones, pagers) • Resource Summary • Preliminary Initial Work plan 	IT		

	Report Item	Functional Area	Reporting	Notes
12	Customer Care <ul style="list-style-type: none"> • Status of Call Centers • IVR messaging needs • Staffing of call centers • Initial Work plan 	Customer Strategy		
13	Corporate Real Estate <ul style="list-style-type: none"> • Status of facilities • Estimated time to assess building • Personnel relocations required plans to implement 	CRESS		
14	Finance <ul style="list-style-type: none"> • Expectation for Initial estimate • Work order status 	Finance and Administration Section		
15	Governmental Relations – Federal, State, Local affairs <ul style="list-style-type: none"> • EOC Activations- Local Communities • Emergency Orders 	Liaison Officer		
16	Regulatory Relations <ul style="list-style-type: none"> • CPUC Status/Communications • FERC/CPUC/Update • Requests for information 	Regulatory		
17	HR <ul style="list-style-type: none"> • Employee status • Actions being taken to address employee issues 	HR		
18	Corporate Relations / Communications <ul style="list-style-type: none"> • Communications game plan • Media update • Press releases/Conference schedule • Social media update • What we are hearing and seeing 	Public Information		
19	Summary <ul style="list-style-type: none"> • Review of required immediate actions • Status of notifications • Executive Relocation Plan Closing – Initial evaluation of the situation <ul style="list-style-type: none"> • Preliminary incident objectives and strategy • Immediate incident objectives • Preliminary strategy • Initial resource objectives 	EOC		

E.8.2 Planning Meeting Agenda

EOC Planning Meeting Agenda	
Telephone Conference: <i>Please fill out with Conference Call #</i>	
Conference Host: EOC	
Conference Facilitator: Planning and Intelligence Section Chief	
Purpose of Call: The purpose of the call is to approve the plan that was developed via the tactics calls, section meetings, and communication with field staff (OEC/REC, and in accordance to the priorities set forth on the Command Call). This meeting/call takes place after the tactics meeting and is generally facilitated by the Planning Section Chief.	

Specific Program Areas to Report On	Topic	Reporting	Notes
Roll Call Brief Attendees on Rules of Conduct	Attendance	P&I Section Chief	
Opening Remarks Prioritize and Set Restoration Objectives <ul style="list-style-type: none"> Prioritized areas for restoration Acceptable ETORs 	Opening Remarks	EOC Commander	
Review and Establish Safety Message <ul style="list-style-type: none"> Safety Plan Process for collecting safety data from field for incident 	Safety	Safety Officer	
Current Situation Update <ul style="list-style-type: none"> Customers affected Status of EOC Open Emergency Centers Establish Branch and Division Areas <ul style="list-style-type: none"> Geographic Divisions (Carver) Damage Modeling Results Specify Resource Need <ul style="list-style-type: none"> Acceptable ETOR XX time will require XX resources GAS Acceptable ETOR XX time will require XX resources Electric Specialty Crews needed: Type and # 	Situation Status	Planning Chief	
Incident Status/ Update Overall Situation <ul style="list-style-type: none"> Electric: Damage Assessment/ETOR Transmission & Distribution Gas: Damage Assessment/ ETOR Transmission & Distribution IT: Damage Assessment/ETOR Power Generation: Damage Assessment/ETOR 	Operation Status	Operations Section Chief	

Specific Program Areas to Report On	Topic	Reporting	Notes
Identify Logistical Issues and Concerns <ul style="list-style-type: none"> • Base Camps • Staging Sites • Crew Movement • Security • Facilities- • PG&E Owned Emergency Centers Review Communication and Transportation Plans <ul style="list-style-type: none"> • IT/TCOMM issues/needs • Medical Plan review of Base Camps • Transportation Plan- road closures and status of highways and emergency routes • Highway Escort issues • Employee Communication: Status and known issues 	Logistical Support Services and ordering status	Logistics Section Chief	
Public Information Issues <ul style="list-style-type: none"> • Media • PGE.com 	Corporate Relations	Public Information Officer	
Review Financial Status and Implications <ul style="list-style-type: none"> • Costs to date • Emergency Orders & proper billing codes 	Finance and Administration Chief	Finance Section Chief	
Finalize and Approve the Final Plan	Verbal approval and support of the plan	ALL Section Chiefs	
Closing Comments	Closing Remarks	EOC Commander	
<ul style="list-style-type: none"> • Adjourn • Summary • Next meeting time/location 	Meeting Wrap Up	Planning Section Chief	

E.9 Sample EOC Meeting Schedule Op. Period 1 (ICS 230)

Below is a sample meeting schedule for a Level 4/5 incident for operational period one. The EOC meeting schedule and times change depending on the incident, especially during the first operational period. Note that the sample schedule below is for an operational period of 24 hours and two 12 hour shifts.

Meeting Schedule (Commonly-held meetings are included.)					
Time	Call / Meeting Name	Purpose	Facilitator	Attendees (EOC unless noted)	Call / Location
Operational Period 1					
0700	Incident Occurs				
0715	Geosciences or Cybersecurity Call	Discuss incident and need to activate EOC.	Geosciences Manager	VP Electric Transmission Operations, Director EP&R, Geosciences Manager (for earthquake), Director of Cybersecurity (for cybersecurity incident)	Call
0730-0800	Executive Briefing	Line of business call where the VP Electric Transmission Operations informs the line of business (operating) executives about the incident, activation of the EOC and requests situational information for the next call.	Director EP&R	Executive Team (Presidents, SVPs, VPs, Chief Risk and Audit Officer, General Counsel), Director EP&R	Call
0845	EOC Objectives Meeting	Review priorities, limitations and constraints. Create EOC objectives.	EOC Commander or P&I Section Chief	EOC Commander P&I and Operations Section Chiefs	EOC Exec Conference Room
0915	EOC Initial Briefing	Provide information on what we know so far, high-level objectives, activities and safety to the first shift.	EOC Commander, Safety Officer	EOC Staff	EOC (room 118)

Meeting Schedule (Commonly-held meetings are included.)					
Time	Call / Meeting Name	Purpose	Facilitator	Attendees (EOC unless noted)	Call / Location
0930	EOC Operational Update Call	Share situation status, discuss limiting factors, critical resource needs, weather and safety. (Information will be used to later develop restoration strategies and to confirm objectives.)	P&I Section Chief	Section Chiefs: P&I, Operations, Logistics, Finance Officers: HR, Customer Strategy, Public Information; Commanders REC ICs; SO&C GEC r Branch Directors/Unit Leaders: Electric Distribution, Transmission/Substation, Power Generation, Sub / Tline, Resource Unit	Call
1030	EOC Command & General Staff Meeting	Review information from Operational Update Call to validate objectives. IC gives direction to Command & General staff, including incident objectives and priorities.	P&I Section Chief	EOC Commander, Command & General Staff Situation Unit Leader Documentation Unit	EOC Exec Conference Room
1430	EOC Objectives Meeting	Review priorities, limitations and constraints. Review EOC objectives for the next operational period.	EOC Commander or P&I Section Chief	EOC Commander P&I and Operations Section Chiefs	EOC Exec Conference Room
1530	EOC Tactics Meeting	Discuss crew and other resource needs for the next Operational Period. Develop/review primary and alternate strategies to meet Incident Objectives for the next Operational Period.	Operations Section Chief	Section Chiefs: Operations, P&I, Logistics Unit Leaders: Resource Management, Advanced Planning	EOC Operations Room
1630	EOC Logistics Call	Logistics team discusses material and other resource needs for the next Operational Period to support tactics. (Not crew movement.)	Logistics Section Chief	Logistics: EOC, REC/GEC, MTCC, Base Camp, Staging Area and Micro Site	Call

Meeting Schedule (Commonly-held meetings are included.)					
Time	Call / Meeting Name	Purpose	Facilitator	Attendees (EOC unless noted)	Call / Location
1730	EOC Planning Meeting	Review status and finalize strategies and assignments to meet Incident Objectives for the next Operational Period.	P&I Section Chief	<u>Determined by the IC/UC, e.g.:</u> P&I Section Chief, Documentation Unit Leader; IC, Command & General Staff, Situation Unit Leader, Technical Specialists	EOC Exec Conference Room
1830	Executive Briefing	PG&E is in a steady-state active restoration and response. This is a Line of Business call where each LOB provides a brief update of assessment, impact, limitations.	Director EP&R	Executive Team (CIMC), Director EP&R	Call
1900	EOC Staff Briefing—Night Shift	Provide objectives, activities and safety to next shift	EOC Commander, Safety Officer	EOC Staff	EOC (room 118)
2000	EOC Operational Update Call	See above	See above	See above	Call
0400 next day (subject to change)	EOC Validation Call	Confirm if the plan is still valid or if changes still need to be made	P&I Section Chief	Section Chiefs: Operations, P&I, Logistics Unit Leaders: Resource Management Situation Regions: REC ICs and Logistics Leads	Call

E.10 Sample ICS 230 EOC Meeting Schedule (Steady State)

Sample meeting schedule for a Level 4/5 incident for operational period two and beyond. Note that the sample schedule below is for an operational period of 24 hours and two 12 hour shifts. The EOC meeting schedule and times may change depending on the incident.

Meeting Schedule (Commonly-held meetings are included.)					
Time	Call / Meeting Name	Purpose	Facilitator	Attendees	Call / Location
Steady State					
0700	Operational Period Begins				
0730	EOC Operational Briefing—Day Shift	Provide objectives, activities and safety to next shift.	EOC Commander, Safety Officer	EOC Staff	EOC (room 118)
0800	EOC Operational Update Call	Share situation status; discuss limiting factors, critical resource needs, weather and safety. (Information will be used to later develop restoration strategies and to confirm objectives.)	P&I Section Chief	Section Chiefs: P&I, Operations, Logistics, Finance Officers: HR, Customer Strategy, Public Information; Commanders REC ICs; SO&C GEC Branch Directors / Unit Leaders: Electric Distribution, Power Generation, Sub/Tline, Operations & Resource Unit	Call
0900	EOC Command & General Staff Meeting	<ul style="list-style-type: none"> Review information from Operational Update Call to validate objectives. 	P&I Section Chief	EOC Commander, Command & General Staff, Situation and Documentation Unit Leaders	EOC Exec Conference Room
0930	Executive Briefing	PG&E is in a steady-state active restoration and response. This is a Line of Business call where each LOB provides a brief update of assessment, impact, limitations.	Director EP&R	Executive Team (CIMC), Director EP&R	Call

E.11 Sample EOC Report Schedule (ICS 230A)

The EOC reporting schedule is adjusted to meet incident needs, especially during the initial period. This is a sample reporting schedule for a 24 hour / 2shift operational period.

Sample EOC Report Schedule				
Date/Time	Report Name	Purpose	Responsible	Send To
Hourly	Summary Report	Provides data on customers impacted, restored and remaining	Situation Unit	EOC Command and General Staff
0800	Weather Forecast Sent	Provide a snapshot in time of the current count and information	Technical Specialist - Weather	EO EOC Out
1000	Restoration Work Plan Update Report	Contains crew staffing plan for the next operational period.	Advanced Planning Unit	IC and Resource Unit Management Leader
1400	Weather Forecast Sent	Provide a snapshot in time of the current information	Technical Specialist - Weather	EO EOC Out
1600	Restoration Work Plan (if there are significant changes)	Contains updates, if any, to the crew staffing plan for next operational period.	Advanced Planning Unit	IC and Resource Unit Management Leader
1730	Draft EOC Action Plan for next Op Period	Contains objectives reflecting incident strategy, actions and supporting information for the next operational period.	Documentation Unit	IC, P&I Section Chief
1900	EOC Intelligence Summary Report	Provides a snapshot in time of the current situation status.	Situation Unit	Documentation Unit Leader
1900	EOC Action Plan Draft for next Op Period Approved	Contains objectives reflecting incident strategy, actions and supporting information for the next operational period.	Documentation Unit, IC, P&I Section Chief	IC, P&I Section Chief
2000	Weather Forecast Sent	Provide a snapshot in time of the current count and information	Technical Specialist - Weather	EO EOC Out
0700 next day	Final EOC Action Plan For Op Period Sent	Contains objectives reflecting incident strategy, actions and supporting information for the next operational period.	Documentation Unit	EO EOC Out
Approved By: (EOC Commander or P&I Section Chief)			Date/Time:	

Appendix F. Mobile Command Vehicles (MCV)

An MCV is a specialized vehicle that can be deployed to and stationed at the scene of an emergency for one or more days. The MCV can act as an ICP or an emergency center if warranted. MCVs help facilitate communication between response crews, command staff and government agencies. Transportation Services (TS) and IT personnel work together to ensure the MCVs operate properly.

TS personnel:

- Who are properly licensed are the only authorized drivers ⁵⁴
- Remain with the MCV until the emergency is over or they are relieved by other TS personnel
- Are responsible for set up, take down and performance management of the generating equipment while the MCV is operating

IT personnel:

- Operate and troubleshoot issues with MCV computers, communication and peripheral equipment

F.1 MCV Requests

During an Emergency Event

To request an MCV during or in support of an impending emergency event:

- Contact the EOC On-call Coordinator at (415) 973-9999
- Press option 1 for Electric or 2 for Gas

Non-Emergency Event

To request an MCV to support a non-emergency event such as emergency exercises, demonstrations and public awareness events during non-emergency activations:

- Submit an online reservation at <http://www/MCV/Reservations/Default.aspx>
- At least five working days before the event date

⁵⁴ California class "A" driver's license is required to drive a Commander and a California class "C" driver's license is required to drive a Sprinter.

F.2 MCV Locations

MCVs are garaged throughout the PG&E territory so that they may be deployed strategically and expeditiously.

Table F.1 MCV Locations

Vehicle ID	Physical Address
Commander Fresno B26034	[REDACTED] [REDACTED] [REDACTED]
Commander Davis B26035	[REDACTED] [REDACTED] [REDACTED]
Sprinter San Francisco B26036	[REDACTED] [REDACTED] [REDACTED]
Sprinter Santa Rosa B26037	[REDACTED] [REDACTED] [REDACTED]
Sprinter San Jose B26038	[REDACTED] [REDACTED] [REDACTED]
Sprinter Stockton B26039	[REDACTED] [REDACTED] [REDACTED]
ECT Marysville B24599	[REDACTED] [REDACTED] [REDACTED]
ECT Santa Rosa B27825	[REDACTED] [REDACTED] [REDACTED]
ECT Salinas B27824	[REDACTED] [REDACTED] [REDACTED]
ECT Stockton B24600	[REDACTED] [REDACTED] [REDACTED]

F.3 MCV Specifications

F.3.1 Commander MCV

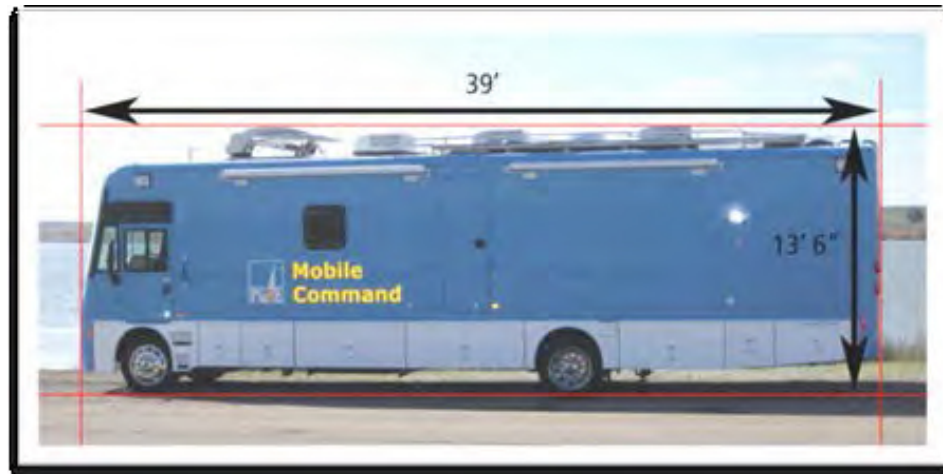


Figure F.1 Commander Mobile Command Vehicle (MCV)

Table F.2 Commander Specifications and Features

Category	Specifications / Features
Quantity	2
Use	<ul style="list-style-type: none"> • short-duration incidents • fewer capabilities than the Commander • personnel near the emergency site
Length/Width/Height (L/W/H)	<ul style="list-style-type: none"> • 39' L • 8.5' W (add 10' on passenger side for awning and slide-outs and add 5' on driver side for slide-outs) • 13.6' H outside clearance needed; 7' H inside
Fuel Capacity	80 gallons
Run Time for Generator Under Full Load	96 hours (assuming full tank of fuel, when parked on level ground)*
Workstations	<ul style="list-style-type: none"> • 11 Dell laptops, docking stations, external keyboards and mice • 1 Dell desktop, keyboard and mouse • 7 H-P monitors
TVs and DVD Player	<ul style="list-style-type: none"> • 1 LCD television (42") • 2 LCD televisions (32") • 6 LCD televisions (26") • 1 Blu-ray DVD

Category	Specifications / Features
Phones and Radios	<ul style="list-style-type: none"> • 12 Yaelink Enterprise SIP-T20P VoIP phones • 1 satellite phone • 5 Verizon mobile phones • 5 AT&T mobile phones • 2 Kenwood radios • 1 Tait radio • Raytheon ACU 2000IP controller • Wireless access point (WAP)
Other	<ul style="list-style-type: none"> • 1 plotter • 1 printer/scanner/fax • 1 conference table • 3 roof-mounted HVAC units • 1 refrigerator • 1 toilet • 2 sinks
Additional information	<ul style="list-style-type: none"> • EMER-4011P-01, Operating Procedures for Type 1 Mobile Command Vehicle Commander • EMER-4011P-02, Operating Procedures for Communication Center in Type 1 Mobile Command Vehicle Commander

Vehicle ID	Physical Address
Fresno B26034	<div>████████████████████</div> <div>████████████████████████████████</div> <div>████████████████</div>
Davis B26035	<div>██</div> <div>████████████</div> <div>██████████████</div>

F.3.2 Type II Lieutenant (Lt.) Commander

The Type II MCV Lieutenant (Lt.) Commander is a smaller version of the Commander.



Figure F.2 Type II Lieutenant Commander MCV

Table F.3 Lieutenant Commander Specifications and Onboard Features

Category	Specifications / Features
Length/Width/Height (L/W/H)	<ul style="list-style-type: none"> • 30' L • 8.5' W (add 10' on passenger side for awning and slide-outs and add 5' on driver side for slide-outs) • 13.6' H outside clearance needed; 7' H inside
Fuel Capacity	80 gallons
Run Time for Generator Under Full Load	96 hours
Workstations	<ul style="list-style-type: none"> • 2 Dell laptops • 5 monitors • 1 Dell desktop
TVs and Direct TV Service	<ul style="list-style-type: none"> • 2 LCD television, one at the conference table and one mounted outside • 4 LCD televisions (24") • Direct TV Service
Phones and Radios	<ul style="list-style-type: none"> • 10 Yaelink VoIP phones • 1 Iridium Integrated satellite phone • 5 Verizon mobile phones • 5 AT&T mobile phones • 2 Kenwood VHF radios • 2 Tait UHF radios • Raytheon ACU 2000IP audit control unit • 1 Wireless access point (WAP) • 1 Verizon Mifi • 1 AT&T Mifi • 1 Polycom conference phone

Category	Specifications / Features
Other	<ul style="list-style-type: none"> • 1 plotter • 1 printer/scanner/fax • 1 conference table • WTI Sidewinder HD PTZ Camera • Wilson Cellular Amplifier • 3 roof-mounted HVAC units • 1 refrigerator • 1 toilet • 1 sinks

Vehicle ID	Location	Name and Physical Address
B33896-SLO	San Luis Obispo (SLO)	<div>██████████</div> <div>██████████████████</div> <div>██████████████████████████████</div>

F.3.3 Sprinter MCV



Figure F.3 Sprinter MCV

Table F.4 Sprinter Specifications and Features

Category	Specifications
Quantity	4
Use	<ul style="list-style-type: none"> • short-duration incidents • fewer capabilities than the Commander • personnel near the emergency site
Length/Width/Height	<ul style="list-style-type: none"> • 24' L • 6.6' W (Add 10' on passenger side for awning and add 10' on driver side for data and phone jacks) • 10'6" H outside clearance needed (25' H outside clearance needed if deploying the cell/UHF antenna); 6.5' H inside
Fuel Capacity	26.4 gallons
Run Time for Generator under Full Load	48 hours (assuming full tank of fuel, when parked on level ground)
Workstations	<ul style="list-style-type: none"> • 3 laptops, external keyboards, mice and laptop stand • 1 desktop, wireless keyboard and mouse • 1 H-P LCD monitor
TVs	1 LCD television
Radios and Phones	<ul style="list-style-type: none"> • 5 Yalink Enterprise SIP-T20P VoIP phones • 1 satellite phone • 5 Verizon mobile phones • 5 AT&T mobile phones • 2 Kenwood radios • 1 Tait radio • Raytheon ACU 2000IP controller • Wireless Access Point (WAP)

Category	Specifications
Other	<ul style="list-style-type: none">• 1 plotter• 1 printer/scanner/fax• 1 roof-mounted HVAC unit

Vehicle ID	Physical Address
San Francisco B26036	[REDACTED] [REDACTED] [REDACTED]
Santa Rosa B26037	[REDACTED] [REDACTED] [REDACTED] [REDACTED]
San Jose B26038	[REDACTED] [REDACTED] [REDACTED]
Stockton B26039	[REDACTED] [REDACTED] [REDACTED]

F.3.4 Emergency Communications Trailer MCV



Figure F.4 Emergency Communications Trailer MCV

Table F.5 ECT Specifications and Features

Category	Specifications
Quantity	4
Radios and Phones	<ul style="list-style-type: none"> • 150 MHz repeaters/radios • 450 MHz repeaters/radios • Multi-band radio scanner • Future expansion to cell or satellite communications

Vehicle ID	Physical Address
Marysville B24599	<div>██████████</div> <div>██████████</div> <div>██████████</div>
Santa Rosa B27825	<div>████████████████████</div> <div>████████████████</div> <div>████████████████</div>
Salinas B27824	<div>██████████</div> <div>██████████</div> <div>██████████</div>
Stockton B24600	<div>████████████████</div> <div>██████████</div> <div>██████████</div>

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Appendix G. Phonetic Alphabet and 3-Way Communication

G.1 Phonetic Alphabet

What It Is

The phonetic alphabet specifies a word for each letter of the English alphabet. By using a word for each letter there is less chance that the person listening will confuse the letters. For example, some letters sound alike when spoken and can easily be confused such as "D" and "B". Using the phonetic alphabet, "Delta" and "Bravo" are more easily differentiated. The effects of noise, weak telephone or radio signals and an individual's accent are reduced using the phonetic alphabet.

People use the phonetic alphabet and unit designators when describing unique identifiers for specific components. When the only distinguishing difference between two component labels is a single letter, then the phonetic alphabet form of the letter should be substituted for the distinguishing character. For example, 2UL-18L and 2UL-18F would be stated, "two UNIFORM LIMA eighteen LIMA" and "two UNIFORM LIMA eighteen FOXTROT." Using the phonetic alphabet is unnecessary when using standard approved acronyms, such as "RHR" (residual heat removal).

When communicating operational information important to safety, people can use key words to convey specific meanings. For instance, individuals use the term "STOP" to terminate, immediately, any action or activity to avoid harm. "CORRECT" confirms understanding. "WRONG" conveys an incorrect understanding of the meaning of the intended message. Similarly, other words can be reserved for special meanings related to the organization's operational activities.

Why It Is Important

Several letters in the English language sound alike and can be confused in stressful or noisy situations.

When To Apply

- When communicating alphanumeric information related to plant equipment noun names
- When the sender or receiver might misunderstand, such as sound-alike systems, high noise areas, or poor reception during radio or telephone communications

How To Do It

Letter	Word	Letter	Word	Letter	Word	Letter	Word
A	Alpha	H	Hotel	O	Oscar	V	Victor
B	Bravo	I	India	P	Papa	W	Whiskey
C	Charlie	J	Juliet	Q	Quebec	X	X-ray
D	Delta	K	Kilo	R	Romeo	Y	Yankee
E	Echo	L	Lima	S	Sierra	Z	Zulu
F	Foxtrot	M	Mike	T	Tango		
G	Golf	N	November	U	Uniform		

Coaching Tips

Observers should coach on the following attributes if they are not adequately demonstrated:

- Use phonetics for equipment labels, channels, safeguard trains or electrical phases
- Use specific or standard terms and avoid slang terminology
- Use a standard list of accepted acronyms and abbreviations
- Avoid similar-sounding words that have different meanings, e.g. increase and decrease
- Avoid using phonetic words other than those designated

G.2 Three-Way Communication

What It Is

The three-way communication technique is a human performance tool that helps ensure personal and public safety by promoting a reliable transfer of information and understanding, with the goal of ensuring the correct action (State, Repeat, Confirm). The person originating the communication is the sender and is responsible for enunciating and verifying that the receiver understands the message, as intended. The receiver restates or paraphrases his understanding of the message and repeats it back to the speaker for verification. The sender acknowledges what the receiver heard and restated is correct.

For example, first, the sender gets the attention of the receiver and clearly states the message. Second, the receiver repeats the message in a paraphrased form, which helps the sender know if the receiver understands the message. The receiver restates equipment-related information exactly as spoken by the sender. Third, the sender confirms the message is properly understood or corrects the receiver and restates the message.

The weakest link of a communication is often the third leg because the sender may assume the receiver heard the message. If unclear, the receiver should ask for clarification, confirmation, or repetition of the message. If practical, it is helpful to support three-way communication with other information aids, such as procedures, work packages and indicators.

Why It Is Important

Three-way communication is used to promote a reliable transfer of information and understanding, with the goal of helping to assure correct action.

When To Apply

Consider using three-way communication in verbal conversations involving:

- Operation or alteration of plant equipment
- Condition of plant equipment or the value of an important parameter
- Performance of steps or actions using an approved procedure
- Task assignments that impact plant equipment or plant activities
- Safety of personnel, the environment, or the plant

Coaching Tips

Observers should coach on the following attributes if they are not adequately demonstrated:

- Sender uses the receiver's name to get receiver's attention
- Sender speaks facing the receiver or makes eye contact when it is practical to do so
- Sender takes responsibility for what is said and heard
- Sender and receiver state their names and locations when using a telephone or radio
- Sender waits to communicate with someone already engaged in another conversation
- Sender states a manageable amount of information in one message and uses several messages to convey multiple actions
- Sender provides enough information to allow the receiver to understand the message
- Sender verifies receiver understood the message
- Receiver not reluctant to ask for clarification of the message
- Receiver permits communication to complete before taking action
- Receiver writes the message on paper when there are more than two items to remember
- Receiver only given information related to the immediate task
- Receiver mentally focused with the task at hand
- Workers do not overuse the tool for non-operational communications
- Workers use three-way communication regardless of expediting the task
- Messages are stated loudly enough to be heard
- Workers enunciate words clearly
- Workers are cognizant of miscommunication conflicts that can develop between what is said (content) and how it is said (feelings)

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Appendix H. Acronyms and Glossary

H.1 Acronyms

Acronym	Definition
AAR	After Action Report
AB	Assembly Bill
AC	Area Command
ACHQ	Alternate Company Headquarters
AEOC	Alternate Emergency Operations Center
AGA	American Gas Association
ARB	Air Resources Board
ARC	American Red Cross
ARCOS	Automated Roster Callout System
AREP	Agency Representative
BCP	Business Continuity Plan
BES	Bulk Electric System
CA-EF	California Emergency Functions
CAIDI	Customer Average Interruption Duration Index
CAISO	California Independent System Operator
CAL FIRE	California Department of Forestry and Fire Protection
Cal OES	California Office of Emergency Services
CAP	Corrective Action Program
CBO	Community Based Organization
CCECC	Customer Contact Emergency Coordination Center
CCO	Contact Center Operations
CDPH	California Department of Public Health
CEC	California Energy Commission
CEMA	Catastrophic Event Memorandum Accounting
CEO	Chief Executive Officer
CERP	Company Emergency Response Plan
CESO	Customers Experiencing Momentary Outages
CFR	Code of Federal Regulations
CIMC	Corporate Incident Management Council
CIO	Chief Information Officer
CNG	Compressed Natural Gas
CNRA	California Natural Resources Agency
COO	Chief Operation Officer
COP	Common Operating Picture
COST	Cost Unit Leader
CPR	Cardiopulmonary Resuscitation

Acronym	Definition
CPUC	California Public Utilities Commission
CRESS	Corporate Real Estate Strategy and Services
CRM	Control Room Management
CSF	Cybersecurity Framework
CS-IRT	Cybersecurity Incident Response Team
CSO	Customer Strategy Officer
CUEA	California Utilities Emergency Association
CWD	Cold Winter Day
DASH	Dynamic Automated Seismic Hazard
DCC	Distribution Control Center
DCPP	Diablo Canyon Power Plant
DHS	Department of Homeland Security
DMOB	Demobilization Unit Leader
DO	Distribution Operator
DOCL	Documentation Unit Leader
DOE	Department of Energy
DOT	Department of Transportation
DR	Disaster Recovery
DRP	Disaster Recovery Plan
DSO	Distribution System Operations
DSO SOPP	Distribution System Operations Storm Outage Prediction Project
DSR	District Storm Room
EAP	Emergency Action Plans
EC	Emergency Center
ECAP	Enterprise Corrective Action Program
ECI	Enterprise Continuous Improvement
ECT	Emergency Communications Trailer
ED	Electric Distribution
EDM	Electric Damage Model
EDO	Electric Distribution Operations
EEL	Edison Electric Institute
EF	Emergency Function
E-ISAC	Electricity Information Sharing and Analysis Center
EM	Emergency Management
EMAP	Emergency Management Advancement Program
EMC	Emergency Message Center
EMO	Emergency Management Organization
EMT	Emergency Medical Technician
ENOC	Enterprise Network Operations Center
EOC	Emergency Operations Center
EOF	Emergency operations Facility

Acronym	Definition
EOP	Emergency Operations Plan
EP&R	Emergency Preparedness and Response
EPA	Environmental Protection Agency
EPC	Emergency Preparedness Coordinator
ERIM	Enterprise Records and Information Management
ERM	Enterprise Risk Management
ERO	Emergency Response Organization
ERP	Emergency Response Plan
ESF	Emergency Support Functions
ET	Electric Transmission
ETA	Estimated Time of Arrival
ETEC	Electric Transmission Emergency Center
ETOR	Estimated Time of Restoration
ETRM	Enterprise Technology Risk Management
EVP	Executive Vice President
FBI	Federal Bureau of Investigation
FCC	Facilities Coordination Center
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FIOC	Fairfield Information Operations Center (see FSCC)
FPL	Florida Power and Light
FSC	Finance Section Chief
FSCC	Fairfield Security Control Center
GC	Gas Construction
GCC	Gas Control Center
GD	Gas Distribution
GDCC	Gas Distribution Control Center
GDL	Guidance Document Library
GEC	Gas Emergency Center
GERP	Gas Emergency Response Plan
GHG	Greenhouse Gas
GIS	Geographic Information System
GO	General Office
G.O. 166	General Order 166
GSR	Gas Service Representative
GT	Gas Transmission
GT&D	Gas Transmission and Distribution
GTCC	Gas Transmission Control Center
HAZMAT	Hazardous Materials
HR	Human Resources
HRCC	Human Resources Coordination Center

Acronym	Definition
HRO	Human Resources Officer
HSEEP	Homeland Security Exercise and Evaluation Program
HSPD-5	Homeland Security Presidential Directive 5
I&I	Intelligence and Investigations
IAP	Incident Action Plan
IC	Incident Commander
ICP	Incident Command Post
ICS	Incident Command System
IDE	Initial Damage Evaluation
ILT	Instructor-Led Training
IMT	Incident Management Team
IP	Improvement Plan
IT	Information Technology
ITCC	Information Technology Coordination Center
ITO	Information Technology Officer
IVR	Interactive Voice Response (Nuance)
JFO	Joint Field Office
JIC	Joint Information Center
LNG	Liquid Natural Gas
LNO	Liaison Officer
LOB	Line of Business
LSC	Logistics Section Chief
M&C	Maintenance and Construction
MAA	Mutual Assistance Agreement
MAC	Multi-agency Coordination
MACS	Multi-Agency Coordination System
MCV	Mobile Command Vehicle
MEBA	Major Event Balancing Account
MFS	Materials Field Services
MS-ISAC	Multi-State Information Sharing and Analysis Center
MTCC	Materials Transportation Coordination Center
MW	Megawatt
MYTEP	Multi-Year Training and Exercise Planning
NCRIC	Northern California Regional Intelligence Center
NERC	North American Electrical Reliability Corporation
NG-ISAC	Natural Gas Information Sharing and Analysis Center
NGO	Non-Governmental Organizations
NHAP	Natural Hazard Asset Protection
NIMS	National Incident Management System
NIST	National Institute of Standards and Technology

Acronym	Definition
NMART	National Mutual Assistance Resource Team
NPG	Nuclear Power Generation
NRC	Nuclear Regulatory Commission
NRE	National Response Event
NREC	National Response Executive Committee
NRF	National Response Framework
NTSB	National Transportation Safety Board
O&M	Operations and Maintenance
OA	Operational Area
OEC	Operations Emergency Center
OES	Office of Emergency Services
OSC	Operations Section Chief
P&I	Planning and Intelligence
PG&E	Pacific Gas and Electric
PHMSA	Pipeline and Hazardous Materials Safety Administration
PIO	Public Information Officer
PPD	Presidential Policy Directive
PROC	Procurement Unit Leader
PSC	Planning Section Chief
PSS	Public Safety Specialist
PUD	Public Utility District
R&C	Restoration and Control
RAMP-UP	Resource Allocation Management Program
RCIOC	Rancho Cordova Information Operations Center
REC	Regional Emergency Center
REOC	Regional Emergency Operations Center
RESTAT	Resources Status
RMAG	Regional Mutual Assistance Group
RMC	Resource Management Center
RMI	Risk Management Instruction
SAIDI	System Average Interruption Duration Index
SCADA	Supervisory Control and Data Acquisition
SCE	Southern California Edison
SDGE	San Diego Gas and Electric (Company)
SDR	System Dispatch Rocklin
SDV	System Dispatch Vacaville
SEC	Securities and Exchange Commission
SEMS	Standardized Emergency Management System
SEP	State Emergency Plan
SF-DEM	San Francisco City and County Department of Emergency Management

Acronym	Definition
SH&C	Safety, Health and Claims
SITL	Situation Unit Leader
SME	Subject Matter Expert
SO	Safety Officer
SOC	State Operations Center
SoCalGas	Southern California Gas Company
SOP	Standard Operating Procedure
SOPP	Storm Outage Prediction Program
SPUL	Supply Unit Leader
SRVCC	San Ramon Valley Conference Center
STAM	Staging Area Manager
STOEC	Substation Transmission Operations Emergency Center
SUBD	Support Branch Director
SVP	Senior Vice President
SWN	Send Word Now
T&D	Transmission and Distribution
TDD/TTY	Telecommunications Device for the Deaf/Teletypewriter
TIO	Total Injected Odorant
TLCC	Transmission Line Coordination Center
TOC	Transmission Operations Center
TOE	Transmission Operations Engineering
TS	Transportation Services
TSC	Technology Solution Center
UC	Unified Command
UOC	Utility Operations Center
US-CERT	United States Computer Emergency Readiness Team
USCG	United States Coast Guard
USGS	United States Geologic Survey
VGCC	Vacaville Grid Control Center
VOAD	Voluntary Organizations Active in Disaster
VP	Vice President
WAPAA	Western Area Power Administration Agreement
WBT	Web-Based Training
WECC	Western Electricity Coordinating Council
WEI	Western Energy Institute
WFM	Workforce Management
WRMAA	Western Region Mutual Assistance Agreement
WSAC	Weekly Situational Awareness Call

H.2 Glossary

ACTION PLAN: (See *Incident Action Plan*.)

AGENCY: Division of government with a specific function, or a non-governmental organization (e.g., private contractor, business) that offers a specific kind of assistance. The Incident Command System defines agencies as jurisdictional (having statutory responsibility for incident mitigation) or assisting or cooperating (providing resources or assistance). (See *Assisting Agency*, *Cooperating Agency* and *Multi-Agency Coordination*.)

ALLOCATED RESOURCES: Resources dispatched to an incident.

AREA COMMAND An organization established to 1) oversee management of multiple incidents being handled by an Incident Command System organization; or 2) oversee management of a large incident that has multiple Incident Management Teams assigned. Area Command has the responsibility to set overall strategy and priorities, allocate critical resources based on priorities, ensure that incidents are properly managed and ensure that objectives are met and strategies followed.

ASSIGNED RESOURCES: Resources checked in and assigned work tasks on an incident.

ASSIGNMENTS: Tasks given to resources to perform in a given operational period, based upon tactical objectives in the Incident Action Plan.

ASSISTANT: Title for subordinates of the Command Staff positions. The title indicates a level of technical capability, qualifications and responsibility subordinate to the primary positions. Assistants may be used to supervise unit activities at camps.

ASSISTING AGENCY: Agency or organization providing personnel, services, or other resources to an agency with direct responsibility for incident management.

AVAILABLE RESOURCES: Incident-based resources ready for deployment.

BASE CAMP: Location where primary Logistics functions for an incident are coordinated and administered. An incident name or other designator will be added to the words "Base Camp." The Incident Command Post may be co-located with the base camp.

BRANCH: Organizational level having functional or geographic responsibility for major parts of incident operations. The Branch level is organizationally between section and division/group in the Operations Section and between section and units in the Logistics Section. Branches are identified by the use of Roman numerals or by functional name (e.g., medical, security).

CACHE: Pre-determined complement of tools, equipment, or supplies stored in a designated location, available for incident use.

CHAIN OF COMMAND: Series of management positions in order of authority.

CHECK-IN: Process whereby resources first report to an incident.

CHIEF: ICS title of individuals responsible for command of functional sections, including Operations, Planning, Logistics and Finance/Administration.

CLEAR TEXT: Use of plain English in radio communications transmissions. Ten-codes and agency-specific codes are not used when using clear text.

COMMAND: Act of directing or controlling resources by virtue of explicit legal, agency, or delegated authority; may also refer to the Incident Commander.

COMMAND POST: (See *Incident Command Post*.)

COMMAND STAFF: Consists of the Deputy Incident Commander, Chief of Staff, Incident Command Advisor, Public Information Officer, Safety Officer, Liaison Officer, Customer Strategy Officer and Human Resources Officer. Command Staff report directly to the Incident Commander and may have an assistant or assistants, as needed.

COMPACTS: Formal working agreements among agencies to obtain mutual assistance.

COMPENSATION UNIT/CLAIMS UNIT: Functional unit within the Finance/Administration Section responsible for financial concerns resulting from property damage, injuries, or fatalities at the incident.

COMPLEX: Two or more individual incidents located in the same general area assigned to a single Incident Commander or to Unified Command.

COOPERATING AGENCY: Agency supplying assistance other than direct operational or support functions or resources to the incident management effort.

COORDINATION: Process of systematically analyzing a situation, developing relevant information and informing appropriate command authority of viable alternatives for selection of the most effective combination of available resources to meet specific objectives. The coordination process (which can be either intra- or inter-agency) does not involve dispatch action; however, personnel responsible for coordination may perform command or dispatch functions within limits established by specific agency delegations, procedures, or legal authority, etc.

COORDINATION CENTER: Describes any facility used for coordinating agency or jurisdictional resources in support of one or more incidents.

COST SHARING AGREEMENTS: Agreements between agencies or jurisdictions to share designated costs related to incidents. Cost sharing agreements are normally written, but can be oral between authorized agency and jurisdictional representatives at the incident.

COST UNIT: Functional unit in the Finance/Administration Section responsible for tracking costs, analyzing cost data, making cost estimates and recommending cost-saving measures.

CREW: (See *Single Resource*.)

DELEGATION OF AUTHORITY: Statement provided to the Incident Commander by the Agency Executive delegating authority and assigning responsibility. Delegation of Authority can include objectives, priorities, expectations, constraints and other considerations or guidelines as needed. Many agencies require written Delegation of Authority to be given to Incident Commanders prior to their assuming command on larger incidents.

DEMOBILIZATION UNIT: Functional unit in the Planning Section responsible for assuring orderly, safe and efficient demobilization of incident resources.

DEPUTY: Qualified person who, in the absence of a superior, could be delegated the authority to manage a functional operation or perform a specific task. In some cases, a Deputy could act as relief for a superior and therefore must be fully qualified in the position. Deputies can be assigned to the Incident Commander, General Staff and Branch Directors.

DIRECTOR: Incident Command System title for people responsible for supervising a branch.

DISPATCH: Implementation of a command decision to move one or more resources from one place to another.

DISPATCH CENTER: Facility from which resources are assigned to an incident.

DIVISION: Used to divide an incident into geographical areas of operation. A division is located within the Incident Command System organization between the branch and the task force/strike team. (See *Group*.) Divisions are identified by alphabetic characters for horizontal applications and, often, by floor numbers when used in buildings.

DOCUMENTATION UNIT: Functional unit within the Planning Section responsible for collecting, recording and safeguarding all documents relevant to the incident.

EMERGENCY MANAGEMENT COORDINATOR/DIRECTOR: Person in each political subdivision that has coordination responsibility for jurisdictional emergency management.

EMERGENCY MEDICAL TECHNICIAN (EMT): Health-care specialist with skills and knowledge in pre-hospital emergency medicine.

EMERGENCY OPERATIONS CENTER (EOC): Pre-designated facility established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response and support to an emergency.

EMERGENCY OPERATIONS PLAN (EOP): Plan that each jurisdiction has and maintains for responding to appropriate hazards.

EVENT: Planned, non-emergency activity. The Incident Command System can be used as the management system for a wide range of events (e.g., parades, concerts, sporting events).

FACILITIES UNIT: Functional unit within the Support branch of the Logistics Section that provides fixed facilities for the incident. These facilities may include the Incident Base, feeding areas, sleeping areas, sanitary facilities, etc.

FIELD OPERATIONS GUIDE: Pocket-size manual of instructions on the application of the Incident Command System.

FINANCE/ADMINISTRATION SECTION: Responsible for all incident costs and financial considerations. Includes the Time Unit, Procurement Unit, Compensation/Claims Unit and Cost Unit.

FUNCTION: In the Incident Command System (ICS), “function” refers to the five major activities in the ICS (i.e., Command, Operations, Planning, Logistics and Finance/Administration). The term “function” is also used when describing the activity involved (e.g., the planning function).

GENERAL STAFF: Group of incident management personnel reporting to the Incident Commander. Each may have a deputy, as needed. The General Staff consists of: Operations Section Chief, Planning Section Chief, Logistics Section Chief and Finance/Administration Section Chief.

GENERIC ICS: Description of the Incident Command System generally applicable to any kind of incident or event.

GROUP: Established to divide an incident into functional areas of operation. Groups are made of resources assembled to perform a special function not necessarily within a single geographic

division. (See *Division*.) Groups are located between branches (when activated) and resources in the Operations Section.

HIERARCHY OF COMMAND: (See *Chain of Command*.)

HOT SITE: Duplicate of the original site of the organization, with full computer systems as well as near-complete backups of user data. Following a disruption to the original site, the hot site exists so that the organization can relocate with minimal losses to normal operations. Ideally, a hot site will be up and running within a matter of hours or even less.

ICS NATIONAL TRAINING CURRICULUM: Series of training modules consisting of instructor guides, visuals, tests and student materials. Modules cover all aspects of Incident Command System operations and can be intermixed to meet specific training needs.

INCIDENT: An occurrence either human caused or by natural phenomena that requires action by emergency service personnel to prevent or minimize loss of life or damage to property or natural resources.

INCIDENT ACTION PLAN (IAP): Contains objectives reflecting the overall incident strategy and specific tactical actions and supporting information for the next operational period. The IAP may be oral or written. When written, the plan may have a number of forms as attachments (e.g., traffic plan, safety plan, communications plan and map).

INCIDENT COMMAND POST (ICP): Location where the primary command functions are executed. The ICP may be co-located with the incident base or other incident facilities.

INCIDENT COMMAND SYSTEM (ICS): Standardized on-scene emergency management concept designed to allow its users to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries.

INCIDENT COMMANDER (IC): Individual responsible for the management of all incident operations at the incident site.

INCIDENT MANAGEMENT TEAM (IMT): Incident Commander and appropriate Command and General Staff personnel assigned to an incident.

INCIDENT OBJECTIVES: Statements of guidance and direction necessary for selection of appropriate strategies and tactical direction of resources. Incident objectives are based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed. Incident objectives must be achievable and measurable, yet flexible enough to allow for strategic and tactical alternatives.

INCIDENT SUPPORT ORGANIZATION: Includes any off-incident support provided to an incident. Examples include agency dispatch centers, airports, mobilization centers, etc.

INITIAL ACTION: Actions taken by resources who are the first to arrive at an incident.

INITIAL RESPONSE: Resources initially committed to an incident.

JURISDICTION: Range or sphere of authority. Public agencies have jurisdiction at an incident related to their legal responsibilities and authority for incident mitigation. Jurisdictional authority at an incident can be political/geographical (e.g., city, county, state, or federal boundary lines) or functional, (e.g., police department, health department). (See *Multi-jurisdiction Incident*.)

JURISDICTIONAL AGENCY: Agency having jurisdiction and responsibility for a specific geographical area, or a mandated function.

KIND: Nature of a resource, (e.g., single, strike team).

LEADER: Incident Command System title for the person responsible for a task force, strike team, or functional unit.

LIAISON OFFICER (LNO): Member of the Command Staff responsible for coordinating with representatives from cooperating and assisting agencies.

LIFE-SAFETY: Joint consideration of both life and physical well-being of individuals.

LOGISTICS SECTION: Responsible for providing facilities, services and materials for an incident.

MANAGEMENT BY OBJECTIVES: In the Incident Command System, this is a top-down management activity involving a three-step process to achieve the incident goal. The steps are: Establish the incident objectives, select appropriate strategies to achieve the objectives and provide tactical direction associated with the selected strategy. Tactical direction includes selection of tactics, selection of resources, resource assignments and performance monitoring.

MANAGERS: Individuals in Incident Command System organizational units who are assigned specific managerial responsibilities, (e.g., Staging Area manager (STAM) Camp manager).

MESSAGE CENTER: Co-located or adjacent part of the Incident Communications Center. The Message Center receives records and routes information about resources reporting to the incident, resource status and administrative and tactical traffic.

MOBILIZATION: Processes and procedures used by federal, state and local organizations for activating, assembling and transporting all resources requested to respond to or support an incident.

MOBILIZATION CENTER: Off-incident location where emergency service personnel and equipment are temporarily located pending assignment, release, or reassignment.

MULTI-AGENCY COORDINATION (MAC): General term describing the functions and activities of involved agency or jurisdiction representatives who meet to make decisions about prioritizing incidents and sharing/use of critical resources. The MAC organization is not a part of the on-scene Incident Command System or involved in developing incident strategy or tactics.

MULTI-AGENCY COORDINATION SYSTEM (MACS): Combination of personnel, facilities, equipment, procedures and communications integrated into a common system. When activated, the MACS is responsible for coordinating assisting agency resources and providing support in a multi-agency or multijurisdictional environment. A MAC group functions within the MACS.

MULTI-AGENCY INCIDENT: Incident where one or more agencies assist a jurisdictional agency or agencies. May be a Single or Unified Command.

MULTI-JURISDICTION INCIDENT: Incident requiring action from multiple agencies that have a statutory responsibility for incident mitigation. In the Incident Command System, these incidents will be managed under Unified Command.

MUTUAL AID AGREEMENT: Written agreement between agencies or jurisdictions where each agrees to assist one another on request by providing personnel and equipment.

NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS): Program consisting of five major subsystems that collectively provide a total systems approach to all-risk incident management.

OFFICER: Incident Command System title for personnel responsible for the Command Staff positions of Safety, Liaison and Information.

OPERATIONAL PERIOD: Period of time scheduled for execution of a given set of operation actions as specified in the Incident Action Plan. Operational periods can have varying lengths, typically not exceeding 24 hours.

OPERATIONS SECTION: Section responsible for all tactical operations at the incident, which typically includes branches, divisions or groups, task forces, strike teams, single resources and staging areas.

OUT-OF-SERVICE RESOURCES: Resources assigned to an incident but unable to respond for mechanical, rest, or personnel reasons.

OVERHEAD PERSONNEL: Personnel assigned to supervisory positions that include Incident Commander, Command Staff, General Staff, directors, supervisors and unit leaders.

PLANNING AND INTELLIGENCE (P&I) SECTION: Responsible for the collection, evaluation and dissemination of tactical information related to the incident and for the preparation and documentation of Incident Action Plans. The Planning Section also maintains information on the current and forecasted situation and on the status of resources assigned to the incident. Includes the Situation, Resource, Documentation and Demobilization units, as well as Technical Specialists.

PLANNING MEETING: Meeting held as needed throughout the duration of an incident to select specific strategies and tactics for incident control operations and for service and support planning. On larger incidents, the planning meeting is a major element in the development of the Incident Action Plan.

PUBLIC INFORMATION OFFICER (PIO): Member of the Command Staff responsible for interfacing with the public, media and other agencies requiring information directly from the incident. There is only one PIO per incident. The PIO may have assistants.

RECORDERS: Individuals within the Incident Command System organizational units who are responsible for recording information. Recorders may be found in Planning, Logistics and Finance/Administration units.

REINFORCED RESPONSE: Resources requested in addition to the initial response.

REPORTING LOCATIONS: Location or facilities where incoming resources can check-in at the incident. (See *Check-In*.)

RESOURCES: Personnel and equipment available, or potentially available, for assignment to incidents. Resources are described by kind and type (e.g., ground, water, air) and may be used in tactical support or overhead capacities at an incident.

SAFETY OFFICER: Member of the Command Staff responsible for monitoring and assessing safety hazards or unsafe situations and for developing measures for ensuring personnel safety. The Safety Officer may have assistants.

SECTION: Organization level with responsibility for a major functional area of the incident (e.g., Operations, Planning, Logistics, Finance/Administration). Organizationally, the section is between Branch Commander and Incident Commander.

SECTOR: Term used in some applications to describe an organizational level similar to an ICS division or group. Sector is not a part of Incident Command System terminology.

SEGMENT: Geographical area where a task force/strike team leader or supervisor of a single resource is assigned authority and responsibility for the coordination of resources and implementation of planned tactics. A segment may be a portion of a division or an area inside or outside the perimeter of an incident. Segments are identified with Arabic numerals.

SERVICE BRANCH: Branch within the Logistics Section responsible for service activities at the incident. Includes the Communications, Medical and Food units.

SINGLE RESOURCE: Individual, a piece of equipment and its personnel complement, or a crew or team of individuals with an identified work supervisor that can be used at an incident.

SPAN OF CONTROL: Supervisory ratio of three to seven people, with five-to-one being established as optimum.

STAGING AREA: Locations set up at an incident where resources can be placed while awaiting a tactical assignment. Staging areas are managed by the Operations Section.

STRATEGY: General plan or direction selected to accomplish incident objectives.

STRIKE TEAM: Specified combinations of the same kind and type of resources, with common communications and a leader.

SUPERVISOR: Incident Command System title for individuals responsible for command of a division or group.

SUPPORT RESOURCES: Non-tactical resources supervised by the Logistics, Planning, Finance/Administration Sections, or Command Staff.

SUPPORTING MATERIALS: Refers to several attachments that may be included with an Incident Action Plan (e.g., communications plan, map, safety plan, traffic plan and medical plan).

TACTICAL DIRECTION: Direction given by the Operations Section Chief that includes tactics appropriate for the selected strategy selection and assignment of resources, tactics implementation and performance monitoring for each operational period.

TASK FORCE: Combination of single resources assembled for a particular tactical need, with common communications and a leader.

TEAM: (See Single Resource.)

TECHNICAL SPECIALISTS: Personnel with special skills that can be used anywhere in the Incident Command System organization.

TYPE: Refers to resource capability. "Type 1" resources provide greater overall capability due to power, size, capacity, etc., than would be found in "Type 2" resources. Resource typing provides managers with additional information in selecting the best resource for the task.

UNIFIED AREA COMMAND: Established when incidents under an Area Command are multi-jurisdictional. (See *Area Command* and *Unified Command*.)

UNIFIED COMMAND (UC): In the Incident Command System, Unified Command is a unified team effort that allows all agencies with responsibility for an incident, either geographical or functional, to manage an incident by establishing a common set of objectives and strategies. This is accomplished without losing or abdicating agency authority, responsibility, or accountability.

UNIT: Organizational element having functional responsibility for a specific incident planning, logistics, or finance/administration activity.

UNITY OF COMMAND: Concept by which each person in an organization reports to only one designated person.

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Exhibit B

Electric Annex



*Pacific Gas and
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Electric Annex

to the Company Emergency Response Plan (CERP)

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Preface

This section contains Pacific Gas and Electric Company legal notices and trademarks, and provides information related to the ownership and maintenance of this document.

Document Control

The Electric Emergency Management Department maintains this Electric Annex to the Company Emergency Response Plan. This section records the revisions made to the plan, and approval of the plan by the persons responsible for its preparation, maintenance, and update.

Change Record

The following table is used to record all changes made to the plan. It describes the revisions made, the locations of the revisions, the names of the persons responsible for the revisions, and dates of revisions:

Revision	Sections Affected	Author	Date
1.0	Updated all sections and overall section arrangement. (E.g., added transmission, substation, job package, 911 standby, damage assessment, organization and responsibilities, etc.)	T3SN	7/24/2015
1.1	Updated fire prevention plan and minor edits throughout	T3SN, AMG2	8/28/2015
1.2	Full review and revision of the electric annex	S9SO	9/20/2017

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1 Introduction

1.1 Purpose of Annex

The Electric Annex provides an outline of PG&E's electric emergency management organizational structure, roles and responsibilities, and describes the activities undertaken in response to electric emergency outage situations.

The Annex is a key element to ensure the company is prepared for emergencies in order to minimize damage and inconvenience to the public, which may occur as a result of:

- Electric system failures
- Major outages
- Hazards posed by damage to electric facilities

The Electric Annex's purpose is to serve as:

- The recovery and response plan to govern electric operations during emergency events
- A guide to develop an overall strategy for managing a response to specific disasters
- A tool to educate and train the Electric Emergency Management Organization (EMO) and key stakeholders on how to execute the plan
- The basis for developing annual drills and exercises to test the organization's ability to execute emergency response procedures
- The repository for capturing how continuous improvement efforts impact the Electric EMO emergency operations efforts

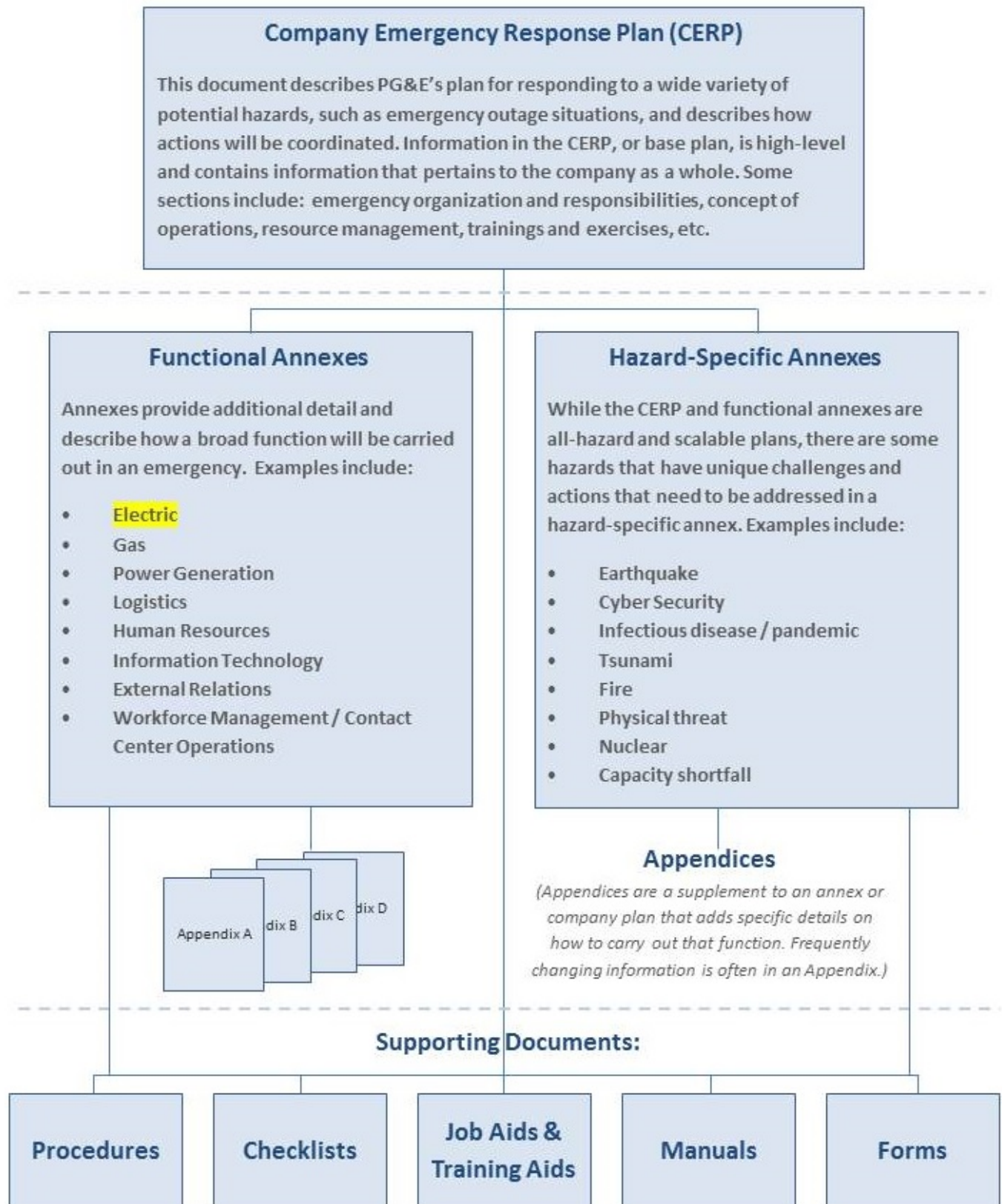
1.2 Scope

The scope of the Annex includes emergency response and restoration activities for electric distribution, transmission, and substation operations.

1.3 Electric Annex Overview

The Electric Annex is a functional annex to the Company Emergency Response Plan (CERP). Figure 1.1 below illustrates the relation between this Annex, the CERP, other annexes, and supporting documents. The following is not an all-inclusive list.

Figure 1.1 Electric Annex Relation to CERP and Supporting Documents



1.4 Regulations and Authorities

This Annex, as part of the CERP, complies with the regulations and authorities listed below.

1.4.1 Electric Distribution

CPUC General Order Number 166 (G.O. 166) helps ensure that electric utilities are prepared for emergencies and disasters in order to minimize damage and inconvenience to the public, which may occur as a result of electric system failures, major outages, or hazards posed by damage to electric distribution facilities.

Standard one of G.O. 166 states the utility shall prepare an emergency response plan setting forth anticipated responses to emergencies and major outages. It indicates the plan should help to ensure the utility is best able to protect life and property during an emergency or major outage and communicate the scope and expected duration of an outage. The required plan elements outlined in Standard one are included in PG&E's Company Emergency Response Plan (CERP) and Annexes.

1.4.2 Electric Transmission

- Federal Energy Regulatory Commission (FERC)
- North American Electric Reliability Corporation (NERC) Reliability Standards define the reliability requirements for planning and operating the North American bulk power system.
- Peak Reliability Coordinator (RC)
- Western Electricity Coordinating Council (WECC)
- California Independent System Operator (CAISO) Standards for Reliability and Safety During Emergencies and Disasters (December, 1997)

1.5 Role of Electric Emergency Management and Preparedness

Electric Operations Emergency Management (EM) strives to provide safe, efficient, and affordable electric service to our customers by rapidly supporting the recovery of our electric infrastructure and our communities.

To support the recovery of our communities, EM works with the lines of business and other leaders across Electric Operations to develop and recommend a strategic direction for electric emergency preparedness, emergency response and public partnerships. The team is involved in the implementation of emergency plans & processes, training, emergency exercises/drills, communication, and incident management. EM also serves as a liaison with public safety agencies during emergencies.

In addition, the team helps ensure compliance with company and regulatory safety policies and practices, as well as continually identify and promote continuous improvement opportunities.

Electric Operations EM:

- Responds to emergency centers and supports electric emergency incidents
- Facilitates emergency response and business continuity planning; maintains related documents, such as the Electric Annex, Electric Emergency Plan for Capacity Emergencies, and business continuity plans
- Conducts trainings and exercises to ensure the readiness of Regional Emergency Center (REC) and Operations Emergency Center (OEC) personnel
- Conducts trainings and exercises on electric emergency plans
- Trains and coordinates emergency activities with public safety agencies
- Conducts performance monitoring of key operations and reliability metrics
- Submits plans and an annual filing to CPUC for G.O. 166
- Manages the Automated Roster Callout System (ARCOS), an automated callout and scheduling system that PG&E uses to assemble and track first responders and repair crews

More information about EM is available on the [EM website](#).

1.6 Annex Maintenance

1.6.1 Annex Development and Updates

The Emergency Preparedness and Response (EP&R) Department is responsible for developing, updating and maintaining the Company Emergency Response Plan (CERP).

The Electric Annex will be reviewed and revised, as necessary, on an annual basis and submitted to EP&R by September 30 each year. Electric Distribution Emergency Management will initiate the process, in collaboration with Electric Transmission, and will engage the support of departments with relevant responsibilities in this plan.

The Electric Annex may be modified as a result of:

- Lessons learned from exercises and actual incidents.
- Key changes to emergency response processes, structure, responsibilities, assessment/restoration strategies, etc.
- Feedback generated by PG&E subject matter experts, planning team, internal and external key stakeholders, and users of the annex.
- Changes to laws or regulations pertaining to electric operations emergency management.

Each revision of the annex will be approved by the Vice President of Electric Operations and the Vice President of Electric Transmission Operations. Records of revisions to the Electric Annex will be maintained in the change register at the beginning of this document.

Those departments having assigned responsibilities under this annex are obligated to inform Electric Distribution Emergency Management when organizational or operational changes affecting this plan occur or are imminent.

1.6.2 Annex Distribution

The Electric Annex is distributed to the Executive VP of Electric Operations and specific leadership positions in Electric Transmission, Electric Distribution and various support organization leaders. Copies are also provided to Emergency Center Commanders and their alternates and are stored in each emergency center location. This Annex is also available electronically in PG&E's Guidance Document Library and on the Emergency Management website under Emergency Plans.

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2 Emergency Organization and Responsibilities

2.1 Emergency Facilities

2.1.1 Electric Distribution Emergency Facilities

2.1.1.1 District Storm Room (DSR)

The DSR responds to local and escalated emergency events and is generally located in a Service Planning and Maintenance yard. The main function of the DSR is to manage the local restoration effort during all levels of emergencies. The DSR is staffed with local support, such as troublemen, gas service reps, meter techs, estimators, mappers, and Service Planning and Maintenance crews. Clerical support inputs data into the Outage Management Tool (OMT) at this location. Information from assessment resources is added to the job packet and then handed off to construction crews for repairs to be performed. DSRs report to their division's OEC.

2.1.1.2 Operations Emergency Center (OEC)

The OEC provides oversight and support at a divisional level. The OEC directs and coordinates the personnel necessary to assess damages, secure hazardous situations, restore service, and communicate status information internally and externally. OECs report to their Region's REC.

2.1.1.3 Regional Emergency Center (REC)

The REC provides oversight and support to the OEC(s) at a regional level. As an event escalates, the REC becomes the point of contact for information and managing escalated OEC(s) issues. When PG&E's Emergency Operations Center (EOC) is activated, the REC communicates operational status, resource requests, and logistical needs to the EOC.

2.1.1.4 Central Electric Dispatch

Central Electric Dispatch is open 24/7, 365 days each year and is responsible for dispatching and scheduling Troublemens resources to outages, compliance equipment inspections, customer committed work, etc. Electric Dispatch also receives 911 stand-by requests from public agencies and dispatches Troublemens to respond as quickly as possible.

2.1.1.5 Electric Distribution Control Centers

Distribution Control Centers (DCCs) are a centralized location where the real-time operation of the electric distribution grid is monitored and managed – this includes both planned and emergency outages. If an outage occurs, the Distribution Operator (DO) in the DCC helps to restore service to customers by directing field resources to operate distribution devices in the field and to substations to reconfigure or re-energize the distribution grid.

2.1.2 Electric Transmission and Substation Emergency Facilities

2.1.2.1 Electric Transmission Emergency Center (ETEC)

The ETEC is responsible for providing support to PG&E System Dispatch. ETEC's support includes: system restoration support, transmission outage prioritization in collaboration with CAISO and the EOC, as well as internal and external communications. For example, the ETEC maintains communication with the CAISO, Western Energy Coordinating Council (WECC), and other utilities involved in transmission system emergencies.

In addition, the ETEC serves as a hub which coordinates support between Electric Operations, Transmission Line, Substation, News, other departments, and external entities.

In a Level 2 or greater emergency, the ETEC may be activated to assist System Dispatch with transmission related outages and to facilitate communications with the CAISO's Emergency Operations Center. The ETEC is also activated when the CAISO calls for load curtailments. In a level 3 or greater emergency where the EOC is activated, the ETEC reports to the Electric Transmission Branch in the EOC.

2.1.2.2 Grid Control Center (GCC)

Real-time operation of the PG&E Transmission System takes place at the Grid Control Center in Vacaville, and is staffed 24 hours per day, 365 days per year. The Grid Control Center is in daily contact with the California Independent System Operator (CAISO) to monitor the power flows, receive clearance requests, and establish system restoration priorities, etc. The CAISO has overall operational control of our electric transmission facilities, as well as those of Southern California Edison, San Diego Gas & Electric, and others. The GCC deals with Level 1 and Level 2 emergencies involving electric transmission and is the designated PG&E single point of contact with CAISO.

2.1.2.3 Substation Transmission Operations Emergency Center (STOEC)

In a Level 2 or greater emergency, the STOEC coordinates damage assessment, information dissemination, and movement of Transmission Line and Substation manpower and equipment to assist operating departments in restoring service. The STOEC reports to ETEC and responds to the priorities and strategies set by the ETEC. Once activated, the STOEC tracks substation and transmission line (T-Line) resources and provides ETEC with restoration information and regular situational updates regarding quantity, type and location of resources within the T-Line organization. The STOEC also provides technical support to the field, when activated.

2.1.3 PG&E Emergency Centers

For details on all PG&E Emergency Centers and Support Centers, please refer to Emergency and Coordination Centers in the Company Emergency Response Plan (CERP).

2.2 Electric Distribution Emergency Roles and Responsibilities

This section includes information on Electric Distribution emergency roles and responsibilities. For the Incident Command System (ICS) positions that are used throughout all of PG&E's emergency centers, refer to the CERP Emergency Organization and Responsibilities Section.

2.2.1 Troublemakers (T-men)

T-Men are emergency response employees who usually work alone and whose primary responsibility is to assess the outage situation to identify basic cause, hazard considerations, and repair requirements, primarily on substation, circuit, and mainline outages. This individual is capable of making some repairs and/or correcting minor equipment failures. During the initial response, the T-man is the Incident Commander.

2.2.2 Make Safe Crews

The Make Safe crews focus on situations where hazardous conditions have been identified and require prompt attention (i.e., wire down, cut in the clear). They are two-person crews consisting of linemen classifications who are qualified electrical workers (QEW). Depending on their experience and training level, they have skill sets similar to Troublemakers and perform make safe and assessment assignments under the direction of the Dispatch Leader located in the OEC or DSR.

2.2.3 Assessment Crews and Rapid Assessment Strike Teams

Damage Assessment Crews are one or two-person crews with knowledge of electric field equipment. These crews often include gas service employees who are paired with electric estimators, compliance inspectors, or work and resource coordinators who are familiar with the territory. When there are a significant number of outages, damage assessment crews can be used in a strike team approach as Rapid Assessment Strike Teams. These strike teams can quickly assess damaged locations and relay the information to the Incoming Assessment Desk at the DSR/OEC.

The Rapid Assessment Strike Teams include estimators, an Associate Distribution Engineer (ADE), a supervisor, and support personnel. The strike teams are responsible for quickly patrolling damaged areas, conducting windshield damage assessments, and relaying information to the Incoming Assessment Desk. Rapid Assessment Strike Team members may also be assigned to the Incoming Assessment Desk to receive assessment information from the field and build job packets for the crews.

The Damage Assessment Crews are not considered to be "qualified electric workers"; they do not have equipment switching skills and do not perform this type of work. Rather, they are used primarily to determine if the problem is located on PG&E's equipment, and assess the damage and determine general magnitude of the repair, including what equipment and resources may be required. The estimator is able to size equipment necessary for repairs. If necessary, Assessment Crews may also serve as 911 standby until a qualified electric worker appears on site.

2.2.4 Incoming Assessment Desk Leader

The incoming assessment desk is where estimators receive incoming damage assessment information from the field and build job packets that are provided to the DSR for crew assignment. The Incoming Assessment Desk Leader oversees all personnel and staffing for the incoming assessment desk, and prioritizes the creation of job packages at the OEC/DSR. The Leader is either an Electric Associate Distribution Engineer (ADE) or Estimating Supervisor and reports to the Operations Section Chief in the OEC.

2.2.5 Check In / Out Desk Recorder

The Check In / Out Recorders establish and manage the check in/out desk in each emergency center and base camp. They are responsible for ensuring that all personnel that come on site to support an incident are checked in each time they arrive and are checked out at the end of each work shift and at the end of their assignment. The Recorder reports to the Resource Unit Leader in the Planning and Intelligence Section in each emergency center.

2.2.6 Circuit-Based Branch Supervisor

Circuit-Based Branch Supervisors can be Estimating Supervisors, Mapping Supervisors, Operation Engineers, or Planning Engineers with operational knowledge who are trained to support a circuit-based assessment/restoration strategy. They provide direction to the Task Force Leaders, coordinate and prioritize work, establish communication between Task Force Leaders and the DSR to ensure situational awareness and safety, and participate with Planning and Intelligence (P&I) in the development of objectives for the action plan for the Circuit-Based Strategy. (Refer to 3.2.3.8.2 for details on circuit-based assessment/restoration.)

2.2.7 Standby Personnel

Standby personnel are responsible for cordoning off a hazardous condition and/or relieving a 911 agency until a qualified electric crew or T-man arrives to clear and/or repair the hazard. They are one or two-person crews with limited knowledge of field equipment, and often consist of meter readers, meter technicians, gas service representatives, gas construction workers, and various other employees. Standby crews generally do not have equipment switching skills, or the ability to estimate the magnitude of the repair and restoration timeframe.

2.2.8 Distribution System Operator

A Distribution System Operator (DO) is responsible for the operation of an assigned electric distribution jurisdiction. The DO directs and issues clearances, moves electric distribution load, and restores service when trouble occurs. DOs have the ability to open and close devices to reconfigure the circuit or restore customers using Supervisory Control and Data Acquisition (SCADA) enabled devices.

2.2.9 Electric Dispatcher

Electric Dispatchers are emergency response employees. They are responsible for dispatching all work to T-Men, including: outages, reliability-related tags, compliance inspections, customer-related work, and streetlights. They operate out of two separate dispatch systems: Ventyx and OIS.

2.3 Electric Transmission and Substation Emergency Roles and Responsibilities

2.3.1 ETEC Branch Director

The ETEC Branch Director oversees ETEC, which provides system restoration support, transmission outage prioritization, block calculator support, and internal and external communications. ETEC Branch Directors are either Directors or Senior Directors and report to the Operations Section Chief in the EOC.

2.3.2 ETEC Restoration Coordinator

ETEC Restoration Coordinator is a transmission operations engineer and reports to the ETEC Branch Director. They support System Dispatch with outage prioritization and serve as the liaison for System Dispatch during an event. The ETEC Restoration Coordinator is also responsible for providing direction to STOEC on outage priorities.

2.3.3 Transmission Troublemens

The description for a Transmission T-man is the same as an Electric Distribution T-man, as listed in Section 2.2.1.

2.3.4 Substation Maintenance Electricians

Substation Maintenance Electricians are emergency response employees who may work alone and whose primary responsibility is to assess the substation to identify basic cause, hazard considerations, and repair requirements. This individual is capable of making some repairs and/or correcting minor equipment failures. They are QEW.

2.3.5 Substation Teams Used in Level 5 Incidents

2.3.5.1 Substation Damage Assessment Teams

Substation Damage Assessment Teams are made up of two people (electrical and civil engineers, project managers, or Service Planning and Maintenance Engineers) with knowledge of electric substation equipment. These teams are non-QEW. They are responsible for initial damage assessment inside substations.

2.3.5.2 Substation Make Safe Teams

The Substation Make Safe Teams are made up of maintenance electricians and electrical inspectors and are QEW. Their primary function is to assess damage to substation equipment and to make safe, if necessary.

2.3.5.3 Substation Restoration Teams

The Substation Restoration Teams are one to two-person teams that work with the transmission and distribution control centers to restore customers and transmission paths. These teams are made up of maintenance electricians / switching electricians and electrical technicians (elec techs). They are qualified to perform substation switching and are under the jurisdiction of the GCC and/or the appropriate distribution control center.

2.3.5.4 Substation Repair Team

The primary function of the Substation Repair Teams is to repair or replace existing damaged substation equipment. These teams are made up of station construction, substation maintenance, Insulation and Coating, and test department employees.

2.3.5.5 Substation Standby Team

The primary function of the Substation Standby Team is to stand by damaged equipment and facilities which may present a safety hazard to the public. In most cases, the fence surrounding a substation will keep the public away from substation hazards, but there may be cases where the fence is down or damaged. In these cases, standby teams are used to ensure public safety, and are comprised of Insulating and Coating, Tower, and Civil Inspection groups.

3 Concept of Operations

3.1 Emergency Plan Activation

PG&E's Incident Levels are a useful decision support tool that helps support PG&E in understanding the complexity of an incident and the actions that may be employed at each level (e.g., emergency center activations, resources needed, etc.).

To ensure a consistent and well-coordinated response to emergencies, the company has adopted the following incident classification system:

- Level 1 – Routine
- Level 2 – Elevated
- Level 3 – Serious
- Level 4 – Severe
- Level 5 – Catastrophic

For additional details on PG&E's Incident Levels, refer to the Levels of Emergency Section in PG&E's CERP.

3.1.1 Electric Activation Matrix

The Electric Incident Level Activation Matrix in Table 3.1 on the following page contains specific triggers that are used by the Emergency Center Commanders and the EOC On-Call to determine whether to activate this Electric Annex and emergency centers, and at what level to activate. The Activation Matrix can be used following an event or in anticipation of an event. (For example, following a prediction of bad weather.)

The EOC On-Call and employees with an emergency response leadership role (Commanders, Operations, Planning & Intelligence, Logistics, Finance and Administration Section Chiefs, and the Public Information Officer) have the authority to call a meeting to review the activation matrix.

The EOC On-Call is notified of all Level 2 and above emergency center activations and can be reached at 8-223-9999 (internal) or (415) 973-9999 (external).

Table 3.1 Electric Incident Level Activation Matrix

Note that workload is the primary unit used to determine the need to escalate for Electric Distribution and # of outages/Area of Responsibility (AOR) for Electric Transmission. OEC activations may occur depending on incident complexity and the need to support customer communications, to mobilize resources, or to coordinate response. Refer to the [OEC Activation Guideline](#) for details.

Severity	Level	Expected Field Resources	Restoration Duration	EDO Workload ¹	Expected Customers Out (Electric) ²	# ET Outages/AOR ¹	Load Shed - EEP	Actions	Emergency Centers	External Interest / Media / Reputation	Incident / Weather Examples
Routine	1	Tmen 44 Crews 25	<24 hours	Normal – 2X Workload (<130 SOs)	<20,000 Customers Out	<5	N/A	Local Resources Only	No activation	Routine local incident with no to little public or media interest.	Car pole, normal operations, light weather, virus detected or phishing directed at electric operations, single circuit outage
Elevated	2	Tmen 75 Crews 55	<24 hours typically, Could be up to 2 days	2X-4X workload (130 – 260 SOs)	>20,000 Customers Out	5-7	N/A	Resources mainly local, may need to move within Region	OEC or STOECC Communications Only; OEC and STOECC activation possible	Local emergency or customer issue with increased public, media, government, and/or regulatory interest.	Moderate heat or winter storm, wind--30-40 mph (EDO) or >35 mph (ET), wildland fire that results in de-energizing customers and minor damage to infrastructure, cyber incident - virus detected on DMS or EMS system, loss of 3 or more substations' visibility in SCADA
Serious	3	Tmen 120 Crews 100	1-3 days	4X – 10X workload (261 – 650 SOs)	>100,000 Customers Out	7-10	Localized	Resources move within Region, may need to move between regions	OEC or STOECC activation; REC, ETEC, and EOC activation possible	Local/Regional emergency or customer issue with increased public, media, government and/or regulatory interest. Potential reputational risk.	Significant heat or winter storm, wind– 35-50mph (EDO) or >50mph (ET), significant earthquake ³ , wildland fire that results in de-energizing customers and significant damage to infrastructure, cyber incident - malware affecting SCADA, EMS, DMS systems, ET: total loss of EMS or SCADA, loss of 500kV or 230kV substation
Severe	4	Tmen 220 Crews 170	2-6 days	10X – 32X workload (651 – 2080 SOs)	>300,000 Customers Out	10-14	Localized/ Regional	Resources move between Regions, contractors, may require Mutual Aid	OEC, REC, STOECC, ETEC and EOC activation	Severe emergency or customer issue with considerable public, media, regulatory and government interest across multiple regions, and at the state and national level. Potential reputational risk.	Major heat or winter storm, wind– 40-60mph (EDO) or >60mph (ET), significant earthquake, wildland fire that results in de-energizing customers and major damage to infrastructure, fire affecting major paths, cyber incident - slow system response times, limited awareness at grid control
Catastrophic	5	Tmen 710 Crews 560	>6 days	>32X workload (>2080 SOs)	>750,000 Customers Out	>14	System wide	Mutual Aid	OEC, REC, STOECC, ETEC, EOC and IST activation	Catastrophic emergency or customer issue with extensive public, media, gov't, and regulatory interest across multiple regions and at the state, national and international level. Potential reputational risk.	Major to catastrophic storm event, wind-- 60+ (EDO) or >75mph (ET), significant earthquake, firestorm with catastrophic impact to infrastructure, cyber incident - control of grid assets by foreign group

¹ Workload is the primary unit used to determine the need to escalate and is based on the number of unplanned sustained outages (SOs) for Electric Distribution Operations (EDO) and # outages/Area of Responsibility (AOR) for Electric Transmission (ET).

² Customer counts are a SOPP output based on workload

³ Geosciences recommended the qualitative description of "significant earthquake" rather than listing a specific magnitude for Levels 3-5

3.1.2 Activation Process and the Authority to Activate

3.1.2.1 OEC, REC and EOC

The Emergency Center Commanders and the EOC On-Call utilize the Electric Incident Level Activation Matrix in Table 3.1 and the OEC Activation Guidelines to determine whether to activate the Electric Annex, and at what level to activate. While the EOC On-Call can conduct an initial assessment and recommend the activation of a plan/facility to the appropriate Emergency Center Commander, the decision to activate an emergency center is at the discretion of the Emergency Center Commander, and is based on the complexity of the incident.

A Level 1 emergency requires no special trigger, and is managed locally following existing procedures. In an escalating event, or if a division's outage thresholds are met, Central Electric Dispatch or the On-Call Supervisor notifies the On-Call OEC Commander about the nature of the event and the potential need to activate the OEC.

Using the activation matrix above, the Storm Outage Prediction Project (SOPP) Model predictions, and the [OEC Activation Requirements](#), the On-Call OEC Commander (Service Planning and Maintenance Superintendent) may authorize activation of an OEC for reasons including, but not limited to, the following:

- A Level 2 or greater emergency
- A division exceeds their division's outage threshold, and field resources (e.g. Troublemakers and crews) are not readily available.
- A division's SOPP Model Forecast predicts inclement weather at Level 2 or above, which may result in a proactive activation
- At the direction of the regional Service Planning and Maintenance Director
- At the request of the Electric Operations Director, Restoration Manager, Control Center Supervisor, Electric Dispatch Shift Supervisor, EOC On-Call, EOC Commander, or Service Planning and Maintenance On-Call Supervisor

The REC Commander may authorize activation of an REC for reasons including, but not limited to, the following:

- A Level 3 or greater emergency
- A Region's SOPP Model Forecast predicts inclement weather at Level 3 or above, which may result in a proactive activation
- Multiple OECs are activated
- At the request of the OEC Commander, EOC Commander, or EOC On-Call

The EOC Commander may authorize activation of the EOC and needed support centers for reasons including, but not limited to, the following:

- A Level 3 or greater emergency
- Multiple REC's are activated

- At the request of the EOC On-Call or REC Commander
- Response to the emergency would be better served by managing resources and operations centrally
- Prioritization for the use of resources across regions is necessary

In addition to the EOC Commander, the Executive Vice President of Electric Operations has pre-designated the following personnel to activate the EOC: Senior Vice President of Electric Distribution Operations, Vice President of EP&O, Director of Electric Operations Emergency Management, Director of Restoration Field Operations, Director of System Operations and Control, and the Director of EP&R. The Executive Vice President of Electric Operations delegates to Electric Distribution and Electric Transmission Officers and Directors the responsibility for managing emergencies within their assigned areas of responsibilities.

Personnel with the authority to activate the EOC also have the authority to determine if the EOC will activate in the primary facility in San Francisco, the alternate facility in San Ramon, virtually through Internet and telephone, or at some other location.

Refer to Appendix C for the Emergency Center Activation Checklists.

3.1.2.2 Electric Transmission Emergency Center (ETEC) and Substation Transmission Operations Center (STOEC)

The ETEC Branch Director and the STOEC IC use the Electric Incident Level Activation Matrix in Table 3.1 as a guideline to determine whether to activate the Electric Annex, and at what level to activate. The ETEC is activated due to a system emergency, at the request of the EOC, System Dispatch, or the ETEC Branch Director. The STOEC IC can also determine whether to activate the STOEC.

3.1.3 Notifications

3.1.3.1 Internal

The Emergency Center Commander, or designee, ensures:

- On-call personnel are notified about the emergency and reporting information according to that emergency center's call-out procedure
- Emergency center email distribution lists and paging lists are used to inform key stakeholders
- The activation status is updated in the Outage Management Tool (OMT)

Additional notifications are made when the following emergency centers are activated:

- OEC/REC: EOC On-Call is notified.
- EOC for an electric operations response: EOC Commander notifies the Director of Emergency Preparedness and Response (EP&R).

- ETEC: ETEC staff notifies the EOC On Call and Routing Team. (Refer to the ETEC Activation Quick Start Guideline for notification details.)
- STOEC: The Electric Distribution Emergency Management Director, ETEC Lead, and GCC are notified.

3.1.3.2 External

In compliance with Standard Six of G.O. 166, within one hour of the identification of a major outage or other newsworthy event, PG&E notifies the CPUC and the Warning Center at California Office of Emergency Services (Cal OES) of the location, possible cause, and expected duration of the outage. PG&E generally treats “newsworthy events” as incidents within the category of Level 3 or greater emergency, where the EOC is activated. (Refer to Section 4.2.4 for additional details on major outage reporting.)

When ETEC is activated, the supervising system dispatcher notifies the CAISO.

3.2 Emergency Response Process

3.2.1 Readiness

3.2.1.1 Readiness Expectations

All employees involved with emergency response will be oriented to the Electric Annex, applicable department emergency plans, and their respective emergency centers’ contact list. The following sections provide guidelines to prepare for an emergency event.

Refer to the [Emergency Management Website](#) for additional information on Electric EMO staffing plans, contact lists, training, job aids and processes. Refer to [SharePoint](#) for additional Transmission Operations contact lists.

3.2.1.2 Primary and Alternate Positions

Designated positions for emergency response activities are to be at a minimum three deep at the EOC, REC, and OEC level. All other centers are also expected to maintain three deep staffing rotations. It is recommended to go four deep in all roles, if possible. The alternates must be qualified to assume the designated roles and responsibilities. Staffing plans and contact lists must be reviewed and updated regularly to account for organizational changes within the Electric EMO.

3.2.1.3 Call-Out Procedures

Each emergency center will maintain an emergency staffing plan and execute the call-out procedure to ensure adequate staffing levels for every emergency. For EOC personnel, the Director of Emergency Preparedness and Response maintains a roster for a Level 3 and above response, with appropriate contact information. When warranted by the magnitude of a significant emergency (e.g., earthquake), all levels of the Electric EMO are expected to report immediately for emergency assignment. The on-call staffing plans are located in

ARCOS Crew Manager. An ARCOS SIREN message is sent out weekly communicating the staffing assignments for the REC and OECs.

PG&E will adhere to International Brotherhood of Electrical Workers (IBEW) and Engineers and Scientist of California (ESC) Company union agreements regarding call-out of bargaining unit classifications for augmentation of resources.

Refer to 3.2.4.10 for more information on ARCOS (Automated Roster Callout System), an automated callout and scheduling system that PG&E uses to assemble and track first responders and repair crews in response to electric emergency outage situations / unplanned events.

3.2.1.4 Emergency Center On-Call Responsibilities

A staffing plan and/or contact list will identify on-call individuals for each emergency center. The on-call responsibilities include the following:

- Ensure availability during defined schedule.
- Maintain a heightened level of awareness of all potential, forecasted, and in-process emergency events.
- Be knowledgeable of the triggers and activities of the respective emergency coordination center or department for each emergency level.

3.2.2 Pre-Event

3.2.2.1 Pre-Event Preparation – Summary

Pre-event preparations shall be incorporated into the emergency response and restoration operations at every level of the Electric EMO. Appropriate pro-active measures shall be taken when identified triggers have been met at the direction of the EOC Commander. The Distribution System Operations Storm Outage Prediction Project (DSO SOPP), and UO S1464 (Fire Danger Precautions and Fire Index) are intended to assist the Electric EMO with weather prediction, outage prediction, resource guidelines, and fire awareness.

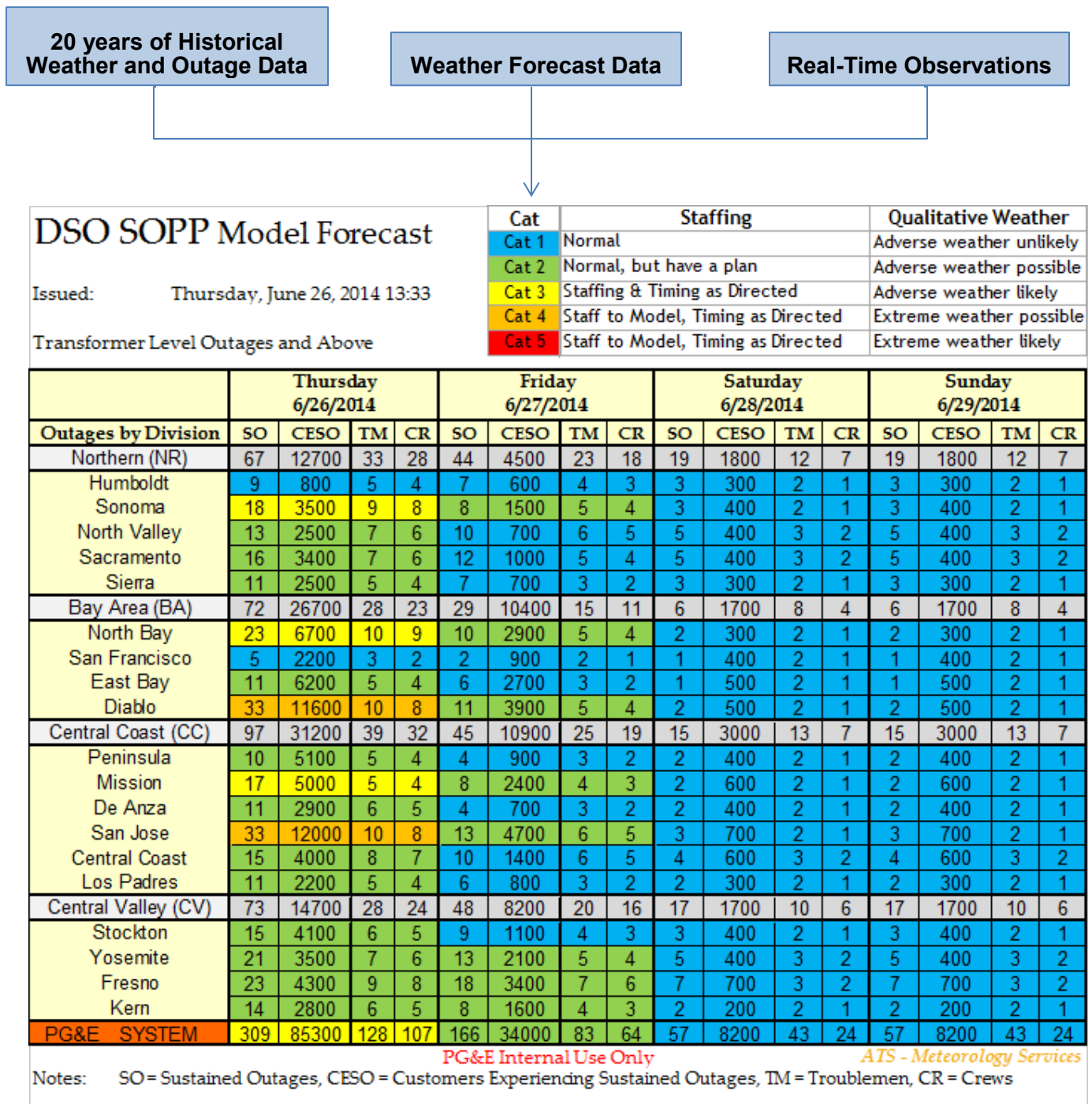
3.2.2.2 Hazard Forecasting and Prediction

3.2.2.2.1 Damage Modeling and Storm Outage Prediction Project (SOPP) Model

The Distribution and Transmission System Operations Storm Outage Prediction Project (DSO SOPP and T-SOPP) model was developed to link adverse weather conditions to outage and resource needs. The model combines historical weather and outage data with weather forecasts to predict the number of transformer level and above Sustained Outages (SOs) per division for each of the next four days. The model also provides an estimate of the resources needed to respond to the level of predicted outages. The primary adverse weather threats modeled are wind, rain, low snow, and heat. SOPP model outage forecasts are assigned a category level 1, 2, 3, 4 or 5 based on how the predicted level of SOs compares with long-term historical level of SOs for each specific Division or Area. The model provides specific quantitative forecasts for SOs, customer counts, and resource

requirements. An example forecast, as well as a qualitative description of the categories is presented in the tables below.

Figure 3.1 DSO and TSOPP Model Forecasts



DSO SOPP Model Forecast Timing, by Division

	Thursday 6/26/2014	Friday 6/27/2014	Saturday 6/28/2014	Sunday 6/29/2014
Timing by Division	Timing	Timing	Timing	Timing
Humboldt				
Sonoma	16:00 - 20:00	16:00 - 20:00		
North Valley	16:00 - 20:00			
Sacramento	16:00 - 20:00			
Sierra	16:00 - 20:00			
North Bay	16:00 - 20:00	16:00 - 20:00		
San Francisco				
East Bay	16:00 - 20:00			
Diablo	16:00 - 20:00	16:00 - 20:00		
Peninsula	16:00 - 20:00			
Mission	16:00 - 20:00	16:00 - 20:00		
De Anza	16:00 - 20:00			
San Jose	16:00 - 20:00	16:00 - 20:00		
Central Coast	16:00 - 20:00			
Los Padres	16:00 - 20:00			
Stockton	16:00 - 20:00			
Yosemite	16:00 - 20:00	16:00 - 20:00		
Fresno	16:00 - 20:00	16:00 - 20:00		
Kern	16:00 - 20:00	16:00 - 20:00		

PG&E Internal Use Only

ATS - Meteorology Services

Note: Timing reflects the most intense period of outage producing weather for any division at Cat 2 or above

Restricted to PG&E Transmission Function Employees - Do Not Distribute

Transmission SOPP

Model Forecast

Forecast Issued: Wed

Cat	Qualitative Weather
Cat 1	Significant adverse weather outages unlikely
Cat 2	Adverse weather outages possible
Cat 3	Adverse weather outages likely
Cat 4	Significant adverse weather outages likely
Cat 5	Extreme adverse weather outages likely

System Risk	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Outage Forecast & Total Risk	5 - 11	37 - 58	4 - 9	0 - 2	0 - 2	1 - 5	1 - 5	1 - 5
Outage Risks by Weather Type								
South Wind								
North East Wind								
North West Wind								
Heat								
Low Snow								
Lightning								
Heavy Rain								
Flashover								

Area Forecast	Wed	Thu	Fri	Sat
Area 1	0 - 1	2 - 4	0 - 1	0 - 1
Area 2	0 - 1	1 - 3	0 - 1	0 - 1
Area 3	0 - 1	5 - 10	0 - 1	0 - 1
Area 4	0 - 1	6 - 12	3 - 5	0 - 1
Area 5	0 - 1	2 - 4	0 - 1	0 - 1
Area 6	0 - 1	7 - 11	0 - 1	0 - 1
Area 7	2 - 5	9 - 16	0 - 2	0 - 2

ATS - Meteorology Services

Area Timing	Wed	Thu	Fri	Sat
Area 1		02:00 - 14:00		
Area 2		02:00 - 14:00		
Area 3		02:00 - 14:00		
Area 4		10:00 - 24:00		
Area 5		06:00 - 24:00		
Area 6		00:00 - 18:00		
Area 7	14:00 - 24:00	00:00 - 16:00		

Note: Timing reflects the most intense period of outage producing weather per Transmission Area

3.2.2.2.2 Severe Weather Notifications

- Weather Warnings will be issued for any division where there is an imminent threat of severe weather within the next 12 hours unless the imminent threat was already anticipated and/or communicated through the regular DSO SOPP Model dissemination.
- Thunderstorm Warnings are a special case and will be issued for any division where there is an imminent threat of lightning within the next 12 hours, regardless of whether this threat was anticipated or communicated in the regular DSO SOPP Model dissemination.

3.2.2.2.3 Plans (e.g., Fire Prevention Plan, Fire Index, and UO S1464)

PG&E Fire Prevention Plan

PG&E's Fire Prevention Plan reflects PG&E's policy on fire prevention pre-planning, threat mitigation, and fire readiness and response. The plan also outlines the actions that PG&E takes to prevent and mitigate the risk of fire ignitions associated with the operation of overhead electric power facilities.

In addition to the fire prevention and mitigation measures for the entire service territory, the plan also includes an Addendum A, "Special Fire Threat Zones: Santa Barbara County" (which discusses PG&E's plan for additional fire mitigation measures to be taken specifically in Santa Barbara County, a high fire threat area). Refer to Appendix D for the Fire Prevention Plan.

PG&E Fire Index

The PG&E Meteorology unit operates a high-resolution weather and fire danger coupled model, POMMS-NFDRS (PG&E Operational Mesoscale Modeling System – National Fire Danger Rating System), which outputs granular (3 km) fire weather and danger parameters. Model outputs are leveraged to produce fire-danger adjective ratings from low to extreme for each Fire Index Area within the Company service territory. Fire Weather Watches and Red Flag Warnings issued by the National Weather Service are also incorporated as "very high" and "extreme" fire danger, respectively, in the model.

The fire danger rating is a prediction of the most severe rating expected for each area from midnight to midnight. This information is posted and updated daily on the Company Intranet at the [Fire Adjective Index](#) website.

The fire adjective index site allows users to filter the information by Grid Control Center area, Distribution control center area, or fire index area. The data file is checked and verified by the Grid Control Center by 0230 hours each day and is posted by 0400 hours each day. Intraday updates are rare, but may occur if fire danger conditions or other circumstances warrant. Meteorology Services distributes the information via email in its Distribution System Operations Weather Forecast each morning. The information is also covered in the Electric Distribution Operations Daily Status Call.

Utility Operations Standard: Fire Danger Precautions in Hazardous Fire Areas (UO S1464)

UO S1464 is a standard issued by PG&E providing all employees precautionary information when working, traveling, or operating in hazardous fire areas. This document contains specific precautions to be taken by employees and supervisors while in the Fire Danger zones.

UO S1464 states that employees must adhere to specific requirements when operating in “very high” and “extreme” zone ratings. Automatic notification via e-mail and e-page has been made available for all PG&E employees in order to enhance fire danger awareness.

3.2.2.2.4 Non-Weather Related Warnings

Non-weather related warnings may be obtained from a number of sources, including operations reports covering load status and alerts from the state or local Office of Emergency Services (OES).

3.2.2.3 Pre-Event Notification

Upon receipt of a weather warning, weather watch, weather advisory, or non-weather related warning, each level of the Electric Operations (EO) EMO will ensure that pre-designated personnel are advised and that appropriate pre-event actions are taken. This may include placing personnel on alert status; advising employees to pack overnight bags in advance; reviewing emergency plans; identifying key personnel available for restoration activities; pre-staging personnel; evaluating supplies and equipment; and canceling non-critical meetings. If warranted, affected emergency centers may be activated in anticipation of an event occurrence.

3.2.2.4 Briefings and Conference Calls

Region Directors (REC Commander), Superintendents (OEC Commander), and Construction Supervisors (Branch Directors) will be coordinating and conducting pre-event conference calls within their regions to discuss activation, staffing, materials, pre-staging, and pre-arranged overtime (POT) resources.

Upon receipt of a significantly adverse weather forecast (i.e., Cat 4 or 5), the Director of Emergency Management will arrange for a briefing to be conducted for Electric Operations Officers, Directors, and key emergency response personnel to discuss the situation and to identify pre-event actions to be implemented.

3.2.2.5 Available and Pre-Arranged Resources

When forecasted conditions warrant, the EOC Commander may request that RECs, OECs and DSRs submit plans in advance of the event for the number and classification of personnel who will be available to respond. These counts are often requested two to three days in advance of a forecasted event and updated daily until the event occurs. Available resources include all personnel who are available to respond, including personnel scheduled for normal shifts, those pre-arranged or held-over, and those signed up for the 212 call-out list. Depending on the event, pre-arranged resources (either crews on shift or

those held over) can be expected to meet the minimum staffing levels as identified in the DSO SOPP model. In this case, 212 call-out lists provide supplemental personnel should they be needed.

3.2.2.6 Pre-Staging Resources

When indicated by the nature and severity of the pre-event forecast, the EOC Commander may direct pre-staging of crews, personnel and/or certain equipment in areas expected to be severely impacted. Electric Operations Officers will be advised of all pre-event actions to be implemented. REC Commanders, OEC Commanders, with support from their respective logistics sections, may also activate local staging areas.

As necessary, EOC Logistics will work with the MTCC to support resource requirements including pre-arranging personnel at the distribution centers, specialty stores and service centers, as well as verifying service center inventory stocking levels are adequate to support the event.

3.2.3 Assessment, Restoration and 911 Emergency Response

3.2.3.1 Prioritization Guidelines

A system-wide disturbance has significant differences from a localized event, which results in two prioritization guidelines for a system-wide disturbance versus individual outages, as listed below. The priorities below may change depending on the complexity of the incident.

3.2.3.1.1 System-wide Electrical Disturbance

Assessment and restoration priorities are as follows (in order of prioritization from highest to lowest, but note some of the following may be executed simultaneously):

- Safety
- Diablo Canyon Power Plant
- Other major generating stations
- Transmission system backbone
- Control area interconnections (500 KV) – Per Western Electricity Coordinating Council (WECC) Interconnection Disturbance Assessment and Restoration Guidelines: “The strongest ties reconnecting the islands should be closed first to prevent further tripping of weak ties. Generally this means that 500 KV ties in the major loop (Pacific Northwest-California) must be restored before lower voltage ties.”
- Substation
- Local Transmission
- Distribution circuit breakers and recloser/interrupter zones
- Distribution sectionalizer/fuse zones
- Distribution transformers and individual services

Consideration should be given to requests for priority restoration of customers such as individuals on life support, hospitals, fire departments, police stations, critical communications centers, emergency shelters, sewage treatment plants, and critical water pumping stations. During emergency events, it is imperative that all levels of the organization coordinate its efforts with local and state governments.

3.2.3.1.2 Transmission and Distribution Outages

The following priorities are applicable for any unplanned transmission outages:

- Safety
- Potential equipment overload
- Generation
- Source outage time (More than 24 hours)
- Customers (number) impacted and length of outage
- Load (MW) impacted
- Customers (number) at risk for additional outage(s)
- Load (MW) at risk for additional outage(s)

3.2.3.2 Response and Restoration Criteria

Utilizing available information and sound judgment, the emergency centers will allocate resources to support established restoration criteria and priorities. Restoration priorities are to be re-evaluated throughout the event to ensure optimum allocation and deployment of resources. Response and restoration criteria have been established, which are based on the following priorities:

- Make Safe - respond and make safe for the public and PG&E personnel.
- Assess - assess outages and damages.
- Communicate – communicate timely and accurately, both internally and externally.
- Restore – balance the need to provide service to the greatest number of customers in the least amount of time with the need to restore service to small numbers of customers out of power for long durations.

Following an event at any level, PG&E's first priority is to "make safe," including protecting health and property. The "PG&E Emergency Response Objectives / Priorities" stated in the Company Emergency Response Plan (CERP) are maintained through all phases of response to an emergency.

In larger emergencies when resources are constrained, it may be necessary to establish work priorities for restoration of service. These priorities are operationally-driven, and are primarily focused on restoring as many customers as soon as possible. Priorities may need to be modified, however, to accommodate the needs of the communities we serve. Work may also need to be coordinated with other infrastructure repairs that may be occurring

simultaneously by other utilities, government, and property owners. The Emergency Operations Center (EOC) will manage priority/objective-setting in a coordinated manner whenever possible, working with local government and other impacted utilities.

The Incident Action Plan (IAP) documents in a written plan these incident objectives and reflects the tactics necessary to manage an incident during an operational period¹. Changes to an incident's objectives/priorities are reflected in updates to the IAP.

PG&E maintains lists of Essential and Critical Customers. Essential customers require electric service to provide essential public health and safety services or meet other criteria set by the California Public Utility Commission (CPUC). In order to be classified as Essential, a customer must apply to PG&E for this designation. Critical customers are high-impact (in terms of revenue, data, potential for physical damage, etc.) or high-profile (e.g., tourist attractions, arenas, and major community, town, or city facilities). Customers apply to PG&E to be placed on the critical customer list. This designation is determined solely by PG&E and is internal only.

Both essential and critical customers are highlighted in the Outage Management Tool (OMT) reports, and their status and restoration can be tracked by the OEC/REC/EOC, customer relationship managers, and other company personnel.

3.2.3.3 Outage Duration Guidelines

Outage duration will be considered when prioritizing outages. The objective is to ensure that ALL customers are addressed within the first 24 hours of the beginning of their outage. The Electric EMO leadership (e.g., EOC, REC, OEC Commander) will continually monitor the event and the affected outages of extended duration. At a certain point during the event, based on the EMO leadership's judgment, dedicated resources will be assigned to extended duration multiple or single customer outages.

The Electric EMO leadership will:

- Define the number of assessment crews that will be dedicated to single customer outages and extended duration outages (i.e. 1-T-man and 2-Make Safe).
- Define the number of repair crews that will be dedicated to single customer outages and extended duration outages (i.e. 2-Headquarter Crews).
- Engage Customer Strategy to ensure appropriate Interactive Voice Response (IVR), Media and Contact Center messaging is accurate and timely.

¹ An operational period is the period of time scheduled for executing a given set of actions in the IAP. (For example, the length of the operational period may be 12 hours at the start of the incident and adjusted over time, as operations require.)

3.2.3.4 Coordination Between Transmission, Distribution and Substation

3.2.3.4.1 Level 1 Coordination

Sustained Transmission-Level Outages

If there is a sustained transmission level outage, the GCC will coordinate with T-line, Substation, Distribution, System Protection, and Transmission Operation Engineering to come up with a comprehensive plan on how to assess and restore the system (e.g., Distribution backties, alternate transmission sources, generator, etc.).

Below are the responsibilities by line of business:

- GCC—initiates call out for evaluation of incident, notifies internal and external stakeholders, initiates IC call, as needed, determines personnel requirements for restoration strategies
- Tline—patrols line for cause
- Substation—statuses and assesses substation
- System protection—provides fault locations and relays information
- Transmission Operation Engineering—evaluates current system conditions for additional system reliability issues and restoration strategies
- Distribution—if transmission source to distribution remains out of service for greater than five minutes, distribution will immediately start working on back ties for customer restoration, if available. Distribution will also coordinate with the Customer Care Organization for customer communications, and manage ETORs.

Sustained Distribution-Level Outages

Electric Distribution may initiate an IC call during Level 1 operations with a focus on the restoration of customers, the identification of the fault location, and materials and resources needed for repair if there is a sustained distribution-level outage that includes one or more of the following:

- Large mainline outages over 1000 customers
- Large media event—brand-level impact, Electric Reporting Criteria
- Sensitive or commercial customers
- Distribution feeder integrity—deliberate load shedding due to system conditions
- Load at risk—high customer impact for emergency repairs

Key participants in the IC call include:

- Restoration Manager, or designee, as IC
- Service Planning and Maintenance Superintendent to support mobilization of repair crews

- Corporate Communications representative to support information through media channels
- ES&S to support communication to critical and essential customers
- Government Relations for communication to our public partners
- Other stakeholders, such as Transmission and Substation leadership, may participate to support engagement from their respective organizations, depending on incident complexity

3.2.3.4.2 Level 2 or Greater Coordination

In localized events where the OEC and STOEC are activated, the OEC works directly with STOEC to coordinate actions. When the REC and ETEC are activated, the OEC and STOEC summarize their actions to ETEC and the REC.

When the STOEC/ETEC is activated, ETEC provides STOEC with the priorities. STOEC then initiates a situation call with the GCC, STOEC Operations Section Chief, STOEC Planning and Intelligence Section Chief, and the OEC Commander to develop the operational period objectives and implementation plan. Next, STOEC initiates an IC call to communicate the plan to needed stakeholders.

Depending on incident complexity when there are both transmission and distribution outages, Electric Transmission may be included as a Transmission Operations Section Chief in an OEC's Incident Management Team (IMT). This Transmission Operations Chief helps serve as a key liaison between STOEC and Electric Distribution, which results in improved coordination and assessment/restoration time.

During more complex events where there is a significant number of outages or damage, the OEC Commander, in collaboration with the Operations Section Chief, may designate Transmission, Distribution and Substation Branches in the Operations Section to more effectively manage the response.

3.2.3.5 Damage Assessment

3.2.3.5.1 Assessment Goals and Guidelines

The guidelines and goals of Assessment Teams will be consistent with the restoration criteria and prioritization guidelines. Within those guidelines, the following will be considered:

- Safety
- Hazards
- Customer count
- Outage duration
- Crew type and availability
- Current crew activity

- Efficient routing of crews
- Other priority considerations identified by external sources (i.e. critical customers, requirements of government agencies)
- Weather conditions

3.2.3.5.2 Assessment Functions

There are two key functions to the assessment process

- Field personnel initially assess the damage and make repairs if possible.
- Office personnel manage the information using OMT to ensure the assessment information is timely and accurate throughout the restoration process. By ensuring accurate information, the customer will receive quality information.

As a general guideline, Troublemakers (T-men) and Make Safe Crews should attempt to restore power if the repair can be conducted within one hour of determining the problem. This guideline excludes sectionalizing, as directed by the distribution control centers, or to make the location safe.

3.2.3.5.3 Catastrophic Event Electric Damage Model (EDM)

A significant aspect of emergency planning and response involves the use of damage modeling information to estimate the impacts of earthquakes and the electric assessment and repair resources needed. The EDM provides information that helps understand potential damages to the Electric Distribution system and which substations to inspect. Using the USGS ShakeMap, asset data, and models describing how fragile assets are to earthquake risks, EDM computes the potential damages and number and type of emergency resources needed to restore electric service.

3.2.3.5.4 Transmission Assessment Process

During Level 1 incidents, the GCC contacts a Transmission T-man to respond, as well as system protection to provide the fault location information. The Transmission T-man goes to the fault location, conducts an assessment, and reports back to the GCC. If there is a repair location, they report their findings to the GCC and the T-line Supervisor. The T-line Supervisor then determines the resources needed and implements a callout for crew assembly.

During STOE / ETEC activations, the ETEC Restoration Coordinator works with the GCC to prioritize the order in which the assessment takes place. The ETEC Restoration Coordinator then provides direction to the STOE IC, so they can prioritize resources for dispatch to execute the assessment plan.

In the event of an earthquake, based on the damage model and epicenter of the earthquake, the STOE Planning and Intelligence Section Chief will work with the Operations Section Chief to create an inspection list for transmission lines in the area. (For details, refer to TD-1910P-01 Inspecting Electric Underground Transmission Lines After a Major Earthquake.)

3.2.3.5.5 Substation Assessment Process

During Level 1 incidents, the GCC or DCC contacts an electrician to respond, as well as system protection to provide the fault location information. The electrician statuses the substation, assesses any substation trouble, and reports their findings to the GCC or DCC and the Substation Supervisor. The Substation Supervisor then determines the resources needed and implements a callout for crew assembly.

During STOEC / ETEC activations, the ETEC Restoration Coordinator works with the GCC to prioritize the order in which the assessment takes place. The ETEC Restoration Coordinator then provides direction to the STOEC IC so they can prioritize resources for dispatch to execute the assessment plan.

System Protection supports all outages and protection questions, and provides an on-call Protection Engineer, whenever assistance is needed. For smaller issues, the GCC or DCC directly calls the Protection Engineers that support the particular switching center.

Earthquake

The electric damage model provides a list of substations to conduct the initial assessment. Upon receipt of the damage model, the ETEC Restoration Coordinator follows the same process listed above for creating an assessment plan during a STOEC/ETEC activation.

The ETEC Lead determines the resource needs required to accomplish the Operational Period Objectives. The Lead sends the request for which Substation Teams (Assessment, Make Safe, Repair and Standby) to use for the event, and the teams are dispatched and managed under the STOEC Operations Section Chief. The Substation Restoration Teams are under the jurisdiction of the control centers and are dispatched by the GCC or appropriate DCC.

In the event of an earthquake where communications are down, substation maintenance electricians report to their pre-assigned substations. Substation maintenance electricians assist in the assessment of substation damage and receive direction / assignments through STOEC. The Substation personnel use the Substation Rapid Assessment Form to complete an initial inspection of substation facilities (equipment and buildings). They then report their findings to STOEC and the local control centers, as appropriate.

Pre-assigned structural engineer contract inspectors are automatically dispatched by the Facilities Coordination Center (FCC) to perform damage assessments of important indoor substation buildings. Requests for assessment of other substation buildings are directed to the FCC.

SM&C personnel may perform Initial Damage Evaluation of substation buildings (TD-3350P-17). At the direction of STOEC, Substation Engineering Services (SES) civil engineers may assist SM&C in the assessment of damage to equipment, structures, buildings, and other site facilities. SES Engineers are not qualified electrical workers (QEW), but several are trained and certified in post-earthquake damage assessment of buildings.

3.2.3.5.6 Distribution Assessment Process

The assessment process begins with Central Electric Dispatch in Fresno, which handles dispatching all electric work to Troublemens (T-men). Troublemens then assess the outage situation and use the FAS units in their vehicles to update information in OMT. In the event the circuit has Fault Location Isolation and Service Restoration (FLISR) technology installed and enabled, the FLISR devices automatically isolate the fault location and restore customers in non-faulted zones. A troubleman is also concurrently dispatched to validate the outage location, identify the specific damage, and manually perform further switching and restoration of customers, where possible.

T-men primarily focus on substation, circuit, and mainline outages, which are frequently restored by the operation of switching equipment. (Restoration may only require resetting some circuit reclosers and/or breakers.) Under the direction of the control center, the Troublemens perform most switching assignments necessary to locate and isolate outages. If the Troublemens are not able to conduct the repair on their own and a repair crew is needed, the Service Planning and Maintenance Supervisor dispatches the repair crew.

During a Level 2 or greater activation, if additional assessment teams are needed (Make Safe, Substation personnel), the OEC Commander determines, in collaboration with the Operations Section Chief and Planning and Intelligence Section Chief, what assessment teams will be needed and where they will be deployed to support the response.

The additional assessment crews are managed by the OEC Dispatch Leader, with support from the Incoming Assessment Desk Leader. The field assessment personnel assess damage and report information to the Incoming Assessment Desk Leader in the OEC or DSR. The Incoming Assessment Desk Leader monitors OMT and ensures work requiring design and compliance specifications are processed by estimating. Assessment information is placed in a job packet and is handed off to the Repair Branch Director of the local service yard in the District Storm Room (DSR). The Repair Branch Director then assigns work to crews for repairs.

As indicated in Section 2.2, often during Level 2 or greater emergencies, non-Qualified Electrical Workers (QEW) resources serve as standby and damage assessment teams to perform specific functions. These non-QEW resources can be paired with a gas service employee who has an FAS unit in the vehicle. The FAS unit can then be used to communicate outage information, resource deployment status, and materials to OMT, and immediately supports accurate messaging to the customer.

When there are a significant number of outages, Rapid Assessment Strike Teams are requested through the OEC or REC Logistics Section (after local estimator resources have been exhausted). These teams quickly patrol damaged areas, conduct windshield damage assessments, and relay the information to the Incoming Assessment Desk at the DSR/OEC. This assessment information enables the efficient dispatch of crews to make repairs and restore power to customers in a timely manner when there is a high outage volume.

During OEC activations where Central Electric Dispatch retains control of dispatching all T-men and 911 Standby personnel, the Restoration Supervisor is located at the OEC and coordinates and communicates the assessment priority and status with Central Electric Dispatch.

3.2.3.5.7 Dispatch and Increased Outage Volume

Central Electric Dispatch retains dispatch of all tags and T-men until the outage volume overwhelms their available resources and bandwidth. At that point, Electric Dispatch can delegate part or all of their dispatch responsibilities to the OEC Dispatch.

To delegate dispatch responsibility to an OEC, the Electric Dispatch Manager or Supervisor(s) will work with the On-Call OEC Commander to evaluate the type of dispatch work that will be handed off to the OEC Dispatch. Once this has been determined, the Restoration Field Operations Manager or System Operations and Control Manager will reach out to the M&C Superintendent to request that the OEC is activated in the appropriate division.

In addition to assisting with the dispatch of T-men and 911 Standby, the OEC will also dispatch non-Troublemens assessment resources (i.e. estimators, crews, etc.) to assess outages.

3.2.3.5.8 Job Package Process

Refer to Figure 3.2 for a high-level process flow diagram on the following job package process.

Outage information comes in to PG&E in the following ways:

- Customer call to report power outages, wires down, arcing wires
- 911 agency call to report downed wires
- Smart meter

CCOutage (Customer Care Outage) is used by the Customer Service Representatives to enter customer call information and by Gas Dispatch to enter 911 agency call information. This entry automatically generates an OMT Trouble Report. Central Electric Dispatch then dispatches troublemen to perform the assessment. (During larger events, the OEC may instead dispatch damage assessors or Rapid Assessment Strike Teams to conduct the assessment.) The field personnel (i.e., T-men, damage assessors, or Rapid Assessment Strike Teams) conduct the assessment and provide the following to the incoming assessment desk at the DSR²:

- List of materials needed
- Damage information
- Photos, if a smartphone is available
- Location information

² Note an incoming assessment desk may also be located at a base camp or in the field during a circuit or area-based strategy.

The way information is provided to the incoming assessment desk depends on the technology available. For example:

- T-men and GSRs can enter the following information in FAS—ETA or ETOR, comments for the Customer Service Representative (CSR), repair time, IVR cause, and materials information. The data entered in FAS / Mobile Application (MA) is automatically updated in OMT, and an EC Notification is automatically created for the incoming assessment desk to view.
- Damage assessors and Rapid Assessment Strike Teams may call or bring the information in to the incoming assessment desk, if a smartphone is not available.
- If a smartphone is available, damage assessors and Rapid Assessment Strike Teams take pictures of the damage, the material list, and the location details (latitude/longitude and address) and email it to the incoming assessment desk.

The incoming assessment desk validates the information, starts the EC Form (or prints the EC Form if received electronically), logs the information on the work location log, and enters or validates the information in OMT. After this:

- If it involves facilities that require loading or sizing (e.g., transformers, poles, etc.), an estimator's input is needed, and they create the job package.
- If an estimator's input is not needed, a PS&R Specialist, Estimator or Clerk provides the EC Form and Map to the Work Assignment Desk for dispatch of a repair crew.

Job packages include the following information (**bold** = minimum required):

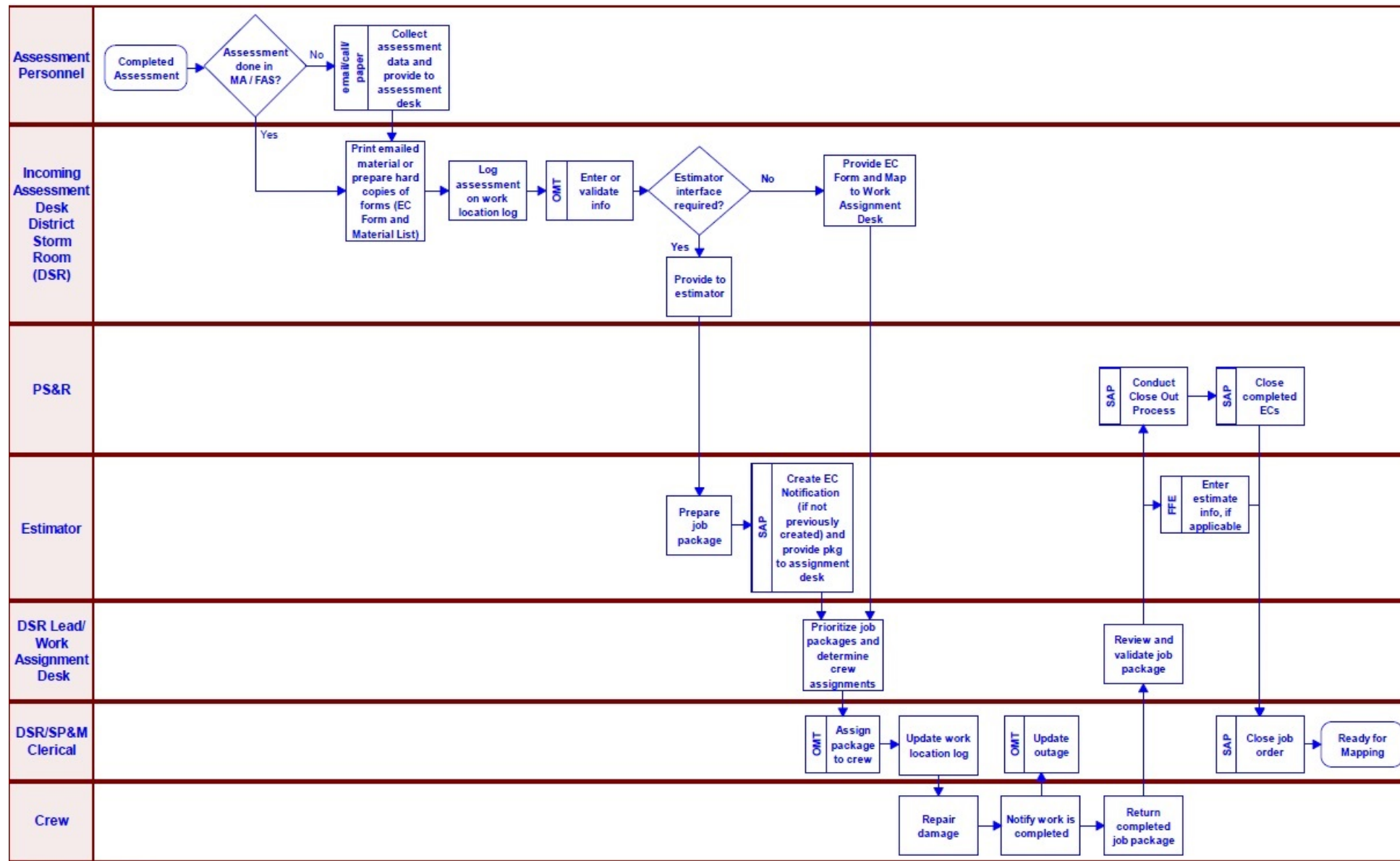
- **EC Form**
- **Map**
- Material List
- Transformer / Equipment Data Sheet
- Pole Numbering Form
- Form 48: Emergency / Urgent Joint Pole Replacements
- Incident Report Form (62-0719) and Hazardous Waste Form, if needed
- Pictures (Latitude / longitude readings are included on pictures or on the map)

Once the job package/EC Notification is completed, it is provided directly to the DSR Lead or, for larger events, to the work assignment desk. Next, the DSR Lead or work assignment desk reviews each job package for completeness, prioritizes the job packages and determines crew assignments. Clerical support then enters job package crew assignments in OMT, and maintains the work location log.

Crews take their assigned job packages to the work location, complete the work in accordance with PG&E construction standards and call the clerk in the DSR when the customers are restored/work is completed. The clerk then updates OMT. The crews bring the completed job package back in to the DSR when they return from the field, the crew foreman signs the job package and EC notification as completed, ensures any redline

changes are properly documented on the job sketch and EC Notification(s) and the EC Notification(s) and job package process is then validated and closed out.

Figure 3.2 Job Package Process



In a circuit-based strategy, the task force conducts the process in Figure 3.2 out in the field or at a base camp. Additional details include:

- Estimators may be integrated with task forces to create and assign job packages/EC Notifications in the field or at a base camp.
- The Task Force Leader calls the control center to true up outage locations with OMT.
- The Task Force Leader also brings the information in to the DSR, where they validate and provide quality control, and then send the EC Notification to PS&R to conduct the close out process.

In larger events, an area-based strategy may be used where a district or division may be divided into smaller geographic areas or branches. (Refer to Area-Based Strategy in Section 3.2.3.8.3 for details.) In this case, the process above remains the same, whether the incoming assessment desk and work assignment desk are located at the DSR, in the field, or at a base camp.

As mentioned previously, Transmission may be integrated into the DSR/OEC when there are both transmission and distribution outages. When there is a transmission line outage that does not impact distribution, the main steps of the process above are still followed. (A log is created at an incoming assessment desk, transmission estimators provide needed input to the job packages, and the work assignment desk dispatches the job packages to the crews).

3.2.3.6 911 Standby Call Response

During emergency events, downed utility equipment can pose a public safety hazard. Often in these scenarios, governmental agencies such as fire and police personnel will arrive at the site of the hazard to protect the public. In these situations, the agencies need to be relieved by PG&E personnel so that they can be free to respond to additional priorities. During large-scale events when a significant number of hazards may exist, promptly relieving these agencies becomes critical for public safety. Therefore, PG&E operates a 911 Standby Process, where PG&E personnel relieve on-site agency personnel and, in turn, protect the public from any hazards.

3.2.3.6.1 911 Standby Process

After Gas Service Dispatch fields a call from an agency asking for 911 standby relief, PG&E Central Electric Dispatch receives this information and dispatches PG&E personnel to the site. (Refer to Figure 3.3 for a high-level 911 standby process flow diagram.)

For a Level 1 incident, a T-man is called to respond. If the T-man is not available, or their ETA is greater than 45 minutes, 911 standby or make safe personnel are dispatched. During larger events, such as a storm, Electric Dispatch may first call the following to determine if 911 standby resources are available:

- Restoration Supervisor
- Service Planning and Maintenance
- Field Metering Operations

- Gas Operations

To ensure a timely response to agencies, PG&E uses a 911 agency callback process. When agencies call PG&E requesting on-site relief, they may request a callback to confirm relief personnel have been dispatched and receive an estimated time of arrival (ETA).

PG&E has established callback expectations, as follows:

- Contact the requesting agency within 20 minutes of their initial request
- Provide the agency with an estimated time of arrival for PG&E relief personnel
- Update the information and call notification in their OMT tool and monitor until the agency has been relieved

3.2.3.6.2 911 Standby Personnel

Standby personnel cordon off hazardous conditions for public safety and determine the safety parameters of the outage. These employees guard a location until a qualified electric crew or T-man arrives to clear and or repair the hazard.

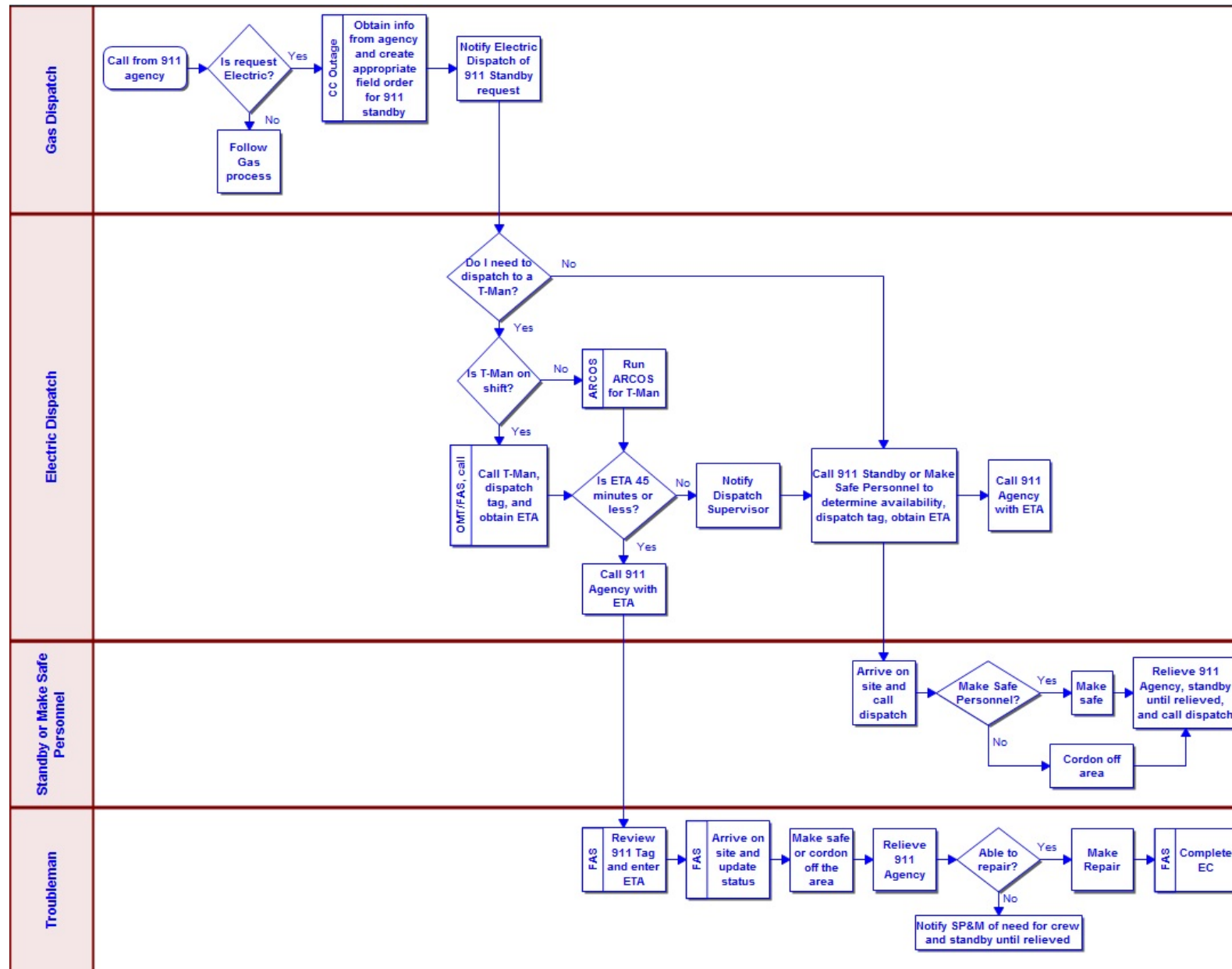
Standby personnel are one or two-person crews with limited knowledge of field equipment. These crews often consist of meter readers, meter technicians, gas service representatives, or gas construction workers. Standby crews generally do not have equipment switching skills, or the ability to estimate the magnitude of the repair and restoration timeframe. They are used primarily as “standby” to relieve a 911 agency. PG&E supervisors provide safety standby training for 911 standby personnel.

3.2.3.6.3 911 Standby Kits

Employees who do not have an assigned vehicle with the needed equipment to perform their duties as standby crews can use established standby kits. At a minimum, standby kits include the following items:

- Traffic cones (5)
- Flares (10)
- Barricade tape (2 rolls)
- Flashlights (2)
- Gloves (2 pair)
- Hard hats (2)
- Safety vests (2)
- Raingear (Optional)

Figure 3.3 911 Standby Process



3.2.3.6.4 911 Calls on Large Events

In large events, such as earthquakes, Gas Dispatch will staff the appropriate amount of resources to take incoming 911 agency calls. Electric Dispatch also has personnel, if needed, to take 911 standby calls at the Fresno RMC, which consists of clerical employees.

When the outage volume and number of 911 calls overwhelms Central Electric Dispatch's available resources and bandwidth, Electric Dispatch can also delegate part or all of their dispatch responsibilities to the OEC. Refer to Section 3.2.3.5.7 for details.

3.2.3.7 Make Safe

In the event that the volume of outages exceeds the number of troublemen, Title 200 (M&C division) crews can be broken up into two-person teams to address hazardous conditions. These teams are managed by the Dispatch Leader in the OEC, who is responsible for prioritizing, dispatching, and tracking all work performed. When outage volumes reduce to the point manageable by the troublemen, these make safe teams are remobilized as crews and redeployed to repair and restore service.

3.2.3.8 Response Strategies

PG&E may use different assessment and restoration strategies based on the complexity of each incident. For example, if there is a small number of outages during a routine response, PG&E uses an order-based strategy. In larger incidents with a greater number of outages, it may no longer be efficient to assign work by individual orders. In this case, work may be assigned by areas or circuits to improve coordination and assessment/restoration time.

3.2.3.8.1 Order-based Strategy

In an order-based strategy, in alignment with the above mentioned priorities and depending on the amount of damage, troublemen or repair crews are assigned to each individual outage order, as appropriate. For example, in Electric Distribution, as outages come into OMT, a unique OIS number is automatically created for each outage. Central Electric Dispatch then prioritizes and assigns each outage order to a T-man.

3.2.3.8.2 Distribution Circuit or Transmission Line-Based Strategy

In Electric Distribution, a Circuit-Based Strategy is designed to improve coordination, assessment, and restoration of highly impacted circuits with multiple cases of trouble, and can be used on any circuit identified as high risk. These circuits may warrant a circuit-based assessment and restoration strategy depending on characteristics including, but not limited to, the following:

- Weather forecast
- Actual conditions
 - Significant number of outages and damage locations
 - Control center call volume

- Management of outage communications

The circuit-based strategy is implemented at the request of the OEC or REC Commander. In a circuit-based strategy, a task force may be assigned to an entire substation, a specific circuit, or source side device to manage either pre-identified high-risk circuits, or circuits that meet outage and/or hazard thresholds during a storm event. This task force may be comprised of a Task Force Leader and the following strike teams: troublemen, rapid assessment, vegetation management, 911 standby, and make safe. (Refer to Figure 3.4 for an example circuit-based task force organization structure.)

Troublemens Strike Teams assess the primary line damage starting from the circuit breaker (CB) or source side device, at the direction of dispatch, the control center Distribution Operator (DO), or the Task Force Leader. They then identify damaged equipment locations, make locations safe, and report findings to the Incoming Assessment Desk.

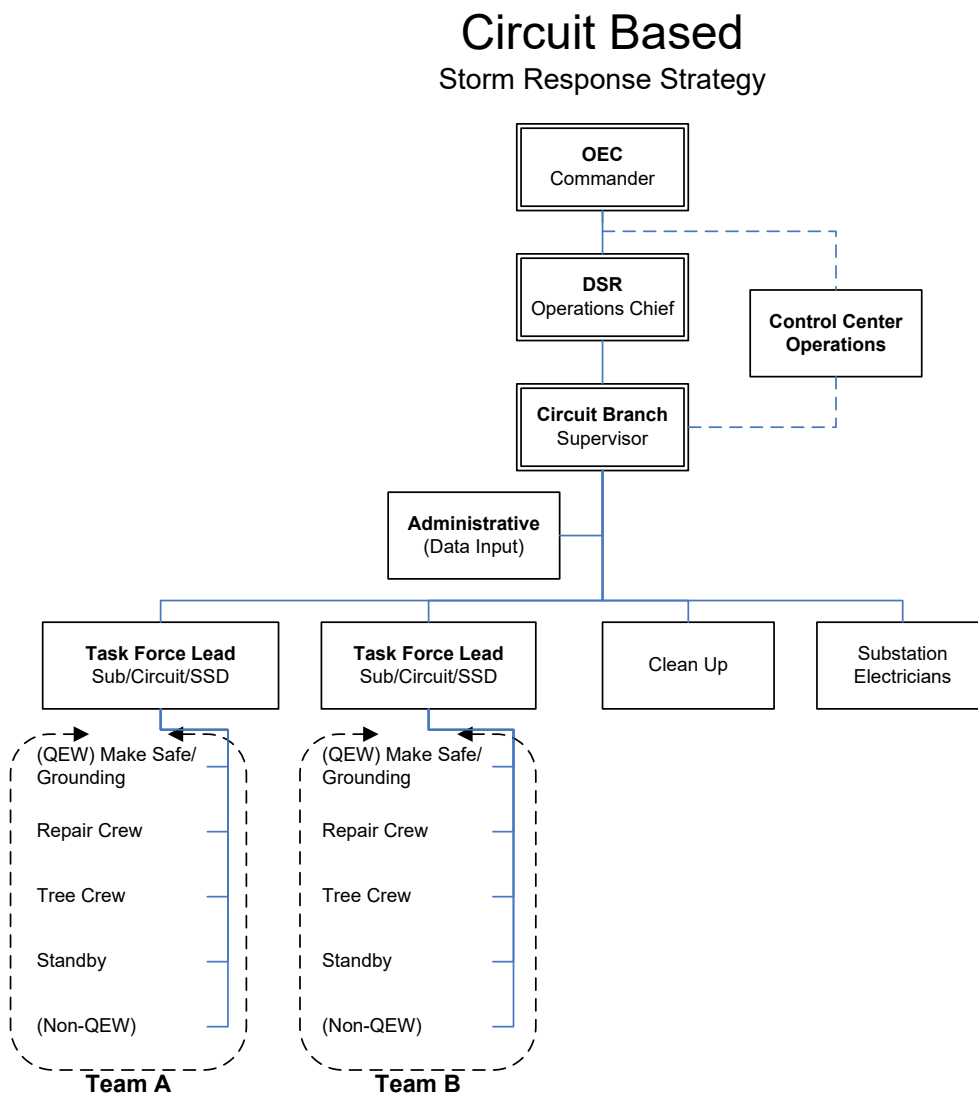
Repair Strike Teams follow the Troublemens Strike Teams, under the direction of the Task Force Leader, and are responsible for:

- Making the primary main line safe
- Reporting damage to the DSR
- Making repairs and restoring primary main line sections, as they become available, under the direction of the DO
- Assessing radial/tap lines for damage, report, repair, and restore

For additional details, refer to the Circuit-Based Structure and Strategy Guidance Document.

For Electric Transmission, a Line-Based Strategy may be followed to improve coordination, assessment, and restoration of highly impacted lines with multiple cases of trouble. The Line-Based Strategy is implemented at the request of STOEC/ETEC, and additional crews are assigned to the highly impacted lines.

Figure 3.4 Example Circuit-Based Organization Structure



3.2.3.8.3 Area-Based Assessment / Restoration Strategy (Carver)

When there is a larger volume of outages or damage in an area, it is no longer efficient to assign work based on individual orders. Instead, an area-based restoration strategy is used to assign work by geographic areas or circuits.

The positions listed in Table 3.2 below determine how to divide an area, based on:

- The location and volume of damage or projected damage
- Geography (e.g., an area is divided by a river, mountain range, etc.)
- Customer density

Where possible, the determination of the areas are made using the SOPP Model prior to an event, such as an incoming storm, etc.

Table 3.2 Electric Authority to Determine Areas

Area Being Divided	Who Determines Areas?	Who Approves Areas?
Divide district or division into smaller areas/branches ³	REC Planning and Intelligence (P&I) Chief in collaboration with the Operations Section Chief (OSC), and with input from the Logistics Section Chief (LSC).	REC Commander
Divide STOEC into areas/branches ⁴	ETEC Lead working with STOEC IC	ETEC Lead
Divide region into smaller areas/branches	EOC P&I Chief in collaboration with the OSC, and with input from LSC on support.	EOC Commander
Any divisions made due to an earthquake	EOC P&I Chief working together with the OSC, after reviewing the damage model. The LSC also provides input on support.	EOC Commander

In the field, Task Force Teams are assigned to Branches and are responsible for all damages in their area until restoration is completed.

Following a Level 4 or 5 event, such as a significant storm or earthquake, damages will be widespread, multiple commodities will be impacted, and thousands of personnel may be required in order to restore the system. It will not be sufficient for one local OEC to manage many major incidents with extensive damage in one division, for example.

³ If the EOC is activated, the determination and approval of the areas are made at the EOC, with input from the REC and ETEC.

⁴ Ibid.

In order to effectively manage the event and maintain an adequate span of control, an REC's, OEC's, or STOEC's operational control may be divided into smaller areas (or Branches), as needed. (Refer to Figure 3.5 and Figure 3.6 for example branches.)

Figure 3.5 Example of OEC or REC Divided Into Branches

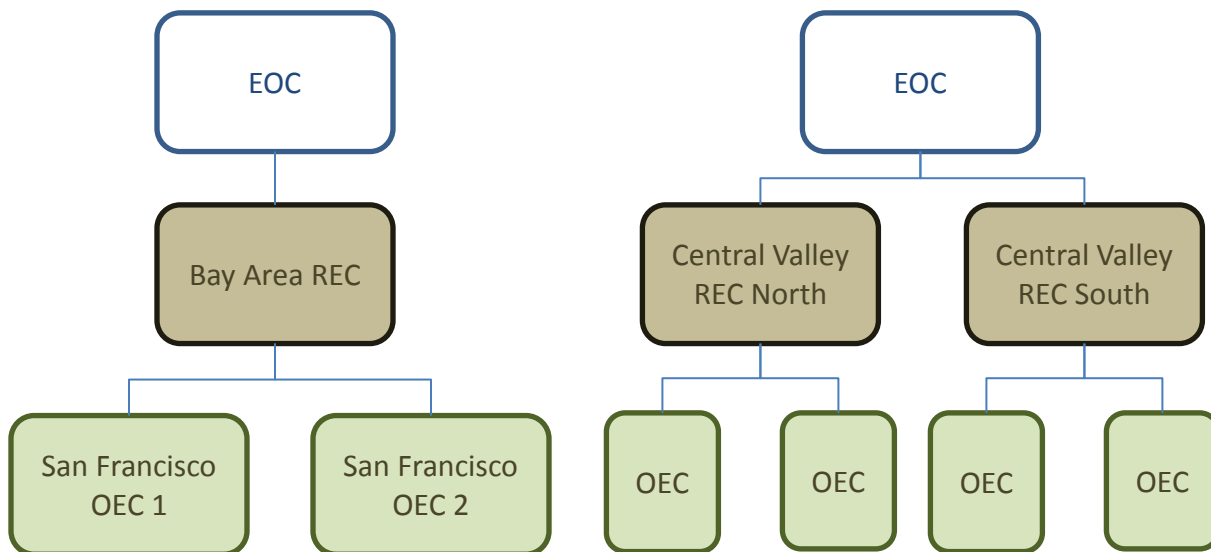
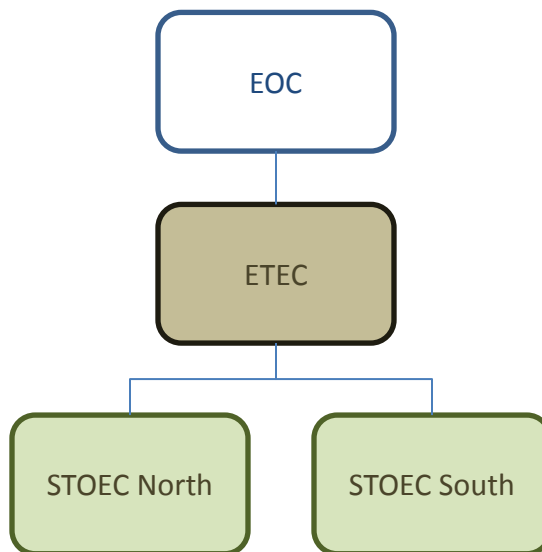


Figure 3.6 Example of STOEC Divided Into Branches



Following a significant earthquake, a damage model is run based on the United States Geological Survey (USGS) shake maps. The EOC Planning and Intelligence Section Chief, in collaboration with the EOC Operations Section Chief, will review the damage model information and identify if additional RECs, OECs and STOECs are needed. The EOC Logistics Section Chief also provides input on whether they can support the areas, and the EOC Commander approves the plan.

The EOC Commander, or designee, then notifies the REC Commander and the ETEC Lead of any needed changes to the organization or jurisdictional control, such that pre-identified teams (leadership, administrative, assessors, Service Planning and Maintenance crews, etc.) can mobilize and make their way to the affected area. (Refer to Figure 3.7 below for example branches for a catastrophic event and Figure 3.8 for an example area command organization structure.)

Once a divided area has completed restoration of its responsible area, or if the existing REC, OEC or STOEC is ready to resume responsibility, the divided area will return to the existing emergency center for jurisdictional control.

Map of Existing Model in San Francisco (SF)

Example Map of SF Carved Into Different Areas

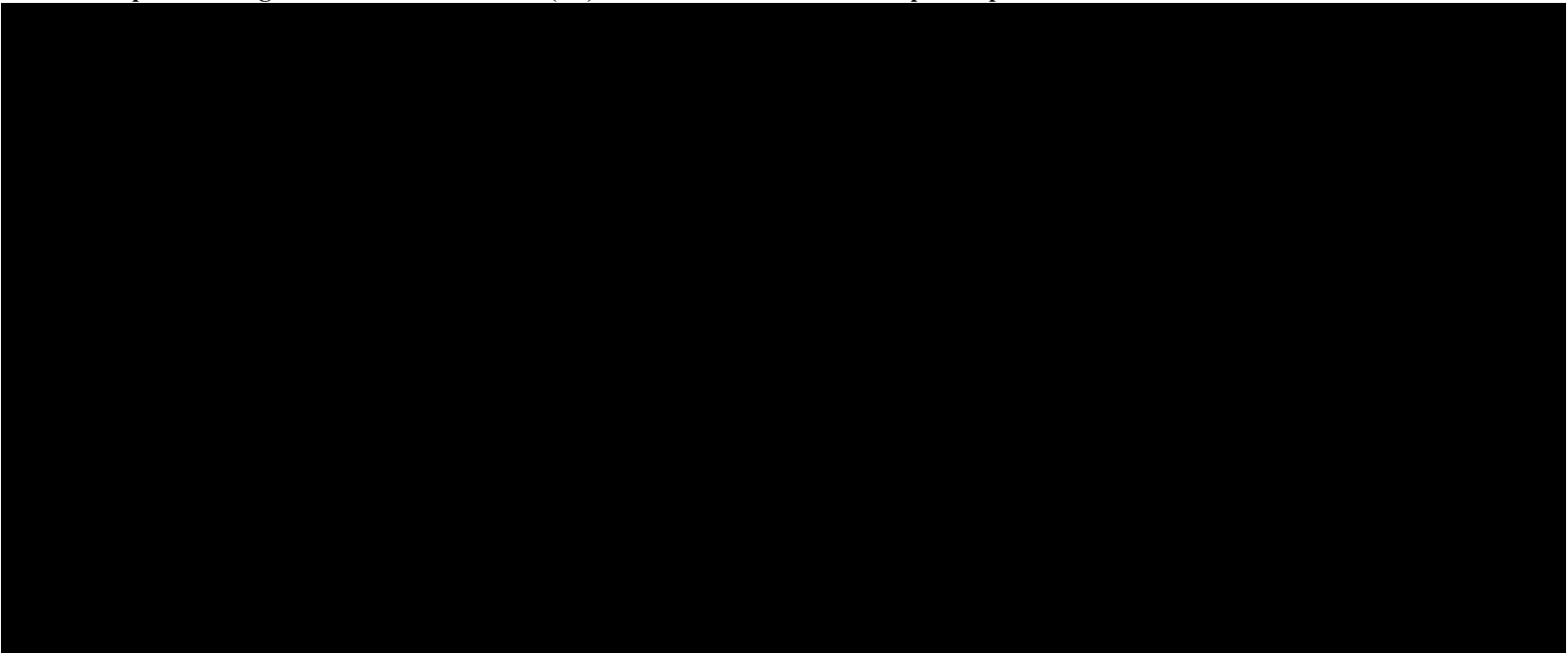
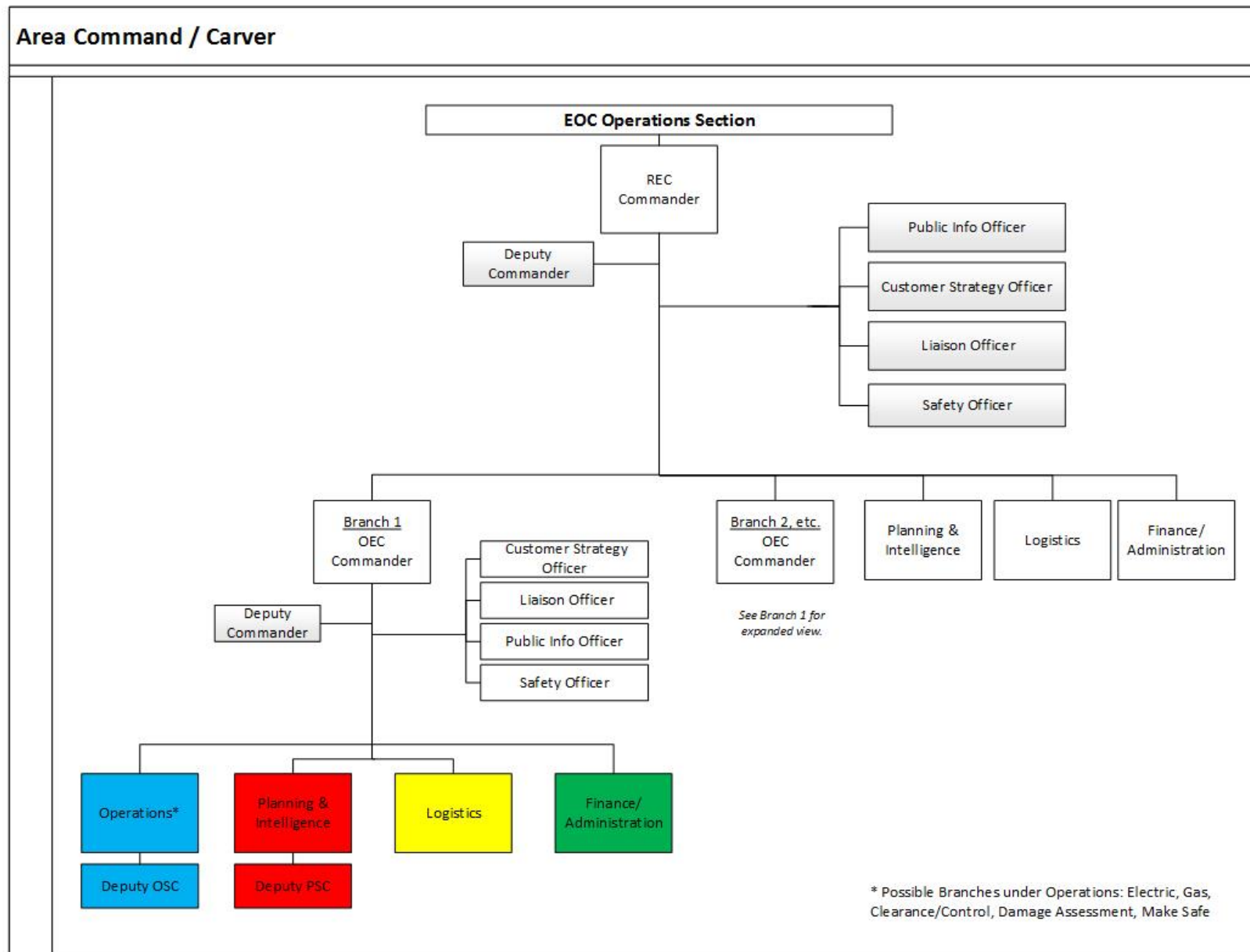


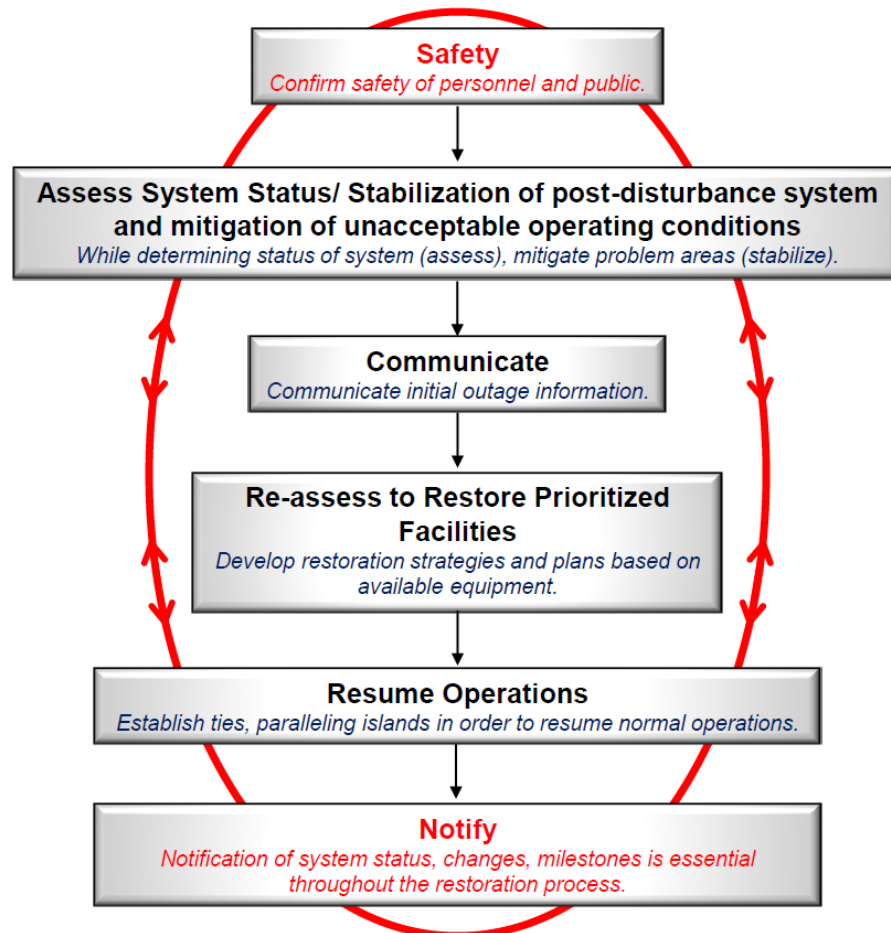
Figure 3.7 Example Areas (Or Branches) For a Catastrophic Event

Figure 3.8 Sample REC Area Command Organization Structure



3.2.3.8.4 Electric Transmission Restoration Strategy For Blackouts / Post Disturbance

When an operator becomes aware of a disturbance, the following diagram provides a strategic and prioritized approach to system restoration.



The first priority is to confirm the safety of personnel and the public. Next, in the event of a partial or complete system outage, the system must be assessed to determine the status and state of the system and facilities, and if conditions exist that require the mitigation of unacceptable operating conditions.

Initial outage information is then communicated to the following (not necessarily in this order):

- CAISO
- System Dispatchers
- Transmission and Distribution Operators
- Short-Term Electric Supply
- Federal, State, and Local authorities and agencies
- Generating plant personnel
- Substation personnel
- Management
- Exterior Generating entities
- Corporate Public Relations

In alignment with the prioritization guidelines mentioned in Section 3.2.3.1, re-assessment is then conducted to restore prioritized facilities, generation, and loads. (Note the utilization of load focuses on the stabilization of the system rather than the immediate need to restore customers.)

PG&E and CAISO can resume normal operations once the system restoration emergency has been terminated, authority has been returned to CAISO, and CAISO has lifted the suspension on CAISO markets. Normal operations can also include the point in the restoration process that the next load to be restored is not driven by the need to control frequency or voltage.

Steps for resuming normal operations include:

- Establishing additional transmission ties, starting with restoring the strongest ties first.
- Synchronizing/paralleling islands

It is essential throughout the restoration process that changes in system status, changes, and milestones, etc. are communicated. Notifications should be made to:

- Peak RC (Reliability Coordinator)
- WECC
- Balancing Authorities
- Transmission and Distribution Operators
- External Government agencies
- Corporate entities
- Internal News media

For additional information on black start resources and restoration principles, refer to the Electric System Restoration Guidelines (ESRG).

3.2.3.8.5 Electric Substation

During Levels 1 and 2 incidents, assessment and restoration priorities are established locally between the SM&C Superintendent and the GCC. When STOEC is activated during Level 3 or greater incidents, priorities are established between the STOEC and the GCC, or ETEC, if activated. In the event of only localized damage, the local Distribution Operations organizations may suggest or request priority for restoring distribution customers.

SM&C provides a resource pool that can assist in performing switching inside substations, demolition, cleanup, reconstruction work, and other functions. SES, System Protection, and Automation/SCADA provide engineering services to support restoration activities, as needed.

The following are some of the strategies to restore customers impacted by a substation emergency:

- Splitting of buses
- Step restoration supported by Transmission and Distribution field level switching
- Bypassing of substations to restore downline capacity

- Above ground cabling
- Mobile substation generation
- Transmission-level islanding conditions

Execution of these strategies will be facilitated in the IC call process, as stated in Section 3.2.3.4.1.

3.2.3.8.6 Electric Distribution Critical Customer Strategy

PG&E currently maintains in OMT lists of critical and essential customers (as defined in Section 3.2.3.2 and the CERP). When an outage occurs involving a critical or essential customer, it is noted in OMT, and those circuits are considered for priority assessment and restoration. During the outage event, the Customer Care Organization will assign a Customer Strategy Officer (CSO) in the REC or OEC to serve as the affected customer's point of contact.

In order to facilitate efficient restoration of a County's prioritized customers, Emergency Management, in collaboration with each division's Superintendent, has put together critical customer care packages that include key information on the customer (e.g., map, equipment information, key pictures, contact information, etc.). These packages will be kept at the OEC. When an outage occurs that impacts one of the prioritized customers, the appropriate customer package is quickly assigned to field personnel to begin assessment and restoration efforts.

PG&E has also further prioritized its internal list of essential and critical customers for restoration following a catastrophic event. These priorities are reflected in OMT reports, and their status and restoration can be tracked by the EOC/REC/OEC, customer relationship managers, and other company personnel. PG&E's prioritized lists of critical and essential customers will be shared with County governments for their review if the County signs a non-disclosure agreement.

3.2.3.8.7 Electric Distribution Catastrophic Event Strategy

When there a large number of outages related to a catastrophic event, leadership may decide to implement a resource allocation strategy called "60-30-10". This strategy directs resources according to the following model:

- 60% of resources are dedicated to addressing outages that have the highest number of customers out of power and/or length of outage, including considerations for equipment with extensive damage or equipment that is especially critical (e.g., certain substations, etc.).
- 30% of resources are dedicated to the assessment and restoration of the prioritized customers, that were determined in collaboration with our government partners, and PG&E's prioritized critical and essential customers. Depending on the type of catastrophic event and the situation in the community, this percentage may also include dedicating resources to key customers that are required to stand up a community quickly (i.e., community normalcy customers).
- 10% of resources are dedicated for priority or unique issues encountered throughout the ongoing assessment and restoration process.

3.2.3.9 Capacity Emergencies

During a system-wide capacity event, it is the System Dispatcher's duty to direct the execution of the CAISO's orders. In a localized event, the System Dispatcher is responsible for maintaining the integrity of the electric system.

3.2.3.10 Restoration Work Plan and Strategic Worksheet

To support the development of a restoration and resource movement strategy during an event, PG&E uses a tool to forecast the system-wide Estimated Time of Arrival (ETA) and Estimated Time of Restoration (ETOR). The Restoration Work Plan was built to identify geographic areas that may be in need of more personnel to support restoration efforts. The tool utilizes current and forecasted outage and resource counts to estimate the total time of restoration on system-wide, regional and divisional levels. Historical assessment and restoration times for the current type of weather event and geography drive resource productivity assumptions. By comparing the ETOR across all PG&E divisions, incremental resources can be directed towards those geographies that need them most. The Restoration Work Plan can also be used to analyze the impact of any number of scenarios. For example, the impact on the overall ETOR due to an incoming storm or the addition of mutual assistance crews can be forecasted.

The Emergency Response Strategic Worksheet (located in the [Emergency Management Website](#) under Templates) works in tandem with the Restoration Work Plan by enhancing the ability of Emergency Management personnel to develop local tactical plans. By supporting the development of ETORs and ETAs, the Strategic Worksheet enhances the development of local resource allocation plans. Estimates are created by inputting resources, outages, and equipment damage into the worksheet and can be utilized and continually updated during an event.

3.2.3.11 ETA and ETOR

In accordance with G.O. 166, it is important to regularly provide accurate and timely Estimated Time of Arrivals (ETAs) and Estimated Time of Restorations (ETORs) to our customers, in addition to quickly and safely restoring their service. This can only be achieved with the participation and partnership of the following during Level 1 incidents:

- Control center leadership has oversight responsibilities and ensures action is taken to provide accurate and timely outage communications.
- Central Electric Dispatch dispatches tags to the T-men and contacts them if an ETA has not been entered in a timely manner, or if the Automatic ETOR (Auto-ETOR) is about to expire.
- T-men enter an ETA, enroute, and onsite status in FAS. They also update the ETOR in FAS if they are restoring power to the customers. If a crew is required, T-men update the Estimated Repair Time (ERT).
- When a crew is needed, the crew communicates their ETA, enroute and onsite times and will verify the ETOR with the work assignment desk. Communication will be made directly with the assigned crew confirming on site status if a proactive call from the crew is not received.

- During Transmission/Substation sustained outages, Transmission/Substation provides an ETOR to the control center on a coordination call.

During escalated events, it is essential to continue to provide accurate communications to our customers. In these more complex events, the Auto-ETOR is disabled and an outage communications strategy is determined to provide more realistic estimates to our customers.

Listed below are the roles and responsibilities in developing an ETA/ETOR Strategy:

- Planning and Intelligence develops the ETA/ETOR strategy and operational period objective recommendations, using the Strategic Worksheet as a tool.
- The emergency center commander reviews and approves the ETA/ETOR strategy and objectives.
- The Dispatch Leader directs data entry for ETA input, using the forecasted assessment time as a guideline.
- Once assessment has taken place and the outage is in the restoration filter in OMT, the DSR directs data entry of a thoughtful ETOR that accounts for resource availability, repair time, and weather conditions.
- When a circuit-based strategy is used, the Circuit Branch Director, or their Deputy, directs data entry input for ETA/ETOR.
- Customer Care works with Government Relations, External Media and Contact Centers to use other forms of communications to provide outage information to customers in OMT and to escalate issues to the emergency center commander.

For additional details on communicating ETORs to our customers, refer to Section 4.2.1.1 Customer Outage Communications and 4.2.4 Major Outage Reporting.

3.2.4 Resource Management

During any emergency event, PG&E personnel play the central role in restoring power to customers. Resources must be organized, assigned, directed, tracked and otherwise managed throughout the duration of an event, in order to effectively respond. The following describes PG&E's approach in Electric Operations to resource management during emergency events. For additional details on resource management at PG&E, refer to the [Logistics Annex](#).

3.2.4.1 Check-In and Check-Out Process

Resource management begins with an accurate check-in and out process of responding personnel. Understanding which resources you have during an event is critical to an effective response.

The Resource Unit will establish and oversee the check-in/out function at designated incident locations. To establish a check-in/out desk, the Resource Unit Leader will assign a Recorder to each location where resources will check-in and out daily. If the Resource Unit has not been activated, the Commander or Planning Section Chief owns the responsibility for setting up the check-in/out process.

After designating a Recorder to manage a check-in/out desk at each facility, the Recorder ensures that every personnel arriving to work an event must check themselves into the event before working. Recorders must have an adequate supply of check-in forms, access and training in ARCOS Crew Manager and be briefed on the frequency for reporting check-in information to the Resource Unit. Keeping accurate accounts of all checked-in personnel is vital and essential for personnel safety, accountability, and fiscal control.

All resources must check in and out daily thru the check in/out desk at their assigned facility. Refer to Section 3.2.4.11 on tracking crews in ARCOS Crew Manager.

Once checked in, crews will receive work packages from the DSR Lead or their delegate. Refer to Section 3.2.3.5.8 for details on creation, distribution and completion of job packages.

3.2.4.2 PG&E Contract Crew Support

PG&E has contracts in place to use contract crew and/or equipment resources during incidents where company resources alone are not able to restore our electric infrastructure in a timely manner.

3.2.4.2.1 Contracts For Emergency Response

The Sourcing Department issues contract agreements on an annual basis to provide assistance in restoring electric service during an emergency response. Agreements are established with contractors to provide assistance, upon request, and includes furnishing personnel, equipment, and/or expertise in a specified manner. During an emergency event, Logistics is responsible for managing the contracts and issuing emergency purchase orders.

3.2.4.2.2 Contract Crew Request

Once a need arises for contract crews, the Contract Logistics Manager makes an initial call to determine current contractor availability on property. If more contract crews are needed, the Contract Logistics Manager contacts the contractors for additional resources. If there is still a shortage of resources, the EEI/Mutual Assistance process is followed to release contract crews from other utilities.

3.2.4.2.3 Dispatch and Supervision of Contract Crews

- The MP&P Contract Logistics Manager works with the EOC Crew Logistics Unit Leader to dispatch all contract/mutual assistance crews to local areas. (MP&P Contract Logistics Manager provides crew counts and availability to the EOC Crew Logistics Unit Leader. The EOC Crew Logistics Unit Leader directs MP&P on where to send the contract crews.)
- MP&P manages contract crew support and works with the Operations Section in the OECs/RECs to provide supervisors/inspectors to support contract crews when they arrive at a base camp or alternative work location.
- The Operations Section in the OECs/RECs is responsible for providing supervisors/inspectors of contract crews after they check in at the local area.

3.2.4.2.4 Record Keeping

The MP&P Central Administration ensures all applicable time for contract crew personnel is logged and tracked, including any associated costs for equipment repairs and required personnel expenses. The MP&P Central Administration, in conjunction with the Distribution Supervisor, reviews and approves Labor, Material and Equipment (LM&E) sheets to validate time and work completion. The MP&P Central Administration enters and tracks costs in their tracking data base and enters goods receipts into SRM/SAP to initiate the payment process.

Refer to Section 3.2.4.11 on tracking contract crews in ARCOS Crew Manager.

3.2.4.3 Mutual Assistance

3.2.4.3.1 Agreements and Requesting Mutual Assistance

The term “Mutual Assistance,” in the context of this Annex, is intended to mean any crew from another utility. The company has established agreements [i.e., California Utilities Emergency Association (CUEA) and Western Region Mutual Assistance Agreement (WRMAA), etc.] with other utilities to provide or receive assistance to help restore electric and gas service during a major emergency. There are written agreements with other utilities for providing assistance, upon request, and includes furnishing personnel, equipment, and/or expertise in a specified manner.

Refer to the CERP on how to evaluate the need for mutual assistance, the request process, and record keeping.

3.2.4.3.2 Supervision of Mutual Assistance Crews

The supervision of mutual assistance crews is the same as for contract crews. Refer to Section 3.2.4.2.3 for details.

3.2.4.4 Deployment Order and Priorities

Decisions regarding allocation and deployment of resources should be based on priorities that govern assessment or restoration. Refer to the CERP in the Resource Allocation Section for additional details on deployment priorities.

The order for requesting and deploying personnel resources includes, but is not limited to:

- Division
 - T200 distribution (M&C division crews) from within the impacted division
 - T300 distribution (General Construction crews) from within the impacted division
 - T300 transmission and T200 transmission from within the impacted division (given there are no transmission impacts or risk)
 - Contract from within the impacted division
- Region
 - T300 distribution from within the impacted region

- T200 distribution from within the impacted region
 - Contract from within the impacted region
- System
 - T300 distribution from less impacted regions
 - T300 transmission and T200 transmission from less impacted regions (given there are no transmission impacts or risk)
 - T200 distribution from less impacted regions
 - Contract from less impacted regions
- Non-electric resources
- Non-PG&E Resources
 - Contract crews from outside utilities (contract crews may be used before GC Transmission Line, depending on the incident)
 - Mutual assistance crews

3.2.4.5 Resource Movement Authorization

The Director of Emergency Management has the authority to move resources across region boundaries during a Level 2 or greater emergency, and in pre-event preparations. In Level 2 emergencies, the OEC Commander has the authority to move resources within their respective division to facilitate restoration of service. In a Level 3 or greater emergency where the REC is activated, the REC Commander (Region Service Planning and Maintenance Director) has the authority to move resources within their respective region.

In a Level 3 or greater emergency where the EOC is activated, The EOC Commander has the authority for all resource allocation and deployment. Resources are deployed in accordance with priorities and strategies recommended by the Operations Section, P&I Section, and Logistics Section. In addition, upon obtaining necessary officer approval, contractors and mutual assistance can be activated.

For Electric Transmission, ETEC develops the resource plan, based on input from electric distribution and transmission. When the ETEC Lead approves the plan, ETEC then communicates the plan to STOEC to execute. (STOEC is responsible for managing the transmission repair workforce during an incident.)

3.2.4.6 Resource Movement Management

During emergencies, resource movement logistics are managed by different roles. The table below defines which party executes this responsibility.

Table 3.3 Resource Managing and Ordering Authorities

Activation Level	Ordering Authority (D)	Managing Authority (D)	Ordering Authority (T&S)	Managing Authority (T&S)
Level 1 Division / Area	Local Supervisor or above	Local Supervisor or above	Local Supervisor or above	Local Supervisor or above
Level 2 OEC / STOEC	OEC Logistics Section Chief	OEC Resource Unit	STOEC Logistics Section Chief	STOEC Resource Unit
Level 3 or greater REC / ETEC	REC Logistics Section Chief	REC Resource Unit	ETEC Logistics Section Chief	ETEC Resource Unit
Level 3 or greater EOC	EOC Logistics Section Chief (non-personnel request); EOC Crew Logistics (personnel)	EOC Resource Unit	EOC Logistics Section (non-personnel request); EOC Crew Logistics (personnel)	EOC Resource Unit

3.2.4.7 Resource Request Process For Electric Transmission and Substation

For Electric Transmission and Substation during Level 1 incidents, the Supervisor secures resources locally. If additional resources are needed, it is escalated to the superintendent, who assists with securing additional resources.

If STOEC or ETEC is activated, a request for additional resources is called in from the field to STOEC's Operations Section. The Operations Section then makes the request to Logistics for additional resources. Upon receipt of the request, Logistics looks within the same area first to secure additional resources. If resources are not available in the same area, Logistics looks to fulfill the request from adjacent areas. If no resources are available, the STOEC Logistics Section Chief submits the request to ETEC, and ETEC provides the request to the EOC Crew Logistics Unit Leader for personnel and the EOC Logistics Chief for non-personnel resources.

3.2.4.8 Resource Request Process for Electric Distribution

3.2.4.8.1 For Level 1 incidents:

- For Electric Distribution local headquarters, the on-call supervisor uses the 212 process to secure Title 200 resources locally. If additional resources are needed, the on call supervisor calls neighboring headquarters or the local GC Superintendent, and then utilizes the local contract crew callout list.
- If more resources are needed outside the division, the on-call supervisor contacts the on-call supervisors from adjacent divisions within the Region. Then ARCOS can be used to callout resources from the 212 list in neighboring divisions.

- If more resources are needed outside the Region, the M&C Superintendent will call the EOC On Call to request support. The EOC On Call will then engage EOC Crew Logistics Leader to facilitate meeting the request.

3.2.4.8.2 For Level 2 or greater incidents:

- The DSR submits a resource request to the OEC Logistics Section. The OEC Logistics Section works with the Resource Unit to determine which resources to move.
- If they do not have enough resources within the division and the:
 - REC is not activated, the OEC Logistics Chief contacts the EOC On Call, who will then engage the EOC Crew Logistics Leader to meet the request.
 - REC is activated, the OEC Logistics Chief will call the REC Logistics Chief with the request. The REC Logistics Chief then works with the REC Resource Unit to determine the availability of resources.
- If resources are needed outside the region, the REC Logistics Chief submits the request to the EOC Crew Logistics Unit Leader for personnel and the EOC Logistics Chief for non-personnel resources. They then work with the Resource Unit Leader to determine if there are resources available in another region. If the request can be filled, both the sending and receiving REC Logistics Chiefs are informed.
- If existing resources are not available, the EOC Crew Logistics Unit Leader requests available resource numbers from the Contracting Manager and Mutual Assistance Manager and decides which resources to activate, upon obtaining needed EOC Commander/Officer approvals.

3.2.4.9 Base Camp Determination and Electric Operations Staffing

Based on the Electric Damage Model and submitted requests for base camps to the EOC, the EOC Operations Section works collaboratively with the RECs, the EOC Planning Section, and the EOC Logistics Section to determine the number and locations of base camps and staging areas, if needed. Once the base camps and staging areas are determined, an Electric Incident Management Team (IMT) is dispatched to each base camp to support the incident. An Electric Staging Area Manager, Dispatchers, Distribution Operators and support personnel are also deployed to the base camps and staging areas, as needed.

In the event of a catastrophic incident, several IMTs were pre-identified, paired with IMTs from a different Region, and pre-trained on each other's areas. As a result, these IMTs can be quickly secured from outside the impacted area to staff the base camps and staging areas.

For additional details on base camps, micro sites and staging areas, refer to Logistics Annex. For details on Incident Management Teams (IMTs), refer to the CERP.

3.2.4.10 ARCOS—Automated Roster Callout System

ARCOS, or Automated Roster Callout System, is an automated callout and scheduling system that PG&E uses to assemble and track first responders and repair crews in response to electric emergency outage situations / unplanned events. By using ARCOS over manual methods, PG&E is able to automate and streamline the callout process and reduce outage duration times for customers (due to faster callout and on-site times).

PG&E uses the following modules of the ARCOS Suite for day-to-day operations, as well as major storm events:

- ARCOS Callout is used to call union employees via phone, email, and text messaging services to respond to unplanned events, in adherence with their bargaining agreements.
- System Outage Staffing (SOS) is used to identify and call out resources based on qualifications or location. It is also utilized to conduct an interactive callout where employees can respond to targeted questions, such as, “Can you respond?”
- SIREN is used to broadcast mass notifications to employees, partners, and other organizations in the event of an emergency.

In 2015 to 2016, PG&E will implement the following ARCOS modules:

- ARCOS Scheduler will be used in several departments to centralize and automate the scheduling of personnel, including shift management, tracking availability, on-shift/off-shift operations, etc. Departments that will use ARCOS Scheduler include: Restoration and System Operations, Service Planning and Maintenance, Transmission Line (T-line), Substation Electric Technicians and Electricians, Division Leadership Teams (DLTs), General Construction (GC), Electric Distribution System Operations (EDSO), Estimators, and Public Safety and Regulatory (PS&R).
- Crew Manager will be used by PG&E to track resources working an event and their status.

3.2.4.11 ARCOS Crew Manager

Tracking resources (i.e. personnel) efficiently is essential for safety, accountability, and fiscal control. A large percentage of accidents and injuries on incidents can be directly attributed to the failure to track resources effectively. Furthermore, resources must be organized, assigned and directed to accomplish incident objectives and managed to adjust to changing conditions.

Crew Manager is a module of the ARCOS software suite that incorporates real-time, touch screen, drag and drop management of crews – for both day-to-day operations and major storm events. It also centralizes crews into a single database while providing distributed access to Operations Managers, Field Supervisors and Crew Leaders via touch-screen, interactive whiteboards, tablets, smartphones, and personal computers.

PG&E requires that ALL resources working an event are to be tracked in the ARCOS Crew Manager. This tracking ensures visibility of resources and reinforces personnel safety.

Tracking includes documenting all resource check-ins and check-outs daily in Crew Manager, as well as any transfers across division lines.

3.2.4.12 Out-of-Region Crew Packets

All headquarters will maintain crew packets, containing region-specific information to assist out-of-region crews and Mutual Aid Crews participating in the local restoration effort. The division superintendent will ensure that the information contained in the packet is current and available in sufficient quantities.

At a minimum, the following information will be provided:

- Local radio frequencies
- Location of medical facilities (ICS 206)
- Location and layout of base camps (Logistics provides this)
- Phone numbers of appropriate emergency centers and control centers
- Local maps
- Additional information may include unique safety information (ICS 208), local restaurants, etc.

3.2.5 Demobilization / Release of Resources

3.2.5.1 Demobilization Process

Demobilization includes overseeing and validating the safe and efficient return of resources to their original location and status when they are no longer needed to support the response. Planning for demobilization starts soon after the resource mobilization process begins to facilitate accountability of resources.

The order for demobilization is executed in reverse of the deployment order and includes, but is not limited to⁵:

- Non-PG&E Resources
 - Mutual assistance crews
 - Contract crews from outside utilities
- Non-electric resources
- System
 - Contract from less impacted regions
 - T200 distribution from less impacted regions

⁵ The demobilization of resources should follow the order outlined in this section. There may be exceptions to the demobilization order based on the timing of outages and assigned resources.

- T300 transmission and T200 transmission from less impacted regions
 - T300 distribution from less impacted regions
- Region
 - Contract from within the impacted region
 - T200 distribution from within the impacted region
 - T300 distribution from within the impacted region
- Division
 - Contract from within the impacted division
 - T300 transmission and T200 transmission from within the impacted division
 - T300 distribution from within the impacted division
 - T200 distribution from within the impacted division

The demobilization process involves two way communications. It can be initiated from the bottom up or from the top down. Ultimately, the highest level activated emergency center makes decisions on whether resources can demobilize or should be reallocated. This decision is based both on information passed up from the lower level emergency centers, as well as from information garnered through analytic tools.

To ensure personnel safety and to prevent resources from being released in one area when they are needed in another, it is essential that a demobilization process is followed. Below are the responsibilities by Section/Unit in the demobilization process:

Resource Unit⁶:

- Identifies excess resources in collaboration with the Section Chiefs and Demobilization Unit and informs their emergency center commander.
- Checks with the Resource Unit at the next level's emergency center to see if resources are needed elsewhere and whether demobilization is authorized. The highest level activated emergency center makes the ultimate decision to demobilize resources. For example, when open, the EOC takes into account information and recommendations from the REC/OEC, but it ultimately makes final demobilization decisions.
- Once approval is secured to demobilize, the Resource Unit notifies their Logistics Section and the Demobilization Unit of the excess resources.

REC/OEC Demobilization Unit³:

- In collaboration with the Resource Unit, assesses the current and projected resource needs and obtains the identification of surplus resources and probable release times.

⁶ If the Resource Unit and Demobilization Unit are not staffed during an incident, the Planning and Intelligence Section Chief is responsible for these functions.

- Forwards demobilization instructions for field resources from the EOC.
- Creates the demobilization plan and monitors its implementation for their emergency center. [The demobilization plan includes the release priorities, demobilization process, any specific release procedures, responsibilities for implementing the demobilization plan, and directories, if needed (e.g., maps, telephone listings, etc.).]
- Communicates with the sending and receiving offices, as well as the released personnel, to ensure the safe and efficient return of resources.

EOC Demobilization Unit:

- Creates the demobilization plan for the EOC.
- Work with Ops Section Chief and Resource Unit to identify excess resources.
- Creates instructions for the RECs to direct REC and OEC demobilization of field resources (e.g., order for the demobilization of resources, demobilization checklist, safety considerations).
- Is responsible for the demobilization of outside contract, mutual assistance crews, and out of region PG&E crews (i.e., communicates with the RECs who is coming back and when, notifies the contract unit to release crews, calls outside utilities to notify them when resources have been released, confirms the number acquired equals number released).
- Keeps the sending and receiving REC Logistics Chiefs and Resource Units apprised of resource movement during the demobilization process.

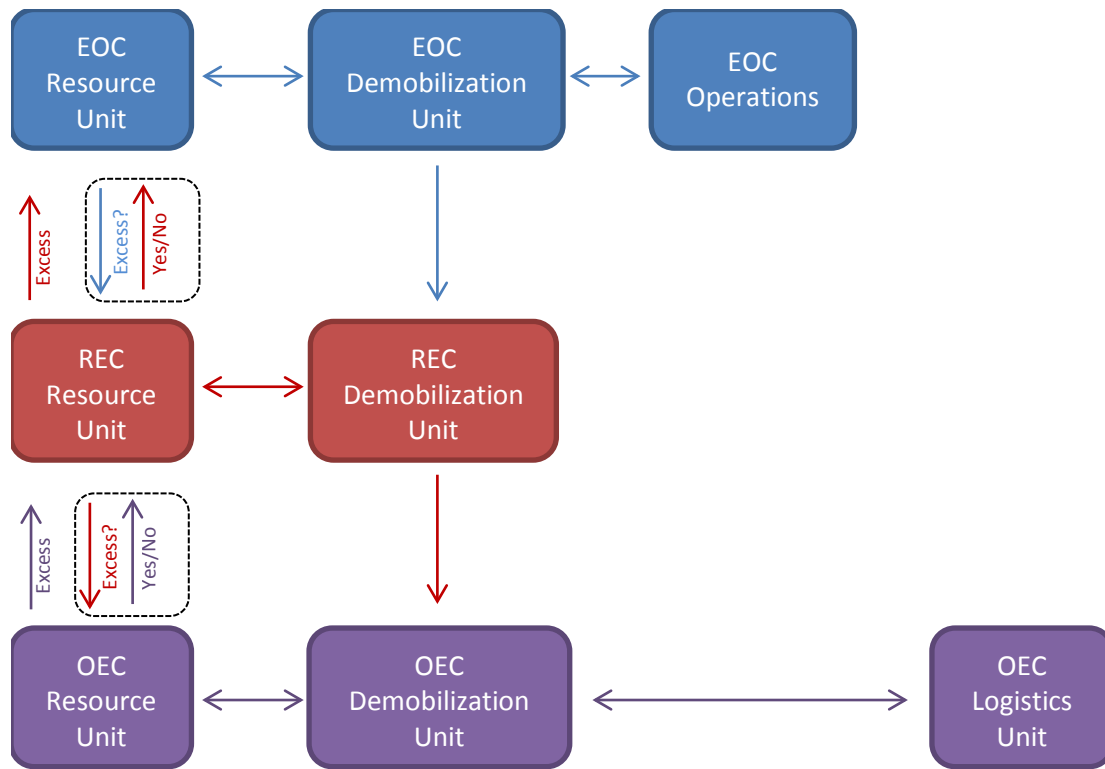
Emergency Center Commander:

- Approves the demobilization plan for their emergency center.

Logistics Section:

- Orders and/or restocks supplies/equipment to ensure operational readiness.

Figure 3.9 Example Demobilization Process



Example Process For When Excess Resources Are Identified At the OEC⁷

- The OEC Resource Unit identifies excess resources in collaboration with Operations and the Demobilization Unit, informs the OEC Commander, and contacts the REC Resource Unit before approving the demobilization of resources.
- The REC Resource Unit checks to see if the resources can be used elsewhere in the region. If not, it initially checks with the EOC, if activated, to see if the resources are needed elsewhere in the system.
- If the resources are not needed elsewhere, and the EOC provides permission to demobilize resources, the REC Resource Unit informs the OEC Resource Unit that they can demobilize.
- The OEC Resource Unit informs the OEC Demobilization Unit and Logistics of the excess resources.
- The OEC Demobilization Unit communicates with the sending and receiving offices to ensure the safe return of personnel, and Logistics orders and/or restocks supplies/equipment.

⁷ For Electric Transmission, the process is the same. For example, excess resources are identified at the DSR and communicated to STOEC, then ETEC, and then the EOC to ensure resources are not needed elsewhere before demobilizing.

Example Process For When Excess Resources Are Identified In the EOC

- The EOC Resource Unit identifies excess resources system-wide in collaboration with Operations and the Demobilization Unit. It then informs the EOC Commander and contacts the respective REC Resource Unit(s) to confirm if the REC or OECs in its area have excess resources.
- The REC Resource Unit checks to see if the resources referenced by the EOC are considered excess, working with the OEC(s) Resource Unit(s). The REC Resource Unit then reports this finding to the EOC Resource Unit.
- The EOC Resource Unit reconvenes with the EOC Operations and EOC Demobilization Unit, and they make a final decision on which resources to demobilize or reassign. The EOC Commander is also informed.
- If the decision is made to demobilize, the EOC Resource Unit instructs the EOC Demobilization Unit to work with the REC Demobilization Unit(s) to demobilize the selected excess resources.
- The REC Demobilization Unit(s) informs the appropriate OEC Demobilization Unit(s) to work with their respective Logistics sections to coordinate demobilization of the identified excess resources.
- The OEC Demobilization Unit communicates with the sending and receiving offices to ensure the safe return of personnel, and Logistics orders and/or restocks supplies/equipment.

3.2.5.2 System Restoration to Normal Configuration

Following a catastrophic disaster, there may be equipment shortages, and non-standard equipment may be used at first in order to efficiently restore customers. As much as possible, the system should be brought back in compliance before fully demobilizing.

4 Coordination and Communication

4.1 Internal Coordination and Communication

4.1.1 Pre-event reporting

Pre-event summary reporting offers the Emergency Management Director and OEC/REC/EOC Commander an assessment of readiness plans. The report includes crew availability counts, including pre-arranged, normal staffed and call-out resources, as well ICS role staffing lists. Safety tailboards, weather updates and the current DSO SOPP model are included to help pre-planning efforts. Pre-activation checklists provide guidance on the steps required for preparation and activation. Checklists are available at the [Emergency Management Website](#).

4.1.2 Incident Action Plan and Intelligence Summary Reports

The Planning and Intelligence Chief is responsible for the preparation and communication of the report schedule. Reporting schedules to the EOC (Level 3 or greater) will be designed to allow sufficient time for compiling, analyzing, and summarizing information before reporting to the next level. For details on these reports and links to templates, refer to the CERP. Below is information on some key plans and reports produced in the OEC/REC/EOC.

- The Incident Action Plan (IAP) is an oral or written plan for the next operational period that ensures a common understanding of objectives, communications, resources, etc. and reflects the overall strategy for managing an incident.
- The Intelligence Summary typically includes information on customer impact, damaged equipment or assets, weather and other incident summary information. Upon request, all identified Emergency Centers provide intelligence summaries to the EOC Operations Chief and the P&I Section Chief. The EOC Situation Unit also creates a system-level intelligence summary, at intervals determined by the P&I Section Chief.
- The Situation Unit creates other situation reports, as determined by the P&I Chief.

4.1.3 Event Summary Report

The Event Summary report consolidates pertinent information to provide a succinct review of an emergency event. Distributed across the PG&E organization, the report summarizes the event while providing performance metrics to measure response efforts. Details include a weather summary, safety incidents, environmental risk and compliance, financial cost and reliability metrics including customer outages and minutes. System damage incurred and significant outages summaries are also provided. This report is distributed by the EOC Commander to PG&E leadership to summarize the event.

4.1.4 ETEC Report Spreadsheet

The ETEC Report is created initially by ETEC and updated by both ETEC and STOEC to reflect the status of all transmission outages during an event. The information is summarized and provided to the EOC for inclusion in the EOC Intelligence Summary.

4.1.5 Systems Information Management

PG&E uses the following critical software applications during emergencies to manage the electric system and to share information. For technical support information, refer to Appendix C.7.

4.1.5.1 Electric Distribution

The following systems are some of the critical applications used in Electric Distribution Operations during emergency events:

- The Outage Management Tool (OMT) is a web based application that is used by the emergency management organization to gather and report information on customer outages, damage assessments, service restoration, and crew movements in emergency events affecting the PG&E system. Refer to Appendix C.6 for an OMT Job Aid.
- The Field Automation System (FAS) is a software application developed by Ventyx. Work Orders are input by (CC&B, AFW, SAP or OIS) and then sent to FAS. FAS is then used by Electric Restoration Troublemakers, Gas Service Representatives, Field Meter Technicians, Dispatchers and Supervisors to assign, dispatch and complete field work orders.
- DMS is an application designed to assist the control center and field operating personnel to monitor & control the entire distribution network efficiently and reliably. DMS has a network component / connectivity model of the distribution system, and is integrated with Customer Information System (CIS), Geographical Information System (GIS) and Interactive Voice Response System (IVRS). By combining the locations of outage calls from customers with knowledge of the locations of the protection devices (such as circuit breakers) on the network, a rule engine is used to predict the locations of outages. Based on this, restoration activities are charted out and crews are dispatched. This results in improved reliability and quality of service, in terms of reducing outages, minimizing outage time, and providing timely outage communications to our customers.
- SCADA (Supervisory Control and Data Acquisition) allows the operator to analyze and control the electrical system from a remote location.
- SAP is used to track emergency jobs as they move through their life cycle. It is a tool that is used to plan, track, and charge labor and to schedule work. SAP is integrated with FAS, so damaged locations that are assessed by field resources and entered into FAS are automatically sent to SAP.

4.1.5.2 Electric Transmission

The following systems are some of the critical applications used in Electric Transmission Operations during emergency events:

- Energy Management System or Transmission Management System (EMS / TMS) is a tool used by system dispatchers and transmission system operators to monitor the Bulk Electric System (BES). EMS has a contingency analysis application that allows for the analysis of the power system in order to identify the overloads and problems that can occur due to a contingency. (A contingency is the failure or loss of an element or a change of state of a device in the power system.) This application uses a computer simulation to evaluate the effects of removing individual elements from a power system. EMS also provides SCADA functions, alarm categories, network study capability, state estimator, and exception reports.
- PI is a data historian tool that allows system dispatchers, real-time operating engineers, and Transmission System Operators to perform load flow analysis, monitor clearances, and view trend data.
- SCADA (Supervisory Control and Data Acquisition) allows the operator to analyze and control the electrical system from a remote location.
- Primate is a real-time mapping tool which uses and reads information from SCADA and TMS. It contains a situational awareness display and operational detail display.
- RMT (Reliability Messaging Tool) is a data messaging system used to convey information related to WECC electrical system elements including, but not limited to: informational 116 notices, outages, emergency and abnormal conditions, as well as restorations. It is used by WECC participating entities, dispatchers and network administrators, and monitored by PG&E's System Dispatchers.
- RAS is a scheme designed to detect pre-determined System conditions and automatically take corrective actions that may include, but are not limited to, curtailing or tripping generation or other sources, curtailing or tripping load, or reconfiguring a System(s).
- TOTL (Transmissions Operations Tracking & Logging) is a web-based electric transmission information management system currently used by CAISO and our System Dispatchers and Transmission System Operators. Desktop E-SLIC is a slimmed-down version of SLIC.

4.2 External Coordination

4.2.1 Customer Strategy and Contact Center

4.2.1.1 Customer Outage Communications

PG&E deploys several methods to communicate with customers when they experience an outage, including via Customer Service Representatives, the PG&E website, social media, Customer Preference and Notification (CPAN) via email, text, or voice message, and Automated IVR telecom systems.

PG&E attempts to provide customers with the following set of details on their specific outage, as soon as they are available:

- **Cause of Outage:** Once an assessment is complete, PG&E assessment personnel provide information on the cause of the outage. This information is available to customers when they call about an outage.
- **Estimate Time of Restoration (ETOR):** ETORs are provided to customers when available. ETORs and their accuracy are important components of customer satisfaction. As such, providing accurate ETORs are a key focus for outage dispatchers, assessment and repair personnel.
- **Estimated Time of Information (ETOI):** During larger events, accurate ETORs may not immediately be available due to the large influx of outages. In these events, PG&E can provide customers with ETOIs that forecast when additional information on their outage will be available.
- **Crew Status:** When available, crew status information can be provided to customers. Statuses such as “Awaiting T-men”, “T-men On-Site”, “Awaiting Crew”, and “Crew On-Site” give customers additional context for the progress of the restoration effort.
- **Other Customer Comments:** T-men and Assessment teams can provide additional comments about an outage to a customer to convey additional information.

When using proactive outage communications via CPAN, the following is communicated:

- Acknowledgement – PG&E is aware your power is out, number of customers affected
- ETA – A crew is on the way
- Cause & ETOR(s) – Cause of the outage, when power will be restored
- Conditional – A new condition may impact your outage
- Restoration – Your power was restored

Accurate and timely customer outage communications are a vital component of improving customer satisfaction, especially during large events.

4.2.2 Public Information and Government Coordination

Refer to the Company Emergency Response Plan (CERP) and External Relations Annex for details on how PG&E coordinates public information. The CERP also contains information on how PG&E coordinates with governmental agencies.

4.2.3 CAISO Coordination

In Level 1 and 2 emergencies involving electric transmission, System Dispatch is the designated PG&E single point of contact with CAISO. During any outage activity, system dispatch is in constant communication with the ISO and provides them with operational information. System dispatch is also in daily contact with CAISO to monitor the power flows, and receive clearance requests.

In a Level 2 or greater emergency, the ETEC may be activated to assist System Dispatch with transmission related outages and to facilitate communications with the CAISO's Emergency Operations Center.

During a system-wide capacity event, it is the System Dispatcher's duty to direct the execution of the CAISO's orders. For details, refer to Appendix E for the Electric Emergency Plan (EEP), Section III For Capacity Emergencies.

4.2.4 Major Outage Reporting

CPUC General Order No. 166 (G.O. 166), states that a major outage occurs when 10 percent of PG&E's serviceable customers experience a simultaneous, non-momentary interruption of service. A measured event is defined as a major outage resulting from non-earthquake, weather-related causes, affecting between 10% (simultaneous) and 40% (cumulative) of PG&E's customer base. (Refer to G.O. 166 for details on when a measured event begins and ends.)

Per Standard Six of G.O. 166, within one hour of the identification of a major outage or other newsworthy event, PG&E shall notify the CPUC and the Warning Center at Cal OES of the location, possible cause, and expected duration of the outage. For purposes of this standard, PG&E generally treats "newsworthy events" as incidents within the category of Level 3 or greater emergency where the EOC is activated.

For major outages, PG&E may activate its EOC. PG&E's EOC Activation and Deactivation Checklist will be used upon activation of the EOC, including emergency reporting to CPUC, the Cal OES Warning Center, and the CUEA. In addition, PG&E will describe major outages and measured events that occur within the reporting period in its G.O. 166 report to the Commission each year.

Standard Eight of G.O. 166, "Major Outage and Restoration Estimate Communication Standard," states the following:

- Within 4 hours of the identification of a major outage, the utility shall make information available to customers through its call center and notify the media of the major outage, its location, expected duration and cause. The utility shall provide estimates of restoration times as soon as possible following an initial assessment of damage and the establishment of priorities for service restoration.
- Within 4 hours of the initial damage assessment and the establishment of priorities for restoring service, the utility shall make available through its call center and to the media the estimated service restoration times by geographic area. If the utility is unable to estimate a restoration time for a certain area, the utility shall so state.

PG&E has established technology interfaces to allow outage information and restoration times to be made immediately available to customers through the call center's IVR system as soon as troublemen in the field enter the ETOR. The outage information is also supplied automatically to the pge.com website, where customers and the media can secure real-time access information on outages.

In addition, depending on incident complexity, PG&E may conduct targeted outbound calling, live agent calling, door-to-door outreach, and facilitate town hall meetings.

PG&E's Public Information Office coordinates external communications with the media. Following a major outage, the Public Information Office continues to provide outage information to the media. (Refer to the External Relations and the WFM/CCO Annexes for additional details on customer and media communications.)

PG&E includes a description of our compliance with Standard Eight in the annual G.O. 166 report.

4.2.5 Other Thresholds for Regulatory Reporting

The following are other thresholds for regulatory reporting:

- IEEE Standard 1366 titled IEEE Guide for Electric Power Distribution Reliability Indices covers the methodology used for calculating thresholds for identifying and adjusting for excludable major event days to evaluate performance of the electric transmission and distribution system.
- Commission Resolution E-4184 covers reporting incidents that result in fatalities, personal injuries, media coverage, and damage to property.
- Electric Emergency Incident and Disturbance Report (Form OE 417) from Department of Energy (DOE)
- NERC Reliability Standard EOP-004-2

5 Performance Indicators

5.1 Indicator Evaluation

Performance indicators are used to monitor response and recovery performance during Level 2 or greater emergencies. Key indicators are monitored and evaluated during an event so that actions can be taken to quickly adjust the response plan. Post-event evaluation of indicators is used to improve processes, increase efficiency and revise emergency plans. Some indicators have established measurements while others are subjectively evaluated during the event or during post-event critiques.

5.2 Safety and Environmental

Indicators will be used to:

- Monitor safety practices and environmental compliance.
- Determine if safety and environmental practices are consistent with established company standards.
- Ensure that hazardous or at risk environmental conditions reported to PG&E are identified for response.

Indicator:

- Employee Injuries or public injuries
- Hazardous Material Spill or Release
- Vehicle Accidents
- Response time to immediate response notifications

5.3 Assessment

Indicators will be used to:

- Monitor the timeliness of compiling a comprehensive damage assessment.
- Determine resource movement needs.
- Determine restoration forecast.
- Determine the need for Mutual Assistance and Contractor Crews.
- Monitor the timeliness of 911 Agency Relief.

Indicator:

- Outage assessment rate
- Appropriate prioritization of outages, to include duration
- Use of non-traditional assessment teams
- Number of standby crews utilized to relieve 911 Agencies

- Number of Mutual Assistance and Contractor resources

5.4 Internal and External Communications

Indicators will be used to:

- Ensure that timely and consistent information is being communicated to internal and external entities
- Gauge the quality of outage information reported to our customers.

Indicator:

- Contact Center Average Speed of Answer (ASA)
- IVR Take Rate performance
- Estimated Time of Restoration (ETOR) Accuracy
- ETOR Timeliness
- Number of ETOR updates
- Outage Basic 5 Information (five basic pieces of information to complete in OMT— materials, estimated repair time (ERT), ETA or ETOR, customer comments, and cause)

5.5 Restoration

Indicators will be used to:

- Monitor the timeliness of customer restoration.
- Evaluate the effectiveness of resource management.
- Monitor forecast vs. actual restoration times.

Indicator:

- Customer restoration times
- Critical Transmission Line restored against forecast
- Outage restoration rate against forecast
- Number of customers experiencing extended duration outages

5.6 Reliability Metrics

Customer Average Interruption Duration Index (CAIDI)

Number of customer minutes of interruption divided by the total number of customers interrupted

System Average Interruption Duration Index (SAIDI)

SAIDI is the sum of all customer interruption duration divided by the number of customers served.

System Average Interruption Frequency Index (SAIFI)

SAIFI is the number of customer interruptions divided by the number of customers served.

Momentary Average Interruption Frequency Index (MAIFI)

MAIFI is the total number of customer momentary interruptions divided by the number of customers served.

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6 Training and Exercises

6.1 Electric Transmission Training and Exercise Program

Electric Transmission Operations department is responsible for annually conducting an EEP exercise with Transmission and Distribution (T&D) departments, other departments identified in the EEP, and the CAISO.

Transmission System Operations also conducts:

- Four restoration training exercises annually—a system-wide exercise and three area-specific exercises.
- Four capacity exercises annually—a system-wide exercise, as well as three exercises for smaller localized areas of concern.
- Transfers of control from Vacaville (primary location) to Rocklin (back up) to ensure Grid Control Center (GCC) System Dispatcher has executed the process each year.
- Five, six-week sessions of continuing education hours for System Dispatchers, to comply with NERC regulations and to maintain NERC Certification.

In addition, the Director and the Superintendents ensure this Annex is reviewed with all employees at least annually and that the training is documented.

6.2 Electric Distribution Training Program

The Director of Emergency Management is responsible for maintaining an ongoing training program for Electric EMO personnel. The intent of the program is to ensure understanding of emergency response procedures and practices. Position-based training and use of technology are key focus areas of the training program. The use of ICS is emphasized in the training program to ensure an effective overall response and alignment with public agencies.

Each director and superintendent responsible for emergency planning and response is also responsible for ensuring that personnel identified in emergency plans are trained annually and that this training is documented. Directors and superintendents with emergency response roles are expected to maintain adequate workforce redundancy for each emergency response position. Cross-training of new or less experienced personnel in various emergency roles, and the involvement of less experienced personnel in emergency exercises and events, facilitates the development of an adequate emergency response workforce.

Based upon the assigned emergency role, employee training should include some, or all, of the following:

- CERP and Electric Annex
- Role-based Training
- Outage Management Tool

- Event Strategy Workshops
- Technology Down Processes
- Standby Training
- ICS CBTs 100 and 200
- Instructor-led classes ICS 300 and 400
- Emergency Management SharePoint
- ARCOS Crew Manager
- Clerical Support
- Assessment, Repair, and Restore Process and Procedures

6.3 Electric Distribution Exercise Program

The Director of Emergency Management is responsible for scheduling, conducting, and evaluating the required exercises. Exercises are intended to examine the effectiveness of the emergency plans. Performance will be evaluated against established objectives and processes. Gaps identified during the exercises must be documented. Actions to close gaps must be tracked to completion.

6.3.1 Testing of Plan

Company policy and the California Public Utilities Commission (CPUC) General Order 166 require annual exercises with appropriate departments and public agencies based on simulated emergency events. This requirement can be waived in lieu of an actual event dependent upon the event's scope and structure. The Electric Operations Emergency Management Department oversees and manages the testing of the Electric Annex. The documentation of training and exercises are submitted to EP&R to facilitate alignment of response processes and procedures across the enterprise, and included in the annual G.O. 166 filing.

6.3.2 Quarterly Exercise Requirements

The Director of Emergency Management recommends quarterly region-based exercises. This requirement acknowledges that at a minimum, one Region Emergency Center may exercise its plan and/or one facet of that plan each quarter (e.g., an OEC's overall operations is exercised one quarter and then the dispatch process is exercised the following quarter). A tabletop exercise can fulfill the quarterly exercise requirement. It is prudent to exercise each Region's emergency centers (REC, OEC, and DSR) and their critical processes (e.g., Dispatching T-man and Assessment Crews) often enough to ensure that the participants are proficient in their roles and responsibilities. The quarterly exercise policy can be waived if there has been an actual incident and agreement has been reached with the Region Director and the Director of Emergency Management.

7 After-Action Reports, Unit Logs, and Records

After-action reviews are to be conducted by each emergency center within 20 business days of deactivation of the center for all activations meeting the criteria outlined in EMER-4510S, "Operations Emergency Center (OEC) Activation Requirements".

7.1 Preparation for Formal After-Action Reviews

Emergency centers may conduct separate after action reviews in preparation for the formal after action meeting. For example, control centers and district storm rooms (DSRs) may perform their own after action reviews following an event. The frontline supervisors will lead the Control Center and DSR critiques. These emergency centers will send a point of contact to represent their findings during the formal after action review meeting.

7.2 Emergency Center After-Action Review Plans

Emergency centers will identify corrective actions, assign action item leads, and designate due dates. These action items will be entered into the Corrective Action Program (CAP). After-action reviews will be survey-based and sent out by the emergency management specialist unless an Incident Commander or Region Director requests an AAR be facilitated by the emergency management specialist and led by REC/OEC Commanders to ensure completeness of action plans. Strengths and opportunities identified during after action reviews will be communicated to the affected EMO stakeholders for future reference. Significant strengths will be communicated to the Director of Emergency Management for incorporation into future plans and will be shared system-wide as "Best Practices" by the emergency management specialists. Improvement opportunities will be addressed in a prioritized manner.

7.3 ICS 214 Unit Log

All positions in the emergency centers are responsible to maintain an ICS 214 Unit Log to document aspects of the restoration effort. This will include the date and time of key activities, decisions, contacts made, and similar topics. Completed logs shall be archived in accordance with the company's policies for record retention.

7.4 Record Keeping

All departments and headquarters, as outlined throughout this plan, shall follow Emergency Operations reporting procedures and record keeping. Documentation of all significant events is required to effectively document response and restoration efforts. Local IAPs will be archived on a shared drive/SharePoint site as determined by the Director of Emergency Management. In addition, established PG&E requirements governing reporting, record keeping and record retention will be observed. Records will assist in developing post-event critiques and the Event Summary Report, which will be used to document and continuously improve the emergency response and restoration process.

7.5 Financial Considerations and Financial Records

The Finance and Administration Chief in the OEC, in conjunction with the Emergency Recovery Program Manager, shall monitor that all time and related expenses are properly captured and recorded to each appropriate Plant Maintenance (PM) Event Order designated to cover the emergency event, and based on the current emergency recovery accounting guidelines. Also, the Finance and Administration Chief in the OEC shall track and maintain records of expenses associated with response and restoration. (Refer to PG&E's records retention policy for more details.)

Appendix A. Glossary and Acronyms

A.1 PG&E Standard Glossary

Refer to the PG&E Standard Glossary in the Company Emergency Response Plan (CERP).

A.2 Acronyms

The following chart includes electric operations acronyms in this Annex that are not included in the PG&E System Acronym list.

Table 7.1 Electric Operations Acronyms

Acronym	Definition
CAIDI	Customer Average Interruption Duration Index
ERT	Estimated Repair Time
ETA	Estimated Time of Arrival
MAIFI	Momentary Average Interruption Frequency Index
RMT	Resource Management Tool
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SOPP	Storm Outage Prediction Project

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Appendix B. Contact / Notification Lists

B.1 Emergency Response Personnel Contact Lists

- On Call Lists for REC/OEC personnel are located on the Emergency Management Website under “Contacts” and “On Call Schedules” located [here](#)
- [On Call list for EOC members](#)
- Transmission Operations Contact Lists are located on [SharePoint](#).

B.2 Additional Lists

The following lists are also located in the Emergency Management Website:

- The County OES Contact List and contact information for the emergency centers are located [here](#) (under contacts)

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Appendix C. TOOLS, JOB AIDS, TRAINING AIDS, AND OTHER REFERENCE MATERIALS

C.1 Emergency Center Activation Checklist

Click on the following links to view the checklists. Then for the OEC, REC, and EOC Activation/Deactivation Checklists, click on the Activation link or folder.

- [EOC, REC, OEC Activation and Deactivation Checklists](#)
- Unplanned Event 96-Hour OEC/REC Checklist
<http://pgeweb/electric/emergency/Pages/CheckLists.aspx>

C.2 Electric Distribution Emergency Center Locations

Emergency center, alternate locations, and contact information is located at the following link under Contacts.

<http://pgeweb/electric/emergency/Pages/default.aspx>

C.3 Electric Conference Call Agendas for Activation

- **EOC Pre-Event, Planning, Tactics and Logistics Meeting Agendas:** Click <http://wss/EO/sites/EP/EOC/PI%20Documentation%20Unit/Forms/AllItems.aspx>, then select Section Chief Meeting Agendas.
- **REC/OEC Meeting Agendas:** <https://SPs.utility.pge.com/sites/EOEP/MEETINGSCRIPTS/FORMS/ALLITEMS.ASPX>

C.4 Intelligence Summary Template and Instructions

For the EOC Intelligence Summary template and instructions, look under the EOC Planning and Intelligence Section's Forms and Tools section.

<https://wsssecure.utility.pge.com/EO/sites/EMPMO/EOC/Planning%20and%20Intelligence%20Resources/Forms/AllItems.aspx>

C.5 After Action Report Template and Instructions

<https://wsssecure.utility.pge.com/EO/sites/EMPMO/EOC/ICS%20Forms/Forms/AllItems.aspx?RootFolder=%2FEO%2Fsites%2FEMPMO%2FEOC%2FICS%20Forms%2FAfter%20Action%20Report%20Template&FolderCTID=0x0120002E083BA18EF1C64393153ADAA5B3D47A>

C.6 Outage Management Tool (OMT) Job Aids

The Outage Management Tool (OMT) is a web based application that is used by the emergency management organization to gather and report information on customer outages, damage assessments, service restoration, and crew movements in emergency events affecting the PG&E system.

The OMT Overview Job Aid at the following link provides information on all the reports and tools available in OMT, system requirements, login, and technical support information. Detailed job aids on OMT are also provided at the link below.

<http://pgeweb/electric/emergency/Pages/EM%20JobAids.aspx>

C.7 Technical Support

- For FAS or DMS Support, contact the TSC at 415-973-9000, PG&E Line at 8-223-9000. The TSC Analyst will then contact the On Call DMS Admin.
- For EMS, PI, and Primate, contact the TSO-Operations Systems-EMS Team.
- For SCADA, contact the SCADA team.
- For WECCNet, contact WECC.
- For RAS, contact the TSO-Operations Systems-RAS Group.
- For SLIC and E-SLIC, contact IT or TSO-Training.
- For OMT issues related to OMT installation and setup and OMT Tech Down contact:
Normal Work Hours

- Primary contact - Technology Service Center (TSC)
- Secondary contact - Local Emergency Management Specialist (EMS)

After Work Hours and Weekends

- Primary contact - Telecommunications Control Center (TCC)
- Secondary contact - Technology Service Center (TSC)
- For OMT issues related to creating, modifying or removing OMT User Accounts, formal OMT Training, Operational Support, ideas, suggestions and general inquiries, contact your local EMS.

C.8 ICS, Planning Process, and Key CERP Job Aids

Refer to the Company Emergency Response Plan (CERP) for additional details and job aids for the following:

- Incident Command System (ICS)
- Planning Process
- Three-Way Communication
- Phonetic Alphabet

<http://pgeatwork/Guidance/EmergencyResponse/Pages/CERP-3000.aspx>

C.9 Position Checklists

ICS position checklists for Command and General Staff are located at the following under EOC Positions and Tools:

<https://wsssecure.utility.pge.com/EO/sites/EMPMO/EOC/default.aspx>

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Appendix D. Fire Prevention Plan



Fire Prevention Plan

September 30, 2017

D.1 Summary

Pacific Gas and Electric Company (PG&E) has had in place a number of separate operational plans and programs to prevent and mitigate the risk of fire ignitions associated with the operation of PG&E's electric facilities in areas having a "Extreme" and "Very High" fire rating, according to the USFS Wildland Fire Assessment System (WFAS). To complement and support the various operational measures PG&E has in place, PG&E monitors information made available from numerous entities and disseminates predicted weather and fire threat information to employees and contractors within its service territory to keep them informed of critical meteorological conditions. PG&E also has programs to reach out to its customers and first responders throughout its service territory to educate them on electric safety.

This plan collects in a single document the multiple fire prevention and mitigation plans and programs utilized in PG&E's entire service territory. It also includes in Attachment 1 the additional California Public Utilities Commission (CPUC) requirements for "Extreme" and "Very High" Fire Threat Zones in Southern California, which includes Santa Barbara County, and in Attachment 2, the identification of the CIP Tier 3 and Tier 4 fire threat areas to be used as the interim fire threat map, as ordered in Phase 2, D 12-01-032.

D.2 Policy Statement

It is the Pacific Gas and Electric Company's policy to:

- Plan for natural and man-made emergencies such as fires, floods, storms, earthquakes, cyber disruptions, and terrorist incidents;
- Respond rapidly and effectively, consistent with the National Incident Management System principles, including the use of the Incident Command System (ICS), to protect the public and to restore essential utility service following such emergencies;
- Help to alleviate emergency-related hardships;
- Assist communities to return to normal activity.

D.3 Plan Components

D.3.1 Fire Prevention Pre-Planning

Education

- Each year prior to May 1st, field personnel and their supervisors receive training on Utility Standard S1464 "Fire Danger Precautions in Hazardous Fire Areas." (This standard outlines operational requirements for working and operating in areas that are considered high fire risk during fire season.)
- PG&E conducts annual electric safety training for first responders; including law enforcement agencies, fire departments, public works and transportation agencies.

- PG&E participates in annual joint exercises that include external partners from the first responder community and emergency management community to enhance preparedness and prevention efforts.



Training First Responders

- PG&E meets annually with local, state and federal agencies and jurisdictions to share fire prevention plans, and strategize for the coming year.

Intelligence Gathering – Weather and Fire

- PG&E’s meteorology department utilizes state-of-the-art weather forecast model data and information from the National Weather Service (NWS), The United States Forest Service (USFS) Wildland Fire Assessment System (WFAS), and other agencies to evaluate the short to medium term fire weather risks across its service territory.
- The PG&E meteorology department operates PG&E’s Operational Mesoscale Modeling System (POMMS), a high-resolution weather forecasting model that forecasts important fire weather parameters including wind speed, temperature, relative humidity, and precipitation down to 3-km resolution. Outputs from the POMMS model then are used in the National Fire Danger Rating System (NFDRS) to derive key fire danger indicators such as the Energy Release Component, Ignition Component, Spread Component, Burning Index, and fuel moistures.
- Each day, fire danger output from the POMMS-NFDRS model as well as Red Flag Warnings or Fire Weather Watches from the NWS determine the “very high” and “extreme” fire danger ratings across the PG&E Service Territory. Operational decisions to reduce the fire ignition risk (see Section 2 – Operational Readiness during High Risk Conditions) go into effect each day “very high” or “extreme” fire danger ratings occur. Daily e-mails to electric operations with fire conditions are sent; fire conditions are also discussed in daily calls.
- Two to seven day forecasts are also provided each day that identifies upcoming periods of heightened fire weather risk. The updates provide information about offshore wind events, extreme hot and dry conditions, and dry lightning potential. This information, combined with weekly forecasts from National Interagency Fire Center (NIFC) - Predictive Services for Northern (ONCC) and Southern California (OSCC), give advanced warning about significant fire danger.

D.3.2 Established Fire Prevention Program

PG&E has in place programs that serve to mitigate the risk of an ignition associated with its electrical operations through its service territory. The various programs are:

Electric Operations – Asset Management

Non-Exempt Equipment Replacement

This program focuses on replacement of non-exempt equipment subject to firebreak maintenance under California Public Resource Code 4292. This work is identified and prioritized by a standardized risk assessment at each site. Prioritization starts with identification of equipment type and site specific fire risk assessment. If equipment is not eligible for replacement, fire risk continues to be mitigated by annual maintenance of firebreaks at the facility base.

CalFire has also granted an exemption for two lightning arresters since 2015. PG&E has developed a surge protection replacement initiative that will target replacement of non-exempt lightning arrestors with these new alternatives.

Infrared (IR) Program and Automatic Splice Inventory

This program is currently prioritized in PG&E designated wildland fire prevention areas with a multi-year strategy to IR and splice inventory the entire electric distribution system. This program utilizes forward looking infrared (FLIR) technology to identify thermal exceptions on all phases of line. Thermal exceptions are evaluated and repair/replacement are prioritized and completed.

Wires-Down Program

Our Distribution Planning department performs a site visit to most wire-down locations caused by either equipment failure or animal contact. The data obtained from these visits aids in our efforts to reduce future wires-down events. Some of the benefits include:

- Establishing failure rates for conductor types and size
- Obtaining splice data which is added to the MapGuide (GIS) system.
- Obtaining details on wire-down events where the conductor remained energized.
- Generating projects to replace deteriorated conductor

Wood Pole - Test and Treat Program

The Pole Test and Treat (PT&T) program performs intrusive testing on all wood distribution and transmission poles. While General Order (GO) 165 mandates this testing on 20-25 year increments depending on the time of installation, PG&E's program is based on a 10 year cycle. This PG&E program exceeds the inspection cycle requirements outlined in the GO and incorporates wood preservation practices beyond the regulatory requirement. These factors allow PG&E to identify and mitigate the decay of wood which reduces failures. The program also allows for proactive reinforcement or replacement of poles that do not meet strength requirements.

Wood Pole Bridging Program

Bridging crossarms prevents pole fires which can occur at the through-bolt location during light rain or mist. Because this area is dry and has a high resistance to insulator leakage currents flowing to ground, a hot spot exists on the pole. Shunting this high resistance area with a short length of bare wire usually abates the risk.

Electric Operations – Maintenance and Construction

Overhead Patrols and Inspections

PG&E inspects its electric facilities to identify conditions that may pose the risk of an ignition. The program is designed to:

- Perform annual patrols of distribution lines in urban areas, designated high fire threat zones, with biannual patrols of overhead distribution facilities in rural areas.
- Perform targeted patrols on transmission lines located within Tier 3 and Tier 4 designated high fire threat areas.
- Perform detailed inspections of overhead distribution facilities on a 5-year cycle.
- Perform detailed inspections of overhead transmission lines on a 3-year cycle for 500 kV, a 5-year cycle for 230 kV and lower having steel structures, and a 2-year cycle for wood pole structures.
- Document patrol and inspection activity and findings.

Operational Readiness During High Risk Conditions

PG&E Utility Standard S1464 “Fire Danger Precautions in Hazardous Fire Areas,” outlines operational requirements for working and operating in areas that are considered high fire risk during the designated fire season. When an area is rated “Extreme” or “Very High,” it is identified and colored coded on the map. (Refer to Attachment 3.) The following summarizes the plan:

- General readiness requirements for all employees are covered, including awareness of all laws, rules, and regulations of fire agencies having jurisdiction over areas in which they work or travel. Each crew must be equipped with well-maintained firefighting equipment.
- Fire Index ratings, as determined by the POMMS-driven National Fire Danger Rating System (NFDRS) and/or Red Flag Warnings and Fire Weather Watches issued by the National Weather Service, are in effect from 0800 hours to 2 hours after sunset.
- Field personnel traveling or working in an “Extreme” or “Very High” Fire Index area, are prohibited from any burning, welding, blasting, smoking, and driving off cleared roads.
- Electric Operations is restricted from testing any section of line that relays in a Fire Index area rated “Extreme” or “Very High”, until the line has been patrolled and all trouble cleared.

- Notification Process to Personnel of Daily Fire Threat Conditions
- Daily updates of a fire index website that contains an image showing active “Extreme” and “Very High” areas.
- Daily 6 a.m. fire index e-mail.
- Daily review of the fire index by Crew Supervisors and briefing of crews if they are heading into an area having fire indexes of “Extreme” and “Very High” zones.
- Daily dissemination of all Red Flag Warnings on Distribution System Operations (DSO) Storm Outage Prediction Project forecast for “Extreme” and “Very High” areas and daily DSO status calls Mondays through Fridays, excluding holidays.
- Weekly fire danger forecast from meteorology team.
- Production of a daily image of the “Extreme” and “Very High” fire index areas, using internal Geographic Information Systems (GIS). This image is available on the PG&E intranet and can be viewed with intranet access.

Notification Process to Personnel of Daily Fire Threat Conditions

- Daily updates of a fire index website that contains an image showing active “Extreme” and “Very High” areas.
- Daily 6 a.m. fire index e-mail.
- Daily review of the fire index by Crew Supervisors and briefing of crews if they are heading into an area having fire indexes of “Extreme” and “Very High” zones.
- Daily dissemination of all Red Flag Warnings on Distribution System Operations (DSO) Storm Outage Prediction Project forecast for “Extreme” and “Very High” areas and daily DSO status calls Mondays through Fridays, excluding holidays.
- Weekly fire danger forecast from meteorology team.
- Production of a daily image of the “Extreme” and “Very High” fire index areas, using internal Geographic Information Systems (GIS). This image is available on the PG&E intranet and can be viewed with intranet access.

Vegetation Management

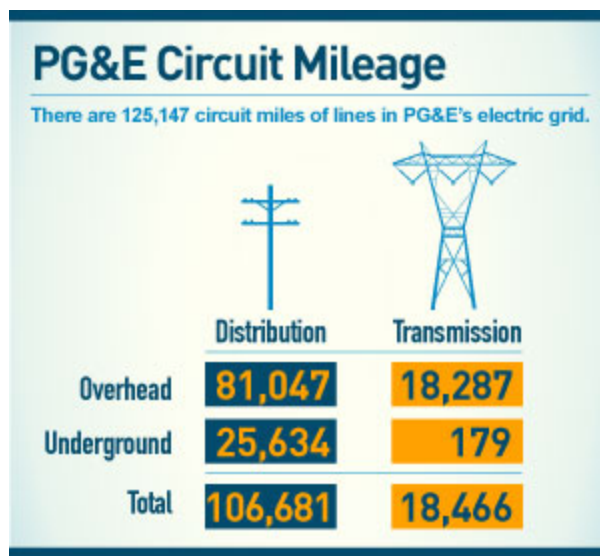
Regulatory

- PG&E manages the vegetation close to its overhead electric facilities, which reduces the risk of possible ignitions associated with vegetation contact. PG&E’s program is designed to:
- Comply with all existing State and Federal regulatory vegetation clearance requirements.

- Perform annual patrols to ensure required vegetation clearances are maintained and hazardous trees abated.
- Maintain tree-to-line clearances as well as radial clearances around its poles pursuant to Public Resources Code Section 4292 and 4293.
- Maintain auditable records of all work done in high fire risk areas.

PG&E's Routine Vegetation Management Inspections

In order to reduce the incidences of vegetation contacting energized conductors, PG&E employs over 400 utility arborists and contractors to conduct annual ground inspections of 100 percent of PG&E's 99,700 miles of overhead distribution and transmission power lines. Through the annual inspections, inspectors look for vegetation growing in the area around the power lines.



PG&E's line clearance qualified professional tree care workers then reduce the risks through pruning or removal of the trees, called "abatement" of the vegetation.

More than 400 utility arborists/foresters and 1,600 line clearance qualified tree care professionals perform routine annual activities on behalf of PG&E's Vegetation Management Department involving:

- 70,000 square mile service territory
- 81,000 miles of overhead distribution
- 18,300 miles of overhead transmission
- 5,000,000 trees with the potential to "grow into" power lines
- 147 million trees within tree-height of the facilities

Contract inspectors and tree workers annually:

- Prune or remove about 1,200,000 trees per year
- Prune or remove about 6,000 trees per day
- Interact with about 10,000 customers per day
- Inspect about 2,000,000 properties per year
- Maintain fire breaks on 120,000 power poles and towers

As a part of these activities, PG&E VM employees and contract work force is trained in fire prevention. Each year, arborists and tree workers learn about sources of ignition, ignition prevention, and fire suppression equipment and its use. Each worker is supplied with fire prevention and suppression tools to use in the field should a fire occur, including extinguishers, Mc Clouds (hoe-like firefighting tools), shovels, and back-pack sprayers.

PG&E's Public Safety and Reliability and Wildfire Risk Reduction Program

In addition to the routine inspection and abatement process, PG&E has also implemented a Public Safety and Reliability (PS&R) Program to further reduce vegetation related outages and ignitions. This program complements the routine inspection activities by providing additional data-driven vegetation management at high risk locations.

From years of performing targeted tree work, PG&E has collected an extensive database of information about tree failures causing outages and ignitions.

Analyzing that data, PG&E VM may predict how, generally when and where each species of tree is more likely to fail and cause an outage. The analyses indicate whether each type of tree species is more likely to shed limbs, break in the stem, or uproot and fall over, and the time of year and soil/climate conditions where each species is more susceptible to failure. PG&E's VM utilizes this experience and knowledge to prescribe tree abatement work along length of wire with a history of tree-caused outages. About 25,000 trees are abated each year with this program.

Utilization of Fire Modeling and Fire OIR Map 2 Products

In addition to PG&E's routine inspections and PS&R, PG&E determined that there was a need for more intensive tree inspections in the highest fire risk areas as determined by wildfire modeling and proposed CPUC Fire Map Tier 3. PG&E VM inspectors will conduct more intensive targeted tree inspections, and tree crews abate trees that meet certain thresholds.

Drought-Affected Vegetation Impacts – Special Redundant Abatement

The cumulative effect of the continued drought is beginning to manifest itself in widespread vegetation mortality—particularly in the low elevation conifer stands of the south and central Sierra.

The unprecedented level of mortality has left whole forested regions dead and has greatly increased the level of work necessary to abate risks associated with dead/dying trees and tree limbs failing.

PG&E's Vegetation Management Drought-Mitigation Initiatives In Addition to Its Annual Routine Work

Focusing on distribution assets, the initiatives to respond to the drought include:

- Redundant tree inspections abatement work where about 73,000 miles of power line are inspected and trees abated. About 155,000 trees will be abated in 2017 using 200 specialized tree inspectors and about 350 specialized tree crews. PG&E is also cleaning up tree debris (fuel) in drought affected counties; especially in High Hazard Zones (HHZ).
- Funding local community groups to conduct fuel reduction and safe ingress/egress work. About \$11.6 million has been allocated to local groups since 2014.

D.3.3 In-Development, Pilot and Ad-Hoc Fire Prevention Activities

PG&E is dedicated to exploring the value of additional fire prevention programs associated with its varied operations. The following list of activities and mitigation have varied application within PG&E's service territory. All are being evaluated and incorporated into metrics as part of the company's strategy. These efforts are being evaluated for cost-benefit and fire prevention effectiveness on an on-going basis.

- Ignition reporting metrics and driver evaluations
- Voluntary firebreak maintenance for non-exempt equipment in PG&E designated areas
- PT&T prioritization of pole reinforcement and replacement in high fire threat areas
- Annealed copper replacement
- Targeted conductor replacement
- Annual detailed wildfire inspections in PG&E designated areas
- Increased SCADA and Fault Detection
- SCADA enabled Line Recloser auto-blocking in select high fire threat areas
- Equipment Testing and overhaul in high fire threat areas
- Sensitive ground fault tripping
- Increased Squirrel/Raptor Protection
- Protection-line down guy / insulator retrofits
- Targeted Pole Loading evaluations
- Insulator Washing
- Small Fire Suppression Training - Indian Backpacks/McCleod

- Exploration of emerging fire detection technologies and services

Detection Activities

PG&E's has implemented several fire detection efforts to aid early detection and facilitate rapid response to all fires.

- Contracted daily contracted, fixed wing aerial "smoke," patrols during fire season
- Daily "Service Line Agreement" for fire detection during daily Gas Operations flights
- Sponsoring remotely operated cameras to identify and call-in fires.
- Satellite fire detections

Fire detection from space has rapidly improved over the last decade. PG&E Meteorology is leveraging fire detection data from polar (MODIS) and geosynchronous satellites (GOES) at present. The next generation weather satellite (GOES R/16), once operational (~ November 2017), will scan the entire continental US every 5 minutes and will be able to detect fires as small as roughly 2/3s the size of a football field.

D.3.4 Pro-Active Responses to Fire Incidents

PG&E's fire prevention activities include firefighting and fire-recovery response. In the event a fire threatens public safety or PG&E facilities, PG&E will support firefighting efforts as appropriate, through the procurement and allocation of man power, particularly those from unaffected areas and outside sources and activation of PG&E's Incident Command System. PG&E has developed and has ready two 39', one 30' and four 24' Incident Command Centers that are self-contained, operationally ready, mobile coordination and communications centers, which can be deployed within hours.

With approval of the fire Incident Commander at the Incident Command Post, there are many cases where PG&E crews respond to the fire area and perform pole pre-treatment and fuel reduction activities **ahead of the fire** on and near the power line right-of-way.

- Pole pre-treatment is conducted with an approved wildland fire chemical applied to wooden power poles, thus helping to prevent ignition of the power pole from direct flame impingement or radiant heat.
- Vegetation clearing/fuel reduction – Vegetation Management crews may work ahead of the fire to reduce the fuel in and around the power poles and utility right-of-way using a variety of vegetation clearing/fuel reduction methods.
 - Limbs are removed to reduce ladder fuels, thus preventing a fire from getting into the tree crowns and reducing the volume of fuel/vegetation in the right-of-way.
 - Vegetation is treated with masticators to create defensible space around the power poles if the fire were to burn in the proximity, the right-of-way would act as a fuel break and bring the fire out of the crown and down to the ground, so that the fire suppression crews will have a better chance to control the spread of the fire.

- Field readiness – Field personnel may work directly with the fire suppression Incident Command to coordinate efforts to identify potential hazards and mitigations to provide a safe area for the public and the personnel working onsite. If the power lines need to be de-energized, the crews are onsite to perform the task for the fire control personnel. This will alleviate a hazard and the possibility of contact with a live/hot conductor should it come down from a burned power pole or be brought down by a hazardous tree or other conditions.
- Operational controls – Onsite personnel may coordinate with fire suppression Incident Command personnel should a change in tactics be necessary to protect critical generation, transmission and distribution system assets.

D.3.5 Post Incident Recovery

Critique Process

- PG&E normally conducts a thorough post-event critique within 21 days after a fire-related incident resulting in Operations Emergency Center (OEC) activation.
- PG&E also participates in joint public agency/PG&E debrief sessions following a fire event that required an escalated response, to gather information on response activities that went well, identify areas for improvement, and share best practices and lessons learned.
- Each department involved in an escalated-response event should review their emergency operations plans to determine whether modifications need to be made in light of the experience gained during the emergency.
- PG&E normally requests after action reports from responding agencies to review, and utilizes them in future improvement planning efforts.

Remediation Activities

- Abating fire affected trees that pose a threat to the utility lines is normally done after the fire has gone through the area.
- To control erosion, mastication is used with minimal soil disturbance and dense organic material left behind. In coordination with fire suppression agencies, PG&E may construct water bars in the power line right-of-way access roads for erosion reduction in the burned area. This is done after the restoration efforts are completed.
- In some cases conductors and insulators may need to be cleaned based on the possibility that fire retardant was dropped on the line and that the particulate matter from the smoke plume could have caused a buildup on the line due to incomplete combustion of the fire, particulate matter, and radiant heat.



Example of Masticated Area

D.3.6. Fire Prevention Plan Performance and Metrics

This Fire Prevention Plans performance is monitored and evaluated through annual program planning and schedule attainment monitoring. Annual CPUC reportable ignitions and a wildfire program dashboard are updated and distributed monthly.

Reportable Ignition Metric

Ignition reporting has been incorporated into PG&E operations since June, 2014. This data has been utilized in reporting to establish baselines to inform metrics that focus on continuous improvement. Ignition drivers are evaluated to identify and develop potential mitigations designed to reduce annual ignitions.

Wildfire Dashboard

Fire Prevention Plans performance is monitored monthly with a dashboard that highlights its programs and status relative to the annual schedules. Status is reported as Red, Amber or Green. Programs outside of “Green” status require corrective actions that identify operational challenges and actions required for schedule recovery.

D.4 Fire Prevention Plan References

1. CPUC General Order 166, Standard 1.E: Fire Prevention Plan.
2. CPUC Decision 09-08-029: Decision in Phase 1—Measure to Reduce Fire Hazards in California Before the 2009 Fall Fire Season, August 20, 2009. (Phase 1 of Rulemaking 08-11-005.)
3. CPUC Decision 12-01-032: Decision Adopting Regulations to Reduce Fire Hazards Associated with Overhead Power lines and Communication Facilities, January 12, 2012. (Phase 2 of Rulemaking 08-11-005.)
4. Electric Distribution and Transmission Utility Standard S-1464 “Fire Danger Precautions in Hazardous Fire Areas”
5. CPUC Decision 14-05-020: Decision Granting In Part and Denying In Part The Petition to Modify Decision 12-01-032, May 2014. (Refer to Attachment 4.)

D.5 Fire Prevention Plan Attachments

Attachment 1 – Special Fire Threat Zones: Santa Barbara County

Summary

The CPUC has directed utilities to take additional steps to mitigate fire risk in certain high fire threat areas in Southern California counties, including Santa Barbara County.⁸

As a result PG&E's plan includes the following additional fire prevention and mitigation measures for its facilities in the applicable areas of Santa Barbara County.⁹

Vegetation Management

For line sections in a State Responsibility Area (SRA) or line sections located in "Extreme" and "Very High" Fire Threat Zones in a Local Responsibility Area (LRA), the following vegetation clearance requirements apply.

Clearances to be maintained year-round:

- 2.4 kV-72 kV = 6.5' at time of trimming, 4' at all times
- 72 kV-110 kV = 10' at time of trimming, 6' at all times
- 110kV-300 kV = 20' at time of trimming, 10' at all times
- Above 300 kV = 20' at time of trimming, 15' at all times

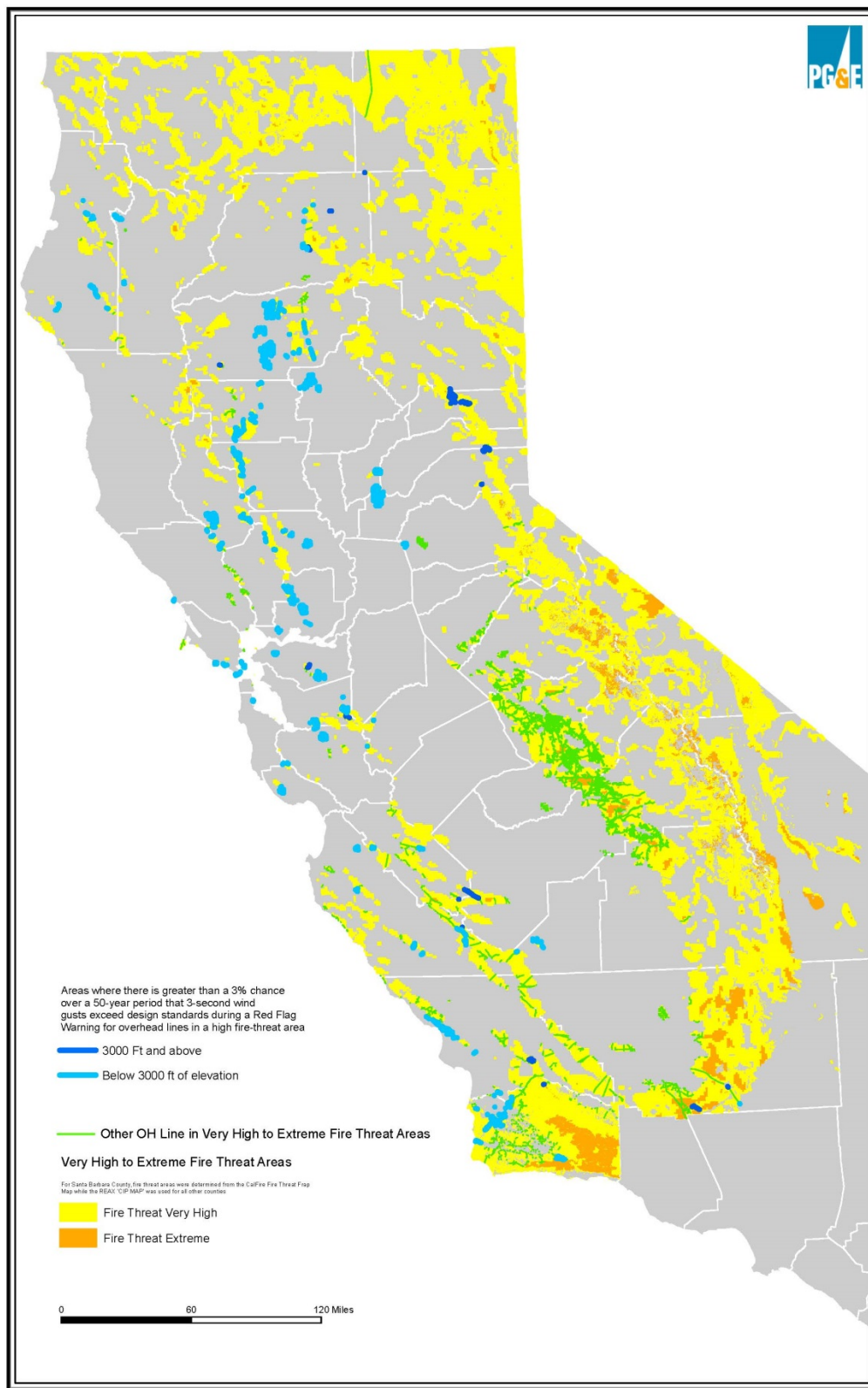
Overhead Patrols

For overhead distribution facilities located in rural areas in the "Extreme" and "Very High" Fire Threat Zones of Santa Barbara County, patrols of applicable facilities should be conducted annually instead of every two years.

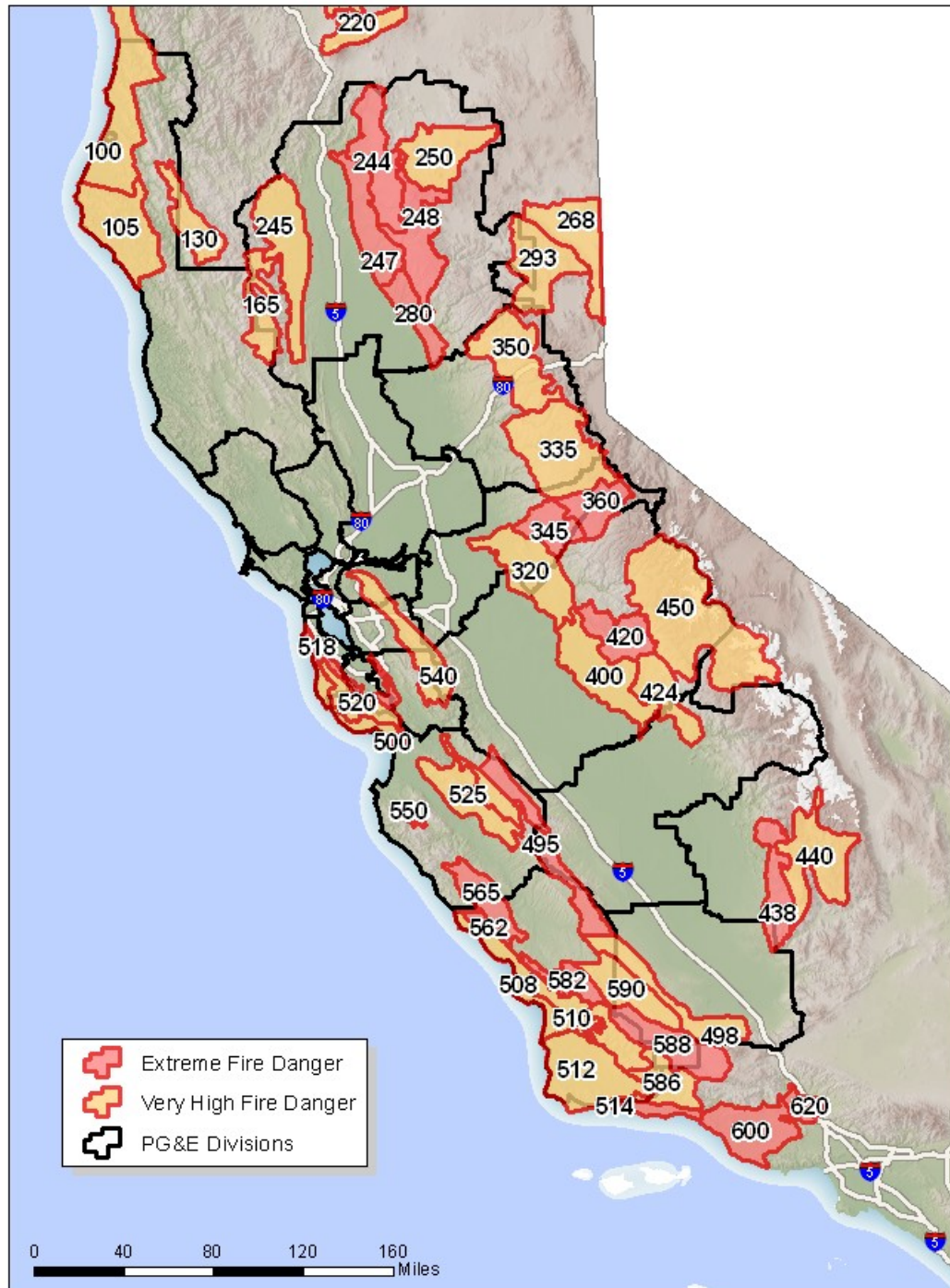
⁸ See CPUC D.09-08-029 and D.12-01-032 and corresponding requirements in General Order (GO) 95 (including new Case 14 in Table 1 and Appendix E) and GO 165.

⁹ The areas to receive special treatment by PG&E in Santa Barbara County are the "Extreme" and "Very High" Fire Threat Zones as designated on the Fire and Resource Assessment Program (FRAP) Map.

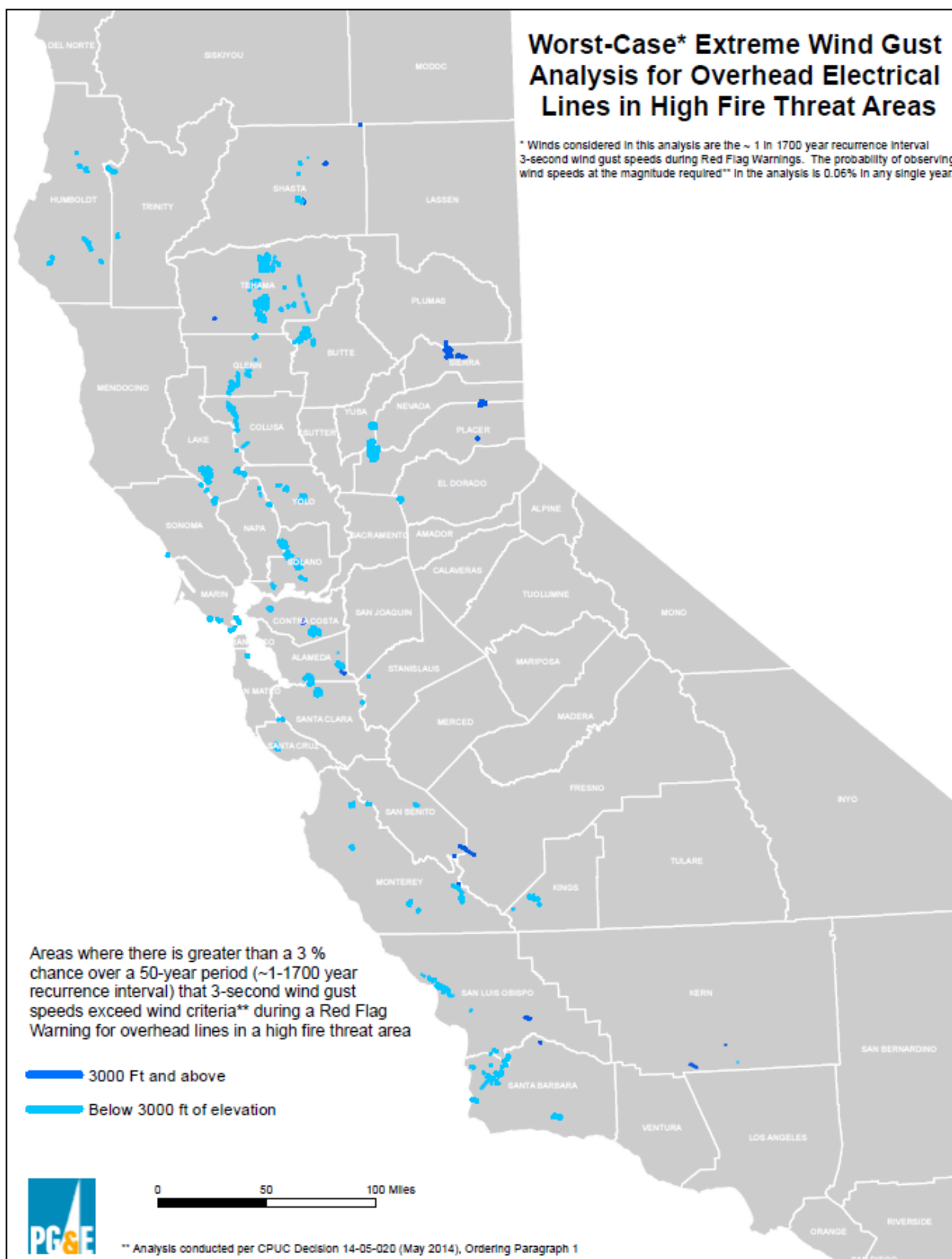
Attachment 2 – Interim Fire Threat Map



Attachment 3 - Fire Index Map of PG&E Territory

PG&E Fire Index Ratings for 10/2/2012

Attachment 4 – Worst Case Extreme Wind Gust Analysis



Appendix E. Electric Emergency Plan (EEP) For Capacity Emergencies

The California Independent System Operator (CAISO) operates the state's transmission grid. When it is determined that operating reserves are inadequate to meet the Western Electricity Coordinating Council (WECC) Standards, the CAISO initiates actions to address the imbalance between available system resources and system demand.

The Electric Emergency Plan (EEP) for Capacity Emergencies describes the actions PG&E will take upon receiving orders from the CAISO to address electric supply and/or capacity shortages. This plan is located at:

<https://sps.utility.pge.com/sites/eep/SHARED%20DOCUMENTS/FORMS/ALLITEMS.ASPX>

Exhibit C

Emergency Communications Plan Summary

Exhibit C Emergency Communications Plan Summary

PG&E's Emergency Communications Plan is a comprehensive how-to guide that contains detailed planning and process information on emergency communications for internal and external audiences following an emergency or major disaster.

The Emergency Communications Plan is a 1,131 page document that includes detailed emergency plans, instructions, roles and responsibilities for the following PG&E organizations:

- Marketing & Communications) (950 pages)
- Government and Regulatory Relations / Public Affairs (116 pages)
- Customer Care (65 pages)

The plan:

- Includes written information on how PG&E will communicate with the public before, during and immediately following an emergency or major disaster. The plan is available in printed form in PG&E's Emergency Operations Center (EOC) in San Francisco, Gas Emergency Center (GEC) and San Ramon Valley Conference Center (Alternate EOC) in San Ramon, and is available to employees via the company's internal website
- Ensures that media, employees, customers, state and local government, regulatory officials and key stakeholders receive approved, timely, accurate and consistent information related to PG&E's activities and restoration efforts before, during, and immediately after an emergency or major disaster, such as a major power outage or earthquake; detailed contact lists are also included in the plan
- Includes pre-approved messages for media, employees, customers, state and local government, regulatory officials and key stakeholders that can be shared immediately and, when approved, safety and restoration information can be provided
- Identifies key stakeholders in operations and other lines of business, where there is an interdependency for information and/or execution of emergency communications, so they have a thorough and complete understanding of their role in the Emergency Communications Plan
- Ensures plans and processes for all communication channels are current and efficient
- Instructs on how to immediately communicate with employees to determine if they are safe, accounted for, and available for work
- Describes how PG&E will provide information to customers via its contact center as well as through various other channels (social media, media, PG&E's website, etc.) before, during and after a major outage or emergency
- Details how PG&E will coordinate with various local, state and federal agencies to exchange necessary information and enhance overall communication with customers and key stakeholders. This includes coordination with the California Independent System Operator (CAISO) so that customers, the media and local, state and federal agencies have vital information about the status of the grid

The Emergency Communications Plan also includes hazard-specific communication plans and messages for the following:

- Earthquakes
- Tsunamis
- Landslides
- High Winds
- Nuclear Emergencies
- Summer Readiness
- Vegetation Management
- Wildfires
- Drought
- Extreme Heat
- Community Wildfire Safety Program / Public Safety Power Shutoff
- Rotating Power Outages
- Power Outages
- Solar Flares / Geomagnetic Disturbance
- Electric and Magnetic Fields
- Winter Storms
- Extreme Cold
- Gas Outage
- Gas Emergencies
- Dam Safety
- Water and Canal
- Physical Security
- Cybersecurity
- Customer Scams
- Active Shooter
- Serious Injury and Fatality

The plan is a living document that is updated on a frequent basis, as information changes and key learnings are incorporated following exercises or incidents.

Emergency Communications Plan Organization

The Emergency Communications Plan opens with a detailed description of how PG&E's Marketing & Communications, Customer Care and Public Affairs teams (including local, state and federal governmental relations as well as Regulatory Relations, State Agency Relations and Community Relations) work in tandem in response to emergencies and natural disasters, often requiring the activation of an Emergency Operations Center (EOC). Within the EOC, the Marketing & Communications, Customer Care and Public Affairs teams fill the roles of Public Information Officer (PIO), Customer Strategy Officer (CSO) and Liaison Officer (LO) and needed staffs.

Jobs within the EOC structure are defined, and staff lists in the Emergency Communications Plan include titles, names, office and mobile phone numbers and PG&E emails (via LAN IDs). Information provided offers both high-level strategic guidance ("Who are the key stakeholders?" "What is the message?"), as well as practical details (how to access PG&E's 50 Main Street

parking garage). Content also includes checklists, template meeting agendas, and timelines for specific actions.

That high-level introduction is followed by very specific information to be used by all three leaders and their staffs: PIO, CSO and LO. The Marketing & Communications (Corporate Relations) section, as an example, shows how the team will staff the various necessary emergency communication roles and includes the actual 2017 on-call rotation, which is comprised of five teams (Alpha, Bravo, Charlie, Delta and Echo), with 14 roles on each team. With each of these jobs, there is a checklist of duties to be completed during the activation, operational and demobilization phases of any event that requires an EOC activation.

To continue with the Marketing & Communications example, key roles include:

- Public Information Officer (PIO)
- Deputy PIO (DPIO #1) / On-Call Manager
- Deputy PIO (DPIO #2) / Gas Emergency Center (GEC) PIO
- Deputy PIO (DPIO #3) / Media Relations
- Lead Writer / Employee Communications
- Social Media Lead
- Digital Strategy Lead
- Customer Communications Writer

Beyond that, other staffers include local communications representatives, a Planning & Intelligence Liaison, a digital developer and an administrative support staff. Furthermore, field media reps are assigned to specific geographies (North, Bay/Coast and South) who ultimately fill roles in local OECs, regional RECs or perhaps be in the field facilitating media interviews and site visits.

Following this explanatory portion of the Emergency Communications Plan, there is incident-specific information that would be instantly available to use during an actual emergency.

For example, the 60-page section on earthquake messaging includes the following material:

- General talking points, top three likely scenarios, message hour, frequently asked questions and a general media statement
- A list of California's largest earthquakes
- A robust list of pre-approved talking points, including:
 - PG&E Has a Plan
 - Natural Gas Safety Tips
 - Power Outage Safety Tips
 - If Your Vehicle Comes in Contact with a Downed Power Line
 - Customer Outage Communications
 - PG&E Response
 - Smart Grid Technology
 - Claims Process
 - Safety Net Program

- Four template news releases that can be used 1) shortly after a major earthquake strikes; 2) after PG&E has had a chance to assess the impact and damage caused by the quake; 3) an update on our progress restoring electric and gas service to our customers; and 4) a final news release once all customers have been restored.
- A form that can be used as a basis for an employee email providing information on PG&E's response as well as specific resources that would be helpful to employees.
- IVR scripts that can be used for automated calls to customer homes, informing them of PG&E's restoration efforts as well as Estimated Time of Restoration (ETOR) for the specific customer who is getting the call.
- A template letter that could be sent to customers experiencing an extended outage due to quake damage and/or access issues.
- A Digital Strategy primer that includes template messages that can be published on PG&E's customer website, www.pge.com.
- Social Media messages for PG&E's Twitter, Facebook and Instagram accounts, as well as messages that can be posted on PG&E@Work, the intranet site for employees.
- There are even template messages should the magnitude and location of the earthquake create a tsunami.

In short, the hazard-specific section of the Emergency Communications Plan equips PG&E's communications, customer and liaison teams to be efficient and responsive, enabling communication with customers, the media, governmental contacts, and other stakeholders through a wide variety of channels, and in a way that provides consistent and approved messaging. The type of detail in the earthquake portion of the Emergency Communications Plan is duplicated for the other potential events, from summer and winter storms to a cyber-security attack.

The Emergency Communications Plan is a living document. It is printed once a year, with copies provided to leadership, as well as at each appropriate desk station in our Emergency Operations Center (EOC) located at 245 Market Street. It is also available to every staffer with an on-call role via our SharePoint site. In addition, encoded thumb drives are provided to those with on-call roles so they can have easy access to the Emergency Communications Plan while at home or traveling.

Compliance

As demonstrated above, PG&E's Emergency Communications Plan fully complies with the California Public Utilities Commission's (CPUC) Standard 1 (Emergency Response Plan) including C (Media Coordination) and D (External and Government Coordination). Additionally, the Emergency Communications Plan fully complies with the CPUC's Standard 4 (Communications Strategy). Furthermore, additional PG&E's documents, including our Company Emergency Response Plan (CERP) and Electric Annex, help fulfill these requirements.

Exhibit D

Location of Required Elements of Standard 1

Location of Required Elements of Standard 1

Internal Coordination	<p>CERP Section--2.3 and subsections, 3.4, 4 and subsections, 6 and subsections, 8 and subsections, 10.7 and subsections, 11 and subsections, 13 and subsections, 14 and subsections, Appendix A, Appendix D, Appendix E, Appendix G</p> <p>Electric Annex Section--2.0 and subsections, 3.1.2 and subsections, 3.1.3.1, 3.2 and subsections, 4.1 and subsections, Appendix C, Appendix D, Appendix E</p> <p>Emergency Communications Plan—Business continuity: p. 25; Emergency communications and on-call processes: p. 39; Media relations: p. 68; Social media: p. 92; Employee communication: p. 154; Digital strategy: p. 241; Brand advertising: p. 335</p>
ISO/TO Coordination	<p>CERP Section--2.3.1, 7.1.3, 8.1.3, 8.2.2, 9.4, 10.11.2, 14, 14.3.2, 16.2</p> <p>Electric Annex Section--2.1.2.1, 2.1.2.2, 3.1.3.2, 3.2.3.8.4, 3.2.3.9, 4.1.5.2, 4.2.3, 6.1, Appendix E</p> <p>Emergency Communications Plan—p. 359, 360, 648, 654, 697, 707, 712, 715, 716, 717</p>
Media Coordination	<p>CERP Section--1.4, 6.9, 8.3, 14, 14.4.1, 14.4.3, 14.4.4, Appendix E.4.3, E.8.1</p> <p>Electric Annex Section--3.2.3.3, 3.2.3.4.1, 3.2.3.11, 4.2.1.1, 4.2.2, 4.2.4, 4.2.5</p> <p>Emergency Communications Plan--<i>Process management</i>--Business continuity p. 25; Emergency communications and on-call processes: p. 39; Media relations: p. 68; Social media: p. 92; Employee communication: p. 154; Digital strategy: p. 241; Brand advertising: p. 335; Customer care emergency response plan: p. 349.</p> <p><i>Hazards</i>--Earthquake: p. 404; Tsunami: p. 472; Winter storm: p. 476; Nuclear: p. 527; Cyber security: p. 621; Physical security: p. 644; Wildfires: p. 658; Drought: p. 678; Extreme heat: p. 697; Rotating power outages: p. 707; Power outages: p. 724; Extreme cold: 748; Gas outage: p. 760; Gas emergencies: p. 763; Dam safety: p. 821; Water and canal: p. 830; Scams: p. 840; Serious injury and fatality: p. 858</p>
External and Governmental Coordination	<p>CERP Section—1.4, 5.4, 4 and subsections, 6.9, 6.11, 8.2 and subsections, 8.4.5, 9.3, 9.4, 9.5, 10.11.2, 10.14, 10.15, 13.5.2, 14, 14.3.1, 14.3.3, 14.3.4, 14.4.1, Appendix D, Appendix F</p>

Location of Required Elements of Standard 1

	<p>Electric Annex Section--1.5, 3.2.3.1.1, 3.2.3.2, 3.2.3.4.1, 3.2.3.5.1, 3.2.3.6, 3.2.3.8.4, 3.2.3.8.6, 3.2.3.8.7, 4.2.2, Appendix B.2, Appendix D.3.4</p> <p>Emergency Communications Plan--Liaison Emergency Plan: p. 937</p>
Fire Prevention Plan¹	Electric Annex Section --Appendix D
Safety Considerations	<p>CERP Section--1.3, 2.2, 2.4, 3.2.2, 4.5.2, 4.5.3, 5.2, 5.5, 6, 6.1, 6.8, 7.5.6, 8.4.2, 9.4, 10.6, 10.8.1, 10.9, 11.1, 12.2, 13 and subsections, 14, 14.2, 14.3.1, 14.3.3, Appendix B, E.1, E.2 and subsections, E.4.5, E.8, Appendix G.1, G.2</p> <p>Electric Annex Section—2.2.2, 2.2.6, 2.2.7, 2.3.5.5, 3.2.3.1.1, 3.2.3.1.2, 3.2.3.2, 3.2.3.5.1, 3.2.3.6 and subsections, 3.2.3.8.4, 3.2.3.10, 3.2.4 and subsections, 3.2.5, 4.1.1, 5.2, 5.3, Appendix D</p> <p>Emergency Communications Plan Section Social media: 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109 Employee communication: 218 - 241 Customer care emergency plan: 380, 381, 382 Earthquake: p. 404, 405, 407, 408, 415, 416, 417, 448, 460 Tsunami: p. 472 Winter storm: p. 476, 478, 479, 481, 482, 483, 485, 501, 507, 518 Nuclear: 527, 584, 586, 588, 602, 604 Cyber security: 622, 623, 624, 625, 627, 629, 631, 634, 637, 639 Physical security: 644, 645, 646, 647, 649, 650, 651 Summer readiness: 655 Wildfires: 658, 659, 660, 661, 662, 675, 676, 677 Drought: 678, 680, 681, 682, 683, 689 Extreme heat: 697, 698, 699, 700, 701, 702, 703, 706 Rotating power outage: 707, 708, 709, 710, 711, 715, 716, 717, 718 Solar flares: 720 Electric and magnetic fields: 721 Power outages: 724, 725, 726, 727, 730, 731-747 Extreme cold: 748, 749, 750, 752, 753, 754, 755 Gas outage: 760 Gas emergencies: 763, 764, 765, 768, 792, 794, 805, 810, 815, 816, 818, 819, 820 Dam safety: 821, 822, 823, 824, 825 Water and canal: 830, 831, 832, 834</p>

¹ In December 2017, the Commission issued Decision 17-12-024 that approved new regulations for utilities to expand the minimum vegetation clearances and enhance the fire safety of overhead power lines in High Fire-Threat District (HFTD) areas. In January 2018, the Commission adopted the final HFTD map. PG&E will provide an updated Fire Prevention Plan that includes the requirements from Decision 17-12-024 and Rulemaking 18-10-007 for the next Compliance Period.

Location of Required Elements of Standard 1

	<p>Scams: 840, 841, 842, 848</p> <p>Pandemic: 849, 857</p> <p>Serious injury and fatality: 858, 859, 860, 861, 864, 868</p>
Damage Assessment	<p>CERP Section—7.1, 8.1.2, 8.1.4, 8.3, 10.2, 10.9, 10.12, 10.13, 10.15, 11.2, 11.3.1, 11.5, 14, Appendix D, Appendix E.8, E.9, E.10</p> <p>Electric Annex Section—2.1.1.1, 2.1.2.3, 2.2.2, 2.2.3, 2.2.4, 2.3.5.1, 3.2.3.1 and subsections, 3.2.3.2, 3.2.3.3, 3.2.3.4 and subsections, 3.2.3.5 and subsections, 3.2.3.6 and subsections, 3.2.3.7, 4.1.5.1, 4.2.4, 5.3, Appendix C.6</p>
Restoration Priority Guidelines	<p>CERP Section—2.4, 4.4.3, 8.1.1, 8.1.2, 8.1.3, 8.1.7, 8.2.2, 10.7, 10.8 and subsections, 10.9, 10.13, 10.15, 11.2, 11.3 and subsection, , 12.2, 13, 14, Appendix D.2.1, Appendix E.8 and subsection, E.9, E.10, E.11</p> <p>Electric Annex Section—2.1.1.1, 2.1.1.1, 2.1.2.1, 2.1.2.2, 2.1.2.3, 2.3.1, 2.3.2, 2.3.5.3, 3.2.2 and subsections, 3.2.3.1 and subsections, 3.2.3.2, 3.2.3.4 and subsections, 3.2.3.5.2, 3.2.3.8 and subsections, 3.2.5.2, 3.2.3.10, 5.5</p>
Mutual Assistance	<p>CERP Section—7.3, 7.3.3, 8.1.5, 8.1.7, 9.4,10.1, 10.15, 11, 11.3, 11.5, 12 and subsections, 13, 13.1.3, 13.2, 14, 15</p> <p>Electric Annex Section—3.2.3.10, 3.2.4.3, 3.2.4.2.2, 3.2.4.2.3, 3.2.4.3 and subsections, 3.2.4.4, 3.2.4.5, 3.2.4.8.2, 3.2.5.1, 5.3</p>
Plan Updates	<p>CERP Section--Preface, 1.7, 1.8, 3.5, 5.1, 16.3</p> <p>Electric Annex Section--1.6.1</p>

Exhibit E

Summary Description of Plan Changes

Summary Description of Plan Changes

The following is a summary of the changes that Pacific Gas and Electric Company made to its Emergency Response Plan during the Compliance Period of July 1, 2017 to June 30, 2018.

Company Emergency Response Plan

PG&E's Company Emergency Response Plan (CERP) was updated on July 1, 2017, and minor changes were made on July 31, 2017 and August 31, 2017. The following key modifications were made to the July 1, 2017 CERP from the 2016 CERP:

- Introduction section was updated
- Company Overview was updated, and Energy Supply added
- Weather-related scenarios were added to Emergency Scenarios
- New sections were added for Cybersecurity, Threat Landscape, and Annex Development
- Storm Outage Prediction Program (SOPP) Model description was updated
- Catastrophic Incident Planning Assumptions section was moved, and the title changed from Planning Assumptions for Catastrophic Emergencies
- In Catastrophic Incident Organization Considerations section, added "carve" concept with text, images, and tabular example
- Electric Emergency Management and Public Safety moved to §5.2 and retitled Electric Emergency Management
- Gas System Operations Emergency Preparedness moved to §5.3 Gas Emergency Planning Team
- Diablo Canyon Power Plant (DCPP) Emergency Preparedness Program moved to §5.4
- Corporate Incident Management Council (CIMC) section was updated
- Content updated, and title of Emergency Organization and Responsibilities was changed to PG&E Emergency Management Organization
- Emergency Management and Preparedness Groups moved to §6 PG&E Emergency Management Organization (EMO); Business Continuity Planning consolidated into EP&R section; former work group "EMAP" added to EP&R section
- Emergency Facilities was elevated to its own section
- Enterprise Network Operations Center (ENOC) was added
- Concept of Operations was renumbered and reorganized to follow emergency incident progression
- Activation authority and triggers were updated and reformatted into a table
- Resource Management, Mutual Assistance and Demobilization sections were separated into three chapters
- Dual Commodity Coordination and Communication was updated
- Updated Coordination and Communication
- Emergency Financial Guidance updated
- Updated Training and Exercises and consolidated other trainings, courses, exercises and after-action reports
- Levels of Emergency and Activation Criteria chart was updated
- Meeting and Report Schedules with Sample Agendas was separated from 2016 Appendix C and updated
- Added Index to facilitate search and retrieval of information

- Added footnotes to identify source of references/materials and provide additional clarity
- Conducted minor updates for grammar, wording, enhancements, consolidations, corrections, changes to titles and org charts, updated graphics/images/tables

In the subsequent releases dated July 31 and August 31, the following minor modifications were made:

- VP Electric Transmission replaced VP Electric Distribution as the officer with authority for Emergency Preparedness and Response
- Corrected titles of VP Electric Transmission Operations and SVP Gas Operations
- Mission, Vision and Culture statements were updated
- Power Generation (Hydro/Fossil/Solar/Fuel Cell) Emergency Preparedness was added
- Organization chart added for Intelligence and Investigations Section (I&I)
- Single Command and Unified Command moved from roles section to concepts section
- Added PG&E Emergency Preparedness Departments section to Table 1.1, CERP Base Plan Organization

Emergency Communications Plan

PG&E maintains our Emergency Communications Plan as a living document, updating information on a regular basis, usually quarterly, and more often as needed. The following modifications were made to the Emergency Communications Plan during the Compliance Period, compared with the 2016 plan:

- Updated Marketing & Communications' business continuity plan, including emergency communications processes
- Updated all hazard sections with top level messaging, scenarios, message house, general media statement and frequently asked questions
- Updated internal contacts for employees with emergency communication roles
- Updated job aids and checklists for roles and responsibilities outlined in the plan

Electric Annex

The Electric Annex was fully reviewed, and updates were made to names and contact information for some electric emergency responders. The Fire Prevention Plan, which is an Appendix to the Electric Annex, was updated to state that the pilot for disabling automatic reclosing was implemented.

In December 2017, the Commission issued Decision 17-12-024 that approved new regulations for utilities to expand the minimum vegetation clearances and enhance the fire safety of overhead power lines in High Fire-Threat District (HFTD) areas. In January 2018, the Commission adopted the final HFTD map. PG&E will provide an updated Fire Prevention Plan that includes the requirements from Decision 17-12-024 and Rulemaking 18-10-007 for the next Compliance Period.

Exhibit F

Mutual Assistance Agreements

Exhibit F1

American Gas Association (AGA) Mutual Assistance Agreement

MASTER OPERATIONS ASSISTANCE AGREEMENT

Signatory to this Master Operations Assistance Agreement ("Agreement") recognizes that it needs a system whereby it may receive or provide assistance in the form of personnel or equipment to aid in maintaining or restoring natural gas utility service when such service has been disrupted by acts of the elements, equipment malfunctions, accidents, sabotage or any other occurrences where the Signatory deems emergency assistance to be necessary or advisable ("Emergency Assistance Period").

The Signatory acknowledges that no other Signatory is under any obligation to furnish such emergency assistance; however, experience indicates that natural gas distribution companies are willing to furnish such assistance when personnel or equipment are available.

In the absence of a continuing formal contract between a Signatory requesting emergency assistance ("Requesting Company") and a Signatory willing to furnish such assistance ("Responding Company"), collectively the "Parties", the following terms set forth the terms and conditions to which the Parties agree to be bound:

1. **Master Agreement.** This Agreement sets out the terms under which a party may provide material, equipment, supplies and tools requested in the Request For Assistance ("RFA") form. This Agreement is only effective between two Parties once the two Parties have signed the RFA. The Agreement identifies basic terms and conditions applicable to services and material provided by a Responding Company to a Requesting Company during any Emergency Assistance Period. All services performed or material, equipment, supplies and tools provided by Responding Company pursuant to the RFA shall be documented in advance in the RFA (sample at Exhibit A), which has been signed by "Authorized Representatives" of both Parties.

The Responding Company reserves the sole right to respond or not respond to an RFA on a case-by-case basis. The Responding Company shall, in its sole discretion, determine if it shall respond to an RFA including the extent and limitations of that response. The Responding Company reserves the right to recall any and all personnel, material, equipment, supplies, and/or tools at any time.

Responding Company and Requesting Company must exchange signed copies of the RFA prior to the commencement of any Emergency Assistance Period for this Agreement to become effective. This exchange confirms that the Parties agree to the terms of this Agreement.

Signatory will also forward a signed copy of this Agreement to the American Gas Association ("AGA"). The AGA will maintain a list of Signatories and their authorized representatives on its web site, www.aga.org, at the Emergency Planning Resources Center. A Signatory may withdraw from this Agreement at any time. Withdrawing Signatories should provide written notice to AGA and verify the removal of their listing from the Emergency Planning Resources Center.

2. Emergency Assistance Period. The Emergency Assistance Period shall commence when personnel and/or material, equipment, supplies, and tool expenses are initially incurred by the Responding Company in response to the Requesting Company's RFA. (This would include any request for the Responding Company to prepare its employees and/or material, equipment, supplies, and tools for transport to the Requesting Company's location but to await further instructions before departing). The Requesting Company sets the work hours and work assignments during the emergency, while honoring the Responding Company's contracts and practices regarding rest time and safety. The Emergency Assistance Period shall terminate when such employees and/or material, equipment, supplies, and tools have returned to the Responding Company, and shall include any mandated DOT rest time resulting from the assistance provided and reasonable time required to prepare the material, equipment, supplies, and tools for return to normal activities (e.g., cleaning off trucks, restocking minor materials, etc.).

To the extent possible, the RFA should state the anticipated length – in general – of the Emergency Assistance Period. For extended Emergency Assistance Periods, the Parties should agree on the process for replacing or providing extra rest for the Responding Company's employees.

It is understood and agreed that if Responding Company, in the Responding Company's sole and independent judgment, determines it must terminate the emergency assistance and recall employees, contractors, and material, equipment, supplies, and tools, the Requesting Company will take the necessary action to return such employees, contractors, and material, equipment, supplies and tools promptly.

3. Changes in Work. Requesting Company may, at any time, order additions, deletions, or revisions in the services and materials, equipment, supplies, and tools provided pursuant to an RFA provided that these modifications to an RFA are made in writing and mutually agreed to in writing by both Parties in advance.

4. Independent Contractor. Employees of Responding Company shall at all times during the Emergency Assistance Period continue to be employees of

Responding Company and shall not be deemed employees of Requesting Company for any purpose. Responding Company shall be an independent Contractor of Requesting Company and wages, hours and other terms and conditions of employment of Responding Company shall remain applicable to its employees during the Emergency Assistance Period.

5. Supervision. Responding Company shall send the level of supervision and support as set forth in the RFA and mutually agreed to by the Parties. The Responding Company may send such additional personnel as it deems necessary to ensure the safety and efficiency of the response. These personnel may typically include, but are not limited to, safety supervision, vehicle mechanics and logistics support.

All requests for work to be done by Responding Company's crews shall be given by Requesting Company to Responding Company's supervisor(s); or, when Responding Company's crews are to work in widely separate areas, to Responding Company's foremen as may be designated for the purpose by Responding Company's supervisor(s).

6. Accommodation. Unless otherwise agreed by the Parties, Requesting Company shall be responsible for supplying and/or coordinating support functions such as lodging, meals, materials, etc. Unless otherwise agreed by the Parties in the RFA or in an amendment thereto, the Responding Company shall be responsible for arranging lodging and meals en route to the Requesting Company and for the return trip home. The cost for these transit expenses will be covered by the Requesting Company.

7. Safety Rules. Responding Company's safety rules shall apply to all work done by its employees; with the exception of working with live gas and/or restoring service, at which time, the more stringent safety rules, regardless of Responding Company or Requesting Company, must be followed. In the event the safety rules of the Requesting Company are more stringent than the safety rules of the Responding Company for live gas and/or restoring services, the Requesting Company shall provide the Responding Company's personnel with appropriate safety orientation. Unless mutually agreed otherwise, the Requesting Company's Safety Tagging Rules should be followed to ensure a safe and consistent operation and the safety tagging rules must be provided by the Requesting Company to the Responding Company prior to Responding Company traveling to the response site. Responding Company will in a timely manner report any and all occupational injuries and vehicle accidents to the Requesting company. Any questions or concerns arising about any safety rules and/or procedures should be brought to the proper level of management for prompt resolution between management of the Requesting and Responding Companies.

8. Operator Qualification. Requesting Company's RFA must specify what tasks are covered tasks per 49 CFR 192 subpart N. The Requesting Company receiving personnel pursuant to an RFA is required to confirm that Responding Company personnel's knowledge, skills and ability are consistent with Requesting Company's needs.

9. Engineering License. Any engineering work performed by the Responding Company personnel, who are not licensed as a professional engineer in the state jurisdiction of the Requesting Company, shall be supervised and/or reviewed by the appropriate engineering personnel or consultant of the Requesting Company in accordance with statutes and regulations of the state having jurisdiction over the Requesting Company.

10. Records. Responding Company shall keep and maintain all time sheets and other work records pertaining to its provision of Emergency Assistance to Requesting Company in the same manner in which Responding Company keeps and maintains its records in the ordinary course of business. The Responding Company shall maintain field-records in its customary format and supplement those records as requested in writing by the Requesting Company in the RFA.

11. Compensation. Requesting Company shall reimburse Responding Company for all costs and expenses incurred by Responding Company as a result of furnishing emergency assistance. Responding Company shall submit an invoice to Requesting Company, which includes documentation of all costs and expenses. Such costs and expenses, without any added profit, shall include, but not be limited to, the following:

- a. Employees' wages and salaries for paid time spent in Requesting Company's service area and paid time during travel to and from such service area, plus Responding Company's standard payable additives to cover all employee benefits and allowances for vacation, sick leave and holiday pay and social and retirement benefits, all payroll taxes, workmen's compensation, employer's liability insurance and other contingencies and benefits imposed by applicable law, regulation or Union agreement.
- b. Employee travel and living expenses (meals, lodging and reasonable incidentals).
- c. Replacement cost of materials and supplies expended or furnished.
- d. Repair or replacement cost of equipment damaged or lost.
- e. Charges, at rates internally used by Responding Company, for the use of transportation equipment and other equipment requested.
- f. Premiums to cover workers' compensation.
- g. Administrative and general costs, which are properly allocable to the emergency assistance to the extent such costs, are not chargeable pursuant to the foregoing subsections.

12. Invoicing. Requesting Company shall pay all costs and expenses of Responding Company within sixty days after receipt of invoice and complete records. Termination of an RFA by either Party shall not relieve Requesting Company from its obligation to pay properly invoiced costs and expenses.

13. Indemnification. Requesting Company shall indemnify, hold harmless and defend the Responding Company from and against any and all liability for loss, damage, cost or expense which Responding Company may incur by reason of bodily injury, including death, to any person or persons or by reason of damage to or destruction of any property, including the loss of use thereof, which result from furnishing emergency assistance and whether or not due in whole or in part to any act, omission, or negligence of Responding Company, except to the extent that such death or injury to person, or damage to property, is caused by the willful or wanton misconduct and/or gross negligence of the Responding Company and/or Responding Company employee(s). Where payments are made by the Responding Company under a workmen's compensation or disability benefits law or any similar law for bodily injury or death resulting from furnishing emergency assistance, Requesting Company shall reimburse the Responding Company for such payments, except to the extent that such bodily injury or death is caused by the willful or wanton misconduct and/or gross negligence of the Responding Company and/or Responding company employee(s).

In the event any claim or demand is made or suit or action is filed against Responding Company alleging liability for which Requesting Company shall indemnify and hold harmless Responding Company, Responding Company shall promptly notify Requesting Company thereof, and Requesting Company, at its sole cost and expense, shall settle, compromise or defend the same in such manner as it in its sole discretion deems necessary or prudent.

14. Term, Entire Agreement & Modification. This Agreement shall be effective from the date indicated below the Signatory's name through December 31, 2020. This Agreement encompasses the entire agreement of the Parties, and supersedes the AGA Master Operations Assistance Agreement dated December 2011 and any other agreements with respect to the subject matter hereof between the Parties to an RFA. No agreement or understanding purporting to modify this Agreement shall be binding unless in writing and signed by the RFA Parties' respective authorized representatives.

15. Limitation on Liability. No Party shall be liable to any other Party for any claim for indirect, incidental, special or consequential damage or loss of the other Party, including, but not limited to, loss of profits or revenues, cost of capital of financing, loss of goodwill and cost of replacement power arising from such Party's carrying out, or failing to carry out, any obligations contemplated by this Agreement except to the extent the damages are direct damages that result from the gross negligence or intentional misconduct of such party; provided, however,



American Gas Association

that nothing herein shall be deemed to reduce or limit the obligation of any Party with respect to the claims of persons or entities not a Party to this Agreement.

16. No Third-party Beneficiaries. This Agreement is intended to be solely for the benefit of the Parties and their respective successors and permitted assigns and is not intended to and shall not confer any rights or benefits on any third party (other than successors and permitted assigns) not a Party hereto.

Signatory:

Pacific Gas & Electric (PG&E)

Company Name

EM Hickey

Signature

Officer Name: Evergista M Hickey
Title: Director, Emergency Preparedness & Response
Date: December 13, 2016

Exhibit F2

California Utilities Emergency Association (CUEA) Mutual Assistance Agreement

MUTUAL ASSISTANCE AGREEMENT
(Electric and Natural Gas)

AMONG

MEMBERS OF THE
CALIFORNIA UTILITIES EMERGENCY
ASSOCIATION

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0. DEFINITIONS

As used herein, unless otherwise indicated, the following terms are defined as set forth below.

- 0.1 Activation: The initiation of the Assistance and administrative process of this Agreement including: request for Assistance, assessing and communicating the scope of assistance request, assessing and communicating the resources available for Assistance, activation procedures, mutual assistance coordination, and other processes and procedures supporting the Mobilization of Assistance resources.
- 0.2 Assistance: Includes all arrangements and preparation for and the actual mobilization of personnel, material, equipment, supplies and/or tools or any other form of aid or assistance, including all related costs and expenses as set forth in this Agreement, provided by an Assisting Party to a Requesting Party, from the time of the official authorization by the Requesting Party and including the return and demobilization by an Assisting Party of its personnel and equipment, also as set forth in this Agreement.
- 0.3 Deactivation: The termination of the Assistance and administrative process including: notification of Deactivation, Demobilization planning, identification of applicable costs, processes and procedures supporting Demobilization of resources, provide for invoicing, audit, critique information, and closure of the Assistance.
- 0.4 Demobilization: The actual returning of all Assistance resources to the Assisting Party's normal base.
- 0.5 Emergency: Any unplanned event that, in the reasonable opinion of the Party to this Agreement, could result, or has resulted, in (a) a hazard to the public, to employees of any Party, or to the environment; (b) material loss to property; or (c) a detrimental effect on the reliability of any Party's electric or natural gas system. The Emergency may be confined to the utility infrastructure or may include community-wide damage and emergency response. An Emergency may be a natural or human caused event.
- 0.6 Mobilization: The actual collecting, assigning, preparing and transporting of all Assistance resources.
- 0.7 Mutual Assistance Liaison: The person(s) designated by the Requesting Party, and Assisting Party, to coordinate all administrative requirements of the Agreement.

- 0.8 Natural Gas or Gas: The term “natural gas” as used in this Agreement shall include all commercially available forms of natural gas including Synthetic Natural Gas.
- 0.9 Operations Liaison: As described in Section 3.18, the person or persons designated by the Requesting Party to provide direct contact, communications and coordination at the operations level for Assisting Party’s crews and resources at the location of the assistance. This may include but is not limited to: contact and communications for assisting crews, safety information processes and procedures, ensuring coordination of lodging and meals, addressing issues of Equipment requirements, materials requirements, and other logistical issues necessary to ensure safe effective working conditions.
- 0.10 Qualified: The training, education and experience of employees completing an apprenticeship or other industry / trade training requirements consistent with Federal Bureau of Apprenticeships and Training, Department of Transportation Pipeline Safety Regulations, or other recognized training authority or regulation. Training and qualification standards and are the responsibility of the Requesting Party to evaluate, in advance, the acceptable level of qualification for trade employees (i.e. lineman, electrician, fitter, etc.).
- 0.11 Work Stoppages: Any labor disputes, labor union disagreements, strikes, or any circumstance creating a shortage of qualified labor for a company during a non-emergency situation.

MUTUAL ASSISTANCE AGREEMENT

(Electric and Natural Gas)

1. PARTIES

This Mutual Assistance Agreement (hereinafter referred to as “Agreement”) is made and entered into effective September 15, 2005. Each Party is, and at all times it remains a Party, shall be a member in good standing of the California Utilities Emergency Association. Each of the parties that has executed this Agreement may hereinafter be referred to individually as “Party” and collectively as “Parties.” The Parties to this Agreement are listed in Attachment “A” hereto.

2. RECITALS

This Agreement is made with reference to the following facts, among others:

- 2.1 Certain of the Parties to this Agreement entered into a prior agreement (“Prior Agreement”) dated December 16, 1994 to provide one another with mutual assistance. This Prior Agreement set forth procedures governing the requesting and providing of assistance in the restoration of electric and/or natural gas service. It is the intention of the Parties that this new Agreement, when signed by the Parties shall be effective for requesting or providing Assistance for the restoration of electric service following natural or man-made Emergencies which may occur on or after the date on which each of the Parties involved in the requesting or providing of Assistance signed this Agreement. Upon execution of this Agreement the Prior Agreement shall terminate, except that any rights or obligations which arose under the Prior Agreement shall remain unaffected by this new Agreement. Upon satisfaction of any such rights or obligations, the Prior Agreement shall be of no further validity or effect.
- 2.2 Being a Party to this Agreement does not by itself assure any Party that Assistance will be provided if, when or as requested. Each Party reserves the sole right to respond or not to respond to requests for Assistance on a case-by-case basis. By signing this Agreement, each Party thereby agrees that any Assistance which is received or given upon the request of a Party to this Agreement shall be subject to each and every one of the terms and conditions of this Agreement.
- 2.3 The Parties own, operate and maintain electric and/or natural gas utility facilities and are engaged in the production, acquisition, transmission, and / or distribution of electricity or natural gas.

- 2.4 Each of the Parties operates and maintains their respective facilities within accepted industry practices and employs skilled and Qualified personnel to operate, repair and maintain such facilities according to such industry practices.
- 2.5 It is in the mutual interest of the Parties to be prepared to provide for Emergency repair and restoration to such services, systems and facilities on a reciprocal basis. The purpose of this new Agreement is to provide the procedures under which one Party may request and receive assistance from another Party. This new Agreement is also designed to allow a new Party to join in the Agreement by signing a copy of this Agreement following the giving of notice to the existing Parties pursuant to Section 6.3 of this Agreement.
- 2.6 Assistance for labor shortages due to Work Stoppages are beyond the scope of this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, the Parties have mutually agreed effective on the date set forth on the signature page hereof and agree further as follows:

3. SCOPE OF ASSISTANCE

- 3.1 In the event of an Emergency affecting the electrical generation, electrical or natural gas transmission, distribution, and/or related facilities owned or controlled by a Party, such Party ("Requesting Party") may request another Party ("Assisting Party") to provide Assistance. The Assisting Party shall, in its sole discretion, determine if it shall provide such Assistance. If the Assisting Party determines to provide Assistance, such Assistance shall be provided in accordance with the terms and conditions of this Agreement.
- 3.2 Requests for Assistance may be made either verbally or in writing by the Authorized Representative of the Requesting Party and shall be directed to the Authorized Representative of the Assisting Party. Authorized Representatives of the Parties are identified in Attachment "B" hereto and shall be updated upon any change in such Authorized Representative. Upon acceptance of a request for Assistance either verbally or in writing, the Assisting Party shall respond with reasonable dispatch to the request in accordance with information and instructions supplied by the Requesting Party. All requests for Assistance shall follow the procedures described in Attachment "D". The Requesting Party shall also follow the procedures set forth in Attachment "E" for Deactivation of Assistance.
- 3.3 The Requesting Party shall provide the Assisting Party with a description of the work needed to address the Emergency, with the most urgent needs

for Assistance addressed first. If the request is not based on a lack of resources, such information must be stated in the request. The Assisting Party shall use its reasonable efforts to schedule the Assistance in accordance with the Requesting Party's request. However, the Assisting Party reserves the right to recall any and all personnel, material, Equipment, supplies, and/or tools at any time that the Assisting Party determines necessary for its own operations. Any Requesting Party for whom an Operator Qualification (OQ) Program and/or Drug and Alcohol Program under 49 CFR Parts 192 and 199 respectively, is required should pre-screen the other Parties to this Agreement to determine which Parties have compatible regulatory agency accepted programs and may therefore be contacted for assistance. Parties to this agreement agree to make their programs and related records available for review to assist in the pre-screening.

- 3.4 The Requesting Party will provide the name and contact information for the person(s) designated as the Mutual Assistance Liaison(s), the Operations Liaison(s) described in Section 3.18, and person(s) to be designated as supervisory personnel to accompany the crews and Equipment. The Assisting Party will provide the name(s) and contact information for the person(s) designated to be the Mutual Assistance Liaison and the Operations Liaison(s).
- 3.5 All Reasonable Costs and Expenses associated with the furnishing of Assistance shall be the responsibility of the Requesting Party and deemed to have commenced when the Requesting Party officially authorizes the Assisting Party to proceed with Mobilization of the personnel and Equipment necessary to furnish Assistance, and shall be deemed to have terminated after Demobilization when the transportation of Assisting Party personnel and Equipment returns to the work headquarters, individual district office, or home (to which such personnel are assigned for personnel returning at other than regular working hours) is completed.

For the purposes of this Agreement, a Requesting Party shall be deemed to have authorized the Assisting Party to proceed with Mobilization when the Requesting Party signs and submits a formal request to the Assisting Party, in a form substantially similar to that included as Attachment "F". If written information cannot be furnished, a verbal confirmation will be acceptable, with a written confirmation to follow within 24 hours.

The Parties hereto agree that costs arising out of inquiries as to the availability of personnel, material, Equipment, supplies and/or tools or any other matter made by one party to another prior to the Requesting Party authorizing the Assisting Party to proceed with Mobilization, as set forth in this Section 3.5, will not be charged to the potentially Requesting Party.

- 3.6 For purposes of this Agreement, the term “Reasonable Costs or Expenses” shall be defined to mean those costs, expenses, charges, or outlays paid or incurred by an Assisting Party in any approved phase of rendering Assistance to a Requesting Party pursuant to the provisions of this Agreement. Reasonable Costs or Expenses shall be deemed to include those costs and/or expenses that are appropriate and not excessive; under the circumstances prevailing at the time the cost or expense is paid or incurred. Reasonable Costs or Expenses may include, but are not limited to, direct operating expenses such as wages, materials and supplies, transportation, fuel, utilities, housing or shelter, food, communications, and reasonable incidental expenses, as well as indirect expenses and overhead costs such as payroll additives, taxes, insurance, depreciation, and administrative and general expenses. Notwithstanding the above, any such Reasonable Costs or Expenses shall continue to be subject to the provisions of Section 5 of this Agreement regarding Audit and Arbitration.
- 3.7 The Assisting Party and Requesting Party shall mutually agree upon and make all arrangements for the preparation and actual Mobilization of personnel, material, Equipment, supplies and/or tools to the Requesting Party’s work area and the return (i.e. Demobilization) of such personnel, material, Equipment, supplies and/or tools to the Assisting Party’s work area. The Requesting Party shall be responsible for all Reasonable Costs or Expenses incurred by the Assisting Party for Mobilization and/or Demobilization, notwithstanding any early termination of such assistance by the Requesting Party.
- 3.8 Unless otherwise agreed upon in writing, the Requesting Party shall be responsible for providing food and lodging for the personnel of the Assisting Party from the time of their arrival at the designated location to the time of their departure. The food and housing provided shall be subject to the approval of the supervisory personnel of the Assisting Party.
- 3.9 If requested by the Assisting Party, the Requesting Party, at its own cost, shall make or cause to be made all reasonable repairs to the Assisting Party’s Equipment, necessary to maintain such Equipment safe and operational, while the Equipment is in transit or being used in providing Assistance. However, the Requesting Party shall not be liable for cost of repair required by the gross negligence, bad faith or willful acts or misconduct of the Assisting Party.
- 3.10 Unless otherwise agreed the Requesting Party shall provide fuels and other supplies needed for operation of the Assisting Party’s vehicles and Equipment being used in providing Assistance.

- 3.11 Unless otherwise agreed to by the Parties, the Requesting Party shall provide field communications Equipment and instructions for the Assisting Party's use. The Assisting Party shall exercise due care in use of the Equipment and return the Equipment to the Requesting Party at the time of departure in like condition; provided, however, if repairs are necessary the Requesting Party will be financially responsible unless such repairs are necessitated by the gross negligence, bad faith or willful acts or misconduct of the Assisting Party.
- 3.12 Employees of the Assisting Party shall at all times continue to be employees of the Assisting Party, and such employees shall at no time and for no purpose be deemed to be employees of the Requesting Party.
- 3.13 Wages, hours and other terms and conditions of employment applicable to personnel provided by the Assisting Party, shall continue to be those of the Assisting Party.
- 3.14 If the Assisting Party provides a crew or crews, it shall assign supervisory personnel as deemed necessary by the Assisting Party, who shall be directly in charge of the crew or crews providing Assistance.
- 3.15 All time sheets, Equipment and work records pertaining to personnel, material, vehicles, Equipment, supplies and/or tools provided by the Assisting Party shall be kept by the Assisting Party for invoicing and auditing purposes as provided in this Agreement.
- 3.16 No Party shall be deemed the employee, agent, representative, partner or the co-venturer of another Party or the other Parties in the performance of activities undertaken pursuant to this Agreement.
- 3.17 The Parties shall, in good faith, attempt to resolve any differences in work rules and other requirements affecting the performance of the Parties' obligations pursuant to this Agreement.
- 3.18 The Requesting Party and Assisting Party shall each provide an Operations Liaison to assist with operations, personnel and crew safety. These individuals shall be the link between the Parties and keep the crews apprised of safety, operational, and communication issues.
- 3.19 All work performed by the Parties under this Agreement shall conform to all applicable Laws and Good Utility Practices.
- 3.20 All workers performing work under this Agreement shall follow their own employer's established safety and other operation rules. Each Party will use its best reasonable effort to respect the safety and work practices of the

other Party, and will at all times cooperate in the interest of the safety of both Parties. Where it is not possible for both Parties to safely and independently follow their own safety and work practices, field personnel will discuss and mutually agree upon the safety and work practices for both Parties for the particular work at issue

4. PAYMENT

4.1 The Requesting Party shall reimburse the Assisting Party for all Reasonable Costs and Expenses that are appropriate and not excessive, under the circumstances prevailing at the time the cost or expense is paid or incurred by the Assisting Party as a result of furnishing Assistance. Such costs and expenses shall include, but not be limited to, the following:

- (a) Employees' wages and salaries for paid time spent in Requesting Party's service area and paid time during travel to and from such service area, plus the Assisting Party's standard payroll additives to cover all employee benefits and allowances for vacation, sick leave, holiday pay, retirement benefits, all payroll taxes, workers' compensation, employer's liability insurance, administrative and general expenses, and other benefits imposed by applicable law or regulation.
- (b) Employee travel and living expenses (meals, lodging, and reasonable incidentals).
- (c) Cost of Equipment, materials, supplies and tools at daily or hourly rate, including their normally applied overhead costs inclusive of taxes, insurance, depreciation, and administrative expenses. Cost to replace or repair Equipment, materials, supplies, and tools (hereinafter collectively referred to as the "Equipment", which are expended, used, damaged, or stolen while the Equipment is being used in providing Assistance; provided, however, the Requesting Party's financial obligation under this Section 4.1 (c): (i) shall not apply to any damage or loss resulting from the gross negligence, bad faith or willful misconduct of the Assisting Party, and (ii) shall only apply in excess of, and not contribute with, any valid and collectible property insurance which applies to such damage or loss.
- (d) Cost of vehicles provided by Assisting Party for performing Assistance at daily or hourly rate, including normally applied overhead costs inclusive of taxes, insurance, depreciation, and administrative expenses. Cost to repair or replace vehicles which are damaged or stolen while the vehicles are used in providing

Assistance; provided, however, that Requesting Party's financial obligation under this Section 4.1 (d): (i) shall not apply to any damage or loss resulting from the gross negligence, bad faith or willful misconduct of the Assisting Party, and (ii) shall only apply in excess of, and not contribute with, any valid and collectible first-party physical damage insurance which applies to such loss.

(e) Administrative and general costs which are properly allocable to the Assistance to the extent such costs are not chargeable pursuant to the foregoing subsections.

(f) Overtime costs incurred by the Assisting Party in their service territory as a result of Assistance provided to the Requesting Party.

4.2 Unless otherwise mutually agreed to, the Assisting Party shall invoice the Requesting Party at the address designated on Attachment "B" for all Reasonable Costs and Expenses of the Assisting Party in one invoice. If the Assistance extends beyond a thirty (30) day period, invoicing can occur monthly unless otherwise agreed upon in writing. The Assisting Party shall provide the invoice in substantially the form set forth in Attachment "G".

4.3 The Requesting Party shall pay such invoice in full within sixty (60) days of receipt of the invoice, and shall send payment to the Assisting Party at the address listed in Attachment "B" unless otherwise agreed to in writing.

4.4 Delinquent payment of invoices shall accrue interest at a rate of twelve percent (12%) per year prorated by days until such invoices are paid in full.

5. AUDIT AND ARBITRATION

5.1 A Requesting Party has the right to designate its own qualified employee representative(s) or its contracted representative(s) with a management/accounting firm who shall have the right to audit and to examine any cost, payment, settlement, or supporting documentation relating to any invoice submitted to the Requesting Party pursuant to this Agreement.

5.2 A request for audit shall not affect the obligation of the Requesting Party to pay amounts due as required herein. Any such audit(s) shall be undertaken by the Requesting Party or its representative(s) upon notice to the Assisting Party at reasonable times in conformance with generally

accepted auditing standards. The Assisting Party agrees to reasonably cooperate with any such audit(s).

- 5.3 This right to audit shall extend for a period of two (2) years following the receipt by Requesting Party invoices for all Reasonable Costs and Expenses. The Assisting Party agrees to retain all necessary records/documentation for the said two-year period, and the entire length of this audit, in accordance with its normal business procedures.
- 5.4 The Assisting Party shall be notified by the Requesting Party, in writing, of any exception taken as a result of the audit. In the event of a disagreement between the Requesting Party and the Assisting Party over audit exceptions, the Parties agree to use good faith efforts to resolve their differences through negotiation.
- 5.5 If ninety (90) days or more have passed since the notice of audit exception was received by the Assisting Party, and the Parties have failed to resolve their differences, the Parties agree to submit any unresolved dispute to binding arbitration before an impartial member of an unaffiliated management/accounting firm. Arbitration shall be governed by the laws of the State of California. Each Party to an arbitration will bear its own costs, and the expenses of the arbitrator shall be shared equally by the Parties to the dispute.

6. TERM AND TERMINATION

- 6.1 This Agreement shall be effective on the date of execution by at least two Parties hereto and shall continue in effect indefinitely, except as otherwise provided herein. Any Party may withdraw its participation at any time after the effective date with thirty (30) days prior written notice to all other Parties.
- 6.2 As of the effective date of any withdrawal, the withdrawing Party shall have no further rights or obligations under this Agreement except the right to collect money owed to such Party, the obligation to pay amounts due to other Parties, and the rights and obligations pursuant to Section 5 and Section 7 of this Agreement.
- 6.3 Notwithstanding Section 12, additional parties may be added to the Agreement, without amendment, provided that thirty 30 days notice is given to all Parties and that any new Party agrees to be bound by the terms and conditions of this Agreement by executing a copy of the same which shall be deemed an original and constitute the same agreement executed by

the Parties. The addition or withdrawal of any Party to this Agreement shall not change the status of the Agreement among the remaining Parties.

7. LIABILITY

- 7.1 Except as otherwise specifically provided by Section 4.1 and Section 7.2 herein, to the extent permitted by law and without restricting the immunities of any Party, the Requesting Party shall defend, indemnify and hold harmless the Assisting Party, its directors, officers, agents, employees, successors and assigns from and against any and all liability, damages, losses, claims, demands actions, causes of action, and costs including reasonable attorneys' fees and expenses, resulting from the death or injury to any person or damage to any property, which results from the furnishing of Assistance by the Assisting Party, unless such death or injury to person, or damage to property, is caused by the gross negligence or willful misconduct of the Assisting Party.
- 7.2 Each Party shall bear the total cost of discharging all liability arising during the performance of Assistance by one Party to the other (including costs and expenses for reasonable attorneys' fees and other costs of defending, settling, or otherwise administering claims) which results from workers' compensation claims or employers' liability claims brought by its own employees. Each Party agrees to waive, on its own behalf, and on behalf of its insurers, any subrogation rights for benefits or compensation paid to such Party's employees for such claims.
- 7.3 In the event any claim or demand is made, or suit or action is filed, against the Assisting Party, alleging liability for which the Requesting Party shall indemnify and hold harmless the Assisting Party, Assisting Party shall notify the Requesting Party thereof, and the Requesting Party, at its sole cost and expense, shall settle, compromise or defend the same in such manner as it, in its sole discretion, deems necessary or prudent. However, Requesting Party shall consult with Assisting Party during the pendency of all such claims or demands, and shall advise Assisting Party of Requesting Party's intent to settle any such claim or demand. The Party requesting indemnification should notify the other Party in writing of that request.
- 7.4 The Equipment which the Assisting Party shall provide to the Requesting Party pursuant to Section 3 above, is accepted by the Requesting Party in an "as is" condition, and the Assisting Party makes no representations or warranties as to the condition, suitability for use, freedom from defect or otherwise of such Equipment. Requesting Party shall utilize the Equipment at its own risk. Requesting Party shall, at its sole cost and expense, defend, indemnify and hold harmless Assisting Party, its

directors, officers, agents, employees, successors and assigns, from and against any and all liability, damages, losses, claims, demands, actions, causes of action, and costs including reasonable attorneys' fees and expenses, resulting from the death or injury to any person or damage to any property, arising out of the utilization of the Equipment by or for the Requesting Party, or its employees, agents, or representatives, unless such death, injury, or damage is caused by the gross negligence, bad faith or willful misconduct of the Assisting Party.

- 7.5 No Party shall be liable to another Party for any incidental, indirect, or consequential damages, including, but not limited to, under-utilization of labor and facilities, loss of revenue or anticipated profits, or claims of customers arising out of supplying electric or natural gas service, resulting from performance or nonperformance of the obligations under this Agreement.
- 7.6 Nothing in Section 7, Liability, or elsewhere in this Agreement, shall be construed to make the Requesting Party liable to the Assisting Party for any liability for death, injury, or property damage arising out of the ownership, use, or maintenance of any watercraft (over 17 feet in length) or aircraft which is supplied by or provided by the Assisting Party. It shall be the responsibility of the Assisting Party to carry liability and hull insurance on such aircraft and watercraft as it sees fit. Also, during periods of operation of watercraft (over 17 feet in length) or aircraft in a situation covered by this Agreement, the Party which is the owner/lessee of such aircraft or watercraft shall use its best efforts to have the other Parties to this Agreement named as additional insures on such liability coverage.

8. GOVERNING LAW

This Agreement shall be interpreted, governed and construed by and under the laws of the State of California as if executed and to be performed wholly within the State of California.

9. AUTHORIZED REPRESENTATIVE

The Parties shall, within thirty 30 days following execution of this Agreement, appoint Authorized Representatives and Alternate Authorized Representatives, and exchange all such information as provided in Attachment "B". Such information shall be updated by each Party prior to January 1st of each year that this Agreement remains in effect, or within 30 days of any change in Authorized Representative or Alternate Representative.

The Authorized Representatives or the Alternate Authorized Representatives shall have the authority to request and provide Assistance.

10. ASSIGNMENT OF AGREEMENT

No Party may assign this Agreement, or any interest herein, to a third party, without the written consent of the other Parties.

11. WAIVERS OF AGREEMENT

Failure of a Party to enforce any provision of this Agreement, or to require performance by the other Parties of any of the provisions hereof, shall not be construed to waive such provision, nor to affect the validity of this Agreement or any part thereof, or the right of such Parties to thereafter enforce each and every provision. This Agreement may not be altered or amended, except by a written document signed by all Parties.

12. ENTIRE AGREEMENT

This Agreement and the Exhibits referenced in or attached to this Agreement constitute the entire agreement between the Parties concerning the subject matter of the Agreement. It supersedes and takes the place of all conversations the Parties may have had, or documents the Parties may have exchanged, with regard to the subject matter, including the Prior Agreement.

13. AMENDMENT

No changes to this Agreement other than the addition of new Parties shall be effective unless such changes are made by an amendment in writing, signed by each of the Parties hereto. A new Party may be added to this Agreement upon the giving of 30 days notice to the existing Parties and upon the new Party's signing a copy of this Agreement as in effect upon the date the new Party agrees to be bound by each and every one of the Agreement's terms and conditions.

14. NOTICES

All communications between the Parties relating to the provisions of this Agreement shall be addressed to the Authorized Representatives of the Parties, or in their absence, to the Alternate Authorized Representative as identified in Attachment "B". Communications shall be in writing, and shall be deemed given

if made or sent by e-mail with confirmation of receipt by reply email, confirmed fax, personal delivery, or registered or certified mail postage prepaid. Each Party reserves the right to change the names of those individuals identified in Attachment “B” applicable to that Party, and shall notify each of the other Parties of such change in writing. All Parties shall keep the California Utilities Emergency Association informed of the information contained in Attachment “B” and reply to all reasonable requests of such association for information regarding the administration of this Agreement.

15. GENERAL AUTHORITY

Each Party hereby represents and warrants to the other Parties that as of the date this Agreement is executed by the Parties: (i) the execution, delivery and performance of this Agreement have been duly authorized by all necessary action on its part and it has duly and validly executed and delivered this Agreement; (ii) the execution, delivery and performance of this Agreement does not violate its charter, by-laws or any law or regulation by which it is bound or governed, and (iii) this Agreement constitutes a legal, valid and binding obligation of such Party enforceable against it in accordance with the terms hereof, except to the extent such enforceability may be limited by bankruptcy, insolvency, reorganization of creditors’ rights generally and by general equitable principles.

16. ATTACHMENTS

The following attachments to this Agreement are incorporated herein by this reference:

Attachment A Parties to the Agreement;

Attachment B Names and Address of Authorized Representative(s)/Invoicing;

Attachment C Custodianship of Agreement;

Attachment D Procedures for Requesting and Providing Assistance;

Attachment E Procedures for Deactivation of Assistance;

Attachment F Request for Assistance Letter;

Attachment G Invoice.

16. SIGNATURE CLAUSE

This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one and the same agreement.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized officers as of the dates set forth below.

Company Name: Pacific Gas and Electric Company

Signature of Officer: _____


Mark S. Johnson

Title of Officer: Vice President, Electric Operations & Engineering

Date Executed: July 16, 2008

ATTACHMENT A

July 2018

Parties to the Mutual Assistance Agreement (Electric and Natural Gas) Among Members of the California Utilities Emergency Association

- **Alameda Municipal Power (2011)**

[REDACTED] [REDACTED]
[REDACTED]

- **Alpine Natural Gas (2007)**

[REDACTED] [REDACTED]
[REDACTED]

- **Anaheim Public Utilities Department (2007)**

[REDACTED] [REDACTED]
[REDACTED] [REDACTED]

- **Anza Electric Cooperative, Inc (2013)**

[REDACTED] [REDACTED]
[REDACTED] [REDACTED]

- **Azusa Light & Water (2009)**

[REDACTED]
[REDACTED] [REDACTED]

- **Bear Valley Electric Service (2012)**

[REDACTED] [REDACTED]
[REDACTED]

- **Burbank Water and Power (2010)**

[REDACTED] [REDACTED]
[REDACTED]

- **Colton Public Utilities (2011)**

[REDACTED] [REDACTED]
[REDACTED] [REDACTED]

- **Glendale Water and Power (2011)**

[REDACTED] [REDACTED]
[REDACTED]

- **City of Healdsburg Electric Department (2011)**

[REDACTED]
[REDACTED] [REDACTED]

- **Imperial Irrigation District (2012)**

[REDACTED] [REDACTED]
[REDACTED]

- **Lassen Municipal Utility District (2011)**

[REDACTED] [REDACTED]
[REDACTED]

- **Lathrop Irrigation District (2013)**

[REDACTED] [REDACTED]
[REDACTED] [REDACTED]

- **Liberty Energy (2011)**

[REDACTED] [REDACTED]
[REDACTED]

- **City of Lodi (2011)**

[REDACTED] [REDACTED]
[REDACTED] [REDACTED]

- **City of Lompoc (2010)**

[REDACTED] [REDACTED]
[REDACTED]

- **City of Long Beach (2010)**

[REDACTED] [REDACTED]
[REDACTED] [REDACTED]

- **Los Angeles Department of Water and Power (2011)**

[REDACTED] [REDACTED]
[REDACTED]

- **Modesto Irrigation District (2011)**
[REDACTED]
[REDACTED]
- **City of Moreno Valley Electric Utility (2013)**
[REDACTED]
[REDACTED]
- **Northern California Power Agency (2015)**
[REDACTED]
[REDACTED]
- **Pacific Gas & Electric Company (2012)**
Evermary Hickey emhp@pge.com
Cellular Phone: 415-271-8072
- **Pacific Power, a division of PacifiCorp (2010)**
[REDACTED]
[REDACTED]
- **City of Palo Alto (2010)**
[REDACTED]
[REDACTED]
- **Pasadena Water and Power: Power Delivery (2009)**
[REDACTED]
[REDACTED]
- **Pittsburg Power Company dba Island Energy (2012)**
[REDACTED]
[REDACTED]
- **Plumas-Sierra Rural Electric Cooperative (2011)**
[REDACTED]
[REDACTED]
- **Rancho Cucamonga Municipal Utility (2013)**
[REDACTED]
[REDACTED]

- **City of Redding – Redding Electric Utility (2009)**

[REDACTED]
[REDACTED]

- **City of Riverside (2012)**

[REDACTED]
[REDACTED]

- **City of Roseville – Roseville Electric (2010)**

[REDACTED]
[REDACTED]

- **Sacramento Municipal Utility District (2011)**

[REDACTED]
[REDACTED]

- **San Diego Gas & Electric Company (2011)**

[REDACTED]
[REDACTED]
[REDACTED]

- **San Francisco Public Utilities Commission (2011)**

[REDACTED]
[REDACTED]

- **City of Shasta Lake (2011)**

[REDACTED]
[REDACTED]

- **Silicon Valley Power, Electric Utility of City of Santa Clara (2011)**

[REDACTED]
[REDACTED]

- **Southern California Edison Company (2011)**

[REDACTED]
[REDACTED]

- **Southern California Gas Company (2013)**

[REDACTED]
[REDACTED]

- Southwest Gas Company (2011)

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

- Truckee-Donner Public Utility District (2011)

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

- Turlock Irrigation District

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

- City of Ukiah (2011)

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

- Vernon Public Utilities (2013)

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

- Western Area Power Administration (2011)

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

ATTACHMENT B

Names and Address of Authorized Representative(s)/ Billing

Date			
Name of Utility			
Mailing Address			
Individuals to Call for Emergency Assistance:			
<u>AUTHORIZED REPRESENTATIVE:</u>			
Name			
Title		Address	
E-Mail		Pager No.	
Day Phone		Night Phone	
FAX		Cellular	
<u>ALTERNATE AUTHORIZED REPRESENTATIVE(S):</u>			
Name			
Title		Address	
E-Mail		Pager No.	
Day Phone		Night Phone	
FAX		Cellular	
Name			
Title		Address	
E-Mail		Pager No.	
Day Phone		Night Phone	
FAX		Cellular	

<u>DISPATCH CENTER WITH 24-HOUR TELEPHONE ANSWERING:</u>	
Name	
Title	
Address	
Phone	Fax
<u>BILLING/PAYMENT ADDRESS:</u>	
Department of Utility	
Billing/Payment Address	
Telephone No.	
Fax/Email	

Information provided to 2016
CUEA Custodian:

ATTACHMENT C

Custodianship of Agreement

Responsibilities of the California Utilities Emergency Association's Mutual Assistance Agreement (Electric) Custodian are:

- A. Request all Parties provide an annual update of the Authorized Representative and Alternate Authorized Representative, as identified in Attachment "B", no later than December 15 of each year.
- B. Distribute annual update of Attachment "B" no later than January 15 of each year.
- C. Coordinate and facilitate meetings of the parties to the Agreement, as necessary, to include an after action review of recent mutual assistance activations and document changes requested by any party to the Agreement. An annual meeting will also be held to review general mutual assistance issues.
- D. Assist and guide utilities interested in becoming a party to the Agreement by providing a copy of the existing Agreement for their review and signature.
- E. Facilitate any necessary reviews of the Agreement.

ATTACHMENT D

Procedures for Requesting and Providing Assistance

- A. The Requesting Party shall include the following information, as available in its request for Assistance:
 - A.1 A brief description of the Emergency creating the need for the Assistance;
 - A.2 A general description of the damage sustained by the Requesting Party, including the part of the electrical or natural gas system, e.g., generation, transmission, substation, or distribution, affected by the Emergency;
 - A.3 The number and type of personnel, Equipment, materials and supplies needed;
 - A.4 A reasonable estimate of the length of time that the Assistance will be needed;
 - A.5 The name of individuals employed by the Requesting Party who will coordinate the Assistance;
 - A.6 A specific time and place for the designated representative of the Requesting Party to meet the personnel and Equipment being provided by the Assisting Party;
 - A.7 Type of fuel available (gasoline, propane or diesel) to operate Equipment;
 - A.8 Availability of food and lodging for personnel provided by the Assisting Party; and
 - A.9 Current weather conditions and weather forecast for the following twenty-four hours or longer.

- B. The Assisting Party, in response to a request for Assistance, shall provide the following information, as available, to the Requesting Party:
 - B.1 The name(s) of designated representative(s) to be available to coordinate Assistance;
 - B.2 The number and type of crews and Equipment available to be furnished;
 - B.3 Materials available to be furnished;
 - B.4 An estimate of the length of time that personnel and Equipment will be available;
 - B.5 The name of the person(s) to be designated as supervisory personnel to accompany the crews and Equipment; and
 - B.6 When and where Assistance will be provided, giving consideration to the request set forth in section A.6. above.

ATTACHMENT E

Procedures for Deactivation of Assistance

- A. The Requesting Party shall, as appropriate, include the following in their Deactivation:
 - A.1 Number of crews returning and, if not all crews are returning, expected return date of remaining crews.
 - A.2 Notification to the Assisting Party of the time crews will be departing.
 - A.3 Information on whether crews have been rested prior to their release or status of crew rest periods.
 - A.4 Current weather and travel conditions along with suggested routing for the Assisting Party's return.

- B. The Assisting Party shall, as appropriate, include the following in their Deactivation:
 - B.1 Return of any Equipment, material, or supplies, provided by the Requesting Party.
 - B.2 Provide any information that may be of value to the Requesting Party in their critique of response efforts.
 - B.3 Estimation as to when invoice will be available.
 - B.4 Invoice to include detail under headings such as labor charges (including hours) by normal time and overtime, payroll taxes, overheads, material, vehicle costs, fuel costs, Equipment rental, telephone charges, administrative costs, employee expenses, and any other significant costs incurred.
 - B.5 Retention of documentation as specified in Section 5.3 of the Mutual Assistance Agreement.
 - B.6 Confirmation that all information pertaining to the building, modification, or other corrective actions taken by the Assisting Party have been appropriately communicated to the Requesting Party.

ATTACHMENT F

Letter Requesting Assistance

Date

Assisting Party Name

Assisting Party Address

In recognition of the personnel, material, Equipment, supplies and/or tools being sent to us by [name of Assisting Party] in response to a request for mutual assistance made by [Requesting Party] on [date of request], we agree to be bound by the principles noted in the California Utilities Emergency Association Mutual Assistance Agreement (Electric and Natural Gas).

(Brief Statement of Assistance Required)

[Requesting Party Name]

[Authorized Representative of Requesting Party].

[Signature of Authorized Representative of Requesting Party]

ATTACHMENT G

SUPPLEMENTAL INVOICE INFORMATION

Sections 4 and 5 of this Mutual Assistance Agreement provide for the accumulation of costs incurred by the Assisting Party to be billed to the Requesting Party for Assistance provided. Each utility company has their own accounts receivable or other business enterprise system that generates their billing invoices. Generally these invoices do not provide for a breakdown of costs that delineate labor hours, transportation costs, or other expenses incurred in travel to and from the Assistance, or the subsequent repair of equipment that may be necessary.

This attachment provides guidelines, format and explanations of the types of cost breakdown, and supportive information and documentation that are important to accompany the invoice for providing of mutual assistance. It is intended to provide sufficient information to the Requesting Party at the time of invoice to minimize an exchange of detail information requests that may delay the payment of the invoice.

This information in no way eliminates the requesting Party's ability to audit the information or request additional cost detail or documentation.

Supplemental Invoice Information is a recommendation and not a requirement.

The form is available electronically from the Agreement Custodian.



CUEA MUTUAL ASSISTANCE AGREEMENT (ELECTRIC – NATURAL GAS) SUPPLEMENTAL INVOICE INFORMATION

This supplemental invoice information detail is submitted pursuant to Sections 4.0 and 5.0 of the CUEA, Mutual Assistance Agreement for Electric and Natural Gas, for assistance provided. (RP = Requesting Party, AP = Assisting Party)

AP Invoice Date: _____	RP Purchase Order # 1 _____
AP Invoice #: _____	RP Reference or W/O# 2 _____
Bill To: 3 (Requesting Party)	Remit To: 4 (Assisting Party)
Address: _____	Address: _____
_____	_____
_____	_____
Phone: _____	Phone: _____
Attention: 5 _____	Attention: 6 _____
Name or Description of Event: _____	
Location of Assistance or Event: _____	
Assistance / Billing Period: _____	From: 7 _____ To: 8 _____

Date Assistance Accepted: _____

Date Demobilization Complete: _____

LABOR 1: Employee Wages and Salary while at RP Service Area **9**

Labor:	Hours	Wages	Additives	LABOR 1 Subtotal:
Straight Time, Overtime and Premiums: _____	_____	_____	_____	_____

LABOR 2: Employee Wages and Salary while traveling to and from RP Service Area **10**

Labor:	Hours	Wages	Additives	LABOR 2 Subtotal:
Straight Time, Overtime and Premiums: _____	_____	_____	_____	_____

LABOR 3: Employee Wages and Salary of service and support personnel not traveling to RP Service Area **11**

Labor:	Hours	Wages	Additives	LABOR 3 Subtotal:
Straight Time, Overtime and Premiums: _____	_____	_____	_____	_____

LABOR 4: Overtime Wages and Salary Incurred in AP Service Area as a Result of Assistance **12**

Labor:	Hours	Wages	Additives	LABOR 4 Subtotal:
Overtime and Premiums: _____	_____	_____	_____	_____

LABOR TOTAL

TOTAL Wages, Salaries and Payroll Additives:

MATERIALS: Cost of materials, supplies, tools, and repair or replacement of non-fleet equipment used in assistance **13**

MATERIALS TOTAL **TOTAL Materials, Equipment, etc. and Additives:**

TRANSPORTATION: Cost of vehicles and equipment including parts and repairs and Additives (No Wages)

Fleet Costs: (Hourly or Use Charge for vehicles and equipment and Additives) **14**

Repair Costs: (Cost of repair or replacement of vehicles and equipment, excluding labor) **15**

TRANSPORTATION TOTAL

TOTAL Vehicles, Equipment, etc. and Additives:

EXPENSE: Cost of transporting employees and equipment, to and from RP's Service area, and living expenses not provided by RP.

Transportation Expense: Cost to transport vehicles and equipment (fleet) to and from RP Service Area **16**

Travel Expense: Cost to transport personnel, airfare etc., (non-fleet equip/tools) to and from RP Service Area **17**

Living Expense: Cost of meals, lodging and incidentals not provided by RP or incurred during travel **18**

Meals: _____	Lodging: _____	Incidentals: _____
EXPENSE TOTAL TOTAL Transportation, Travel and Living and Additives:		

ADMINISTRATIVE & GENERAL COSTS: Cost properly allocable to the Assistance and not charged in above sections **19**

ADMINISTRATIVE & GENERAL TOTAL

TOTAL Administrative & General: _____

All costs and expenses of Assisting Company are summarized in this Invoice.

Pay This Amount: _____

(A Form W-9, Request for Taxpayer Identification Number and Certification, has been included with this invoice.) **20**

Instructions and Explanations

This information provides a breakdown of costs incurred in the providing of assistance, and is intended to provide sufficient details to allow Requesting Party to expedite payment by minimizing requests for detailed information. This detailed breakdown, and supportive documentation, should supplement the remittance invoice normally generated by the utility's business enterprise or accounts receivable systems.

Reference Section Explanations: (Numbers correspond to sections on preceding supplemental invoice page(s).)
(Information in parentheses and italics are references to the related section of the CUEA MAA)

- 1** If Requesting Company has designated a Purchase Order to be used for this remittance, provide the PO number in this space.
- 2** If Requesting Company has designated a Work Order or Tracking number to be used for this remittance, provide the number here.
- 3** This "Bill To" address is designated by the Requesting Party and may be the same as the Billing / Payment Address as it appears on the Assisting Company's "Attachment B" of the Agreement. *(Sec. 4.2)*
- 4** This "Remittance Address" is the address specified on the Assisting Company's Primary Invoice.
- 5** The person identified in Billing / Payment section of Requesting Party's "Attachment B", or Authorized Representative, or the Requesting Party's designated Mutual Assistance Coordinator.
- 6** The person identified in Billing / Payment section of Requesting Party's "Attachment B", or Authorized Representative, or the Assisting Party's designated Mutual Assistance Coordinator.
- 7** The date the assistance was agreed to commence. *(Sec. 3.2)*
- 8** The date the assistance demobilization is complete. *(Sec. 3.7) (Note: subsequent repair or replacement costs incurred by the AP may be realized and billed past this date, as noticed by the AP to the RP in writing.)*
- 9** Labor 1: This total includes all hourly wages, including straight time, overtime, premium pay and payroll additives that are the normal payroll of the Assisting Party. This is for time worked in the Requesting Party's service area, and does NOT include time or pay for travel to, or from, the Requesting Party's service area. Labor 1 total includes all employees, management and supervision, that physically traveled to the Requesting Party's service area. (The numbers are reported as totals for Hours, Wages, and Additives (premiums and additives reported in same total). Supportive information such as time sheets, or spreadsheets, that break down the totals reported, is strongly recommended.) *(Sec. 4.1(a))*
- 10** Labor 2: This total includes all hourly wages, including straight time, overtime, premium pay and payroll additives that are the normal payroll of the Assisting Party. This is for time or pay for travel to, or from, the Requesting Party's service area, and does NOT include time worked in RP's service area. Labor 2 total includes all employees, management and supervision, that physically traveled to the Requesting Party's service area. (The numbers are reported as totals for Hours, Wages, and

Additives (premiums and additives reported in same total). Supportive information such as time sheets, or spreadsheets, that break down the totals reported, is strongly recommended.) (*Sec. 4.1(b)*)

- 11** Labor 3: This total includes all hourly wages, including straight time, overtime, premium pay and payroll additives that are the normal payroll of the Assisting Party. This is for time or pay for employees, management, or supervision that is directly attributed to the assistance, but did NOT travel to the Requesting Party's service area. Labor 3 total may include support services in the Assisting party's own service area such as warehouse, fleet, Assistance Liaisons, administrative and coordination personnel. (The numbers are reported as totals for Hours, Wages, and Additives (premiums and additives reported in same total). (Supportive information such as time sheets, or spreadsheets, that break down the totals reported, is strongly recommended.) (Sec. 4.1)
- 12** Labor 4: This total includes only overtime pay and additives that are incurred by the Assisting Party for emergency response in the Assisting Party's service area, that is directly attributable to the providing of assistance. This total requires detailed support information and explanation provided to the Requesting Party prior to the inclusion of costs for assistance. (Sec. 4.1 (f))
- 13** Materials: This total includes all non-fleet equipment, tools and supplies, provided by Assisting Party's warehouse or other supplier that was used, consumed, or has normally applied overhead costs or depreciation, as outlined in the agreement. (Sec. 4.1 (c))
- 14** Transportation: This total includes the hourly or use charge of vehicles and equipment, and normally applies overheads and additives, for all vehicles and equipment used in the providing of assistance. These are direct "Fleet" costs excluding labor, which is included in Labor totals. (Sec. 4.1 (d))
- 15** Transportation: This total includes cost of repair or replacement of vehicles or equipment used in the providing of assistance, by AP, dealer service, or contracted repairs, including all normally applies overheads and additives. These are direct "Fleet" costs excluding labor, which is included in Labor totals. (Sec. 4.1 (d))
- 16** Transportation Expense: This total includes only the incurred costs of transporting, by contractor or entity other than the AP or RP, the fleet vehicles and equipment to RP's service area, and return to AP's home base. (Supportive information such as contract carrier's invoice or trip tickets is recommended.)
- 17** Travel Expense: These include all costs incurred by AP for the transportation of personnel to and from the RP's service area. These include airfare, cab fare, rental vehicles, or any other transportation not provided by the RP. It also included the transportation or shipping costs of non-fleet tools or equipment to and from the RP's service area. (Sec. 4.1)
- 18** Living Expense: This includes all meals, lodging, and incidentals incurred during travel to and from RP's service area. It includes any of these costs incurred while working in the RP's service area that were not provided by the RP. (Sec. 4.1(b))
- 19** Administrative and General Costs: This includes all costs that are allocable to the Assistance, to the extent that they are not included in all the foregoing costs identified in this invoice. (Sec. 4.1(e))

- 20** Form W-9, Tax Identification and Certification: This standard tax form should be completed and accompany this form, unless such information has been previously transmitted to the Requesting Company.

Exhibit F3

Florida Power and Light (FPL) Mutual Assistance Agreement

RECIPROCAL ASSISTANCE AGREEMENT

This Reciprocal Assistance Agreement (the "Agreement"), dated as of September 9, 2014 (the "Effective Date"), is between Florida Power & Light Company, a Florida corporation with offices at 700 Universe Boulevard, Juno Beach, Florida 33408 ("FPL") and Pacific Gas and Electric Company, a California corporation with principal offices at 77 Beale Street, San Francisco, California 94105 ("PG&E"). FPL and PG&E are each referred to as a "Party" herein and, collectively, as the "Parties."

WHEREAS, the Parties are signatories of and Participating Companies under that Mutual Assistance Agreement developed by the Edison Electric Institute; and

WHEREAS, each Party recognizes that it may, from time to time, require assistance in the form of personnel, equipment and materials, from the other Party in anticipation of, or in response to emergency events; and

WHEREAS, the Parties wish to set forth their agreement to the terms that will govern the provision of such assistance by one Party to the other Party.

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, the Parties hereby agree as follows:

I. DEFINITIONS

- a. REQUESTING COMPANY – The Party seeking assistance pursuant to this Agreement.
- b. RESPONDING COMPANY – The Party providing assistance to a Requesting Company pursuant to this Agreement.
- c. PERIOD OF ASSISTANCE – The period of time beginning with the departure of any personnel of the Responding Company from any point for the purpose of traveling to the Requesting Company including time to prepare its employees and equipment for transport and ending upon the return of all personnel of the Responding Company to their residence or place of work, whichever is first to occur. The Period of Assistance shall include, however, any portion of the trip to the Requesting Company or the return trip from the Requesting Company during

which the personnel of the Responding Company are engaged in a course of conduct reasonably necessary to their safe arrival or to the performance of the assistance required by the Requesting Company including any mandated DOT rest time and time required to repair and clean equipment in preparation for return to normal activities.

- d. **AUTHORIZED REPRESENTATIVE** – The employee of each Party designated to issue or receive requests for assistance to or from the other. The Authorized Representative for each Party shall be listed, along with contact information and information regarding any alternate designees, in Attachment A as may be modified from time to time.

II. PROCEDURE

In the event that a Party becomes a Requesting Company, the following procedure shall be followed:

- a. The Requesting Company shall contact the Authorized Representative of one or more of the Participating Companies and provide the following information:
 - i. a general description of the damage sustained or anticipated by the Requesting Company's system;
 - ii. the part of the electrical system for which assistance is needed, e.g., generation, transmission, substation or distribution;
 - iii. the amount and type of personnel, equipment, materials and supplies needed and a reasonable estimate of the length of time they will be needed;
 - iv. the present weather conditions and the forecast for the next twenty-four hours or longer; and
 - v. a specific time and place for a representative of the Requesting Company to meet the personnel and equipment of the Responding Company.
- b. When contacted by a Requesting Company, the Authorized Representative of a Party shall assess his or her utility's situation to determine whether it is capable of providing assistance. No Party shall be under any obligation to provide assistance to a Requesting Company. If the Authorized Representative determines that his or her

utility is capable of and willing to provide assistance, he or she shall so notify the Authorized Representative of the Requesting Company and provide the following information:

- i. a complete description of the type of personnel, equipment and materials to be furnished to the Requesting Company;
 - ii. the length of time the personnel, equipment and materials will be available;
 - iii. the name of the person or persons to be designated as supervisory personnel for purposes of the applicable event; and
 - iv. the estimated time when the assistance provided will arrive at the location designated by the Authorized Representative of the Requesting Company.
- c. The personnel and equipment of the Responding Company shall remain and shall follow safety and tagging rules of the Responding Company, at all times, under the direct supervision and control of the designated supervisory personnel of the Responding Company. Any conflict or inconsistency between the rules of the Responding Company and Requesting Company shall be resolved between respective supervisory personnel before the work that gave rise to the conflict or inconsistency is allowed to be performed.
- d. Representatives of the Requesting Company shall suggest work assignments and schedules for the personnel of the Responding Company; however, the designated supervisory personnel of the Responding Company shall have the exclusive responsibility and authority for assigning work and establishing work schedules for the personnel of the Responding Company.
- e. The designated supervisory personnel of the Responding Company shall maintain daily personnel time records, a log of equipment hours and supplies or material used to the extent requested by Requesting Company, be responsible for the operation and maintenance of the equipment furnished by the Responding Company, and report work progress to the Requesting Company.
- f. The Requesting Company is responsible for providing food and housing that is reasonable under the circumstances for the personnel of the Responding Company from the time of their arrival at the designated location to the time of their departure.

- g. Responding Company shall pay for all repairs on its equipment as determined by its supervisor(s) for maintaining such equipment in safe and operational condition. At the request of the Responding Company, fuels, miscellaneous supplies and minor repairs for the Responding Company's equipment during the period of assistance may be provided by the Requesting Company, if practicable.
- h. The Requesting Company shall have the responsibility of providing communications between the personnel of the Responding Company and the Requesting Company.
- i. During any period of time when the Responding Company is providing personnel to the Requesting Company, the Responding Company remains liable for injury to those personnel to the extent that it would be under the Responding Company's employment contract with its personnel, if applicable, and/or under applicable local, state and federal laws.
- j. To the extent possible, the Parties should reach a mutual understanding and agreement in advance on the anticipated length – in general – of the emergency assistance period. For extended assistance periods, the Parties should agree on the process for replacing or providing extra rest for the Responding Company's employees.
- k. It is understood and agreed that if, in the Responding Company's judgment, it is necessary to terminate the assistance the Responding Company may recall its employees, contractors and equipment by providing the Requesting Company as much notice as practicable under the circumstances. The Requesting Company will take the necessary action to return such employees, contractors and equipment promptly.

III. REIMBURSABLE EXPENSES

The terms and conditions governing reimbursement for any assistance provided under this Agreement shall be agreed to prior to the providing of such assistance and shall be in accordance with the following provisions:

- a. PERSONNEL - During the period of assistance, the Responding Company shall

continue to pay its employees according to its then prevailing rates, rules, regulations and contracts. The Requesting Company shall reimburse the Responding Company for all direct and indirect payroll costs and expenses incurred during the period of assistance, including, but not limited to, employee pensions and benefits as defined in Account No. 926 of the Uniform System of Accounts by the Federal Energy Regulatory Commission.

- b. EQUIPMENT - The Responding Company shall be reimbursed for the use of its equipment during the period of assistance according to the Responding Company's pre-established hourly and/or mileage rate. Also, the Requesting Company shall reimburse Responding Company for the repair or replacement cost of equipment damaged or lost during the period of assistance.
- c. MATERIALS AND SUPPLIES - The Responding Company shall be reimbursed for all materials and supplies furnished by it and used or damaged during the period of assistance, unless such damage is caused by negligence of the Responding Company's personnel. The measure of reimbursement shall be the replacement cost of the materials and supplies used or damaged, plus ten (10) percent of such cost. In the alternative, the parties may agree that the Requesting Company will replace, with a like kind and quality as determined by the Responding Company, the materials and supplies used or damaged.
- d. TRAVEL EXPENSES - The Responding Company shall be reimbursed for the reasonable expenses for the meals, lodging and travel (not included in paragraph III-D above) for the personnel while enroute to and from the Requesting Company's designated place.
- e. PAYMENT - Unless mutually agree otherwise, the Responding Company shall bill the Requesting Company for all reimbursable expenses not later than ninety (90) days following the period of assistance. The Requesting Company shall pay the bill in full not later than thirty (30) days following the billing date. Unpaid bills shall become delinquent upon the 31st day following the billing date and once delinquent shall accrue interest at the rate of twelve (12) percent per annum.

IV. INSURANCE

Each Party shall bear the risk of its own actions, as it does with its day-to-day operations, and determine for itself what kinds of insurance, and in what amounts, it should carry.

V. ANNUAL UPDATES

By March 31st of each year, each Party's Director of Emergency Preparedness (or equivalent) or such person's designee will contact the other Party's counterpart to confirm commitments and process requirements. The Parties will update the process set forth on Exhibit A hereto on an annual basis.

VI. MISCELLANEOUS

- a. In the event of any dispute arising out of or relating to services provided pursuant to this Agreement, such dispute shall be governed by, and this Agreement shall be interpreted, construed and enforced pursuant to and in accordance with the substantive laws of the state of the Responding Party, without regard to law governing choice of law. If a dispute develops, management representatives of the parties shall engage in good faith negotiations to resolve it. If the dispute is not resolved through negotiation within ninety (90) days after notice of the dispute given by one Party to the other, the Parties shall submit the dispute to binding arbitration. The Parties may, by agreement, select the arbitrator(s) and the rules governing the arbitration process. In the event the Parties cannot agree to the selection of the arbitrator(s) and the rules governing the arbitration process, either party may institute arbitration proceedings before the American Arbitration Association, which will conduct arbitration selection and proceedings according to its rules.

THE PARTIES TO THE CONTRACT HEREBY KNOWINGLY,
VOLUNTARILY, AND INTENTIONALLY WAIVE ANY RIGHT THAT MAY
EXIST TO HAVE A TRIAL BY JURY IN RESPECT OF ANY LITIGATION
BASED UPON OR ARISING OUT OF, UNDER, OR IN ANY WAY
CONNECTED WITH THIS AGREEMENT.

- b. In no event shall either Party, their respective affiliates, and their related officers, directors, members, employees and owners, be liable to the other Party for indirect, incidental or consequential damages, resulting from such Party's performance, nonperformance or delay in performance of its obligations under the Agreement.

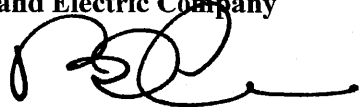
Florida Power & Light Company

By: 

Name: MANNY MIRANDA

Title: VP, POWER DELIVERY

Pacific Gas and Electric Company

By: 

Name: Barry Anderson

Title: VP, Emergency Preparedness Response

Exhibit F4

**Trinity County Public Utilities District
Mutual Assistance Agreement**

MUTUAL ASSISTANCE AGREEMENT

This Mutual Assistance Agreement ("Agreement") is entered into between Pacific Gas and Electric Company ("PG&E"), a corporation, and Trinity County Public Utilities District, a public utility district.

Each party to this Agreement is an electric utility which furnishes services to its customers in a defined area and must exercise reasonable diligence to restore service after interruptions; and it is possible that either party hereto may in time of an emergency request the other party to furnish personnel ("Loaned Personnel"), equipment ("Loaned Equipment") and materials ("Purchased Materials") to assist in such restoration; and it is desirable that there be an understanding between the parties with respect to the rights and obligations which will be incurred in response to such requests.

NOW, THEREFORE, it is agreed that,

1. The parties hereto will use best efforts to cooperate to assist each other and render aid to each other, in the restoration of electric service following storms, floods, hurricanes, earthquakes, disasters and other similar occurrences upon the terms and conditions herein stated; provided, however, that this Agreement shall not be construed to impose any obligation on any party hereto to furnish aid in response to a request from any other party or to continue furnishing such aid, but rather this Agreement is a show of good intent to implement the purposed describes herein.
2. The utility requesting aid shall be known as the "Requesting Utility" and the utility furnishing aid shall be known as the "Responding Utility."
3. (a) The furnishing of aid hereunder shall be deemed to have commenced when the transportation of Responding Utility personnel and equipment from their working base or home (for personnel called out at other than regular working hours) shall have begun and shall be deemed to have terminated when the transportation of such personnel and equipment back to their working base or home (for personnel returning at other than regular working hours) shall have been completed.

(b) The Responding Utility shall make all arrangements for the transportation of Loaned Personnel and Loaned Equipment and Purchased Materials to and/or from the Requesting Utility's service area.
4. Loaned Personnel of Responding Utility shall at all times continue to be employees of Responding Utility and shall at no time and for no purpose be deemed to be employees of Requesting Utility.

5. Wages, hours and other terms and conditions of employment applicable to Loaned Personnel, including work procedures and/or safety rules, shall be those of the Responding Company.
6. (a) Responding Utility shall determine and provide the supervision it deems necessary for the type and number of crews and Loaned Personnel. Instructions pertaining to the direction of Loaned Personnel and work to be performed shall be given by Requesting Utility to the supervisor or supervisors of Responding Utility, as designated by the lead supervisor of Responding Utility.

(b) Loaned Personnel shall be under the supervision and control of the loaned supervisory personnel of the Responding Utility. The composition of Loaned Personnel performing crew operations shall be kept intact and not interspersed with personnel of the Requesting Utility or personnel of other parties except when authorized by a supervisor of Responding Utility.

(c) Where the work rules of Responding Utility differ from those of Requesting Utility, Loaned Personnel shall follow the work rules of Responding Utility except where those rules conflict with local or state regulations, in which case Loaned Personnel shall comply with such local or state regulations.
7. Loaned Personnel shall be equipped by the Responding Utility with the normal and customary working and protective equipment of the Responding Utility.
8. (a) Responding Utility shall furnish the requested personnel and equipment to the extent that the Responding Utility may choose to do so in the exercise of its sole judgement and discretion.

(b) Responding Utility shall have the right, at any time and in its sole judgement and discretion, to withdraw any or all Loaned Personnel and Loaned Equipment furnished to Requesting Utility and return such Loaned Personnel and Loaned Equipment to their working base.
9. Requesting Utility shall reimburse Responding Utility for all costs and expenses incurred by Responding Utility in rendering aid. Such costs and expenses shall be billed in accordance with Responding Utility's standard rates and accounting practices and shall include, without limitation, the following:

(a) Salaries and wages (normal and overtime) paid to Loaned Personnel (including supervisors) for paid time spent in Requesting Company's service

(b) Percentages of such salaries and wages to cover:

(i) Payroll taxes; and

(ii) Employees benefits, which include Workers Compensation Insurance, medical and pension plans and all other regular benefits generally accorded to Responding Utility (including accrual towards vacations, holidays and sick time) employees.

(c) Loaned equipment, supplies and tools not returned to Responding Utility's working base, plus percentages of such costs to cover Responding Utility's supply and tool expense; charges for use of automotive and similar type equipment furnished by Responding Utility, including amounts to cover maintenance and repairs and an allowance for Loaned Equipment destroyed or damaged beyond repair, in an amount equal to the greater of the unamortized value of equipment leased by Responding Company or the amount due under the lease, as a result of such loss or damage, and an amount equal to the replacement cost new less depreciation for equipment owned by the Responding Company.

(d) Transportation of Loaned Personnel, Loaned Equipment, Purchased Materials, supplies and tools to and from Requesting Utility's service area and the working base of Responding Utility or home of Loaned Personnel called out or returning at other than regular working hours.

(e) Payments for reasonable living expenses, including meals and lodging and personal expenses, such as laundry, communication services, etc., of Loaned Personnel.

(f) Any additional costs incurred by the Responding Utility due to the absence of Loaned Personnel or Loaned Equipment, such as the premium part of overtime worked by Personnel not loaned, increased construction costs, equipment rental expenses, etc.

(g) Administrative overhead and general costs applicable to the total costs and expenses incurred by Responding Utility.

10. In addition, Requesting Utility shall indemnify and hold harmless Responding Utility, its officers, agents, contractors, and employees, including all Loaned Personnel, from and against all loss, damage, cost, expense and liability resulting from injury to or death of person or damage to, or destruction of property, including the loss of the use thereof, arising out of or in any manner connected with the rendering of aid by Responding Utility, irrespective of whether such loss, damage, cost, expense, or liability results wholly or in part from the negligence or other fault of

Responding Utility or any of the officers, agents, employees, including Loaned Personnel, contractors or persons employed by such contractors, excepting only such loss, damage, cost expense or liability as may be caused by the willful misconduct of the Responding Utility's officers, agents, employees, including Loaned Personnel, contractors or persons employed by such contractors. The Requesting Utility shall, at its sole cost and expense, on the Responding Utility's written request, defend any suit to final judgement asserting a claim covered by this indemnity.

11. Each party shall designate their Authorized Representatives who can request or grant assistance under the terms of this agreement. A list of Authorized Representatives and points of contact is included as Appendix A.

The Requesting Utility shall document and forward all requests for assistance to the Authorized Representative of the Utility from which assistance is requested. Verbal requests shall be followed with a documented request and shall become supporting documentation under this Agreement when assistance is granted.

(a) A request for assistance shall include information, substantially in accordance with Attachment 1, necessary for the Utility receiving the request to evaluate its ability to provide assistance, and to ensure the efficient dispatching of requested resources if assistance is granted.

(b) Utility responding to a request for assistance will evaluate its ability to provide assistance and shall notify the Requesting Utility what assistance can be given, if any, substantially in accordance with Attachment 2.

12. All time sheets and work records pertaining to Loaned Personnel and Loaned Equipment shall be kept by Responding Utility.

13. (a) The Responding Utility shall furnish Requesting Utility with a detailed statement in quadruplicate of all costs and expenses paid or incurred by Responding Utility in connection with the furnishing of aid to Requesting Utility, which statement shall be paid by Requesting Utility within thirty (30) days after receipt.

(b) A Requesting Utility reserves the right to designate its own qualified employee representative(s) or its contracted representative(s) with a certified public accounting firm who shall have the right to audit and to examine any cost, payment, settlement, or supporting documentation resulting from any item set forth in this Agreement. Any such audit(s) shall be undertaken by the Requesting Utility or its representative(s) upon notice at reasonable times in

conformance with generally accepted auditing standards. The Responding Utility agrees to reasonably cooperate with any such audit(s).

This right to audit shall extend for a period of two (2) years following the date of the furnishing of detailed statement as set forth in Paragraph 13(a) above. The Responding Utility agrees to retain all necessary records/documentation for the entire length of this audit in accordance with its normal business procedures.

The Responding Utility will be notified in writing of any exception taken as a result of the audit. In the event of a disagreement between the Requesting Utility and the Responding Utility over audit exceptions, the parties agree to resolve their differences through good faith negotiation. If ninety (90) days or more have passed since notice of audit exception was received by Responding Utility, the parties agree to submit any unresolved dispute to binding arbitration before an impartial member of an unaffiliated certified public accounting firm. Interest on any sums determined to be due will be set by the arbitrator consistent with then existing commercial standards. Arbitration will be governed by the law of California respecting arbitration and generally accepted accounting principles. Each party to an arbitration will bear its own cost, and the expenses of the arbitrator will be divided pro-rata.

14. This Agreement shall become effective when it has been executed by each of the parties hereto and shall remain in effect as to any party until such party has withdrawn from the Agreement as provided below.
15. Any party may withdraw from this Agreement upon at least ten (10) days prior written notice to the other party. Such notice shall not affect any obligations which may have been incurred prior to its effective date or which may arise out of events occurring prior to that date. No party may withdraw from this Agreement while it is using Loaned Personnel, Loaned Equipment, or Purchased Materials hereunder.
16. This Agreement shall be construed and enforced according to the laws of the State of California.
17. A certified copy of this Agreement shall be filed with the office of the Executive Director of the California Public Utilities Commission.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective officers and shall be effective as of the latest date written below their signature.

PACIFIC GAS AND ELECTRIC COMPANY

By 

Title Vice President, Technical and Construction Services

Date January 5, 1994

TRINITY COUNTY PUBLIC UTILITIES DISTRICT

By 

Title General Manager

Date December 21, 1993

Mutual Assistance Agreement
Appendix A
Pacific Gas and Electric (PG&E) Company

PG&E Primary Contact

Evermary Hickey, Director, Emergency Preparedness and Response
Address: 77 Beale Street, Mail Code: B28R
San Francisco, CA 94105
Office: 415-973-3344
Cell: 415-271-8072
Email: emhp@pge.com

PG&E Secondary Contact

Cecile Pinto, Manager, Emergency Management Business Operations
Address: 77 Beale Street, Mail Code: N28R
San Francisco, CA 94105
Office: 415-973-7770
Cell: 415-264-6700
Email: cbr6@pge.com

Trinity PUD Primary Contact

[REDACTED]

Trinity PUD Secondary Contact

[REDACTED]

MUTUAL ASSISTANCE AGREEMENT

ATTACHMENT 1: REQUEST FOR ASSISTANCE CHECKLIST

The request for assistance shall include, to the best ability of the Requesting Utility, information essential to allow the Utility receiving the request to evaluate its capability to provide assistance and to ensure the efficient dispatching of required resources if assistance is granted.

The Requesting Utility shall document and forward all requests for assistance to the Authorized Representative of the Utility from which Assistance is requested. Verbal requests shall be followed with a documented request.

Checklist for Requesting Assistance:

1. Identification of company and person making the request.
2. Telephone number where requestor can be reached.
3. Nature of the emergency/disaster (earthquake, fire, flood, snow, lightning, rain, etc.).
4. The present weather conditions and the forecast for at least the next 24 hours.
5. A general description of the damage sustained by the Requesting Utility's system.
6. The part(s) of the system for which assistance is needed, e.g., generation, transmission, substation, distribution (gas/electric), and include a brief description of what is needed.
7. The number and type of personnel, crews, equipment, tools, materials, and supplies needed.
8. Reasonable estimate of the length of time such personnel, crews, equipment, tools, materials, and supplies will be needed.

Additional Items if Assistance is Granted:

9. Name, title, and telephone number of coordinator at Responding Utility headquarters.
10. Suggested highway routes to travel and any restrictions or restricted routes.

11. Travel conditions for transportation facilities (airports, highways, railways) as applicable.
12. Name(s) and title(s) of work coordination supervisors of both Utilities and place and time for meeting at point of arrival of Responding Utility at Requesting Utility.
13. Arrangements for food and housing.

MUTUAL ASSISTANCE AGREEMENT

ATTACHMENT 2

The Utility receiving a request for assistance will evaluate its ability and willingness to provide assistance and shall notify Requesting Utility what assistance can be given, if any.

When assistance is granted, Responding Utility shall document its response to include the extent of assistance granted and forward it to the Authorized Representative of the Requesting Utility. Verbal responses shall be followed with a documented response.

Checklist When Providing Assistance:

1. Whether a designated representative is available from Responding Utility in advance of personnel and equipment to effect coordination.
2. The identification of crews and equipment to be furnished.
3. The materials and supplies to be furnished.
4. The length of time the personnel, equipment, and supplies will be available.
5. The name of the person or persons to be designated as supervisory personnel.
6. The estimated time of arrival of the assistance being provided.

Exhibit F5

Western Area Power Administration (WAPA) Mutual Assistance Agreement

PACIFIC GAS AND ELECTRIC COMPANY
Rate Schedule FERC No. 227

First Revised Sheet Original Sheet No. 1
Superseding Original Sheet No. 1

No. 14-06-200-2207A

Docket No. *ER05-229-000*
Company *Pac. Gas & Elec. Co.*
FERC No. *227*
Filing Date *9-1-06*
Effective Date *9-27-06*

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Central Valley Project, California

CONTRACT WITH PACIFIC GAS AND ELECTRIC COMPANY
FOR TRANSMISSION SERVICE FOR SAN LUIS UNIT

Issued By: Dede Hapner, Vice President - FERC and ISO Relations
Issued on: September 5, 2006

Effective: September 27, 2006

PACIFIC GAS AND ELECTRIC COMPANY
Rate Schedule FERC No. 227

First Revised Sheet Original Sheet No.2
Superseding Original Sheet No. 2

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Central Valley Project, California

CONTRACT WITH PACIFIC GAS AND ELECTRIC COMPANY
FOR TRANSMISSION SERVICE FOR SAN LUIS UNIT

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PACIFIC GAS AND ELECTRIC COMPANY
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First Revised Sheet Original Sheet No.4
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No. 14-06-200-2207A

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Central Valley Project, California

CONTRACT WITH PACIFIC GAS AND ELECTRIC COMPANY
FOR TRANSMISSION SERVICE FOR SAN LUIS UNIT

1. This contract, made this 22nd day of June, 1965,
in pursuance of the Act of Congress approved June 17, 1902 (32 Stat. 388),
and acts amendatory thereof or supplementary thereto, hereinafter
referred to as the Reclamation Law, between THE UNITED STATES OF
AMERICA, hereinafter called the United States, represented by the
officer executing this contract, his duly appointed successor or his
duly authorized representative, hereinafter called the Contracting
Officer, and PACIFIC GAS AND ELECTRIC COMPANY, a corporation duly
organized, created, and existing under and by virtue of the laws of
the State of California, hereinafter called Contractor, its successors
and assigns;

WITNESSETH:

2. WHEREAS, the United States, in cooperation with the State of
California, is constructing the San Luis Unit in the counties of
Merced, Fresno and Kings; and

3. WHEREAS, the San Luis Unit is an authorized part of the
Central Valley Project; and

Art. 1, 2, 3

PACIFIC GAS AND ELECTRIC COMPANY
Rate Schedule FERC No. 227

First Revised Sheet Original Sheet No.5
Superseding Original Sheet No. 5

4. WHEREAS, in order to accomplish the purposes of the United States, the San Luis Unit will require the use of electrical capacity and energy generated by the various powerplants of the Central Valley Project; and

5. WHEREAS, the United States does not have electrical transmission and distribution lines which can transmit such capacity and energy between Tracy Switchyard and the San Luis Unit, and Contractor has an existing transmission and distribution system which, with minor extensions, is capable of so doing; and

6. WHEREAS, it is the mutual desire of the parties hereto that Contractor provide transmission and distribution service for the pumping and generating facilities of the San Luis Unit under the terms and conditions hereinafter set forth; and

7. WHEREAS, pursuant to the Act of June 3, 1960 (74 Stat 156) the Secretary has determined that the electric transmission and distribution service necessary for the San Luis Unit can be obtained at less cost to the United States by means of a contract with Contractor than by the construction of the necessary facilities by the United States;

PACIFIC GAS AND ELECTRIC COMPANY
Rate Schedule FERC No. 227

First Revised Sheet Original Sheet No.6
Superseding Original Sheet No. 6

8. NOW, THEREFORE, in consideration of the mutual covenants
herein set forth, the parties hereto agree as follows:

PART ONE

AGREEMENT TO DELIVER ELECTRIC CAPACITY
AND ENERGY TO THE UNITED STATES FROM
CONTRACTOR'S ELECTRIC SYSTEM

USE OF CONTRACTOR'S FACILITIES

9. (a) Contractor shall, under the terms and conditions provided
below, accept delivery of electric capacity and energy into its
electric transmission system, as now or hereafter existing, and the
United States shall furnish such electric capacity and energy as
required for its use for the San Luis Unit, for transmission as follows:
from the San Luis and San Luis Forebay pump-generators to the 230 kv
bus at Tracy Switchyard; for pumping and associated uses, from the
230 kv bus at Tracy Switchyard to San Luis Pumping-Generating plant,
Mile 18 Pumping Plant, San Luis Forebay Pumping-Generating
Plant, San Luis Canal and Pleasant Valley Canal
relift pumps, and those San Luis Unit Drainage Pumps owned by the
United States; and for pumping and associated uses, from said pump-
generators to Mile 18 Pumping Plant.

(b) Although Contractor may also furnish service to the State of
California to some of the above named facilities, Contractor's obligation
under this contract does not include making transmission and distribution

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service available for the State of California's simultaneous share of the total capacity and energy delivered to and from said facilities. Contractor will, however, upon request of the State of California or the United States, make transmission service available to the State for its capacity and energy requirements between the State's Delta Pumping Plant and San Luis Pumping-Generating Plant and Mile 18 Pumping Plant, including the State's requirements for facilities of the United States' San Luis Unit which the State of California may secure the right to use by contract made with the United States under terms and conditions to be agreed upon by the Contractor and the party requesting such service; Provided, That such terms and conditions shall be no less favorable than those provided under this contract for like service.

SAN LUIS UNIT FACILITIES TO BE SERVED

10. Pursuant to Article 9, Contractor shall provide electric transmission and distribution facilities, substantially as indicated on Exhibit A attached hereto, to serve:

- (a) San Luis Forebay Pumping-Generating Plant - A plant having six pump-generating units each having a motor rated not more than 6,600 horsepower.
- (b) San Luis Pumping-Generating Plant - A plant having eight pump-generating units each having a motor rated not more than 63,000 horsepower.
- (c) Mile 18 Pumping Plant - A plant having six pumping units each having a motor rated 40,000 horsepower.

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(d) Pleasant Valley Pumping Facilities - One or two plants for pumping water from the San Luis Canal into the Pleasant Valley Canal.

(e) San Luis Canal and Pleasant Valley Canal Relift Pumps - Relift pumping installations used by the United States to lift water from said canals to points of delivery to those entities which contract with the United States for a water supply.

(f) San Luis Drainage Pumps - Drainage pumps located within the counties of Merced, Fresno and Kings and used by the United States as facilities of the San Luis Unit

TRANSMISSION SERVICE

11. Pursuant to Article 9, Contractor shall provide transmission services to the following facilities:

(a) Those used solely by the United States:

(1) The San Luis Forebay Pumping-Generating Plant, at a nominal voltage of 70,000 at the high-tension bus of the San Luis Forebay Switchyard.

(2) The Pleasant Valley Pumping Facilities, San Luis Canal and Pleasant Valley Canal Relift Pumps and San Luis Drainage Pumps, all transmission and distribution services, at nominal voltages of 115,000, 70,000, 12,000, 4,000, or 2,400 or at voltages as may be agreed upon depending upon the size of pumping loads and available facilities on Contractor's system in the vicinity of said pumping facilities.

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(b) Those used jointly by the United States and the State of California, namely San Luis Pumping-Generating Plant and Mile 18 Pumping Plant, at a nominal voltage of 230,000 at the high-tension buses of the switchyards of said facilities.

DELIVERIES OF CAPACITY AND ENERGY

12. All deliveries of capacity and energy shall be three-phase, alternating current, at a nominal frequency of 60 cycles per second and at the nominal delivery voltages specified in Articles 9 and 11.

TRANSMISSION LOSSES

13. The Parties agree that transmission losses under this contract shall be determined and assessed based on the CAISO Tariff on file at FERC as CAISO FERC Electric Tariff Third Replacement Vol. No. 1, as it may be modified or superseded.

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CHARGES

14. The following charges shall apply:

(a) For transmission service for the facilities specified in Articles 10(a), 10(b) and 10(c) the United States shall pay Contractor \$2,600,000 which amount shall be due and payable on April 1, 1966, or the date when any such service is first made available, whichever date is later. No additional charge for transmission service for these facilities shall be made to the United States thereafter for a period of 50 years. In the event that arrangements are made by Contractor for equivalent service to others for these facilities at more favorable charges, the parties agree to reduce accordingly the payment made by the United States to Contractor.

(b) For transmission and distribution service to Pleasant Valley Pumping Facilities and to relift pumps and drainage pumps located at San Luis or Pleasant Valley canalside, United States shall pay Contractor:

(1) For delivery at nominal voltages of 115,000
or 70,000

(i) When deliveries are made entirely
outside Contractor's Peak Load Period,
one-third of one mill per kilowatthour.

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- (ii) When deliveries are made during Contractor's Peak Load Period in any month, for that month one-third of one mill per kilowatt-hour plus twelve and one-half cents per kilowatt of the maximum 30-minute integrated demand during said period in said month; Provided, If outages of Contractor's system for reasons specified in Article 26(3) result in necessary pumping by the United States during on-peak periods in order to make deliveries of water previously scheduled for pumping during off-peak periods; the bill for such on-peak use shall not include said demand charge.

(As used herein, "Contractor's Peak Load Period" shall be deemed that period between 7:00 a.m. and 10:00 p.m. on any day except Sundays and the following holidays: New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.)

- (2) For delivery at nominal voltages of either 12,000, 4,000, or 2,400, one mill per kilowatthour plus twenty-two cents per kilowatt of the monthly maximum 30-minute integrated demand.

(c) For each relift pumping installation or drainage pump, located away from San Luis or Pleasant Valley canalside, the United States shall pay Contractor (1) the charges specified in paragraph (b) of this Article plus (2) on commencement of service, an amount equal to the cost of providing an extension from Contractor's distribution system, excluding

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the cost of transformers, service connections, and metering; Provided,

That the amount under (2) above shall not exceed the least cost that would have been incurred had the extension been made by the United States from (a) the nearest point on Contractor's then existing system from which service could reasonably be provided, or (b) from the nearest relift pumping plant located at canalside or (c) from the nearest relift pumping plant located away from canalside from which service could reasonably be provided and for which a service connection has been provided prior to completing such extension.

(d) The amount of capacity and energy delivered by Contractor to which the above charges apply shall be determined as provided in Article 17. Contractor shall render an itemized bill for the amount due hereunder from the United States not later than 20 days after receipt from the United States of the information as to the amounts of capacity and energy delivered to the United States required for preparation of the bill. All bills shall be due and payable as soon after receipt thereof as the necessary vouchers can be prepared.

DATES OF SERVICE

15. Contractor shall furnish services by the dates specified in notices as provided in Article 16; Provided, That without further notice service to San Luis and San Luis Forebay pumping-generating plants shall be available by April 1, 1966; and Provided further, That service to

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Mile 18 Pumping Plant shall not be required earlier than October 1, 1966.

PART TWO

GENERAL

NOTICE REQUIREMENTS

16. Notices by the United States to Contractor for commencement of service shall be given as follows, unless otherwise agreed upon:

- (a) Mile 18 Pumping Plant, at least twelve months in advance of time service is required.
- (b) At 115 kv, at least twenty-four months in advance of time service is required.
- (c) At 70 kv, at least eighteen months in advance of time service is required.
- (d) To any other facilities to be served under this contract, at least 15 months in advance of time service is required.

MEASUREMENT OF ELECTRIC CAPACITY AND ENERGY

17. (a) The United States shall be responsible for furnishing all meters necessary for capacity, energy and reactive measurements under this contract and shall be responsible for reading, maintaining and repairing such meters.

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(b) The United States shall be responsible for reading all meters on the last working day of each month, and shall promptly submit a copy of all readings to Contractor. The United States shall be responsible for servicing and maintaining charts on all recording meters, and shall be responsible for making such charts available to Contractor.

(c) The meters shall be sealed and the seals shall be broken only upon occasions when the meters are to be inspected, tested, or adjusted, and representatives of the United States and Contractor shall be afforded reasonable opportunity to be present upon such occasions. The meters shall be tested at least once each year and at any reasonable time upon request therefore by either party hereto. Any metering equipment found to be defective or inaccurate shall be repaired and readjusted or replaced. Should any meter fail to register, the electric capacity and energy delivered hereunder during such period of failure to register, shall for accounting purposes, be estimated from the best information available.

(d) If any of the meter tests provided for herein disclose that the error of any meter or meters exceeds two percent, correction based upon the inaccuracy found shall be made of the records of electric service furnished since the meter test immediately preceding the test in which the error was found; Provided, That no correction shall be made for a longer period than such inaccuracy may be determined by the parties hereto to have existed. Any correction in billing resulting from such correction in meter records shall be made in the

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next monthly bill rendered, and such correction when made shall constitute full adjustment of any claim between the parties hereto arising out of such inaccuracy of meters.

REACTIVE MEGAVOLT - AMPERES

18. It is the intent of both the United States and Contractor that voltage levels be controlled in accordance with good operating practice. The United States and Contractor shall jointly plan and operate their systems for mutual advantage so that variations in the flow of reactive and the resulting fluctuations in voltage levels will not adversely affect the generation and transmission capability or load of either party. Except as otherwise agreed, the power factor of any pumping plant of the San Luis Unit shall be not less than 95% lagging when its monthly maximum demand, at point of delivery, is 300 kw or greater, and shall be not less than 90% lagging when its monthly maximum demand at point of delivery is less than 300 kw.

CONTROL AND MAINTENANCE OF CONTRACTOR'S ELECTRIC SYSTEM

19. (a) The electric system of Contractor shall at all times be and remain in the exclusive possession and control of Contractor and this contract shall not be construed to grant to the United States any rights of ownership in or possession of said electric system. Contractor shall operate and maintain said electric system in good and satisfactory operating condition.

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(b) The United States will install, maintain and operate such proper service protective equipment as up-to-date electrical engineering practices recognize as necessary and efficient for the purpose of clearing and protecting Contractor's electric system from the faults, grounds, and other types of electrical disturbances that originate upon the power system of the United States.

CONTROL AND MAINTENANCE OF ELECTRIC
SYSTEM OF THE UNITED STATES

20. (a) This contract shall not be construed to grant to Contractor any rights of ownership in or possession of the electric system of the United States. The United States shall be responsible for operating and maintaining said electric system in good and satisfactory operating condition.

(b) Contractor will install, maintain and operate such proper service protective equipment as up-to-date electrical engineering practices recognize as necessary and efficient for the purpose of clearing and protecting the United States' electric system from the faults, grounds, and other types of electrical disturbances that originate upon the power system of Contractor.

LICENSE TO THE UNITED STATES TO
INSTALL AND OPERATE FACILITIES

21. Contractor, upon request from time to time by the Contracting Officer, shall grant to the United States a license or licenses to construct, install, operate, maintain, replace or repair, upon the

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property of Contractor such facilities as in the opinion of Contractor are necessary or desirable for the purposes of this contract. The license or licenses so granted shall be in form and of legal sufficiency acceptable to the Contracting Officer, shall be and remain in effect during the term of this contract, and shall expire coincidentally therewith. Any facilities so installed by the United States pursuant to said license or licenses shall be and remain the property of the United States notwithstanding that the same may have been affixed to the premises, and the United States shall have a reasonable time after the expiration of said license or licenses in which to remove its facilities so installed.

LICENSE TO CONTRACTOR TO
INSTALL AND OPERATE FACILITIES

22. The United States hereby grants Contractor a license to construct, install, operate, maintain, replace, or repair, either or all, upon property of the United States under the administrative control and jurisdiction of the Bureau of Reclamation such facilities as in the opinion of the Contracting Officer are necessary or desirable for the purposes of this contract. Said license shall remain in effect during the term of this contract and shall expire coincidentally therewith. Any facilities so installed by Contractor pursuant hereto shall be and remain the property of Contractor, notwithstanding that the same may have been affixed to the premises, and Contractor shall have a reasonable time after the expiration of said license in which to

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remove its facilities so installed.

TERM OF CONTRACT

23. Service under this contract shall commence on April 1, 1966 and shall continue until the 50th anniversary of said date, and thereafter the United States shall have the right to continued service as provided in Part One, for such period and at such charges as may then be agreed upon; Provided, That the charge for such continued service shall be determined in such a manner as to take into account amortization and depreciation of Contractor's electrical transmission and distribution lines during the period of this contract, costs of replacements, then current operating and maintenance costs, and other relevant costs. If the United States elects to continue service and the parties are not able to agree at that time on the transmission service charge for the extended period, the matter shall be submitted to the Federal Power Commission for determination of such charges.

LIABILITY

24. Neither party, its officers, agents, and employees nor any of them, shall be liable for any claims, demands, costs, losses, causes of action, damages, or liability of whatsoever kind or nature arising out of or resulting from the construction, operation, and maintenance of the facilities of the other party under this contract.

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RULES AND REGULATIONS

25. The United States and Contractor shall mutually agree upon and put into effect from time to time such rules and regulations as may be required in order to establish the methods of operation to be followed in the performance of this contract.

CONTINUITY OF SERVICE

26. The delivery of electric capacity and energy hereunder will be made continuously except (1) for interruptions or reductions due to uncontrollable forces, as defined in Article 27 hereof; (2) for interruptions or reductions due to operation of devices installed for power system protection; and (3) for temporary interruptions or reductions, which, in the opinion of Contractor, are necessary or desirable for the purposes of maintenance, repairs, replacements, installation of equipment, or investigation and inspection. Contractor, except in case of emergency as determined by it, shall give the United States reasonable advance notice of such temporary interruptions or reductions and will remove the cause thereof with diligence. Contractor shall, if possible, schedule such temporary interruptions or reductions in order that water deliveries can be made within schedules established from time to time by the Contracting Officer. The Contracting Officer shall, if possible, adjust water pumping schedules in order to accommodate such necessary or desirable temporary interruptions or reductions.

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UNCONTROLLABLE FORCES

27. Neither party shall be considered to be in default in respect to any obligation hereunder, if prevented from fulfilling such obligation by reason of uncontrollable forces, the term uncontrollable forces being deemed for the purpose of this contract to mean any cause beyond the control of the party affected, including, but not limited to, failure of facilities, flood, earthquake, storm, lightning, fire epidemic, war, riot, civil disturbance, labor disturbance, sabotage, and restraint by court or public authority, which by exercise of due diligence and foresight such party could not reasonably have been expected to avoid. Either party rendered unable to fulfill any obligation by reason of uncontrollable forces shall exercise due diligence to remove such inability with all reasonable dispatch.

MUTUAL ASSISTANCE

28. (a) If, in the maintenance of their respective power systems and/or electrical equipment and the utilization thereof for the purposes of this contract, it becomes necessary by reason of any emergency or extraordinary condition for either party to request the other to furnish personnel, materials, tools, and equipment for the accomplishment thereof, the party so requested shall cooperate with the other and render such assistance as the party so requested may determine to be available. The party making such request, upon receipt of properly itemized bills from the other party, shall reimburse the party rendering

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such assistance for all costs properly and reasonably incurred by it in such performance, such costs to be determined on the basis of current charges or rates used in its own operations by the party rendering assistance.

(b) This contract shall be subject to all the provisions and conditions of the Act of Congress entitled the Work Hours Act of 1962 approved August 13, 1962 (76 Stat. 357), which establishes standards for hours of work and overtime pay of laborers and mechanics employed on work done under contract for, or with the financial aid of, the United States, the same as if that Act had been specifically set forth herein.

TRANSFER OF INTEREST IN CONTRACT

29. No voluntary transfer of this contract or of the rights of either party hereunder shall be made without the written approval of the other party; Provided, That if Contractor operates a project financed in whole or in part by the Rural Electrification Administration Contractor may transfer or assign its interest in the contract to the Rural Electrification Administration or any other department or agency of the Federal Government without such written approval; Provided further, That any successor to or assignee of the rights of Contractor, whether by voluntary transfer, judicial sale, foreclosure sale, or otherwise, shall be subject to all the provisions and conditions of this contract to the same extent as though such successor or assignee were the original Contractor hereunder; and Provided further, That the

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execution of a mortgage or trust deed, or judicial or foreclosure sales made thereunder, shall not be deemed voluntary transfers within the meaning of this Article.

WAIVERS

30. Any waiver at any time by either party hereto of its rights with respect to a default or any other matter arising in connection with this contract shall not be deemed to be a waiver with respect to any subsequent default or matter.

NOTICES

31. Any notice, demand or request required or authorized by this contract shall be deemed properly given if mailed, postage prepaid, to the Contracting Officer at the address shown on the signature page hereof, on behalf of the United States, except where otherwise herein specifically provided, and to Contractor's Vice President-Electric Operations at the address shown on the signature page hereof, on behalf of Contractor. The designation of the person to be notified or the address of such person may be changed at any time by similar notice.

OFFICIALS NOT TO BENEFIT

32. No member of or delegate to Congress or Resident Commissioner shall be admitted to any share or part of this contract or to any benefit that may arise herefrom, but this restriction shall not be construed to extend to this contract if made with a corporation or

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company for its general benefit.

COVENANT AGAINST CONTINGENT FEES

33. Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by Contractor for the purpose of securing business. For breach or violation of this warranty the United States shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration, the full amount of such commission, percentage, brokerage, or contingent fee.

CONTINGENT UPON APPROPRIATIONS

34. Where the operations of this contract extend beyond the current fiscal year, performance under this contract is contingent upon Congress making the necessary appropriation for expenditures hereunder after such current year shall have expired. In case such appropriation as may be necessary to carry out this contract is not made, each party shall be released from all liability arising from failure of Congress to make such appropriation.

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PROVISIONS RELATIVE TO EMPLOYMENT

35. (a) During the performance of this contract Contractor
agrees as follows:

- (1) Contractor will not discriminate against any
employee or applicant for employment because of
race, creed, color, or national origin.

Contractor will take affirmative action to ensure
that applicants are employed, and that employees are
treated during employment, without regard to their
race, creed, color, or national origin. Such action
shall include, but not be limited to, the following:
employment, upgrading, demotion or transfer; recruitment
or recruitment advertising; layoff or termination;
rates of pay or other forms of compensation; and
selection for training, including apprenticeship.

Contractor agrees to post in conspicuous places,
available to employees and applicants for employment,
notices to be provided by the Contracting Officer
setting forth the provisions of this non-discrimination
clause.
- (2) Contractor will, in all solicitations or advertisements
for employees placed by or on behalf of Contractor,
state that all qualified applicants will receive
consideration for employment without regard to race,

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creed, color, or national origin.

- (3) Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency Contracting Officer, advising the said labor union or workers' representative of Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (4) Contractor will comply with all provisions of Executive Order No. 10925 of March 6, 1961, as amended, and of the rules, regulations, and relevant orders of the President's Committee on Equal Employment Opportunity Created thereby.
- (5) Contractor will furnish all information and reports required by Executive Order No. 10925 of March 6, 1961, as amended, and by the rules, regulations, and orders of the said Committee, or pursuant thereto, and will permit access to its books, records, and accounts by the contracting agency and the Committee for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (6) In event of Contractor's noncompliance with the nondiscrimination clauses of this contract or with any

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of the said rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 10925 of March 6, 1961, as amended and such other sanctions may be imposed and remedies invoked as provided in the said Executive Order or by rule, regulation, or order of the President's Committee on Equal Employment Opportunity, or as otherwise provided by law.

- (7) Contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the President's Committee on Equal Employment Opportunity issued pursuant to section 303 of Executive Order No. 10925 of March 6, 1961, as amended, so that such provisions will be binding upon each subcontractor or vendor. Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:
- Provided, however, that in the event Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, Contractor may request the

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United States to enter into such litigation to protect
the interests of the United States.

(b) In the performance of any part of the work contemplated
by this contract, Contractor shall not employ any person undergoing
sentence of imprisonment at hard labor.

SERVICE LIMITATION

36. Contractor, by entering into this contract, does not hold
itself out to furnish like or similar service to any other person or
entity, except as expressly provided herein.

IN WITNESS WHEREOF, the parties have caused this contract to be
executed the day and year first above written.

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PACIFIC GAS AND ELECTRIC COMPANY

PG&E + 245 MARKET STREET SAN FRANCISCO, CALIFORNIA 94104 (415) 781-4211

M. P. BRAUN
VICE PRESIDENT - ELECTRIC DIVISION

May 27, 1968
CV 2-630

Mr. E. J. Sullivan
Assistant Regional Director
U. S. Department of the Interior
Bureau of Reclamation
Regional Office, Region 2
P. O. Box 15011
Sacramento, California 95813

Dear Mr. Sullivan:

This will acknowledge receipt of your May 8, 1968, letter in which you propose to make Central Valley Project energy available to the State to pump Bureau water at State's Delta Pumping Plant during off-peak hours.

In order to conserve water, and to supplement transmission service for the San Luis Unit under Contract No. 14-06-200-2207A, this Company agrees to accept, on reasonable advance notice, Central Valley Project capacity and energy into the Company's system at Tracy and to deliver an equal amount of capacity and energy, reduced by one-half per cent for losses, at the State's Delta Pumping Plant to pump Bureau water outside Contractor's Peak Load Period, as such period is defined in Contract No. 14-06-200-2948A. Such deliveries shall be made at a nominal voltage of 230,000.

Such capacity and energy shall be considered as Project Load under Contract No. 14-06-200-2948A, and shall be determined by schedules agreed upon by the Bureau and State.

This agreement shall terminate October 1, 1968.

If you agree to the above conditions, please sign and return the enclosed copy of this letter.

Please furnish us a copy of your agreement with the State showing specifically how the capacity and energy supplied at Delta Pumping Plant for Bureau's use is to be accounted for.

Very truly yours,

PACIFIC GAS AND ELECTRIC COMPANY

By *H. F. Braun*

Accepted and agreed to
this *14th* day of *May*, 1968.

U. S. Department of the Interior
Bureau of Reclamation

By *Robert M. Anderson*

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PACIFIC GAS AND ELECTRIC COMPANY

+ 245 MARKET STREET - SAN FRANCISCO, CALIFORNIA 94105

SHERMAN L. SIOLEY

January 24, 1966

Mr. R. J. Pafford
Regional Director
U. S. Bureau of Reclamation
Region 2
2929 Fulton Avenue
P. O. Box 2511
Sacramento, California

Dear Mr. Pafford:

Your contract No. EA-06-200-2207A with us provides that the Company will begin transmission service to the San Luis and San Luis Forebay pumping-generating plants by April 1, 1966.

As a result of recent discussions with your staff, it is our understanding that commencement of service to these two plants is to be deferred and that the terms of the contract will be satisfactorily met if service is established by May 1, 1966.

If you agree, please sign in the space provided below and return the initialed copy of this letter to me.

Very truly yours,

WJR
8-1
6-07.

Sherman L. Sioley

Accepted and agreed to
this 31 day of January, 1966

U. S. DEPARTMENT OF INTERIOR
BUREAU OF RECLAMATION

By *R. J. Pafford*
Regional Director
U. S. Bureau of Reclamation, Region 2

OW:jh

Exhibit F6

Western Region Mutual Assistance (WRMA) Agreement

WESTERN REGION
MUTUAL ASSISTANCE AGREEMENT

For

ELECTRIC AND NATURAL GAS UTILITIES

Effective: 11/14/2003

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WESTERN REGION MUTUAL ASSISTANCE AGREEMENT (Electric and Natural Gas)

DEFINITIONS

The following are definitions of terms as used in this agreement:

Activation: The initiation of the Assistance and administrative process of the agreement including: request for Assistance, assessing and communicating the scope of assistance request, assessing and communicating the resources available for Assistance, activation procedures, mutual assistance coordination, and other processes and procedures supporting the Mobilization of Assistance resources.

Deactivation: The termination of the Assistance and administrative process including: notification of Deactivation, Demobilization planning, identification of applicable costs, processes and procedures supporting Demobilization of resources, provide for billing, audit, critique information, and closure of the Assistance.

Demobilization: The actual returning of all Assistance resources to the Assisting Party's normal base.

Emergency: A sudden unplanned disruption of essential systems and infrastructure creating a potential for public safety, severe economic loss, or other socio-economic hardships resulting from the loss of the utility service. The emergency may be confined to the utility infrastructure or may include community-wide damage and emergency response. Emergencies may be natural disasters or human caused events.

Mobilization: The actual collecting, assigning, preparing and transporting of all Assistance resources.

Mutual Assistance Coordinator: The person(s) designated by the Requesting Party, and Assisting Party, to coordinate all administrative requirements of the Agreement.

Natural Gas: Term gas or natural gas referred to in this document include all commercially available forms of natural gas including Synthetic Natural Gas.

Operations Liaison: The person or persons designated by the Requesting Party to provide direct contact, communications and coordination at the operations level for Assisting crews and resources at the location of the assistance. This may include but is not limited to: contact and communications for assisting crews, safety information processes and procedures, ensuring coordination of lodging and meals, addressing issues of equipment requirements, materials requirements, and other logistical issues necessary to ensure safe effective working conditions.

Qualified: The training, education and experience of employees completing an apprenticeship or other industry / trade training requirements consistent with Federal Bureau of Apprenticeships and Training, Department of Transportation Pipeline Safety Regulations, or other recognized training authority or regulation. Training and qualification standards vary by state or province and are the responsibility of the Requesting Party to evaluate, in advance, the acceptable level of qualification for trade employees (i.e. lineman, electrician, fitter, etc.).

Work Stoppages: Any labor disputes, labor union disagreements, strikes, or any circumstance creating a shortage of qualified labor for a company during a non-emergency situation.

WESTERN REGION MUTUAL ASSISTANCE AGREEMENT (Electric and Natural Gas)

1.0 PARTIES

- 1.1. This Mutual Assistance Agreement (hereinafter referred to as “Agreement”) is made and entered into effective November 14, 2003. The Parties to this Agreement are listed in Attachment A of this document. Each of the parties that have executed this Agreement may hereinafter be referred to individually as “Party” and collectively as “Parties.”
- 1.2. Being a Party to this Agreement does not by itself assure any Party that Assistance will be provided if, when, or as requested. Each Party reserves the sole right to respond or not to respond to requests for Assistance on a case-by-case basis. By signing this Agreement, each Party thereby agrees that any Assistance, which is received or given upon the request of a Party to this Agreement, shall be subject to each and every one of the terms and conditions of this Agreement.

2.0 RECITALS

This Agreement is made with reference to the following facts, among others:

- 2.1. Whereas, the Parties own operate and maintain utility facilities and are engaged in the production, acquisition, transmission, and/or distribution of electricity or natural gas, and
- 2.2. Whereas, each of the Parties operates and maintains their respective facilities within accepted industry practices and employs skilled and qualified personnel to operate, repair and maintain such facilities according to such industry practices, and
- 2.3. Whereas, it is in the mutual interest of the Parties to be prepared to provide for emergency repair and restoration to such services, systems and facilities on a reciprocal basis. The purpose of this Agreement is to provide the procedures under which one Party may request and receive assistance from another Party. This Agreement is also designed to allow a new Party to join in the Agreement by signing a copy of this Agreement and the giving of notice to the existing Parties pursuant to Section 6.3 of this Agreement, and
- 2.4. Whereas, assistance requests for Work Stoppages are beyond the scope of this Agreement.
- 2.5. Whereas, for purposes of this Agreement, “Assistance” shall be defined as: All preparation and arrangements by the Assisting Party for Activation, Mobilization, Deactivation and Demobilization, of personnel, material, vehicles, equipment, supplies and/or tools or any other requested form of aid or assistance, starting at the time of the authorization by the Requesting Party, as set forth in this Agreement.

THEREFORE THE PARTIES HEREBY AGREE AS FOLLOWS:

3.0 SCOPE OF ASSISTANCE

- 3.1. In the event of an Emergency affecting the generation, transmission, distribution, services, and/or related facilities owned or controlled by a Party, such Party ("Requesting Party") may request another Party or Parties ("Assisting Party") to provide Assistance. The Assisting Party shall, in its sole discretion, determine if it shall provide such Assistance, including the extent and limitations of that Assistance. If the Assisting Party determines to provide Assistance, such Assistance shall be provided in accordance with the terms and conditions of this Agreement.
- 3.2. Requests for Assistance may be made either verbally or in writing by the Authorized Representative, as defined in Section 9 and identified in Attachment B, of the Requesting Party and shall be directed to the Authorized Representative of the Assisting Party. Upon acceptance of a request for Assistance, either verbally or in writing, the Assisting Party shall respond with reasonable dispatch to the request in accordance with information and instructions supplied by the Requesting Party. All requests for Assistance shall follow the procedures described by Section 3.0 and in Attachment C.
- 3.3. The Requesting Party shall provide the Assisting Party with a description of the work needed to address the emergency, with the most urgent needs for Assistance addressed first. The Assisting Party shall use its reasonable efforts to schedule the Assistance in accordance with the Requesting Party's request. However, the Assisting Party reserves the right to recall any and all personnel, material, equipment, supplies, and/or tools at any time that the Assisting Party determines necessary for its own operations. Any Requesting Party for whom an Operator Qualification (OQ) Program is required should pre-screen the other Parties to this Agreement to determine which Parties have compatible regulatory agency accepted programs and may therefore be contacted for assistance.
- 3.4. The Requesting Party will provide the name and contact information for the person(s) designated as the Mutual Assistance Coordinator(s), the Operations Liaison(s), and person(s) to be designated as supervisory personnel to accompany the crews and equipment. The Assisting Party will provide the name(s) and contact information for the person(s) designated to be the Mutual Assistance Coordinator(s).
- 3.5. All costs associated with the furnishing of Assistance shall be the responsibility of the Requesting Party and deemed to have commenced when the Requesting Party officially authorizes the Assisting Party to proceed with Mobilization of the personnel and equipment necessary to furnish Assistance, and shall be deemed to have terminated when the transportation of Assisting Party personnel and equipment returns to the work headquarters, individual district office, or home (to which such personnel are assigned for personnel returning at other than regular working hours) and Demobilization is completed.

- 3.6. For the purposes of this Agreement, a Requesting Party shall be deemed to have authorized the Assisting Party to proceed with Mobilization when the Requesting Party signs and submits a formal request to the Assisting Party, in a form substantially similar to that shown in Attachment C-1. If written information cannot be furnished, a verbal confirmation will be acceptable, with a written confirmation to follow within 24 hours.
- 3.7. The Parties hereto agree that costs arising out of inquiries as to the availability of personnel, material, equipment, supplies and/or tools or any other matter made by one party to another prior to the Requesting Party authorizing the Assisting Party to proceed with Mobilization will not be charged to the potentially Requesting Party.
- 3.8. The Requesting Party agrees to repayment of "reasonable costs or expenses," as further described in Section 4.0 of this Agreement, and any such reasonable costs or expenses shall continue to be subject to the provisions of Section 5.0 of this Agreement regarding Audit and Arbitration.
- 3.9. The Assisting Party and Requesting Party shall mutually agree upon and make all arrangements for the preparation and actual Mobilization of personnel, material, vehicles, equipment, supplies and/or tools to the Requesting Party's work area and the return (i.e. Demobilization) of such personnel, material, vehicles, equipment, supplies and/or tools to the Assisting Party's work area (See Attachments C and D). The Requesting Party shall be responsible for all reasonable costs and expenses incurred by the Assisting Party for Mobilization and/or Demobilization, notwithstanding any early termination of such assistance by the Requesting Party.
- 3.10. Unless otherwise agreed upon, the Requesting Party shall be responsible for providing food and lodging for the personnel of the Assisting Party from the time of their arrival at the designated location to the time of their departure. The food and housing provided shall be subject to the approval of the supervisory personnel of the Assisting Party.
- 3.11. If requested by the Assisting Party, the Requesting Party, at its own cost, shall make or cause to be made all reasonable repairs to the Assisting Party's vehicles and equipment, necessary to maintain such equipment safe and operational, while the equipment is in transit or being used in providing Assistance. However, the Requesting Party shall not be liable for cost of repair required by the gross negligence or willful acts of the Assisting Party, or if the vehicles or equipment was not issued by the Assisting Party in safe and operational condition.
- 3.12. Unless otherwise agreed the Requesting Party shall provide fuels and other supplies needed for operation of the Assisting Party's vehicles and equipment being used in providing Assistance.

- 3.13. Unless otherwise agreed to by the Parties, the Requesting Party shall provide field communications equipment and instructions for the Assisting Party's use. The Assisting Party shall exercise due care in use of the equipment and return the equipment to the Requesting Party at the time of departure in like condition, provided that if repairs are necessary the Requesting Party will be financially responsible unless such repairs are necessitated by the gross negligence or willful acts of the Assisting Party.
- 3.14. Employees of the Assisting Party shall at all times continue to be employees of the Assisting Party, and such employees shall at no time and for no purpose be deemed to be employees of the Requesting Party.
- 3.15. Wages, hours and other terms and conditions of employment applicable to personnel provided by the Assisting Party, shall continue to be those of the Assisting Party.
- 3.16. If the Assisting Party provides a crew or crews, it shall assign supervisory personnel as deemed necessary by the Assisting Party, who shall be directly in charge of the crew or crews providing Assistance.
- 3.17. All time sheets, equipment and work records pertaining to personnel, material, vehicles, equipment, supplies and/or tools provided by the Assisting Party shall be kept by the Assisting Party for billing and auditing purposes as provided in this Agreement.
- 3.18. No Party shall be deemed the employee, agent, representative, partner or the co-venturer of another Party or the other Parties in the performance of activities undertaken pursuant to this Agreement.
- 3.19. The Parties shall, in good faith, attempt to resolve any differences in work rules and other requirements affecting the performance of the Parties' obligations pursuant to this Agreement.
- 3.20. The Requesting party shall provide the Assisting Party with an Operations Liaison (See Attachment C, A.5) to assist with operations, personnel and crew safety. This person(s) shall provide the Assisting Party's crews an operational and safety orientation, pertaining to work practices and safety requirements of the Requesting Party's system, prior to Assisting Party commencing work, and continue to be the link between the Parties and keep the crews apprised of safety, operational, and communication issues.
- 3.21. The Requesting party shall initiate the Deactivation of Assistance by notification to the Assisting Party within 24 hours of deactivation schedule or as soon as is reasonably practicable. Requesting and Assisting Parties will follow the Procedures for Deactivation of Assistance outlined in Attachment D.

4.0 PAYMENT

- 4.1. The Requesting Party shall reimburse the Assisting Party for all “reasonable costs and expenses” that are appropriate and not excessive, under the circumstances prevailing at the time the cost or expense is paid or incurred by the Assisting Party as a result of furnishing Assistance. Such “reasonable costs or expenses” shall include, but not be limited to, the following:
- a) Employees’ wages and salaries for paid time spent in Requesting Party’s service area and paid time during travel to and from such service area, plus the Assisting Party’s standard payroll additives to cover all employee benefits and allowances for vacation, sick leave, holiday pay, retirement benefits, all payroll taxes, workers’ compensation, employer’s liability insurance, administrative and general expenses, and other benefits imposed by applicable law, regulation, or contract pursuant to Section 3.15.
 - b) Employees’ travel and living expenses such as transportation, fuel, utilities, housing or shelter, food, communications, and reasonable incidental expenses directly attributable to the Assistance.
 - c) Cost of equipment, materials, supplies and tools at daily or hourly rate including their normally applied overhead costs inclusive of taxes, insurance, depreciation, and administrative expenses. Cost to maintain, fuel, replace or repair equipment, materials, supplies, and tools (hereinafter collectively referred to as the “Equipment”), which are expended, used, damaged, or stolen while the Equipment is being used in providing Assistance; provided, however, the Requesting Party’s financial obligation under this Section (4.1. c): (i) shall not apply to any damage or loss resulting from the gross negligence or willful misconduct of the Assisting Party, and (ii) shall only apply in excess of, and not contribute with, any valid and collectible property insurance which applies to such damage or loss.
 - d) Cost of vehicles provided by Assisting Party for performing assistance at daily or hourly rate including normally applied overhead costs inclusive of taxes, insurance, depreciation, and administrative expenses. Cost to maintain, fuel, and repair vehicles, or replace vehicles which are damaged or stolen while the vehicles are used in providing Assistance; provided, however, that Requesting Party’s financial obligation under this Section (4.1.d):(i) shall not apply to any damage or loss resulting from the gross negligence or willful misconduct of the Assisting Party, and (ii) shall only apply in excess of, and not contribute with, any valid and collectible first-party physical damage insurance which applies to such loss.
 - e) Administrative and general costs, including the costs associated with the Assisting Party’s administrative field coordination personnel, which are properly allocable to the Assistance to the extent such costs are not chargeable pursuant to the foregoing subsections.

- f) Overtime costs incurred by the Assisting Party in their service territory as a direct result of assistance provided to the Requesting Party.
- 4.2. Unless otherwise mutually agreed to, the Assisting Party shall bill the Requesting Party at the address designated on Attachment "B" for all costs and expenses of the Assisting Party in one invoice with itemization or supporting documentation of charges. If the assistance extends beyond a 30-day period, billing can occur monthly unless otherwise agreed upon.
- 4.3. The Requesting Party shall pay such bill in full, notwithstanding the rights of Audit and Arbitration in Section 5.0, within thirty 30 days of receipt of the bill, or a remittance period agreed to by both parties, and shall send payment to the Assisting Party at the address listed in Attachment "B".
- 4.4. Delinquent payment of bills shall accrue interest at a rate equal to the incremental cost of debt replacement for the Assisting Party, not to exceed the legal rate permitted by the Governing Law (Section 8.0) of Assisting Party, and as identified at the time of billing, prorated by days, until such bills are paid. This rate shall be identified on the bill submitted by the Assisting Party.

5.0 AUDIT AND ARBITRATION

- 5.1. A Requesting Party has the right to designate its own qualified employee representative(s) or its contracted representative(s) with a management or accounting firm who shall have the right to audit and to examine any cost, payment, settlement, or supporting documentation relating to any bill submitted to the Requesting Party pursuant to this Agreement.
- 5.2. A request for audit shall not affect the obligation of the Requesting Party to pay bills as required herein. The Requesting Party or its representative(s) shall undertake any such audit(s) upon notice to the Assisting Party at reasonable times and in conformance with generally accepted auditing standards (GAAS). The Assisting Party agrees to conform to generally accepted accounting principles (GAAP) and to reasonably cooperate with any such audit(s).
- 5.3. This right to audit shall extend for a period of two (2) years following the receipt by Requesting Party of billings for all costs and expenses. The Assisting Party agrees to retain all necessary records/documentation for the said two-year period, and the entire length of this audit, in accordance with its normal business procedures.
- 5.4. The Assisting Party shall be notified by the Requesting Party, in writing, of any exception taken as a result of the audit. In the event of a disagreement between the Requesting Party and the Assisting Party over audit exceptions, the Parties agree to use good faith efforts to resolve their differences through negotiation.
- 5.5. If ninety (90) days or more have passed since the notice of audit exception was received by the Assisting Party, and the Parties have failed

to resolve their differences, the Parties agree to submit any unresolved dispute to binding arbitration before an impartial member of an unaffiliated management or accounting firm. Governing Law for arbitration is pursuant to Section 8 of this Agreement. Each Party to arbitration will bear its own costs, and the expenses of the arbitrator shall be shared equally by the Parties to the dispute.

6.0 TERM AND TERMINATION

- 6.1. This Agreement shall be effective on the date of execution by at least two of the Parties hereto and shall continue in effect indefinitely, except as otherwise provided herein. Any Party may withdraw its participation at any time after the effective date with 30 days prior written notice to all other Parties.
- 6.2. As of the effective date of any withdrawal, the withdrawing Party shall have no further rights or obligations under this Agreement except the right to collect money owed to such Party, the obligation to pay amounts due to other Parties, and the rights and obligations pursuant to Section 5.0 and Section 7.0 of this Agreement.
- 6.3. Notwithstanding Section 12.0, additional parties may be added to the Agreement, without amendment of the Agreement, provided that notice is given to existing signatories who may contest inclusion of new signatories within 30 days of such notice, and that any new signatories agree to be bound by the terms and conditions of this Agreement by executing a copy of the same which shall be deemed an original and constitute the same agreement executed by the existing signatories. The addition or withdrawal of any party to this Agreement shall not change the status of the Agreement among the remaining Parties.

7.0 LIABILITY

- 7.1. Except as otherwise specifically provided by Section 4.1 and Section 7.2 herein, to the extent permitted by law and without restricting the immunities of any Party, the Requesting Party shall defend, indemnify and hold harmless the Assisting Party, its directors, officers, agents, employees, successors and assigns from and against any and all liability, damages, losses, claims, demands actions, causes of action, and costs including reasonable attorneys' fees and expenses, resulting from the death or injury to any person or damage to any property, which results from the furnishing of Assistance by the Assisting Party, unless such death or injury to person, or damage to property, is caused by the gross negligence or willful misconduct of the Assisting Party.
- 7.2. Each Party shall bear the total cost of discharging all liability arising during the performance of Assistance by one Party to the other (including costs and expenses for attorneys' fees and other costs of defending, settling, or otherwise administering claims) which result from workers' compensation claims or employers' liability claims brought by its own employees. Each Party agrees to waive, on its own behalf, and on behalf

of its insurers, any subrogation rights for benefits or compensation paid to such Party's employees for such claims.

- 7.3. In the event any claim or demand is made, or suit or action is filed, against the Assisting Party, alleging liability for which the Requesting Party shall indemnify and hold harmless the Assisting Party, Assisting Party shall promptly notify the Requesting Party thereof, and the Requesting Party, at its sole cost and expense, shall settle, compromise or defend the same in such manner as it, in its sole discretion, deems necessary or prudent. However, Requesting Party shall consult with Assisting Party during the pendency of all such claims or demands, and shall advise Assisting Party of Requesting Party's intent to settle any such claim or demand. The party requesting indemnification should notify the other party in writing of that request.
- 7.4. The vehicles or equipment, which the Assisting Party shall provide to the Requesting Party pursuant to Section 3 above, shall not, to the actual knowledge of Assisting Party, be provided in unsafe operating condition, as represented by manufacturer standards and industry practices. Except as provided in the immediately preceding sentence, the Assisting Party makes no representations or warranties as to the condition, suitability for use, freedom from defect or otherwise of such vehicles or equipment. Requesting Party shall utilize the vehicles or equipment at its own risk. Requesting Party shall, at its sole cost and expense, defend, indemnify and hold harmless Assisting Party, its directors, officers, agents, employees, successors and assigns, from and against any and all liability, damages, losses, claims, demands, actions, causes of action, and costs including reasonable attorneys' fees and expenses, resulting from the death or injury to any person or damage to any property, arising out of the utilization of the equipment by or for the Requesting Party, or its employees, agents, or representatives, unless such death, injury, or damage is caused by the gross negligence or willful misconduct of the Assisting Party.
- 7.5. No Party shall be liable to another Party for any incidental, indirect, or consequential damages, including, but not limited to, under-utilization of labor and facilities, loss of revenue or anticipated profits, or claims of customers arising out of supplying electric or natural gas service, resulting from performance or nonperformance of the obligations under this Agreement.
- 7.6. Nothing in Section 7.0, or elsewhere in this Agreement, shall be construed to make the Requesting Party liable to the Assisting Party for any liability for death, injury, or property damage arising out of the ownership, use, or maintenance of any aircraft or watercraft (over 17 feet in length) which is supplied by or provided by the Assisting Party. It shall be the responsibility of the Assisting Party to carry liability and hull insurance on such aircraft and watercraft as it sees fit. Also, during periods of operation of aircraft or watercraft (over 17 feet in length) in a situation covered by this Agreement, the Party, which is the owner/lessee of such aircraft or watercraft, shall use its best efforts to have the other

Parties to this Agreement named as additional insured's on such liability coverage.

8.0 GOVERNING LAW

- 8.1. All disputes, contests or arbitration of this Agreement, for assistance provided or requested, shall be interpreted, governed and construed by the choice of law state or province as specified by the Assisting Party in Attachment B.

9.0 AUTHORIZED REPRESENTATIVE

- 9.1. The Parties shall, within 30 days following execution of this Agreement, appoint Authorized Representative and Alternate Authorized Representative(s), and exchange all such information as provided in Attachment "B". Such information shall be updated by each Party prior to January 1st of each year that this Agreement remains in effect. The Authorized Representatives or the Alternate Authorized Representatives shall have the authority to request and commit to the providing of Assistance.

10.0 CUSTODIANSHIP OF AGREEMENT

- 10.1. The custodial responsibilities of this Agreement, as outlined in Attachment E, may be assigned to one of the Parties to this Agreement, which assignment shall be subject to acceptance by such Party, or may be assigned to a third party, in either case by vote of the participating Parties starting within 30 days after the initiation of this Agreement, and then by January 31st of each year.

11.0 ASSIGNMENT OF AGREEMENT

- 11.1. No Party may assign this Agreement, or any interest herein, to a third party, without the written consent of the other Parties.

12.0 WAIVERS OF AGREEMENT

- 12.1. Failure of a Party to enforce any provision of this Agreement, or to require performance by the other Parties of any of the provisions hereof, shall not be construed to waive such provision, nor to affect the validity of this Agreement or any part thereof, or the right of such Parties to thereafter enforce each and every provision.

13.0 ENTIRE AGREEMENT

- 13.1. This Agreement is the entire agreement between the Parties concerning the subject matter of the Agreement. It supercedes and takes the place of all conversations the Parties may have had, or documents the

Parties may have exchanged, with regard to the subject matter. The recitals to this agreement are hereby incorporated herein.

14.0 AMENDMENT

14.1. No changes to this Agreement other than the addition of new Parties shall be effective unless such changes are made by an amendment in writing, signed by each of the Parties hereto. A new Party may be added to this Agreement upon the giving of 30 days notice to the existing Parties and upon the new Party's signing a copy of this Agreement as in effect upon the date the new Party agrees to be bound by each and every one of the Agreement's terms and conditions.

15.0 NOTICES

15.1. All communications between the Parties relating to the provisions of this Agreement shall be addressed to the Authorized Representative of the Parties, or in their absence, to the Alternate Authorized Representative(s) as identified in Attachment "B". Communications shall be in writing, and shall be deemed given if made or sent by e-mail with electronic confirmed delivery, confirmed fax, personal delivery, or registered or certified mail postage prepaid. Each Party reserves the right to change the names of those individuals identified in Attachment "B" applicable to that Party, and shall notify each of the other Parties of such change in writing as described above. All Parties shall keep the Custodian of the Agreement informed of the information contained in Attachment "B" and reply to all reasonable requests of such association for information regarding the administration of this Agreement.

16.0 ATTACHMENTS

Attachment "A" (Parties to this Agreement)

Attachment "B" (Names and Addresses of Authorized Representative(s) /Billing)

Attachment "C" (Activation of Western Regional Mutual Assistance Agreement)

Attachment "C-1" (Sample Written Request for Assistance)

Attachment "D" (Deactivation Under Western Regional Mutual Assistance Agreement)

Attachment "E" (Custodianship of Western Regional Mutual Assistance Agreement)

Attachments to this Agreement are incorporated herein by this reference.

WESTERN REGION MUTUAL ASSISTANCE AGREEMENT (Electric and Natural Gas)

17.0 SIGNATURE CLAUSE

- 17.1 This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one and the same agreement.
- 17.2 IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized officers as of the dates set forth below.

Company Name: Pacific Gas and Electric Company

Signature of Officer: _____

Title of Officer: Senior Vice President - Energy Delivery

Date Executed: June 07, 2006

Print Officer Name: Jeffrey Butler

Attachment A -- Parties to the Western Region Mutual Assistance Agreement

Company	State or Province	Attachment A-1 Territory Details
AltaLink	Alberta	Alberta, Canada
Arizona Public Service	Arizona	Throughout the State of Arizona
ATCO	Alberta	Province of Alberta, Canada
Avista	Washington, Oregon, Idaho	Spokane, Washington area, Coeur'D Alene, Idaho area, Medford, Oregon and surrounding areas
BC Hydro	British Columbia	British Columbia, Canada
Bonneville Power Administration	Idaho, Oregon, Washington, Montana, California, Nevada, Utah, and Wyoming	Idaho, Oregon, Washington, western Montana and small parts of eastern Montana, California, Nevada, Utah and Wyoming
Cascade Natural Gas	Washington and Oregon	western and central Washington and central and eastern Oregon.
Central Lincoln PUD	Oregon	Central Oregon Coast
Chelan PUD	Washington	Central Washington, Chelan County
City of Mesa Utilities	Arizona	Mesa, Arizona and Pinal County MAGMA Gas System
Clark Public Utility	Washington	Clark Co. Washington
Dominion Energy	Utah, Idaho, Wyoming	Utah, Idaho, Wyoming
El Paso Electric	Texas and New Mexico	West Texas & Southern New Mexico
ENMAX	Alberta	Alberta, Canada
ENSTAR Natural Gas Company	Alaska	South Central Alaska
Eugene Water and Electric Board	Oregon	Eugene, Oregon and McKenzie River Valley
FortisAlberta	Alberta	Alberta, Canada
FortisBC	British Columbia	Most areas of British Columbia including Vancouver Island
Hawaii Electric (Oahu); Hawaii Electric Light (Hawaii); Maui Electric (Maui, Lanai, and Molokai)	Hawaii	Hawaii, to include islands of: Oahu, Maui, Hawaii, Lanai & Molokai
Hawaii Gas	Hawaii	State of Hawaii
Idaho Power	Idaho, Oregon	Southern Idaho and Eastern Oregon
Intermountain Gas Company	Idaho	Southern Idaho
Kauai Island Utility Coop	Hawaii	Island of Kauai
Liberty Utilities	California	Tahoe Area
Long Beach Energy	Long Beach, CA	Long Beach, CA
Los Angeles Dept Water and Power	California, Nevada, Utah	Distribution in LA Basin and the Owens Valley Region. Transmission in California, Nevada and Utah
Lower Valley Energy	Wyoming	Lincoln & Teton Counties in WY
North Wasco County Peoples Utility District	Oregon	North Wasco County in Oregon. Eighty-Five miles East of Portland. Service Area approximately 92 square miles.
NorthWestern Energy	Montana	Western 2/3 of Montana
NV Energy	Nevada	Southern Nevada, Las Vegas Metropolitan and surrounding area
NW Natural	Oregon, Washington	Oregon / SW Washington
Pacific Gas & Electric	California	Northern California
Pacific Power	Oregon, Washington, California	Oregon, Washington, Northern California

Portland General Electric	Oregon	Portland & Salem Oregon and surrounding areas
Public Service Company New Mexico	New Mexico	Throughout the State of New Mexico
Puget Sound Energy	Washington	Western Washington, and portions of Kittitas County
Rocky Mountain Power	Nevada	Utah, SW and Central Wyoming, Southern Idaho
		Generations facilities in Sacramento, El Dorado, and Solano Counties, California:
		- Customers located in Sacramento and a small portion of southern Placer Counties, California
Sacramento Municipal Utility District	California	- Pipeline runs through Yolo and Sacramento Counties, California with customers in Sacramento County only
		Salem, Oregon
Salem Electric	Oregon	Phoenix and surrounding area
Salt River Project	Arizona	San Diego County & South Orange Country, California
San Diego Gas & Electric	California	Burien, Lake Forest Park, Normandy Park, Renton, SeaTac, Seattle, Shoreline, Tukwila, Unincorporated King County
Seattle City Light	Washington	Snohomish County
Snohomish PUD	Washington	Southern California
Southern California Edison	California	Southern California
Southern California Gas Company	California	Northern - Carson City, Elko, Winnemucca
		Southern - Las Vegas, Bullhead City CA: Barstow, Big Bear, Needles, Victorville
Southwest Gas	Nevada	AZ: Central – Phoenix, Tempe, Southern - Tucson, Sierra Vista, Douglas
		860-mile transmission system extending from the Idaho- Nevada border to the Nevada-California border
Paiute Pipeline Company (Southwest Gas Subsidiary)	Nevada	Springfield Oregon
Springfield Utility Board	Oregon	Pierce County, Washington
Tacoma Power	Washington	Tillamook Oregon
Tillamook PUD	Oregon	NM, CO, WY, Western NE
Tri-State Generation and Trasmission	Colorado	Truckee
Truckee PUD	California	Tucson, Arizona Santa Cruz County, Arizona
Tucson Electric Power	Arizona	Arizona Counties, Coconino, Yavapai, Mohave, Apache, Navajo, and Santa Cruz
UNS Gas, Inc	Arizona	

Exhibit F7

**Puerto Rico Electric Power Authority (PREPA)
Memorandum of Understanding**

MEMORANDUM OF UNDERSTANDING AS TO EMERGENCY ASSISTANCE

THIS MEMORANDUM OF UNDERSTANDING AS TO EMERGENCY ASSISTANCE ("MOU") sets forth the terms and conditions to which PUERTO RICO ELECTRIC POWER AUTHORITY ("PREPA") and electric utilities agree to be bound on occasions when PREPA requests and receives ("Requesting Party") Emergency Assistance (as such term is defined below) from each of the other parties ("Providing Party") pursuant to this MOU, subject to the below provisions. Where appropriate, PREPA and the Providing Parties may be referred to as a "Party." Where appropriate, PREPA and Providing Parties collectively are referred to as the "Parties."

The Parties hereto desire to establish and implement a process whereby PREPA may receive temporary assistance in the form of personnel and equipment and other resources, mutually agreed to by the Parties, to aid in restoring and/or maintaining electric utility service when such service has been disrupted by acts of the elements, unexpected and emergency equipment malfunctions, accidents, sabotage, or any other occurrence for which emergency assistance is deemed to be necessary or advisable ("Emergency Assistance"). The Emergency Assistance contemplated in this MOU is intended to be provided at cost by each Providing Party for the general benefit of the residents, businesses and industries served by a Requesting Party. The Parties contemplate that the Emergency Assistance to be provided under this MOU will be infrequent and of a limited duration. By entering into, or providing temporary assistance under, this MOU, the Providing Parties do not intend such to confer personal jurisdiction over, is not an acceptance of personal jurisdiction by, nor is a waiver of the defense of lack of personal jurisdiction in states where Providing Party provides assistance.

In consideration of the foregoing, each Party hereby agrees as follows:

I. EMERGENCY ASSISTANCE

A. **Governing Principles.** When providing Emergency Assistance or receiving Emergency Assistance, the Parties will adhere to the governing principles for Emergency Assistance arrangements between the Parties (the "Principles") attached hereto as Exhibit A in effect as of the date of a specific request for Emergency Assistance. The Principles may be modified by mutual written agreement of the Parties.

B. **Cost Reimbursement.** With respect to each Emergency Assistance event, the Requesting Party agrees that it will reimburse a Providing Party for all reasonable and necessary costs and expenses incurred by that Providing Party in providing Emergency Assistance as provided under the Principles, unless otherwise agreed to in writing by each Party; provided, however, that the Providing Parties must maintain auditable records in a manner consistent with the Principles. The Providing Parties shall furnish documentation supporting all costs and expenses (at cost without any markup) in a form acceptable to the Requesting Party at regular intervals.

C. **Termination.** Each Party may withdraw from this MOU at any time by providing at least thirty (30) days' prior written notice to the other Party. Regardless of the reason for termination, the Requesting Party shall reimburse each Providing Party for all costs and expenses incurred prior to the expiration of the termination notice period, consistent with the Principles. In the event of termination, the withdrawing party should provide written notice in accordance with Section VII.A. below.

II. LABOR AND EQUIPMENT

A. **Qualifications.** Each Providing Party will provide only personnel who are qualified by the necessary education, training, and experience to perform the particular tasks comprising the Request for Assistance (e.g., persons trained in appropriate utility overhead or underground electrical construction and maintenance). Each Providing Party is responsible for training its personnel and for ensuring they have the technical qualifications in each Providing Party's home jurisdiction necessary to provide the type of Emergency Assistance for which they have been provided. Under no circumstances will a Providing Party or its employees be requested to, or be under any obligation to, perform any work for which such employees do not consider themselves adequately trained and equipped or which, in the good faith determination of Providing Party or its employees, presents unacceptable risk to their safety.

B. **Status of Employees; Permits; Taxes.** Employees of each Providing Party are at all times during the provision of Emergency Assistance the employees of that Providing Party and are not employees of the Requesting Party for any purpose, at any time. The normal and customary wages, hours, and other terms and conditions of employment of each Providing Party are and remain applicable to that Providing Party's employees during the provision of Emergency Assistance. Contractors of a Providing Party that such Providing Party causes to provide Emergency Assistance shall, during the provision of such Emergency Assistance, be contractors of such Providing Party and not Requesting Party and the employees of such contractors shall be employees of such contractors and not of Requesting Party. Requesting Party shall have sole responsibility for securing any and all work permits, labor qualifications and similar requirements of the Commonwealth of Puerto Rico, and shall have sole responsibility for any Commonwealth of Puerto Rico taxes (sales, income, employment or otherwise for which each Providing Party, each Providing Party's contractors, or their respective employees would be liable as a consequence of performing the Emergency Assistance.

C. **Equipment.** Each Providing Party will bring with it to the service territory of the Requesting Party whatever equipment that Providing Party deems necessary to provide Emergency Assistance and as informed by discussions with Requesting Party; provided that Requesting Party will use reasonable good faith efforts to identify and deliver to each Providing Party equipment available for use in the service territory of the Requesting Party. All equipment provided for the Emergency Assistance by a Party shall remain the property of that Party. Each Providing Party shall make all arrangements for transportation of its equipment to and from Requesting Party's service territory (including, without limitation, insurance for the same), and Requesting Party will pay all reasonable costs related to the transportation of the equipment to and from its Service Territory.

D. **Supervening Events.** The Parties agree and acknowledge that, in the course of performance of this MOU, fortuitous events, including without limitation severe weather and other natural or operational calamities, acts of the public enemy, and similar events, may alter the circumstances upon which Providing Party agreed to provide the Emergency Assistance (all such events, "Supervening Events"). In such event, a Providing Party shall provide notice to Requesting Party describing the change in circumstance and its anticipated impact, if any, on that Providing Party's ability to provide the Emergency Assistance on terms previously discussed by the Parties. If, due to any such Supervening Event, a Providing Party determines in its reasonable discretion that it must cancel, curtail or reschedule the Emergency Assistance so impacted, both Parties agree that Providing Party may do so, without any liability or ongoing obligation to Requesting Party, by delivering written notice of such decision to Requesting Party.

III. CONFIDENTIALITY

A. **Confidential Information.** The Parties agree that any business or technical information or data (whether oral, written, electronic, or otherwise and including a trade secret) of or about the other Party or its affiliates or contractors (the "Disclosing Party") that is valuable (and not generally known or readily available to third parties) and that is transmitted to the other Party (the "Receiving Party") during the term of this MOU or during negotiations concerning this MOU ("Confidential Information") will be deemed proprietary and confidential and of both tangible and intangible value to the owner. Receiving Party must not retain, disclose, or use any Confidential Information without Disclosing Party's prior written consent. Receiving Party will take all efforts necessary to protect and prevent any unauthorized use or disclosure and further agrees to cooperate with Disclosing Party's reasonable confidentiality requirements. Receiving Party will notify Disclosing Party of any unauthorized disclosure or use of any Confidential Information as soon as practicable after becoming aware of the same.

B. **Recipient Obligations.** The Parties acknowledge that PREPA is a government entity and that some, or all, of the materials or information provided by each Providing Party to PREPA will be considered a "public record," which PREPA, by law, is obligated to disclose upon request of any person for inspection and copying, unless the public record or the information is otherwise specifically exempt by statute. Should a Providing Party provide PREPA with any materials that it believes, in good faith, contain information which would be exempt from disclosure or copying under applicable law, the Providing Party shall indicate that belief by typing or printing, in bold letters, the phrase "Exempt from Disclosure" both on the initial page and on the face of each affected page of such material and shall submit to PREPA both a complete and a redacted version of such material, along with the statutory exemption applicable to the materials or information. Should any person request to examine or copy any material so designated, PREPA *will produce for that person only the redacted version of the affected material or page(s) thereof*. If the person requests to examine or copy the complete version of the affected material or page(s), PREPA shall notify the Providing Party of that request, and the Providing Party, within thirty-six (36) hours of receiving such notification, shall either permit or refuse to permit such disclosure or copying. If the Providing Party refuses to permit disclosure or copying, that Providing Party agrees to, and shall, hold harmless and indemnify PREPA for all expenses, costs, damages, and penalties of any kind whatsoever which may be incurred by PREPA, or assessed or awarded against PREPA, in regard to PREPA's refusal to permit disclosure or copying of such material. If litigation is filed in relation to such request and the Providing Party is not initially named as a party, that Providing Party shall promptly seek to intervene as a defendant in such litigation to defend its claim regarding the confidentiality of such material. This provision shall constitute PREPA's sole obligation with regard to maintain confidentiality of material or documents, of any kind, or any other information provided by a Providing Party.

C. **Required Disclosure.** The Parties agree that the actual or threatened disclosure or unauthorized use of Confidential Information could cause irreparable harm to a Disclosing Party and that each Disclosing Party will be entitled, without prejudice or limit to any other remedy, to obtain injunctive relief to prevent unauthorized disclosure or use of Confidential Information. The Parties agree that: (i) the reasonable and necessary time for protecting Confidential Information will be the earlier of three (3) years after termination of this MOU; and (ii) Confidential Information that constitutes a trade secret will be protected for the maximum period allowed by law. At a Disclosing Party's written request, or upon termination of this MOU, the Receiving Party will: (1) return all Confidential Information to that Disclosing Party or (2) destroy all Confidential Information and certify such destruction to that Disclosing Party; provided, that Receiving

Party shall be entitled to keep archival copies as required by its document retention policies and by law; and, provided further that the Receiving Party may retain backup copies of computer or other electronic records which are automatically retained by the Receiving Party in the ordinary course of its business.

IV. INSURANCE

A. **Obligation to Procure Insurance.** During the term of this MOU and for one year thereafter, each Party will obtain and maintain its self-insurance program, or at its expense, the insurance coverage required in this Insurance section. Such coverage shall be self-insured or placed with financially reputable insurers rated "A" or better by A.M. Best and licensed to do business in all jurisdictions where any work is performed under this MOU.

B. **Evidence of Coverage.** Upon request, each Providing Party shall provide a certificate of insurance or evidence of self-insurance to the Requesting Party and the Requesting Party shall provide a certificate of insurance to each Providing Party, evidencing the following required insurance:

1. Workers' Compensation insurance in the form of and in the maximum amount provided for under any workers' compensation or similar law in the jurisdiction where any Providing Party is located, and Employer's Liability coverage with a limit of One Million Dollars (\$1,000,000) per accident.
2. Commercial General Liability or equivalent coverage, including coverage for Contractual Liability and Products/Completed Operations Liability, with a limit of Three Million Dollars (\$3,000,000) combined single limit per occurrence.
3. Business Auto Insurance or equivalent coverage covering the ownership, maintenance, or use of any owned, non-owned, or hired automobile with a limit of Three Million Dollars (\$3,000,000) combined single limit per occurrence.
4. All liability insurance provided hereunder shall provide that:
 - (a) Each individual Providing Party and Requesting Party, its officers, agents, employees, and volunteers are added as additional insureds on a primary non-contributory basis to the Requesting and that individual Providing Party's Commercial General Liability and Business Auto insurance policies identified above.
 - (b) It includes an insurer's waiver of rights of subrogation in favor of the other party, and its employees and agents.
 - (c) It contains a severability of interest clause.

C. **No Limitation of Liability.** Nothing contained herein limits either a Providing Party's or the Requesting Party's liability to that other Party to the limits of insurance certified or carried.

D. **Self-Insurance.** The Parties understand that each may be self-insured for the identified insurance requirements in Section IV.B.(1) through (4). However, the Parties agree that such acceptance does not diminish the responsibilities to each other, as between each Providing Party and the Receiving Party, that would otherwise be covered by insurance if they were not self-insured.

V. LIABILITY

A. **No Consequential Damages.** Regardless of any other MOU provision and regardless of availability under applicable law, no Providing Party will be liable under this MOU to Receiving Party, and the Receiving Party will not be liable to any Providing Party, for lost profits or revenues, business interruption damages or other consequential, special, indirect, treble, exemplary, incidental, or punitive damages under any circumstance, whether any such claim is based in contract, tort (including negligence), strict liability, warranty, or otherwise, under or arising out of, due to or in connection with its performance or nonperformance of this MOU or obligations thereunder.

B. **Hold Harmless and Defend.** The Parties agree that their requirements to hold harmless and defend a Providing Party shall be governed by the terms of the Principles.

C. **Mitigation of Damages.** Nothing in the MOU is to be construed to limit any Party's duty to mitigate damages to the extent required by law.

VI. INVOICING

A. **Invoices.** All invoicing for Emergency Assistance rendered hereunder shall be prepared consistent with the Principles. Each Providing Party shall submit reasonably detailed invoices that include the contract number and any applicable purchase order numbers, the type of service provided, the date of such service, and a breakdown of costs incurred for personnel, equipment, materials and other services. No Providing Party is required to submit a specific form as its invoice, but all invoices shall include the information requested above. Invoices that request reimbursement of expendable materials shall be supported by reasonable documentation. Each Providing Party should submit its "preliminary invoice" to Requesting Party within ninety (90) calendar days from the date the Emergency Assistance is substantially complete. Requesting Party should receive a final invoice within ninety (90) calendar days of submittal of the preliminary invoice. Notwithstanding the foregoing, the Parties agree and acknowledge that reasonable delays in preparing and submitting invoices shall not be cause for non-payment.

B. **Addresses.** Invoices shall be sent to the PREPA's accounts payable or procurement department via e-mail or regular mail as provided below:

To PREPA:

Puerto Rican Electric Power Authority
PO Box 364267
San Juan, Puerto Rico 00936-4267

VII. GENERAL TERMS AND CONDITIONS

A. **Discretion to Respond.** Any Party may elect not to provide services under this MOU at its sole discretion. The Parties understand and acknowledge that they may be Parties to other mutual assistance agreements, and that those other mutual assistance agreements may take precedence or priority

over the Emergency Assistance requested under this MOU. Nothing in this MOU is intended to provide priority to a Party in the event of any emergency.

B. **Other Resources.** Any Party may, in execution of the terms of this MOU, involve other emergency response organizations through mutual-aid agreements, automatic-aid agreements, or subcontracts, or any applicable mutual-aid and emergency/disaster assistance statutes available at law. If such other parties are used, they shall be under such Party's control and, for purposes of this MOU, shall be considered units of such Party.

C. **Notices.** Any notice provided or permitted to be given under this MOU shall be in writing, and may be served by facsimile provided the sender has received a machine-generated confirmation of delivery, personal delivery or by sending the same by express courier service, addressed to the Party to be notified with a return receipt requested. Notice delivered by express courier service shall be deemed to have been given and received on the date of the delivery as shown on the return receipt. Notice served by facsimile shall be deemed given and received upon receipt only if received during normal business hours or, if received after normal business hours, shall be deemed received as of the opening of business on the next business day. For purposes of notice, the addresses and facsimile numbers of each Party shall be as to the address included on each Party's signature page

D. **Governing Law.** The MOU is governed by and is to be construed in accordance with the laws of State of New York.

E. **Laws of Puerto Rico.** This MOU is executed in accordance with the provisions of Executive Order OE-2017-53, issued by the Governor of Puerto Rico on September 28, 2017, and no services will be provided hereunder after the expiration of a 90-day period commencing upon the termination of the Governor's emergency declaration as a result of hurricane María.

F. **Waiver of Sovereign Immunity.** The Parties acknowledge that PREPA is an agency of the Commonwealth of Puerto Rico. Accordingly, PREPA agrees that in the event of any dispute or commencement of any legal processes by the other Party, neither it nor any of its assets is entitled to immunity from suit, execution or attachment or other legal process on the ground of sovereign immunity or otherwise. PREPA's entry into this MOU constitutes, and the exercise of its rights and performance of and compliance with its rights and obligations under this MOU will constitute private and commercial acts done and performed for private and commercial purposes.

G. **Severability.** In the event that any of the terms, covenants or conditions of the MOU, other than the duty of the Requesting Party to pay, or the application of any such term, covenant or condition, shall be held invalid as to any person or circumstance by a court with jurisdiction, the remainder of this MOU and the application of its terms, covenants and conditions shall not be affected by that invalidity.

H. **Amendment and Conflict.** No amendment to this MOU is valid unless mutually agreed and signed by both Parties. In the event of a conflict between the Principles and the MOU, the Principles control.

I. **Entire Agreement.** This MOU sets forth the full and complete understanding of the Parties as of the date of PREPA's signature with respect to the subject matter contained herein and supersedes any and all agreements, representations and contracts made or dated prior hereto (whether written or oral) concerning the subject matter hereof. Modifications or amendments to this MOU must be in writing and

executed by a duly authorized representative of each Party. Any waiver, express or implied, by any Party of any right under this MOU or of any breach by the other Party will not constitute or be deemed as a waiver of any other right or any other breach, whether of a similar or dissimilar nature to the right or breach being waived.

J. **Construction.** This MOU reflects the negotiated agreement of the Parties. Accordingly, this MOU is to be construed as if the Parties jointly prepared it, and no presumption shall be made as to whether one Party or another prepared this MOU for purposes of interpreting or construing any of the provisions of this MOU or otherwise.

K. **Headings for Convenience Only.** The headings provided in this MOU are for convenience and do not affects its meaning.

L. **Counterparts.** This MOU may be executed in counterparts, each of which is hereby deemed to be an original but all of which together shall constitute one and the same instrument. From time to time one or more additional Providing Parties may enter into this MOU by attaching their respective executed signature pages to a copy of this MOU as previously executed by the Requesting Party and the other Providing Parties and delivering such copy with such additional executed signature page to the Requesting Party and such other Providing Parties. This MOU and any counterparts or copies hereof that are executed by the Requesting Party and any one or more Providing Parties may be delivered electronically, including by fax or email, and any signatures or copies of signatures on this MOU or any such counterparts or copies shall be treated as, and given the same force and effect as, original signatures.

MOU for Emergency Assistance (Puerto Rico Electric Power Authority – Hurricane María)

IN WITNESS WHEREOF, the Parties have executed this MOU as of the dates set forth below by their respective signatures.

Puerto Rico Electric Power Authority


Name: Justo Luis González Torres
Title: Executive Director

7/dic/17
Date:

Notices:

Puerto Rico Electric Power Authority
PO Box 364267
San Juan, Puerto Rico 00936-4267
Attention: Eng. Justo Gonzalez Torres
Executive Director

Edison Electric Institute



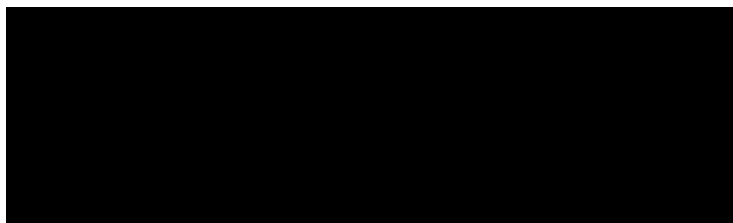
Name: Thomas R. Kuhn

Title: President

12/14/17

Date:

Notices:



American Electric Power Service Corporation, for itself and as agent for the operating companies of the American Electric Power system

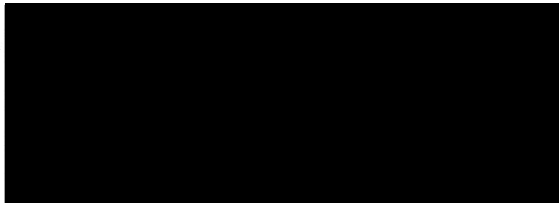


Name: Nicholas K. Akins

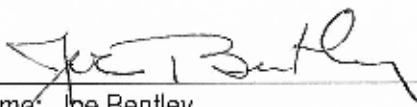
Title: Chief Executive Officer and President

Date: December 8, 2017

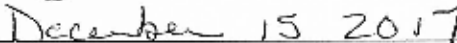
Notices:



AES Corporation

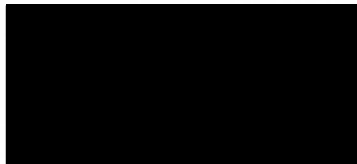


Name: Joe Bentley
Title: Vice President Power Delivery



Date:

Notices:



ALLETE, Inc.

Bradley W. Oachs

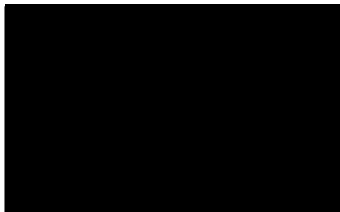
Name: Bradley W. Oachs

Title: Sr. Vice-President ALLETE & President Regulated Operations

12/19/17

Date:

Notices:



Arizona Public Service Company



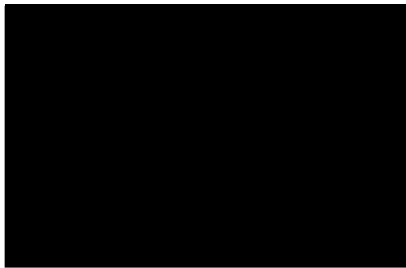
Name: Jacob Tetlow

Title: Vice President of Transmission and Distribution

12-21-17

Date:

Notices:



Austin Energy

Elaina Ball

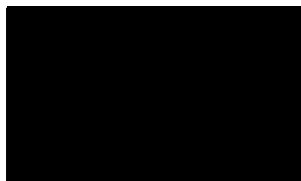
Name: Elaina Ball

Title: Chief Operating Officer and Deputy General Manager

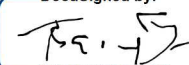
12-07-17

Date:

Notices:



CenterPoint Energy Houston Electric, LLC

DocuSigned by:

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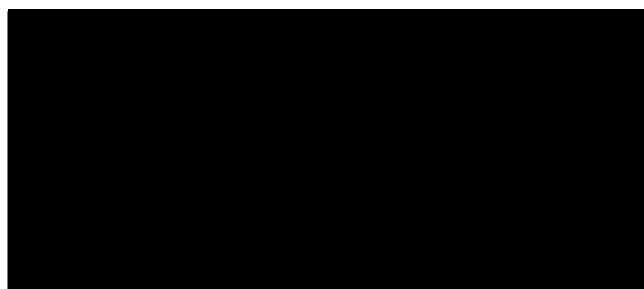
Name: Tracy B. Bridge

Title: Executive Vice President and President – Electric Division

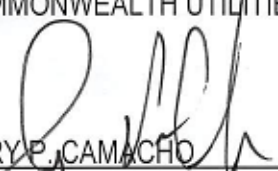
12/20/2017 | 10:53 AM CST

Date:

Notices:



COMMONWEALTH UTILITIES CORPORATION (CUC)

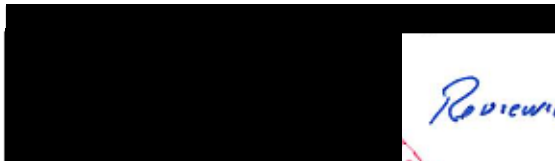

GARY P. CAMACHO
Executive Director

12/29/17

December 29, 2017

Date:

Notices:



Reviewed & approved 12/29/17


James S. G. [unclear]
Legal Counsel



DTE Electric Company



Name: Heather Rivard

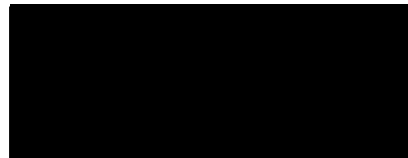
Title: Sr Vice President - Distribution Operations

Date: December 21, 2017

Notices:



With a copy to:



Duke Energy

A handwritten signature in black ink, appearing to read "Lloyd M. Yates", written over a horizontal line.

Name: Lloyd M. Yates

Title: EVP Customer & Delivery Ops, Carolinas President

December 22, 2017

Date:

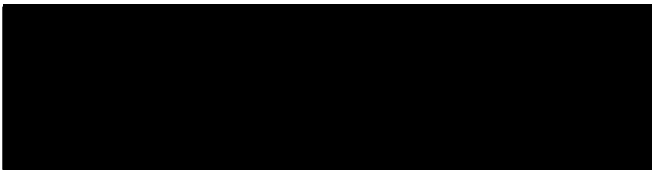
Notices:

Eversource Energy Service Company

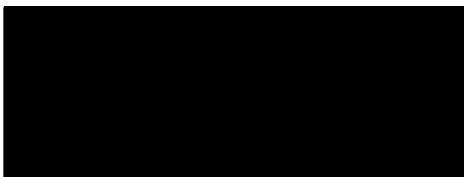

Name: Michael Zappone
Title: Manager-Resource Acquisition

12/8/2017
Date: 12/8/2017

Notices:



With a copy to:



Florida Power & Light Co.

Manny Miranda

Name: Manny Miranda

Title: Senior Vice President, Power Delivery

12/8/17

Date:

Notices:



Louisville Gas and Electric Company
Kentucky Utilities Company

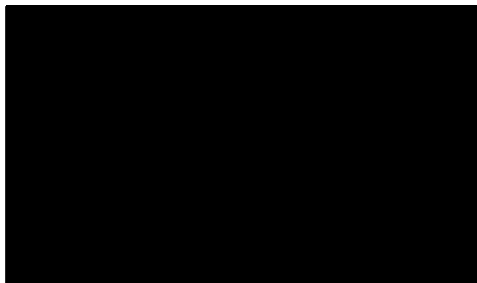


Name: John K. Wolfe

Title: Vice President Electric Distribution

Date: December 20, 2017

Notices:



Oklahoma Gas and Electric Company

Mike Mathews

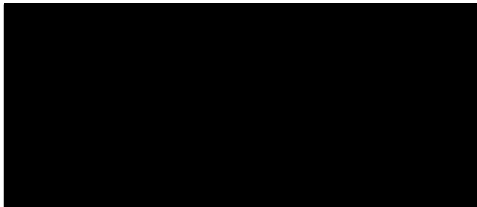
Name: Mike Mathews

Title: Vice President Transmission and Distribution Operations

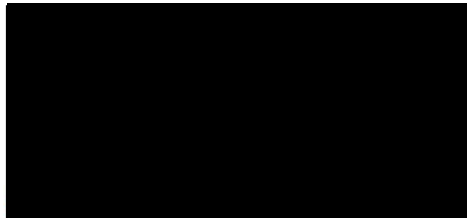
12/20/2017

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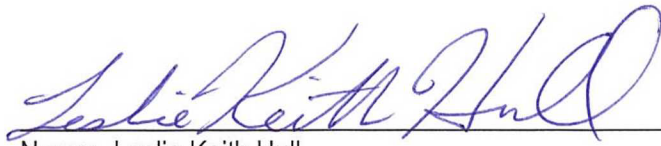
Notices:



with copy to:



Oncor Electric Delivery Company LLC



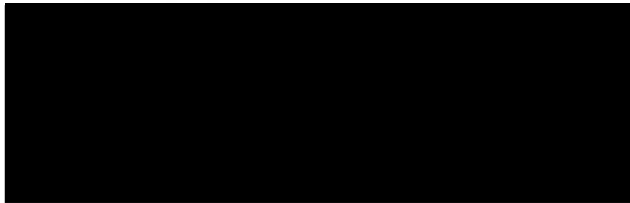
Name: Leslie Keith Hull

Title: Vice President Distribution Operations

12-11-2017

Date:

Notices:



Pacific Gas and Electric Company



Name: Gregg Lemler

Title: Vice President of Electric Transmission Operations

12-8-2017

Date:

Notices:

Pacific Gas and Electric Company
P.O. Box 7442
Mail Code B30A
San Francisco, CA 94120
Attention: Charles Lewis, IV
Law Department

PPL Electric Utilities Corporation

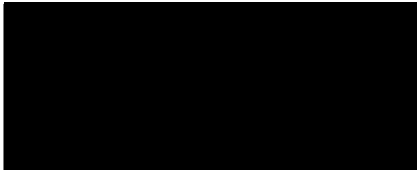
By: 

Name: David J. Bonenberger

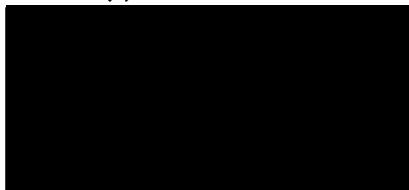
Title: Vice President - Distribution Operations

Date: 12/19/17

Notices:



With copy to:



[RICHMOND POWER AND LIGHT]

Randall Baker
Name: RANDALL BAKER
Title: GENERAL MANAGER

Date: 12/27/2017

Notices:

SMUD

for *Jennifer Davidson*

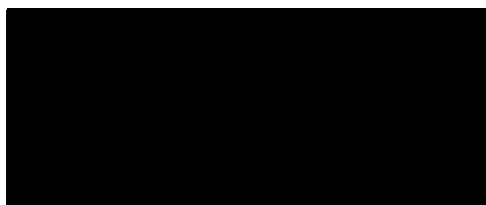
Name: Arlen Orchard

Title: Chief Executive Officer and General Manager

12-28-2017

Date

Notices:



Southern California Edison Company

Phil Herrington

Name: Phil Herrington

Title: Senior Vice President Transmission & Distribution

12/7/17

Date:

Notices:



With a copy to:



Sat River Project Agricultural Improvement and Power District,
An Arizona agricultural improvement district

Michael W. Lowe

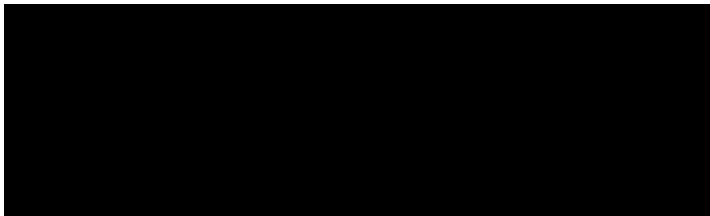
Name: Michael W Lowe, Deputy General Manager

Title: Customer Operations & Services & Chief Customer Executive

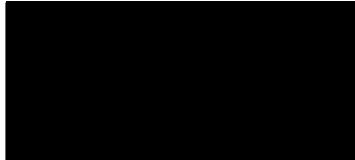
12-7-2017

Date:

Notices:



With a copy to:



Reviewed by SRP Legal Services Dept.

Leo Miller

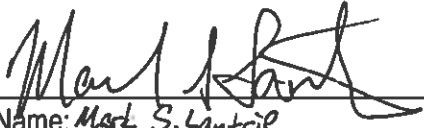
(Signed Name)

Leo Miller

(Printed Name)

Date: 12/7/2017

Southern Company Services, Inc., acting for itself or as agent for Alabama Power Company, Georgia Power Company, Gulf Power Company and Mississippi Power Company, its affiliates



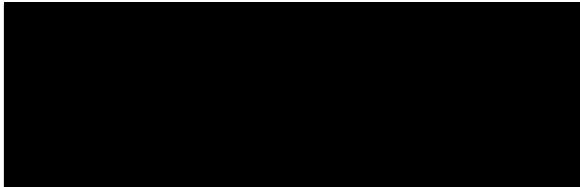
Name: *Mark S. Lantrop*

Title: *Chairman, President and Chief Executive Officer*

12/8/2017

Date:

Notices:



TAMPA ELECTRIC COMPANY



Name: Gerard Chasse

Title: Vice President, Electric Delivery

12/21/2017

Date:



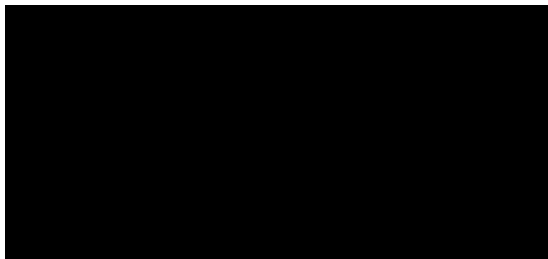
Name:

Title:

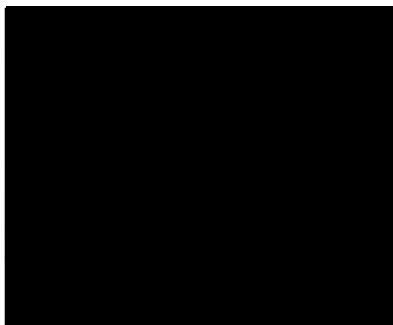
12/21/2017

Date:

Notices:



With copy to:



Virginia Electric and Power Company

Edward H. Baine

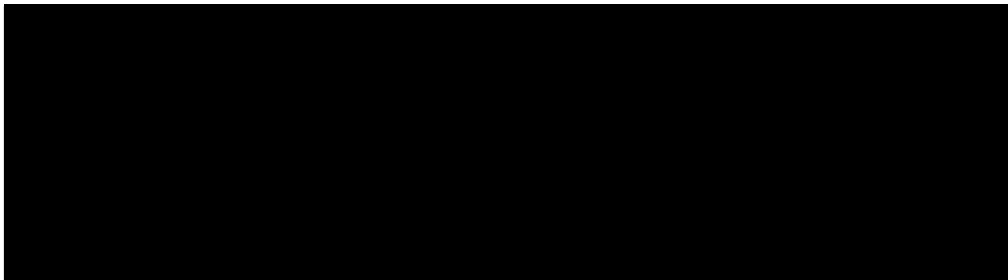
Name: Edward H. Baine

Title: Senior Vice President - Distribution

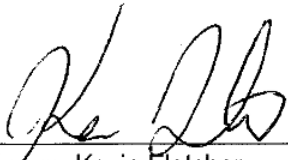
December 20, 2017

Date:

Notices:

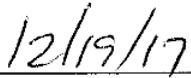


Wisconsin Electric Power Company and Wisconsin Public Service Corporation



Name: Kevin Fletcher

Title: President Wisconsin Utilities



Date:

Notices:

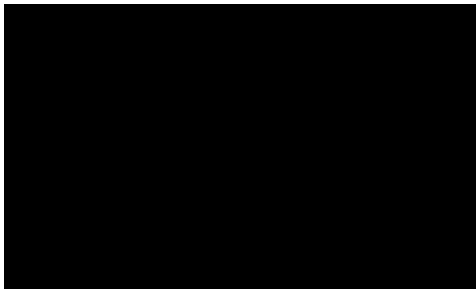


EXHIBIT A

PRINCIPLES APPLICABLE TO MOU AS TO EMERGENCY ASSISTANCE BY A PROVIDING PARTY

1. Safety of personnel and the public is the preeminent objective and responsibility of all involved Parties throughout the emergency response. Providing Party's safety rules and work procedures shall apply to all work done by its personnel. Unless mutually agreed otherwise, the Requesting Party's switching and tagging rules should be followed to ensure consistent and safe operation. The Requesting Party shall provide to the Providing Party written guidelines as to the switching and tagging procedures utilized by the Requesting Party. The Requesting Party shall provide to the Providing Party a sufficient supply of switching/blocking tags suitable for use on the Requesting Party's facilities and equipment. Any questions or concerns arising about any safety rules and/or procedures should be brought to the proper level of management for prompt resolution between management of the Requesting Party and Providing Party.
2. To the extent possible, the Parties should reach a mutual understanding and agreement in advance on the anticipated length – in general – of the Emergency Assistance period. For extended assistance periods, the Parties should agree on the process for replacing, or providing extra rest for, the Providing Party's personnel. It is understood and agreed that if, in the Providing Party's judgment, such action becomes necessary, the decision to terminate the Emergency Assistance and recall personnel and equipment lies solely with the Providing Party. The Requesting Party will take the necessary action to return such personnel and equipment promptly.
3. The Emergency Assistance period shall commence when personnel and/or equipment expenses are initially incurred by the Providing Party in response to the Requesting Party's written notice of its needs. (This would include any request for the Providing Party to prepare its employees and/or equipment for transport to the Requesting Party's location but to await further instructions before departing.) The Emergency Assistance period shall terminate when such employees and/or equipment have returned to the Providing Party, and shall include any mandated DOT rest time or union contracted rest time resulting from the assistance provided and reasonable time required to prepare the equipment for return to normal activities (e.g., cleaning off trucks, restocking minor materials, etc.).
4. Employees of Providing Party shall at all times during the Emergency Assistance period continue to be employees of Providing Party and shall not be deemed employees Requesting Party for any purpose. Providing Party shall be an independent contractor of Requesting Party and wages, hours, and other terms and conditions of employment of Providing Party shall remain applicable to its employees during the Emergency Assistance period.
5. It is the intent of the Parties, to the fullest extent authorized by law, that the Providing Party (as the direct employer of the Providing Party's employees) and the Requesting Party both be entitled to workers' compensation immunity in the event a Providing Party's employee suffers injury or death during the course of any activities contemplated in the MOU. Accordingly, the MOU shall be implemented and interpreted in such a manner as will provide, to the fullest extent possible, workers' compensation immunity to a Requesting Party in the event a Providing Party's direct employee suffers a work-related injury or death during the course of any activities contemplated in the MOU.

6. Providing Party shall make available, upon request, a reasonable number of supervisors in addition to crew leads. Requesting Party shall provide all assignments for work to be done by Providing Party's crews to Providing Party's supervisors; or, when Providing Party's crews are to work in widely separate areas, to such of Providing Party's crew lead as may be designated for the purpose of Providing Party's supervisors.
7. Unless otherwise agreed by the Parties, Requesting Party shall be responsible for supplying and/or coordinating support functions such as lodging, meals, materials, etc. As an exception to this, the Providing Party shall normally be responsible for arranging lodging and meals en route to the Requesting Party's service area and for the return trip home. The cost for these in-transit expenses will be covered by the Requesting Party, consistent with Paragraph 9 below.
8. Requesting Party may indicate to Providing Party the type and size of trucks and other equipment desired, as well as the number of job function of personnel requested, but the extent to which Providing Party makes available such equipment and personnel shall be at Providing Party's sole discretion.
9. Requesting Party shall reimburse Providing Party for all reasonable costs and expenses incurred by Providing Party as a result of furnishing Emergency Assistance. Providing Party shall furnish documentation of expenses to Requesting Party. Such costs and expenses shall include, but not be limited to, the following:
 - a. Employee wages and salaries (including those of Providing Party's contractors) for paid time spent in Requesting Party's service area, paid time during travel to and from such service area, and stand-by time and preparation time when notified to do so by Requesting Party, plus Providing Party's standard payable additives to cover all employee benefits and allowances for vacation, sick leave, holiday pay, social and retirement benefits, all payroll taxes, workers' compensation, employer's liability insurance, and other contingencies and benefits imposed by applicable law or regulation;
 - b. Personnel travel and living expenses (meals, lodging, and reasonable incidentals). This shall not include hotel related expenses other than lodging, unless agreed to by Requesting Party prior to their occurrence. For example, phone calls made from rooms, room service, in-room movies, mini bar usage, etc. should not be incurred;
 - c. Replacement cost of materials and supplies expensed or furnished;
 - d. Repair or replacement cost of equipment damaged, lost or stolen, to the extent that such damage or loss is not attributable to the negligence of Providing Party and its employees and to the extent that such damage and loss is not covered by insurance.
 - e. Charges, at rates internally used by Providing Party, for the use of transportation equipment and other equipment requested;
 - f. Administrative and general costs, which are properly allocable to the Emergency Assistance, to the extent such costs are not chargeable pursuant to the foregoing subsections.
 - g. Contractor costs to the extent any contractor performs Emergency Assistance as part of Providing Party's crews.
10. Providing Party shall keep all time sheets and work records pertaining to Providing Party's personnel furnishing Emergency Assistance for a period of three years after termination of the Emergency Assistance.

11. Requesting Party shall pay all undisputed costs and expenses of Providing Party within sixty (60) days after receiving a final invoice therefor. Specifics as to invoicing by Providing Party shall be as set forth in Section V of this MOU.
12. Requesting Party shall indemnify, hold harmless and defend the Providing Party from and against any and all liability for loss, damage, cost, or expense that Providing Party may incur by reason of bodily injury, including death, to any person or persons, including employees, or by reason of damage to or destruction of any property, including the loss of use thereof, that result from furnishing Emergency Assistance and whether or not due in whole or in part to any act, omission, or negligence of Providing Party or its employees except to the extent that such death or injury to person, or damage to property, is caused by the willful or wanton misconduct and/or gross negligence of the Providing Party or its employees. Where payments are made by the Providing Party under a workers' compensation or disability benefits law or any similar law for bodily injury or death resulting from furnishing Emergency Assistance, Requesting Party shall reimburse the Providing Party for such payments, except to the extent that such bodily injury or death is caused by the willful or wanton misconduct and/or gross negligence of the Providing Party or its employees.
13. In the event any claim or demand is made, or lawsuit or action is filed, against Providing Party alleging liability for which Requesting Party shall indemnify and hold harmless Providing Party under these Principles, Providing Party shall promptly notify Requesting Party thereof, and Requesting Party, at its sole cost and expense, shall settle, compromise, or defend the same to such manner as it, in its sole discretion, deems necessary or prudent. Providing Party shall cooperate with Requesting Party's reasonable efforts to investigate, defend, and settle the claim or lawsuit or action.

Exhibit G

2017 Company Earthquake Exercise Summary

2017 COMPANY EARTHQUAKE EXERCISE SUMMARY

Exercise Summary

EP&R hosted a company-wide Catastrophic Earthquake Functional Exercise (FE) on August 8-9, 2017. Representatives from the following organizations participated in this FE:

- Corporate Communications
- Corporate Real Estate Strategy and Services (CRESS)
- Corporate Relations
- Corporate Security
- Customer Care
- Electric Distribution
- Electric Transmission
- Energy Procurement
- Environmental
- Finance
- Fleet
- Gas Operations
- Government Relations
- Human Resources
- Information Technology
- Information Technology (IT)
- Law
- Nuclear
- Power Generation
- Regulatory Relations
- Safety
- Supply Chain

The following scenario information was provided to participants during the exercise along with detailed Dynamic Automated Seismic Hazard (DASH) reports for the initial earthquake and the aftershock.

On the morning of August 8, 2017, at 0635 hours, a 7.9M seismic event on the San Andreas Fault occurred. It was centered in the Pacific Ocean offshore Petrolia in Humboldt County and extended approximately 250 miles south.

With 35-65 seconds of strong ground shaking, the fault rupture is on the Northern California segment of the San Andreas Fault from Hollister to offshore Eureka with average horizontal displacement of 10 feet and maximum displacements of up to 25 feet.

On August 8, 2017, at 1130 hours, a 7.2 magnitude aftershock occurred, beginning offshore Daly City and rupturing southward towards Hollister.

Approximately 479,000 electric customers and approximately 300,000 gas customers were impacted.

Damage: Tens of thousands of residential buildings are damaged. Evacuation of 75,000-125,000 households is predicted. Many high-rise and medium-rise steel buildings are yellow or red tagged. In San Francisco, the Millennium building is red tagged, and 101 California has collapsed. A Tsunami wave has impacted the coastlines of Humboldt and Mendocino counties. It is estimated that over 50,000 individual landslides have occurred, impacting above and below ground infrastructure.

Injury counts are being reported in the thousands and increasing. Currently, the fatality count is at 2,600, but the number is expected to increase.

Power Outage: All portions of the impacted area initially lose power. There are numerous local outages. Most of the damage to PG&E's distribution system is within a few miles of the fault. Damage to substations has resulted in power outages throughout the Bay Area. Overhead transmission towers and lines have generally performed well.

Fire: There are over 500 fires burning in the impacted area, many requiring more than one fire engine to suppress. Mobile homes in several trailer parks on the Peninsula and in the South Bay are on fire, due to damaged or inadequate trailer stands leading to gas leaks. Fires are burning in San Francisco's Chinatown and Mission districts as well as other areas where there are high concentrations of wood-framed, soft story collapses that have damaged gas distribution lines. Some fires are a result of broken gas lines caused by collapsing buildings, pipeline breaks at the fault rupture, and gas leaks in liquefaction areas. Firefighting resources are overwhelmed due to search and rescue efforts, hazardous material incidents, and medical aid in addition to fighting fires. Local water is not available in many locations to fight fires due to the lack of power at water utility facilities and damage to water transmission and distribution pipelines.

Water: Approximately 750,000 Bay Area residents are without water.

Flooding: Fifteen levees have breached. Flooding is occurring in the Delta, with 8 islands flooding, including McDonald Island.

Communication: Voice communication is available within PG&E, but connections to and from external telephone landlines are not working. Cell phone service is unavailable, although some text messages are getting through. Internet access is unavailable and radio systems are operating at about 50 percent effectiveness as remote station and repeater failures have limited the number of available channels.

Hospitals: Many older hospitals are being evacuated due to structural damage. A few newer, structurally sound hospitals are not functional due to water damage from ruptured sprinkler or water lines. Emergency power systems are not operational. Hospitals are asking PG&E for electric restoration. Many hospitals in the East Bay are functional, except for problems with emergency backup generation. Seton Hospital in Daly City is closed due to extensive damage. The retrofitted Mills Peninsula Health Center and the new Sequoia Hospital wing are operational.

Refineries: Refineries in the East Bay have curtailed operations due to loss of offsite power. Several unanchored tanks lost their contents due to ruptured inlet/outlet piping. Refineries have sustained moderate structural damage. Jet fuel pipelines are damaged where they enter the San Francisco Bay and fuel pipes have ruptured at the pipeline junction with the buildings at the Oakland and San Francisco International Airports. The four major oil facilities in Humboldt and Del Norte counties have ongoing fires resulting in curtailed service. Operations are also curtailed due to loss of electric power.

Transportation: Major airports are closed for several days to weeks. Major bridges are closed for several days to months. Emergency traffic is allowed at reduced speeds on a few freeways and state highways. Rail facilities along each of the principal rail corridors along the bay are heavily damaged and routes are closed. Even with the relatively minor damage to the port facilities, port operations are hindered for two weeks from damage to the rail and highway network. Ferries are operational, but the Governor has secured the initial ferries for State OES workers.

Exercise Details

Exercise Name

Catastrophic Earthquake Functional Exercise

Type of Exercise

Functional Exercise

Exercise Date(s)

August 8-9, 2017

Duration

2 days

Activated Emergency Centers and Support Centers

- Emergency Operations Center (EOC)
- Electric Transmission Emergency Center (ETEC)
- Gas Emergency Center (GEC)
- Grid Control Center (GCC)

- Substation Transmission Operations Emergency Center (STOEC)
- Northern Regional Emergency Center (REC)
- DeAnza/San Jose (Gas) Operations Emergency Center (OEC)
- Humboldt (Electric) OEC
- North Bay (Electric) OEC
- Peninsula (Gas) OEC
- San Francisco (combined Gas & Electric) OEC
- Sonoma (Electric) OEC
- Gateway Generating Station
- Humboldt Bay Generating Station
- Potter Valley Hydro
- Facilities Coordination Center (FCC)
- Human Resources Coordination Center (HRCC)
- Information Technology Coordination Center (ITCC)
- Materials Transportation Coordination Center (MTCC)

Participating Organizations / Observers

- American Red Cross (ARC)
- Association of Bay Area Governments (ABAG)
- California Highway Patrol (CHP)
- California Independent System Operator (CAISO)
- California National Guard (CNG)
- California Office of Emergency Services (Cal OES)
- California Public Utilities Commission (CPUC)
- California Utilities Emergency Association (CUEA)
- Consolidated Edison of New York (Con Edison)
- Department of Homeland Security (DHS)
- Department of Water Resources (DWR)
- Edison Electric Institute (EEI)
- Federal Emergency Management Agency (FEMA)
- Golden Gate National Recreation Area (GGNRA)
- Lifelines
- Marin County Sheriff's Office
- Northern California Grantmakers
- San Francisco Bay Area Water Emergency Transportation Authority (WETA)
- San Francisco Department of Emergency Management (SF DEM)
- San Francisco Fire Department (SFFD)
- San Francisco Police Department (SFPD)
- Southern California Edison (SCE)
- United States Coast Guard (USCG)

Number of Participants

- Planning Team: 28
- Players: 338
- Controllers / Evaluators: 40
- Simulators: 36
- Observers: 40
- Support Staff: 9

Major Strengths

Major strengths identified during this exercise are:

- Operations command and control was well managed through the briefing process. The Operations Section Chief established a communications and reporting schedule between field emergency operations centers and the EOC. Briefings included logistics, assessment and restoration requests and reports. During the briefings, targets and ETAs were established for assessment and repair.
- Communications between the EOC and field teams in the REC, OECs and GEC were effective. Meeting cadence was established early in the event and good use was made of teleconferencing to conduct follow-up and share situational knowledge. For example, the logistics call was used for status check-in and follow-up on resourcing requests. In another example, the Customer Care team had frequent communication with the Customer Strategy field team through teleconferencing and email.
- Participants were conscientious about following up on requests that came in from sources external to the exercise. Several units established tracking systems to monitor requests to completion. Initially, Logistics utilized a whiteboard to identify, assign, track, and follow-up on issues and requests, but later transferred the information to an Excel spreadsheet. Human Resources tracked impacted personnel in a simulated personnel database and utilized both PowerPoint and Word to develop an HR Common Operating Picture.
- Within the EOC, the Public Information Officer, Customer Strategy Officer and Liaison Officer teams worked as a cross-functional team. They shared information, accomplished problem-solving and message development as a group rather than in silos.
- Safety was a priority consideration throughout exercise response, both in terms of exercise participant safety and “simulated” responders in the field.

Primary Areas for Improvement

Several opportunities for improvement were identified in our ability to respond to a catastrophic earthquake during the 2017 Earthquake Exercise. The primary areas for improvement are as follows:

- A common operating picture that can overlay DASH damage assessment model impacts to both the gas and electric transmission and distribution systems, non-commodity facilities, and hydro assets with roadway damages and other infrastructure damages, such as flooded areas, would help provide better overall situational awareness. Additional desirable capability would be the ability to add response sites such as basecamps, staging areas, and activated emergency facilities to a common operating picture. Leveraging technology to provide status and updates would streamline sharing real-time information and decision-making. This would aid, for example, in the prioritization for restoration of affected and outlying areas and show where mutual assistance resources would be best integrated into the response. Suggest exploring one integrated system.
- Approximately 50 percent of participants felt they had adequate training to perform their role in the simulated response. In large part, the remaining participants are requesting additional role-specific training.
- Electric/Gas coordination was exercised at the SF OEC, although some felt the process worked well, others felt they needed additional training and additional detailed planning about how Dual Command/Unified Command is implemented in the OEC. Several participants indicated that gas and electric response needed to be better integrated both at the field and the EOC level to more effectively allocate scarce resources, such as basecamps, and to provide a better understanding of the overall incident. Several OECs indicated they did not have access to technology such as Smart Boards, and Tactical Analysis Mapping Integration (TAMI). And, it was noted that the Outage Management Tool (OMT) Training Environment does not perform like the production version as it is missing functionality.
- The exercise highlighted several gaps in our ability to respond in an internet failure or “tech-down” environment. For example, the GEC has almost no means of data acquisition in a tech-down response, not even hard copy operating maps. The Humboldt OEC discussed how they would operate during a tech-down incident and recognized that additional tools and planning were needed, for example having a back-up drive with phone and emergency contact information and a process to keep it updated.
- The Corporate Incident Management Council (CIMC) recognized that there was a need to develop and codify a complete CIMC succession plan that documents all personnel names, contact information (mobile and satellite phone numbers), and city of residence.
- HR response worked to provide assistance to the employees who called in. It was noted that it took a significant amount of time to get a process vetted and aligned, creating a

delay in how well we were able to respond. Several policies were identified for further development, including:

- In the absence of headquarters-level communications, develop, or modify if pre-existing, 24- and 48-hour standing orders for operational (and non-operational) employees that clearly state reporting locations and roles in terms of assessing PG&E's backbone. Content should include role-specific orders that capture roles and responsibilities, as well as reporting locations and directions for assessing the backbone if required.
 - Develop a policy that determines the baseline for sheltering in place versus mobilization as per standing orders. The policy should consider magnitude thresholds for safety considerations, critical and non-critical roles, and affected versus unaffected areas.
 - Identify if there is a policy and process for engaging retirees in a response; if not, develop one.
- Further work is needed to detail the process of how PG&E will manage internal restoration priorities while balancing external pressure regarding prioritization. Using our current tools there is no way to easily or accurately provide customer counts and ETOR forecasts by county and by city. In the Northern Region, for example, we have 20 counties and hundreds of cities, and many of our circuits cross county and city boundaries. Based on current reports available, PG&E reports by PG&E Divisions, rather than by county or city. Additionally, the process to coordinate with CAISO on ETOR strategy and gas restoration strategy should be integrated into our overall strategy on managing restoration priorities.
 - Business continuity plans need testing, including how we will maintain and transition critical processes to other locations and ensure adequate numbers of skilled personnel to maintain those processes during and after the transition. This includes transitioning the response to the alternate Emergency Operations Center at the San Ramon Valley Conference Center (SRVCC).
 - The processes to deploy fuel trucks for refueling emergency vehicles and to prioritize and deploy emergency generators both need additional development. Throughout the exercise, as it would be in real life, the EOC received many requests for special treatment, such as immediate restoration or generators, from hospitals, the Red Cross, County OES and others. Instead of making these decisions during the incident, it would be better, and more consistent handling of special requests, to have a priority restoration plan (similar to Rotational Outage Block 50) that was vetted, approved, and communicated to the team in advance.

Conclusion

In this exercise, several areas were identified as strengths and best practices. The safety culture at PG&E pervades response activity. Players were conscientious about safety in the field and recognized the severity of the incident would require additional staffing to support the Safety Officer in the EOC.

Operations demonstrated effective command and control while managing the response through all levels of the response structure. Similarly, the Public Information, Customer Care and Liaison teams established cross-functional communications and a regular cadence for coordination with personnel at field sites to coordinate problem solving and strategies.

A regular schedule of conference calls was initiated for information sharing across all lines of business and emergency centers.

Teams established various systems to track requests and inquiries in order to follow them to completion.

The success of PG&E's emergency preparedness program hinges on the process of improvement planning, exercise conduct and identification of best practices and additional planning opportunities. Through this exercise, several opportunities for improvement were identified.

Additional tools were identified for development to assist personnel in decision-making and performance of their emergency response roles. Participants recommended development of a single system to display a Common Operating Picture that would overlay all impacts to PG&E infrastructure, non-commodity facilities, base camps, staging areas, microsite locations, and emergency facilities, as well as identify community impacts such as flooding, and road and bridge closures.

The CIMC identified additional succession planning needs.

Further alignment of Gas and Electric teams will allow for additional coordination of resources and the development of an overall strategy for restoration.

Participants noted several policy decisions and processes to further develop. For example, further work is needed to detail the process of how PG&E will manage internal restoration priorities while balancing external pressure regarding prioritization. The policy for distributing emergency generators and accommodating special needs in an emergency needs to be addressed formally. And, standing orders for employee reporting during an emergency require review and further development.

Operating in a "tech-down" environment was not fully exercised and additional opportunities to do so will likely highlight additional planning and training needs for the organization.

Additional training opportunities were identified, including more role-specific training.

Overall the exercise was successful in meeting objectives to ensure PG&E is better prepared for a catastrophic earthquake by recommending actions that could improve response and preparedness efforts.

Exhibit H

Personnel Report July 2017 to June 2018

Personnel Report

July 2017 to June 2018

Attached is the Electric Repair and Maintenance Personnel Report that lists the number of repair and maintenance personnel by job classification in each division for July 1, 2017 to June 30, 2018. (Note the report is prepared by division, as PG&E's operations are organized by divisions rather than counties.)

The figures also show the number of personnel in each classification in each region. There were a total of 3702 repair and maintenance personnel available during the Compliance Period.

The Electric Repair and Maintenance Personnel Report defines repair and maintenance personnel as all non-management and non-clerical personnel that are involved with PG&E's maintenance and construction work. Within this category of personnel, nearly 46% of the personnel work in organizations outside of Maintenance and Construction. These employees are available to perform some emergency response activities on the distribution system. These personnel were selected because they perform facilities maintenance and repair. Other supporting personnel, such as facilities designers, material handlers, and fleet repair personnel are not included.

Electric Repair and Maintenance Personnel Report

July 1, 2017 to June 30, 2018

File Date	Work Region	Job ID	Job Title	Number of Employees
06/30/2018	General Office	50010152	Electrician - GC	1
06/30/2018	General Office	50010247	Lineman - GC	1
06/30/2018	General Office	50253773	Technical Crew Leader A-Not Gas	1
06/30/2018	Region 1 - BA	50010091	Cableman	5
06/30/2018	Region 1 - BA	50010151	Electrician	1
06/30/2018	Region 1 - BA	50010152	Electrician - GC	10
06/30/2018	Region 1 - BA	50010156	Unassigned Electrician - Elec & Hydro	1
06/30/2018	Region 1 - BA	50010157	Apprentice Electrician - GC	29
06/30/2018	Region 1 - BA	50010178	Subforeman A - Underground	3
06/30/2018	Region 1 - BA	50010179	Subforeman A - Overhead	6
06/30/2018	Region 1 - BA	50010180	Subforeman A - Station/Hydro	12
06/30/2018	Region 1 - BA	50010184	Night Cable Crew Foreman	2
06/30/2018	Region 1 - BA	50010188	Underground Constr Crew Frmn - Electric	1
06/30/2018	Region 1 - BA	50010191	Electric Crew Foreman	32
06/30/2018	Region 1 - BA	50010194	Electric Maintenance Crew Leader	3
06/30/2018	Region 1 - BA	50010196	Lead Electrical Technician	1
06/30/2018	Region 1 - BA	50010199	Cable Crew Foreman	9
06/30/2018	Region 1 - BA	50010202	Working Foreman	3
06/30/2018	Region 1 - BA	50010217	Utility Worker - Gas Transm & Dsbn	14
06/30/2018	Region 1 - BA	50010223	Utility Worker - GC	40
06/30/2018	Region 1 - BA	50010226	PIO Inspector	1
06/30/2018	Region 1 - BA	50010227	Compliance Inspector	16
06/30/2018	Region 1 - BA	50010242	PIO Electric Transm & Dsbn Assistant	1
06/30/2018	Region 1 - BA	50010243	Night Electric Transm & Dsbn Assistant	11
06/30/2018	Region 1 - BA	50010244	Lineman	61
06/30/2018	Region 1 - BA	50010246	Unassigned Lineman	10
06/30/2018	Region 1 - BA	50010247	Lineman - GC	23
06/30/2018	Region 1 - BA	50010261	Street Light Maintenance Man	1
06/30/2018	Region 1 - BA	50010287	Station Mechanic	1
06/30/2018	Region 1 - BA	50010319	PIO Division Operator	6
06/30/2018	Region 1 - BA	50010323	Transmission & Distribution Equip Opr	6
06/30/2018	Region 1 - BA	50010339	System Operator	30
06/30/2018	Region 1 - BA	50010373	Gas Service Representative	126
06/30/2018	Region 1 - BA	50010375	Cable Splicer	13
06/30/2018	Region 1 - BA	50010376	PIO Apprentice Cable Splicer	1
06/30/2018	Region 1 - BA	50010377	Cable Splicer - GC	5
06/30/2018	Region 1 - BA	50010378	Night Cable Splicer	5

Electric Repair and Maintenance Personnel Report

July 1, 2017 to June 30, 2018

File Date	Work Region	Job ID	Job Title	Number of Employees
06/30/2018	Region 1 - BA	50010395	Electrical Technician - GC	1
06/30/2018	Region 1 - BA	50010405	Electrical Technician	5
06/30/2018	Region 1 - BA	50010406	Apprentice Electrical Technician	2
06/30/2018	Region 1 - BA	50010431	Transmission Troublemán	2
06/30/2018	Region 1 - BA	50010432	Troublemán	48
06/30/2018	Region 1 - BA	50070742	Electrician - Switching	5
06/30/2018	Region 1 - BA	50071197	Hiring Hall Electrician - Exper	3
06/30/2018	Region 1 - BA	50251367	Working Foreman B - Non-Climbing	12
06/30/2018	Region 1 - BA	50253773	Technical Crew Leader A-Not Gas	2
06/30/2018	Region 1 - BA	50253877	Crane Operator - GC Field-Not Gas	4
06/30/2018	Region 1 - BA	50253878	Miscellaneous Equipment Operator-Not Gas	4
06/30/2018	Region 1 - BA	50315043	M&C Coordinator - Electric	15
06/30/2018	Region 1 - BA	50368698	Pre-Apprentice Lineman	6
06/30/2018	Region 1 - BA	50368700	Pre-Apprentice Lineman - GC	2
06/30/2018	Region 1 - BA	51574842	Distribution Line Technician	5
06/30/2018	Region 1 - BA	51654546	Gas Compliance Representative	56
06/30/2018	Region 1 - BA	51664847	Construction Operator-GC Gas	49
06/30/2018	Region 1 - BA	51754495	Appr Cable Splicer Hired after 1-1-15	12
06/30/2018	Region 2 - CC	50010152	Electrician - GC	21
06/30/2018	Region 2 - CC	50010155	Apprentice Electrician-Electric & Hydro	4
06/30/2018	Region 2 - CC	50010156	Unassigned Electrician - Elec & Hydro	2
06/30/2018	Region 2 - CC	50010157	Apprentice Electrician - GC	24
06/30/2018	Region 2 - CC	50010178	Subforeman A - Underground	6
06/30/2018	Region 2 - CC	50010179	Subforeman A - Overhead	13
06/30/2018	Region 2 - CC	50010180	Subforeman A - Station/Hydro	15
06/30/2018	Region 2 - CC	50010191	Electric Crew Foreman	58
06/30/2018	Region 2 - CC	50010194	Electric Maintenance Crew Leader	8
06/30/2018	Region 2 - CC	50010196	Lead Electrical Technician	4
06/30/2018	Region 2 - CC	50010199	Cable Crew Foreman	1
06/30/2018	Region 2 - CC	50010202	Working Foreman	2
06/30/2018	Region 2 - CC	50010206	PIO Working Foreman C - Gas	3
06/30/2018	Region 2 - CC	50010217	Utility Worker - Gas Transm & Dsbn	11
06/30/2018	Region 2 - CC	50010223	Utility Worker - GC	34
06/30/2018	Region 2 - CC	50010226	PIO Inspector	1
06/30/2018	Region 2 - CC	50010227	Compliance Inspector	29
06/30/2018	Region 2 - CC	50010244	Lineman	95
06/30/2018	Region 2 - CC	50010246	Unassigned Lineman	32

Electric Repair and Maintenance Personnel Report

July 1, 2017 to June 30, 2018

File Date	Work Region	Job ID	Job Title	Number of Employees
06/30/2018	Region 2 - CC	50010247	Lineman - GC	30
06/30/2018	Region 2 - CC	50010317	Crane Operator	1
06/30/2018	Region 2 - CC	50010323	Transmission & Distribution Equip Opr	6
06/30/2018	Region 2 - CC	50010373	Gas Service Representative	140
06/30/2018	Region 2 - CC	50010375	Cable Splicer	1
06/30/2018	Region 2 - CC	50010377	Cable Splicer - GC	7
06/30/2018	Region 2 - CC	50010379	PIO Apprentice Cable Splicer GC	1
06/30/2018	Region 2 - CC	50010381	Transmission Cableman	7
06/30/2018	Region 2 - CC	50010405	Electrical Technician	15
06/30/2018	Region 2 - CC	50010406	Apprentice Electrical Technician	4
06/30/2018	Region 2 - CC	50010431	Transmission Troublemans	7
06/30/2018	Region 2 - CC	50010432	Troublemans	95
06/30/2018	Region 2 - CC	50070742	Electrician - Switching	22
06/30/2018	Region 2 - CC	50251367	Working Foreman B - Non-Climbing	17
06/30/2018	Region 2 - CC	50253877	Crane Operator - GC Field-Not Gas	5
06/30/2018	Region 2 - CC	50253878	Miscellaneous Equipment Operator-Not Gas	11
06/30/2018	Region 2 - CC	50315043	M&C Coordinator - Electric	24
06/30/2018	Region 2 - CC	50368698	Pre-Apprentice Lineman	22
06/30/2018	Region 2 - CC	50368700	Pre-Apprentice Lineman - GC	5
06/30/2018	Region 2 - CC	51574842	Distribution Line Technician	13
06/30/2018	Region 2 - CC	51654546	Gas Compliance Representative	69
06/30/2018	Region 2 - CC	51664847	Construction Operator-GC Gas	35
06/30/2018	Region 2 - CC	51754496	Appr Cable Splicer-GC Hired after 1-1-15	6
06/30/2018	Region 3 - NO	50010152	Electrician - GC	32
06/30/2018	Region 3 - NO	50010155	Apprentice Electrician-Electric & Hydro	2
06/30/2018	Region 3 - NO	50010156	Unassigned Electrician - Elec & Hydro	4
06/30/2018	Region 3 - NO	50010157	Apprentice Electrician - GC	40
06/30/2018	Region 3 - NO	50010173	PIO Labor Foreman A	2
06/30/2018	Region 3 - NO	50010179	Subforeman A - Overhead	32
06/30/2018	Region 3 - NO	50010180	Subforeman A - Station/Hydro	22
06/30/2018	Region 3 - NO	50010181	Subforeman B	1
06/30/2018	Region 3 - NO	50010188	Underground Constr Crew Frmn - Electric	2
06/30/2018	Region 3 - NO	50010191	Electric Crew Foreman	55
06/30/2018	Region 3 - NO	50010194	Electric Maintenance Crew Leader	13
06/30/2018	Region 3 - NO	50010196	Lead Electrical Technician	6
06/30/2018	Region 3 - NO	50010216	Utility Worker - Electric Maintenance	1
06/30/2018	Region 3 - NO	50010217	Utility Worker - Gas Transm & Dsbn	14

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File Date	Work Region	Job ID	Job Title	Number of Employees
06/30/2018	Region 3 - NO	50010223	Utility Worker - GC	28
06/30/2018	Region 3 - NO	50010226	PIO Inspector	1
06/30/2018	Region 3 - NO	50010227	Compliance Inspector	38
06/30/2018	Region 3 - NO	50010234	Underground Constr Journeyman - Elec	1
06/30/2018	Region 3 - NO	50010244	Lineman	76
06/30/2018	Region 3 - NO	50010246	Unassigned Lineman	36
06/30/2018	Region 3 - NO	50010247	Lineman - GC	57
06/30/2018	Region 3 - NO	50010261	Street Light Maintenance Man	1
06/30/2018	Region 3 - NO	50010287	Station Mechanic	1
06/30/2018	Region 3 - NO	50010323	Transmission & Distribution Equip Opr	2
06/30/2018	Region 3 - NO	50010334	Roving Operator	18
06/30/2018	Region 3 - NO	50010335	Unassigned Roving Operator	2
06/30/2018	Region 3 - NO	50010339	System Operator	59
06/30/2018	Region 3 - NO	50010373	Gas Service Representative	136
06/30/2018	Region 3 - NO	50010395	Electrical Technician - GC	2
06/30/2018	Region 3 - NO	50010405	Electrical Technician	17
06/30/2018	Region 3 - NO	50010406	Apprentice Electrical Technician	6
06/30/2018	Region 3 - NO	50010431	Transmission Troubleshooter	11
06/30/2018	Region 3 - NO	50010432	Troubleshooter	103
06/30/2018	Region 3 - NO	50070742	Electrician - Switching	12
06/30/2018	Region 3 - NO	50251365	Working Foreman A - Non-Climbing	2
06/30/2018	Region 3 - NO	50251367	Working Foreman B - Non-Climbing	34
06/30/2018	Region 3 - NO	50253772	Fieldperson - GC-Not Gas	1
06/30/2018	Region 3 - NO	50253773	Technical Crew Leader A-Not Gas	7
06/30/2018	Region 3 - NO	50253775	Working Foreman C-Not Gas	4
06/30/2018	Region 3 - NO	50253876	Backhoe Operator-Not Gas	3
06/30/2018	Region 3 - NO	50253877	Crane Operator - GC Field-Not Gas	7
06/30/2018	Region 3 - NO	50253878	Miscellaneous Equipment Operator-Not Gas	24
06/30/2018	Region 3 - NO	50315043	M&C Coordinator - Electric	19
06/30/2018	Region 3 - NO	50368698	Pre-Apprentice Lineman	8
06/30/2018	Region 3 - NO	50368700	Pre-Apprentice Lineman - GC	10
06/30/2018	Region 3 - NO	51574842	Distribution Line Technician	10
06/30/2018	Region 3 - NO	51654546	Gas Compliance Representative	62
06/30/2018	Region 3 - NO	51664847	Construction Operator-GC Gas	71
06/30/2018	Region 3 - NO	51758207	Lead Electrical Technician-GC	2
06/30/2018	Region 4 - CV	50010152	Electrician - GC	39
06/30/2018	Region 4 - CV	50010155	Apprentice Electrician-Electric & Hydro	4

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File Date	Work Region	Job ID	Job Title	Number of Employees
06/30/2018	Region 4 - CV	50010156	Unassigned Electrician - Elec & Hydro	2
06/30/2018	Region 4 - CV	50010157	Apprentice Electrician - GC	27
06/30/2018	Region 4 - CV	50010176	Technical Crew Leader A - Gas	6
06/30/2018	Region 4 - CV	50010177	Technical Crew Leader B - Gas	8
06/30/2018	Region 4 - CV	50010179	Subforeman A - Overhead	32
06/30/2018	Region 4 - CV	50010180	Subforeman A - Station/Hydro	21
06/30/2018	Region 4 - CV	50010188	Underground Constr Crew Frmn - Electric	1
06/30/2018	Region 4 - CV	50010191	Electric Crew Foreman	53
06/30/2018	Region 4 - CV	50010194	Electric Maintenance Crew Leader	11
06/30/2018	Region 4 - CV	50010196	Lead Electrical Technician	9
06/30/2018	Region 4 - CV	50010206	PIO Working Foreman C - Gas	1
06/30/2018	Region 4 - CV	50010217	Utility Worker - Gas Transm & Dsbn	13
06/30/2018	Region 4 - CV	50010223	Utility Worker - GC	43
06/30/2018	Region 4 - CV	50010227	Compliance Inspector	35
06/30/2018	Region 4 - CV	50010244	Lineman	84
06/30/2018	Region 4 - CV	50010246	Unassigned Lineman	21
06/30/2018	Region 4 - CV	50010247	Lineman - GC	54
06/30/2018	Region 4 - CV	50010323	Transmission & Distribution Equip Opr	2
06/30/2018	Region 4 - CV	50010334	Roving Operator	9
06/30/2018	Region 4 - CV	50010335	Unassigned Roving Operator	1
06/30/2018	Region 4 - CV	50010339	System Operator	23
06/30/2018	Region 4 - CV	50010360	Apprentice Water System Repairperson	2
06/30/2018	Region 4 - CV	50010373	Gas Service Representative	117
06/30/2018	Region 4 - CV	50010375	Cable Splicer	2
06/30/2018	Region 4 - CV	50010395	Electrical Technician - GC	12
06/30/2018	Region 4 - CV	50010405	Electrical Technician	13
06/30/2018	Region 4 - CV	50010406	Apprentice Electrical Technician	5
06/30/2018	Region 4 - CV	50010431	Transmission Troublemán	6
06/30/2018	Region 4 - CV	50010432	Troublemán	98
06/30/2018	Region 4 - CV	50070742	Electrician - Switching	13
06/30/2018	Region 4 - CV	50251365	Working Foreman A - Non-Climbing	4
06/30/2018	Region 4 - CV	50251367	Working Foreman B - Non-Climbing	19
06/30/2018	Region 4 - CV	50253773	Technical Crew Leader A-Not Gas	2
06/30/2018	Region 4 - CV	50253775	Working Foreman C-Not Gas	2
06/30/2018	Region 4 - CV	50253876	Backhoe Operator-Not Gas	2
06/30/2018	Region 4 - CV	50253877	Crane Operator - GC Field-Not Gas	3
06/30/2018	Region 4 - CV	50253878	Miscellaneous Equipment Operator-Not Gas	29

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File Date	Work Region	Job ID	Job Title	Number of Employees
06/30/2018	Region 4 - CV	50315043	M&C Coordinator - Electric	18
06/30/2018	Region 4 - CV	50368698	Pre-Apprentice Lineman	8
06/30/2018	Region 4 - CV	50368700	Pre-Apprentice Lineman - GC	8
06/30/2018	Region 4 - CV	51574842	Distribution Line Technician	10
06/30/2018	Region 4 - CV	51654546	Gas Compliance Representative	48
06/30/2018	Region 4 - CV	51664847	Construction Operator-GC Gas	44
06/30/2018	Region 4 - CV	51758207	Lead Electrical Technician-GC	10
Total				3,702

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File Date	Work Division	Work City	Work Address	Site Name	Job ID	Job Title	Number of Employees
06/30/2018	Central Coast	Hollister	100 Sally Street	Hollister Service Center	50010432	Troubleman	1
06/30/2018	Central Coast	Hollister	100 Sally Street	Hollister Service Center	50368698	Pre-Apprentice Lineman	1
06/30/2018	Central Coast	Hollister	401 McCray Street Bldg A, Unit 1	Hollister Customer Service Office	50010191	Electric Crew Foreman	1
06/30/2018	Central Coast	Hollister	401 McCray Street Bldg A, Unit 1	Hollister Customer Service Office	50010244	Lineman	3
06/30/2018	Central Coast	Hollister	401 McCray Street Bldg A, Unit 1	Hollister Customer Service Office	50010432	Troubleman	1
06/30/2018	Central Coast	Hollister	401 McCray Street Bldg A, Unit 1	Hollister Customer Service Office	50315043	M&C Coordinator - Electric	1
06/30/2018	Central Coast	Hollister	7th & Sally Street	Hollister Service Center	50010191	Electric Crew Foreman	1
06/30/2018	Central Coast	Hollister	7th & Sally Street	Hollister Service Center	50010246	Unassigned Lineman	1
06/30/2018	Central Coast	Hollister	7th & Sally Street	Hollister Service Center	50010432	Troubleman	1
06/30/2018	Central Coast	King City	404 N Second Street	King City Service Center & Substation	50010191	Electric Crew Foreman	2
06/30/2018	Central Coast	King City	404 N Second Street	King City Service Center & Substation	50010227	Compliance Inspector	1
06/30/2018	Central Coast	King City	404 N Second Street	King City Service Center & Substation	50010244	Lineman	3
06/30/2018	Central Coast	King City	404 N Second Street	King City Service Center & Substation	50010373	Gas Service Representative	2
06/30/2018	Central Coast	King City	404 N Second Street	King City Service Center & Substation	50010432	Troubleman	2
06/30/2018	Central Coast	King City	404 N Second Street	King City Service Center & Substation	50315043	M&C Coordinator - Electric	1
06/30/2018	Central Coast	King City	404 N Second Street	King City Service Center & Substation	50368698	Pre-Apprentice Lineman	1
06/30/2018	Central Coast	Monterey	2311 Garden Road	Monterey Service Center	50010191	Electric Crew Foreman	3
06/30/2018	Central Coast	Monterey	2311 Garden Road	Monterey Service Center	50010227	Compliance Inspector	2
06/30/2018	Central Coast	Monterey	2311 Garden Road	Monterey Service Center	50010244	Lineman	3
06/30/2018	Central Coast	Monterey	2311 Garden Road	Monterey Service Center	50010246	Unassigned Lineman	1
06/30/2018	Central Coast	Monterey	2311 Garden Road	Monterey Service Center	50010373	Gas Service Representative	8
06/30/2018	Central Coast	Monterey	2311 Garden Road	Monterey Service Center	50010432	Troubleman	4
06/30/2018	Central Coast	Monterey	2311 Garden Road	Monterey Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Central Coast	Monterey	2311 Garden Road	Monterey Service Center	50368698	Pre-Apprentice Lineman	1
06/30/2018	Central Coast	Moss Landing	7251 Highway 1	Moss Landing Power Plant Substation	50010152	Electrician - GC	7
06/30/2018	Central Coast	Moss Landing	7251 Highway 1	Moss Landing Power Plant Substation	50010155	Apprentice Electrician-Electric & Hydro	2
06/30/2018	Central Coast	Moss Landing	7251 Highway 1	Moss Landing Power Plant Substation	50010157	Apprentice Electrician - GC	5
06/30/2018	Central Coast	Moss Landing	7251 Highway 1	Moss Landing Power Plant Substation	50010180	Subforeman A - Station/Hydro	3
06/30/2018	Central Coast	Moss Landing	7251 Highway 1	Moss Landing Power Plant Substation	50010194	Electric Maintenance Crew Leader	1
06/30/2018	Central Coast	Moss Landing	7251 Highway 1	Moss Landing Power Plant Substation	50010196	Lead Electrical Technician	1
06/30/2018	Central Coast	Moss Landing	7251 Highway 1	Moss Landing Power Plant Substation	50010223	Utility Worker - GC	3
06/30/2018	Central Coast	Moss Landing	7251 Highway 1	Moss Landing Power Plant Substation	50010405	Electrical Technician	1
06/30/2018	Central Coast	Moss Landing	7251 Highway 1	Moss Landing Power Plant Substation	50070742	Electrician - Switching	5
06/30/2018	Central Coast	Moss Landing	7251 Highway 1	Moss Landing Power Plant Substation	50251367	Working Foreman B - Non-Climbing	2
06/30/2018	Central Coast	Moss Landing	Highway 1 and Dolan Road	Moss Landing Power Plant Substation	50010247	Lineman - GC	1
06/30/2018	Central Coast	Moss Landing	Highway 1 and Dolan Road	Moss Landing Power Plant Substation	50010431	Transmission Troubleman	2
06/30/2018	Central Coast	Moss Landing	Highway 1 at Dolan Road	Moss Landing Power Plant Substation	50010406	Apprentice Electrical Technician	1
06/30/2018	Central Coast	Salinas	114 Bridge Street	Salinas Substation	50010432	Troubleman	2
06/30/2018	Central Coast	Salinas	356 East Alisal Street	Salinas Service Center	50010179	Subforeman A - Overhead	1
06/30/2018	Central Coast	Salinas	356 East Alisal Street	Salinas Service Center	50010223	Utility Worker - GC	1
06/30/2018	Central Coast	Salinas	356 East Alisal Street	Salinas Service Center	50010227	Compliance Inspector	1
06/30/2018	Central Coast	Salinas	356 East Alisal Street	Salinas Service Center	50010247	Lineman - GC	3

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File Date	Work Division	Work City	Work Address	Site Name	Job ID	Job Title	Number of Employees
06/30/2018	Central Coast	Salinas	356 East Alisal Street	Salinas Service Center	50010432	Troubleman	2
06/30/2018	Central Coast	Salinas	356 East Alisal Street	Salinas Service Center	50251367	Working Foreman B - Non-Climbing	1
06/30/2018	Central Coast	Salinas	356 East Alisal Street	Salinas Service Center	50253878	Miscellaneous Equipment Operator-Not Gas	2
06/30/2018	Central Coast	Salinas	356 East Alisal Street	Salinas Service Center	51574842	Distribution Line Technician	1
06/30/2018	Central Coast	Salinas	356 East Alisal Street	Salinas Service Center	51654546	Gas Compliance Representative	1
06/30/2018	Central Coast	Salinas	356 East Alisal Street	Salinas Service Center	51664847	Construction Operator-GC Gas	4
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	50010179	Subforeman A - Overhead	1
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	50010191	Electric Crew Foreman	3
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	50010217	Utility Worker - Gas Transm & Dsbn	1
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	50010223	Utility Worker - GC	1
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	50010227	Compliance Inspector	1
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	50010244	Lineman	3
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	50010246	Unassigned Lineman	3
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	50010247	Lineman - GC	1
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	50010373	Gas Service Representative	9
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	50010432	Troubleman	1
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	50253878	Miscellaneous Equipment Operator-Not Gas	1
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	50368698	Pre-Apprentice Lineman	1
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	51574842	Distribution Line Technician	1
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	51654546	Gas Compliance Representative	14
06/30/2018	Central Coast	Salinas	401 Work Street	Salinas Service Center	51664847	Construction Operator-GC Gas	1
06/30/2018	Central Coast	Santa Cruz	615 7th Ave	Santa Cruz Service Center & Cust. Service Office	50010191	Electric Crew Foreman	3
06/30/2018	Central Coast	Santa Cruz	615 7th Ave	Santa Cruz Service Center & Cust. Service Office	50010227	Compliance Inspector	2
06/30/2018	Central Coast	Santa Cruz	615 7th Ave	Santa Cruz Service Center & Cust. Service Office	50010244	Lineman	7
06/30/2018	Central Coast	Santa Cruz	615 7th Ave	Santa Cruz Service Center & Cust. Service Office	50010246	Unassigned Lineman	3
06/30/2018	Central Coast	Santa Cruz	615 7th Ave	Santa Cruz Service Center & Cust. Service Office	50010373	Gas Service Representative	12
06/30/2018	Central Coast	Santa Cruz	615 7th Ave	Santa Cruz Service Center & Cust. Service Office	50010432	Troubleman	11
06/30/2018	Central Coast	Santa Cruz	615 7th Ave	Santa Cruz Service Center & Cust. Service Office	50315043	M&C Coordinator - Electric	1
06/30/2018	Central Coast	Santa Cruz	615 7th Ave	Santa Cruz Service Center & Cust. Service Office	51574842	Distribution Line Technician	1

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File Date	Work Division	Work City	Work Address	Site Name	Job ID	Job Title	Number of Employees
06/30/2018	Central Coast	Watsonville	11 Walker Street	Watsonville Service Center & Substation	50010191	Electric Crew Foreman	2
06/30/2018	Central Coast	Watsonville	11 Walker Street	Watsonville Service Center & Substation	50010202	Working Foreman	1
06/30/2018	Central Coast	Watsonville	11 Walker Street	Watsonville Service Center & Substation	50010223	Utility Worker - GC	1
06/30/2018	Central Coast	Watsonville	11 Walker Street	Watsonville Service Center & Substation	50010244	Lineman	3
06/30/2018	Central Coast	Watsonville	11 Walker Street	Watsonville Service Center & Substation	50010246	Unassigned Lineman	1
06/30/2018	Central Coast	Watsonville	11 Walker Street	Watsonville Service Center & Substation	50368698	Pre-Apprentice Lineman	1
06/30/2018	Central Coast	Watsonville	Water Street, S/O 1st Street	Watsonville Service Center & Substation	50010244	Lineman	1
Central Coast Total							192
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	50010155	Apprentice Electrician-Electric & Hydro	1
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	50010156	Unassigned Electrician - Elec & Hydro	1
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	50010191	Electric Crew Foreman	5
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	50010194	Electric Maintenance Crew Leader	2
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	50010217	Utility Worker - Gas Transm & Dsbn	3
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	50010227	Compliance Inspector	2
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	50010244	Lineman	16
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	50010323	Transmission & Distribution Equip Opr	1
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	50010373	Gas Service Representative	16
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	50010432	Troubleman	8
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	50070742	Electrician - Switching	3
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	50315043	M&C Coordinator - Electric	4
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	50368698	Pre-Apprentice Lineman	3
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	51574842	Distribution Line Technician	2
06/30/2018	De Anza	Cupertino	10900 N Blaney Ave	Cupertino Service Center	51654546	Gas Compliance Representative	9
De Anza Total							76
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	50010179	Subforeman A - Overhead	2
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	50010191	Electric Crew Foreman	4
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	50010217	Utility Worker - Gas Transm & Dsbn	2
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	50010223	Utility Worker - GC	15
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	50010244	Lineman	9
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	50010246	Unassigned Lineman	5
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	50010247	Lineman - GC	3

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File Date	Work Division	Work City	Work Address	Site Name	Job ID	Job Title	Number of Employees
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	50010323	Transmission & Distribution Equip Opr	1
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	50010373	Gas Service Representative	14
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	50010432	Troubleman	6
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	50253878	Miscellaneous Equipment Operator-Not Gas	1
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	50315043	M&C Coordinator - Electric	1
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	50368698	Pre-Apprentice Lineman	2
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	51654546	Gas Compliance Representative	6
06/30/2018	Diablo	Antioch	2111 Hillcrest Ave	Antioch Service Center & Garage	51664847	Construction Operator-GC Gas	15
06/30/2018	Diablo	Antioch	3201 Wilbur Avenue	Contra Costa Power Plant SW Station	50010152	Electrician - GC	7
06/30/2018	Diablo	Antioch	3201 Wilbur Avenue	Contra Costa Power Plant SW Station	50010157	Apprentice Electrician - GC	13
06/30/2018	Diablo	Antioch	3201 Wilbur Avenue	Contra Costa Power Plant SW Station	50010180	Subforeman A - Station/Hydro	4
06/30/2018	Diablo	Antioch	3201 Wilbur Avenue	Contra Costa Power Plant SW Station	50010196	Lead Electrical Technician	1
06/30/2018	Diablo	Antioch	3201 Wilbur Avenue	Contra Costa Power Plant SW Station	50010223	Utility Worker - GC	1
06/30/2018	Diablo	Antioch	3201 Wilbur Avenue	Contra Costa Power Plant SW Station	50010287	Station Mechanic	1
06/30/2018	Diablo	Antioch	3201 Wilbur Avenue	Contra Costa Power Plant SW Station	50010395	Electrical Technician - GC	1
06/30/2018	Diablo	Antioch	3201 Wilbur Avenue	Contra Costa Power Plant SW Station	50010405	Electrical Technician	3
06/30/2018	Diablo	Antioch	3201 Wilbur Avenue	Contra Costa Power Plant SW Station	50251367	Working Foreman B - Non-Climbing	4
06/30/2018	Diablo	Antioch	800 Second Street	Antioch Customer Service Office	50010223	Utility Worker - GC	7
06/30/2018	Diablo	Antioch	800 Second Street	Antioch Customer Service Office	51664847	Construction Operator-GC Gas	3
06/30/2018	Diablo	Concord	1020 Detroit Avenue	Concord-Central Electric Distribution CC	50010319	PIO Division Operator	6
06/30/2018	Diablo	Concord	1020 Detroit Avenue	Concord-Central Electric Distribution CC	50010339	System Operator	29
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50010156	Unassigned Electrician - Elec & Hydro	1
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50010191	Electric Crew Foreman	8
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50010194	Electric Maintenance Crew Leader	2
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50010217	Utility Worker - Gas Transm & Dsbn	1
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50010227	Compliance Inspector	5
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50010242	PIO Electric Transm & Dsbn Assistant	1
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50010244	Lineman	14
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50010261	Street Light Maintenance Man	1

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File Date	Work Division	Work City	Work Address	Site Name	Job ID	Job Title	Number of Employees
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50010323	Transmission & Distribution Equip Opr	1
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50010339	System Operator	1
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50010373	Gas Service Representative	17
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50010432	Troubleman	7
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50070742	Electrician - Switching	3
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50251367	Working Foreman B - Non-Climbing	1
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50253773	Technical Crew Leader A-Not Gas	1
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50315043	M&C Coordinator - Electric	3
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	50368698	Pre-Apprentice Lineman	2
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	51574842	Distribution Line Technician	2
06/30/2018	Diablo	Concord	1030 Detroit Avenue	Concord Service Center & Customer Service Office	51654546	Gas Compliance Representative	13
06/30/2018	Diablo	Concord	1200 Franquette Avenue	Meadow Lane Substation	50010431	Transmission Troubleman	2
06/30/2018	Diablo	Concord	1850 Gateway Blvd	Concord Gateway Office	51654546	Gas Compliance Representative	1
06/30/2018	Diablo	Concord	4690 Evora Road	Los Medanos Gas Field	51664847	Construction Operator-GC Gas	3
06/30/2018	Diablo	Walnut Creek	1232 Boulevard Way	Walnut Creek Service Center	50010178	Subforeman A - Underground	1
06/30/2018	Diablo	Walnut Creek	1232 Boulevard Way	Walnut Creek Service Center	50010179	Subforeman A - Overhead	1
06/30/2018	Diablo	Walnut Creek	1232 Boulevard Way	Walnut Creek Service Center	50010247	Lineman - GC	5
06/30/2018	Diablo	Walnut Creek	1232 Boulevard Way	Walnut Creek Service Center	50253878	Miscellaneous Equipment Operator-Not Gas	1
Diablo Total							264
06/30/2018	East Bay	Emeryville	4525 Hollis Street	Emeryville Warehouse and Repair Facility	50010151	Electrician	1
06/30/2018	East Bay	Emeryville	4525 Hollis Street	Emeryville Warehouse and Repair Facility	50071197	Hiring Hall Electrician - Exper	3
06/30/2018	East Bay	Emeryville	4525 Hollis Street	Emeryville Warehouse and Repair Facility	51574842	Distribution Line Technician	1
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010152	Electrician - GC	2
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010157	Apprentice Electrician - GC	9
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010180	Subforeman A - Station/Hydro	3
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010191	Electric Crew Foreman	4
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010194	Electric Maintenance Crew Leader	1
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010199	Cable Crew Foreman	3

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06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010217	Utility Worker - Gas Transm & Dsbn	1
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010227	Compliance Inspector	3
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010243	Night Electric Transm & Dsbn Assistant	2
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010244	Lineman	6
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010246	Unassigned Lineman	1
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010323	Transmission & Distribution Equip Opr	2
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010373	Gas Service Representative	26
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010375	Cable Splicer	4
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010405	Electrical Technician	2
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010406	Apprentice Electrical Technician	2
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50010432	Troubleman	6
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50070742	Electrician - Switching	2
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50251367	Working Foreman B - Non-Climbing	5
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50253773	Technical Crew Leader A-Not Gas	1
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	50315043	M&C Coordinator - Electric	2
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	51574842	Distribution Line Technician	1
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	51654546	Gas Compliance Representative	10
06/30/2018	East Bay	Oakland	4801 Oakport Street	Oakland Service Center	51754495	Appr Cable Splicer Hired after 1-1-15	3
06/30/2018	East Bay	Oakland	4930 Coliseum Way	Oakland Gas Holder (Melrose)	50010223	Utility Worker - GC	1
06/30/2018	East Bay	Oakland	4930 Coliseum Way	Oakland Gas Holder (Melrose)	51664847	Construction Operator-GC Gas	16
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50010178	Subforeman A - Underground	1
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50010179	Subforeman A - Overhead	1
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50010191	Electric Crew Foreman	2
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50010199	Cable Crew Foreman	1
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50010217	Utility Worker - Gas Transm & Dsbn	1
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50010244	Lineman	3
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50010247	Lineman - GC	6
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50010323	Transmission & Distribution Equip Opr	1
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50010373	Gas Service Representative	14
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50010377	Cable Splicer - GC	3
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50010432	Troubleman	7
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50253877	Crane Operator - GC Field-Not Gas	3
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50253878	Miscellaneous Equipment Operator-Not Gas	1

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File Date	Work Division	Work City	Work Address	Site Name	Job ID	Job Title	Number of Employees
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	50368700	Pre-Apprentice Lineman - GC	1
06/30/2018	East Bay	Richmond	1100 South 27th Street	Richmond Service Center	51654546	Gas Compliance Representative	8
East Bay Total							177
06/30/2018	Fresno	Auberry	33755 Old Mill Road	Auberry Service Center	50010152	Electrician - GC	4
06/30/2018	Fresno	Auberry	33755 Old Mill Road	Auberry Service Center	50010157	Apprentice Electrician - GC	3
06/30/2018	Fresno	Auberry	33755 Old Mill Road	Auberry Service Center	50010180	Subforeman A - Station/Hydro	2
06/30/2018	Fresno	Auberry	33755 Old Mill Road	Auberry Service Center	50010194	Electric Maintenance Crew Leader	1
06/30/2018	Fresno	Auberry	33755 Old Mill Road	Auberry Service Center	50010334	Roving Operator	3
06/30/2018	Fresno	Auberry	33755 Old Mill Road	Auberry Service Center	50010335	Unassigned Roving Operator	1
06/30/2018	Fresno	Auberry	33755 Old Mill Road	Auberry Service Center	50010395	Electrical Technician - GC	1
06/30/2018	Fresno	Auberry	33755 Old Mill Road	Auberry Service Center	50010405	Electrical Technician	2
06/30/2018	Fresno	Auberry	33755 Old Mill Road	Auberry Service Center	50010406	Apprentice Electrical Technician	1
06/30/2018	Fresno	Auberry	33755 Old Mill Road	Auberry Service Center	50251365	Working Foreman A - Non-Climbing	2
06/30/2018	Fresno	Clovis	90 W Ashlan Ave, Ste 110	Clovis Ashlan Ave Office	50010223	Utility Worker - GC	3
06/30/2018	Fresno	Clovis	90 W Ashlan Ave, Ste 110	Clovis Ashlan Ave Office	51664847	Construction Operator-GC Gas	3
06/30/2018	Fresno	Coalinga	290 South Merced Ave	Coalinga Service Center	50010432	Troubleman	2
06/30/2018	Fresno	Dinuba	8058 Union Drive	Dinuba Service Center	50010191	Electric Crew Foreman	4
06/30/2018	Fresno	Dinuba	8058 Union Drive	Dinuba Service Center	50010244	Lineman	3
06/30/2018	Fresno	Dinuba	8058 Union Drive	Dinuba Service Center	50010432	Troubleman	3
06/30/2018	Fresno	Dinuba	8058 Union Drive	Dinuba Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Fresno	Fresno	1170 E Bullard Ave	Fresno-South Electric Distribution CC	50010339	System Operator	23
06/30/2018	Fresno	Fresno	211 North Thorne Avenue	Fresno Gas Load Center	50253878	Miscellaneous Equipment Operator-Not Gas	1
06/30/2018	Fresno	Fresno	2141 S Orange Ave	Fresno Service Center	50010152	Electrician - GC	2
06/30/2018	Fresno	Fresno	2141 S Orange Ave	Fresno Service Center	50010156	Unassigned Electrician - Elec & Hydro	1
06/30/2018	Fresno	Fresno	2141 S Orange Ave	Fresno Service Center	50010194	Electric Maintenance Crew Leader	2
06/30/2018	Fresno	Fresno	2141 S Orange Ave	Fresno Service Center	50010196	Lead Electrical Technician	2
06/30/2018	Fresno	Fresno	2141 S Orange Ave	Fresno Service Center	50010395	Electrical Technician - GC	10
06/30/2018	Fresno	Fresno	2141 S Orange Ave	Fresno Service Center	50010405	Electrical Technician	4
06/30/2018	Fresno	Fresno	2141 S Orange Ave	Fresno Service Center	50070742	Electrician - Switching	4
06/30/2018	Fresno	Fresno	2141 S Orange Ave	Fresno Service Center	50251367	Working Foreman B - Non-Climbing	1
06/30/2018	Fresno	Fresno	2141 S Orange Ave	Fresno Service Center	50253773	Technical Crew Leader A-Not Gas	2
06/30/2018	Fresno	Fresno	2141 S Orange Ave	Fresno Service Center	51758207	Lead Electrical Technician-GC	9
06/30/2018	Fresno	Fresno	2151 S Orange Ave	Fresno Service Center	50010223	Utility Worker - GC	4
06/30/2018	Fresno	Fresno	2151 S Orange Ave	Fresno Service Center	50010247	Lineman - GC	1
06/30/2018	Fresno	Fresno	2151 S Orange Ave	Fresno Service Center	50010373	Gas Service Representative	28

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06/30/2018	Fresno	Fresno	2151 S Orange Ave	Fresno Service Center	50010432	Troubleman	16
06/30/2018	Fresno	Fresno	2151 S Orange Ave	Fresno Service Center	51574842	Distribution Line Technician	3
06/30/2018	Fresno	Fresno	2151 S Orange Ave	Fresno Service Center	51664847	Construction Operator-GC Gas	18
06/30/2018	Fresno	Fresno	3580 East California Ave	Fresno Service Center	50010188	Underground Constr Crew Frmn - Electric	1
06/30/2018	Fresno	Fresno	3580 East California Ave	Fresno Service Center	50010191	Electric Crew Foreman	7
06/30/2018	Fresno	Fresno	3580 East California Ave	Fresno Service Center	50010217	Utility Worker - Gas Transm & Dsbn	4
06/30/2018	Fresno	Fresno	3580 East California Ave	Fresno Service Center	50010227	Compliance Inspector	12
06/30/2018	Fresno	Fresno	3580 East California Ave	Fresno Service Center	50010244	Lineman	14
06/30/2018	Fresno	Fresno	3580 East California Ave	Fresno Service Center	50010246	Unassigned Lineman	2
06/30/2018	Fresno	Fresno	3580 East California Ave	Fresno Service Center	50010375	Cable Splicer	1
06/30/2018	Fresno	Fresno	3580 East California Ave	Fresno Service Center	50315043	M&C Coordinator - Electric	3
06/30/2018	Fresno	Fresno	3580 East California Ave	Fresno Service Center	51654546	Gas Compliance Representative	14
06/30/2018	Fresno	Fresno	650 O Street	Fresno Office & CSO	50010179	Subforeman A - Overhead	8
06/30/2018	Fresno	Fresno	650 O Street	Fresno Office & CSO	50010247	Lineman - GC	14
06/30/2018	Fresno	Fresno	650 O Street	Fresno Office & CSO	50253878	Miscellaneous Equipment Operator-Not Gas	7
06/30/2018	Fresno	Fresno	650 O Street	Fresno Office & CSO	50368700	Pre-Apprentice Lineman - GC	2
06/30/2018	Fresno	Huron	18336 West Jayne Avenue	Gates Substation	50010152	Electrician - GC	6
06/30/2018	Fresno	Huron	18336 West Jayne Avenue	Gates Substation	50010155	Apprentice Electrician-Electric & Hydro	1
06/30/2018	Fresno	Huron	18336 West Jayne Avenue	Gates Substation	50010157	Apprentice Electrician - GC	4
06/30/2018	Fresno	Huron	18336 West Jayne Avenue	Gates Substation	50010180	Subforeman A - Station/Hydro	3
06/30/2018	Fresno	Huron	18336 West Jayne Avenue	Gates Substation	50010194	Electric Maintenance Crew Leader	1
06/30/2018	Fresno	Huron	18336 West Jayne Avenue	Gates Substation	50010223	Utility Worker - GC	2
06/30/2018	Fresno	Huron	18336 West Jayne Avenue	Gates Substation	50010405	Electrical Technician	2
06/30/2018	Fresno	Huron	18336 West Jayne Avenue	Gates Substation	50251367	Working Foreman B - Non-Climbing	6
06/30/2018	Fresno	Lemoore	980 N 19th Ave	Lemoore Service Center	50010191	Electric Crew Foreman	4
06/30/2018	Fresno	Lemoore	980 N 19th Ave	Lemoore Service Center	50010244	Lineman	5
06/30/2018	Fresno	Lemoore	980 N 19th Ave	Lemoore Service Center	50010432	Troubleman	2
06/30/2018	Fresno	Lemoore	980 N 19th Ave	Lemoore Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Fresno	Lemoore	980 N 19th Ave	Lemoore Service Center	50368698	Pre-Apprentice Lineman	1
06/30/2018	Fresno	Sanger	36000 Trimmer Springs Rd	Balch (FERC 175), Balch Camp	50010334	Roving Operator	4
06/30/2018	Fresno	Sanger	36000 Trimmer Springs Rd	Balch (FERC 175), Balch Camp	50010360	Apprentice Water System Repairperson	1
06/30/2018	Fresno	Selma	2139 Sylvia Street	Selma Service Center	50010191	Electric Crew Foreman	3
06/30/2018	Fresno	Selma	2139 Sylvia Street	Selma Service Center	50010244	Lineman	4
06/30/2018	Fresno	Selma	2139 Sylvia Street	Selma Service Center	50010373	Gas Service Representative	2
06/30/2018	Fresno	Selma	2139 Sylvia Street	Selma Service Center	50010432	Troubleman	3
06/30/2018	Fresno	Selma	2139 Sylvia Street	Selma Service Center	50315043	M&C Coordinator - Electric	1
Fresno Total							315

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06/30/2018	General Office	San Francisco	77 Beale Street	General Office Complex	50253773	Technical Crew Leader A-Not Gas	1
General Office Total							1
06/30/2018	Humboldt	Clearlake	14730 Olympic Drive	Clearlake Highlands Service Center & CSO	50010179	Subforeman A - Overhead	1
06/30/2018	Humboldt	Clearlake	14730 Olympic Drive	Clearlake Highlands Service Center & CSO	50010191	Electric Crew Foreman	2
06/30/2018	Humboldt	Clearlake	14730 Olympic Drive	Clearlake Highlands Service Center & CSO	50010227	Compliance Inspector	1
06/30/2018	Humboldt	Clearlake	14730 Olympic Drive	Clearlake Highlands Service Center & CSO	50010244	Lineman	2
06/30/2018	Humboldt	Clearlake	14730 Olympic Drive	Clearlake Highlands Service Center & CSO	50010432	Troubleman	3
06/30/2018	Humboldt	Clearlake	14730 Olympic Drive	Clearlake Highlands Service Center & CSO	50315043	M&C Coordinator - Electric	1
06/30/2018	Humboldt	Eureka	1099 W. 14th Street	Eureka Transmission Line	50010431	Transmission Troubleman	2
06/30/2018	Humboldt	Eureka	1099 W. 14th Street	Eureka Transmission Line	51664847	Construction Operator-GC Gas	1
06/30/2018	Humboldt	Eureka	2475 Myrtle Avenue	Eureka Service Center /MF#470 & CSO	50010191	Electric Crew Foreman	3
06/30/2018	Humboldt	Eureka	2475 Myrtle Avenue	Eureka Service Center /MF#470 & CSO	50010194	Electric Maintenance Crew Leader	1
06/30/2018	Humboldt	Eureka	2475 Myrtle Avenue	Eureka Service Center /MF#470 & CSO	50010196	Lead Electrical Technician	1
06/30/2018	Humboldt	Eureka	2475 Myrtle Avenue	Eureka Service Center /MF#470 & CSO	50010244	Lineman	4
06/30/2018	Humboldt	Eureka	2475 Myrtle Avenue	Eureka Service Center /MF#470 & CSO	50010246	Unassigned Lineman	2
06/30/2018	Humboldt	Eureka	2475 Myrtle Avenue	Eureka Service Center /MF#470 & CSO	50010247	Lineman - GC	1
06/30/2018	Humboldt	Eureka	2475 Myrtle Avenue	Eureka Service Center /MF#470 & CSO	50010373	Gas Service Representative	5
06/30/2018	Humboldt	Eureka	2475 Myrtle Avenue	Eureka Service Center /MF#470 & CSO	50010432	Troubleman	4
06/30/2018	Humboldt	Eureka	2475 Myrtle Avenue	Eureka Service Center /MF#470 & CSO	50070742	Electrician - Switching	2
06/30/2018	Humboldt	Eureka	2475 Myrtle Avenue	Eureka Service Center /MF#470 & CSO	50315043	M&C Coordinator - Electric	1
06/30/2018	Humboldt	Eureka	2475 Myrtle Avenue	Eureka Service Center /MF#470 & CSO	51574842	Distribution Line Technician	1
06/30/2018	Humboldt	Eureka	2475 Myrtle Avenue	Eureka Service Center /MF#470 & CSO	51654546	Gas Compliance Representative	2
06/30/2018	Humboldt	Eureka	2905 Hubbard Lane	Eureka Compliance Office	50010227	Compliance Inspector	2
06/30/2018	Humboldt	Fort Bragg	300 Walnut Street	Fort Bragg Service Center	50010191	Electric Crew Foreman	2
06/30/2018	Humboldt	Fort Bragg	300 Walnut Street	Fort Bragg Service Center	50010244	Lineman	1
06/30/2018	Humboldt	Fort Bragg	300 Walnut Street	Fort Bragg Service Center	50010246	Unassigned Lineman	1

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File Date	Work Division	Work City	Work Address	Site Name	Job ID	Job Title	Number of Employees
06/30/2018	Humboldt	Fort Bragg	300 Walnut Street	Fort Bragg Service Center	50010432	Troubleman	2
06/30/2018	Humboldt	Fort Bragg	300 Walnut Street	Fort Bragg Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Humboldt	Fortuna	2755 Rohnerville Road	Fortuna Service Center & CSO	50010191	Electric Crew Foreman	1
06/30/2018	Humboldt	Fortuna	2755 Rohnerville Road	Fortuna Service Center & CSO	50010244	Lineman	1
06/30/2018	Humboldt	Fortuna	2755 Rohnerville Road	Fortuna Service Center & CSO	50010246	Unassigned Lineman	1
06/30/2018	Humboldt	Fortuna	2755 Rohnerville Road	Fortuna Service Center & CSO	50010432	Troubleman	2
06/30/2018	Humboldt	Fortuna	2755 Rohnerville Road	Fortuna Service Center & CSO	50253878	Miscellaneous Equipment Operator-Not Gas	1
06/30/2018	Humboldt	Fortuna	2755 Rohnerville Road	Fortuna Service Center & CSO	50315043	M&C Coordinator - Electric	1
06/30/2018	Humboldt	Garberville	1328 Redwood Drive	Garberville Service Center & CSO	50010244	Lineman	1
06/30/2018	Humboldt	Garberville	1328 Redwood Drive	Garberville Service Center & CSO	50010432	Troubleman	1
06/30/2018	Humboldt	Lakeport	1575 High Street	Lakeport Service Center	50010179	Subforeman A - Overhead	2
06/30/2018	Humboldt	Lakeport	1575 High Street	Lakeport Service Center	50010191	Electric Crew Foreman	1
06/30/2018	Humboldt	Lakeport	1575 High Street	Lakeport Service Center	50010244	Lineman	2
06/30/2018	Humboldt	Lakeport	1575 High Street	Lakeport Service Center	50010432	Troubleman	2
06/30/2018	Humboldt	Lakeport	1575 High Street	Lakeport Service Center	50253878	Miscellaneous Equipment Operator-Not Gas	1
06/30/2018	Humboldt	Lakeport	1575 High Street	Lakeport Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Humboldt	Point Arena	24200 Windy Hollow Road	Point Arena Service Center	50010191	Electric Crew Foreman	1
06/30/2018	Humboldt	Point Arena	24200 Windy Hollow Road	Point Arena Service Center	50010244	Lineman	1
06/30/2018	Humboldt	Point Arena	24200 Windy Hollow Road	Point Arena Service Center	50010432	Troubleman	2
06/30/2018	Humboldt	Potter Valley	16001 Powerhouse Road	Potter Valley (FERC 77), Potter Valley PH & Substation	50010334	Roving Operator	1
06/30/2018	Humboldt	Potter Valley	16001 Powerhouse Road	Potter Valley (FERC 77), Potter Valley PH & Substation	50010335	Unassigned Roving Operator	1
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50010179	Subforeman A - Overhead	3
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50010191	Electric Crew Foreman	3
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50010194	Electric Maintenance Crew Leader	1
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50010227	Compliance Inspector	3
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50010244	Lineman	5
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50010246	Unassigned Lineman	1
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50010247	Lineman - GC	2
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50010373	Gas Service Representative	3
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50010405	Electrical Technician	1
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50010406	Apprentice Electrical Technician	1
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50010432	Troubleman	3
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50070742	Electrician - Switching	1
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50253878	Miscellaneous Equipment Operator-Not Gas	1
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50315043	M&C Coordinator - Electric	1
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50368698	Pre-Apprentice Lineman	1
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	50368700	Pre-Apprentice Lineman - GC	2
06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	51574842	Distribution Line Technician	1

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06/30/2018	Humboldt	Ukiah	2641 North State Street	Ukiah Service Center & CSO	51654546	Gas Compliance Representative	3
06/30/2018	Humboldt	Willits	1601 Baechtel Road	Willits SC	50010179	Subforeman A - Overhead	1
06/30/2018	Humboldt	Willow Creek	700 Highway 96 AT Willow Creek	Willow Creek Service Center & CSO	50010432	Troubleman	1
Humboldt Total							111
06/30/2018	Kern	Bakersfield	3551 Pegasus Drive	Bakersfield - 3551 Pegasus Dr	50010152	Electrician - GC	6
06/30/2018	Kern	Bakersfield	3551 Pegasus Drive	Bakersfield - 3551 Pegasus Dr	50010155	Apprentice Electrician-Electric & Hydro	2
06/30/2018	Kern	Bakersfield	3551 Pegasus Drive	Bakersfield - 3551 Pegasus Dr	50010157	Apprentice Electrician - GC	4
06/30/2018	Kern	Bakersfield	3551 Pegasus Drive	Bakersfield - 3551 Pegasus Dr	50010180	Subforeman A - Station/Hydro	4
06/30/2018	Kern	Bakersfield	3551 Pegasus Drive	Bakersfield - 3551 Pegasus Dr	50010194	Electric Maintenance Crew Leader	2
06/30/2018	Kern	Bakersfield	3551 Pegasus Drive	Bakersfield - 3551 Pegasus Dr	50010196	Lead Electrical Technician	2
06/30/2018	Kern	Bakersfield	3551 Pegasus Drive	Bakersfield - 3551 Pegasus Dr	50010395	Electrical Technician - GC	1
06/30/2018	Kern	Bakersfield	3551 Pegasus Drive	Bakersfield - 3551 Pegasus Dr	50010406	Apprentice Electrical Technician	2
06/30/2018	Kern	Bakersfield	3551 Pegasus Drive	Bakersfield - 3551 Pegasus Dr	50010431	Transmission Troubleman	1
06/30/2018	Kern	Bakersfield	3551 Pegasus Drive	Bakersfield - 3551 Pegasus Dr	50070742	Electrician - Switching	4
06/30/2018	Kern	Bakersfield	3551 Pegasus Drive	Bakersfield - 3551 Pegasus Dr	50251367	Working Foreman B - Non-Climbing	5
06/30/2018	Kern	Bakersfield	4101 Wible Road	Bakersfield Service Center	50010191	Electric Crew Foreman	5
06/30/2018	Kern	Bakersfield	4101 Wible Road	Bakersfield Service Center	50010217	Utility Worker - Gas Transm & Dsbn	3
06/30/2018	Kern	Bakersfield	4101 Wible Road	Bakersfield Service Center	50010227	Compliance Inspector	5
06/30/2018	Kern	Bakersfield	4101 Wible Road	Bakersfield Service Center	50010244	Lineman	12
06/30/2018	Kern	Bakersfield	4101 Wible Road	Bakersfield Service Center	50010246	Unassigned Lineman	3
06/30/2018	Kern	Bakersfield	4101 Wible Road	Bakersfield Service Center	50010323	Transmission & Distribution Equip Opr	1
06/30/2018	Kern	Bakersfield	4101 Wible Road	Bakersfield Service Center	50010373	Gas Service Representative	20
06/30/2018	Kern	Bakersfield	4101 Wible Road	Bakersfield Service Center	50010432	Troubleman	19
06/30/2018	Kern	Bakersfield	4101 Wible Road	Bakersfield Service Center	50315043	M&C Coordinator - Electric	3
06/30/2018	Kern	Bakersfield	4101 Wible Road	Bakersfield Service Center	50368698	Pre-Apprentice Lineman	1
06/30/2018	Kern	Bakersfield	4101 Wible Road	Bakersfield Service Center	51574842	Distribution Line Technician	2
06/30/2018	Kern	Bakersfield	4101 Wible Road	Bakersfield Service Center	51654546	Gas Compliance Representative	10
06/30/2018	Kern	Bakersfield	4201 Arrow Street	Bakersfield Office	50010179	Subforeman A - Overhead	5
06/30/2018	Kern	Bakersfield	4201 Arrow Street	Bakersfield Office	50010223	Utility Worker - GC	6
06/30/2018	Kern	Bakersfield	4201 Arrow Street	Bakersfield Office	50010247	Lineman - GC	7
06/30/2018	Kern	Bakersfield	4201 Arrow Street	Bakersfield Office	50253878	Miscellaneous Equipment Operator-Not Gas	3
06/30/2018	Kern	Bakersfield	4201 Arrow Street	Bakersfield Office	50368700	Pre-Apprentice Lineman - GC	1
06/30/2018	Kern	Bakersfield	4201 Arrow Street	Bakersfield Office	51664847	Construction Operator-GC Gas	9
06/30/2018	Kern	Ridgecrest	530 South China Lake Blvd	Ridgecrest Service Center	50010373	Gas Service Representative	2
06/30/2018	Kern	Taft	550 Gardner Field Road	Taft Service Center	50010191	Electric Crew Foreman	1

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06/30/2018	Kern	Taft	550 Gardner Field Road	Taft Service Center	50010432	Troubleman	1
06/30/2018	Kern	Wasco	1101 12th Street	Wasco Service Center	50010191	Electric Crew Foreman	2
06/30/2018	Kern	Wasco	1101 12th Street	Wasco Service Center	50010244	Lineman	2
06/30/2018	Kern	Wasco	1101 12th Street	Wasco Service Center	50010246	Unassigned Lineman	3
06/30/2018	Kern	Wasco	1101 12th Street	Wasco Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Kern	Wasco	1101 12th Street	Wasco Service Center	50368698	Pre-Apprentice Lineman	1
Kern Total							161
06/30/2018	Los Padres	Buellton	55 Easy Street	Santa Ynez Valley (aka Buellton) Service Center	50010191	Electric Crew Foreman	2
06/30/2018	Los Padres	Buellton	55 Easy Street	Santa Ynez Valley (aka Buellton) Service Center	50010244	Lineman	1
06/30/2018	Los Padres	Buellton	55 Easy Street	Santa Ynez Valley (aka Buellton) Service Center	50010246	Unassigned Lineman	2
06/30/2018	Los Padres	Buellton	55 Easy Street	Santa Ynez Valley (aka Buellton) Service Center	50010432	Troubleman	1
06/30/2018	Los Padres	Buellton	55 Easy Street	Santa Ynez Valley (aka Buellton) Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Los Padres	Buellton	55 Easy Street	Santa Ynez Valley (aka Buellton) Service Center	50368698	Pre-Apprentice Lineman	1
06/30/2018	Los Padres	Paso Robles	160 Cow Meadow Place	Templeton Service Center	50010179	Subforeman A - Overhead	4
06/30/2018	Los Padres	Paso Robles	160 Cow Meadow Place	Templeton Service Center	50010180	Subforeman A - Station/Hydro	2
06/30/2018	Los Padres	Paso Robles	160 Cow Meadow Place	Templeton Service Center	50010191	Electric Crew Foreman	4
06/30/2018	Los Padres	Paso Robles	160 Cow Meadow Place	Templeton Service Center	50010227	Compliance Inspector	2
06/30/2018	Los Padres	Paso Robles	160 Cow Meadow Place	Templeton Service Center	50010244	Lineman	1
06/30/2018	Los Padres	Paso Robles	160 Cow Meadow Place	Templeton Service Center	50010246	Unassigned Lineman	8
06/30/2018	Los Padres	Paso Robles	160 Cow Meadow Place	Templeton Service Center	50010247	Lineman - GC	8
06/30/2018	Los Padres	Paso Robles	160 Cow Meadow Place	Templeton Service Center	50010432	Troubleman	4
06/30/2018	Los Padres	Paso Robles	160 Cow Meadow Place	Templeton Service Center	50251367	Working Foreman B - Non-Climbing	4
06/30/2018	Los Padres	Paso Robles	160 Cow Meadow Place	Templeton Service Center	50253878	Miscellaneous Equipment Operator-Not Gas	4
06/30/2018	Los Padres	Paso Robles	160 Cow Meadow Place	Templeton Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Los Padres	Paso Robles	160 Cow Meadow Place	Templeton Service Center	50368698	Pre-Apprentice Lineman	2
06/30/2018	Los Padres	Paso Robles	160 Cow Meadow Place	Templeton Service Center	50368700	Pre-Apprentice Lineman - GC	2
06/30/2018	Los Padres	Paso Robles	160 Cow Meadow Place	Templeton Service Center	51654546	Gas Compliance Representative	2
06/30/2018	Los Padres	Pismo Beach	800 Price Canyon Road	Pismo Beach Materials Facility - MF 442	50010179	Subforeman A - Overhead	1
06/30/2018	Los Padres	Pismo Beach	800 Price Canyon Road	Pismo Beach Materials Facility - MF 442	50010194	Electric Maintenance Crew Leader	1
06/30/2018	Los Padres	Pismo Beach	800 Price Canyon Road	Pismo Beach Materials Facility - MF 442	50010196	Lead Electrical Technician	1
06/30/2018	Los Padres	Pismo Beach	800 Price Canyon Road	Pismo Beach Materials Facility - MF 442	50010247	Lineman - GC	1
06/30/2018	Los Padres	Pismo Beach	800 Price Canyon Road	Pismo Beach Materials Facility - MF 442	50010405	Electrical Technician	1

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06/30/2018	Los Padres	Pismo Beach	800 Price Canyon Road	Pismo Beach Materials Facility - MF 442	50010431	Transmission Troublemán	2
06/30/2018	Los Padres	Pismo Beach	800 Price Canyon Road	Pismo Beach Materials Facility - MF 442	50251367	Working Foreman B - Non-Climbing	1
06/30/2018	Los Padres	San Luis Obispo	4325 S Higuera Street	San Luis Obispo Service Center	50010191	Electric Crew Foreman	4
06/30/2018	Los Padres	San Luis Obispo	4325 S Higuera Street	San Luis Obispo Service Center	50010202	Working Foreman	1
06/30/2018	Los Padres	San Luis Obispo	4325 S Higuera Street	San Luis Obispo Service Center	50010227	Compliance Inspector	4
06/30/2018	Los Padres	San Luis Obispo	4325 S Higuera Street	San Luis Obispo Service Center	50010244	Lineman	3
06/30/2018	Los Padres	San Luis Obispo	4325 S Higuera Street	San Luis Obispo Service Center	50010246	Unassigned Lineman	6
06/30/2018	Los Padres	San Luis Obispo	4325 S Higuera Street	San Luis Obispo Service Center	50010432	Troublemán	6
06/30/2018	Los Padres	San Luis Obispo	4325 S Higuera Street	San Luis Obispo Service Center	50315043	M&C Coordinator - Electric	2
06/30/2018	Los Padres	San Luis Obispo	4325 S Higuera Street	San Luis Obispo Service Center	50368698	Pre-Apprentice Lineman	1
06/30/2018	Los Padres	San Luis Obispo	4325 S Higuera Street	San Luis Obispo Service Center	51574842	Distribution Line Technician	1
06/30/2018	Los Padres	San Luis Obispo	4325 S Higuera Street	San Luis Obispo Service Center	51654546	Gas Compliance Representative	1
06/30/2018	Los Padres	San Luis Obispo	9 MI N/W of Avila Beach	Diablo Canyon Power Plant	50251367	Working Foreman B - Non-Climbing	1
06/30/2018	Los Padres	Santa Maria	2445 S Skyway Drive	Santa Maria Service Center	50010191	Electric Crew Foreman	3
06/30/2018	Los Padres	Santa Maria	2445 S Skyway Drive	Santa Maria Service Center	50010244	Lineman	4
06/30/2018	Los Padres	Santa Maria	2445 S Skyway Drive	Santa Maria Service Center	50010246	Unassigned Lineman	1
06/30/2018	Los Padres	Santa Maria	2445 S Skyway Drive	Santa Maria Service Center	50010432	Troublemán	5
06/30/2018	Los Padres	Santa Maria	2445 S Skyway Drive	Santa Maria Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Los Padres	Santa Maria	2445 S Skyway Drive	Santa Maria Service Center	51654546	Gas Compliance Representative	1
Los Padres Total							109
06/30/2018	Mission	Fremont	41800 Boscèll Road	Fremont Service Center and CSO	50010191	Electric Crew Foreman	3
06/30/2018	Mission	Fremont	41800 Boscèll Road	Fremont Service Center and CSO	50010244	Lineman	2
06/30/2018	Mission	Fremont	41800 Boscèll Road	Fremont Service Center and CSO	50010373	Gas Service Representative	10
06/30/2018	Mission	Fremont	41800 Boscèll Road	Fremont Service Center and CSO	50010432	Troublemán	5
06/30/2018	Mission	Fremont	41800 Boscèll Road	Fremont Service Center and CSO	50315043	M&C Coordinator - Electric	1
06/30/2018	Mission	Fremont	41800 Boscèll Road	Fremont Service Center and CSO	51654546	Gas Compliance Representative	1
06/30/2018	Mission	Fremont	42105 Boyce Road	Fremont Materials Facility MF 001	50010317	Crane Operator	1
06/30/2018	Mission	Fremont	6453 Auto Mall Parkway	Newark Distribution Substation	50010196	Lead Electrical Technician	1
06/30/2018	Mission	Fremont	6453 Auto Mall Parkway	Newark Distribution Substation	50010405	Electrical Technician	2
06/30/2018	Mission	Fremont	6453 Auto Mall Parkway	Newark Distribution Substation	50010406	Apprentice Electrical Technician	1
06/30/2018	Mission	Hayward	24300 Clawiter Road	Hayward Service Center and CSO	50010191	Electric Crew Foreman	4
06/30/2018	Mission	Hayward	24300 Clawiter Road	Hayward Service Center and CSO	50010194	Electric Maintenance Crew Leader	1
06/30/2018	Mission	Hayward	24300 Clawiter Road	Hayward Service Center and CSO	50010226	P/O Inspector	1
06/30/2018	Mission	Hayward	24300 Clawiter Road	Hayward Service Center and CSO	50010227	Compliance Inspector	2
06/30/2018	Mission	Hayward	24300 Clawiter Road	Hayward Service Center and CSO	50010244	Lineman	6
06/30/2018	Mission	Hayward	24300 Clawiter Road	Hayward Service Center and CSO	50010246	Unassigned Lineman	1
06/30/2018	Mission	Hayward	24300 Clawiter Road	Hayward Service Center and CSO	50010247	Lineman - GC	1
06/30/2018	Mission	Hayward	24300 Clawiter Road	Hayward Service Center and CSO	50010373	Gas Service Representative	12

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06/30/2018	Mission	Hayward	24300 Clawiter Road	Hayward Service Center and CSO	50010375	Cable Splicer	1
06/30/2018	Mission	Hayward	24300 Clawiter Road	Hayward Service Center and CSO	50010432	Troubleman	4
06/30/2018	Mission	Hayward	24300 Clawiter Road	Hayward Service Center and CSO	50070742	Electrician - Switching	6
06/30/2018	Mission	Hayward	24300 Clawiter Road	Hayward Service Center and CSO	50368698	Pre-Apprentice Lineman	1
06/30/2018	Mission	Hayward	24300 Clawiter Road	Hayward Service Center and CSO	51574842	Distribution Line Technician	2
06/30/2018	Mission	Hayward	24300 Clawiter Road	Hayward Service Center and CSO	51654546	Gas Compliance Representative	11
06/30/2018	Mission	Hayward	25051 O'Neil Ave	Hayward O'Neil GC Yard and Electric	50010178	Subforeman A - Underground	1
06/30/2018	Mission	Hayward	25051 O'Neil Ave	Hayward O'Neil GC Yard and Electric	50010179	Subforeman A - Overhead	3
06/30/2018	Mission	Hayward	25051 O'Neil Ave	Hayward O'Neil GC Yard and Electric	50010223	Utility Worker - GC	1
06/30/2018	Mission	Hayward	25051 O'Neil Ave	Hayward O'Neil GC Yard and Electric	50010247	Lineman - GC	4
06/30/2018	Mission	Hayward	25051 O'Neil Ave	Hayward O'Neil GC Yard and Electric	50253877	Crane Operator - GC Field-Not Gas	1
06/30/2018	Mission	Hayward	25051 O'Neil Ave	Hayward O'Neil GC Yard and Electric	50253878	Miscellaneous Equipment Operator-Not Gas	1
06/30/2018	Mission	Hayward	25051 O'Neil Ave	Hayward O'Neil GC Yard and Electric	51664847	Construction Operator-GC Gas	3
06/30/2018	Mission	Hayward	25060 O'Neil Ave	Hayward O'Neil GC Yard and Electric	50010247	Lineman - GC	3
06/30/2018	Mission	Hayward	25060 O'Neil Ave	Hayward O'Neil GC Yard and Electric	50253878	Miscellaneous Equipment Operator-Not Gas	1
06/30/2018	Mission	Hayward	25060 O'Neil Ave	Hayward O'Neil GC Yard and Electric	51664847	Construction Operator-GC Gas	4
06/30/2018	Mission	Livermore	3797 1st Street	Livermore Service Center	50010191	Electric Crew Foreman	4
06/30/2018	Mission	Livermore	3797 1st Street	Livermore Service Center	50010227	Compliance Inspector	2
06/30/2018	Mission	Livermore	3797 1st Street	Livermore Service Center	50010244	Lineman	8
06/30/2018	Mission	Livermore	3797 1st Street	Livermore Service Center	50010246	Unassigned Lineman	2
06/30/2018	Mission	Livermore	3797 1st Street	Livermore Service Center	50010247	Lineman - GC	1
06/30/2018	Mission	Livermore	3797 1st Street	Livermore Service Center	50010323	Transmission & Distribution Equip Opr	1
06/30/2018	Mission	Livermore	3797 1st Street	Livermore Service Center	50010373	Gas Service Representative	9
06/30/2018	Mission	Livermore	3797 1st Street	Livermore Service Center	50010432	Troubleman	5
06/30/2018	Mission	Livermore	3797 1st Street	Livermore Service Center	50315043	M&C Coordinator - Electric	2
06/30/2018	Mission	Livermore	3797 1st Street	Livermore Service Center	50368698	Pre-Apprentice Lineman	2
06/30/2018	Mission	Livermore	3797 1st Street	Livermore Service Center	51654546	Gas Compliance Representative	1
Mission Total							139
06/30/2018	Not assigned	Non-PG&E US Work Location	Non-PG&E US Work Location	Non-PG&E US Work Location	50010152	Electrician - GC	1
06/30/2018	Not assigned	Non-PG&E US Work Location	Non-PG&E US Work Location	Non-PG&E US Work Location	50010247	Lineman - GC	1
Non-PG&E Work Location							2
06/30/2018	North Bay	Napa	200 Anderson Road off Hwy 221	Tulucay Substation	50010152	Electrician - GC	1
06/30/2018	North Bay	Napa	200 Anderson Road off Hwy 221	Tulucay Substation	50010157	Apprentice Electrician - GC	7
06/30/2018	North Bay	Napa	200 Anderson Road off Hwy 221	Tulucay Substation	50010180	Subforeman A - Station/Hydro	5
06/30/2018	North Bay	Napa	200 Anderson Road off Hwy 221	Tulucay Substation	50010223	Utility Worker - GC	1

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06/30/2018	North Bay	Napa	200 Anderson Road off Hwy 221	Tulucay Substation	50251367	Working Foreman B - Non-Climbing	2
06/30/2018	North Bay	Napa	300 Burnell Street	Napa Service Center & Substation	50010188	Underground Constr Crew Frmn - Electric	1
06/30/2018	North Bay	Napa	300 Burnell Street	Napa Service Center & Substation	50010191	Electric Crew Foreman	5
06/30/2018	North Bay	Napa	300 Burnell Street	Napa Service Center & Substation	50010244	Lineman	7
06/30/2018	North Bay	Napa	300 Burnell Street	Napa Service Center & Substation	50010246	Unassigned Lineman	1
06/30/2018	North Bay	Napa	300 Burnell Street	Napa Service Center & Substation	50010373	Gas Service Representative	6
06/30/2018	North Bay	Napa	300 Burnell Street	Napa Service Center & Substation	50010432	Troubleman	5
06/30/2018	North Bay	Napa	300 Burnell Street	Napa Service Center & Substation	50315043	M&C Coordinator - Electric	2
06/30/2018	North Bay	Napa	300 Burnell Street	Napa Service Center & Substation	50368698	Pre-Apprentice Lineman	1
06/30/2018	North Bay	Napa	300 Burnell Street	Napa Service Center & Substation	51574842	Distribution Line Technician	1
06/30/2018	North Bay	Napa	300 Burnell Street	Napa Service Center & Substation	51654546	Gas Compliance Representative	6
06/30/2018	North Bay	San Rafael	1220 Andersen Drive	San Rafael Service Center	50010179	Subforeman A - Overhead	1
06/30/2018	North Bay	San Rafael	1220 Andersen Drive	San Rafael Service Center	50010191	Electric Crew Foreman	4
06/30/2018	North Bay	San Rafael	1220 Andersen Drive	San Rafael Service Center	50010217	Utility Worker - Gas Transm & Dsbn	2
06/30/2018	North Bay	San Rafael	1220 Andersen Drive	San Rafael Service Center	50010223	Utility Worker - GC	1
06/30/2018	North Bay	San Rafael	1220 Andersen Drive	San Rafael Service Center	50010227	Compliance Inspector	6
06/30/2018	North Bay	San Rafael	1220 Andersen Drive	San Rafael Service Center	50010244	Lineman	13
06/30/2018	North Bay	San Rafael	1220 Andersen Drive	San Rafael Service Center	50010373	Gas Service Representative	14
06/30/2018	North Bay	San Rafael	1220 Andersen Drive	San Rafael Service Center	50010375	Cable Splicer	1
06/30/2018	North Bay	San Rafael	1220 Andersen Drive	San Rafael Service Center	50010432	Troubleman	6
06/30/2018	North Bay	San Rafael	1220 Andersen Drive	San Rafael Service Center	50253878	Miscellaneous Equipment Operator-Not Gas	1
06/30/2018	North Bay	San Rafael	1220 Andersen Drive	San Rafael Service Center	50315043	M&C Coordinator - Electric	2
06/30/2018	North Bay	San Rafael	1220 Andersen Drive	San Rafael Service Center	51654546	Gas Compliance Representative	5
06/30/2018	North Bay	San Rafael	1220 Andersen Drive	San Rafael Service Center	51664847	Construction Operator-GC Gas	5
06/30/2018	North Bay	Vallejo	303 Carlson Street	Vallejo Service Center	50010178	Subforeman A - Underground	1
06/30/2018	North Bay	Vallejo	303 Carlson Street	Vallejo Service Center	50010179	Subforeman A - Overhead	1
06/30/2018	North Bay	Vallejo	303 Carlson Street	Vallejo Service Center	50010223	Utility Worker - GC	3
06/30/2018	North Bay	Vallejo	303 Carlson Street	Vallejo Service Center	50010247	Lineman - GC	9
06/30/2018	North Bay	Vallejo	303 Carlson Street	Vallejo Service Center	50010373	Gas Service Representative	7
06/30/2018	North Bay	Vallejo	303 Carlson Street	Vallejo Service Center	50010377	Cable Splicer - GC	2
06/30/2018	North Bay	Vallejo	303 Carlson Street	Vallejo Service Center	50010432	Troubleman	3
06/30/2018	North Bay	Vallejo	303 Carlson Street	Vallejo Service Center	50253877	Crane Operator - GC Field-Not Gas	1
06/30/2018	North Bay	Vallejo	303 Carlson Street	Vallejo Service Center	50368700	Pre-Apprentice Lineman - GC	1
06/30/2018	North Bay	Vallejo	303 Carlson Street	Vallejo Service Center	51664847	Construction Operator-GC Gas	1
North Bay Total							141
06/30/2018	North Valley	Belden	Caribou Road, 7 Mi N/O Hwy 70	UNF Feather River (FERC 2105), Caribou PH #1,2	50010334	Roving Operator	2

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06/30/2018	North Valley	Burney	20806 Black Ranch Road	Burney Service Center	50010191	Electric Crew Foreman	1
06/30/2018	North Valley	Burney	20806 Black Ranch Road	Burney Service Center	50010196	Lead Electrical Technician	1
06/30/2018	North Valley	Burney	20806 Black Ranch Road	Burney Service Center	50010244	Lineman	2
06/30/2018	North Valley	Burney	20806 Black Ranch Road	Burney Service Center	50010334	Roving Operator	1
06/30/2018	North Valley	Burney	20806 Black Ranch Road	Burney Service Center	50010373	Gas Service Representative	1
06/30/2018	North Valley	Burney	20806 Black Ranch Road	Burney Service Center	50010405	Electrical Technician	3
06/30/2018	North Valley	Burney	20806 Black Ranch Road	Burney Service Center	50010432	Troubleman	2
06/30/2018	North Valley	Burney	20806 Black Ranch Road	Burney Service Center	50315043	M&C Coordinator - Electric	1
						Electric Maintenance Crew Leader	
06/30/2018	North Valley	Burney	20818 Black Ranch Road	Burney Service Center	50010194		1
06/30/2018	North Valley	Burney	20818 Black Ranch Road	Burney Service Center	50010334	Roving Operator	4
06/30/2018	North Valley	Canyon Dam	33733 Highway 89	Canyon Dam Service Center (aka Almanor S/C)	50010432	Troubleman	1
06/30/2018	North Valley	Canyon Dam	Hwy 89 & Lake Almanor Road East	Canyon Dam Service Center (aka Almanor S/C)	50010191	Electric Crew Foreman	1
06/30/2018	North Valley	Canyon Dam	Hwy 89 & Lake Almanor Road East	Canyon Dam Service Center (aka Almanor S/C)	50010244	Lineman	2
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50010179	Subforeman A - Overhead	4
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50010191	Electric Crew Foreman	2
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50010217	Utility Worker - Gas Transm & Dsbn	1
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50010223	Utility Worker - GC	2
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50010227	Compliance Inspector	3
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50010244	Lineman	2
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50010246	Unassigned Lineman	4
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50010247	Lineman - GC	11
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50010323	Transmission & Distribution Equip Opr	1
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50010373	Gas Service Representative	8
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50010432	Troubleman	7
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50251365	Working Foreman A - Non-Climbing	1
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50253773	Technical Crew Leader A-Not Gas	1
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50253878	Miscellaneous Equipment Operator-Not Gas	2

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06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50315043	M&C Coordinator - Electric	1
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	50368700	Pre-Apprentice Lineman - GC	3
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	51654546	Gas Compliance Representative	4
06/30/2018	North Valley	Chico	11239 Midway Street	Chico Service Center & Butte Substation	51664847	Construction Operator-GC Gas	10
06/30/2018	North Valley	Cottonwood	21212 Trefoil Lane	Cottonwood Substation, Electric R/W, Gas Reg Lot	50010152	Electrician - GC	10
06/30/2018	North Valley	Cottonwood	21212 Trefoil Lane	Cottonwood Substation, Electric R/W, Gas Reg Lot	50010156	Unassigned Electrician - Elec & Hydro	3
06/30/2018	North Valley	Cottonwood	21212 Trefoil Lane	Cottonwood Substation, Electric R/W, Gas Reg Lot	50010157	Apprentice Electrician - GC	8
06/30/2018	North Valley	Cottonwood	21212 Trefoil Lane	Cottonwood Substation, Electric R/W, Gas Reg Lot	50010180	Subforeman A - Station/Hydro	3
06/30/2018	North Valley	Cottonwood	21212 Trefoil Lane	Cottonwood Substation, Electric R/W, Gas Reg Lot	50010194	Electric Maintenance Crew Leader	1
06/30/2018	North Valley	Cottonwood	21212 Trefoil Lane	Cottonwood Substation, Electric R/W, Gas Reg Lot	50010405	Electrical Technician	1
06/30/2018	North Valley	Cottonwood	21212 Trefoil Lane	Cottonwood Substation, Electric R/W, Gas Reg Lot	50010406	Apprentice Electrical Technician	2
06/30/2018	North Valley	Cottonwood	21212 Trefoil Lane	Cottonwood Substation, Electric R/W, Gas Reg Lot	50070742	Electrician - Switching	2
06/30/2018	North Valley	Cottonwood	21212 Trefoil Lane	Cottonwood Substation, Electric R/W, Gas Reg Lot	50251365	Working Foreman A - Non-Climbing	1
06/30/2018	North Valley	Cottonwood	21212 Trefoil Lane	Cottonwood Substation, Electric R/W, Gas Reg Lot	50251367	Working Foreman B - Non-Climbing	1
06/30/2018	North Valley	Magalia	End of Desabla Powerhouse Road, Off Humb	DeSabla PH Camp 1/ Oro Fino Substation	50010334	Roving Operator	1
06/30/2018	North Valley	Magalia	Skyway & Humbug Rd.	DeSabla PH Camp 1/ Oro Fino Substation	50010334	Roving Operator	1
06/30/2018	North Valley	Manton	Manton-Viola Road, Manton	Manton Hydro Headquarters, Battle Creek, Digger Cr	50010334	Roving Operator	1
06/30/2018	North Valley	Manton	Manton-Viola Road, Manton	Manton Hydro Headquarters, Battle Creek, Digger Cr	50010335	Unassigned Roving Operator	1
06/30/2018	North Valley	Oroville	2226 Veatch Street	Oroville Service Center	50010191	Electric Crew Foreman	3
06/30/2018	North Valley	Oroville	2226 Veatch Street	Oroville Service Center	50010227	Compliance Inspector	2
06/30/2018	North Valley	Oroville	2226 Veatch Street	Oroville Service Center	50010244	Lineman	2
06/30/2018	North Valley	Oroville	2226 Veatch Street	Oroville Service Center	50010246	Unassigned Lineman	1
06/30/2018	North Valley	Oroville	2226 Veatch Street	Oroville Service Center	50010373	Gas Service Representative	2
06/30/2018	North Valley	Oroville	2226 Veatch Street	Oroville Service Center	50010432	Troubleman	4
06/30/2018	North Valley	Oroville	2226 Veatch Street	Oroville Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	North Valley	Oroville	2226 Veatch Street	Oroville Service Center	50368698	Pre-Apprentice Lineman	1
06/30/2018	North Valley	Oroville	945 Cottonwood Road	Table Mountain Substation & Electric R/W	50010152	Electrician - GC	1

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06/30/2018	North Valley	Oroville	945 Cottonwood Road	Table Mountain Substation & Electric R/W	50010156	Unassigned Electrician - Elec & Hydro	1
06/30/2018	North Valley	Oroville	945 Cottonwood Road	Table Mountain Substation & Electric R/W	50010194	Electric Maintenance Crew Leader	1
06/30/2018	North Valley	Oroville	945 Cottonwood Road	Table Mountain Substation & Electric R/W	50010196	Lead Electrical Technician	1
06/30/2018	North Valley	Oroville	945 Cottonwood Road	Table Mountain Substation & Electric R/W	50010405	Electrical Technician	1
06/30/2018	North Valley	Oroville	945 Cottonwood Road	Table Mountain Substation & Electric R/W	50010406	Apprentice Electrical Technician	2
06/30/2018	North Valley	Oroville	945 Cottonwood Road	Table Mountain Substation & Electric R/W	50010431	Transmission Troubleshooter	3
06/30/2018	North Valley	Oroville	945 Cottonwood Road	Table Mountain Substation & Electric R/W	50070742	Electrician - Switching	3
06/30/2018	North Valley	Oroville	945 Cottonwood Road	Table Mountain Substation & Electric R/W	50251367	Working Foreman B - Non-Climbing	1
06/30/2018	North Valley	Paradise	780 Elliot Road	Paradise Service Center	50010152	Electrician - GC	3
06/30/2018	North Valley	Paradise	780 Elliot Road	Paradise Service Center	50010157	Apprentice Electrician - GC	6
06/30/2018	North Valley	Paradise	780 Elliot Road	Paradise Service Center	50010180	Subforeman A - Station/Hydro	3
06/30/2018	North Valley	Paradise	780 Elliot Road	Paradise Service Center	50010395	Electrical Technician - GC	1
06/30/2018	North Valley	Paradise	780 Elliot Road	Paradise Service Center	50251367	Working Foreman B - Non-Climbing	6
06/30/2018	North Valley	Paradise	780 Elliot Road	Paradise Service Center	50253772	Fieldperson - GC-Not Gas	1
06/30/2018	North Valley	Paradise	780 Elliot Road	Paradise Service Center	50253876	Backhoe Operator-Not Gas	2
06/30/2018	North Valley	Paradise	780 Elliot Road	Paradise Service Center	50253878	Miscellaneous Equipment Operator-Not Gas	2
06/30/2018	North Valley	Quincy	205 Railway	Quincy Service Center	50010432	Troubleshooter	1
06/30/2018	North Valley	Red Bluff	515 Luther Road	Red Bluff Service Center & Customer Service Ofc	50010179	Subforeman A - Overhead	1
06/30/2018	North Valley	Red Bluff	515 Luther Road	Red Bluff Service Center & Customer Service Ofc	50010191	Electric Crew Foreman	3
06/30/2018	North Valley	Red Bluff	515 Luther Road	Red Bluff Service Center & Customer Service Ofc	50010227	Compliance Inspector	3
06/30/2018	North Valley	Red Bluff	515 Luther Road	Red Bluff Service Center & Customer Service Ofc	50010244	Lineman	2
06/30/2018	North Valley	Red Bluff	515 Luther Road	Red Bluff Service Center & Customer Service Ofc	50010246	Unassigned Lineman	1
06/30/2018	North Valley	Red Bluff	515 Luther Road	Red Bluff Service Center & Customer Service Ofc	50010247	Lineman - GC	1
06/30/2018	North Valley	Red Bluff	515 Luther Road	Red Bluff Service Center & Customer Service Ofc	50010373	Gas Service Representative	2
06/30/2018	North Valley	Red Bluff	515 Luther Road	Red Bluff Service Center & Customer Service Ofc	50010432	Troubleshooter	4
06/30/2018	North Valley	Red Bluff	515 Luther Road	Red Bluff Service Center & Customer Service Ofc	50253878	Miscellaneous Equipment Operator-Not Gas	2

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06/30/2018	North Valley	Red Bluff	515 Luther Road	Red Bluff Service Center & Customer Service Ofc	50315043	M&C Coordinator - Electric	1
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50010152	Electrician - GC	2
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50010157	Apprentice Electrician - GC	9
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50010179	Subforeman A - Overhead	2
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50010180	Subforeman A - Station/Hydro	3
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50010191	Electric Crew Foreman	2
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50010217	Utility Worker - Gas Transm & Dsbn	1
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50010227	Compliance Inspector	1
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50010244	Lineman	2
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50010246	Unassigned Lineman	3
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50010247	Lineman - GC	4
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50010373	Gas Service Representative	5
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50010395	Electrical Technician - GC	1
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50010432	Troubleman	5
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50251367	Working Foreman B - Non-Climbing	1
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50253877	Crane Operator - GC Field-Not Gas	1
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50253878	Miscellaneous Equipment Operator-Not Gas	3
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	50368700	Pre-Apprentice Lineman - GC	1
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	51574842	Distribution Line Technician	1
06/30/2018	North Valley	Redding	3600 Meadowview Ave	Redding Service Center (formerly Cascade)	51654546	Gas Compliance Representative	3
06/30/2018	North Valley	Storrie	9560 Highway 70	Rodgers Flat Service Center	50010194	Electric Maintenance Crew Leader	2
06/30/2018	North Valley	Storrie	9560 Highway 70	Rodgers Flat Service Center	50010196	Lead Electrical Technician	1
06/30/2018	North Valley	Storrie	9560 Highway 70	Rodgers Flat Service Center	50010405	Electrical Technician	2
06/30/2018	North Valley	Storrie	9560 Highway 70	Rodgers Flat Service Center	50010406	Apprentice Electrical Technician	1

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06/30/2018	North Valley	Storrie	Hwy 70 @ Rock Creek	Rock Creek-Cresta (FERC 1962), Rock Cr PH & Substation	50010334	Roving Operator	2
06/30/2018	North Valley	Twain	Caribou Road, 7 Mi N/O Hwy 70	UNF Feather River (FERC 2105), Caribou PH #1,2	50010334	Roving Operator	1
06/30/2018	North Valley	Willows	310 E Wood Street	Willows Service Center	50010191	Electric Crew Foreman	2
06/30/2018	North Valley	Willows	310 E Wood Street	Willows Service Center	50010227	Compliance Inspector	1
06/30/2018	North Valley	Willows	310 E Wood Street	Willows Service Center	50010244	Lineman	1
06/30/2018	North Valley	Willows	310 E Wood Street	Willows Service Center	50010432	Troubleman	2
06/30/2018	North Valley	Willows	310 E Wood Street	Willows Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	North Valley	Willows	310 E Wood Street	Willows Service Center	51574842	Distribution Line Technician	1
North Valley Total							268
06/30/2018	Peninsula	Brisbane	2850 Bayshore Blvd	Martin Service Center	51664847	Construction Operator-GC Gas	4
06/30/2018	Peninsula	Daly City	3150 Martin Ave	Martin Service Center	50010152	Electrician - GC	2
06/30/2018	Peninsula	Daly City	3150 Martin Ave	Martin Service Center	50010157	Apprentice Electrician - GC	7
06/30/2018	Peninsula	Daly City	3150 Martin Ave	Martin Service Center	50010180	Subforeman A - Station/Hydro	3
06/30/2018	Peninsula	Daly City	3150 Martin Ave	Martin Service Center	50010223	Utility Worker - GC	1
06/30/2018	Peninsula	Daly City	3150 Martin Ave	Martin Service Center	50251367	Working Foreman B - Non-Climbing	1
06/30/2018	Peninsula	Daly City	450 Eastmoor Ave	Colma Service Center & Sullivan Sub	50010191	Electric Crew Foreman	3
06/30/2018	Peninsula	Daly City	450 Eastmoor Ave	Colma Service Center & Sullivan Sub	50010244	Lineman	3
06/30/2018	Peninsula	Daly City	450 Eastmoor Ave	Colma Service Center & Sullivan Sub	50010246	Unassigned Lineman	3
06/30/2018	Peninsula	Daly City	450 Eastmoor Ave	Colma Service Center & Sullivan Sub	50010323	Transmission & Distribution Equip Opr	1
06/30/2018	Peninsula	Daly City	450 Eastmoor Ave	Colma Service Center & Sullivan Sub	50010373	Gas Service Representative	13
06/30/2018	Peninsula	Daly City	450 Eastmoor Ave	Colma Service Center & Sullivan Sub	50010432	Troubleman	6
06/30/2018	Peninsula	Daly City	450 Eastmoor Ave	Colma Service Center & Sullivan Sub	50315043	M&C Coordinator - Electric	1
06/30/2018	Peninsula	Daly City	450 Eastmoor Ave	Colma Service Center & Sullivan Sub	50368698	Pre-Apprentice Lineman	1
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50010155	Apprentice Electrician-Electric & Hydro	1
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50010178	Subforeman A - Underground	5
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50010194	Electric Maintenance Crew Leader	2
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50010196	Lead Electrical Technician	1
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50010199	Cable Crew Foreman	1
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50010206	PIO Working Foreman C - Gas	2
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50010223	Utility Worker - GC	4
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50010247	Lineman - GC	1
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50010377	Cable Splicer - GC	7
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50010379	PIO Apprentice Cable Splicer GC	1
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50010381	Transmission Cableman	7
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50010405	Electrical Technician	6
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50070742	Electrician - Switching	3
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50251367	Working Foreman B - Non-Climbing	1

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06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	50253877	Crane Operator - GC Field-Not Gas	4
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	51574842	Distribution Line Technician	2
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	51664847	Construction Operator-GC Gas	2
06/30/2018	Peninsula	Daly City	731 Schwerin Street	Martin Service Center	51754496	Appr Cable Splicer-GC Hired after 1-1-15	6
06/30/2018	Peninsula	Half Moon Bay	175 Main Street	Half Moon Bay Substation and CM&O Yard	50010432	Troubleman	1
06/30/2018	Peninsula	San Carlos	1970 Industrial Way	Belmont / San Carlos Service Center & Office	50010431	Transmission Troubleman	1
06/30/2018	Peninsula	San Carlos	1970 Industrial Way	Belmont / San Carlos Service Center & Office	51664847	Construction Operator-GC Gas	1
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50010156	Unassigned Electrician - Elec & Hydro	1
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50010191	Electric Crew Foreman	4
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50010194	Electric Maintenance Crew Leader	1
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50010217	Utility Worker - Gas Transm & Dsbn	4
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50010223	Utility Worker - GC	7
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50010227	Compliance Inspector	4
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50010244	Lineman	9
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50010323	Transmission & Distribution Equip Opr	1
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50010373	Gas Service Representative	18
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50010405	Electrical Technician	1
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50010406	Apprentice Electrical Technician	1
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50010431	Transmission Troubleman	1
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50010432	Troubleman	10
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50070742	Electrician - Switching	5
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50315043	M&C Coordinator - Electric	2
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	50368698	Pre-Apprentice Lineman	2

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File Date	Work Division	Work City	Work Address	Site Name	Job ID	Job Title	Number of Employees
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	51574842	Distribution Line Technician	2
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	51654546	Gas Compliance Representative	13
06/30/2018	Peninsula	San Carlos	275 Industrial Road	Belmont / San Carlos Service Center & Office	51664847	Construction Operator-GC Gas	7
06/30/2018	Peninsula	San Mateo	1600 E Poplar	San Mateo Substation	50010152	Electrician - GC	7
06/30/2018	Peninsula	San Mateo	1600 E Poplar	San Mateo Substation	50010157	Apprentice Electrician - GC	3
06/30/2018	Peninsula	San Mateo	1600 E Poplar	San Mateo Substation	50010180	Subforeman A - Station/Hydro	3
06/30/2018	Peninsula	San Mateo	1600 E Poplar	San Mateo Substation	50010223	Utility Worker - GC	5
06/30/2018	Peninsula	San Mateo	1600 E Poplar	San Mateo Substation	50251367	Working Foreman B - Non-Climbing	1
Peninsula Total							220
06/30/2018	Sacramento	Davis	202 Cousteau Place	Davis Business Office	50010227	Compliance Inspector	6
06/30/2018	Sacramento	Davis	316 L Street	Davis Service Center	50010173	PIO Labor Foreman A	1
06/30/2018	Sacramento	Davis	316 L Street	Davis Service Center	50010179	Subforeman A - Overhead	3
06/30/2018	Sacramento	Davis	316 L Street	Davis Service Center	50010180	Subforeman A - Station/Hydro	4
06/30/2018	Sacramento	Davis	316 L Street	Davis Service Center	50010181	Subforeman B	1
06/30/2018	Sacramento	Davis	316 L Street	Davis Service Center	50010247	Lineman - GC	8
06/30/2018	Sacramento	Davis	316 L Street	Davis Service Center	50251367	Working Foreman B - Non-Climbing	1
06/30/2018	Sacramento	Davis	316 L Street	Davis Service Center	50253773	Technical Crew Leader A-Not Gas	3
06/30/2018	Sacramento	Davis	316 L Street	Davis Service Center	50253775	Working Foreman C-Not Gas	4
06/30/2018	Sacramento	Davis	316 L Street	Davis Service Center	50253877	Crane Operator - GC Field-Not Gas	1
06/30/2018	Sacramento	Davis	316 L Street	Davis Service Center	50253878	Miscellaneous Equipment Operator-Not Gas	5
06/30/2018	Sacramento	Davis	316 L Street	Davis Service Center	50368700	Pre-Apprentice Lineman - GC	1
06/30/2018	Sacramento	Davis	316 L Street	Davis Service Center	51574842	Distribution Line Technician	2
06/30/2018	Sacramento	Sacramento	1851 Bell Ave	Sacramento Gas Operations	50010223	Utility Worker - GC	1
06/30/2018	Sacramento	Sacramento	1851 Bell Ave	Sacramento Gas Operations	51664847	Construction Operator-GC Gas	15
06/30/2018	Sacramento	Sacramento	5555 Florin-Perkins Road	Sacramento Service Center	50010217	Utility Worker - Gas Transm & Dsbn	8
06/30/2018	Sacramento	Sacramento	5555 Florin-Perkins Road	Sacramento Service Center	50010223	Utility Worker - GC	12
06/30/2018	Sacramento	Sacramento	5555 Florin-Perkins Road	Sacramento Service Center	50010373	Gas Service Representative	47
06/30/2018	Sacramento	Sacramento	5555 Florin-Perkins Road	Sacramento Service Center	50010431	Transmission Troubleshooter	3
06/30/2018	Sacramento	Sacramento	5555 Florin-Perkins Road	Sacramento Service Center	51654546	Gas Compliance Representative	18
06/30/2018	Sacramento	Sacramento	5555 Florin-Perkins Road	Sacramento Service Center	51664847	Construction Operator-GC Gas	2
06/30/2018	Sacramento	Sacramento	8180 Folsom Blvd	Brighton Substation & GC Yard	50010180	Subforeman A - Station/Hydro	2
06/30/2018	Sacramento	Sacramento	8180 Folsom Blvd	Brighton Substation & GC Yard	50251367	Working Foreman B - Non-Climbing	12
06/30/2018	Sacramento	Sacramento	8651 Morrison Creek Drive	Sacramento Morrison Creek Gas GC	50010223	Utility Worker - GC	5

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06/30/2018	Sacramento	Sacramento	8651 Morrison Creek Drive	Sacramento Morrison Creek Gas GC	51664847	Construction Operator-GC Gas	5
06/30/2018	Sacramento	Vacaville	158 Peabody Road	Vacaville Service Center	50010188	Underground Constr Crew Frmn - Electric	1
06/30/2018	Sacramento	Vacaville	158 Peabody Road	Vacaville Service Center	50010191	Electric Crew Foreman	2
06/30/2018	Sacramento	Vacaville	158 Peabody Road	Vacaville Service Center	50010217	Utility Worker - Gas Transm & Dsbn	2
06/30/2018	Sacramento	Vacaville	158 Peabody Road	Vacaville Service Center	50010244	Lineman	4
06/30/2018	Sacramento	Vacaville	158 Peabody Road	Vacaville Service Center	50010246	Unassigned Lineman	2
06/30/2018	Sacramento	Vacaville	158 Peabody Road	Vacaville Service Center	50010247	Lineman - GC	1
06/30/2018	Sacramento	Vacaville	158 Peabody Road	Vacaville Service Center	50010373	Gas Service Representative	11
06/30/2018	Sacramento	Vacaville	158 Peabody Road	Vacaville Service Center	50010432	Troubleman	5
06/30/2018	Sacramento	Vacaville	158 Peabody Road	Vacaville Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Sacramento	Vacaville	158 Peabody Road	Vacaville Service Center	50368698	Pre-Apprentice Lineman	1
06/30/2018	Sacramento	Vacaville	158 Peabody Road	Vacaville Service Center	51654546	Gas Compliance Representative	6
06/30/2018	Sacramento	Vacaville	4940 Allison Parkway	Vacaville Critical Operations Campus	50010339	System Operator	35
06/30/2018	Sacramento	Vacaville	4940B Allison Parkway	Vacaville Critical Operations Campus	50010339	System Operator	1
06/30/2018	Sacramento	Vacaville	5221 Quinn Road	Vaca-Dixon Substation & GC Yard	50010152	Electrician - GC	10
06/30/2018	Sacramento	Vacaville	5221 Quinn Road	Vaca-Dixon Substation & GC Yard	50010157	Apprentice Electrician - GC	9
06/30/2018	Sacramento	Vacaville	5221 Quinn Road	Vaca-Dixon Substation & GC Yard	50010180	Subforeman A - Station/Hydro	3
06/30/2018	Sacramento	Vacaville	5221 Quinn Road	Vaca-Dixon Substation & GC Yard	50010194	Electric Maintenance Crew Leader	1
06/30/2018	Sacramento	Vacaville	5221 Quinn Road	Vaca-Dixon Substation & GC Yard	50010405	Electrical Technician	2
06/30/2018	Sacramento	Vacaville	5221 Quinn Road	Vaca-Dixon Substation & GC Yard	50251367	Working Foreman B - Non-Climbing	3
06/30/2018	Sacramento	Vacaville	5221 Quinn Road	Vaca-Dixon Substation & GC Yard	51664847	Construction Operator-GC Gas	6
06/30/2018	Sacramento	Vacaville	5221 Quinn Road	Vaca-Dixon Substation & GC Yard	51758207	Lead Electrical Technician-GC	2
06/30/2018	Sacramento	Woodland	50 Kentucky Ave	Woodland Service Center	50010191	Electric Crew Foreman	3
06/30/2018	Sacramento	Woodland	50 Kentucky Ave	Woodland Service Center	50010244	Lineman	6
06/30/2018	Sacramento	Woodland	50 Kentucky Ave	Woodland Service Center	50010246	Unassigned Lineman	3
06/30/2018	Sacramento	Woodland	50 Kentucky Ave	Woodland Service Center	50010373	Gas Service Representative	7
06/30/2018	Sacramento	Woodland	50 Kentucky Ave	Woodland Service Center	50010432	Troubleman	7
06/30/2018	Sacramento	Woodland	50 Kentucky Ave	Woodland Service Center	50315043	M&C Coordinator - Electric	1
Sacramento Total							305
06/30/2018	San Francisco	San Francisco	1201 Illinois Street	Potrero Power Plant	50010223	Utility Worker - GC	11
06/30/2018	San Francisco	San Francisco	1201 Illinois Street	Potrero Power Plant	51664847	Construction Operator-GC Gas	6
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010091	Cableman	5
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010184	Night Cable Crew Foreman	2
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010191	Electric Crew Foreman	5
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010199	Cable Crew Foreman	5
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010202	Working Foreman	3
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010217	Utility Worker - Gas Transm & Dsbn	5

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06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010226	PIO Inspector	1
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010243	Night Electric Transm & Dsbn Assistant	8
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010244	Lineman	6
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010246	Unassigned Lineman	3
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010323	Transmission & Distribution Equip Opr	1
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010375	Cable Splicer	8
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010376	PIO Apprentice Cable Splicer	1
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010378	Night Cable Splicer	5
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50010432	Troubleman	8
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50315043	M&C Coordinator - Electric	3
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	50368698	Pre-Apprentice Lineman	1
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	51654546	Gas Compliance Representative	7
06/30/2018	San Francisco	San Francisco	2180 Harrison Street	San Francisco Division Service Center	51754495	Appr Cable Splicer Hired after 1-1-15	9
06/30/2018	San Francisco	San Francisco	2225 Folsom Street	San Francisco Division Service Center	50010217	Utility Worker - Gas Transm & Dsbn	2
06/30/2018	San Francisco	San Francisco	2225 Folsom Street	San Francisco Division Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	San Francisco	San Francisco	2270 Folsom Street	San Francisco Division Service Center	50010227	Compliance Inspector	2
06/30/2018	San Francisco	San Francisco	2270 Folsom Street	San Francisco Division Service Center	50010243	Night Electric Transm & Dsbn Assistant	1
06/30/2018	San Francisco	San Francisco	2270 Folsom Street	San Francisco Division Service Center	50010373	Gas Service Representative	28
06/30/2018	San Francisco	San Francisco	3235 18th Street	San Francisco Division Service Center	50010244	Lineman	3
San Francisco Total							140
06/30/2018	San Jose	Morgan Hill	360 Cochrane Circle	Morgan Hill, Gas Transmission Office	50010206	PIO Working Foreman C - Gas	1
06/30/2018	San Jose	San Jose	100 Metcalf Road	Metcalf Substation/GC Yard	50010152	Electrician - GC	5
06/30/2018	San Jose	San Jose	100 Metcalf Road	Metcalf Substation/GC Yard	50010157	Apprentice Electrician - GC	9
06/30/2018	San Jose	San Jose	100 Metcalf Road	Metcalf Substation/GC Yard	50010180	Subforeman A - Station/Hydro	4
06/30/2018	San Jose	San Jose	100 Metcalf Road	Metcalf Substation/GC Yard	50010223	Utility Worker - GC	1
06/30/2018	San Jose	San Jose	100 Metcalf Road	Metcalf Substation/GC Yard	50010405	Electrical Technician	3
06/30/2018	San Jose	San Jose	100 Metcalf Road	Metcalf Substation/GC Yard	50010406	Apprentice Electrical Technician	1
06/30/2018	San Jose	San Jose	100 Metcalf Road	Metcalf Substation/GC Yard	50010431	Transmission Troubleman	1
06/30/2018	San Jose	San Jose	100 Metcalf Road	Metcalf Substation/GC Yard	50251367	Working Foreman B - Non-Climbing	4
06/30/2018	San Jose	San Jose	100 Metcalf Road	Metcalf Substation/GC Yard	51664847	Construction Operator-GC Gas	4
06/30/2018	San Jose	San Jose	150 Metcalf Road	Metcalf Substation/GC Yard	50010223	Utility Worker - GC	2
06/30/2018	San Jose	San Jose	150 Metcalf Road	Metcalf Substation/GC Yard	50010405	Electrical Technician	1
06/30/2018	San Jose	San Jose	308 Stockton Ave	Cinnabar Service Center	50010191	Electric Crew Foreman	4
06/30/2018	San Jose	San Jose	308 Stockton Ave	Cinnabar Service Center	50010227	Compliance Inspector	6
06/30/2018	San Jose	San Jose	308 Stockton Ave	Cinnabar Service Center	50010244	Lineman	11
06/30/2018	San Jose	San Jose	308 Stockton Ave	Cinnabar Service Center	50010323	Transmission & Distribution Equip Opr	1

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06/30/2018	San Jose	San Jose	308 Stockton Ave	Cinnabar Service Center	50010373	Gas Service Representative	20
06/30/2018	San Jose	San Jose	308 Stockton Ave	Cinnabar Service Center	50315043	M&C Coordinator - Electric	2
06/30/2018	San Jose	San Jose	308 Stockton Ave	Cinnabar Service Center	50368698	Pre-Apprentice Lineman	2
06/30/2018	San Jose	San Jose	308 Stockton Ave	Cinnabar Service Center	51654546	Gas Compliance Representative	1
06/30/2018	San Jose	San Jose	6402 Santa Teresa Blvd	Edenvale Service Center	50010191	Electric Crew Foreman	3
06/30/2018	San Jose	San Jose	6402 Santa Teresa Blvd	Edenvale Service Center	50010217	Utility Worker - Gas Transm & Dsbn	3
06/30/2018	San Jose	San Jose	6402 Santa Teresa Blvd	Edenvale Service Center	50010244	Lineman	8
06/30/2018	San Jose	San Jose	6402 Santa Teresa Blvd	Edenvale Service Center	50010323	Transmission & Distribution Equip Opr	1
06/30/2018	San Jose	San Jose	6402 Santa Teresa Blvd	Edenvale Service Center	50010373	Gas Service Representative	11
06/30/2018	San Jose	San Jose	6402 Santa Teresa Blvd	Edenvale Service Center	50010432	Troubleman	15
06/30/2018	San Jose	San Jose	6402 Santa Teresa Blvd	Edenvale Service Center	50315043	M&C Coordinator - Electric	2
06/30/2018	San Jose	San Jose	6402 Santa Teresa Blvd	Edenvale Service Center	50368698	Pre-Apprentice Lineman	2
06/30/2018	San Jose	San Jose	6402 Santa Teresa Blvd	Edenvale Service Center	51574842	Distribution Line Technician	1
06/30/2018	San Jose	San Jose	6402 Santa Teresa Blvd	Edenvale Service Center	51654546	Gas Compliance Representative	14
06/30/2018	San Jose	San Jose	680 Dado Street	San Jose Materials Distribution Center - MF 170	50010179	Subforeman A - Overhead	3
06/30/2018	San Jose	San Jose	680 Dado Street	San Jose Materials Distribution Center - MF 170	50010223	Utility Worker - GC	7
06/30/2018	San Jose	San Jose	680 Dado Street	San Jose Materials Distribution Center - MF 170	50010247	Lineman - GC	6
06/30/2018	San Jose	San Jose	680 Dado Street	San Jose Materials Distribution Center - MF 170	50251367	Working Foreman B - Non-Climbing	1
06/30/2018	San Jose	San Jose	680 Dado Street	San Jose Materials Distribution Center - MF 170	50253878	Miscellaneous Equipment Operator-Not Gas	2
06/30/2018	San Jose	San Jose	680 Dado Street	San Jose Materials Distribution Center - MF 170	50368700	Pre-Apprentice Lineman - GC	3
06/30/2018	San Jose	San Jose	680 Dado Street	San Jose Materials Distribution Center - MF 170	51664847	Construction Operator-GC Gas	5
San Jose Total							170
06/30/2018	Sierra	Alta	33995 Alta Bonny Nook Road	Alta Service Center	50010334	Roving Operator	1
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	50010155	Apprentice Electrician-Electric & Hydro	1
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	50010191	Electric Crew Foreman	4
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	50010194	Electric Maintenance Crew Leader	2
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	50010196	Lead Electrical Technician	1
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	50010216	Utility Worker - Electric Maintenance	1
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	50010217	Utility Worker - Gas Transm & Dsbn	1
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	50010227	Compliance Inspector	6
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	50010244	Lineman	8

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File Date	Work Division	Work City	Work Address	Site Name	Job ID	Job Title	Number of Employees
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	50010246	Unassigned Lineman	3
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	50010405	Electrical Technician	2
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	50010432	Troubleman	9
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	50315043	M&C Coordinator - Electric	1
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	50368698	Pre-Apprentice Lineman	1
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	51574842	Distribution Line Technician	2
06/30/2018	Sierra	Auburn	12840 Bill Clark Way	Auburn Regional SC	51654546	Gas Compliance Representative	1
06/30/2018	Sierra	Auburn	1649 Canal Street	Rock Creek Yard (old ENCON)	50010152	Electrician - GC	3
06/30/2018	Sierra	Auburn	1649 Canal Street	Rock Creek Yard (old ENCON)	50010157	Apprentice Electrician - GC	2
06/30/2018	Sierra	Auburn	1649 Canal Street	Rock Creek Yard (old ENCON)	50010179	Subforeman A - Overhead	3
06/30/2018	Sierra	Auburn	1649 Canal Street	Rock Creek Yard (old ENCON)	50010180	Subforeman A - Station/Hydro	2
06/30/2018	Sierra	Auburn	1649 Canal Street	Rock Creek Yard (old ENCON)	50010223	Utility Worker - GC	1
06/30/2018	Sierra	Auburn	1649 Canal Street	Rock Creek Yard (old ENCON)	50010247	Lineman - GC	5
06/30/2018	Sierra	Auburn	1649 Canal Street	Rock Creek Yard (old ENCON)	50251367	Working Foreman B - Non-Climbing	2
06/30/2018	Sierra	Auburn	1649 Canal Street	Rock Creek Yard (old ENCON)	50253876	Backhoe Operator-Not Gas	1
06/30/2018	Sierra	Auburn	1649 Canal Street	Rock Creek Yard (old ENCON)	50253878	Miscellaneous Equipment Operator-Not Gas	1
06/30/2018	Sierra	Auburn	343 Sacramento Street	Auburn Service Center	50010334	Roving Operator	3
06/30/2018	Sierra	Auburn	343 Sacramento Street	Auburn Service Center	51654546	Gas Compliance Representative	2
06/30/2018	Sierra	Grass Valley	788 Taylorville Road	Grass Valley Service Center	50010191	Electric Crew Foreman	3
06/30/2018	Sierra	Grass Valley	788 Taylorville Road	Grass Valley Service Center	50010227	Compliance Inspector	1
06/30/2018	Sierra	Grass Valley	788 Taylorville Road	Grass Valley Service Center	50010244	Lineman	5
06/30/2018	Sierra	Grass Valley	788 Taylorville Road	Grass Valley Service Center	50010246	Unassigned Lineman	1
06/30/2018	Sierra	Grass Valley	788 Taylorville Road	Grass Valley Service Center	50010373	Gas Service Representative	2
06/30/2018	Sierra	Grass Valley	788 Taylorville Road	Grass Valley Service Center	50010432	Troubleman	3
06/30/2018	Sierra	Grass Valley	788 Taylorville Road	Grass Valley Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Sierra	Grass Valley	788 Taylorville Road	Grass Valley Service Center	50368698	Pre-Apprentice Lineman	1
06/30/2018	Sierra	Loomis	3930 Sierra College Blvd	Del Mar Sub Maintenance	50010155	Apprentice Electrician-Electric & Hydro	1
06/30/2018	Sierra	Loomis	3930 Sierra College Blvd	Del Mar Sub Maintenance	50010194	Electric Maintenance Crew Leader	1
06/30/2018	Sierra	Loomis	3930 Sierra College Blvd	Del Mar Sub Maintenance	50010196	Lead Electrical Technician	1
06/30/2018	Sierra	Loomis	3930 Sierra College Blvd	Del Mar Sub Maintenance	50010405	Electrical Technician	2
06/30/2018	Sierra	Loomis	3930 Sierra College Blvd	Del Mar Sub Maintenance	50070742	Electrician - Switching	1
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50010173	PIO Labor Foreman A	1
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50010179	Subforeman A - Overhead	3
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50010188	Underground Constr Crew Frmn - Electric	1
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50010191	Electric Crew Foreman	3
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50010227	Compliance Inspector	2
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50010234	Underground Constr Journeyman - Elec	1
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50010244	Lineman	6

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06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50010246	Unassigned Lineman	3
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50010247	Lineman - GC	10
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50010323	Transmission & Distribution Equip Opr	1
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50010373	Gas Service Representative	11
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50010432	Troubleman	8
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50253878	Miscellaneous Equipment Operator-Not Gas	3
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	50368700	Pre-Apprentice Lineman - GC	1
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Service Center	51654546	Gas Compliance Representative	2
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Substation	50010244	Lineman	1
06/30/2018	Sierra	Marysville	29 4th Street	Marysville Substation	50010432	Troubleman	3
06/30/2018	Sierra	Placerville	4636 Missouri Flat Road	Placerville Service Center (aka El Dorado S/C)	50010179	Subforeman A - Overhead	1
06/30/2018	Sierra	Placerville	4636 Missouri Flat Road	Placerville Service Center (aka El Dorado S/C)	50010191	Electric Crew Foreman	4
06/30/2018	Sierra	Placerville	4636 Missouri Flat Road	Placerville Service Center (aka El Dorado S/C)	50010227	Compliance Inspector	2
06/30/2018	Sierra	Placerville	4636 Missouri Flat Road	Placerville Service Center (aka El Dorado S/C)	50010244	Lineman	2
06/30/2018	Sierra	Placerville	4636 Missouri Flat Road	Placerville Service Center (aka El Dorado S/C)	50010246	Unassigned Lineman	5
06/30/2018	Sierra	Placerville	4636 Missouri Flat Road	Placerville Service Center (aka El Dorado S/C)	50010247	Lineman - GC	3
06/30/2018	Sierra	Placerville	4636 Missouri Flat Road	Placerville Service Center (aka El Dorado S/C)	50010432	Troubleman	6
06/30/2018	Sierra	Placerville	4636 Missouri Flat Road	Placerville Service Center (aka El Dorado S/C)	50315043	M&C Coordinator - Electric	1
06/30/2018	Sierra	Placerville	4636 Missouri Flat Road	Placerville Service Center (aka El Dorado S/C)	50368698	Pre-Apprentice Lineman	1
06/30/2018	Sierra	Placerville	4636 Missouri Flat Road	Placerville Service Center (aka El Dorado S/C)	51654546	Gas Compliance Representative	1
06/30/2018	Sierra	Rocklin	3655 Cincinnati Ave	Rocklin-North Electric Distribution CC	50010339	System Operator	23
06/30/2018	Sierra	Rocklin	4180 Duluth Ave	Rocklin CNG/LNG Operations	50010223	Utility Worker - GC	3
06/30/2018	Sierra	Rocklin	4180 Duluth Ave	Rocklin CNG/LNG Operations	51664847	Construction Operator-GC Gas	9
06/30/2018	Sierra	Rocklin	6030 West Oaks Blvd	Rocklin Regional Office	50010179	Subforeman A - Overhead	2
06/30/2018	Sierra	Rocklin	6030 West Oaks Blvd	Rocklin Regional Office	50010223	Utility Worker - GC	2
06/30/2018	Sierra	Rocklin	6030 West Oaks Blvd	Rocklin Regional Office	50010247	Lineman - GC	4
06/30/2018	Sierra	Rocklin	6030 West Oaks Blvd	Rocklin Regional Office	50253877	Crane Operator - GC Field-Not Gas	3
06/30/2018	Sierra	Rocklin	6030 West Oaks Blvd	Rocklin Regional Office	51664847	Construction Operator-GC Gas	12

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06/30/2018	Sierra	Roseville	126 E Street	Roseville Service Center	50010217	Utility Worker - Gas Transm & Dsbn	1
06/30/2018	Sierra	Roseville	126 E Street	Roseville Service Center	50010373	Gas Service Representative	13
06/30/2018	Sierra	Roseville	126 E Street	Roseville Service Center	51654546	Gas Compliance Representative	3
06/30/2018	Sierra	Roseville	130 E Street	Roseville Service Center	51654546	Gas Compliance Representative	1
06/30/2018	Sierra	Roseville	134 E Street	Roseville Service Center	50010373	Gas Service Representative	1
06/30/2018	Sierra	Roseville	900 Galleria Blvd	Atlantic Substation	50010152	Electrician - GC	2
06/30/2018	Sierra	Roseville	900 Galleria Blvd	Atlantic Substation	50010157	Apprentice Electrician - GC	6
06/30/2018	Sierra	Roseville	900 Galleria Blvd	Atlantic Substation	50010180	Subforeman A - Station/Hydro	1
06/30/2018	Sierra	Roseville	900 Galleria Blvd	Atlantic Substation	50010287	Station Mechanic	1
06/30/2018	Sierra	Roseville	900 Galleria Blvd	Atlantic Substation	50251367	Working Foreman B - Non-Climbing	2
Sierra Total							268
06/30/2018	Sonoma	Fulton	605 River Road	Fulton Substation	50010152	Electrician - GC	1
06/30/2018	Sonoma	Fulton	605 River Road	Fulton Substation	50010180	Subforeman A - Station/Hydro	1
06/30/2018	Sonoma	Fulton	605 River Road	Fulton Substation	50251367	Working Foreman B - Non-Climbing	4
06/30/2018	Sonoma	Geyserville	20880 Geyserville Road	Geyserville Service Center & CSO	50010191	Electric Crew Foreman	2
06/30/2018	Sonoma	Geyserville	20880 Geyserville Road	Geyserville Service Center & CSO	50010227	Compliance Inspector	2
06/30/2018	Sonoma	Geyserville	20880 Geyserville Road	Geyserville Service Center & CSO	50010244	Lineman	2
06/30/2018	Sonoma	Geyserville	20880 Geyserville Road	Geyserville Service Center & CSO	50010246	Unassigned Lineman	1
06/30/2018	Sonoma	Geyserville	20880 Geyserville Road	Geyserville Service Center & CSO	50315043	M&C Coordinator - Electric	1
06/30/2018	Sonoma	Petaluma	210 Corona Road	Petaluma SC/Corona Sub	50010191	Electric Crew Foreman	2
06/30/2018	Sonoma	Petaluma	210 Corona Road	Petaluma SC/Corona Sub	50010244	Lineman	5
06/30/2018	Sonoma	Petaluma	3580 Old Adobe Road	Lakeville Substation	50010431	Transmission Troublemaker	2
06/30/2018	Sonoma	Petaluma	3600 Adobe Road	Lakeville Substation	50010179	Subforeman A - Overhead	1
06/30/2018	Sonoma	Petaluma	3600 Adobe Road	Lakeville Substation	50010223	Utility Worker - GC	1
06/30/2018	Sonoma	Petaluma	3600 Adobe Road	Lakeville Substation	50010247	Lineman - GC	2
06/30/2018	Sonoma	Petaluma	3600 Adobe Road	Lakeville Substation	50010431	Transmission Troublemaker	1
06/30/2018	Sonoma	Petaluma	3600 Adobe Road	Lakeville Substation	50368700	Pre-Apprentice Lineman - GC	1
06/30/2018	Sonoma	Petaluma	3600 Adobe Road	Lakeville Substation	51664847	Construction Operator-GC Gas	11
06/30/2018	Sonoma	Santa Rosa	111 Stony Circle	Santa Rosa Office & CSO	50253773	Technical Crew Leader A-Not Gas	2
06/30/2018	Sonoma	Santa Rosa	3395 McMaude Place	Santa Rosa Substation/Communication Shop	50010194	Electric Maintenance Crew Leader	2
06/30/2018	Sonoma	Santa Rosa	3395 McMaude Place	Santa Rosa Substation/Communication Shop	50010405	Electrical Technician	3
06/30/2018	Sonoma	Santa Rosa	3395 McMaude Place	Santa Rosa Substation/Communication Shop	50070742	Electrician - Switching	3
06/30/2018	Sonoma	Santa Rosa	3395 McMaude Place	Santa Rosa Substation/Communication Shop	50253773	Technical Crew Leader A-Not Gas	1
06/30/2018	Sonoma	Santa Rosa	3965 Occidental Road	Santa Rosa Service Center	50010191	Electric Crew Foreman	5
06/30/2018	Sonoma	Santa Rosa	3965 Occidental Road	Santa Rosa Service Center	50010226	PIO Inspector	1

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06/30/2018	Sonoma	Santa Rosa	3965 Occidental Road	Santa Rosa Service Center	50010227	Compliance Inspector	3
06/30/2018	Sonoma	Santa Rosa	3965 Occidental Road	Santa Rosa Service Center	50010244	Lineman	7
06/30/2018	Sonoma	Santa Rosa	3965 Occidental Road	Santa Rosa Service Center	50010246	Unassigned Lineman	4
06/30/2018	Sonoma	Santa Rosa	3965 Occidental Road	Santa Rosa Service Center	50010261	Street Light Maintenance Man	1
06/30/2018	Sonoma	Santa Rosa	3965 Occidental Road	Santa Rosa Service Center	50010373	Gas Service Representative	18
06/30/2018	Sonoma	Santa Rosa	3965 Occidental Road	Santa Rosa Service Center	50010432	Troubleman	16
06/30/2018	Sonoma	Santa Rosa	3965 Occidental Road	Santa Rosa Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Sonoma	Santa Rosa	3965 Occidental Road	Santa Rosa Service Center	50368698	Pre-Apprentice Lineman	2
06/30/2018	Sonoma	Santa Rosa	3965 Occidental Road	Santa Rosa Service Center	50368700	Pre-Apprentice Lineman - GC	1
06/30/2018	Sonoma	Santa Rosa	3965 Occidental Road	Santa Rosa Service Center	51574842	Distribution Line Technician	2
06/30/2018	Sonoma	Santa Rosa	3965 Occidental Road	Santa Rosa Service Center	51654546	Gas Compliance Representative	16
06/30/2018	Sonoma	SANTA ROSA	1070 Airport Blvd	Santa Rosa GC Yard - Airport Blvd	50010179	Subforeman A - Overhead	5
06/30/2018	Sonoma	SANTA ROSA	1070 Airport Blvd	Santa Rosa GC Yard - Airport Blvd	50010223	Utility Worker - GC	1
06/30/2018	Sonoma	SANTA ROSA	1070 Airport Blvd	Santa Rosa GC Yard - Airport Blvd	50010247	Lineman - GC	5
06/30/2018	Sonoma	SANTA ROSA	1070 Airport Blvd	Santa Rosa GC Yard - Airport Blvd	50251367	Working Foreman B - Non-Climbing	1
06/30/2018	Sonoma	SANTA ROSA	1070 Airport Blvd	Santa Rosa GC Yard - Airport Blvd	50253877	Crane Operator - GC Field-Not Gas	2
06/30/2018	Sonoma	SANTA ROSA	1070 Airport Blvd	Santa Rosa GC Yard - Airport Blvd	50253878	Miscellaneous Equipment Operator-Not Gas	3
Sonoma Total							145
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50010152	Electrician - GC	1
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50010157	Apprentice Electrician - GC	3
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50010180	Subforeman A - Station/Hydro	2
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50010191	Electric Crew Foreman	1
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50010194	Electric Maintenance Crew Leader	1
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50010196	Lead Electrical Technician	1
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50010244	Lineman	3
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50010246	Unassigned Lineman	1
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50010334	Roving Operator	2
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50010405	Electrical Technician	1
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50010432	Troubleman	4
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50251365	Working Foreman A - Non-Climbing	2

Electric Repair and Maintenance Personnel Report

July 1, 2017 to June 30, 2018

File Date	Work Division	Work City	Work Address	Site Name	Job ID	Job Title	Number of Employees
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50251367	Working Foreman B - Non-Climbing	1
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50253876	Backhoe Operator-Not Gas	2
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50315043	M&C Coordinator - Electric	1
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	50368698	Pre-Apprentice Lineman	1
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	51574842	Distribution Line Technician	1
06/30/2018	Stockton	Angels Camp	1108 Murphys Grade Rd	Angels Camp Service Center (Mother Lode)	51758207	Lead Electrical Technician-GC	1
06/30/2018	Stockton	Jackson	12626 Jackson Gate Road	Jackson Service Center & Customer Service Office	50010191	Electric Crew Foreman	2
06/30/2018	Stockton	Jackson	12626 Jackson Gate Road	Jackson Service Center & Customer Service Office	50010244	Lineman	3
06/30/2018	Stockton	Jackson	12626 Jackson Gate Road	Jackson Service Center & Customer Service Office	50010246	Unassigned Lineman	1
06/30/2018	Stockton	Jackson	12626 Jackson Gate Road	Jackson Service Center & Customer Service Office	50010373	Gas Service Representative	2
06/30/2018	Stockton	Jackson	12626 Jackson Gate Road	Jackson Service Center & Customer Service Office	50010432	Troubleman	4
06/30/2018	Stockton	Jackson	12626 Jackson Gate Road	Jackson Service Center & Customer Service Office	50315043	M&C Coordinator - Electric	1
06/30/2018	Stockton	Lodi	9575 East Victor Road	Victor Service Center	50010180	Subforeman A - Station/Hydro	1
06/30/2018	Stockton	Lodi	9575 East Victor Road	Victor Service Center	50010247	Lineman - GC	3
06/30/2018	Stockton	Lodi	9575 East Victor Road	Victor Service Center	50010431	Transmission Troubleman	2
06/30/2018	Stockton	Lodi	9575 East Victor Road	Victor Service Center	50253878	Miscellaneous Equipment Operator-Not Gas	2
06/30/2018	Stockton	Manteca	10901 East Highway 120	Manteca Service Center	50010191	Electric Crew Foreman	2
06/30/2018	Stockton	Manteca	10901 East Highway 120	Manteca Service Center	50010223	Utility Worker - GC	1
06/30/2018	Stockton	Manteca	10901 East Highway 120	Manteca Service Center	50010244	Lineman	5
06/30/2018	Stockton	Manteca	10901 East Highway 120	Manteca Service Center	50010246	Unassigned Lineman	2
06/30/2018	Stockton	Manteca	10901 East Highway 120	Manteca Service Center	50010432	Troubleman	6
06/30/2018	Stockton	Manteca	10901 East Highway 120	Manteca Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Stockton	Manteca	10901 East Highway 120	Manteca Service Center	50368698	Pre-Apprentice Lineman	1
06/30/2018	Stockton	Manteca	10901 East Highway 120	Manteca Service Center	51664847	Construction Operator-GC Gas	7
06/30/2018	Stockton	Pioneer	28570 Tiger Creek Road	Mokelumne River (FERC 137), Tiger Creek PH	50010194	Electric Maintenance Crew Leader	1
06/30/2018	Stockton	Pioneer	28570 Tiger Creek Road	Mokelumne River (FERC 137), Tiger Creek PH	50010360	Apprentice Water System Repairperson	1
06/30/2018	Stockton	Stockton	3955 Arch Road, Suite 100	Stockton Gas M&C Shop	50010176	Technical Crew Leader A - Gas	6
06/30/2018	Stockton	Stockton	3955 Arch Road, Suite 100	Stockton Gas M&C Shop	50010177	Technical Crew Leader B - Gas	8

Electric Repair and Maintenance Personnel Report

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File Date	Work Division	Work City	Work Address	Site Name	Job ID	Job Title	Number of Employees
06/30/2018	Stockton	Stockton	3955 Arch Road, Suite 100	Stockton Gas M&C Shop	50010223	Utility Worker - GC	2
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50010179	Subforeman A - Overhead	6
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50010191	Electric Crew Foreman	8
						Utility Worker - Gas Transm & Dsbn	
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50010217		2
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50010223	Utility Worker - GC	12
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50010227	Compliance Inspector	9
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50010244	Lineman	14
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50010246	Unassigned Lineman	4
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50010247	Lineman - GC	7
						Transmission & Distribution Equip Opr	
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50010323		1
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50010373	Gas Service Representative	26
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50010375	Cable Splicer	1
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50010432	Troubleman	13
						Miscellaneous Equipment Operator-Not Gas	
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50253878		3
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50315043	M&C Coordinator - Electric	2
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50368698	Pre-Apprentice Lineman	1
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	50368700	Pre-Apprentice Lineman - GC	2
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	51574842	Distribution Line Technician	2
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	51654546	Gas Compliance Representative	12
06/30/2018	Stockton	Stockton	4040 West Lane	Stockton Service Center	51664847	Construction Operator-GC Gas	1
						Unassigned Electrician - Elec & Hydro	
06/30/2018	Stockton	Stockton	535 South Center Street	Stockton Gas Plant	50010156		1
						Electric Maintenance Crew Leader	
06/30/2018	Stockton	Stockton	535 South Center Street	Stockton Gas Plant	50010194		1
06/30/2018	Stockton	Stockton	535 South Center Street	Stockton Gas Plant	50010196	Lead Electrical Technician	2
06/30/2018	Stockton	Stockton	535 South Center Street	Stockton Gas Plant	50010406	Apprentice Electrical Technician	1
06/30/2018	Stockton	Stockton	535 South Center Street	Stockton Gas Plant	50070742	Electrician - Switching	2
						Electric Maintenance Crew Leader	
06/30/2018	Stockton	Tracy	17545 Patterson Pass Road	Tesla Substation	50010194		1
06/30/2018	Stockton	Tracy	17545 Patterson Pass Road	Tesla Substation	50010196	Lead Electrical Technician	1
06/30/2018	Stockton	Tracy	17545 Patterson Pass Road	Tesla Substation	50010405	Electrical Technician	2
06/30/2018	Stockton	Tracy	17545 Patterson Pass Road	Tesla Substation	50070742	Electrician - Switching	2
06/30/2018	Stockton	Tracy	502 East Grant Line Road	Tracy Service Center	50010152	Electrician - GC	14
06/30/2018	Stockton	Tracy	502 East Grant Line Road	Tracy Service Center	50010157	Apprentice Electrician - GC	5
06/30/2018	Stockton	Tracy	502 East Grant Line Road	Tracy Service Center	50010180	Subforeman A - Station/Hydro	4
						Working Foreman B - Non-Climbing	
06/30/2018	Stockton	Tracy	502 East Grant Line Road	Tracy Service Center	50251367		1
Stockton Total							256
06/30/2018	Yosemite	Los Banos	940 I Street	Los Banos Service Center	50010191	Electric Crew Foreman	2
06/30/2018	Yosemite	Los Banos	940 I Street	Los Banos Service Center	50010244	Lineman	4

Electric Repair and Maintenance Personnel Report

July 1, 2017 to June 30, 2018

File Date	Work Division	Work City	Work Address	Site Name	Job ID	Job Title	Number of Employees
06/30/2018	Yosemite	Los Banos	940 I Street	Los Banos Service Center	50010373	Gas Service Representative	3
06/30/2018	Yosemite	Los Banos	940 I Street	Los Banos Service Center	50010432	Troubleman	1
06/30/2018	Yosemite	Los Banos	940 I Street	Los Banos Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Yosemite	Madera	2871 Airport Drive	Madera Office and Service Center (New)	50010191	Electric Crew Foreman	2
06/30/2018	Yosemite	Madera	2871 Airport Drive	Madera Office and Service Center (New)	50010227	Compliance Inspector	2
06/30/2018	Yosemite	Madera	2871 Airport Drive	Madera Office and Service Center (New)	50010244	Lineman	3
06/30/2018	Yosemite	Madera	2871 Airport Drive	Madera Office and Service Center (New)	50010246	Unassigned Lineman	2
06/30/2018	Yosemite	Madera	2871 Airport Drive	Madera Office and Service Center (New)	50010247	Lineman - GC	1
06/30/2018	Yosemite	Madera	2871 Airport Drive	Madera Office and Service Center (New)	50010373	Gas Service Representative	3
06/30/2018	Yosemite	Madera	2871 Airport Drive	Madera Office and Service Center (New)	50010432	Troubleman	5
06/30/2018	Yosemite	Madera	2871 Airport Drive	Madera Office and Service Center (New)	51574842	Distribution Line Technician	1
06/30/2018	Yosemite	Madera	34657 Avenue 7	Gregg Substation	50010152	Electrician - GC	6
06/30/2018	Yosemite	Madera	34657 Avenue 7	Gregg Substation	50010157	Apprentice Electrician - GC	8
06/30/2018	Yosemite	Madera	34657 Avenue 7	Gregg Substation	50010179	Subforeman A - Overhead	3
06/30/2018	Yosemite	Madera	34657 Avenue 7	Gregg Substation	50010180	Subforeman A - Station/Hydro	5
06/30/2018	Yosemite	Madera	34657 Avenue 7	Gregg Substation	50010223	Utility Worker - GC	3
06/30/2018	Yosemite	Madera	34657 Avenue 7	Gregg Substation	50010247	Lineman - GC	4
06/30/2018	Yosemite	Madera	34657 Avenue 7	Gregg Substation	50010431	Transmission Troubleman	3
06/30/2018	Yosemite	Madera	34657 Avenue 7	Gregg Substation	50251367	Working Foreman B - Non-Climbing	4
06/30/2018	Yosemite	Madera	34657 Avenue 7	Gregg Substation	50253775	Working Foreman C-Not Gas	2
06/30/2018	Yosemite	Madera	34657 Avenue 7	Gregg Substation	50253877	Crane Operator - GC Field-Not Gas	1
06/30/2018	Yosemite	Madera	34657 Avenue 7	Gregg Substation	50253878	Miscellaneous Equipment Operator-Not Gas	3
06/30/2018	Yosemite	Madera	34657 Avenue 7	Gregg Substation	50368700	Pre-Apprentice Lineman - GC	1
06/30/2018	Yosemite	Mariposa	5166 Jones Street	Mariposa Service Center & Office	50010432	Troubleman	1
06/30/2018	Yosemite	Merced	3185 M Street	Merced Customer Service Office	50010179	Subforeman A - Overhead	1
06/30/2018	Yosemite	Merced	3185 M Street	Merced Customer Service Office	50010247	Lineman - GC	1
06/30/2018	Yosemite	Merced	4400 E Highway 140 (@ N Tower Rd)	Wilson Substation	50010155	Apprentice Electrician-Electric & Hydro	1
06/30/2018	Yosemite	Merced	4400 E Highway 140 (@ N Tower Rd)	Wilson Substation	50010179	Subforeman A - Overhead	8
06/30/2018	Yosemite	Merced	4400 E Highway 140 (@ N Tower Rd)	Wilson Substation	50010194	Electric Maintenance Crew Leader	1
06/30/2018	Yosemite	Merced	4400 E Highway 140 (@ N Tower Rd)	Wilson Substation	50010196	Lead Electrical Technician	1

Electric Repair and Maintenance Personnel Report

July 1, 2017 to June 30, 2018

File Date	Work Division	Work City	Work Address	Site Name	Job ID	Job Title	Number of Employees
06/30/2018	Yosemite	Merced	4400 E Highway 140 (@ N Tower Rd)	Wilson Substation	50010247	Lineman - GC	15
06/30/2018	Yosemite	Merced	4400 E Highway 140 (@ N Tower Rd)	Wilson Substation	50010405	Electrical Technician	2
06/30/2018	Yosemite	Merced	4400 E Highway 140 (@ N Tower Rd)	Wilson Substation	50010406	Apprentice Electrical Technician	1
06/30/2018	Yosemite	Merced	4400 E Highway 140 (@ N Tower Rd)	Wilson Substation	50070742	Electrician - Switching	1
06/30/2018	Yosemite	Merced	4400 E Highway 140 (@ N Tower Rd)	Wilson Substation	50253877	Crane Operator - GC Field-Not Gas	2
06/30/2018	Yosemite	Merced	4400 E Highway 140 (@ N Tower Rd)	Wilson Substation	50253878	Miscellaneous Equipment Operator-Not Gas	9
06/30/2018	Yosemite	Merced	4400 E Highway 140 (@ N Tower Rd)	Wilson Substation	50368700	Pre-Apprentice Lineman - GC	2
06/30/2018	Yosemite	Merced	560 West 15th Street	Merced Service Center	50010191	Electric Crew Foreman	4
06/30/2018	Yosemite	Merced	560 West 15th Street	Merced Service Center	50010217	Utility Worker - Gas Transm & Dsbn	1
06/30/2018	Yosemite	Merced	560 West 15th Street	Merced Service Center	50010227	Compliance Inspector	4
06/30/2018	Yosemite	Merced	560 West 15th Street	Merced Service Center	50010244	Lineman	2
06/30/2018	Yosemite	Merced	560 West 15th Street	Merced Service Center	50010373	Gas Service Representative	11
06/30/2018	Yosemite	Merced	560 West 15th Street	Merced Service Center	50010432	Troubleman	6
06/30/2018	Yosemite	Merced	560 West 15th Street	Merced Service Center	50251367	Working Foreman B - Non-Climbing	1
06/30/2018	Yosemite	Merced	560 West 15th Street	Merced Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Yosemite	Merced	560 West 15th Street	Merced Service Center	51654546	Gas Compliance Representative	4
06/30/2018	Yosemite	Modesto	1524 N Carpenter Road	Modesto Service Center	50010217	Utility Worker - Gas Transm & Dsbn	3
06/30/2018	Yosemite	Modesto	1524 N Carpenter Road	Modesto Service Center	50010373	Gas Service Representative	20
06/30/2018	Yosemite	Modesto	1524 N Carpenter Road	Modesto Service Center	51654546	Gas Compliance Representative	7
06/30/2018	Yosemite	Modesto	2000 Crows Landing Road	Modesto - Gas Inventory Facility	50010223	Utility Worker - GC	6
06/30/2018	Yosemite	Modesto	2000 Crows Landing Road	Modesto - Gas Inventory Facility	51664847	Construction Operator-GC Gas	3
06/30/2018	Yosemite	Newman	309 Merced Street	Newman Service Center	50010206	PIO Working Foreman C - Gas	1
06/30/2018	Yosemite	Newman	309 Merced Street	Newman Service Center	50010223	Utility Worker - GC	4
06/30/2018	Yosemite	Newman	309 Merced Street	Newman Service Center	50010432	Troubleman	3
06/30/2018	Yosemite	Newman	309 Merced Street	Newman Service Center	51664847	Construction Operator-GC Gas	3
06/30/2018	Yosemite	Oakdale	811 West J Street	Oakdale Service Center	50010179	Subforeman A - Overhead	1
06/30/2018	Yosemite	Oakdale	811 West J Street	Oakdale Service Center	50010191	Electric Crew Foreman	1
06/30/2018	Yosemite	Oakdale	811 West J Street	Oakdale Service Center	50010227	Compliance Inspector	2
06/30/2018	Yosemite	Oakdale	811 West J Street	Oakdale Service Center	50010244	Lineman	3
06/30/2018	Yosemite	Oakdale	811 West J Street	Oakdale Service Center	50010246	Unassigned Lineman	1
06/30/2018	Yosemite	Oakdale	811 West J Street	Oakdale Service Center	50010247	Lineman - GC	1
06/30/2018	Yosemite	Oakdale	811 West J Street	Oakdale Service Center	50010432	Troubleman	3

Electric Repair and Maintenance Personnel Report

July 1, 2017 to June 30, 2018

File Date	Work Division	Work City	Work Address	Site Name	Job ID	Job Title	Number of Employees
06/30/2018	Yosemite	Oakdale	811 West J Street	Oakdale Service Center	50253878	Miscellaneous Equipment Operator-Not Gas	1
06/30/2018	Yosemite	Oakdale	811 West J Street	Oakdale Service Center	50368698	Pre-Apprentice Lineman	1
06/30/2018	Yosemite	Oakhurst	50150 Road 426	Oakhurst Service Center & Substation	50010191	Electric Crew Foreman	3
06/30/2018	Yosemite	Oakhurst	50150 Road 426	Oakhurst Service Center & Substation	50010227	Compliance Inspector	1
06/30/2018	Yosemite	Oakhurst	50150 Road 426	Oakhurst Service Center & Substation	50010244	Lineman	2
06/30/2018	Yosemite	Oakhurst	50150 Road 426	Oakhurst Service Center & Substation	50010246	Unassigned Lineman	1
06/30/2018	Yosemite	Oakhurst	50150 Road 426	Oakhurst Service Center & Substation	50010432	Troubleman	2
06/30/2018	Yosemite	Oakhurst	50150 Road 426	Oakhurst Service Center & Substation	50368698	Pre-Apprentice Lineman	1
06/30/2018	Yosemite	Sonora	14550 Tuolumne Road	Sonora Service Center	50010191	Electric Crew Foreman	2
06/30/2018	Yosemite	Sonora	14550 Tuolumne Road	Sonora Service Center	50010244	Lineman	5
06/30/2018	Yosemite	Sonora	14550 Tuolumne Road	Sonora Service Center	50010246	Unassigned Lineman	1
06/30/2018	Yosemite	Sonora	14550 Tuolumne Road	Sonora Service Center	50010432	Troubleman	4
06/30/2018	Yosemite	Sonora	14550 Tuolumne Road	Sonora Service Center	50315043	M&C Coordinator - Electric	1
06/30/2018	Yosemite	Sonora	14550 Tuolumne Road	Sonora Service Center	51574842	Distribution Line Technician	1
06/30/2018	Yosemite	Sonora	14550 Tuolumne Road	Sonora Service Center	51654546	Gas Compliance Representative	1
Yosemite Total							242
Total							3,702

Exhibit I

PG&E First Responder Workshops

Pacific Gas and Electric First Responder Workshops

July 1, 2017 to June 30, 2018

Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
7/11/2017	Santa Clara County Sheriff's Department	Santa Clara County Sheriff's Department	Santa Clara	Law Enforcement; POST	27	1
7/12/2017	San Francisco Airport	San Francisco International Airport	San Mateo	Fire; Law Enforcement; Emergency Management; Contractors; Other	38	6
7/12/2017	California Highway Patrol - Mariposa	California Highway Patrol - Mariposa	Mariposa	Law Enforcement; POST	10	1
7/13/2017	Sanger Fire Department	Sanger Fire Department Community Emergency Response Team	Fresno	CERT	9	1
7/25/2017	San Francisco Police Department	San Francisco Police Academy	San Francisco	Law Enforcement	1	1
7/25/2017	Cuesta College - Police Department	Cuesta College Police Department	San Luis Obispo	Law Enforcement; POST	6	1
7/25/2017	Hayward Fire Department	Hayward Fire Department	Alameda	Fire	5	1
7/27/2017	Watsonville Fire Department	Watsonville Fire Department	Monterey	Fire	6	2
7/27/2017	Redwood City San Carlos Fire Department	Redwood City Fire Department Junior Fire Fighter Program	San Mateo	Fire; Community	33	2
8/1/2017	Santa Maria Fire Department	Santa Maria Fire Department	Santa Barbara	Fire	16	1
8/2/2017	Butte Community College Police Academy	Butte Community College - Police Dispatch Academy	Butte	Fire; Law Enforcement	23	1
8/2/2017	McArthur Fire Protection District	McArthur Fire Protection District	Shasta	Fire	9	1
8/2/2017	Santa Maria Fire Department	Santa Maria Fire Department	Santa Barbara	Fire	9	1
8/3/2017	Santa Maria Fire Department	Santa Maria Fire Department	Santa Barbara	Fire	8	1
8/5/2017	Madera County Sheriff's Department	Madera County Sheriff's Department Citizen's on Patrol	Madera	Law Enforcement	34	1
8/8/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	9	1
8/8/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	8	1
8/9/2017	Butte Community College Fire Academy	Butte Community College Fire Academy	Butte	Fire	33	1
8/9/2017	California Highway Patrol - Madera	California Highway Patrol - Madera	Madera	Law Enforcement; POST	7	1
8/10/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	11	1
8/10/2017	Colma Fire Protection District	Colma Fire Protection District	San Mateo	Fire	40	1
8/11/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	8	1
8/11/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	10	1

Pacific Gas and Electric First Responder Workshops

July 1, 2017 to June 30, 2018

Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
8/14/2017	Cloverdale Public Works Department	Cloverdale Public Works	Sonoma	Public Works	11	1
8/15/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	9	1
8/15/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	6	1
8/16/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	6	1
8/16/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	6	1
8/16/2017	California Highway Patrol - Madera	California Highway Patrol Madera	Madera	Law Enforcement; POST	12	1
8/16/2017	City of Alameda Fire Department	City of Alameda Fire Department	Alameda	Fire	2	1
8/17/2017	South San Francisco Fire Department	South San Francisco CERT	San Mateo	Fire; CERT	23	1
8/17/2017	California Water Services	California Water Services	Alameda	Public Works	11	1
8/18/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	7	1
8/18/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	14	1
8/22/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	7	1
8/22/2017	Shasta Community College Fire Academy	Shasta Community College Fire Academy	Shasta	Fire	24	4
8/24/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	6	1
8/24/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	10	1
8/24/2017	California Water Services	California Water Services	San Joaquin	Public Works	46	1
8/24/2017	Spring Valley Volunteer Fire Department	Spring Valley Volunteer Fire Department	Santa Clara	Fire	24	1
8/25/2017	Bakersfield Fire Department	Bakersfield Fire Department	Kern	Fire	17	1
8/28/2017	Daly City Public Works Department	Daly City Public Works	San Mateo	Public Works	32	1
8/29/2017	Hillsborough Neighborhood Network	Hillsborough Neighborhood Network	San Mateo	Fire; Community; Other	37	4
8/29/2017	Santa Clara County Sheriff's Department	Santa Clara County Sheriffs Department	Santa Clara	Law Enforcement; POST	11	1
8/30/2017	California Highway Patrol - Headquarters	California Highway Patrol Academy	Sacramento	Law Enforcement; POST	10	1
8/30/2017	California Highway Patrol - Headquarters	California Highway Patrol Academy	Sacramento	Law Enforcement; POST	47	1
8/31/2017	Pacific Gas and Electric - Emergency Preparedness	San Jose Regulatory	Santa Clara	Fire; Law Enforcement; EMS; Emergency Management	1	1
9/5/2017	Crockett-Carquinez Fire Protection District	Crockett Carquinez Fire Department	Contra Costa	Fire	19	1

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
9/5/2017	California Highway Patrol - Headquarters	California Highway Patrol Academy	Sacramento	Law Enforcement; POST	23	1
9/5/2017	California Highway Patrol - Headquarters	California Highway Patrol Academy	Sacramento	Law Enforcement; POST	44	1
9/6/2017	University of California - Davis Fire Department	University of California Davis Fire Department	Yolo	Fire	9	1
9/7/2017	Pacific Gas and Electric - Emergency Preparedness	Stockton Regulatory	Stanislaus	Fire; Law Enforcement; EMS; Emergency Management	8	4
9/11/2017	California Highway Patrol - King City	California Highway Patrol - King City	Monterey	Law Enforcement	8	1
9/12/2017	Pacific Gas and Electric - Emergency Preparedness	San Luis Obispo Regulatory	San Luis Obispo	Fire; Law Enforcement; EMS; Emergency Management	4	3
9/12/2017	Mule Creek State Prison Fire Department	Mule Creek Fire Department	Amador	Fire; Law Enforcement	16	2
9/13/2017	Stanislaus County Public Works Department	Stanislaus County Public Works	Stanislaus	Public Works	89	1
9/13/2017	Berkeley Fire Department	Berkeley CERT	Alameda	CERT	17	1
9/15/2017	Pacific Gas and Electric - Emergency Preparedness	Oakland Regulatory	Alameda	Fire; Law Enforcement; EMS; Emergency Management	2	2
9/21/2017	West Sacramento Public Works	West Sacramento Public Works	Yolo	Public Works	17	1
9/23/2017	Sequoia Safety Council	Sequoia Safety Council First Responder Workshop	Fresno	EMS	26	1
9/25/2017	Menlo Park Fire Protection District	South Zone Training	San Mateo	Fire	16	3
9/25/2017	Menlo Park Fire Protection District	South Zone Training	San Mateo	Fire	21	3
9/26/2017	CAL FIRE - Sonoma-Lake-Napa	Cal Fire Sonoma-Napa	Napa	Fire	10	1
9/26/2017	Menlo Park Fire Protection District	South Zone Training	San Mateo	Fire	15	3
9/26/2017	Menlo Park Fire Protection District	South Zone Training	San Mateo	Fire	15	3
9/26/2017	Hat Creek Volunteer Fire Department	Hat Creek Volunteer Fire Department	Shasta	Fire	9	1
9/27/2017	Sacramento River Fire Protection District	Sacramento River Fire Protection District	Colusa	Fire	13	1
9/27/2017	Menlo Park Fire Protection District	South Zone Training	San Mateo	Fire	16	3
9/27/2017	Menlo Park Fire Protection District	South Zone Training	San Mateo	Fire	24	3

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
9/28/2017	Pacific Gas and Electric - Emergency Preparedness	Eureka Regulatory	Humboldt	Fire; Law Enforcement; EMS; Emergency Management	0	0
9/28/2017	CAL FIRE - Sonoma-Lake-Napa	Cal Fire Sonoma-Napa	Napa	Fire	13	1
9/28/2017	Menlo Park Fire Protection District	South Zone Training	San Mateo	Fire	12	3
9/28/2017	Menlo Park Fire Protection District	South Zone Training	San Mateo	Fire	16	3
9/29/2017	Butte Community College Police Academy	Butte Community College Police Academy	Butte	Law Enforcement; POST	31	1
9/29/2017	Butte Community College - Paramedic Program	Butte Community College Paramedic Program	Butte	Fire; EMS	23	1
9/29/2017	Menlo Park Fire Protection District	South Zone Training	San Mateo	Fire	15	3
9/29/2017	Menlo Park Fire Protection District	South Zone Training	San Mateo	Fire	15	3
9/30/2017	Menlo Park Fire Protection District	South Zone Training	San Mateo	Fire	14	3
9/30/2017	Menlo Park Fire Protection District	South Zone Training	San Mateo	Fire	10	2
10/4/2017	Contra Costa County Sheriff's Department	Contra Costa County Sheriff	Contra Costa	Law Enforcement; POST	12	1
10/4/2017	Felton Fire Protection District	Felton CERT	Santa Cruz	CERT	14	1
10/11/2017	California Highway Patrol - Oakhurst	California Highway Patrol - Oakhurst	Madera	Law Enforcement; POST	6	1
10/16/2017	Merced Fire Department	Merced Fire Department	Merced	Fire	10	1
10/16/2017	Merced Fire Department	Merced Fire Department	Merced	Fire	9	1
10/17/2017	Merced Fire Department	Merced Fire Department	Merced	Fire	7	1
10/17/2017	Sutter County Fire Department	Sutter County	Sutter	Fire	9	1
10/17/2017	Travis Air Force Base Fire Department	Travis AFB	Solano	Fire	15	1
10/18/2017	Pacific Gas and Electric - Emergency Preparedness	Fresno Regulatory	Fresno	Fire; Law Enforcement; EMS; Emergency Management	6	6
10/18/2017	California Highway Patrol - Oakhurst	California Highway Patrol - Oakhurst	Madera	Law Enforcement; POST	9	1
10/18/2017	MikkiMoves Real Estate	MikkiMoves Real Estate	Sonoma	Community	10	1
10/18/2017	Travis Air Force Base Fire Department	Travis AFB	Solano	Fire	17	1
10/19/2017	Fresno City College Fire Academy	Fresno City College Fire Academy	Fresno	Fire	25	1
10/23/2017	Pacific Gas & Electric	Pacific Gas and Electric - Vegetation Management	Shasta	Contractors; PG&E Internal	28	2
10/23/2017	Livermore Pleasanton CERT	Livermore Pleasanton CERT	Alameda	Fire; CERT	32	1

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10/24/2017	Pacific Gas & Electric	Pacific Gas and Electric - Vegetation Managment	Butte	Contractors; PG&E Internal	34	1
10/24/2017	Pacific Gas and Electric - Emergency Preparedness	San Carlos Regulatory	San Mateo	Fire; Law Enforcement; EMS; Emergency Management	8	6
10/25/2017	Antioch Police Department	Antioch Police Department	Contra Costa	Law Enforcement; POST	24	1
10/25/2017	Pacific Gas and Electric - Emergency Preparedness	Bakersfield Regulatory	Kern	Fire; Law Enforcement; EMS; Emergency Management	2	2
10/25/2017	Merced Fire Department	Merced Fire Department	Merced	Fire	11	1
10/25/2017	San Francisco Fire Department	San Francisco Fire Academy	San Francisco	Fire	54	1
10/26/2017	CAL FIRE - Nevada-Yuba-Placer	Placer County Hazmat Team	Placer	Fire	7	3
10/27/2017	Richmond Fire Department	Richmond Fire Department	Contra Costa	Fire	9	1
10/30/2017	Sunnyvale Department of Public Safety	Sunnyvale Public Safety First Responder Workshop	Santa Clara	Fire; Law Enforcement	14	2
10/30/2017	Dixon Fire Department	Dixon Fire Department	Solano	Fire	6	1
11/1/2017	Dixon Fire Department	Dixon Fire Department	Solano	Fire	8	1
11/2/2017	Santa Clara Fire Department	Santa Clara Fire Academy	Santa Clara	Fire	12	1
11/2/2017	Berkeley Police Department	Berkeley Police Department	Alameda	Law Enforcement	26	1
11/2/2017	Dixon Fire Department	Dixon Fire Department	Solano	Fire	5	1
11/3/2017	Stockton Fire Department	Stockton Fire Department	San Joaquin	Fire	12	2
11/6/2017	Rossmore CERT	Rossmore CERT	Contra Costa	CERT	32	1
11/6/2017	Vacaville Fire Protection District	Vacaville Fire Protection District	Solano	Fire	40	1
11/8/2017	City of Fresno Administrative Office	City of Fresno Resouce Agency	Fresno	Other	46	1
11/8/2017	Winters Fire Department	Winters Fire Protection District	Yolo	Fire	7	1
11/8/2017	Winters Fire Department	WInters Fire Protection District	Yolo	Fire; Law Enforcement; POST; Public Works	10	3
11/9/2017	American Public Works Associaiton	American Public Works	Contra Costa	Public Works	60	2
11/9/2017	Gonzales Volunteer Fire Department	Gonzales Volunteer Fire Department	Monterey	Fire; Law Enforcement; Public Works	15	1
11/13/2017	Roseville Fire Department	Roseville Fire Department	Placer	Fire	7	1
11/14/2017	King City Fire Department	King City Volunteer Fire Department	Monterey	Fire	21	1
11/14/2017	Roseville Fire Department	Roseville Fire Department	Placer	Fire	9	1

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
11/14/2017	Pacific Gas and Electric - Emergency Preparedness	First Responder Workshop	San Francisco	Fire; Law Enforcement	2	2
11/14/2017	Salida Sanitary District	Salida Sanitation District	Stanislaus	Public Works	8	1
11/14/2017	Montezuma Fire Protection District	Montezuma Fire Protection District	Solano	Fire	22	3
11/15/2017	Pacific Gas and Electric - Emergency Preparedness	Chico Regulatory	Butte	Fire; Law Enforcement; EMS; Emergency Management	4	1
11/15/2017	Mill Valley Public Works Department	Mill Valley Public Works	Marin	Public Works	20	1
11/16/2017	Northshore Fire Protection District	Northshore Fire Protection District	Lake	Fire	10	1
11/16/2017	Roseville Fire Department	First Responder Workshop	Placer	Fire	9	1
11/16/2017	Pacific Gas and Electric - Emergency Preparedness	West Sacramento Regulatory	Sacramento	Fire; Law Enforcement; EMS; Emergency Management	4	2
11/16/2017	Kaiser Oakland	Kaiser Oakland	Alameda	Other	17	1
11/16/2017	Kaiser Oakland	Kaiser Oakland	Alameda	Other	26	1
11/27/2017	Los Gatos Monte Sereno Police Department	First Responder Workshop Los Gatos Monte Sereno Disaster Aid Response Team	Santa Clara	CERT; Search and Rescue (SAR); Community	15	1
11/27/2017	Santa Rosa Fire Department	Santa Rosa Fire Department	Sonoma	Fire	17	2
11/27/2017	Santa Rosa Fire Department	Santa Rosa Fire Department	Sonoma	Fire	17	1
11/27/2017	Santa Rosa Fire Department	Santa Rosa Fire Department	Sonoma	Fire	13	2
11/27/2017	Fairfield Fire Department	Fairfield Fire Department	Solano	Fire	7	1
11/27/2017	Fairfield Fire Department	Fairfield Fire Department	Solano	Fire	7	1
11/28/2017	Fairfield Fire Department	Fairfield Fire Department	Solano	Fire	6	1
11/28/2017	Fairfield Fire Department	Fairfield Fire Department	Solano	Fire	8	1
11/29/2017	Los Medanos Community College - Fire Academy	Los Medanos College Fire Academy	Contra Costa	Fire	23	1
11/29/2017	Midpeninsula Regional Open Space District - Rangers	First Responder Workshop	Santa Clara	Law Enforcement; Other	15	1
11/29/2017	Midpeninsula Regional Open Space District - Rangers	First Responder Workshop	Santa Clara	Law Enforcement; Other	22	1
11/29/2017	Santa Rosa Fire Department	Santa Rosa Fire Department	Sonoma	Fire	16	2
11/29/2017	Santa Rosa Fire Department	Santa Rosa Fire Department	Sonoma	Fire	13	2
11/29/2017	Santa Rosa Fire Department	Santa Rosa Fire Department	Sonoma	Fire	17	2
11/30/2017	Santa Rosa Fire Department	Santa Rosa Fire Department	Sonoma	Fire	13	2

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
11/30/2017	Santa Rosa Fire Department	Santa Rosa Fire Department	Sonoma	Fire	12	2
11/30/2017	Santa Rosa Fire Department	Santa Rosa Fire Department	Sonoma	Fire	7	1
11/30/2017	Berkeley Police Department	Berkeley Police Department	Alameda	Law Enforcement	25	1
12/4/2017	Berkeley Fire Department	Berkeley Fire Department	Alameda	Fire	10	1
12/6/2017	Sutter Basin Fire Protection District	Robbins Fire Department	Sutter	Fire	17	2
12/10/2017	Berkeley Fire Department	Berkeley CERT	Alameda	CERT	17	1
12/11/2017	Gustine Fire Department	Gustine Fire Department	Merced	Fire	10	2
12/11/2017	Sacramento County Airport System Aircraft Rescue & Firefighting	Sacramento County Airport System Aircraft Rescue & Firefighting	Sacramento	Fire	12	2
12/12/2017	Sacramento County Airport System Aircraft Rescue & Firefighting	Sacramento County Airport System Aircraft Rescue & Firefighting	Sacramento	Fire	6	1
12/12/2017	Stanislaus County Sheriff's Department	Stanislaus County Sheriff Department	Stanislaus	Law Enforcement	1	1
12/13/2017	San Quentin State Prison Fire Department	San Quentin Fire Department	Marin	Fire	13	1
12/14/2017	The Woods Apartments	The Woods Appartment	Santa Clara	Other	14	1
12/14/2017	University of California - Davis Fire Department	City of Davis CERT	Yolo	CERT	7	1
12/14/2017	California Highway Patrol - Solano	California Highway Patrol - Solano	Solano	Law Enforcement; POST	27	1
12/15/2017	Sacramento County Airport System Aircraft Rescue & Firefighting	Sacramento County Airport System Aircraft Rescue & Firefighting	Sacramento	Fire	4	1
12/19/2017	Fairfield Fire Department	Fairfield Fire Department	Solano	Fire	6	1
12/19/2017	Fairfield Fire Department	Fairfield Fire Department	Solano	Fire	5	1
12/21/2017	California Highway Patrol - Solano	California Highway Patrol - Solano	Solano	Law Enforcement; POST	24	1
12/27/2017	California Highway Patrol - Headquarters	California Highway Patrol Academy	Sacramento	Law Enforcement; POST	44	1
12/27/2017	California Highway Patrol - Headquarters	California Highway Patrol Academy	Sacramento	Law Enforcement; POST	43	1
12/27/2017	California Highway Patrol - Ukiah	CHP Ukiah	Mendocino	Law Enforcement	9	1
12/28/2017	California Highway Patrol - Headquarters	California Highway Patrol Academy	Sacramento	Law Enforcement; POST	21	1
12/28/2017	San Francisco Police Department	San Francisco Police Department - Academy	San Francisco	Law Enforcement; POST	43	1

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
1/2/2018	Oroville City Fire Department	Oroville City Fire Department	Butte	Fire	11	3
1/4/2018	Oroville City Fire Department	Oroville City Fire Department	Butte	Fire	9	2
1/4/2018	Kern County Fire Department	Kern County Fire Department	Kern	Fire	16	1
1/5/2018	Oroville City Fire Department	Oroville City Fire Department	Butte	Fire	8	2
1/5/2018	San Jose Fire Department	San Jose Fire Department	Santa Clara	Fire	23	1
1/8/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	8	2
1/8/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	11	2
1/9/2018	Lincoln Fire Department	Lincoln CERT	Placer	Fire	7	1
1/9/2018	Smartsville Fire Protection District	Smartsville Fire Protection District	Yuba	Fire	14	1
1/10/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	10	2
1/10/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	8	1
1/11/2018	CAL FIRE - San Benito-Monterey	CAL FIRE Monterey	Monterey	Fire	18	1
1/11/2018	Foothill Fire Protection District	Foothill Fire Protection District	Yuba	Fire	23	2
1/12/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	6	1
1/12/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	14	2
1/15/2018	Bonny Doon CERT	Bonny Doon CERT	Santa Cruz	CERT	17	1
1/16/2018	Butte Community College Fire Academy	Butte Community College Fire Academy	Butte	Fire	55	1
1/16/2018	Butte Community College Police Academy	Butte Community College Basic Police Dispatch Academy	Butte	Law Enforcement; POST	22	1
1/16/2018	Central California Womens Facility Fire Department	Central California Womens Facility	Madera	Fire; Public Works	45	3
1/17/2018	San Ramon Valley Fire Protection District	San Ramon Valley Fire Protection District	Contra Costa	Fire	14	1
1/17/2018	Marine Corps Logistics Base Barstow Fire Department	Marine Corps Logistics Base Barstow Fire Department	San Bernardino	Fire	16	1
1/17/2018	Shasta Community College Fire Academy	Shasta Community College Fire Academy	Shasta	Fire	33	1
1/18/2018	Caltrans - Roseville	Caltrans - Roseville	Placer	Public Works	8	1
1/18/2018	Marine Corps Logistics Base Barstow Fire Department	Marine Corps Logistics Base Barstow Fire Department	San Bernardino	Fire	11	1
1/18/2018	Forestville Fire Protection District	Forestville Fire Department	Sonoma	Fire	16	1
1/19/2018	Auburn Public Works	Auburn Public Works	Placer	Public Works	6	1
1/22/2018	Contra Costa County Fire Protection District	Contra Costa County Fire Protection District	Contra Costa	Fire	24	1

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
1/22/2018	Berkeley CERT	Berkeley CERT	Alameda	CERT	26	1
1/23/2018	Fresno Police Dept Community Emergency Response Team	Fresno Police Dept CERT	Fresno	CERT	27	1
1/23/2018	CAL FIRE - San Benito-Monterey	CAL FIRE - Monterey	San Benito	Fire	45	1
1/23/2018	Quincy Fire Department	Quincy Fire Department	Plumas	Fire	39	2
1/24/2018	California Highway Patrol Sunol	California Highway Patrol Sunol	Alameda	Law Enforcement; POST	9	1
1/25/2018	Clovis Police Department	Clovis Police Department	Fresno	Law Enforcement; POST	19	1
1/25/2018	Clovis Police Department	Clovis Police Department	Fresno	Law Enforcement; POST	29	1
1/25/2018	Clovis Police Department	Clovis Police Department	Fresno	Law Enforcement; POST	16	1
1/25/2018	Kern County Environmental Health	Kern County Health Department	Kern	Other	15	2
1/25/2018	Gold Ridge Fire Protection District	Gold Ridge Fire Department	Sonoma	Fire	25	1
1/25/2018	West Sacramento Fire Department	West Sacramento CERT	Yolo	CERT	21	2
1/26/2018	Clovis Unified School District Firefighting Technology	Clovis Unified School District Firefighting Technology	Fresno	Fire	18	1
1/26/2018	Clovis Unified School District Firefighting Technology	Clovis Unified School District Firefighting Technology	Fresno	Fire	23	1
1/27/2018	Twain Harte CERT	Twain Harte CERT	Tuolumne	CERT	36	1
1/28/2018	South Bay Regional Public Safety Training Consortium-San Mateo	South Bay Regional Public Safety Training Consortium	Santa Clara	Fire	25	1
1/29/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	10	2
1/29/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	6	2
1/31/2018	Contra Costa County Sheriff's Department	Contra Costa County Sheriff	Contra Costa	Law Enforcement; POST	14	1
1/31/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	8	1
1/31/2018	United States Park Police Department	United States Park Police	San Francisco	Law Enforcement	18	1
2/1/2018	Sacramento Police Department	Sacramento Police Department	Sacramento	Law Enforcement; POST	41	1
2/1/2018	Graton Fire Protection District	Graton Fire Protection	Sonoma	Fire	15	1
2/2/2018	Town of Paradise Public Works	Town of Paradise Public Works	Butte	Public Works	7	1
2/2/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	6	1
2/2/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	13	1

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2/4/2018	Member of the Public - Alameda	Berkeley CERT	Alameda	CERT	18	1
2/5/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	13	1
2/5/2018	Redding Fire Department	Redding Fire Department	Shasta	Fire	10	1
2/5/2018	Redding Fire Department	Redding Fire Department	Shasta	Fire	15	1
2/5/2018	Hughson Fire Department	Hughson Fire Department	Stanislaus	Fire	23	1
2/6/2018	East Contra Costa County Fire Protection District	East Contra Costa County Fire Protection District	Contra Costa	Fire	3	1
2/6/2018	East Contra Costa County Fire Protection District	East Contra Costa County Fire Protection District	Contra Costa	Fire	3	1
2/6/2018	East Contra Costa County Fire Protection District	East Contra Costa Countyn Fire Protection District	Contra Costa	Fire	3	1
2/6/2018	CAL FIRE - Humboldt-Del Norte	Cal Fire Humboldt - Del Norte Unit	Humboldt	Fire	49	1
2/6/2018	North Kern State Prison Fire Department	North Kern State Prison	Kern	Fire	13	1
2/6/2018	CAL FIRE - San Benito-Monterey	Monterey	Monterey	Fire	23	1
2/6/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	12	1
2/6/2018	Milpitas Fire Department	Milpitas Fire Department	Santa Clara	Fire	16	1
2/7/2018	Clovis Fire Department	Clovis Fire Department	Fresno	Fire	7	1
2/7/2018	Clovis Fire Department	Clovis Fire Department	Fresno	Fire	9	1
2/7/2018	United States Park Police Department	United States Park Police	San Francisco	Law Enforcement	23	1
2/7/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	11	1
2/7/2018	Milpitas Fire Department	Milpitas Fire Department	Santa Clara	Fire	14	2
2/7/2018	Santa Cruz Police Department	Santa Cruz Police Department	Santa Cruz	Law Enforcement; POST	31	1
2/7/2018	California Highway Patrol - Mission Grade Commercial Vehicle Enforcement Facility	California Highway Patrol Sunol	Alameda	Law Enforcement; POST	8	1
2/8/2018	Clovis Fire Department	Clovis Fire Department	Fresno	Fire	4	1
2/8/2018	Clovis Fire Department	Clovis Fire Department	Fresno	Fire	8	1
2/8/2018	California Conservation Corps - Auburn	California Conservation Corps - Auburn	Placer	Other	11	1
2/8/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	13	1
2/8/2018	Redding Fire Department	Redding Fire Department	Shasta	Fire	7	1
2/8/2018	Redding Fire Department	Redding Fire Department	Shasta	Fire	11	1
2/9/2018	East Contra Costa County Fire Protection District	East Contra Costa County Fire Protection District	Contra Costa	Fire	3	1

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2/9/2018	East Contra Costa County Fire Protection District	East Contra Costa County Fire Protection District	Contra Costa	Fire	2	1
2/9/2018	East Contra Costa County Fire Protection District	East Contra Costa County Fire Protection District	Contra Costa	Fire	3	1
2/9/2018	Linden-Peters Rural Fire Protection District	Linden Peter Rural Fire Protection District	San Joaquin	Fire	4	1
2/9/2018	Milpitas Fire Department	Milpitas Fire Department	Santa Clara	Fire	19	2
2/9/2018	United States Parks Service - Lassen National Park	United States Parks Service - Lassen National Park	Tehama	Fire; Law Enforcement	10	1
2/12/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	12	1
2/12/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	12	1
2/12/2018	Mokelumne Rural Fire District	Mokelumne Rural Fire Protection District	San Joaquin	Fire	4	1
2/12/2018	Linden-Peters Rural Fire Protection District	Linden Peter Rural Fire Protection District	San Joaquin	Fire	5	1
2/12/2018	Waterloo - Morada Rural Fire Protection District	Waterloo Morada Fire Protection District	San Joaquin	Fire	5	1
2/13/2018	Chico Police Department	Chico Police - VIP	Butte	CERT	29	1
2/13/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	12	1
2/13/2018	Olivehurst Public Utility District Fire Department	Olivehurst Public Utility District Fire Department	Yuba	Fire	11	1
2/14/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	10	1
2/14/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	12	1
2/14/2018	Waterloo - Morada Rural Fire Protection District	Waterloo Morada Rural Fire Protection District	San Joaquin	Fire	3	1
2/14/2018	Linden-Peters Rural Fire Protection District	Linden Peters Rural Fire Protection District	San Joaquin	Fire	3	1
2/14/2018	Santa Cruz Police Department	Santa Cruz Police Department	Santa Cruz	Law Enforcement; POST	40	1
2/15/2018	Lincoln Fire Department	Lincoln CERT	Placer	CERT	7	1
2/15/2018	Sacramento Police Department	Sacramento Police Department	Sacramento	Law Enforcement; POST	33	1
2/15/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	15	1
2/15/2018	Redding Fire Department	Redding Fire Department	Shasta	Fire	8	1
2/15/2018	Redding Fire Department	Redding Fire Department	Shasta	Fire	11	1

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2/15/2018	Oakdale Fire Department	Oakland Fire Department	Alameda	Fire	6	1
2/16/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	14	1
2/16/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	7	1
2/16/2018	Waterloo - Morada Rural Fire Protection District	Waterloo Morada Rural Fire Protection District	San Joaquin	Fire	4	1
2/16/2018	Mokelumne Rural Fire District	Mokelumne Rural Fire Protection District	San Joaquin	Fire	6	1
2/19/2018	Fieldbrook Fire Department	Fieldbrook Fire Department	Humboldt	Fire	17	1
2/20/2018	Central Fire Protection District of Santa Cruz County	Central Santa Cruz Joint Academy	Monterey	Fire	20	1
2/20/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	12	1
2/20/2018	Solano Community College - Fire Academy	Solano Community College Fire Academy	Solano	Fire; Community	26	1
2/21/2018	Concord Police Department	Concord CERT	Contra Costa	CERT	30	1
2/21/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	12	1
2/21/2018	Colma Police Department	Colma Police Are you Ready	San Mateo	Fire; Law Enforcement; CERT; Community	17	4
2/21/2018	Suisun City Fire Department	Suisun City Fire Department	Solano	Fire	13	1
2/22/2018	East Contra Costa County Fire Protection District	East Contra Costa County Fire Protection District	Contra Costa	Fire	3	1
2/22/2018	East Contra Costa County Fire Protection District	East Contra Costa Fire Protection District	Contra Costa	Fire	3	1
2/22/2018	Clovis Fire Department	Clovis Fire Department	Fresno	Fire	8	1
2/22/2018	Clovis Fire Department	Clovis Fire Department	Fresno	Fire	6	1
2/22/2018	Sacramento Police Department	Sacramento Police Department	Sacramento	Law Enforcement; POST	28	1
2/22/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	14	1
2/22/2018	Linda Fire Protection District	Linda Fire Protection District	Sutter	Fire	25	1
2/22/2018	CAL FIRE - Tuolumne-Calaveras	CAL FIRE TCU FRW	Tuolumne	Fire	0	0
2/22/2018	Beale Air Force Base Fire Emergency Services	Beale Air Force Base Fire Emergency Services	Yuba	Fire	16	1
2/23/2018	Kern County Fire Department	Kern County Fire Department	Kern	Fire	2	1
2/23/2018	Kern County Fire Department	Kern County Fire Department	Kern	Fire	4	1
2/23/2018	CAL FIRE - San Benito-Monterey	Seaside	Monterey	Fire	26	1

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
2/23/2018	Beale Air Force Base Fire Emergency Services	Beale Air Force Base Fire Emergency Services	Yuba	Fire	14	1
2/25/2018	Berkeley CERT	Berkeley CERT	Alameda	CERT	18	1
2/26/2018	PG&E	PG&E Safety Meeting	Contra Costa	PG&E Internal	5	1
2/26/2018	Kern County Fire Department	Kern County Fire Department	Kern	Fire	12	1
2/27/2018	CAL FIRE - Humboldt-Del Norte	Cal Fire - Humboldt-Del Norte	Humboldt	Fire	44	1
2/27/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	11	1
2/27/2018	Lemoore Volunteer Fire Department	Lemoore Volunteer Fire Department	Kings	Fire	34	1
2/28/2018	Clovis Police Department	Clovis Police Department VIP's	Fresno	Law Enforcement	13	1
2/28/2018	Marin Municipal Water District	MMWD - Park Rangers	Marin	Law Enforcement; Public Works	11	1
2/28/2018	California State Parks & Recreation Auburn	California State Parks - Auburn	Placer	Law Enforcement; POST; Public Works	17	1
2/28/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	13	1
2/28/2018	Wheatland Fire Authority	Wheatland Fire Authority	Yuba	Fire	9	1
3/1/2018	Merced County Fire Department	Merced County Fire	Merced	Fire	8	2
3/1/2018	Sacramento Police Department	Sacramento Police Department	Sacramento	Law Enforcement; POST	41	1
3/1/2018	San Francisco Police Department	San Francisco Police Department Academy	San Francisco	Law Enforcement; POST	5	1
3/1/2018	San Francisco Police Department	San Francisco Police Department Academy	San Francisco	Law Enforcement; POST	50	1
3/1/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	12	1
3/2/2018	Sonoma County American Medical Response (AMR)	AMR Hire Academies	Sonoma	EMS	7	1
3/2/2018	Hayward Fire Department	Hayward Fire Department	Alameda	Fire	12	1
3/3/2018	Southern Trinity Volunteer Fire Department	Southern Trinity Volunteer Fire Department	Trinity	Fire	18	1
3/4/2018	Berkeley Fire Department	Berkeley CERT	Alameda	CERT	18	1
3/5/2018	Fort Hunter Liggett Fire Department	Hunter Liggett	Monterey	Fire	13	1
3/5/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	11	1
3/6/2018	East Contra Costa County Fire Protection District	East Contra Costa County Fire Protection District	Contra Costa	Fire	3	1
3/6/2018	City of Colfax Public Works	City of Colfax Public Works	Placer	Public Works	7	1
3/6/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	12	1

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
3/6/2018	Clements Rural Fire Protection District	Clements Rural Fire Protection District	San Joaquin	Fire	9	1
3/7/2018	CAL FIRE - Butte	Cal Fire - Butte County Fire - Durham Volunteer Station	Butte	Fire	23	1
3/7/2018	Fort Hunter Liggett Fire Department	Hunter Liggett	Monterey	Fire	8	1
3/7/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	17	1
3/7/2018	California Highway Patrol - Sonora	California Highway Patrol Sonora	Tuolumne	Law Enforcement; POST	15	1
3/7/2018	CAL FIRE Academy	Cal Fire Department Ione	Amador	Fire	42	19
3/7/2018	CAL FIRE - Riverside	Cal Fire Riverside Academy	Riverside	Fire	79	36
3/8/2018	PG&E	PG&E Safety Summit	Marin	PG&E Internal	19	1
3/8/2018	San Francisco Fire Department	San Francisco Fire Department	San Francisco	Fire	11	1
3/8/2018	San Mateo County Sheriff's Office	San Mateo County Sheriffs Search & Rescue	San Mateo	Law Enforcement; Search and Rescue (SAR)	56	2
3/9/2018	Fort Hunter Liggett Fire Department	Hunter Liggett	Monterey	Fire	9	1
3/10/2018	Rocklin Police Department	Rocklin Police Department - CERT	Placer	Law Enforcement; CERT; Community	10	1
3/12/2018	Naval Air Weapons Base China Lake Federal Fire Department	Naval Air Weapons Base China Lakes Federal Fire Department	Kern	Fire	16	1
3/12/2018	NASA Ames Fire Department	NASA Ames Fire Department	Santa Clara	Fire	14	1
3/13/2018	Naval Air Weapons Base China Lake Federal Fire Department	Naval Air Weapons Base China Lakes Federal Fire Department	Kern	Fire	5	1
3/13/2018	Rocklin Police Department	Rocklin Police Department - CERT	Placer	Law Enforcement; CERT; Community	10	1
3/13/2018	NASA Ames Fire Department	NASA Ames Fire Department	Santa Clara	Fire	11	1
3/14/2018	Naval Air Weapons Base China Lake Federal Fire Department	Naval Air Weapons Base China Lakes Federal Fire Department	Kern	Fire	6	1
3/14/2018	Higgins Fire Protection District	Higgins Fire Protection District	Placer	Fire	11	1
3/14/2018	Fall River Mills Fire Protection District	Fall River Mills Fire Protection District	Shasta	Fire	7	1
3/15/2018	Caltrans	Caltrans - Auburn	Placer	Public Works	5	1
3/15/2018	NASA Ames Fire Department	NASA Ames Fire Department	Santa Clara	Fire	11	1
3/15/2018	Sonoma County American Medical Response (AMR)	AMR Hire Academies	Sonoma	EMS	9	1
3/16/2018	Salinas Fire Department	Salinas City	Monterey	Fire	12	1
3/16/2018	San Jose Fire Department	San Jose Fire Department	Santa Clara	Fire	13	1

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
3/16/2018	San Jose Fire Department	San Jose Fire Department	Santa Clara	Fire	13	1
3/17/2018	El Dorado County Office of Emergency Services	El Dorado County CERT	El Dorado	CERT	12	2
3/19/2018	Caltrans - Auburn	Caltrans - Auburn	Placer	Public Works	8	1
3/19/2018	Caltrans - Auburn	Caltrans - Auburn	Placer	Public Works	9	1
3/20/2018	Clovis Police Department	Clovis Police Department	Fresno	Law Enforcement; POST	11	1
3/20/2018	Morro Bay Fire Department	Morro Bay Fire Department	San Luis Obispo	Fire	10	1
3/21/2018	Placer Hills Fire Protection District	Placer Hills Fire Protection District	Placer	Fire	5	1
3/21/2018	Morro Bay Fire Department	Morro Bay Fire Department	San Luis Obispo	Fire	16	1
3/21/2018	California Highway Patrol - Sonora	California Highway Patrol - Sonora	Tuolumne	Law Enforcement; POST	10	1
3/22/2018	Community Awareness Emergency Response Organization	Community Awareness Emergency Response Organization	Contra Costa	Emergency Management; CERT; Community; Other	42	1
3/22/2018	Merced County Fire Department	Merced County Fire	Merced	Fire	3	1
3/22/2018	Sacramento Police Department	Sacramento Police Department	Sacramento	Law Enforcement; POST	35	1
3/22/2018	Caltrans - Lodi	Caltrans - Lodi	San Joaquin	Public Works	9	1
3/22/2018	Morro Bay Fire Department	Morro Bay	San Luis Obispo	Fire	11	1
3/22/2018	Coastside Emergency Corps	Coast Side Community Emergency Response Team	San Mateo	Fire; Law Enforcement; CERT	19	4
3/22/2018	Murphys Fire Protection District	MFPD- BHHS FRW	Calaveras	Fire	0	0
3/23/2018	Morro Bay Fire Department	Morro Bay	San Luis Obispo	Fire	6	1
3/23/2018	Corcoran Police Department	Corcoran Police Department	Kings	Law Enforcement; POST	6	1
3/26/2018	Sacramento Police Department	Sacramento Police Department	Sacramento	Law Enforcement; POST	35	1
3/31/2018	Butte Community College Police Academy	California State Parks Police Academy	Butte	Law Enforcement; POST	34	1
4/2/2018	Calaveras Consolidated Fire Protection District	Calaveras Consolidated Fire Protection District	Calaveras	Fire	6	1
4/3/2018	Butte Community College Police Academy	Butte Community College Basic Police Academy	Butte	Law Enforcement; POST	40	1

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
4/3/2018	Los Medanos Community College - Fire Academy	Los Medanos College Fire Academy	Contra Costa	Fire	25	1
4/4/2018	Eldridge Fire Department	Eldridge Fire Department	Napa	Fire	4	1
4/5/2018	Monterey Peninsula College - Fire Academy	MPC Fire Academy	Monterey	Fire	28	1
4/5/2018	Sacramento Police Department	Sacramento Police Department	Sacramento	Law Enforcement; POST	42	1
4/6/2018	Menlo Park Fire Protection District	San Mateo County Fire Academy	San Mateo	Fire	16	4
4/6/2018	Calaveras Consolidated Fire Protection District	Calaveras Consolidated Fire Protection District	Calaveras	Fire	5	1
4/6/2018	Vallejo Fire Department	Vallejo Fire Academy	Solano	Fire	3	1
4/9/2018	San Luis Obispo City Fire Department	San Luis Obispo	San Luis Obispo	Fire	14	1
4/10/2018	California Conservation Corps - Auburn	California Conservation Corps - Auburn	Placer	Fire; Public Works	39	1
4/10/2018	California Conservation Corps - Auburn	California Conservation Corps - Auburn	Placer	Fire; Public Works	38	1
4/10/2018	Shasta - Trinity Regional Occupational Program - Law Enforcement	Shasta - Trinity Regional Occupational Program Law Class	Shasta	Fire; Law Enforcement	9	1
4/10/2018	Shasta - Trinity Regional Occupational Program - Law Enforcement	Shasta - Trinity Regional Occupational Program Fire/Law Class	Shasta	Fire; Law Enforcement	22	2
4/11/2018	San Ramon Valley Fire Protection District	San Ramon Valley Fire Protection District	Contra Costa	Fire	17	1
4/11/2018	San Luis Obispo City Fire Department	San Luis Obispo	San Luis Obispo	Fire	9	1
4/11/2018	Amador County Sheriff's Department	Amador County Sheriff	Amador	Law Enforcement; POST	16	1
4/11/2018	Kings County Sheriff's Department	Kings County Sheriff's Department	Kings	Law Enforcement; POST	11	1
4/11/2018	Kings County Sheriff's Department	Kings County Sheriff's Department	Kings	Law Enforcement; POST	24	2
4/12/2018	San Luis Obispo City Fire Department	San Luis Obispo	San Luis Obispo	Fire	13	1
4/12/2018	MILLS COLLEGE	Mills College CERT	Alameda	CERT	7	1
4/12/2018	Kings County Sheriff's Department	Kings County Sheriff's Department	Kings	Law Enforcement; POST	30	2
4/13/2018	Fresno County Fire Protection District	Fresno County Fire Protection District	Fresno	Fire	8	1
4/13/2018	California Highway Patrol - Headquarters	California Highway Patrol Academy	Sacramento	Law Enforcement; POST	42	1

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
4/13/2018	California Highway Patrol - Headquarters	California Highway Patrol Academy	Sacramento	Law Enforcement; POST	40	1
4/13/2018	Alameda County Fire Department	Alameda County Fire Department	Alameda	Fire	23	1
4/16/2018	Sunnyvale Department of Public Safety	Sunnyvale Department of Public Safety	Santa Clara	Fire; Law Enforcement	12	1
4/16/2018	Dinuba Fire Department	Dinuba Fire Department	Tulare	Fire	10	1
4/17/2018	Clovis Fire Department	Clovis CERT	Fresno	CERT	15	2
4/17/2018	Hollister Fire Department	Hollister Fire Department	San Benito	Fire	8	1
4/17/2018	Hollister Fire Department	Hollister Fire Department	San Benito	Fire	5	1
4/17/2018	East Bay Municipal Utility District (EBMUD)	East Bay Municipal Utility District	Alameda	Public Works	39	1
4/18/2018	Butte Community College Police Academy	California Department of Fish and Wildlife Warden Academy	Butte	Law Enforcement; POST	38	1
4/18/2018	CAL FIRE - Butte	Cal Fire - Butte	Butte	Fire	11	1
4/18/2018	Hollister Fire Department	Hollister Fire Department	San Benito	Fire; Law Enforcement; POST	8	2
4/18/2018	Hollister Fire Department	Hollister Fire Department	San Benito	Fire; Law Enforcement; POST	7	2
4/18/2018	Amador County Sheriff's Department	Amador County Sheriff	Amador	Law Enforcement; POST	14	1
4/19/2018	CAL FIRE - Nevada-Yuba-Placer	Cal Fire - Nevada -Yuba -Placer	Placer	Fire	17	1
4/19/2018	Hollister Fire Department	Hollister Fire Department	San Benito	Fire; Law Enforcement; POST	4	2
4/19/2018	Hollister Fire Department	Hollister Fire Department	San Benito	Fire	7	1
4/19/2018	Red Bluff Fire Department	Red Bluff High School Fire Academy Regional Occupational Program	Tehama	Fire	19	1
4/19/2018	Red Bluff Fire Department	Red Bluff High School Fire Academy Regional Occupational Program	Tehama	Fire	16	1
4/20/2018	Kern County Environmental Health	Bakersfield Health Department FRW Class	Kern	Emergency Management	28	1
4/24/2018	California Department of Transportation - State Headquarters	Caltrans - Marysville	Yuba	Public Works	95	1
4/24/2018	City of Berkeley Administrative Office	City of Berkeley Public Works	Alameda	Public Works	24	1
4/25/2018	Lake Perris State Recreation Area	Lake Perris State Recreation Area	Riverside	Law Enforcement; POST	4	1

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
4/25/2018	Lake Perris State Recreation Area	Lake Perris State Recreation Area	Riverside	Law Enforcement; POST	2	1
4/26/2018	Fresno City College Fire Academy	Fresno City College Fire Academy	Fresno	Fire	25	1
4/26/2018	Sacramento Police Department	Sacramento Police Department	Sacramento	Law Enforcement; POST	43	1
4/26/2018	CAL FIRE Academy	Cal Fire Academy Lone	Amador	Fire	47	15
4/26/2018	CAL FIRE - Riverside	Cal Fire Riverside	Riverside	Fire	42	18
4/27/2018	Sacramento Metropolitan Fire District	Sacramento Metropolitan Fire Department	Sacramento	Fire	10	1
4/30/2018	CAL FIRE - Fresno-Kings	Cal Fire - Fresno - Kings	Fresno	Fire; Public Safety Access Point (PSAP)	6	1
4/30/2018	San Francisco Fire Department	San Francisco Fire New Recruits Academy	San Francisco	Fire	54	1
5/1/2018	Capstone Fire Mangement	Capstone Fire Management	Contra Costa	Fire	30	2
5/2/2018	City of Roseville - Public Works	City of Roseville - Streets	Placer	Public Works	26	1
5/3/2018	Sacramento Police Department	Sacramento Police Department	Sacramento	Law Enforcement; POST	42	1
5/4/2018	El Dorado County Department of Transportation	El Dorado County of Transportation	El Dorado	Public Works	24	1
5/7/2018	Santa Rosa Fire Department	Santa Rosa Fire Department Academy	Sonoma	Fire	6	1
5/9/2018	Benicia Fire Department	Benicia Fire Department	Solano	Fire	9	1
5/10/2018	CAL FIRE - Fresno-Kings	Cal Fire - Fresno - Kings	Fresno	Fire; Public Safety Access Point (PSAP)	1	1
5/10/2018	Sacramento Police Department	Sacramento Police Department	Sacramento	Law Enforcement; POST	38	1
5/10/2018	San Andreas Fire Protection District	Calaveras County Fire Academy FRW	Calaveras	Fire	17	6
5/10/2018	Benicia Fire Department	Benicia Fire Department	Solano	Fire	8	1
5/11/2018	Campbell Public Works Department	Campbell Public Works	Santa Clara	Public Works	7	1
5/12/2018	Santa Rosa Fire Department	Sonoma USAR Training	Sonoma	Search and Rescue (SAR)	6	1
5/12/2018	Santa Rosa Fire Department	Sonoma USAR Training	Sonoma	Search and Rescue (SAR)	5	1
5/12/2018	Santa Rosa Fire Department	Sonoma USAR Training	Sonoma	Search and Rescue (SAR)	5	1

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
5/12/2018	Santa Rosa Fire Department	Sonoma USAR Training	Sonoma	Search and Rescue (SAR)	5	1
5/12/2018	Santa Rosa Fire Department	Sonoma USAR Training	Sonoma	Search and Rescue (SAR)	4	1
5/12/2018	Dublin Police Department	Dublin CERT	Alameda	CERT	11	1
5/14/2018	Livermore Pleasanton CERT	Livermore Pleasanton CERT	Alameda	CERT	33	1
5/15/2018	Sanger Fire Department	Sanger Fire Department	Fresno	Fire	6	1
5/15/2018	Placer County Water Agency	Placer County Water Agency	Placer	Public Works	6	1
5/15/2018	Sacramento County Office of Emergency Services	Sacramento County Emergency Response Team	Sacramento	EMS	14	1
5/15/2018	San Francisco Police Department	San Francisco Police Department Academy	San Francisco	Law Enforcement; POST	38	1
5/15/2018	Diablo Nuclear Fire Department	San Luis Obispo	San Luis Obispo	Fire	8	1
5/15/2018	Sunnyvale Department of Public Safety	Sunnyvale Public Safety	Santa Clara	Fire; Law Enforcement; POST	12	1
5/15/2018	Sunnyvale Department of Public Safety	Sunnyvale Public Safety	Santa Clara	Fire; Law Enforcement; POST	13	1
5/15/2018	Piedmont Fire Department	Piedmont Fire Department	Alameda	Fire	7	1
5/15/2018	Alameda County Fire Department	Newark CERT	Alameda	CERT	11	1
5/16/2018	Los Banos Fire Department	Los Banos Fire Department	Merced	Fire; Public Works	27	2
5/16/2018	Sunnyvale Department of Public Safety	Sunnyvale Public Safety	Santa Clara	Fire; Law Enforcement; POST	13	1
5/16/2018	Sunnyvale Department of Public Safety	Sunnyvale Public Safety	Santa Clara	Fire; Law Enforcement; POST	13	1
5/16/2018	California Highway Patrol - Yuba- Sutter	California Highway Patrol - Yuba- Sutter	Yuba	Law Enforcement; POST	18	1
5/16/2018	Piedmont Fire Department	Piedmont Fire Department	Alameda	Fire	4	1
5/17/2018	Diablo Nuclear Fire Department	San Luis Obispo	San Luis Obispo	Fire	7	1
5/17/2018	Sunnyvale Department of Public Safety	Sunnyvale Department of Public Safety	Santa Clara	Fire; Law Enforcement; POST	7	1
5/17/2018	Sunnyvale Department of Public Safety	Sunnyvale Public Safety	Santa Clara	Fire; Law Enforcement; POST	15	1
5/17/2018	CAL FIRE - Tuolumne-Calaveras	CAL FIRE TCU FRW	Calaveras	Fire	24	1
5/18/2018	El Dorado County Department of Transportation	El Dorado County of Transportation	El Dorado	Public Works	33	1

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
5/18/2018	Diablo Nuclear Fire Department	San Luis Obispo	San Luis Obispo	Fire	5	1
5/18/2018	Mission Valley Regional Occupation Program School	Mission Valley Regional Occupation Program	Alameda	Other	15	1
5/18/2018	Benicia Fire Department	Benicia Fire Department	Solano	Fire	8	1
5/19/2018	Southern Trinity Volunteer Fire Department	Southern Trinity Volunteer Fire Department	Trinity	Fire	3	1
5/19/2018	Chabot-Las Positas Community College District	Chabot Los Positias Community College	Alameda	Fire	24	1
5/21/2018	Dinuba Fire Department	Dinuba Police Department VIP's	Tulare	Law Enforcement	11	1
5/22/2018	Mission Valley Regional Occupation Program School	Mission Valley Regional Occupation Program	Alameda	Other	15	1
5/24/2018	Sanger Fire Department	Sanger Fire Department	Fresno	Fire	5	1
5/24/2018	Caltrans	Caltrans - Colfax FRW	Placer	Public Works	7	1
5/24/2018	Piedmont Fire Department	Piedmont Fire Department	Alameda	Fire	6	1
5/25/2018	Sanger Fire Department	Sanger Fire Department	Fresno	Fire	6	1
5/25/2018	Dinuba Police Department	Dinuba Police Department	Tulare	Law Enforcement; POST	8	1
5/29/2018	CAL FIRE - Santa Clara	Cal Fire Santa Clara Sunol	Alameda	Fire	8	1
5/29/2018	East Bay Municipal Utility District (EBMUD)	East Bay Municipal Utility District	Alameda	Public Works	70	1
5/29/2018	San Andreas Fire Protection District	San Andreas Fire Protection District	Calaveras	Fire	13	1
5/30/2018	Fresno Police Department	Fresno Police Department Citizen's on Patrol	Fresno	Law Enforcement	4	1
5/30/2018	Los Banos Fire Department	Los Banos Fire Department	Merced	Fire; Public Works	22	3
5/30/2018	California Highway Patrol - Yuba- Sutter	California Highway Patrol - Yuba- Sutter	Yuba	Law Enforcement; POST	14	1
5/30/2018	Livermore-Pleasanton Fire Department	Pleasanton CERT	Alameda	CERT	20	1
5/31/2018	Sacramento Police Department	Sacramento Police Department	Sacramento	Law Enforcement; POST	42	1
5/31/2018	Glenn County Sheriff's Department	Glenn County Sheriff's Department	Glenn	Law Enforcement; Emergency Management; POST	4	2

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
5/31/2018	Glenn County Sheriff's Department	Glenn County Sheriff's Department	Glenn	Law Enforcement; Emergency Management; POST	11	4
6/4/2018	Palo Alto Office of Emergency Services	Palo Alto CERT	Santa Clara	Emergency Management; CERT	35	1
6/7/2018	Hillsborough Public Works Department	Hillsborough Public Works	San Mateo	Public Works	21	1
6/11/2018	Eldridge Fire Department	Eldridge Fire Department	Napa	Fire	10	3
6/11/2018	Dinuba Fire Department	Dinuba Fire Department	Tulare	Fire	8	1
6/11/2018	Hayward CERT	Hayward CERT	Alameda	CERT	21	1
6/12/2018	Alameda County Fire Department	San Lorenzo CERT	Alameda	CERT	10	1
6/14/2018	Eldridge Fire Department	Eldridge Fire Department	Napa	Fire	8	3
6/14/2018	Rocklin Police Department	Northern California APCO	Placer	Law Enforcement; EMS; Emergency Management; Contractors; Other	53	1
6/14/2018	Sacramento Police Department	Sacramento Police Department	Sacramento	Law Enforcement; POST	33	1
6/14/2018	CAL FIRE Academy	Cal Fire Academy lone	Amador	Fire	44	20
6/14/2018	CAL FIRE - Tuolumne-Calaveras	CAL FIRE TCU FRW	Calaveras	Fire	28	1
6/15/2018	Stanford Office of Emergency Management	Stanford Office of Emergency Management	Santa Clara	Emergency Management	14	1
6/15/2018	Stanford Office of Emergency Management	Stanford Office of Emergency Management	Santa Clara	Emergency Management	11	1
6/19/2018	PG&E	PG&E Safety Summit	Contra Costa	PG&E Internal	25	1
6/20/2018	Rocklin Police Department	Rocklin Police Department - CERT	Placer	Law Enforcement; Community	12	1
6/20/2018	City of Alameda Fire Department	Alameda City Fire Department	Alameda	Fire	6	1
6/20/2018	U.S. Forest Service - Lassen National Forest	United States Forest Service - Lassen National Forest	Lassen	Fire	10	1
6/21/2018	Bear Valley-Indian Valley Fire Protection District	Bear Valley-Indian Valley Fire Protection District	Colusa	Fire	17	1
6/21/2018	Newcastle Fire Protection District	Newcastle Fire Protection District	Placer	Fire	3	1
6/21/2018	Sacramento Police Department	Sacramento Police Department	Sacramento	Law Enforcement; POST	34	1

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Event Date	Event Sponsor	Event Name	County	Organization Type	Number of Participants	Number of Emergency Response Agencies Reached Through Training
6/22/2018	Stanford Office of Emergency Management	Stanford Office of Emergency Management	Santa Clara	Emergency Management	16	1
6/22/2018	Stanford Office of Emergency Management	Stanford Office of Emergency Management	Santa Clara	Emergency Management	12	1
6/22/2018	CAL FIRE - Santa Clara	Cal Fire Sunol	Alameda	Fire	9	1
6/25/2018	Los Banos Fire Department	Los Banos Fire Department	Merced	Fire	18	1
TOTAL					8,232	732

Exhibit J

Standard 10 Additional External Agency Coordination Meetings July 1, 2017 to June 30, 2018

Standard 10 Additional External Agency Coordination Meetings

July 1, 2017 to June 30, 2018

Dates	Meeting / Activity Description	Meeting Location - City
Quarterly	Met with the Lifelines San Francisco to discuss critical infrastructure.	San Francisco
2-3X year	Met with the Lifelines SoCal Regional to discuss critical infrastructure.	Rosemead & Irvine
Quarterly, plus other opportunities throughout the year	Met with the CUEA to discuss utilities and response planning.	Sacramento
Bi-weekly meeting starting in 2018/Previous quarterly	Met with the Cal OES to discuss preparedness and training.	Telephone, and the first meeting was at OES HQ in Sacramento
2x year (attendance at our exercises)	Met with CAL FIRE to discuss planning.	Sacramento
3x annually	Met with SF Port and SF DEM to discuss planning and response.	San Francisco
Quarterly	Met with the MARAC to discuss planning and response, and mutual aid.	Walnut Creek
Quarterly	Met with EEI to discuss planning and response, and cyber response.	San Francisco
2 x in person a year	Met with WEI to discuss mutual assistance and operations.	Phoenix
Bimonthly meetings	Met with the Energy Working group (CEC, CAISO, CUEA) to discuss fuel plan during emergencies and fuel set-aside program.	Sacramento, and all others by phone
7/10/2017	Met with the Whittier Fire Incident Management Team (IMT) to discuss safety and additional mitigation plans pertaining to power restoration upon repopulation of the fire area.	Goleta
7/8/2017	Met with the Alamo Fire IMT to discuss safety and additional mitigation plans pertaining to power restoration.	Santa Maria
8/2/2017	PG&E emergency management personnel met with representatives from the Sacramento Regional Operation Area in preparation of an impending heat wave, to discuss safety and utility restoration activities.	Sacramento
8/9/2017	Met with the Calaveras County Fire Chief's Association to discuss PG&E's fire response and capabilities.	San Andreas
8/17/2017	Participated in the Yolo County Operational Area Coordination meeting that included discussion pertaining to the current fire season and mitigation plans, including electrical utilities.	Woodland
8/28/2017	Met with the Sacramento Regional Operational Area stakeholders to prepare for upcoming heat event and current fire dangers, and to mitigate power outages that may affect the local communities.	Sacramento
9/7/2017	Met with the City of Richmond City Manager's Disaster Council to discuss high-level overview of the electric annex from the CERP.	Richmond
9/7/2017	Participated in the 2017 PUC 768.6 Outreach meeting with the Stockton Division CHP to provide and discuss a high-level overview of the PG&E's electric annex, and receive feedback.	Stockton

Standard 10 Additional External Agency Coordination Meetings

July 1, 2017 to June 30, 2018

Dates	Meeting / Activity Description	Meeting Location - City
9/12/2017	Participated in the Monterey County Winter Storm 2017-2018 Preparedness Workshop. The Monterey County OES facilitated the discussion about winter preparedness, including preparedness and response activities for electrical power outages that may occur.	Seaside
9/13/2017	Met with the City of San Jose Emergency Operations Center (EOC) Team as follow-up and to discuss after-action for a major flood event. This discussion included actions taken as a result of the extreme flooding that caused electrical and gas outages to an impacted community that had to be evacuated.	San Jose
9/27/2017	Participated in the Lake County Fire Chief's Association meeting to discuss the progress on vegetation management projects, and the clearing of the right-of-ways under transmission lines in areas of those county that were impacted by wildland fires.	Middletown
9/28/2017	Met with the Santa Cruz County Emergency Managers Council to provide information on the electrical annex from the CERP, and to discuss preparedness for the upcoming storm season.	Santa Cruz
9/30/2017	Participated in the Cal Fire SLU Unit and San Luis Obispo OES meeting to discuss the Rucker fire, the estimated time of restoration for customers, and actions being taken for the repair of damaged electrical infrastructure.	San Luis Obispo
10/9 - 25/2017	Met on a daily basis (as participants changed frequently) with all agencies (including Cal Fire Incident Management Team, Sonoma County Fire and Law Enforcement agencies, Sonoma County Public Works, Napa County OES, USFS, Sonoma County OES, local Water Districts, Comcast and AT&T) on-site to provide daily information on safety and status of power restoration.	Sonoma
10/26/2017	Hosted a PUC 768.6 outreach meeting in Bakersfield in Kern County to provide an overview of PG&E's electric annex and to receive feedback.	Bakersfield
12/7/2017	Participated in the City of Richmond City Manager's Disaster meeting to discuss an upcoming exercise that included power outages in the community, and the response from the utility company.	Richmond
1/3/2018	Met with CAL FIRE Fresno-Kings Unit/Fresno County Fire to discuss PG&E's electrical safety training programs.	Sanger
1/4/2018	Attended the Amador County Fire Chief's meeting to discuss PG&E's fire response and support.	Sutter Creek
1/4/2018	Met with the CAL FIRE Academy training staff to discuss incorporating PG&E's First Responder Safety training into the CAL FIRE academy training curriculum. The outcome of this meeting was that CAL FIRE agreed to let PG&E present this training program to all future statewide academies.	lone
1/4/2018	Met with the Division Chief at CAL OES to discuss PG&E's fire response and emergency capabilities.	Sutter Creek
1/10/2018	Met with the Calaveras County Fire Chief's Association to discuss PG&E's First Responder Workshops, as well as PG&E's emergency response and support capabilities.	San Andreas
1/11/2018	Met with the Assistant Chief of Tuolumne County Fire Department (TCFD) to discuss PG&E's emergency response support to TCFD.	Sonora
1/11/2018	Met with the CAL FIRE Tuolumne-Calaveras Unit to discuss PG&E's fire response and emergency support capabilities.	Angels Camp
1/18/2018	Participated in the CAL FIRE/Shasta County Fire Department's Annual Chief meeting to discuss coordination and cooperation with PG&E for the 2018 Fire Season.	Redding

Standard 10 Additional External Agency Coordination Meetings

July 1, 2017 to June 30, 2018

Dates	Meeting / Activity Description	Meeting Location - City
1/18/2018	Participated in the Santa Cruz County Emergency Managers Council meeting to provide a high-level overview of the electric annex, and winter/storm preparedness.	Santa Cruz
1/31/2018	Met with the CAL FIRE Tuolumne-Calaveras Unit to discuss PG&E's fire response during 2017 and potential future partnerships.	San Andreas
2/7/2018	Participated in the Contra Costa County Operational Area Council meeting to provide information on the electric annex from the CERP, and speak about preparedness and emergency response.	Martinez
2/14/2018	Met with the Santa Clara County Fire Chief's Association to provide a high-level overview of the electric annex from the CERP, and to discuss capabilities of the utility company to provide electrical safety training for the agencies, preparedness measures and partnering during emergencies to protect first responders, utility employees, community members, and electrical infrastructure.	Campbell
2/26/2018	Met with the Division Chief at CAL FIRE's Academy to discuss construction of PG&E's training props for academy students and to discuss PG&E's emergency response and support capabilities.	lone
2/26/2018	Contacted Stanislaus National Forest's Fire Management Officer to discuss providing PG&E's electrical safety training to their personnel, as well as PG&E's emergency response and support capabilities.	Sonora
3/1/2018	Met with the East Contra Costa County Emergency Management Council to provide information about the electric annex from the CERP, and also about preparedness and emergency response.	Oakley
4/2/2018	Met with the Chief of Calaveras Consolidated Fire Protection District to discuss PG&E's gas and electric emergency response procedures.	Jenny Lind
4/6/2018	Participated in the Cal OES Winter Storm Preparation meeting to share information about the Electric Annex to the CERP, and also about preparedness and emergency response.	Sacramento
4/10/2018	Met with representatives from fire, law enforcement, and emergency service agencies from San Francisco and San Mateo Counties in a Public Safety Liaison meeting to provide an initial discussion of PG&E's Community Wildfire Safety Program (CWSP).	San Jose
4/10/2018	Met with the Santa Clara County Fire Safe Council for an initial discussion of PG&E's CWSP.	San Jose
4/18/2018	Attended the Calaveras County Multi-Agency Coordinating Group to discuss PG&E's emergency response procedures and support capabilities.	San Andreas
4/19/2018	Participated in the PG&E Community Wildfire Safety Program meeting with San Luis Obispo OES and Cal Fire to provide an overview of preparedness for the upcoming fire season, and new emergency response capabilities.	San Luis Obispo
4/26/2018	Met with the Division Chief at CAL FIRE's Academy to review plans for PG&E's training props for academy students, and to discuss PG&E's emergency response and support capabilities.	lone
5/2/2018	Participated in the Contra Costa County Operational Area Council meeting to discuss PG&E's Community Wildfire Safety Program.	Martinez
5/15/2018	Met with CAL FIRE's Chief and the CAL OES Director regarding PG&E's emergency response procedures and resources during the 2018 fire season.	Rancho Cordova

Standard 10 Additional External Agency Coordination Meetings

July 1, 2017 to June 30, 2018

Dates	Meeting / Activity Description	Meeting Location - City
5/16/2018	Met with the Monterey - Santa Cruz Counties Fire Chief's Association to provide information on PG&E's new Community Wildfire Safety Program.	Watsonville
5/23/2018	Met with CAL FIRE's Aviation Management Unit staff to discuss PG&E's participation in the CAL FIRE call-when-needed program with PG&E's resources during the 2018 fire season.	Sacramento
5/23/2018	Call conducted with CAL FIRE's Deputy Chief to discuss PG&E's potential use of contract fire resources to protect company assets.	Angels Camp
5/23/2018	Participated in the Humboldt County Fire Season Coordination meeting with Humboldt County Sheriff's, Tribal Liaisons, CAL FIRE and other Local Government Fire Departments, BLM, BIA (Bureau of Indian Affairs), USFS, and Eureka PD to provide all participants with an overview of PG&E's Community Wildfire Safety Program.	Eureka
5/25/2018	Met with the Contra Costa County Fire Protection District to discuss PG&E's new Community Wildfire Safety Program.	Oakley
5/29/2018	Met with San Andreas Fire's Protection Chief to discuss PG&E's fire response and emergency support capabilities.	San Andreas
5/30/2018	Met with the UC Davis Fire Department to discuss new electrical safety training for the local firefighters, and strategized on new exercises to incorporate various scenarios for the training.	Davis
6/1/2018	Call conducted with CAL FIRE's Battalion Chief of the Fresno-Kings Unit to discuss PG&E's potential use of contract fire resources to protect company assets.	Angels Camp
6/4/2018	Participated in the 2018 Wildland Fire and Water Coordination Workshop hosted by the San Jose Water Department, where the upcoming fire season and response collaboration among the various agencies was discussed.	San Jose
6/4/2018	Call conducted with FEMA's IMAT West Operations Branch Director to discuss PG&E's fire response and emergency support capabilities.	Angels Camp
6/6/2018	Met with Five Cities Fire Authority and San Luis Obispo County Fire Chiefs Association to discuss PG&E's new Community Wildfire Safety Program.	San Luis Obispo
6/13/2018	Participated in the Wildfire Safety Operations Center (WSOC) tour with CAL FIRE personnel to demonstrate WSOC capabilities and explore potential fire intelligence and information sharing.	San Francisco
6/21/2018	Call conducted with Kern County Fire Department's Battalion Chief to discuss fire intelligence and electrical outage information sharing.	Angels Camp
6/28/2018	Met with the Fremont Fire Department and City of Fremont to discuss PG&E's new Community Wildfire Safety Program.	Fremont

Exhibit K

Mutual Assistance Received July 2017 to June 2018

Mutual Assistance Provided and Received

July 2017 to June 2018

Event	September 2017 Response to Hurricane Irma	October 2017 Response to Northern California Wildfires	December to March 2018 Response to Hurricane Maria
Approximate Event Duration	August-September 2017	October 2017	September-October 2017
Event Type	Category 5 Hurricane	Wildfires	Category 5 Hurricane
Event Summary	At the time, Hurricane Irma was the strongest Atlantic basin hurricane ever recorded outside of the Gulf of Mexico and the Caribbean Sea. The storm stretched 650 miles from east to west, turned streets into rivers, ripped down power lines, uprooted trees, and cut off communities. Irma was the most intense hurricane to strike the United States since Katrina, and the first major hurricane to make landfall in Florida since Wilma (both in 2005). This catastrophic storm formed on 8/31 and attained Cat 4 hurricane status upon making landfall in Florida, leaving a trail of tornadoes and storm-surge flooding as its core slowly moved inland.	Several major wildfires spread throughout Butte, Calaveras, Lake, Mendocino, Napa, Nevada, Solano, Sonoma, and Yuba counties during severe fire weather conditions. Due to conditions favorable to fire spread, the fires grew rapidly and also destroyed over 8,900 structures, according to CAL FIRE. Over 240,000 customers experienced sustained electric outages, and about 45,500 customers were impacted by gas outages. Service was restored to all but a few electric customers by October 23 and to 99% of service-ready gas customers by October 26.	Regarded as the worst natural disaster on record to affect Dominica and Puerto Rico and the deadliest Atlantic hurricane since Hurricane Jeanne in 2004. Second Category 5 hurricane and the deadliest storm of the hyperactive 2017 Atlantic hurricane season. At its peak, the hurricane caused catastrophic damage and numerous fatalities across the north east Caribbean, compounding recovery efforts in the areas of the Leeward Islands (island north of Martinique) already struck by Hurricane Irma. Maria was the third consecutive major hurricane to threaten the Leeward Islands in two weeks.
Assistance	<ul style="list-style-type: none"> • 146 employees with expertise in customer care, IT network, linemen, troublemen, field safety, materials, support personnel • 22 customer service agents handled 4,669 	<ul style="list-style-type: none"> • 30 electric mutual assistance crews consisting of 142 electric personnel, and 114 gas personnel • Mutual assistance response provided from 10/13/17 to 	<ul style="list-style-type: none"> • 10 full-time employees (FTE) with expertise in incident management support and other response services • Mutual assistance response provided from 12/7/17 to 3/26/18

	calls 9/16/17 to 9/22/17 <ul style="list-style-type: none"> • 27,955 recorded hours • Mutual assistance response provided from 9/7/17 to 9/21/17 	10/23/17	
Requesting Utility	Florida Power & Light	PG&E	Puerto Rico Electric Power Authority
Responding Utility	PG&E	<u>Gas:</u> Southern California Gas <u>Electric:</u> Los Angeles District Water and Power Modesto Irrigation District PacifiCorp Redding Electric Utility City of Roseville Electric Utility Sacramento Municipal Utility District Southern California Edison <u>Both Gas and Electric:</u> San Diego Gas & Electric	PG&E

Exhibit L

Customer Service Mutual Assistance to Hurricane Irma

Exhibit L – PG&E Customer Service Mutual Assistance Response to Hurricane Irma

Background

Hurricane Irma struck on September 10, 2017, and left 4.4 million Florida Power & Light (FPL) customers with no power and triggered the evacuation orders for 5.6 million people before it made two landfalls. By 9/12/18, it had left a trail of devastation and flooding of major cities, including Jacksonville, FL, leaving millions without power, and causing more than 134 deaths. PG&E and FPL utilized the mutual assistance agreement, which allows the two utilities to help support each other during times of crisis or natural disasters. In essence, the agreement stipulates that one utility provide the material resources, and the other responding utility to provide human resources.



PG&E workers Jose Tirado of San Luis Obispo (left) and James Woolsey of Sisquoc (obscured right) hoist a fallen power line pole, just south of the Hobe Sound National Wildlife Refuge off of U.S. Highway One



Sequence of Events

On September 7, PG&E sent an Advance Team to assess and scope the action plan for arriving crews and personnel. By September 8, linemen had arrived in Florida and the mobile command vehicle was deployed. Hurricane Irma hit Florida on September 10. On September 11, restoration work began in the field and PG&E's Contact Center Operations was approached to assist. Very quickly, PG&E authorized utilizing 30 PG&E customer service representatives (CSR) to take electric outage calls for FPL. PG&E's Sacramento Contact Center was identified as a resource for mutual aid customer service. CSR training began on September 15 by FPL, with assistance from PG&E's Contact Center Operations Training and Quality team.

Results

Starting on September 16, PG&E's 22 CSRs seamlessly provided customer support over a period of 7 days. CSRs covered daily calls from 12:00 pm-6:00 pm PCT. A total of 4,669 calls were handled by PG&E CSRs throughout the period of September 16 to September 22.



The Results

4,669 Calls Handled September 16-22

**IBEW 1245 Employees recorded 1107
hours supporting this effort**

- 243 Saturday, 9-16
- 236 Sunday, 9-17
- 0 calls Monday, 9-18 (Technology Issues)
- 830 Tuesday, 9-19
- 1,048 Wednesday, 9-20
- 1,246 Thursday, 9-21
- 1,066 Friday, 9-22



Mayra Tostado Retweeted

Joe Michaels KFBK @RadioJoe1530 · Sep 18

* @PGE4Me customer service reps in Sacramento are answering calls for @insideFPL to better assist Floridians affected by Hurricane Irma.

