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BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Implement Electric Utility Wildfire Mitigation Plans Pursuant to Senate Bill 901 (2018).	Rulemaking 18-10-007 (Filed October 25, 2018)

COMMENTS OF THE COUNTY OF MENDOCINO, THE COUNTY OF NAPA, THE COUNTY OF SONOMA, AND THE CITY OF SANTA ROSA ON PG&E'S WILDFIRE MITIGATION PLAN

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In accordance with the Assigned Commissioner's Scoping Memo and Ruling, the County of Mendocino, the County of Napa, the County of Sonoma, and the City of Santa Rosa[1] (the Joint Local Governments) submit their comments on PG&E's Wildfire Mitigation Plan.

INTRODUCTION

The Legislature enacted Senate Bill (SB) 901 with the intention of reducing wildfires and improving wildfire response and recovery. To that end, the Joint Local Governments believe that the Legislature intended not only that the utilities' wildfire mitigation plans contain the elements listed in Public Utilities Code section 8386, but that the wildfire mitigation plans actually be effective in fulfilling the goals of SB 901. Section 8386 allows the Commission to require modifications to the wildfire mitigation plans before approving them. The Joint Local Governments' comments provide a number of suggested improvements to

[1] The City of Santa Rosa filed a motion for party status concurrently with these comments.

PG&E's Wildfire Mitigation Plan (WMP) that, if implemented, will improve notice and communications, best practices, and public safety relating to wildfires.

The Joint Local Governments' observations regarding PG&E's wildfire-related activities have a common refrain: PG&E *must* stop approaching its communications with local governments and first responders as a one-way avenue to provide information about what the utility is doing regarding wildfire mitigation and *must* start partnering with these entities to ensure multi-directional lines of communication, planning, and information-sharing. PG&E makes a number of claims regarding its communications and partnerships with local governments, all of which sound like real progress is being made—but the Joint Local Governments have not seen a level of action from PG&E that matches the description in PG&E's WMP and its public relations materials. Instead, PG&E's past and present conduct reflects ineffective, unilateral, and sporadic communication with, and slowness to respond to, local entities, and a failure to engage in proactive planning with the community. These lapses hamper local entities and first responders, who have boots on the ground, in protecting local residents during wildfire or de-energization events. Local entities are hard-pressed even to understand the utility's decision-making process during a developing emergency. PG&E's communication-and-execution track record during wildfire-related emergencies is poor and is marked by pervasive confusion, inaccurate information, and long silences. This must change. If the Commission adopts the Joint Local Governments' recommendations and commits to soliciting feedback from local governments, first responders, and citizens for each future WMP, and if PG&E develops a proper working relationship with the communities that it serves, PG&E's customers will be better-served going forward.

1. MEANING OF PLAN APPROVAL

The Joint Local Governments do not address this issue at this time.

2. OVERALL OBJECTIVES AND STRATEGIES

It is clear that PG&E has put significant effort into crafting its WMP, but it is less clear whether the plan will improve PG&E's operations over the coming year in light of the apparent lack of critical thought given to PG&E's previous fire prevention planning. PG&E's overview and objectives for its WMP show an ambitious program that will be implemented on a large scale throughout PG&E's expansive service territory over a short period of time. The programs and measures presented in the WMP are purportedly incremental to PG&E's routine operations,[2] including the programs and measures in PG&E's Fire Prevention Plan, which it has filed and updated since 2012.[3] But a side-by-side comparison shows that the measures presented in the Fire Prevention Plan appear, in many cases, substantially similar to the measures in the WMP, despite the fact that the Fire Prevention Plan for the 2017–2018 year was finalized before the October 2017 Northern California wildfires and PG&E's subsequent creation of the Community Wildfire Safety Program, which will be implemented through the WMP.[4] For example:

- The Fire Prevention Plan addresses intelligence gathering for weather and fire data, which includes using PG&E's state-of-the art weather forecast model data and information from national weather and fire services to evaluate fire weather

[2] See PG&E WMP, Table 9.

[3] R.18-10-007, PG&E Response to ALJ Ruling Seeking Additional Information on Wildfire Mitigation Plans, p. 2 (February 26, 2019) ("PG&E Response to ALJ Ruling"); see also D.12-01-032, p. 3 (adding Standard 1.E to General Order 166, requiring utilities to prepare and submit plans to prevent power-line fires during extreme fire-weather events). PG&E's data response and Fire Prevention Plans for 2012 through 2015 are included as Attachments A–D.

[4] PG&E included more information in its 2015 FPP than appeared in the 2014 plan, though much of the fundamental practices remained unchanged. (Compare Attachments C and D.) And PG&E's current FPP is substantially similar to its 2015 FPP. (Compare Attachment D to PG&E Response to ALJ Ruling, Attachment A.) In terms of the basic measures—weather monitoring, equipment inspections, vegetation management—PG&E's practices appear to have changed very little in recent years, which calls into question PG&E's failure to analyze the effectiveness of these measures and why such analysis cannot be readily performed.

risks across its service territory, operating PG&E's Operational Mesoscale Modeling System (POMMS) for forecast fire weather parameters, and extended two-to-seven day weather forecasts.[5] The WMP describes a significant portion of PG&E's meteorological operations and advanced situational awareness using the same modeling and weather forecasting practices.[6]

- Both the Fire Prevention Plan and the WMP provide for replacing non-exempt equipment with new equipment identified by CalFire as having lower fire risk.[7]
- Both the Fire Prevention Plan and the WMP call for regular patrols and inspections of overhead transmission and distribution lines, though it appears the WMP proposes a more frequent inspection cycle.[8]
- The Fire Prevention Plan discusses PG&E's implementation of a Public Safety and Reliability (PS&R) Program that is incremental to PG&E's routine vegetation inspection and abatement process, which takes a data-driven approach to vegetation management in high-risk locations. The PS&R Program uses PG&E's extensive database of information about tree failures that have caused outages and ignitions to allow PG&E to predict how, and generally when and where, each species of tree is more likely to fail and cause an outage.[9] The WMP's enhanced vegetation management activities include targeted trimming or removal of certain species of trees that are known to fail—this may be the culmination of the PS&R Program, but the WMP is silent on this point.[10]

[5] PG&E 2017 Fire Prevention Plan, p. 3.
[6] PG&E WMP, pp. 88–89.
[7] PG&E 2017 Fire Prevention Plan, p. 4; PG&E WMP, pp. 61, 62, 69.
[8] PG&E 2017 Fire Prevention Plan, p. 5; PG&E WMP, pp. 52–59.
[9] PG&E 2017 Fire Prevention Plan, p. 8.
[10] PG&E WMP, pp. 71, 72, 79–80.

- The Fire Prevention Plan lists a number of enhanced situational awareness, technology upgrade, and system hardening activities that were in development, the subject of pilot programs, or implemented on an ad-hoc basis as of September 2017.[11] There is significant overlap between these activities and the situational awareness, technological upgrade, and system hardening activities proposed in the WMP.[12] It is not clear, however, the extent to which the activities in the Fire Prevention Plan had already been studied or implemented by the time the Community Wildfire Safety Program or the WMP were developed.
- The Fire Prevention Plan details PG&E's daily internal monitoring of fire threat conditions, which includes a daily 6:00 a.m. fire index email, daily review of the fire index and daily dissemination of all Red Flag Warnings and other relevant weather notifications, weekly fire danger forecasts from the meteorology team, and production of a daily image of "extreme" and "very high" fire index areas using internal Geographic Information Systems, which creates an image that is available on PG&E's intranet.[13] The daily fire threat assessment and ready dissemination of fire threat information within PG&E described in the Fire Prevention Plan is difficult to square with the uncertainty in the WMP of PG&E ability to notify first responders, local governments, and vulnerable populations of a potential Public Safety Power Shutoff (PSPS) event, which will be dictated by weather conditions and the fire threat level.[14] The WMP's 2019 fire safety targets only indicate that PG&E will "attempt" to provide advance notice to first

[11] PG&E 2017 Fire Prevention Plan, pp. 9–10.
[12] PG&E WMP, Sections 4.1, 4.3, 4.5.
[13] PG&E 2017 Fire Prevention Plan, pp. 5–6.
[14] PG&E WMP, p. 45, Table 9, Section 4.6.3, PSPS Notification Strategies.

responders, telecommunications providers, water utilities, healthcare facilities, vulnerable populations, and residents.[15]

While the apparent overlap or continuity between the Fire Prevention Plan and the WMP could be viewed as an indication of PG&E's consistent internal planning regarding fire prevention and mitigation, PG&E's assertion that it has not quantified in any detail the effectiveness of the Fire Prevention Plan components, and that the Fire Prevention Plan components do not directly correlate to the 2019 targets in the WMP,[16] suggest a concerning lack of analytical thought in PG&E's fire prevention planning. If PG&E has had a Fire Prevention Plan in place since 2012 but has not analyzed the effectiveness of the measures in that plan from year to year, that calls into question the planning assumptions that underlie the WMP.

Recommendation: Before the Commission approves the WMP for 2019, PG&E should be required to quantify the effectiveness of the Fire Prevention Plan measures and correlate the components of that plan to the WMP. In all future years, PG&E should be required to quantify the effectiveness of the measures in the currently effective WMP and explain how the new WMP for the coming year has been adjusted to reflect the results of that quantification.

3. RISK ANALYSIS AND RISK DRIVERS

3.6 Wildfire Evacuation Study[17]

The Joint Local Governments support PG&E's efforts to develop a wildfire evacuation methodology or procedure that can be applied to all communities in elevated fire risk areas.[18] Traffic bottlenecks are a serious safety hazard when evacuations are necessary. The

[15] *Ibid.*
[16] PG&E Response to ALJ Ruling, p. 2.
[17] The Counties are maintaining the numbering for the sub-headings in PG&E's WMP.
[18] PG&E WMP, p. 34.

WMP does not state whether factors other than traffic simulations will form the basis for the evacuation methodology.

Recommendation: The Joint Local Governments recommend that PG&E include other factors such as overhead power lines and trees that could block roadways, mobility of the population (e.g., the presence of elder-care facilities, hospitals, facilities that care for children, etc.), and factors that may affect evacuation conditions (e.g., under-deployed or vulnerable telecommunications infrastructure that may prevent adequate notice). If PG&E does intend to include these factors, but simply did not address them in its WMP, the Joint Local Governments recommend that the PG&E revise the WMP to reflect the universe of considerations that will inform the evacuation methodology. The evacuation methodology or procedures should be updated annually in the WMP to include lessons learned from any evacuations occurring in the previous year.

4. WILDFIRE REDUCTION STRATEGY AND PROGRAMS

4.1 Operational Practices

4.1.1 Recloser Operations

The Joint Local Governments generally support PG&E's plan to disable automatic reclosers when the fire threat level is high or extreme. The Joint Local Governments also generally support PG&E's proposal to increase SCADA capabilities on its electrical system, which should make PG&E's monitoring and operations more nimble.[19]

Recommendation: The Joint Local Governments would like to see more information in the WMP on the practical issues relating to reclosers that must be manually disabled—and, ostensibly, manually re-enabled. Specifically, if reclosers cannot be remotely operated, and a particular line or circuit is de-energized due to a fault or other occurrence, how

[19] PG&E WMP, pp. 47–48.

long will it take for PG&E to manually inspect the line and re-energize it? Is the length of time to restore power on a line affected by whether the line is in a remote or rural location? Does the potential exist for certain areas to be left without power for extended periods of time? And what are PG&E's communications protocols with local governments and affected residents in the event a line cannot be remotely re-energized?

4.1.3 Safety and Infrastructure Protection Teams

To the extent PG&E's proposed Safety and Infrastructure Protection Teams (SIPT) will provide support for emergency response and fire-fighting activities during a wildfire, the Joint Local Governments believe this initiative may be beneficial.[20] The description of the command structure for SIPTs in the WMP, however, raises a number of questions that should be answered in PG&E's final WMP. Clear lines of communication and an unambiguous command structure are crucial during emergencies. The WMP states that the purpose of the SIPT is to assist PG&E's Wildfire Safety Operations Center decision making, protect PG&E assets, and assist with emergency response as approved and directed by the agency having jurisdiciton (e.g., CalFire).[21] It is not clear from this description how SIPTs will assist PG&E with decision-making, what authority the SIPTs will have to make decisions based on real-time information, or what role, if any, the SIPTs will have in communicating with first responders or communities. It is also not clear whether the primary responsibility of the SIPTs is to protect PG&E assets, or whether they can be re-deployed by CalFire or another agency to perform emergency work not related to PG&E's assets. These questions, if not answered, could lead to increased confusion and reduced effectiveness during a potential wildfire situation.

[20] PG&E WMP, pp. 50–51.
[21] *Id.* at p. 50.

It is also not clear from the WMP why the SIPT activities other than responding to fires or medical emergencies cannot be done by PG&E employees in the regular course of their duties. For instance, SIPTs may undertake asset protection at PG&E facilities or other critical infrastructures, vegetation management support during wildfire recovery, mop-up of fire-damaged PG&E assets, or accompanying and supporting PG&E crews in fire restoration efforts during and after wildfires.[22]

Recommendation: In its final WMP, PG&E should outline a clear structure for SIPT command and communications that address the ambiguities identified in the previous paragraph. PG&E should also clarify the circumstances under which the agency having jurisdiciton has primary authority to direct SIPT personnel and resources, even if those directions might countermand direction or priorities given by PG&E's WSOC.

Clarification of the purpose and function of the SIPTs is also necessary to help the parties and Commission understand the value that the SIPTs would bring to an emergency situation. While extra hands and equipment would likely be beneficial to help fight fires or respond to medical emergencies, it is less clear what the SIPTs will contribute if they are standing by while PG&E field personnel work or when the SIPT "deploy[s] to conform potential fire threats and provide data."[23] PG&E should provide an explanation of why the SIPT personnel and functions are not redundant.

Future WMPs should assess the activities performed by the SIPTs during the planning year, and the value provided by those activities. The WMP should be adjusted accordingly to ensure the optimal use of PG&E's resources and customer funds.

[22] PG&E WMP, p. 51.
[23] PG&E WMP, p. 50.

4.2 Wildfire Safety Inspection Programs

A common theme in PG&E's discussion of its inspection programs for distribution, transmission, and substation assets is a shortage of skilled labor.[24]

Recommendation: PG&E should partner with local departments of public works, where the local department has sufficient personnel and resources available to assist, to take advantage of the skilled labor and other resources those departments may be able to offer.

4.3 System Hardening Overview

The Joint Local Governments generally support PG&E's system hardening efforts that are intended to reduce the potential for ignitions. The Joint Local Governments would, however, appreciate a more detailed discussion in the WMP of the circumstances under which PG&E would consider undergrounding to be "appropriate,"[25] particularly with respect to areas with ingress/egress bottlenecks and in high-fire-threat zones.

Recommendation: PG&E's final WMP should provide more detail on the criteria PG&E may consider when deciding whether undergrounding is appropriate, including risk analyses or other metrics that weigh the potential fire-prevention benefits of undergrounding vs. covered conductor in high-fire-threat areas and along the roads that provide ingress and egress for communities.

The Joint Local Governments further recommend that PG&E partner with local departments of public works, where the local department has sufficient resources and personnel available to assist, to help alleviate the shortage of skilled labor available to perform system hardening work.

[24] *Id.* at pp. 55, 56, 59, 60.
[25] PG&E WMP, p. 61.

4.3.4 System Protection

The Joint Local Governments support PG&E's efforts to sectionalize its distribution circuits.[26] Sectionalization will reduce the extent of the impacts if and when distribution lines need to be de-energized. The Joint Local Governments understand that PG&E's plan in 2019 is to essentially ring-fence Tier 2 and Tier 3 High Fire Threat Districts with additional line reclosers that will allow sectionalization at the boundaries of the fire threat zones.[27] During the March 13, 2019 workshop on the utilities' WMPs, PG&E confirmed that it will examine more granular sectionalizing of circuits within the high fire threat zones for its 2020 WMP, and in the process will consult with local governments and other agencies to identify critical facilities, hospitals, vulnerable population centers, and communities with unique circuit configurations (like downtown Calistoga) that can be factored into the sectionalization planning.

Recommendation: PG&E's next WMP, which will likely be submitted to the Commission in early 2020, should contain plans to sectionalize distribution circuits within the Tier 2 and Tier 3 HFTDs, and should catalogue PG&E's communications and collaborations with local governments, agencies, and communities.

4.4 Enhanced Vegetation Management

The Joint Local Governments recognize that vegetation management is central to PG&E's ability to reduce wildfire risk because of the high proportion of vegetation-related ignitions PG&E experiences on an annual basis. PG&E has, in its own words, aggressively expanded vegetation management in the wake of the 2017 and 2018 wildfires.[28] This rapid expansion has not been without growing pains. The Joint Local Governments have observed areas that have been clear cut, areas with vegetation removal that would warrant code

[26] *Id.* at p. 68.
[27] PG&E WMP, p. 68.
[28] *Id.* at pp. 70–71.

enforcement under normal circumstances, and have heard from private landowners that there have been failures by PG&E to communicate effectively before removing trees from their property, and that PG&E has left large piles of debris and felled trees for the landowner to dispose of.[29] Napa has received complaints from residents that the PG&E contractors who are dispatched to undertake much of the vegetation management work are being sent to work at sites for a period of several days without any portable restroom facilities, which raises a host of concerning questions. Additionally, though PG&E asserts that the local permitting process is a potential impediment to the utility's ability to meet its vegetation management targets,[30] Napa County is not aware of any attempts by PG&E to obtain County-level permits for vegetation management or erosion control.

During the February 27, 2019 technical workshop on vegetation management, PG&E stated that it has been working to incorporate lessons learned and take corrective measures in its enhanced vegetation management based on feedback from customers and communities. PG&E also stated its desire to increase its community engagement around vegetation management practices. The Joint Local Governments appreciate that PG&E recognizes that its vegetation management has been problematic and wishes to correct these issues going forward. To gauge PG&E's understanding of the problems and its progress remedying them, the Joint Local Governments recommend that PG&E include in its WMP specific feedback and remediation measures implemented since it began its enhanced vegetation management activities. Given the magnitude of the vegetation management work, the associated expense, and the potential impacts on the environment and communities, a to-date report on the

[29] The Counties recognize that the vegetation and trees are the property of the landowner and that PG&E cannot remove them without permission.
[30] PG&E WMP, pp. 84–85.

evolution of PG&E's program would provide a barometer for how well PG&E adjusts to learning that its practices need improvement.

During the February 27 workshop, the utilities also discussed the point of diminishing returns for vegetation management practices. PG&E stated that it had already reached the point of diminishing returns with radial vegetation clearance, and that focusing on trees that were likely to fail and connect with power lines was the work that would yield fire-risk-reduction dividends going forward.

Additionally, the utilities noted that the environmental and local permitting process, and access to private property, were significant obstacles to their ability to complete the vegetation management targets outlined in the WMPs.[31] The Joint Local Governments suggested that the utilities might provide the significant amounts of vegetation data and fire prediction modeling they have produced to the permitting agencies and local governments, in order to open an ongoing dialogue about vegetation management needs in the utilities' service territories and—hopefully—improve the permitting and public education process. The utilities confirmed that they already have good working relationships with some state-level agencies and are open to creating similar relationships with other government entities, including at the County level.

Recommendations: PG&E should revise its WMP to include specific feedback it has received since 2017 on problems with its enhanced vegetation management practices and what corrective measures or changes PG&E has implemented in response to that feedback. In each subsequent WMP, PG&E should provide a similar discussion for feedback and lessons learned during the previous planning year.

[31] See also PG&E WMP, pp. 85–86.

PG&E's WMP should also be updated to reflect the impact of the diminishing returns for radial vegetation clearance on the vegetation management practices in the Plan. For example, do the diminishing returns affect the proposed Fuel Reduction Program, which would reduce vegetation under and up to 15 feet on either side of power lines in HFTD areas?[32] What impact, if any, does the limited benefit of additional radial clearance have on PG&E's tree trimming activities? The version of PG&E's WMP that the Commission approves in 2019 should contain the most up-to-date information on what vegetation management practices are most likely to provide increased fire safety benefits.

Finally, PG&E should include a discussion of the state and local permitting or oversight agencies with which it has begun sharing information on the vegetation PG&E believes must be abated, and the status of any permit requests. PG&E should include any relevant considerations or concerns about its proposed vegetation management program raised by those agencies. This type of information should be included in every WMP and should be updated to reflect developments from the previous planning year.

4.5 Enhanced Situational Awareness and Known Local Conditions

Clear communication and access to shared information is necessary to minimize confusion and to allow the best use of state and local resources in an emergency. The Joint Local Governments support PG&E's efforts to increase and improve its situational awareness and fire-prediction capabilities, as well as increased sharing of, and access to, this weather- and fire-related information for first responders and state and local governments. For instance, PG&E's WMP states that first responders can control PG&E's cameras and use the live feeds to confirm, locate, and respond to fires, and the data from weather stations is made publicly

[32] PG&E WMP, p. 75.

available in near-real time to benefit government agencies and the public.[33] Sharing camera and weather station information is a good start, but is not sufficient to ensure that first responders and local governments are well-informed during a potential wildfire or de-energization event. As the Joint Local Governments discussed at length in their comments on PG&E's de-energization practices in R.18-12-005, PG&E's representatives have not necessarily been well-informed during potential emergency situations and PG&E has not been able to provide accurate maps or other public-facing information about potentially affected areas.[34] Relying on PG&E to relay crucial information about fire threat levels, weather conditions, and other fire risks is, in the Joint Local Governments' experience, an iffy proposition; first responders and local governments will be able to respond more effectively if they are able to share the information that PG&E is working from.

Because access to fire-related information is crucial, the Joint Local Governments are concerned about the lack of clarity in the WMP regarding whether or to what extent PG&E intends to make available to state and local governments and first responders its extensive fire and weather data and modeling. PG&E is able to marshal a significant amount of data that will be relevant to fire-threat conditions and developing emergency situations:

- Meteorology data and modeling related to current and historical fuel moisture content[35];
- Data and modeling results from PG&E's Fire Potential Index[36];
- Data and modeling results from PG&E's in-house mesoscale forecast model (POMMS) for short- and medium-term fire danger forecasts[37];

[33] *Id.* at pp. 91, 92.
[34] See Attachment E, Counties' Comments on R.18-12-005, pp. 4–5, 9–13.
[35] PG&E WMP, pp. 30, 48.
[36] *Id.* at pp. 88–89, Attachment A.

- Results from fire spread modeling[38];
- Data from PG&E's satellite fire detection system[39]; and
- Data and modeling results from PG&E's Storm Outage Prediction Model.[40]

PG&E's WMP notes that some of these data collection programs will have a web-based or "dashboard" component, or will otherwise be available to inform responses to potential emergency situations—but it does not specify to whom this information will be available. The satellite fire detection system will provide data to PG&E's own web application that will show fire propagation as the data refreshes every one-to-five minutes.[41] It is not clear whether this web application is on PG&E's intranet or whether first responders and local governments are able to access it, as well. Similarly, the Storm Outage Prediction Model will be upgraded and automated to create an "objective weather risk dashboard" that can be updated in near real-time, but the WMP does not clarify whether emergency response personnel outside PG&E will be able to view the dashboard.[42] PG&E's fire spread modeling system will be available to be run in real-time for specific existing fires to understand the predicted spread, which the WMP says will inform public and employee safety, and emergency management and response efforts.[43] The WMP does not, however, state whether the safety and emergency response efforts will be limited to PG&E's internal operations or whether the information will be shared with first responders to enhance their own emergency response and safety measures. And the WMP states that the results of internal and external weather and fire threat modeling are sent daily to impacted

[37] *Id.* at p. 88.
[38] *Id.* at p. 90.
[39] *Id.* at p. 92.
[40] *Id.* at pp. 92–93.
[41] *Id.* at p. 92.
[42] *Id.* at p. 93.
[43] PG&E WMP, p. 90.

organizations internal to PG&E,[44] but there is no discussion of the circumstances under which that information is provided to governments or first responders who may be affected by elevated fire risk conditions.

The Joint Local Governments are also concerned about the ability of PG&E's Wildfire Safety Operations Center (WSOC) to effectively communicate necessary information during potential or actual emergency events.[45] As the Joint Local Governments read the description in the WMP, the WSOC will function as an intermediary between PG&E's wildfire-related operations and analytics functions and the PG&E team that is responsible for interfacing with CalFire and other agency incident commanders to oversee the organizational response to wildfire threats and incidents.[46] It also appears that the WSOC will collate fire-related data from personnel in the field and provide a report internally.[47] There is no discussion of decision-making criteria, or the point at which the fire-related information will be communicated to first responders or government agencies. It is not clear to the Joint Local Governments that an additional layer of personnel and bureaucracy between the critical wildfire-related information and the first-responder agencies in the field will be beneficial, particularly in light of PG&E's significant communication shortcomings during the 2018 de-energization events. PG&E's wildfire-related information and communications need to be more direct and more transparent in order to be effective. As described on the face of the WMP, it is not certain how the WSOC will contribute to those goals.

Effective dissemination of fire-related information is critical to ensuring that first responders and state and local governments are able to respond effectively to potential

[44] *Id.* at p. 89.
[45] *Id.* at p. 93.
[46] *Ibid.*
[47] *Id.* at pp. 93–94.

emergency situations. It is not clear that the WMP establishes information-sharing protocols and lines of communication that will accomplish this.

Recommendations: As the Joint Local Governments proposed in their comments on R.18-12-005, PG&E should be required to make its internal data and modeling results available to state and local governments and first responders through a web portal or other access point.[48]

At a minimum, the WMP should be revised to clarify the extent to which PG&E will make its weather- and fire-related data and modeling available to first responders and state and local governments, and on what timeline. Future WMPs should address how PG&E has disseminated this information to governments and first responders during the previous planning year, how effective the communications and information-sharing have been, and what measures PG&E will take in the upcoming planning year to address any shortcomings.

The WMP should also be revised to contain more detail about the role of the WSOC and how it will improve communications and information-sharing between PG&E and first responders and government agencies, including whether personnel from state or local emergency response agencies or local government agencies will be embedded at the WSOC during potential or actual wildfire situations, and whether WSOC personnel will be in the field or embedded with emergency response. Future WMPs should discuss what activities the WSOC undertook during the previous planning year and what improvements will be made in the new WMP. This analysis should include feedback from the first responders and government entities that interact with the WSOC.

[48] Attachment E, Counties' Comments on R.18-12-005, pp. 4–5.

4.6 Public Safety Power Shutoff Program

PG&E's PSPS program may be based on extensive benchmarking with SDG&E,[49] but in practice it has not achieved the efficacy of SDG&E's mature de-energization program.[50] PG&E's inaugural de-energization events in the winter of 2018 suffered from serious shortfalls in communications, providing accurate information, and notifying vulnerable customers of a potential power shutoff. The significantly expanded scope of PG&E's PSPS program in the WMP raises concerns for the Joint Local Governments that the problems that plagued PG&E during the 2018 PSPS events will only intensify under the larger program.

4.6.1 PSPS Decision Factors

The Joint Local Governments do not take issue with PG&E's PSPS decision factors. The Joint Local Governments note, however, that the discussion of the PSPS decision-making process in the WMP does not address information-sharing or notice to first responders or state and local governments.[51] During the November 2018 PSPS event, which occurred on the same day the Camp Fire ignited, PG&E's power shutoff decision-making process and criteria were not clear to the Joint Local Governments in light of the high winds and reports that the Camp Fire was already burning.[52] While the WMP notes that PG&E will continue to evaluate its PSPS criteria to remove as much subjectivity from the decision-making process as is practical,[53] the Joint Local Governments continue to believe that sharing the data and information that underlies any PSPS decision will benefit the first responders, state and local governments, residents, and PG&E.

[49] PG&E WMP, pp. 95–96.
[50] See Attachment E, Counties' Comments on R.18-12-005, *passim*.
[51] PG&E WMP, p. 98.
[52] See Attachment E, Counties' Response to A.18-12-009, p. 7.
[53] PG&E WMP, p. 98.

Recommendation: The web-based portal or other information-sharing platform recommended in the previous section should be adopted. The weather, fire threat, and risk data and modeling that will result from PG&E's enhanced situational awareness measures will inform any future PSPS decisions. Sharing that information with the entities that are responsible for responding to PSPS events will improve public safety.

4.6.2 Strategies to Enhance PSPS Efficiency While Reducing Associated Impacts

4.6.2.1 Impact Mitigation Through System Sectionalizing

The Joint Local Governments support PG&E's plan to sectionalize its system at the borders of Tier 2 and Tier 3 High Fire Thread Districts, as discussed in Section 4.3.4.

4.6.2.2 Resilience Zones

The Joint Local Governments support the development of Resilience Zones to preserve the operation of basic community services—like grocery stores, medical care facilities, and gas stations—during PSPS events.[54] PG&E's approach to developing the Resilience Zone pilot project in Angwin, however, has been problematic. Angwin is an unincorporated community in Napa County, and, as such, PG&E's first point of contact for the project should have been the County. But PG&E never notified or otherwise communicated with the County about the Resilience Zone, and has ignored the County's repeated efforts to engage with PG&E regarding the project. This refusal to communicate is unacceptable for a number of reasons, including the fact that County resources—emergency response, public works, health and human services, etc.—will be used to support the Resilience Zone in the event it is activated. PG&E's lack of effective communication with the local governments with whom it must partner, and on

[54] See PG&E WMP, pp. 99–100.

whom it must rely, in preventing, mitigating, and responding to emergency situations is a pervasive theme in PG&E's wildfire-related activities. PG&E must do better.

As the Resilience Zone project becomes more established, the Joint Local Governments urge PG&E to develop protocols and lines of communication to ensure that vulnerable populations are aware of, and able to access, the Resilience Zones. PG&E's response to a data request from CEJA on this issue was equivocal, and only committed the utility to identifying disadvantaged communities fitting the community-resource targeting criteria for Resilience Zones and working to provide awareness to those customers that the resources are available.[55] While the Joint Local Governments recognize that there are practical limitations to where Resilience Zones can be located, the Joint Local Governments believe that it is possible to develop more definitive access protocols for disadvantaged and vulnerable populations than simply providing notice that the Zones exist.

Recommendation: PG&E's WMP for the 2020 planning year should provide the results of conversations with communities' Offices of Emergency Services and local Health and Human Services regarding how best to ensure vulnerable populations have access to Resilience Zones, and should provide a plan for implementing the measures identified in those conversations. Future WMPs should address access issues from the previous planning year and incorporate improvements based on lessons learned.

PG&E must also contact the appropriate local government entities when planning future Resilience Zones. Future WMPs should identify the entities that PG&E has contacted and address any concerns or resource constraints related to the Resilience Zone that the local government has raised.

[55] Attachment F, PG&E Response to CEJA DR1 Q7.

4.6.3 PSPS Notification Strategies

As the Counties discussed in their comments on R.18-12-005, the October and November 2018 de-energization events showed a significant disconnect between PG&E's de-energization plan as it existed on paper and how the plan was implemented in practice, particularly regarding effective communications and dissemination of accurate information.[56] The existing PSPS-related communications tools and protocols listed in PG&E's WMP[57] are not, in the Joint Local Governments' experience, functioning well enough to be effective—yet. PG&E states that it is working to incorporate feedback from first responders, local governments, and residents to improve its PSPS practices,[58] and the Joint Local Governments hope that any de-energization events in 2019 will show improvement. The Joint Local Governments' own experiences with PG&E's post-PSPS "after-action" meetings and local government outreach efforts show that PG&E's stated improvement exist largely in the public relations realm and indicate that PG&E may not grasp the extent to which it must *partner* with the local governments in its service territory. Moreover, the significant expansion in the scope of PG&E's PSPS program in 2019[59] may present new difficulties or involve the same issue on a larger scale.

While the Joint Local Governments believe the communications measures addressed at pages 106 to 108 of PG&E's WMP will, if actually implemented, allow PG&E to communicate effectively with first responders and affected customers about PG&E's own activities, the focus on disseminating information about what PG&E is doing is indicative of the larger problems with PG&E's approach to communicating with the communities it serves. Providing notice that the power may be turned off under certain circumstances is useful, but it is

[56] See Attachment E, Counties' Comments on R.18-12-005, pp. 5–13.
[57] PG&E WMP, pp. 105–107.
[58] *Id.* at pp. 107–108.
[59] *Ibid.*

not sufficient. PG&E appears to take the view that, if it informs local governments and customers about de-energization, the local governments and customers will be able to adequately "prepare for extreme weather and possible outages" on their own.[60] That is not the case. PG&E must be involved with the community planning process to ensure that it is able to work *with* local governments and first responders before, during, and after a PSPS event. Without this level of coordination and understanding, miscommunication, confusion, and frustration will continue. PG&E's PSPS efforts must evolve beyond a public relations exercise.

There is also a noticeable disconnect between the communication measures at pages 106 to 108 and the PSPS notification strategies described in the Wildfire Safety Plan Targets in Table 9. The safety plan targets state that PG&E will *attempt* to notify customers, *attempt* to notify first responders, healthcare facilities, telecommunication providers, and water utilities, and *attempt* to provide additional notifications to medical baseline customers if the regular customer notifications are unsuccessful.[61] *Attempted* notification, particularly to first responders and vulnerable customers, is unacceptable. Notice of potential de-energization *must* be provided to the impacted communities. PG&E must clarify the meaning of the caveats in Table 9 and ensure that its WMP is designed to provide actual notice of PSPS events to first responders, local governments, and all potentially affected customers.

It is also necessary to notify customers that do not live in a Tier 2 or Tier 3 fire threat area, but that are served by transmission or distribution lines that run through a Tier 2 or Tier 3 zone, of potential power shutoff. During the winter 2018 PSPS event that resulted in de-energization, the City of Calistoga, which is not in a high fire-threat area but is served by lines that traverse such areas, received little or no warning that its power would be shut off. Local

[60] PG&E WMP, p. 107.
[61] *Id.* at p. 44.

governments, first responders, and residents must be able to plan for de-energization events to ensure maximum public safety.

Recommendations: The Joint Local Governments recommend that PG&E's WMP incorporate the changes to communication and notification practices proposed in the Counties' comments on R.18-12-005.[62] Specifically, PG&E should adopt a Standardized Emergency Management System (SEMS) model for communication with local governments during de-energization events, which will use existing familiar communications structures to ensure that clear roles and responsibilities are established and followed.

PG&E must also provide first responders and local governments with increased access to accurate information in real time. Communicating with first responders and governments via a "telephone"-like relay system that involves passing information through multiple people to get it from the source to the first responder only leads to delay, confusion, and miscommunication.

And PG&E must not rely on its medical baseline registry to identify vulnerable customers. The WMP pledges additional outreach to enrolled and eligible medical baseline customers,[63] but there is no indication that this will remedy the significant problems inherent in using the historically under-enrolled medical baseline as a customer roster. The requirement that customers self-register creates a barrier to entry for people who have limited English language capabilities, cognitive issues or severe physical impairments, sensory disabilities, medication or other substance impairment, and psychosocial instability. The medical baseline program also fails to account for medically vulnerable populations that do not necessarily require life-sustaining medical equipment but still rely on electricity for their general wellbeing and safety,

[62] Attachment E, Counties' Comments on R.18-12-005, pp. 5–13.
[63] PG&E WMP, p. 108.

such as children with disabilities or adults in assisted living. It is therefore necessary for PG&E's WMP to account for vulnerable populations by means other than the medical baseline registry. To obtain a more accurate list of vulnerable customers, PG&E should partner with local health and social services. PG&E must also ensure that its list accounts for individual customers—not the electrical meter serving a master-metered facility.

PG&E should also provide notice to industries or groups that are not emergency or first responders but that will be impacted early on in any de-energization or wildfire event. For instance, the hospitality industry is significantly impacted by loss of power and often serves as a refuge for residents who have to evacuate their homes. During the winter 2018 PSPS events, Napa County received reports from its hospitality industry that little or no notice of the potential power shutoff was provided by PG&E. The Joint Local Governments recognize that, in a developing emergency, PG&E's resources may be spread too thin to identify and contact all potentially affected industry groups. Local tourism boards or organizations are an excellent point of contact to disseminate that information. For instance, Visit Napa Valley is well-staffed and has open lines of communication to all of its constituent Chambers of Commerce. PG&E's WMP should be revised to identify a contact in the tourism industry or Chamber of Commerce for a community that will be responsible for disseminating information from PG&E related to PSPS or emergency events.

Each future WMP should address the results of PG&E's outreach to vulnerable customers during a de-energization or other emergency event and should provide improvements based on lessons learned and community feedback.

4.6.3.2 Mitigating PSPS Impacts on First Responders, Health Care Facilities, Telecommunications, and Water Utilities

The Joint Local Governments support PG&E's pledge to work with first responders, critical care facilities, telecommunications providers, and water utilities to develop additional programs to respond to PSPS events.[64] The Joint Local Governments also support PG&E's commitment to direct outreach to critical service providers regarding de-energization, and to providing as much advance notice of a PSPS event as possible.[65] In light of the seriousness of de-energization events, the Joint Local Governments believe that increased information-sharing and access for critical facilities to PG&E's fire threat and weather-related data would help increase preparedness, decrease response time, and allow critical facilities and first responders to better safeguard the public in the event the power must be shut off.

Recommendation: The Joint Local Governments' recommendation that PG&E establish a web portal or other information-sharing platform to allow first responders, local governments, and critical facilities to access PG&E's internal fire-related data and threat modeling in real-time should be implemented.

4.8 Post-Incident Recovery, Restoration, and Remediation Activities

Recommendation: Each future WMP should contain a discussion of post-wildfire remediation and restoration activities, input from the impacted communities, and input from first responders, and should contain improvements and changes made in response to those lessons learned.

5. EMERGENCY PREPAREDNESS AND RESPONSE

5.1 PG&E Company Emergency Response Plan

[64] PG&E WMP, pp. 108–109.
[65] *Ibid.*

As the Joint Local Governments discussed at the outset of these comments, the extent to which PG&E's Fire Prevention Plan (which is part of its Company Emergency Response Plan)[66] and the Community Wildfire Safety Program contain duplicative emergency planning and response measures is not clear from the face of the plans, nor have the efficacy of the Fire Prevention Plan's measures been quantified by PG&E.[67] Until PG&E has identified the areas of duplication (or explained why the WMP activities are incremental to those in the Fire Prevention Plan or Company Emergency Response Plan) and analyzed the effectiveness of the fire prevention and emergency response measures, the efficacy of the WMP cannot be determined.

Moreover, while PG&E states that it provides the Company Emergency Response Plan to "appropriate representatives" from cities and counties every two years,[68] none of the relevant department heads in Napa County can recall receiving the Plan.

Recommendation: PG&E must analyze the effectiveness of the measures in its Fire Prevention Plan and provide a clear explanation of why the WMP does not duplicate the measures in the Fire Prevention Plan—or why it does. The Joint Local Governments also ask that their recommendations regarding increased access to PG&E's internal fire-related data, improved communications, and a routine cycle of community feedback and lessons learned in each planning year be incorporated into the activities in the Fire Prevention Plan and Company Emergency Response Plan. Improving emergency notification protocols and post-wildfire response and restoration practices based on input from first responders, local governments, and residents is particularly important.

[66] PG&E WMP, pp. 117–118.
[67] See Section 2, *supra*.
[68] PG&E WMP, p. 118.

6. PERFORMANCE INDICATORS AND MONITORING

The Joint Local Governments support rigorous analysis and monitoring of PG&E's WMP on a year-to-year basis.[69] It does not appear, however, that PG&E's WMP calls for feedback from first responders, local governments, or affected residents as part of its performance analysis.

Recommendation: PG&E's WMP should be revised to include performance evaluations and other feedback from the first responders, local governments, and residents affected by the WMP activities and protocols. Future WMPs should include a discussion of this community feedback and contain improvements based on lessons learned.

7. RECOMMENDATIONS FOR FUTURE WMPs

The overriding change that is necessary for PG&E's wildfire mitigation efforts to be truly effective is improved communication and partnerships with local governments and first responders. PG&E's outreach to the entities that will be responsible for providing a boots-on-the-ground response to potential emergency situations must go beyond a PowerPoint presentation and a pamphlet, and must include more regular communication than one-off meetings. Not only must PG&E increase and improve its partnerships with the communities that it serves, but the Commission must hold PG&E accountable. All future WMPs should include feedback from local governments, first responders, and citizens, and improvements or changes based on this feedback and other lessons learned.

The Joint Local Governments' specific recommendations are addressed in each section above.

8. OTHER ISSUES

The Joint Local Governments do not address any other issues at this time.

[69] PG&E WMP, pp. 130–

CONCLUSION

Public Utilities Code section 8386 allows the Commission to direct that changes be made to the utilities' Wildfire Mitigation Plans before the Commission approves the plans. The Joint Local Governments respectfully request that the Commission require PG&E to incorporate the recommended changes contained in these comments into its Wildfire Mitigation Plan before the final plan is approved for the 2019 planning year. PG&E's plan, as originally proposed by the utility, is not guaranteed to improve PG&E's ability to effectively serve its customers and communities.

Respectfully submitted March 13, 2019, at San Francisco, California.

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Attorneys for County of Mendocino, County of Napa, County of Sonoma, and City of Santa Rosa

ATTACHMENT A

PG&E Response to Counties' Data Request No. 1

PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans
Rulemaking 18-10-007
Data Response

PG&E Data Request No.:	Joint-MNS_001-Q01		
PG&E File Name:	WildfireMitigationPlans_DR_Joint-MNS_001-Q01		
Request Date:	February 28, 2019	Requester DR No.:	001
Date Sent:	March 5, 2019	Requesting Party:	County of Mendocino/ County of Napa/ County of Sonoma
PG&E Witness:		Requester:	Megan Somogyi

QUESTION 01

Please provide copies of PG&E's GO 166 Fire Prevention Plans, or the portions of PG&E's Company Emergency Response Plan that relate to fire prevention if no Fire Prevention Plan was created for a particular compliance year. The Counties assume that the first Fire Prevention Plan would have been submitted in 2012 after the issuance of D.12-01-032.

ANSWER 01

The most recent version of the Fire Prevention Plan (FPP) is dated September 30, 2017 and was included as Attachment A to Pacific Gas and Electric Company's (U 39 E) Response to Administrative Law Judge's Ruling Seeking Additional Information on Wildfire Mitigation Plans filed in this proceeding on February 26, 2019. This FPP was filed on October 31, 2018 in Application No. 94-12-005.

PG&E filed prior FPPs in Application 94-12-005. Public versions of those filings are attached as WildfireMitigationPlans_DR_Joint-MNS_001-Q01Atch01 (FPP dated December 20, 2012, as attachment to Advice Letter 4147-E dated December 21, 2012), WildfireMitigationPlans_DR_Joint-MNS_001-Q01Atch02 (FPP dated October 22, 2014), and WildfireMitigationPlans_DR_Joint-MNS_001-Q01Atch03 (FPP dated August 27, 2015). In the past, a FPP has only been republished with a new date when PG&E has made changes to the plan.

ATTACHMENT B

PG&E 2012 Fire Prevention Plan

Pacific Gas and Electric Company

Brian K. Cherry
Vice President
Regulatory Relations

Pacific Gas and Electric Company
77 Beale St., Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177

Fax: 415.973.7226

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, 4th 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

Brian Cherry /IG

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:	Contact Person: Igor Grinberg
☑ ELC ☐ GAS	Phone #: (415) 973-8580
☐ PLC ☐ HEAT ☐ WATER	E-mail: ixg8@pge.com

EXPLANATION OF UTILITY TYPE	(Date Filed/ Received Stamp by CPUC)
ELC = Electric GAS = Gas PLC = Pipeline HEAT = Heat WATER = Water	

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., 4th 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

Advice 4167-E

Attachment A

Fire Prevention Plan

Pacific Gas and Electric Company™

Fire Prevention Plan

December 20, 2012

Table of Contents

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

[redacted]

- 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: [redacted] (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 [redacted] and Southern California [redacted] 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: [redacted]
- 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 [redacted] and California-South [redacted] 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 [redacted] daily as well as reading NWS Fire weather forecast discussions [redacted]
- 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&Es 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 Electric Company™

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.[1]

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.[2]

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.

---

[1] 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.

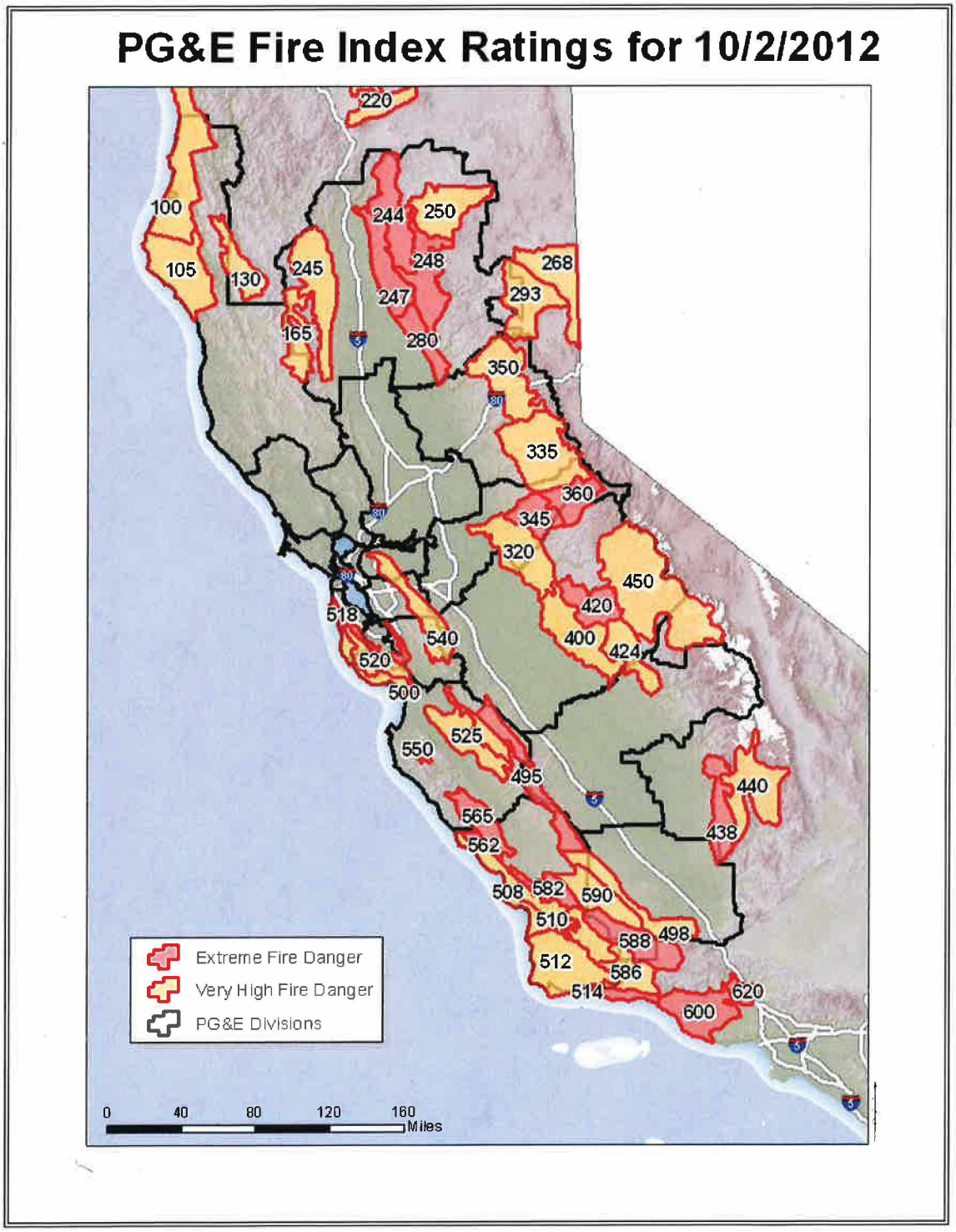
[2] The areas to receive special treatment by PG&E in Santa Barbara County are the "Extreme" and "Very High" Fire Threat Zones as designated on the Fire and Resource Assessment Program (FRAP) Map.

Attachments

1. Fire Index Map of PG&E Territory

Fire Index Map of PG&E Territory

Attachment 1



Advice 4167-E

Attachment B

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

Attachment B

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

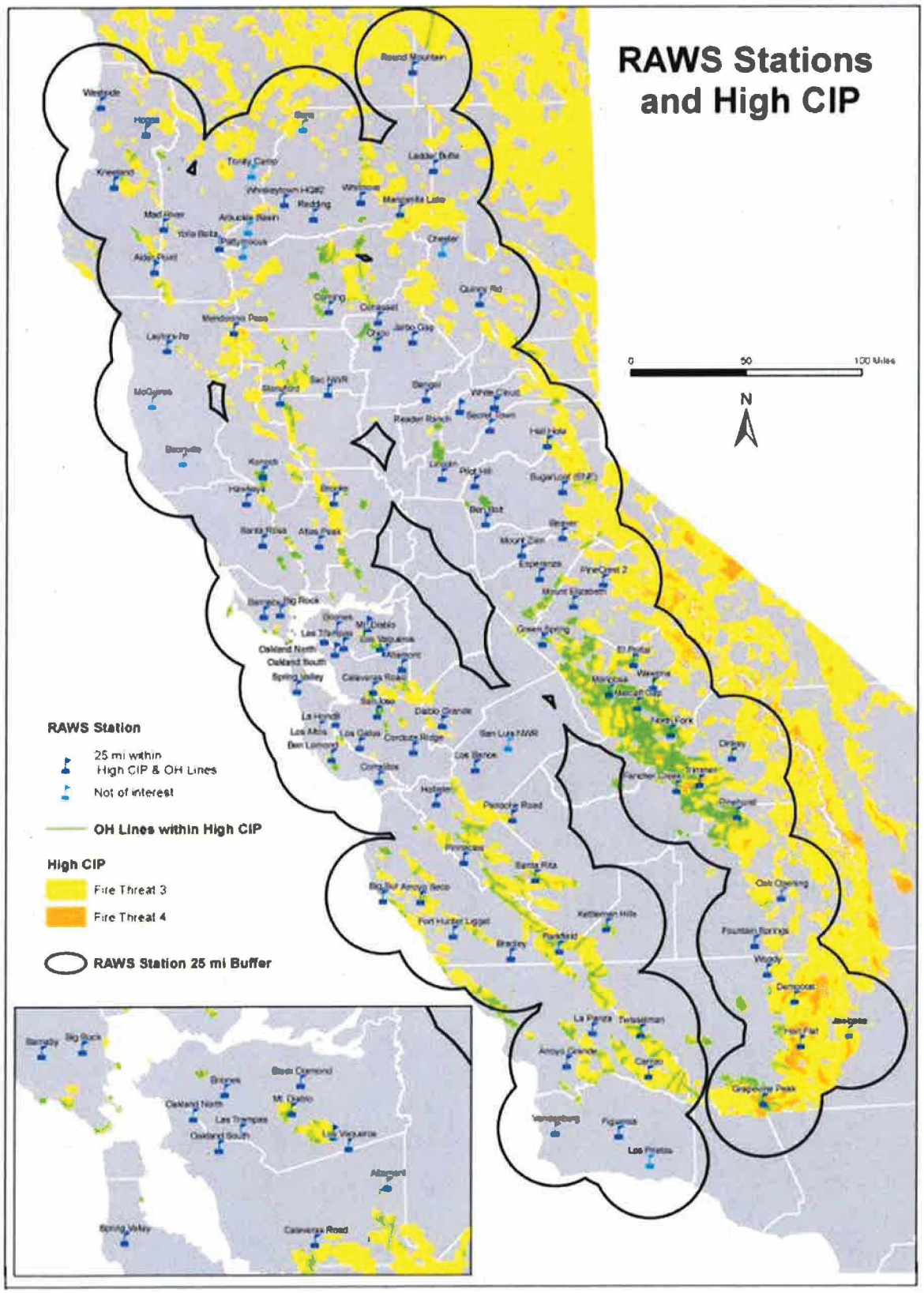
1. Out of > 9 million wind gusts records, 209,911 occurred during a RFW.

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.

Attachment B



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North Coast SolarResources
Northern California Power Association
Occidental Energy Marketing, Inc.
OnGrid Solar
PG&E
Praxair
R. W. Beck & Associates
RCS, Inc.
SCD Energy Solutions
SCE
SMUD
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San Francisco Public Utilities Commission

Seattle City Light
Sempra Utilities
Sierra Pacific Power Company
Silicon Valley Power
Silo Energy LLC
Southern California Edison Company
Spark Energy, L.P.
Sun Light & Power
Sunrun Inc.
Sunshine Design
Sutherland, Asbill & Brennan
Tecogen, Inc.
Tiger Natural Gas, Inc.
TransCanada
Turlock Irrigation District
United Cogen
Utility Cost Management
Utility Specialists
Verizon
Wellhead Electric Company
Western Manufactured Housing Communities Association (WMA)
eMeter Corporation

ATTACHMENT C

PG&E 2014 Fire Prevention Plan

Pacific Gas and Electric Company®

Fire Prevention Plan

October 22, 2014

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Table of Contents

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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 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.

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.
- 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

- 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: [redacted]. (An example of the Fire Index Map of PG&E's Territory is provided in Attachment 2.)
- 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 ([redacted] and Southern California [redacted] 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: [redacted].
- 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 [redacted] and California-South [redacted] provide 7-Day Significant Fire Potential Outlook products that are updated daily.

[redacted]

- 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 [redacted] daily as well as reading NWS Fire weather forecast discussions [redacted].
- 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

[redacted]

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. (Refer to Attachment 2.) 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.
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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.

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&Es 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.
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    - 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

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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 3.)

Pacific Gas and Electric Company®

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.[1]

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.[2]

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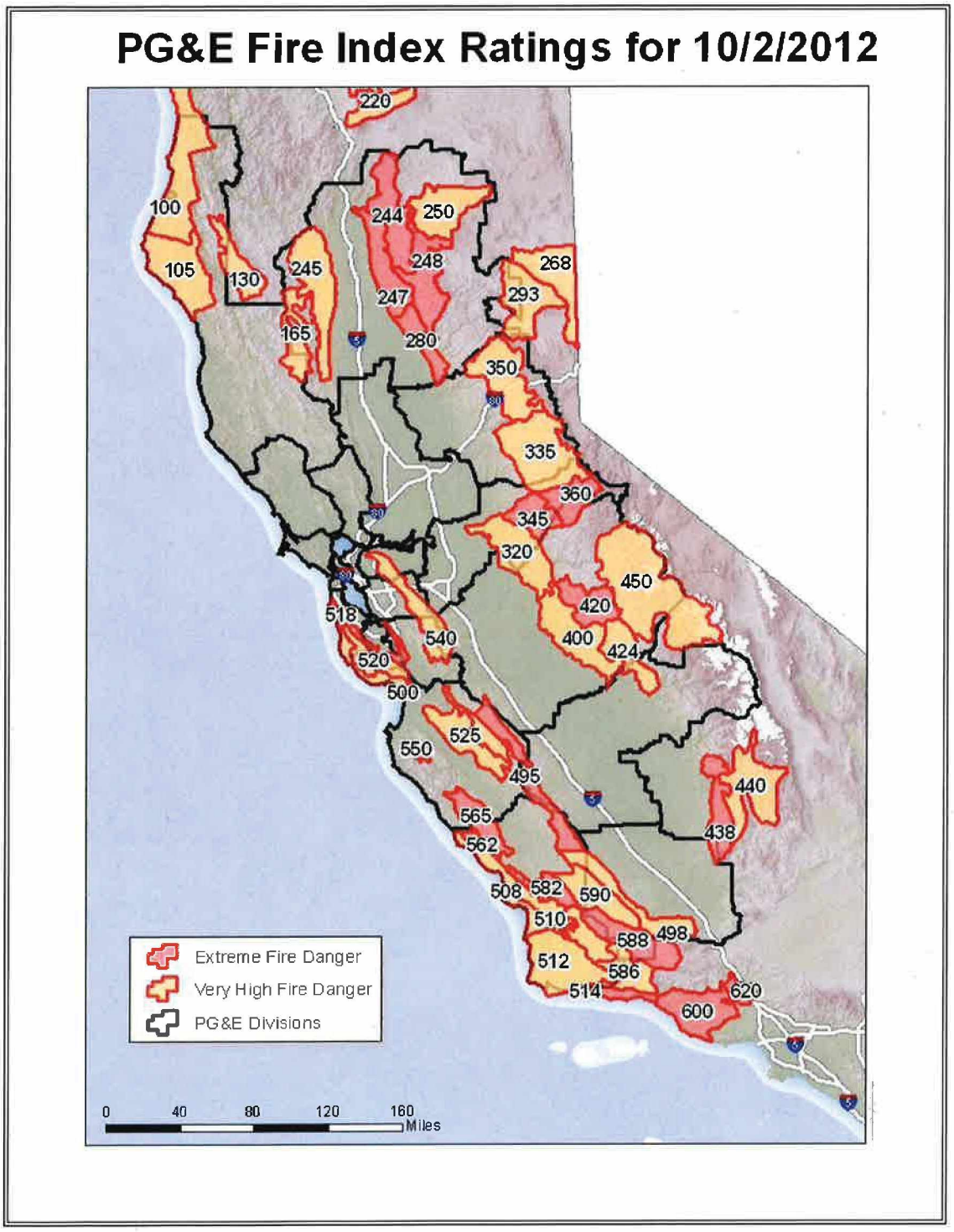
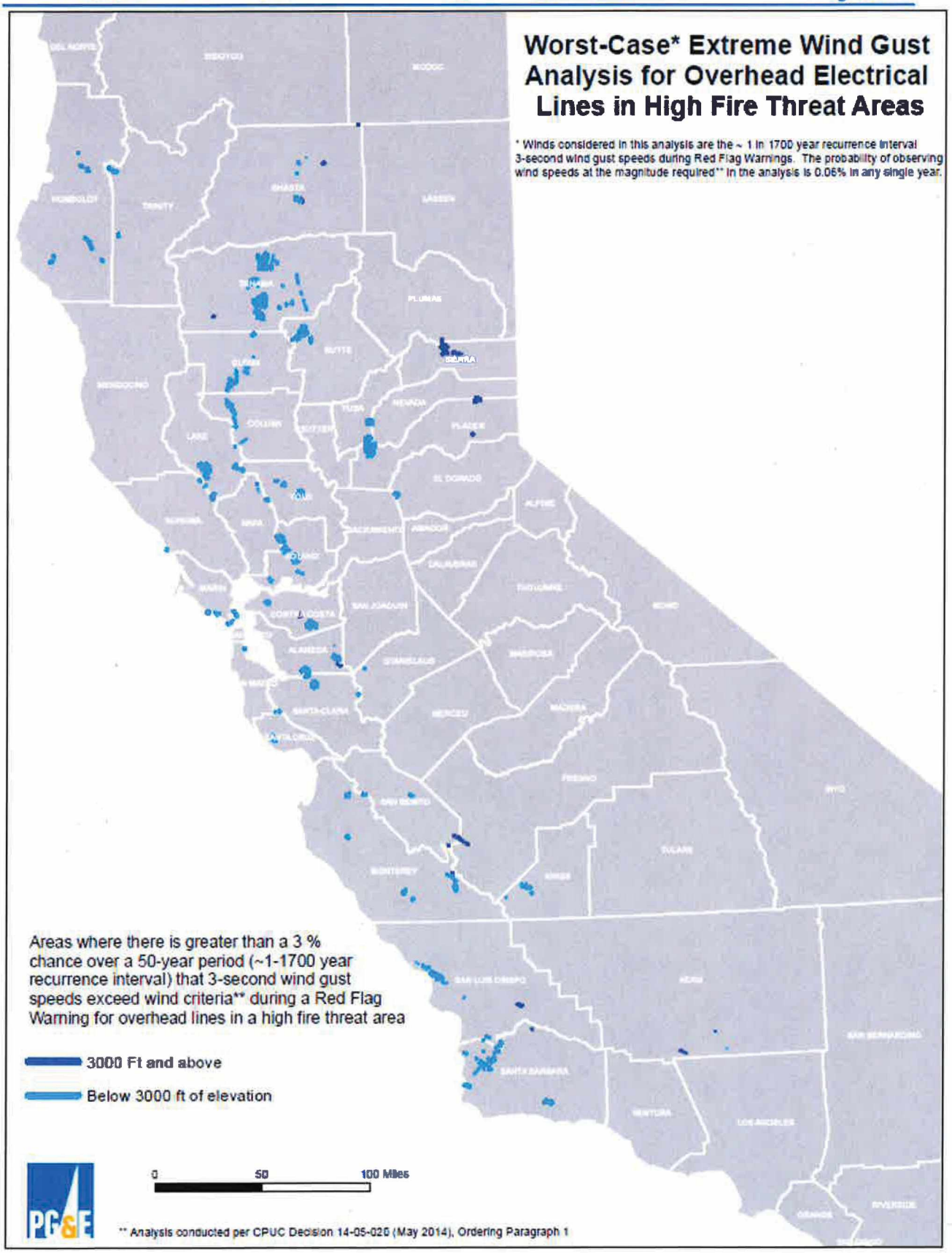
[1] See CPUC D.09-08-029 and D.12-01-032 and corresponding requirements in General Order (GO) 95 (including new Case 14 in Table 1 and Appendix E) and GO 165.

[2] 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 – Fire Index Map of PG&E Territory



Attachment 3 – Worst Case Extreme Wind Gust Analysis



ATTACHMENT D

PG&E 2015 Fire Prevention Plan

Fire Prevention Plan

August 27, 2015

A.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.

A.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.

A.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 State 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.
- In the short term (Day 1), fire danger data from the USFS WFAS is ingested in the PG&E GIS network and Fire Adjective Index System, which disseminates "very high" and "extreme" fire danger alerts. These alerts guide operational decisions to reduce the fire ignition risk (see Section 2 – Operational Readiness During High Risk Conditions). The meteorology team also evaluates Red Flag Warnings or Watches issued by the NWS and weather model data to assess the short-term fire weather risk across the territory. All fire weather/danger concerns and alerts are included in the daily operational forecast email to electric operations and are also reported on daily electric distribution and transmission operational status teleconference calls.
- In the medium term (days 2 – 7), the meteorology team identifies upcoming periods of heightened fire weather risk by evaluating weather model data for potentially impactful events such as offshore wind events, extreme hot and dry conditions, and dry lightning potential. This analysis is combined with weekly fire danger forecasts from National Interagency Fire Center (NIFC) - Predictive Services for Northern (ONCC) and Southern California (OSCC) to give advanced warning of upcoming potentially significant periods of fire danger.
- The PG&E meteorology department also runs its own weather forecasting model known as POMMS, the PG&E Operational Mesoscale Modeling System, which outputs granular forecasts of important fire weather parameters including wind speed, temperature, relative humidity, and precipitation. The model also produces key fire weather indicators such as the Fosberg Fire Weather Index and has also been linked to the National Fire Danger Rating System (NFDRS) to derive key fire

danger indicators, such as the Energy Release Component, Ignition Component, and Spread Component, etc. PG&E Meteorology is piloting the use of these POMMS-driven fire danger indicators to develop more granular and informative fire danger information than what is publically available.

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 applied in select areas designated by PG&E. Locations are selected based on equipment type and a standardized assessment of the surrounding terrain. These factors are considered with the equipment's feasibility of replacement. If existing equipment is in a configuration that is not eligible for replacement, fire risk is mitigated by annual maintenance of firebreaks and the base of the supporting pole or structure.

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 to prioritize repair and replacement of the facilities. Visual inspection facilitates the inventory and volume of automatic splices. Certain priorities are designated for wildland fire risk areas to minimize fault or failure during fire season.

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, as well as incorporates wood preservation practices that move 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 remaining strength requirements.

Wood Pole Bridging Program

This consists of the bridging of crossarms to prevent pole fires which can occur at the through bolt location between the wood crossarm and the pole 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. These hot spots can be eliminated by shunting this high resistance area with a short length of bare wire.

Electric Operations – Maintenance and Construction

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, 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 transmission and distribution facilities. Transmission facilities are 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. Distribution facilities are on a 5-year cycle. In PG&E designated areas, corrective actions are prioritized based on a conditions capability to propagate wildland fire. If conditions warrant concern for wildland fire ignition, the corrective actions are scheduled and tracked to completion prior to peak fire season.
- 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. (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 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.
- Suspend non-essential field meetings where off road driving is required into high fire risk areas (Tier 3 and Tier 4) on Red Flag designated days.
- Require fire suppression plan for construction activities on new transmission projects within Tier 3 and Tier 4 areas.

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 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:

- Complies with all existing State and Federal regulatory vegetation clearance requirements.
- Perform annual patrols to ensure required vegetation clearances are maintained and hazard 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.

Fire Risk Reduction

PG&E Vegetation Management operations are utilizing the 2010 CIP Fire Threat Maps to prioritize targeted pruning and removal of trees to minimize the impacts of extended drought on vegetation in proximity to its facilities. This work goes well beyond regulatory requirements and works with communities and large property owners to develop and execute projects manage vegetation for a multitude of benefits, including wildland fire prevention. This organization is also testing the capability LiDar technology to patrol portions of its distribution and transmission systems.

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 has varied application within PG&E's service territory. All are being evaluated as part of the companies fire prevention plan to verify applicability, cost-benefit and fire prevention effectiveness on an on-going basis.

- 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
- Increased SCADA
- Line Recloser auto-blocking in high fire threat areas
- Equipment overhaul in high fire threat areas
- Sensitive ground fault tripping
- Non-Test setting in distribution and transmission during specific operations and conditions
- Increased squirrel / raptor protection
- T-line down guy / insulator retrofits
- Targeted pole loading evaluations
- Targeted defensible space and fuel reduction at PG&E facilities
- Insulator washing
- Small fire suppression training - Indian Backpacks/McCleod

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&Es 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 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

A.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 3.)

A.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.[1]

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.[2]

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:

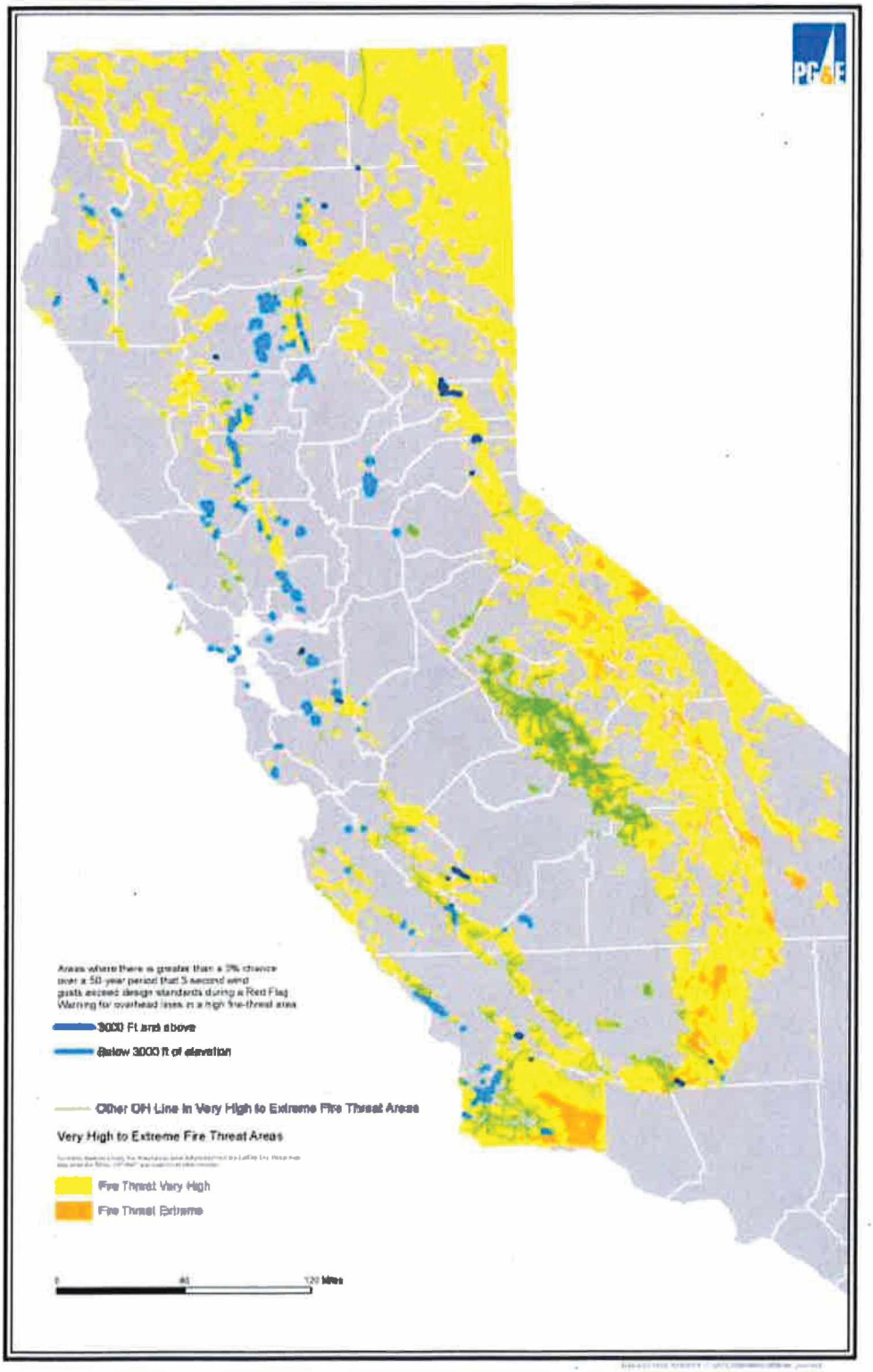
- 2.4 kV-72 kV = 6.5' at time of trimming, 4' at all times
- 72 kV-110 kV = 10' at time of trimming, 6' at all times
- 110kV-300 kV = 20' at time of trimming, 10' at all times
- Above 300 kV = 20' at time of trimming, 15' at all times

Overhead Patrols

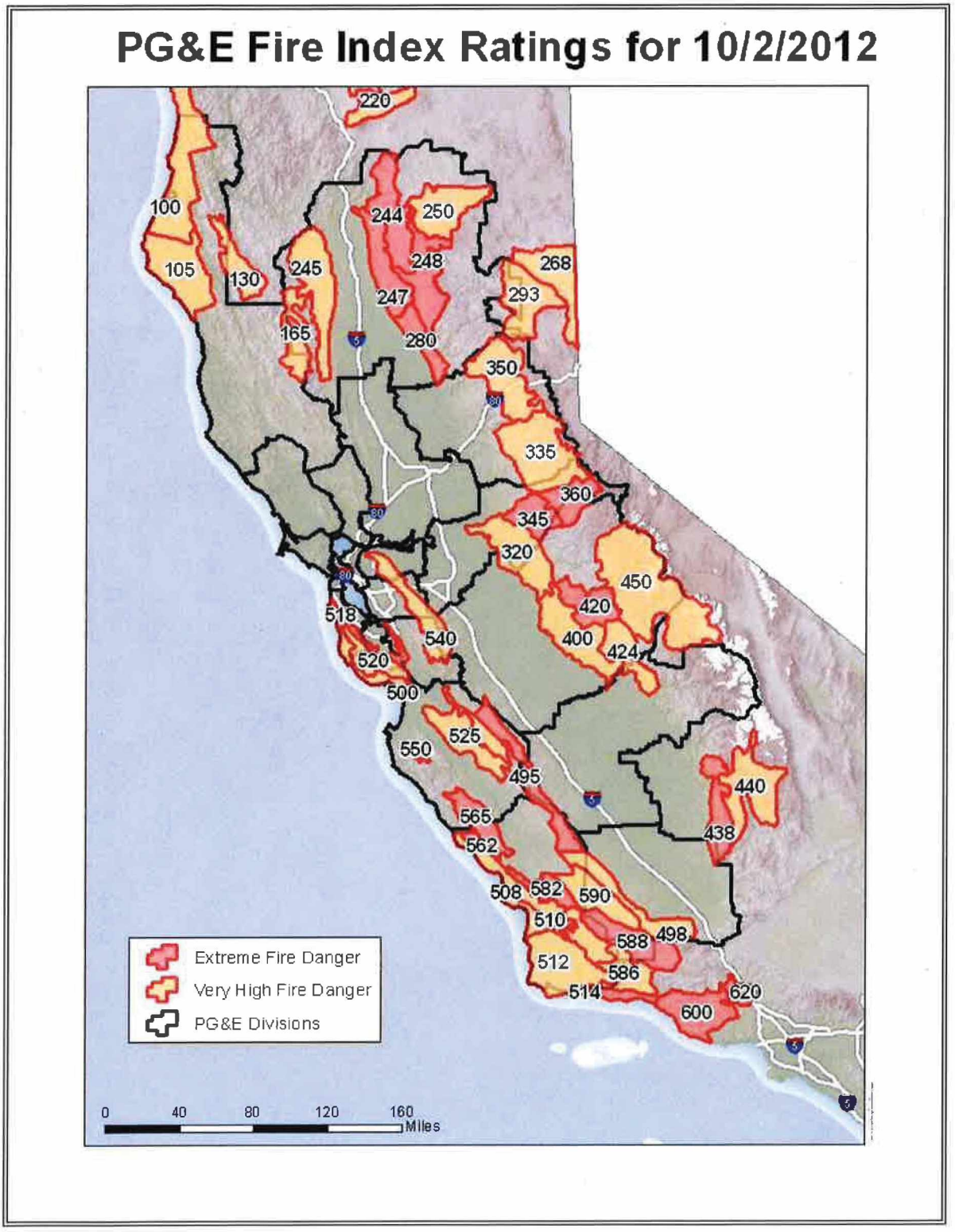
For overhead distribution facilities located in rural areas in the "Extreme" and "Very High" Fire Threat Zones of Santa Barbara County, patrols of applicable facilities should be conducted annually instead of every two years.

[1] 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.
[2] 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.

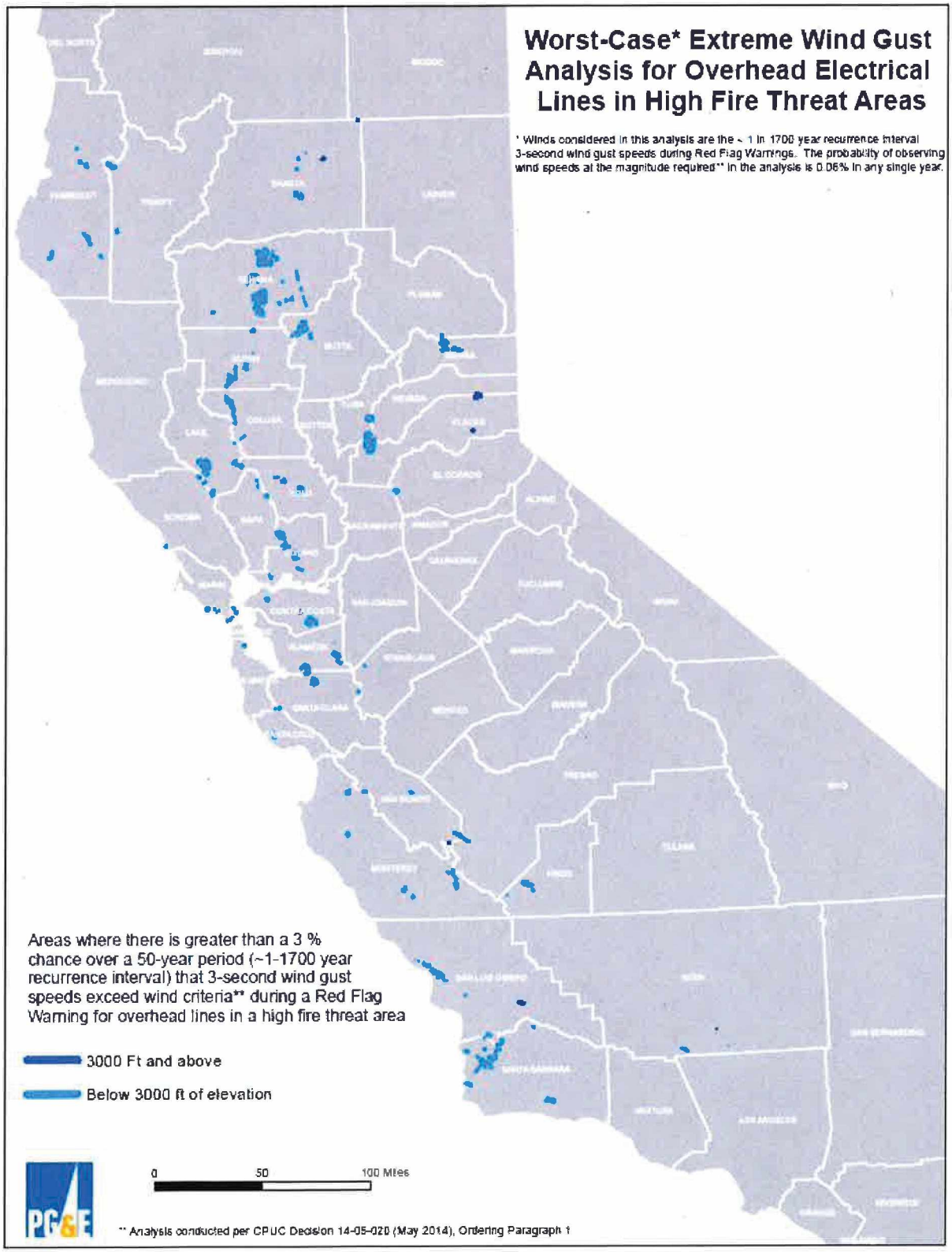
Attachment 2 – Interim Fire Threat Map



Attachment 3 - Fire Index Map of PG&E Territory



Attachment 4 – Worst Case Extreme Wind Gust Analysis



ATTACHMENT E

Counties' Comments on R.18-12-005

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Examine Electric Utility De-Energization of Power Lines in Dangerous Conditions.	Rulemaking 18-12-005 (Filed December 13, 2018)

COMMENTS OF THE COUNTY OF MENDOCINO, THE COUNTY OF NAPA, AND THE COUNTY OF SONOMA ON R.18-12-005

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BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Examine Electric Utility De-Energization of Power Lines in Dangerous Conditions.	Rulemaking 18-12-005 (Filed December 13, 2018)

COMMENTS OF THE COUNTY OF MENDOCINO, THE COUNTY OF NAPA, AND THE COUNTY OF SONOMA ON R.18-12-005

In accordance with Rule 6.2 of the Commission's Rules of Practice and Procedure, and the January 28, 2019 email ruling of Administrative Law Judge Semcer setting February 8 as the date by which comments are due, the County of Mendocino, the County of Napa, and the County of Sonoma (the Counties) submit these comments on the Rulemaking. The Counties have recently experienced the effects of California's evolving wildfire risk, in which a single piece of overhead electrical equipment can start an inferno. The Counties also witnessed first-hand PG&E's inaugural Public Safety Power Shutoff (PSPS) events in October and November 2018. In order to prevent future wildfires and effectively safeguard its customers, de-energization practices must be significantly improved.

I. COMMENTS ON RULEMAKING

The Counties appreciate that the Commission is taking steps to examine and establish the process by which the investor-owned utilities in California should approach de-energizing their overhead electric lines in high-fire-risk conditions. Because the three large

investor-owned utilities have different levels of experience with de-energization,[1] the Counties surmise that their respective programs will require individualized changes. For this reason, and because the Counties are located in PG&E's service territory, these comments focus on PG&E's de-energization practices.

Issue 1: Conditions in which proactive and planned de-energization is practiced:

1(a). Should the Commission limit de-energization in specific ways?

Given the fact-intensive nature of circumstances under which de-energization may be considered, the Counties do not believe that black-letter limits should be imposed. Instead, the appropriate admonition is that PSPS events can have serious consequences for PG&E's customers and shutting off the power should therefore be a carefully considered, finely calibrated, and well-coordinated last resort.

1(b). Should [the Commission] develop metrics for determining when de-energization is appropriate?

The Counties believe that the primary metrics have already been identified: high wind conditions; low humidity; levels of dry vegetation; the age and condition of electrical system equipment; and real-time observations from utility field crews. Because the technology that models and monitors weather can be inaccurate, or can fail to present a complete picture of the conditions in specific locations, and because utility personnel cannot be everywhere at all times, the Counties recommend that local government emergency response, fire, or other boots-on-the-ground personnel provide situation reports to PG&E, as possible, during high-fire-risk

[1] SDG&E's de-energization program has been operating for years; SCE joined the de-energization discussion shortly after SDG&E began its program; and PG&E issued its first de-energization practices and protocols in September 2018.

conditions. This will allow PG&E to have a more complete picture of conditions in its service territory in real time.

1(c). How much discretion should the IOUs have in calling de-energization events?

Assuming the IOUs have reasonable criteria, a rational decision-making process, and have worked to mitigate potential impacts, they should have wide discretion in calling a PSPS event.

1(d). Are there other guidelines [the Commission] should apply to de-energization?

The Commission should consider directing the IOUs to reconfigure their electrical transmission and distribution systems to be better-suited for potential de-energization. Developing greater segmentation of the electrical grid and more responsive control systems will enable de-energization of targeted areas and reduce the need for wholesale de-energization of certain geographic areas.

Issue 2: Best practices and a set of criteria for evaluating development of effective programs:

2(a). What are the best tools that can be applied to different landscapes and fire conditions across California?

There is no substitute for real-time first-person reports from knowledgeable personnel. In addition to computerized modeling and monitoring, PG&E's PSPS protocols should include reports from its field personnel and local emergency operations personnel or first responders. The Commission should also encourage PG&E to explore new forecasting

technologies designed to identify potential ignition areas in advance, such as OneConcern.[2] These technologies could be used in real time to inform PG&E de-energization decisions, as well as to better prepare first responders.

2(b). Are there tools deployed by the National Weather Service (e.g., Santa Ana Wind Warnings) used in specific locations in California that should be adapted and deployed elsewhere?

Coordinating with the National Weather Service and using the tools that it provides should be required for PG&E. The NWS provides information and weather warnings that are available to local governments and PG&E, which is critical in terms of helping PG&E and local governments coordinate efforts based on shared information that is readily available. Instead of using the NWS, however, PG&E established its own weather service center that provides information only to PG&E. Not only do local governments not have access to PG&E's internal weather data, but PG&E has not been effective at communicating its internal information to local governments and first responders. Moreover, the Counties are not currently certain how accurate PG&E's internal weather data is compared to the information provided by the NWS.

The Counties cannot stress enough the importance of PG&E and local governments working off of the same information in a high fire-threat situation that may involve shutting power off. If the utility and the government personnel in the affected area are not using the same information, there is little chance of effective communication or coordinated response to an emergency situation. The Counties' strong preference is for PG&E to use the NWS as the primary source of weather data in de-energization events; to the extent PG&E relies on its

[2] https://www.oneconcern.com/product (last visited February 6, 2019).

internal data, that information must be made available to local governments through a web portal or other access point that does not rely on PG&E personnel relaying the information.

2(c). How should programs be designed for use of new technologies and for continuous improvement?

The Commission should consider establishing a standing Electrical System De-Energization Public Safety Advisory Committee to evaluate current technologies and practices, and to provide feedback and recommendations for improvement to the Commission and the utilities. The IOUs could be asked to provide annual updates on their programs, following the end of fire season, with feedback on the use of technology and lessons learned. A review process like this would support cross-leveling best practices across the three large IOUs.

PG&E should also be required to develop a web-based information portal for state and local public safety personnel, which would allow access to up-to-date information and maps of potentially affected areas. Providing secure access to this type of information is crucial for local first responders to clearly identify which communities and infrastructure are at risk. Additionally, this approach would reduce the instances of different information being provided to different people.

Issue 3: Notification to the public, local governments, critical facilities, and emergency responders.

3(a). What are the best ways to notify the aforementioned parties of a planned de-energization event and when power will be restored in the event of de-energization?

The question of *how* to provide notice of a potential PSPS event comes after the question of *whom* to notify. In terms of alerting emergency responders and local governments,

the Counties have observed that PG&E appears to lack a clear idea of what "first responders" means and how communication should be prioritized at the various stages of a PSPS event. In terms of disseminating information and providing notice to the public of potential de-energization of power lines, it is likely more critical that PG&E communicate with local government Public Information Officers and Offices of Emergency Services than local law enforcement and fire departments.

PG&E should also explore leveraging local governments' emergency notification systems—such as Nixle, Nextdoor, and Reverse 911—to provide effective notice of information that may affect local residents. Local governments will generally have more accurate information about their residents' needs, and will have more experience providing emergency notifications, than PG&E. This is subject to the caveat that, if the power is shut off, the local emergency notifications generally stop working; PG&E should coordinate with local governments to provide backup generation or alternative emergency communication platforms for those times when electric lines must be de-energized.

Effective communication with local governments, critical facilities, and emergency responders is crucial to ensure that basic infrastructure and safety services are not adversely affected. Shutting off electricity affects the Counties' critical infrastructure, such as radio tower communications, water and fuel pumps, hospitals, and camera networks. De-energization also impacts resources and communication channels for first responders, tactical situational awareness, and the Counties' ability to effectively communicate with residents through alert and warning systems. Effective communication about the duration of a de-energization event is also necessary. The length of a PSPS event will almost always exceed the battery backup capabilities of cell towers and generators, which increases public safety risks for

both residents and first responders. Early communication between PG&E and local governments and first responders, and effective protocols for how to coordinate during a PSPS event, will minimize disruptions to these critical functions when power lines need to be de-energized.

3(b). Do notification standards differ for vulnerable populations?

Yes. For vulnerable populations, the work of ensuring proper notice has to begin long before a PSPS event occurs. PG&E cannot provide effective notice if it does not have an adequate list of vulnerable customers or an understanding of their needs.

One of the most significant issues the Counties observed during the 2018 PSPS events was that PG&E's method of cataloguing its medically vulnerable customers is problematic. The Counties' understanding is that PG&E used its list of customers that signed up for Medical Baseline service, and that, in some circumstances, the "customer" is actually a meter, not a person. Using the Medical Baseline registry is problematic because that program is significantly under-enrolled. The requirement that customers self-register presents a barrier to entry for people who have limited English language capabilities, cognitive issues or severe physical impairments, sensory disabilities, medication or other substance impairment, and psychosocial instability. In the midst of the winter 2018 PSPS events, Napa County learned that PG&E's Medical Baseline registry led PG&E to believe there were 146 medically vulnerable residents in the County; the County's own In Home Support Services records identified over 900 medically vulnerable residents. Napa County also learned that some of the "customers" PG&E identified were actually meters associated with master-metered mobile home parks or multi-tenant buildings.

Issue 4: Electric utility coordination with state and local level first responders when they call a de-energization event.

4(a). How do the IOUs coordinate with state and local first responders?

PG&E relies on local representatives or community liaisons to make initial notifications to first responders of a potential PSPS event; contact is generally made by email. There are multiple PG&E employees responsible for communicating with local governments in the lead-up to a PSPS event. For instance, Napa County has a PG&E government representative, who communicates with elected officials and upper management, a PG&E representative for law enforcement, and a third representative who communicates with local fire officials.

4(b). What is working and what is not working in this coordination?

Some aspects of PG&E's de-energization practices are helpful. PG&E has committed significant resources to develop relationships with local governments and first responders; developing these networks enables local governments and public safety leaders to open channels of communication early in the PSPS process and has allowed for discussion of potential timing of de-energization events and potentially affected areas. The Counties have appreciated PG&E's pre-PSPS outreach efforts to local governments, which included briefings and tours of PG&E's safety operations center for elected officials. During the PSPS events in winter 2018, PG&E provided advance notice that it was considering de-energization; PG&E made itself available for conference calls and shared information on the approximate numbers of customers and general geographic areas that could be affected. After the PSPS event where power was turned off, the Counties received final confirmation from PG&E of the number of impacted customers.

Many more aspects of PG&E's de-energization practices, however, are not working well. In the Counties' experience, PG&E representatives' communication with the separate groups of local officials has not, in the case of the 2018 PSPS events, been coordinated or particularly effective. Napa County observed that certain PG&E representatives had access to more accurate and up-to-date information than other representatives, which caused Napa officials to scramble to find the PG&E representative with the best information or to try to verify the accuracy of the information provided by other representatives. Sonoma County observed that the initial notice of the PSPS events provided by PG&E to local first responders and customers sometimes occurred simultaneously and sometimes contained inconsistent messaging about potential timing and which areas might be impacted. Sonoma County also observed that PG&E representatives were not well-informed regarding the utility's real-time activities, which meant extra time was spent obtaining answers and information from PG&E's internal operations. The Counties have also observed that PG&E personnel in the field do not appear to have decision-making authority, which frustrates the Counties' and first responders' abilities to take decisive action in response to a developing situation.

PG&E has so far been unable to provide detailed information regarding the circuits that would be de-energized until an hour before de-energization, and PG&E has yet to provide maps of the shut-off circuits and impacted areas. Sonoma County observed that, during the October 15, 2019 event, PG&E's public information regarding de-energization unnecessarily alarmed residents outside the PSPS area. PG&E's map of the shutdown areas was misleading and caused notable concern and confusion because the map was not specific enough about the areas in which PG&E planned to shut off the power. For instance, the map included areas of Santa Rosa and a large portion of the western part of Sonoma County, while the actual PSPS area

would only affect a small number of residents in the northeastern part of the County. This lack of specific information also frustrated County emergency management officials because PG&E could not provide real-time situational awareness beyond what it was sharing with the general public.

It is also not clear to the Counties what criteria PG&E uses to determine when to call a PSPS event and when to cancel it. The Counties became aware of PG&E's official PSPS Policies and Procedures during this proceeding, but the actual decision-making the Counties witnessed during the winter 2018 PSPS events did not evidence clear criteria or a coordinated process.

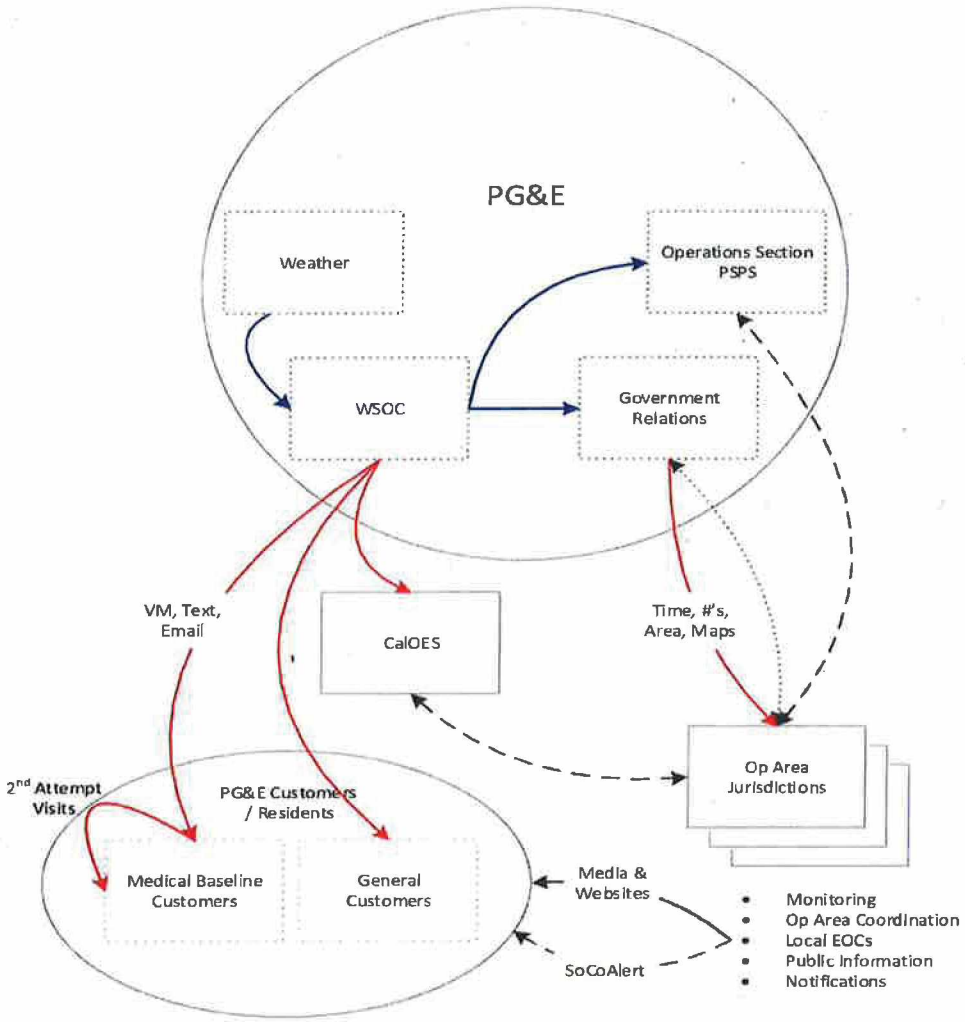
Finally, the Counties note that the costs to local governments for public safety response during PSPS events is heavily impacted by the level of uncertainty from PG&E. Local governments incur significant costs for staff overtime and disruption of operations beginning in the early stages of a PSPS notification and continuing for the duration of the event. This can include increased staffing for emergency management, public communications, dispatch, fire, law enforcement, and emergency operations centers. If PG&E continues to overstate or misstate the areas that will be impacted, if PG&E is unable to provide accurate information about the situation in real-time, and if PG&E is unable to communicate effectively with local governments, local emergency and public safety resources will be expended unnecessarily. If PSPS events are to become a regular event for PG&E, public safety capabilities will be stretched thin and will negatively impact local jurisdictions' budgets and resources, which will create the need for financial assistance or austerity measures.

4(c). What changes are required to ensure better coordination?

Formalized protocols that outline the roles and responsibilities of PG&E personnel and local government and first responders are necessary to ensure effective notification and coordination. These protocols should be validated and updated annually with lessons learned from the most recent fire season, and should include communications exercises or workshops. As local government, public safety, and PGE staff rotate out and new staff come in, maintaining institutional knowledge and proficiency will be challenging due to the fact that de-energization events generally occur on only a few occasions during a certain time of year. Annual updates to the PSPS protocols, combined with training, will help maintain a sufficient level of knowledge and experience.

PG&E should adopt a Standardized Emergency Management System (SEMS) model for communication with local governments relating to de-energization events. Many local governments use SEMS and find it to be effective. Under a SEMS structure, there would be clearly established roles and responsibilities within PG&E and the local governments, as well as established communication protocols. PG&E Operations would talk with local Operations; PG&E Public Information Officers would talk with local Public Information Officers; PG&E command would talk with local command, and so on. Ensuring ahead of time that everyone knows who their utility and government counterparts are, and that everyone understands with whom they are to communicate, will reduce chaos and improve communication.

The following chart, which is part of the Sonoma County Plan,[3] illustrates the complex notification and information-sharing relationship among PG&E departments, public safety agencies, and the public:



Adopting the SEMS structure for communications will be an important step for PG&E toward more effective coordination with local governments, but it is not sufficient in and

[3] Sonoma County, Department of Emergency Management, Sonoma County Operational Area Electrical System De-energization Response Plan (2018), available at https://sonoma-county.granicus.com/MetaViewer.php?view_id=2&clip_id=855&meta_id=253922.

of itself. Increased planning and communication with local governments to ensure that all entities responsible for planning for, and responding to, PSPS events are adequately prepared. The center of gravity for developing and processing hazard information in California's SEMS system is the County/Operational Area. Because most of the wildfire hazard in PG&E's service territory is located in unincorporated areas, counties play a key role in monitoring and responding to emergency situations and therefore need to develop greater capabilities than most other levels of government to address de-energization events. The counties need PG&E's support and partnership to develop training and exercise programs for contingency planning, communication, and response. Furthermore, de-energization events do not activate state or regional Emergency Operations Centers, often due to insufficient lead time or the fact that the state agency's mission does not extend to de-energization. Because the full extent of resources available to the public are not utilized during PSPS events, CalOES representatives should be placed in PG&E's Operations Center during high fire-risk events in order to facilitate an increased level of emergency management and situational awareness information to and from the Operational Areas in the field—as is currently the practice between the Counties and CalOES during most other regional emergency incidents.

PG&E must also provide accurate and detailed information about the areas that will be affected by the PSPS event, as well as maps of the circuits that will be shut off, with as much advance notice as possible. Regardless of the amount of lead time, PG&E must provide this information. PG&E must also ensure that its representatives are well-informed and kept apprised of developments and decisions in real time.

Issue 5: The extent to which the electric utilities' systems are in compliance with and align their systems with California's Standardized Emergency Management System framework (SEMS).

The Counties do not believe that PG&E's current system aligns or complies with California's SEMS framework. The Counties do, however, recommend that PG&E conform its PSPS communication and notification practices to the SEMS structure.

Issue 6: How to mitigate the impact of de-energization on vulnerable populations.

6(a). What are the impacts of de-energization on vulnerable populations, and what can the Commission and IOUs do to minimize these impacts?

As described in response to Issue 3, above, one of the primary impacts to vulnerable populations of shutting the power off is that critical medical equipment, or medications that require refrigeration, can be adversely affected. Patients who have left ventricular assist devices, ventilators, oxygen concentrators, electric wheelchairs, home IV infusion devices, home dialysis, tube feeding pumps, suction pumps, and electric beds are particularly impacted by loss of electricity. Shutting off the power can also harm individuals and communities in remote areas, particularly if communications towers lose power and deprive these residents of phone service. Whether populations are medically vulnerable or vulnerable due to remote location, the most crucial elements of de-energization are effective notice of a potential PSPS event and protocols to address the needs of these residents if and when the power goes out.

The Commission should ensure that PG&E develops a method of identifying and tracking vulnerable persons that will be accurate and allow PG&E to make contact before a de-energization event. The current practice of relying on the Medical Baseline registry is inadequate. PG&E must partner with the health and social services agencies of the communities that it serves—particularly In Home Support Services for aging and vulnerable adults, California Children's Services for children with disabilities, and Emergency Medical Services and MediCal Managed Care agencies to obtain a more accurate count and contact information for medically vulnerable residents that must be reached before the power is shut off. Additionally, Health and Human Services' emPOWER program compiles data on Medicare beneficiaries that are on power-dependent life-sustaining equipment and medications.

In addition to notice, PG&E should also work with these agencies, and long-term care and skilled nursing facilities, to develop protocols to ensure that medically vulnerable people are able respond to a PSPS notification. These efforts should include helping facilities install backup generation and developing protocols for helping homebound vulnerable populations obtain backup power or to leave their home if a long-term outage is anticipated or occurs. PG&E should also work directly with hospitals and other medical facilities in elevated fire-risk zones to develop protocols for responding to PSPS events. The St. Helena Hospital, for instance, is in a Tier 3 fire risk zone, and the Counties understand that the transmission line that serves the area in which the hospital is located also runs through a Tier 3 zone. The hospital has backup generation, but it cannot perform certain procedures when operating on backup generation, and de-energization may require emergency services to be diverted. The hospital also lost approximately $150,000 due to canceled procedures and treatments during the October 2018 PSPS event, which did result in de-energization. Because not all PSPS events will require

actual power shutoff, it is crucial that medical care facilities be timely notified of PG&E's decision-making regarding de-energizing so that procedures are not unnecessarily canceled and care is not unnecessarily deferred. In order for hospitals and other medical facilities to protect their patients as best they can in high-fire-risk conditions, these facilities may need information and support from PG&E beyond the protocols contained in PG&E's PSPS Policies and Procedures.

Issue 7: How to reduce the need for de-energization, if possible.

In addition to system hardening, vegetation management, and undergrounding, the Counties recommend that PG&E develop greater segmentation in its transmission and distribution system so that de-energization is more targeted and less disruptive. This will not eliminate the need to de-energize power lines in high fire-risk situations, but it will reduce the area, infrastructure, and populations impacted.

Issue 8: Examine the need for community and first responder notification improvements.

8(a). How are the current notification requirements working?

See the discussion in Issues 4 and 5, above.

The Counties have learned about the notification and communication between SDG&E and the communities that it served during potential de-energization events, and the Counties believe that SDG&E's system should serve as a blueprint for PG&E's own PSPS program. From what the Counties have observed, SDG&E's de-energization program has been effective at preventing wildfires and its community is well-informed before, during, and after PSPS events.

8(b). What additional notice requirements should [the Commission] consider?

See the discussion in Issues 4 and 5, above.

Issue 9: Examine best practices around the country or the world in implementing de-energization.

The Counties believe that SDG&E's de-energization program provides a useful template on which PG&E's nascent PSPS program can be modeled, particularly in terms of how the utility communicates with its customers and local government.

Issue 10: Develop reporting and notice requirements that best serve Californians.

See the discussion in Issue 11, below.

Issue 11: What data should be collected when IOUs initiate a de-energization event, during and after these events?

The communities impacted by the PSPS event should be surveyed at the local government, first responder, and resident levels to provide first-hand information about how well notice, communications, coordination, decision-making, and other elements of the utility's program worked in practice. A formal after-action report process should be completed for de-energization events to identify lessons learned and designate the parties responsible for implementing any corrective actions. After-action reports should also be used to develop a database of impacted residents, vulnerable populations, and infrastructure to provide a full

picture of the scope of de-energization events in a particular service territory or geographic region.

II. OTHER ISSUES

A. Category and Need for Hearings

The Counties do not object to the preliminary categorization of this proceeding as quasi-legislative. If the parties and Commission subsequently determine that this proceeding would be more appropriately categorized as ratesetting, the Counties would have no objection.

The Counties do not object to the preliminary determination that hearings will not be necessary, though the Counties will not object if it is later determined that hearings are required.

B. Schedule

The Counties generally support the revised schedule, provided in TURN's comments on this Rulemaking, that disaggregates the issues of notification, mitigation and reporting, and PSPS criteria so that the Commission can focus on each issue more closely.

The Counties do, however, believe it is necessary for PG&E to have interim criteria for PSPS events in place, coupled with protocols to effectively act when enough criteria are triggered that de-energization may be necessary, before the 2019 fire season starts. The criteria identified in PG&E's PSPS Policies and Procedures are a good starting point. PG&E should work with the local governments it serves to improve lines of communication and to develop effective information-sharing protocols before the 2019 fire season. The PSPS criteria and protocols can be further developed, as necessary, as proposed in the intervenors' revised schedule.

III. CONCLUSION

The Counties support the Commission's efforts to ensure that the investor-owned utilities have effective de-energization practices and protocols in place before the 2019 fire season starts. Notice and effective communication are crucial to ensuring the safety of the public if there is a possibility the power might be shut off. Coordination with local governments and first responders must begin long before weather conditions threaten overhead power lines, and must be an ongoing dialogue to ensure information is up-to-date and action plans are well-oiled. The Counties look forward to working with the Commission, the other parties, and PG&E to improve and refine the current PSPS practices and procedures.

Respectfully submitted February 8, 2019, at San Francisco, California.

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By */s/Megan Somogyi*
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Attorneys for the County of Mendocino, the County of Napa, and the County of Sonoma

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VERIFICATION

COUNTIES OF MENDOCINO, NAPA, AND SONOMA

I, Megan Somogyi, am outside legal counsel for the County of Mendocino, the County of Napa, and the County of Sonoma (Counties). I am authorized to make this verification for and on behalf of the Counties, and I make this verification for that reason in accordance with Rule 1.11(d) of the Commission's Rules of Practice and Procedure, as my office is located in the County of San Francisco. I have read the *Comments of the County of Mendocino, the County of Napa, and the County of Sonoma on R.18-12-005*, and I am informed and believe that the matters therein are true and on that ground I allege that the matters stated therein are true.

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

Executed at San Francisco, California on February 8, 2019.

Megan Somogyi, Partner
Goodin, MacBride, Squeri & Day, LLP

Counsel for the County of Mendocino, the County of Napa, and the County of Sonoma

ATTACHMENT F

PG&E Response to CEJA Data Request No. 1, Question 7

PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans
Rulemaking 18-10-007
Data Response

PG&E Data Request No.:	CEJA_001-Q07		
PG&E File Name:	WildfireMitigationPlans_DR_CEJA_001-Q07		
Request Date:	February 14, 2019	Requester DR No.:	001
Date Sent:	February 22, 2019	Requesting Party:	California Environmental Justice Alliance
PG&E Witness:	Joe Herr	Requester:	Deborah Behles

QUESTION 07

In relation to your plans to develop resilient communities, have you considered how to prioritize communities that are more vulnerable to wildfire risks due to socioeconomic factors? If so, please describe how you are planning to prioritize these communities, and if not, please describe why not.

ANSWER 07

Resilience Zones are one of several strategies that PG&E is developing to alleviate the risks and impacts of proactive de-energization on our communities. Resilience Zones are designed to reduce outage impacts by enabling central community resources, where technically feasible, such as; food, fuel, hygiene, shelter, medical, and critical infrastructure to remain energized while the broader area is shut off to reduce ignition risk.

Because Resilience Zones target shared community resources in commercial corridors rather than residential areas, sites for development in 2019 are currently being targeted based on factors such as the likelihood that they will experience extreme wind events, PSPS impacted circuits, proximity to non-impacted resources, and the nature of the community resources that would be kept energized via a Resilience Zone, rather than the explicit socioeconomic factors of residents in the area. Corridors in Tier 3 HFTDs that feature providers of critical services (i.e. fire stations, health facilities, etc.) and services that maintain a sense of community normalcy (i.e. grocery stores, gas stations, etc.) are some of the most important targets for Resilience Zone development this year.

That said, CalEnviroScreen has and will continue to be used to identify areas with disadvantaged communities fitting the community-resource targeting criteria for Resilience Zones. As PG&E completes its Resilience Zone pilot, it will work with the respective Offices of Emergency Services including, when appropriate, the local Health and Human Services to align with regional emergency planning thereby providing awareness to customers of available resources.