

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



June 10, 2013

**Advice Letter 4167-E**

Brian K. Cherry  
Vice President, Regulation and Rates  
Pacific Gas and Electric Company  
77 Beale Street, Mail Code B10C  
P.O. Box 770000  
San Francisco, CA 94177

**SUBJECT: Compliance with CPUC Decision 12-01-032 Adopting Regulations to Reduce Fire Hazards Associated With Overhead Power Lines and Communication Facilities**

Dear Mr. Cherry:

Advice Letter 4167-E is effective, per Resolution E-4576, on May 23, 2013.

Sincerely,

A handwritten signature in cursive script that reads "Edward F. Randolph".

Edward F. Randolph, Director  
Energy Division

December 21, 2012

**Advice 4167-E**

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

**Subject: Compliance with CPUC Decision 12-01-032 Adopting Regulations to Reduce Fire Hazards Associated With Overhead Power Lines and Communication Facilities**

**Purpose**

The purpose of this advice letter is to comply with Ordering Paragraphs 2, 3, 4 and 5 of CPUC Decision 12-01-032 regarding regulations to reduce the risk of fire hazards associated with overhead power lines and communication facilities.

**Background**

On January 12, 2012, the CPUC issued D.12-01-032 (the Phase 2 Decision) to adopt regulations to reduce the risk of fire hazards associated with overhead power lines and aerial communication facilities located in close proximity to power lines. Among other things, the CPUC revised elements of General Order (GO) 95, added a new Standard to GO 166 and initiated a Phase 3 in Rulemaking 08-11-005.

**Compliance with D.12-01-032**

Ordering Paragraph (OP) 2 of D.12-01-032 instructs investor owned electric utilities in southern California to prepare and file a fire-prevention plan via a Tier 1 advice letter by December 31, 2012. Although PG&E is not a southern California utility, PG&E has some facilities and operations in Santa Barbara County (which the CPUC defines, in OP 16, as part of southern California). Therefore, PG&E is submitting the attached "Fire Prevention Plan" (Attachment A). This plan outlines the overall fire mitigation measures that PG&E takes for its entire service territory and contains 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).

**PG&E's Overall Fire Prevention Plan**

In addition to directing southern California utilities to prepare a fire prevention plan, the CPUC in OP 3 instructs utilities in northern California to determine the risk of

catastrophic fires in their service territory associated with its overhead electric power facilities, and to prepare a fire prevention plan, if necessary. To determine this risk, OP 3 lists a number of specific steps to be taken as part of that analysis. PG&E has undertaken the steps outlined, performed the analysis and has determined a fire-prevention plan is not necessary for its service territory in northern California, based on the parameters set forth in the Decision.

Specifically, for utilities in northern California, a Fire Prevention Plan must be developed if it is reasonably foreseeable that the probability of 3-second wind gusts exceeding the maximum working stresses for overhead facilities in a high fire-threat zone during a Red Flag Warning (RFW) is 3% or more during a 50-year period. Using the most conservative values, PG&E's analysis determined that the resultant exceedance frequency was only 0.016%. Given the extremely low frequency of exceedance, it is not reasonably foreseeable that the probability of wind gusts exceeding the GO 95 stresses for overhead facilities in high fire-threat areas during RFWs would be greater than or equal to 3% during a 50-year period. For more information, please see Attachment B, which summarizes the examination of Remote Automated Weather Stations (RAWS) wind speed across the PG&E service territory.

As stated above, even though PG&E has determined that a fire prevention plan is not necessary for its service territory in northern California, PG&E nonetheless developed an overall, company-wide "Fire Prevention Plan" to accompany its specific fire mitigation plan for Santa Barbara County (see Attachment A). This Plan reflects PG&E's policy on fire prevention pre-planning, threat mitigation, fire readiness and response, and documents in one place all the various actions that PG&E currently takes to prevent and mitigate the risk of fire ignitions associated with the operation of overhead electric power facilities. PG&E's Fire Prevention Plan is in its early formative stages. PG&E believes this plan will evolve as other opportunities for fire prevention and mitigation are identified, and as more information is gained from parties and the Commission in Phase 3 of Rulemaking 08-11-005.

OP's 4 and 5 further require that any fire prevention plans specify how utilities identify the occurrence of three second gusts that might exceed design criteria. Those pertinent specifications are included in the study used to determine that no fire plan was necessary for PG&E's operations in northern California (see Attachment B). Note that of records obtained from two RAWS (Vandenberg and Figueroa) in PG&E's portion of Santa Barbara County located within 25 miles of overhead facilities for high fire danger areas according to the Reax CIP map, none was identified as exceeding the GO 95 maximum working stresses. This indicates that there is also no need for a fire prevention plan even for PG&E's service territory in Santa Barbara County.

OP's 4 and 5 also direct that the utility specify the countermeasures the utility will implement to mitigate the threat of ignitions in its service territory. These countermeasures are listed in PG&E's Fire Prevention Plan (Attachment A).

**Protests**

Anyone wishing to protest this advice filing may do so by letter sent via U.S. mail, facsimile or E-mail, no later than **January 10, 2013**, which is 20 days after the date of this filing. Protests must be submitted to:

CPUC Energy Division  
ED Tariff Unit  
505 Van Ness Avenue, 4<sup>th</sup> Floor  
San Francisco, California 94102

Facsimile: (415) 703-2200  
E-mail: EDTariffUnit@cpuc.ca.gov

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest shall also be sent to PG&E either via E-mail or U.S. mail (and by facsimile, if possible) at the address shown below on the same date it is mailed or delivered to the Commission:

Brian K. Cherry  
Vice President, Regulatory Relations  
Pacific Gas and Electric Company  
77 Beale Street, Mail Code B10C  
P.O. Box 770000  
San Francisco, California 94177

Facsimile: (415) 973-7226  
E-mail: PGETariffs@pge.com

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Rule 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name, telephone number, postal address, and (where appropriate) e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Rule 3.11).

**Effective Date**

PG&E requests that this **Tier 1** advice filing become effective upon filing.

**Notice**

In accordance with General Order 96-B, Rule 4, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service list for R.08-11-005. Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process\_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter filings can also be accessed electronically at: <http://www.pge.com/tariffs>

Handwritten signature of Brian Cherry / IG in cursive script.

Vice President, Regulatory Relations

Attachments

cc: Service List R.08-11-005

# CALIFORNIA PUBLIC UTILITIES COMMISSION

## ADVICE LETTER FILING SUMMARY ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No. **Pacific Gas and Electric Company (ID U39 E)**

Utility type:

ELC       GAS  
 PLC       HEAT       WATER

Contact Person: Igor Grinberg

Phone #: (415) 973-8580

E-mail: ixg8@pge.com

EXPLANATION OF UTILITY TYPE

ELC = Electric      GAS = Gas  
PLC = Pipeline      HEAT = Heat      WATER = Water

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: **4167-E**

Tier: **1**

Subject of AL: **Compliance with CPUC Decision 12-01-032 Adopting Regulations to Reduce Fire Hazards Associated With Overhead Power Lines and Communication Facilities**

Keywords (choose from CPUC listing): Nuclear

AL filing type:  Monthly  Quarterly  Annual  One-Time  Other \_\_\_\_\_

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #: D.12-01-032

Does AL replace a withdrawn or rejected AL? No If so, identify the prior AL: N/A

Summarize differences between the AL and the prior withdrawn or rejected AL: N/A

Is AL requesting confidential treatment? No If so, what information is the utility seeking confidential treatment for: N/A

Confidential information will be made available to those who have executed a nondisclosure agreement: N/A

Name(s) and contact information of the person(s) who will provide the nondisclosure agreement and access to the confidential information: \_\_\_\_\_

Resolution Required?  Yes  No

Requested effective date: **December 21, 2012**

No. of tariff sheets: N/A

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: N/A

Service affected and changes proposed: N/A

Pending advice letters that revise the same tariff sheets: N/A

Protests, dispositions, and all other correspondence regarding this AL are due no later than 20 days after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

**California Public Utilities Commission**

**Energy Division**

**EDTariffUnit**

**505 Van Ness Ave., 4<sup>th</sup> Flr.**

**San Francisco, CA 94102**

**E-mail: EDTariffUnit@cpuc.ca.gov**

**Pacific Gas and Electric Company**

**Attn: Brian Cherry**

**Vice President, Regulatory Relations**

**77 Beale Street, Mail Code B10C**

**P.O. Box 770000**

**San Francisco, CA 94177**

**E-mail: PGETariffs@pge.com**

December 21, 2012

Advice 4167-E

Attachment A

Fire Prevention Plan



***Pacific Gas and  
Electric Company™***



# Fire Prevention Plan

December 20, 2012

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# Table of Contents

Summary.....3

Policy Statement.....3

Plan Components.....3

    Fire Prevention Pre-planning.....3

    Threat Mitigation.....5

    Pro-Active Responses to Fire Incidents.....6

    Post Incident Recovery.....7

References.....8

Addendum.....9

Attachments.....11

## 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 real time Cal Fire "Extreme" and "Very High" fire rating. 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 Addendum A, the additional California Public Utilities Commission (CPUC) requirements for "Extreme" and "Very High" Fire Threat Zones in Southern California, which includes Santa Barbara County.

## 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.

## Plan Components

### 1. Fire Prevention Pre-planning

#### Education

- PG&E conducts annual electric safety training for first responders; including law enforcement agencies, fire departments, public works and transportation agencies.



*Training First Responders*

- 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.
- 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

- Through arrangements with the California Department of Forestry and Fire Protection (CAL FIRE) and the United States Forest Service (USFS), PG&E is notified daily when next-day fire index ratings of “Extreme” or “Very High” are calculated for any zone within the PG&E service territory. The rating received is the prediction of the most severe rating expected for each area for the following day. This information is received by the Grid Control Center and posted on the PG&E Intranet at: <http://www.fireindex/> (example of Fire Index Map of PG&E Territory provided in Attachment 1)
- The USFS provides a forecast of the next day’s Fire Danger Class (Low to Extreme) for the United States. Forecasts are derived from the National Fire Danger Rating System (NFDRS) output. Forecast maps for Northern California ([http://www.wfas.net/images/firedanger/subsets/fdc\\_f\\_cn.png](http://www.wfas.net/images/firedanger/subsets/fdc_f_cn.png)) and Southern California ([http://www.wfas.net/images/firedanger/subsets/fdc\\_f\\_cs.png](http://www.wfas.net/images/firedanger/subsets/fdc_f_cs.png)) are made available to the public daily.
- National Weather Service (NWS) issues Red Flag Warnings (RFWs) to inform the government and public of critical meteorological conditions conducive to new fire starts and/or extreme fire behavior and growth. This typically but not always involves a combination of high wind speed, high temperature, low fuel moisture and low relative humidity. The areal extent of any RFW issued in California can be found on the NWS California Fire Weather page: <http://www.wrh.noaa.gov/firewx/cafw/index.php>.
- California is divided into 2 Geographical Area Coordination Centers (GACC), California-North and California-South by the [National Interagency Coordination Center \(NICC\)](#) and [National Interagency Fire Center \(NIFC\)](#). The primary function of each GACC is to support Federal and State wildland fire agencies with logistical coordination and resource mobilization in and between GACCs. Each GACC contains an intelligence section, which is comprised of one or more meteorologists, who produce daily fire danger products and work in collaboration with other agencies (e.g. NIFC, NICC, and USFS). The California-North (<http://psgeodata.fs.fed.us/7day/action/forecast/10>) and California-South (<http://psgeodata.fs.fed.us/7day/action/forecast/8>) provide 7-Day Significant Fire Potential Outlook products that are updated daily.
- The PG&E Meteorology team monitors on a daily basis the forecasts and RFWs issued from all NWS forecast offices based in California (Eureka [EKA], Sacramento [STO], San Francisco [MTR], San Joaquin Valley [HNX], Los Angeles [LOX] and San Diego [SXG]), and others (Reno and Medford), . This process includes checking the NWS California Fire Weather page (<http://www.wrh.noaa.gov/firewx/cafw/index.php>) daily as well as reading NWS Fire weather forecast discussions (<http://www.wrh.noaa.gov/sto/cafw/fwfall.php?wfo=sto>).
- The PG&E Meteorology group obtains via satellite reception high-resolution weather model forecast data including the significant fire-weather parameters: rain, wind, temperature, and dewpoint temperatures (relative humidity) from the European Centre

for Medium-Range Weather Forecasting (ECMWF), Global Forecast System (GFS) and North American Mesoscale Model (NAM) weather forecast models. Custom data displays give PG&E meteorologists' detailed views of the latest fire weather model forecasts, which provide the information necessary to conduct briefings to the company on the current fire weather threat.

## **2. Threat Mitigation**

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 program are:

### **Vegetation Management**

PG&E manages the vegetation located in proximity to its overhead electric facilities, which reduces the risk of possible ignitions associated with vegetation contact. PG&E's program is designed to:

- Follow all existing State and Federal regulatory vegetation clearance requirements.
- Perform periodic patrols to ensure required vegetation clearances are maintained and hazard trees addressed. These are trees that are deemed structurally unsound and could strike power line if it were to fail.
- Maintain tree-to-line clearances as well as radial clearances around its poles in designated portions of its service territory during fire season pursuant to Public Resources Code Section 4292 and 4293.
- Maintain auditable records of all work done in high fire risk areas.

### **Overhead Patrols and Inspections**

PG&E has a patrol and inspection program for its overhead electric facilities that helps to identify damaged facilities and other 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, and all transmission lines, with biannual patrols of overhead distribution facilities in rural 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
- Maintain auditable documentation of patrol and inspection activity and findings.

### **Operational Readiness during High Risk Conditions**

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. This standard is based on Fire Index Ratings that are determined by Cal Fire daily during the fire season. A Fire Index zone is a static geographical area that is given a unique Fire Index number. All potential fire hazard zones throughout the service territory

are identified on the Fire Index Rating Map. When an area is rated “Extreme” or “Very High,” it is identified and colored coded on the map. (Attachment 1) 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 Cal Fire on a daily basis during the fire season, 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 as determined by the daily Cal Fire Index Map, 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”, as determined by the daily Cal Fire Index Map, 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 Friday 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.

## **3. 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’ 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 the base of the 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 cut and chipped utilizing large excavators with a mastication head to grind the vegetation to near the ground 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.

## **4. 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**

- Additional clearing of hazardous, burned, or damaged trees that pose a threat to the utility lines is normally done after the fire has gone through the area.

- Silt control measures utilize the mastication process for minimal damage to the ground thus reducing the erosion issues. 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*

## 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”



***Pacific Gas and  
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## **Addendum A**

# **Special Fire Threat Zones Santa Barbara County**



# Addendum A – 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.<sup>1</sup>

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.<sup>2</sup>

## 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.

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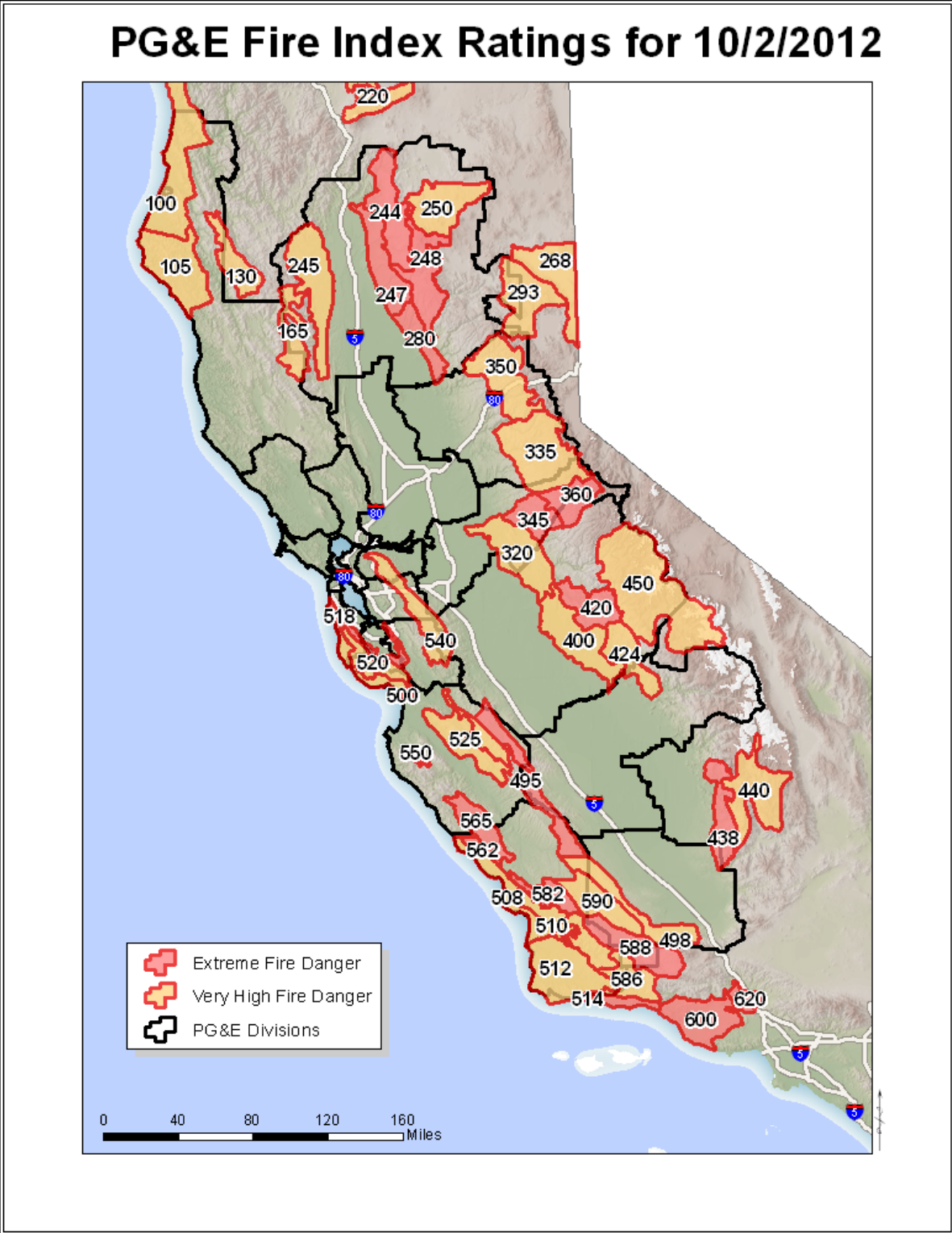
<sup>1</sup> See, CPUC D.09-08-029 and D.12-01-032, and corresponding requirements in General Order (GO) 95 (including new Case 14 in Table 1 and Appendix E) and GO 165.

<sup>2</sup> 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.

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## Attachments

1. Fire Index Map of PG&E Territory



December 21, 2012

Advice 4167-E

Attachment B

CPUC D.12-01-032  
Ordering Paragraph 3  
Analysis Summary

## **CPUC D.12-01-032 Ordering Paragraph 3 Analysis Summary**

### **Risk Analysis**

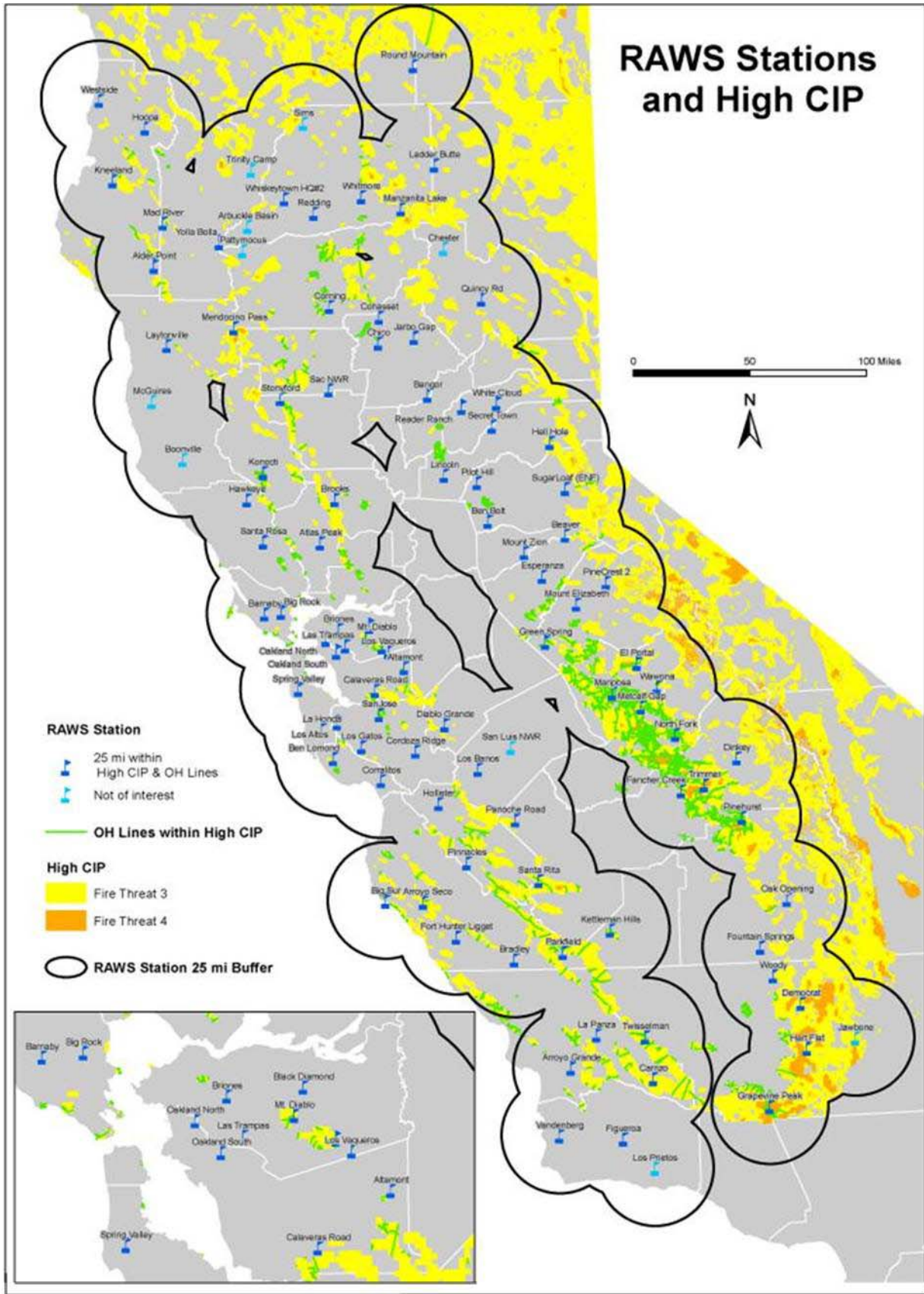
1. Performed Geographic Information Systems (GIS) analysis to determine Remote Automated Weather Stations (RAWS) within 25 miles of overhead lines that intersect very high and above fire danger from Reax Communication Infrastructure Provider (CIP) map.
2. Figure on the following page shows location of 104 RAWS (blue flags), 25-mile buffer around each site (black lines), and overhead facilities (green lines) located in very high fire danger areas (yellow and orange areas).

### **Data Collection – Red Flag Warnings and Wind Observations**

1. Obtained 695 RFW's covering the PG&E Service Area from 2001 to present from the National Climatic Data Center.
2. Collected hourly weather data from 104 RAWS throughout the PG&E Service Territory 2001 to present (> 9 million records).
3. Identified 209,911 wind gust records (out of > 9 million) that were concurrent in time and space with a RFW.

### **Summary/Results**

1. Out of > 9 million wind gusts records, 209,911 occurred during a RFW.
2. Out of 209,911 concurrent RFW findings, 33 hourly observations exceeded the maximum working stress specified in GO 95 IV.
3. Exceedance frequency = 0.016 percent.
4. Conclusion: it is not reasonably foreseeable that the probability of three-second wind gusts would exceed working stresses defined in General Order (GO) 95 by 3 percent or more during a 50-year period.



**PG&E Gas and Electric  
Advice Filing List  
General Order 96-B, Section IV**

1st Light Energy	Department of General Services	North America Power Partners
AT&T	Department of Water Resources	North Coast SolarResources
Alcantar & Kahl LLP	Dept of General Services	Northern California Power Association
Ameresco	Douglass & Liddell	Occidental Energy Marketing, Inc.
Anderson & Poole	Downey & Brand	OnGrid Solar
BART	Duke Energy	PG&E
Barkovich & Yap, Inc.	Economic Sciences Corporation	Praxair
Bartle Wells Associates	Ellison Schneider & Harris LLP	R. W. Beck & Associates
Bloomberg	Foster Farms	RCS, Inc.
Bloomberg New Energy Finance	G. A. Krause & Assoc.	SCD Energy Solutions
Boston Properties	GLJ Publications	SCE
Braun Blaising McLaughlin, P.C.	GenOn Energy Inc.	SMUD
Brookfield Renewable Power	GenOn Energy, Inc.	SPURR
CA Bldg Industry Association	Goodin, MacBride, Squeri, Schlotz & Ritchie	San Francisco Public Utilities Commission
CENERGY POWER	Green Power Institute	Seattle City Light
CLECA Law Office	Hanna & Morton	Sempra Utilities
California Cotton Ginners & Growers Assn	Hitachi	Sierra Pacific Power Company
California Energy Commission	In House Energy	Silicon Valley Power
California League of Food Processors	International Power Technology	Silo Energy LLC
California Public Utilities Commission	Intestate Gas Services, Inc.	Southern California Edison Company
Calpine	Lawrence Berkeley National Lab	Spark Energy, L.P.
Cardinal Cogen	Los Angeles County Office of Education	Sun Light & Power
Casner, Steve	Los Angeles Dept of Water & Power	Sunrun Inc.
Center for Biological Diversity	MAC Lighting Consulting	Sunshine Design
Chris, King	MRW & Associates	Sutherland, Asbill & Brennan
City of Palo Alto	Manatt Phelps Phillips	Tecogen, Inc.
City of Palo Alto Utilities	Marin Energy Authority	Tiger Natural Gas, Inc.
City of San Jose	McKenna Long & Aldridge LLP	TransCanada
City of Santa Rosa	McKenzie & Associates	Turlock Irrigation District
Clean Energy Fuels	Merced Irrigation District	United Cogen
Clean Power	Modesto Irrigation District	Utility Cost Management
Coast Economic Consulting	Morgan Stanley	Utility Specialists
Commercial Energy	Morrison & Foerster	Verizon
Consumer Federation of California	Morrison & Foerster LLP	Wellhead Electric Company
Crossborder Energy	NLine Energy, Inc.	Western Manufactured Housing Communities Association (WMA)
Davis Wright Tremaine LLP	NRG West	eMeter Corporation
Day Carter Murphy	NaturEner	
Defense Energy Support Center	Norris & Wong Associates	