

June 30, 2020

VIA E-MAIL
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Caroline Thomas Jacobs, Director
Wildfire Safety Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Subject: Stakeholder input on Wildfire Safety Division's Proposed Strategic Roadmap: *Reducing Utility Related Wildfire Risk: Strategy and Roadmap for the Wildfire Safety Division*

Dear Ms. Jacobs:

Pacific Gas and Electric Company (PG&E) respectfully submits these comments on the Wildfire Safety Division's (WSD) Proposed Strategic Roadmap (Roadmap).

PG&E appreciates the WSD's efforts on putting together the Proposed Roadmap and allowing stakeholders adequate time to review and provide comments. PG&E agrees that the time is now to align on the long-term strategy for mitigating utility-caused wildfires in California. By including a large group of stakeholders beyond utilities in the strategy creation process, all Californians will benefit from the WSD's focus and leadership on the overarching goal that PG&E, the Wildfire Safety Advisory Board, other regulators, and all parties share of eliminating catastrophic wildfires associated with utility equipment.

PG&E appreciates that the WSD's Roadmap provides a high-level perspective on the future vision, goals and focus areas for Wildfire Mitigation Plans (WMP), activities and data processes. The Roadmap includes a number of excellent points, goals and activities to be pursued or considered. There are many ideas that WSD has presented which PG&E is excited to explore. Our comments include PG&E's suggestions to help shape, focus, or manage such ideas. Additionally, there are areas which PG&E has concerns, and these we bring to your attention. A number of the activities identified in the Roadmap will require extensive collaboration between utilities, regulators, experts, stakeholders and others to drive programs that are feasible and will work for all parties. PG&E looks forward to collaborative and inclusive processes to build out these high-level visions and directions into actionable steps, metrics, data and other deliverables.

PG&E's remaining comments have been organized thematically with references to relevant portions of the Roadmap where appropriate.

A. Regulatory Framework

1. Trade-offs must be embraced and balanced

PG&E fully agrees with the framing the Roadmap provides on page 7 of the draft report: "the WSD must ensure utility wildfire mitigation initiatives balance near-term activities that

make each wildfire season less harmful to the public, with activities focused on long-term, systematic risk reduction.” The report goes on to discuss the need to “achieve this equilibrium”. PG&E respectfully offers that this concept of near-term vs. long-term is just one of the multiple “equilibriums” or trade-offs that must be understood and tackled directly by the WSD and through the WMP process. To that end, PG&E submits that principle #4 “Risk-informed, data-supported decisions” may benefit from the inclusion of more focus on balancing risk reduction with performance and cost to inform the critically important decisions around resource allocation for the utilities.

As the WSD and the utilities continue to mature through the upcoming years one approach for understanding these tradeoffs is focusing on an agreed upon level of residual risk, and the potential consequences associated with that. The necessary data to understand wildfire risk drivers and consequences may not be mature enough to pursue this approach in the very near term. However, the WSD ought to consider a collaborative, multi-party, and transparent process towards the development of a residual risk calculation methodology and appropriate target residual risk level. Utilities could then focus their plans around achieving or maintaining that level of risk and the allocation of resources necessary to achieve it. In understanding the activities needed to achieve a target residual risk it will be important to incorporate the understanding that continued climate change, human habitation patterns, the passage of time, and other factors, will require resource allocation and investment simply to maintain the current level of residual risk. As a potential useful benchmark in this area, the nuclear industry uses a similar model of assessed residual risk level with targets established.

Another equilibrium to be found, in combination with the very important principle of “Effective collaboration,” is the lens through which utility wildfire mitigation activities are viewed. Valuable ideas and perspectives can come from a number of different sources, industries and benchmarks. The majority of section 2.1 of the report “Principles for Utility Wildfire Mitigation Activities” is focused on learnings to be gleaned from “disaster management.”¹ While disaster management is one important benchmark from which learnings can and should be captured, PG&E submits that at its very core utility wildfire mitigation is about preventing disasters. In fact, managing an actual disaster, like a wildfire itself, is barely mentioned in the current wildfire mitigation plans, which PG&E believes to be appropriate. Therefore, the guiding principles in the Roadmap should also be informed and driven by principles and concepts from other disciplines, most especially asset management (including practices or concepts from the nuclear and aviation industries, as examples). Utility wildfire mitigation, with a focus on avoiding disasters through preventive action, risk reduction and safety factors, may need to be approached differently than disaster response. In the end, many of the concepts here are good and make sense for utility wildfire mitigation, for example coordination and collaboration, but the lens through which things are viewed is often very important. An over-reliance on disaster management practices without appropriately balancing and incorporating asset management concepts may not drive to the end state we all seek.

¹ “Disaster Management” is referenced on pages 20, 21 & 22 including in the first sentence of three of the four guiding principles.

a. Progress vs. Perfection

Related to the WSD framework of needing to “balance near-term activities that make each wildfire season less harmful to the public, with activities focused on long-term, systematic risk reduction” it is important to understand that within the ten year Roadmap timeframe perfection may not be possible, but progress certainly is. One example would be the two perspectives on Utility Reliability identified in the Roadmap.² First, the Roadmap states that: “Utility reliability must not be impacted significantly from wildfire mitigation activities, or from catastrophic wildfires”. Certainly, we are all aligned on this objective. However, while PG&E is committed to reducing the size, scale, and impact of PSPS events, this statement could be construed as reflecting a “perfect” future state and may not be feasible for much of the 10-year window. On the other hand, the second statement in this section reflects a focus on progress: “PSPS must decrease in scope from today...”. All can agree with this objective and it has much more applicability in the near and long terms. PG&E acknowledges the value in identifying long-term, ideal future states that approach “perfection”, as long as those concepts are kept in perspective and do not discourage progress because the progress does not yet result in perfection.

As an example of progress vs. perfection and tradeoffs that must be faced and addressed, the Roadmap notes that "One tangible example of the ongoing, short-term impact is the significant use of diesel-fueled generators during the past year of PSPS events, an activity that could impact the state’s climate change goals."³ This is a true statement that incorporates many of the issues noted above. The expanded use of diesel (or biodiesel) generators for 2020 PSPS customer outage reduction represents progress in reducing customer impacts and supporting utility reliability, while supporting the primary objective of keeping our communities safe from catastrophic wildfires. All would acknowledge, however, that it is not a “perfect” long-term solution for a number of reasons, specifically emissions. Unfortunately, the state of the temporary power generation industry and technology is very limited with feasible alternatives to provide multi-day, utility substation scale power to customers in the near term. While having a vision for an idealized future state (e.g. flexible backup power without emissions) is helpful, it does not make those solutions feasible. All the stakeholders within our state must understand, face and embrace these tradeoffs and realities. Within these important conversations about tradeoffs and the appropriate equilibrium, PG&E submits that we must ensure that “perfection” does not inhibit or prevent progress in the near term.

b. Customized vs. Standardized

Another area where tradeoffs, balance and equilibrium must be carefully addressed and considered is in relation to locally customized vs. standardized solutions for all California communities. This balance is difficult and the appropriate approach may be different from one application to the next. This dichotomy is captured in the Roadmap itself wherein one principle is “Localized Perspective,” stating "directly replicating one mitigation approach to other utility

² *Utility Wildfire Mitigation Strategy and Roadmap for the Wildfire Safety Division*, p.28

³ *Ibid.* p.23

service territories is not always the best approach as it may not account for the current and projected future differences between the size of the utilities' customer base and systems, as well as the variability and complexity in climate, ecosystems, and demographics. In California this is especially true, with differences amongst the three largest IOU service territories..."⁴ On the other hand, much of the details throughout the report and appendices focus on industry benchmarks and may be viewed as driving towards greater standardization. Driving this point home, the Roadmap deals with this issue as it relates to utilities' Fire Potential Indices (FPI): "Having different risk indices for different situations is important to adequately characterize risk exposure, but not even the utilities' FPIs can be compared to each other, as each has different levels of granularity."⁵ While the FPI is one example, the bottom line is that it is difficult to find the careful, appropriate balance between utility practices, tools or activities being standardized or tailored uniquely to local communities.

In summary, there are a significant number of critical tradeoffs and equilibriums that need to be found through the WMP process under the leadership of the WSD. The Roadmap sets a strong overall direction and may benefit by further addressing the need to embrace these tradeoffs and continue to learn and evolve while driving progress towards ultimate objectives.

2. **Aligned Regulatory Environment**

The Roadmap briefly addresses the need for collaboration across a number of regulatory environments. In particular, it acknowledges there are several other proceedings before the CPUC that "will inform future evolutions of the utility wildfire mitigation strategy."⁶ The interplay of these proceedings and their focus on the mitigation of wildfire ignition risk and reduction of the impacts of PSPS events deserves more focus and better coordination to evolve into a cohesive approach. PG&E believes all parties would benefit from an aligned, and possibly streamlined, structure of proceedings. As an example, if deep dive proceedings continue to address PSPS operations and communications it would seem that those topics should be excluded from the scope of the WMPs. Alternatively, if those topics are going to remain a focus of the WMP then PG&E offers that the separate proceedings addressing these same topics be discontinued and merged into the WMP. Having two (or more) active proceedings addressing the same topic is an inefficient use of resources for all parties and creates substantial risk of decisions providing misaligned, or even contradictory, guidance.

Relatedly, there is an even broader set of related proceedings than just those noted in the Roadmap.⁷ While the list of related proceedings included in the Roadmap does not appear to have been intended to be a comprehensive list of relevant proceedings, PG&E points out that another proceeding with meaningful impacts on the "Long-Term Resilience" principle is the CPUC Order Instituting Rulemaking (OIR) on Climate Adaptation.⁸ In that proceeding the CPUC has set guidance on which climate data, models, and scenarios that utilities should use,

⁴ *Ibid.* p.18.

⁵ *Ibid.* p.23.

⁶ *Ibid.* 9.45.

⁷ *Ibid.* p.45.

⁸ R.18-04-019

and is expected to issue a proposed decision in the fall of 2020 on the decision-making framework IOUs should use to adapt to climate change. With wildfire mitigation being one of the most immediately acute climate change adaptations, PG&E submits that the alignment and interrelationship of that Climate Adaptation proceeding with the WMP process and Roadmap is critical.

Lastly, all parties will benefit from a completely transparent regulatory process with a well-defined scope for the WMP. As noted above, duplicated or overlapping scopes between proceedings are inefficient for all parties and risk providing conflicting guidance. Further, ensuring that the scope of the WMP process is properly targeted is in the best interests of all parties such that the data and documentation being provided in utility WMPs is manageable, not overwhelming, and focused on the most important topics. This recommendation was made by the Wildfire Safety Advisory Board (WSAB) in their June 23rd final draft recommendations under item 1.4 “Strike a Balance Between Data Submission Requirements, Quarterly Reporting, and Program Implementation” which supported that recommendation by the near-term focused point that “The Board recommends the 2021 WMP Guidelines require simplified and streamlined reporting requirements to include the data that is critical for WSD staff to complete its evaluation.” PG&E is completely aligned with the WSAB’s recommendation and comments on this topic.

In addition to scoping the process effectively, transparency throughout all aspects of the WMP process will benefit all parties. As an example, given the focus on the Utility Wildfire Mitigation Maturity Model in the WMP process and referenced in the Roadmap⁹, PG&E requests WSD share detail on how maturity model scores are calculated from the one or more relevant inputs. This will help utilities, regulators, and all stakeholders understand how the objective criteria of the maturity model are applied and how the correlation of actions being considered or evaluated align with improved and more mature wildfire risk mitigation.¹⁰

B. Resiliency & Sustainability

Given the long-term nature of this Roadmap PG&E appreciates the focus and discussion of Resiliency & Sustainability. Those are critical concepts that must be incorporated into regulations, utility planning, state policy and other venues. While there is certainly much work to be done in this area, it is important to understand that all parties continue to need better long-term wildfire and climate studies and data to enable more focused and accurate planning. The hope is that these datasets and studies will improve over time. PG&E is, in fact, beginning to incorporate long-term climate data into risk management (e.g. in our 2020 RAMP filing) and asset and project management. Nonetheless, the WSD, and potentially others (including the CPUC’s Climate Adaptation proceeding), can help guide all stakeholders in determining the appropriate data to use and possibly even how to incorporate that data. Given the rapid evolution

⁹ *Utility Wildfire Mitigation Strategy and Roadmap for the Wildfire Safety Division*, p.32-35

¹⁰ *Ibid.* p.33. “...the newly introduced Utility Wildfire Mitigation Maturity Model (‘maturity model’) is designed to provide a more objective and standard judgment of the utility’s capabilities, including the targets for improvement over the next three years.”

of data and details in understanding climate change this is another area where waiting for perfection would be detrimental to making progress.

WSD has identified six objectives, beginning on page 28 of the Roadmap, meant to create safer communities while also encouraging utilities to reduce the most risk with prudent investments while maintaining reliability of the grid. PG&E agrees with public safety, property, reliability, affordability, and climate action, and their respective summaries, being included as objectives. However, PG&E submits that the objective “natural resources: support efforts in reaching 100% sustainable forests, watersheds, and communities” where “mitigation efforts also will work to ensure resilient, sustainable forests, watersheds, and communities” may not fit with the stated goal of creating safer communities while reducing the most risk with prudent investment and maintaining reliability. PG&E offers that the Roadmap should consider if this objective is a core function of the utility and if it, therefore, rises to the level of a primary objective. PG&E has no objection to the WSD leveraging this objective as a consideration of its cross-coordination efforts. However, when considering the need to manage the scope of WMPs and related efforts to maximize the focus on the appropriate, most critical wildfire risk mitigation activities, PG&E submits that this may not rise to the top six objectives, at least to the extent that it pertains to utilities and the actions they ought to be take.

Further, to the extent that “Natural Resources” remains a key objective of the Roadmap PG&E offers that the role of the utilities be re-assessed. For example, in Appendix 2, page 7, WSD further details this objective as “This means that ongoing utility activity, such as vegetation management work, should support existing efforts like those being led by the Forest Management Task Force.” While additional and successful collaboration where possible is helpful, the scope of utility companies is, ultimately, limited. For example, it would seem to be an overstatement that utilities can be meaningful contributors to the forest management aspects of “eliminating particularly hot and fast-moving fires” as utilities are generally not land or forest managers, but instead utility asset managers. PG&E in most instances does not have the requisite property rights nor the authority to obtain property rights to accomplish such broad environmental goals. The Roadmap states that utilities can support ongoing efforts through forest management practices. While PG&E supports these efforts by the appropriate agencies and aligns its activities with environmental best practices, we are unsure how utility-caused wildfire mitigation efforts can ensure sustainable forests, for example. PG&E would encourage more discussion and collaboration between the WSD, utilities, land management agencies and others before including this objective in the Roadmap.

C. Data Strategy

PG&E applauds the WSDs focus on data strategy and the great opportunity there is to promote data standardization, transparency between utilities and regulators, and facilitate stakeholder engagement. Data Strategy is one of the areas the WSD Roadmap went into the most detail and therefore an area with much to comment on. PG&E provides the following comments on different aspects of the Data Strategy Roadmap and looks forward to further collaboration and partnership across the WSD, utilities and other stakeholders in forming an effective path forward in this critical area.

- **Standardization:** PG&E encourages the CPUC to consider implementation of the Common Information Model¹¹ or equivalent industry standard, rather than creating their own. Adopting industry standards would allow for data to be accessed and used via APIs¹², potentially without the need for a true “database” for storage purposes. This aligns with the data strategies guiding principle of scalability and could help reduce duplicative storage cost being passed on to customers. PG&E does appreciate the inclusion of data governance fundamentals, such as a dictionary and taxonomy, as key parts of the data strategy expressed in the Roadmap.
- **Stakeholder engagement:** there is significant complexity and investment associated with developing and reviewing data for WMPs and through the WMP decision making process. Collaboration across the data providers and data users of this process is critical to maximize the accuracy of the results and the level of insight provided to stakeholders and decision makers.
- **Duplication of effort:** the Roadmap appears to indicate that the WSD may intend to conduct its own predictive analytics. If that is, in fact, being considered, then further collaboration and discussion would benefit all parties to reduce duplication of effort or differences in analytical outcomes that may create more confusion or frustration than new insights. Data models, just like any other tool, have primary functions and limitations including what insights they can provide and what answers must still be developed by subject matter experts from those insights. As always, collaboration, communication and partnership will result in a better outcome, in this case resource investment, for all parties.
- **Desired outcome:** while the Roadmap discussion sets out a vision, what isn’t clear is the long-term value these use cases unlock. The WSD could help all parties better understand and support their vision if it is clear what financial, risk reduction, transparency or other benefit the Data Strategy within the Roadmap is seeking.
- **Phased approach:** PG&E agrees that a phased approach is required in order to maximize business value realized as well as maintain the ability to respond to changing conditions. At first glance there is high level alignment between the draft enterprise data management strategy PG&E is considering and the three phases of the CPUC plan. However, the devil will be in the details, especially surrounding what data the utilities must provide and on what timeline. One example detail is that the Roadmap appears to schedule the determination of data governance rules during this year’s upcoming wildfire season when utility experts will be focused on mitigating the peak wildfire risks and will be unable to fully engage in stakeholder processes.

¹¹ Outlined in IEC Standard 61970 at <https://www.iec.ch/smartgrid/standards/>

¹² Application Programming Interface (API), which allows for standardized collaboration between applications, tools and datasets

- **Data as an “Asset”:** PG&E applauds the WSD in the Roadmap for emphasizing “Treating data as an asset.” This is a perspective that PG&E shares, and as a result has developed an Asset Management Plan focused on Asset Information. Amongst other things “treating data as an asset” includes the development of a strategy, a sufficiently resourced staff who is responsible for the performance of the asset, a maintenance plan and budget, an inspection plan and budget, key performance indicators on the performance of the asset, and a continuous improvement plan and budget. And as with any asset, the aforementioned data is the utility’s intellectual property. As has been mentioned in several other forums data ownership and security should be addressed in the WSD’s Roadmap or future documents and procedures.
- **Data templates and formats:** As part of wider, deeper collaboration PG&E encourages the WSD to partner with other divisions and proceedings at the CPUC on data templates and formats. Increased alignment and consistency across proceedings, reporting requirements and CPUC divisions would help all parties, particularly the divisions at the CPUC, intervenors, and the utilities. For example, data is frequently provided in pdf format as required by CPUC procedure. Similar requests for moving to “machine readable formats” as well as having centralized data repositories have been discussed and adjudicated in the CPUC’s Demand Response Click Through Application. Another detailed distinction is that the use of templates, as suggested in the Roadmap, is simply a tactical tool for collection of data. The strategic issue to be explored is improving the sourcing of data by analyzing the end-to-end process of data collection and sharing. PG&E suggests that the concept of Create Read Update and Delete (CRUD) processes should be analyzed for applicability. For data sourcing, there should be particular focus on data entry processes and ensuring those processes maximize the accuracy, completeness, and uniqueness of the data. As with most topics, PG&E looks forward to collaborating with the WSD and other parties to maximize understanding, alignment, effectiveness and efficiency of this effort.

D. Collaboration

PG&E appreciates the areas of collaboration identified by WSD and suggests the addition, or elevation, of legislation/regulation to the list. While briefly mentioned,¹³ change to legislation and regulation governing utility wildfire mitigation may continue to be needed to support utilities in performing critical wildfire mitigation work, under their WMPs, without delay. WSD and the utilities can easily collaborate on what legislation/regulation can be modified and PG&E submits that the WSD has a relevant and valued voice within California State Government to influence actions that can improve wildfire risk mitigation.

Coordination and clarity amongst the relevant agencies who ultimately support the health and safety of Californians is, obviously, paramount. The WSD plays a key role in facilitating these discussions and supporting alignment. As an example, the 2019 WMP Phase 2 decision

¹³ *Ibid.* p.45.

includes multiple references to the communications from utilities “during a wildfire.”¹⁴ In discussions with first responder agencies, they have been clear that utilities should not be prominently communicating to their customers “during a wildfire” as those communication channels need to be kept clear for the critical, even lifesaving, communications being led by first responders. This is just one example of an area where facilitation by the WSD could improve coordination, alignment and effective execution by each party within the interconnected network of parties supporting the safety of our customers and citizens.

Further in the spirit of collaboration and alignment between related efforts, PG&E is attaching to these comments those comments we provided earlier in June to the WSAB’s Draft Recommendations on the 2021 and future WMPs. Many of the WSAB’s recommendations, which had an eye toward long-term wildfire risk mitigation practices, are relevant to the items discussed in the Roadmap. PG&E supports the majority of the recommendations put forward by the WSAB and therefore believes that our comments provided in that venue are informative to the WSD’s development of the ultimate Roadmap.

E. Conclusion

PG&E appreciates the WSD’s efforts in putting together the Proposed Roadmap and allowing stakeholders the opportunity to review and provide comments. PG&E agrees with the importance and timeliness of focusing now on the long-term strategy for mitigating utility-caused wildfires in California. The Roadmap includes a number of excellent principles, goals and activities to be pursued and there are many ideas which PG&E is excited to participate in developing and exploring further. All Californians can benefit from this process and the WSD’s leadership in achieving the overarching goal that PG&E, the Wildfire Safety Advisory Board, other regulators and all parties share of eliminating catastrophic wildfires associated with utility equipment.

Sincerely,



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¹⁴ Decision (D.) 20-03-004, “DECISION ON COMMUNITY AWARENESS AND PUBLIC OUTREACH BEFORE, DURING AND AFTER A WILDFIRE, AND EXPLAINING NEXT STEPS FOR OTHER PHASE 2 ISSUES”

PACIFIC GAS AND ELECTRIC COMPANY
ATTACHMENT 1
COMMENTS ON WSAB RECOMMENDATIONS

PG&E's Comments on the Wildfire Safety Advisory Board's Recommendations on the 2021 Utility Wildfire Mitigation Plans

INTRODUCTION

PG&E appreciates the thoughtful engagement of the Wildfire Safety Advisory Board (Board) in providing these recommendations on the “2021 Wildfire Mitigation Plans Guidelines, Performance Metrics, and Safety Culture.” All Californians can benefit from the Board’s focus on and support of the overarching goal that PG&E, the Board, and all parties share of eliminating catastrophic wildfires associated with utility equipment.

PG&E appreciates that the Board has provided a valuable perspective on the activities and timeline for the 2021 (and future) WMP processes. Many of these recommendations relate to utilities providing additional data, plans or details. Doing so requires adequate lead time for the utilities to understand the requirements, including the templates or expected format, and to gather the information in advance of the WMP filing date. As noted by the Board in Recommendation 1.3, ensuring adequate time from when the 2021 WMP templates and requirements are finalized to the WMP filing date will best enable utilities to provide the most complete and consistent data possible. This will also allow for the most efficient and effective review of those plans during the post-filing review period.

PG&E also commends the Board on the format and delivery of these recommendation in a direct and clear way that is easy to read and understand. PG&E’s remaining comments are organized around the subset of the Board’s recommendations for which we have comments, suggestions or questions and are provided in the same order and a similar bullet-point-oriented format as the Board provided.

PG&E’s Comments in Relation to the Board’s June 2nd Recommendations:

1. Structural Recommendations to the 2021 WMP Guidelines:

1.1 Topical Organization by Wildfire Mitigation Program with a Focus on Lessons Learned

A. The Board recommends the 2021 WMP Guidelines be organized around each of the 10 categories being used for the WMPs and the Maturity Model to give the reader a complete picture of each. The organization of the Guidelines should highlight Public Safety Power Shutoffs, workforce training, and stakeholder cooperation and community engagement.

- PG&E is aligned that the future WMP Guidelines may be better organized around each of the 10 categories being used for the WMPs and the Maturity Model. This proposed structure will also improve the connection the WMP has to the Maturity Model and potentially provide more visibility for measuring progress against the maturity model framework.
- PG&E appreciates the example table of contents for the 2021 WMP Guidelines that the Board provided to help illustrate its recommendation.

B. The Board recommends each of the Wildfire Mitigation Program sections of the 2021 WMP Guidelines start with lessons learned.

- PG&E agrees with the Board’s recommendation. Incorporating lessons learned for each mitigation program will not only help demonstrate that utilities are continually evaluating ways to enhance wildfire risk reduction efforts but will also highlight the need for

continued flexibility while implementing WMPs as further lessons are learned and incorporated.

1.3 Submission Schedules That Set All Parties Up for Success

A. The Board recommends the WSD set a WMP submission schedule that promotes the success of all parties. The CPUC could set the deadline for 2021 WMP submissions at least four months after the approval of the final 2021 WMP Guidelines, for example.

- PG&E appreciates and is completely aligned with the Board's overall recommendation to set a WMP schedule that promotes the success of all parties.
- PG&E is supportive that the suggestion of a four-month plan development period between approval of the plan guidelines and submission of the plans generally provides the utilities enough time to file complete plans. However, if there are interim deadlines within the 4 months, for example, if a Supplemental Data Request is due within that window, before the complete WMP is submitted, that would create challenges for the utilities submitting a complete plan. To the extent possible, all information required for the WSD and stakeholders to evaluate the utilities' 2021 WMPs should be defined in the 2021 WMP Guidelines established at least four months prior to the first 2021 WMP submission deadline. Any emergent requests and associated interim deadlines should be carefully considered in conjunction with the original scope outlined in the 2021 WMP guidelines. Seeking the necessary, appropriate details up front, with limited clarifications or emergent requests during the utilities' development of their WMP, will have an overall positive impact on communication between utilities, the CPUC, and other interested parties.
- It is worth noting that the Board's other recommendation aimed at simplifying and streamlining reporting requirements to include the data that are critical for WSD staff to complete its evaluation would further promote the successful delivery and evaluation of utility 2021 WMPs. This would maximize the limited time of all interested parties by focusing on preparing and evaluating the data that will be considered for WMP decision making purposes and provide greater clarity on what information is critical for measuring the effectiveness of mitigation initiatives across utilities.

1.4 Strike a Balance Between Data Submission Requirements, Quarterly Reporting, and Program Implementation

A. The Board recommends the 2021 WMP Guidelines require simplified and streamlined reporting requirements to include the data that are critical for WSD staff to complete its evaluation.

- PG&E appreciates and is completely aligned with the Board's recommendation to simplify and streamline reporting requirements to include the data that are critical for WSD staff, intervenors and other interested parties to complete their evaluations.
- Implementation of this recommendation is in the best interests of all parties such that the data and documentation being provided in utility WMPs is manageable, not overwhelming, and focused on the most important topics.
- With a myriad of other CPUC proceedings addressing wildfire related topics, like the PSPS Order Instituting Rulemaking (OIR), the Microgrid OIR, and others, there is also an opportunity to avoid duplication of effort. Clearer lines could be drawn for what data,

programs and details should be presented and reviewed through those focused proceedings and at what level of detail those topics should be addressed through the WMPs.

- PG&E completely agrees with the Board’s observations that “There will likely be better outcomes and more collaboration between CPUC and utility staff if the CPUC could demonstrate that the data submitted by the utilities is in fact used in the decision-making process.”¹ Given this, PG&E looks forward to collaborating with the WSD and other parties to determine how the reporting requirements might be refined going forward based on this discussion.

B. The Board recommends that, in the future, WSD consider the reporting ordered as part of its 2020 WMP review to be considered components of the next year's WMP Update.

- PG&E is aligned with the Board’s recommendation that the additional elements for the quarterly reports directed in Resolutions WSD-002 through WSD-009 be considered components of the utilities’ 2021 WMP Updates. As noted above, there are already numerous ongoing and overlapping proceedings before the CPUC on wildfire related topics. The addition of new reporting timelines and documents may have the unintended consequence of further diffusing and confusing the important conversations and reviews that need to take place. Having fewer, more clearly defined filings, proceedings and review processes would serve the utilities, CPUC and other parties in effectively preparing, reviewing, discussing, and determining the best courses of action to achieve the overarching goal of all parties to eliminate catastrophic wildfires associated with utility equipment.

2. Recommendations for 2021 WMP Guidelines that Generally Align with Draft Guidance Resolution WSD-002

2.1 Risk Spend Efficiency Analysis Required for Each Mitigation Measure

A. The Board recommends that the 2021 WMP Guidelines require utilities to complete a Risk Spend Efficiency (RSE) analysis for each mitigation measure so that each measure can be considered individually, in aggregate, and against each other, to determine the most appropriate wildfire mitigation effort for each circuit section.

- PG&E agrees with the concept underlying this recommendation and is already working towards this goal through ongoing regulatory proceedings including RAMP and the 2023 GRC.
- While PG&E is making progress towards calculating additional RSE values and incorporating them into the resource allocation process across the company, there are a number of challenges with calculating and leveraging RSE values to evaluate all initiatives in the WMP. Some of the initiatives identified in the 2020 WMP Guidelines do not directly reduce risks and may not be best served by being evaluated in such a manner. For example, data governance and its associated sub-initiatives are very important, but these initiatives, in and of themselves, do not reduce wildfire ignition risk or wildfire consequences. For this reason, many of these types of initiatives would be considered as

¹ Board Recommendations, p.18

having an RSE of 0. However, that RSE value of 0 may not helpfully inform whether or not data governance initiatives are worth pursuing.

- As the Board has pointed out, and the WSD identified in its revised Draft Resolution², current RSE calculations have limitations in properly evaluating PSPS as a mitigation effort. Similar consideration must be applied to other initiatives to consider if RSE is the appropriate tool for evaluation.
- Ultimately, PG&E agrees that better, more thorough information about the impact, benefit, and cost of all wildfire-related activities will be beneficial for evaluating those actions and determining the optimal path forward. Further collaboration and discussion across all parties is needed to determine if RSE is the right evaluation tool for most initiatives and what other tools may be more appropriate in some cases.

B. The Board recommends that the 2021 WMP Guidelines require the utilities to stop characterizing PSPS events as a solution to lower ignition risk of wildfire in the RSE analysis without considering its consequences. Instead, the 2021 WMP Guidelines should require utilities to factor into their RSE calculations the assumed risk and cost to customers that result from a PSPS event.

- PG&E understands the value in assessing and incorporating “costs to customers” into PSPS RSE analysis and is open to further discussion on the best way to do so. To meaningfully assess a “revised-RSE” (or alternative cost-benefit calculation) for PSPS effectiveness for all utilities a consistent framework needs to be developed to quantify the “risk and cost to customers that result from a PSPS event.” Many stakeholders, especially local governments and community groups may want to provide input into developing the assumptions that would go into such a framework. PG&E looks forward to participating in a process to gain alignment and agreement on the best way to accomplish this.
- Given the multi-party nature of establishing a framework for factoring “risk and cost to customers that result from a PSPS event”, PG&E anticipates that the WSD would facilitate the creation of a model to quantify PSPS-associated customer costs. PG&E foresees an S-MAP-like process to create alignment between various stakeholders on this quantification methodology.

2.2 Train and Retain Qualified Electrical Workers

- A. The Board recommends that the 2021 WMP Guidelines require utilities to properly train wildfire mitigation workers. Because of the severe and often devastating consequences of arc flash incidents, wildfire mitigation worker safety must include training so that the qualified worker is knowledgeable in the construction and operation of equipment and work methods to identify and avoid the electrical hazards that might be present.**
- B. The Board recommends that the CPUC and the 2021 WMP Guidelines require that the utilities hire Qualified Electrical Workers, meaning electrical asset inspectors with qualifications that go beyond a basic knowledge of General Order 95 requirements, to perform certain types of inspections.**

² WSD Revised Draft Resolution WSD-002-rev1, p.20

C. The Board recommends that the 2021 WMP Guidelines require the utilities to develop more robust outreach and onboarding training programs for new employees that (A) train workers to identify hazards that could ignite wildfires, and (B) increase the pool of qualified electrical workers. Utilities could target outreach to communities hardest hit by wildfire or affected by other environmental justice factors.

- PG&E agrees with the Board that it is important that workers performing electric utility work, and particularly wildfire-related work and inspections, be well trained and qualified professionals. If there is concern as to that fact, PG&E is very open to more fully explaining the training provided to and qualifications required of inspectors, vegetation management professionals, and other qualified electrical workers.
- Similarly, PG&E agrees with the importance of having access to an adequate workforce (both employees and contractors) to complete wildfire-related work. PG&E is open to further discussion and review of outreach, recruitment and training programs in these critically important workforces.

2.3 Risk Assessment and Mapping to Determine Location of Wildfire Mitigation Measures and Update CPUC Fire-Threat Maps More Frequently

A. The Board recommends that instead of relying solely on the HFTD maps to determine where to focus mitigation measures, the 2021 WMP Guidelines should require that utilities rely on both infrastructure risk assessment and mapping, and the relationship to the HFTD.

- PG&E is fully aligned with this recommendation. PG&E is currently implementing this activity in 2020, which we refer to as our High Fire Risk Areas (HFRA) analysis. This was mentioned in our 2020 WMP but not thoroughly explained as it was neither complete nor very mature at the time of filing. Going forward, PG&E agrees that there would be a benefit to review through the WMP process of this HFRA analysis, any future analyses and the similar efforts being undertaken by other utilities.

B. The Board recommends that the CPUC, through WSD, consider developing a more streamlined process to update the CPUC Fire-Threat maps relative to how fast the input variables are changing. As vegetation conditions or construction development patterns change, so should the CPUC Fire-Threat maps.

- PG&E understands and, in concept, agrees that more frequent updates and a streamlined process to update the CPUC Fire-Threat maps would provide a more accurate representation of the wildfire threat areas to inform wildfire risk reduction activities. However, in order to support reasonable operational planning and work execution, PG&E submits that it would likely be most effective to establish a defined timeline for updating CPUC Fire-Threat maps and incorporate those updates into the wildfire mitigation plans. As an illustrative example, the CPUC Fire-Threat maps could be updated every third year and released by September 1 with an effective date of January 1 of the succeeding year. The defined cycle would allow all parties to contribute to and prepare for an upcoming map release and a September 1 release date would give the utilities adequate time to incorporate the updated map(s) into operational planning & risk modeling for the upcoming WMP submissions.

2.4 Standardized Data to Allow Cross-Utility Comparisons

A. The Board recommends the CPUC consider WSD’s recommendation for a data taxonomy and data schema that will ensure consistent formatting and streamline the reporting of data, using the same measurements.

- PG&E agrees that consistent formatting and streamlined data process will be very valuable to all parties in the WMP process. However, it is critical that WSD and other stakeholders understand the utilities’ limitations on data, and that all parties work together jointly to develop an approach that works for everyone. As an example, many of PG&E’s wildfire-related programs and initiatives have been in place for years and there is no simple or quick way to re-classify programs and initiatives from a measurement, accounting, tracking, and risk quantification perspective.
- PG&E looks forward to collaborating with other utilities, stakeholders and the WSD on developing an effective process, system, and taxonomy to align with the dynamic regulatory and risk environment.

B. The Board recommends WSD hold data working groups that are open to any interested parties to contribute to the generation of data standards for utility reporting as well as to assist in leveraging existing data standards from other fields.

- PG&E completely agrees with this recommendation. PG&E fully supports developing a collaborative, consistent approach to data gathering and review that all of the utilities can use for WMP data submissions and that serves the needs of all stakeholders. This approach will benefit all stakeholders by clearly defining data submission requirements to meet the needs of interested parties at the outset. This will limit the utilities from interpreting data reporting requirements inconsistently or submitting data without appropriate context.

3. Recommendations for 2021 WMP Guidelines that Generally Align with Draft Guidance Resolution WSD-002

3.1 Scientific Review of Modeling Methods and Assumptions

A. The Board recommends that the 2021 WMP Guidelines require the utilities to disclose detailed modeling methods and assumptions. An independent scientific advisory panel should be created to vet modeling methods. This scientific advisory panel would go through a nomination and confirmation process approved by the Board, the WSD, or the CPUC.

- PG&E understands and in concept agrees that an independent scientific advisory panel could add value in contributing expertise to the various models used by the utilities. Additionally, having the utilities participate in the vetting process for the panel members would also contribute to the strength of the panel and their applicability to reviewing utility-oriented models.
- The Board notes in its observations that some models may be proprietary. PG&E agrees and recognizes that protocols need to be created for this condition. Not all models must be treated as proprietary, but some are and will be. Cutting-edge and industry leading consultants, experts and vendors may not be willing to partner with California utilities if they know that their proprietary models and methodologies will be made public through the scientific advisory panel process. This process must be established with appropriate intellectual property safeguards so as not to

unintentionally limit the access of California utilities to the best and brightest minds, ideas and tools in the marketplace.

B. The Board recommends that the CPUC require the utilities create a process to incorporate feedback from the scientific advisory panel.

- PG&E is in alignment with the Board’s recommendation. We are eager to incorporate the best science, ideas and tools into our wildfire risk mitigation efforts. Feedback from the scientific advisory panel would be welcome and utilities could explain how this feedback has been incorporated into model in the annual WMP process (or a similar venue). Whether it is ever ultimately needed or not, it would be prudent for the scientific advisory panel model to include a process through which differences in opinion can be managed, including if there are conflicting opinions between different panel members, panel members and non-panel experts or utility operations experts and panel members.

3.2 Development of a Data Access Portal for Interconnected Data Repositories and a Hierarchy of Permission to Access Wildfire Data and Modeling Methods

A. The Board recommends the CPUC, with oversight by the WSD, require the utilities to contribute to a federated data repository where data sources can be accessed by interested parties through a portal with varying levels of data access. To ensure data security, WSD would develop data policies defining a hierarchy so that different granularities of data can be accessed by interested parties with certain levels of permissions types (e.g. CPUC staff, scientists, those with Non-Disclosure Agreements (NDA), the public).

- PG&E agrees with this recommendation that a well-managed data repository will enhance the WMP process and potentially streamline access and collaboration across a number of parties.
- PG&E appreciates the Board’s focus on data security and ensuring appropriate data policies to carefully manage any sensitive utility data being gathered through this process. The Board’s recommendation helpfully details some of the “CPUC and Federal Procedural Linkage(s)”³ that must be carefully considered when developing these protocols. PG&E looks forward to partnering with the CPUC and other parties and partners to design the protocols and details of the Data Repository being recommended.

B. The Board recommends the WSD develop data policies through a transparent stakeholder process, taking into consideration the needs of regulators and the scientific community, as well as the security of utility infrastructure.

- PG&E agrees with this recommendation that the WSD develop data policies through a transparent stakeholder process. PG&E looks forward to collaborating with the various stakeholder groups to develop these data policies. As noted above, PG&E

³ Board Recommendations, p.27-28

appreciates the Board's focus on data security and data policies to manage sensitive utility data.

3.3 Reporting Expert Qualifications and Scientific Justification for Decision-Making

A. The Board recommends that the 2021 WMP Guidelines require the utilities to disclose the qualifications of scientific personnel relied upon to prepare the WMPs in order to increase transparency and demonstrate that each utility is relying upon accurate expert advice. Perhaps the minimum hiring qualifications for these roles ought to be developed.

- PG&E understands the Board's interest in the qualifications of scientific personnel relied upon to prepare the WMP. Given the cross-functional nature of the utilities' wildfire mitigation effort, there is an expansive and diverse set of personnel that work on wildfire mitigation initiatives and contribute to preparing the WMP. All parties would benefit from further clarity on the specific "roles" that the Board seeks to understand the qualifications for.
- In addition, PG&E recognizes that good ideas and insights sometimes come from different angles, not just those with higher levels of education. An individual that does not have a certain degree, for example an estimator or lineman with years of experience designing or working on utility assets in a fire prone area, may still have very relevant ideas, input or experience to contribute to some of the WMP-related programs, analyses and decision making. PG&E believes that ideas and contributions can and should be sourced from a diverse population of internal and external individuals.

4. Recommendations on Performance Metrics:

4.1 Develop an Electric Utility Prudent Operator Standard

A. In addition or as an alternative to the Performance Metrics, the Board recommends that the 2021 WMP Guidelines require the development and use of a "Prudent Operator" standard or threshold, that sets an acceptable level of electric operation risk and establishes the risk reduction that a prudent operator should assume so that utilities can design their systems accordingly. The development and use of the Prudent Operator standard should be a condition of the utilities receiving safety certificates.

- PG&E appreciates the Board's recommendation for the development and use of a "Prudent Operator" standard or threshold to set acceptable levels of risks. Over the long run PG&E agrees that this would be a beneficial model for understanding the appropriate actions and outcomes for all utilities. However, a significant number of questions need to be resolved in a relatively short amount of time for the 2021 WMP process to be meaningfully oriented around the "Prudent Operator" standard. For example, would the "Prudent Operator" standard (acceptable residual risk level) be consistent across all utilities or utility-specific? Furthermore, the development of the standard or threshold may be dependent on the maturity of utility risk quantification and risk reduction models. The effectiveness of measuring utilities against a

“Prudent Operator” standard would likely benefit from further maturation of overall utility-related wildfire risk modeling.

- Overall, the development of a “Prudent Operator” standard is an important, valuable, and resource-intensive undertaking. PG&E’s only suggestion is that the Board, WSD and other parties consider whether 2021 is a feasible timeline for developing and effectively implementing such a standard.

4.2 Community Outreach and Emergency Preparedness Performance Metrics and Data Reporting

A. The Board recommends that the 2021 WMP Guidelines include progress metrics on community outreach and emergency preparedness

- PG&E appreciates the Board’s recommendation, PG&E already has progress metrics in place for community outreach and emergency preparedness partnership and would be happy to share those or incorporate feedback on how to further mature our tracking of these efforts.

5. Recommendations on Utility Safety Culture

5.1 Develop a Unit Within or Outside of the Utility, to Study Black Swan Events and Predict Potential Future Events

A. The Board recommends that the CPUC, with WSD oversight, require the utilities to create engineering teams to surface and flag black swan events for further consideration and remediation.

- PG&E is open to the Board’s recommendation. PG&E already has enterprise-wide and line-of-business-specific risk management teams that work with subject matter experts to identify potential risk “events” and conduct risk assessments for catastrophic events. PG&E would be interested in further discussion and collaboration on these risk management processes that already exist, many in alignment with the CPUC’s S-MAP proceeding and RAMP process, and how they can be further modified or enhanced to further improve risk identification and mitigation.

CONCLUSION

PG&E appreciates the thoughtful engagement of the Board in providing these recommendations on future Wildfire Mitigation Plans and related topics. Several of these recommendations are productive and ready to move forward as written. Others may require a bit more refinement or consultation across multiple parties. We appreciate the opportunity to provide these comments and hope that they contribute to a continued, collaborative discussion across numerous stakeholders to further improve these processes and, more importantly, further our collective goal of eliminating utility-caused catastrophic wildfires. PG&E looks forward to further discussions and engagement as we all work together to further reduce wildfire risk and continue to make the WMP process more effective and efficient.

Sincerely,

Matthew Pender

Matthew Pender