BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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Order Instituting Rulemaking to Implement Electric Utility Wildfire Mitigation Plans Pursuant to Senate Bill 901 (2018).

Rulemaking R.18-10-007
(Filed October 25, 2018)

MUSSEY GRADE ROAD ALLIANCE COMMENTS ON THE WILFIRE MITIGATION PLANS

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INTRODUCTION AND SUMMARY

Pursuant to the Scoping Memo issued December 7, 2018, allowing intervenors to file comments on the Wildfire Mitigation Plans (WMPs),[1] the Mussey Grade Road Alliance (MGRA or Alliance) files these comments. Additionally, answers from the three major IOUs to MGRA data requests are filed as attachments MGRA-SCE-DR-ALL, MGRA-PGE-DR-ALL, and MGRA-SDGE-DR-ALL.

As the Alliance clearly indicated in our initial comments,[2] the timeline set for this proceeding is so short as to prevent a meaningful vetting of all utility plans or analysis of the copious data produced in response to data requests. Events over the course of this proceeding have only confirmed our apprehension regarding the thoroughness with which any party or CAL FIRE will be able to provide complete input on the plan. The question that the Commission needs to address as it reviews whether to "approve" these plans is whether by such approval the safety, reliability and affordability of electricity in the IOU service areas would be enhanced or compromised by this approval. The answer, as we will address in the first section, is very much tied to what "approval" of these plans means. Given the Commission-acknowledged limitations on review,[3] it is only proper that these plans be used as the Commission intended: a first step toward a comprehensive fire mitigation program.

In this context and with these restrictions, the plans issued on February 6, 2019 that we have reviewed, specifically those of SDG&E, SCE and PG&E, are plausible first efforts within our limits to offer meaningful review in such a short timeframe. After a revision cycle in which the utilities incorporate changes suggested by intervenors and approved by the Commission, it would be appropriate to approve them for ***limited*** use, specifically as overarching documents detailing utility programs and goals, with a set of auditable benchmarks against which utilities can be measured and fined if non-compliant.

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[1] R.18-10-007; ASSIGNED COMMISSIONER'S SCOPING MEMO AND RULING; December 7, 2018; p. 5. (Scoping Memo)

[2] R.18-10-007; OPENING COMMENTS OF THE MUSSEY GRADE ROAD ALLIANCE ON ORDER INSTITUTING RULEMAKING TO IMPLEMENT WILDFIRE MITIGATION PLANS; November 5, 2018.

[3] R.18-10-007; Order Instituting Rulemaking to Implement Electric Utility Wildfire Mitigation Plans Pursuant to Senate Bill 901 (2018); October 25, 2018; p. 3 (OIR)

MGRA additionally offers some comments on the technical aspects of the utility wildfire mitigation plans, but these should in no way be construed as the only comments or suggestions we would provide given sufficient time for data acquisition and analysis, nor should our comments be construed as what we believe are definitively the most important or urgent issues. Due to our limited ability to respond in the allotted time frame, we are providing what we can in order to offer suggestions and improvements.

We will also recommend overall process modifications, which we raised in our initial comments.[4] Due to the acknowledged limitation of these initial plans and the desire of the Commission to improve future plans, it would be counterproductive to carry over the gross limitations of this year's planning process into future WMP proceedings. Hence we propose a "pre-WMP" phase in which discovery, intervenor comments, and utility replies inform the initiation and scoping of future WMP proceedings.

1. MEANING OF PLAN APPROVAL

1.1. Correct Interpretation of Plan Scope

In MGRA's view, these plans should be regarded as a first step towards truly auditable, fact-based, and tested plans for both wildfire prevention and mitigation that can be used for regulatory purposes. As stated in the OIR "*The Commission does not expect to achieve perfection in the short time that will be available for the initial review and implementation of the first wildfire mitigation plans, but will work with the parties to make the best use of that time to develop useful wildfire mitigation plans. The Commission will also use this proceeding to further refine its approach to the review and implementation of subsequent electric utility wildfire mitigation plans.*"[5]

Since the Commission clearly understands that these plans are a first iteration towards a more rigorous process, it would be wrong and would violate party rights to use them for purposes for which they are not adequate. Specifically, their use for any cost recovery purposes should be

[4] R.18-10-007; OPENING COMMENTS OF THE MUSSEY GRADE ROAD ALLIANCE ON ORDER INSTITUTING RULEMAKING TO IMPLEMENT WILDFIRE MITIGATION PLANS; November 7, 2018; p. 4 (MGRA OIR Comments) Comments; pp. 5-6.
[5] OIR; p. 3.

precluded at this time, for either spending purposes or for liability shielding. Instead, as a first step the Commission should audit the utilities against the benchmarks that they set for themselves in these plans (adjusted for any suggested and accepted improvements by intervenors), and levy fines against them if they find them out of compliance. The utilities clearly set up these goals with the full knowledge that they would be audited against them, and certainly have set goals for themselves that they are fairly sure that they will meet. To that extent, the initial bar is quite low. In comparison to the initial Fire Protection Plans required in D.12-01-032,[6] however, the current plans are quite an improvement. They are far more comprehensive and do set specific goals. So, overall, the Legislature's and Commission's efforts in this area have borne some fruit, though not entirely ripe.

In reviewing the plans of the major IOUs by these criteria, it is clear that SDG&E and PG&E have made an attempt to set numeric, quantifiable targets. Which of these targets are actually ***meaningful*** in that they can be tied to wildfire safety outcomes must be more thoroughly addressed, and if that cannot be done in this proceeding due to lack of time for proper review then in a future phase or WMP proceedings. It is the intent of the Commission that these targets be developed over time. With these caveats, we believe that the basic framework of these plans is sound. To strengthen the WMPs, the Commission should require a revision cycle based on proposals by staff and parties prior to final acceptance of the plans.

1.2. The Fundamental Funding Dilemma in the WMP Process

As pointed out by TURN in its Conditional Motion for Evidentiary Hearings, [7] and other intervenors including MGRA during the workshops, the Wildfire Mitigation Plans can only be considered to be a general framework for utility-proposed goals. Approval of the WMPs cannot be considered a reasonableness review of additional utility spending that would preserve ratepayer rights under Public Utilities Code Sections 451 and 8386(g). No serious scrutiny of the plans or funding requests, including testimony and cross-examination has occurred. Hence any compliance requirements based upon the goals set by the utilities need to necessarily be considered contingent upon the actual approval of spending requests in their upcoming GRCs or in other applications associated with balancing accounts arising from this proceeding.

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[6] D.12-01-032; pp. 45-55; A-26.
[7] R.18-10-007; CONDITIONAL MOTION OF THE UTILITY REFORM NETWORK FOR EVIDENTIARY HEARINGS; February 20, 2019.

This creates a dilemma. If the Commission decides to hold that approval of the plans constitutes a reasonableness review for additional spending then it will have fundamentally violated ratepayer rights under PUC Code Sections 451 and 8386(g). The curtailed and cursory review of massive amounts of information within a 30 day timeframe, without any ability to cross-examine witnesses to test utility assertions, cannot be considered reasonable. If the Commission decides ***not*** to hold that approval of the plans constitutes a reasonableness review, and to defer that decision to a future application by the utilities, then the utilities are operating at-risk with regard to spending on new programs specified in the WMPs, and have no guarantee of recovery. The constraints placed on the Commission with regard to the timeline for WMP scope and development have created a situation where due process rights for one or more parties may well be violated.[8] While evidentiary hearings are not strictly necessary to ensure due process, "the procedure must be consistent with the essentials of a fair trial",[9] and it has been customary for the Commission to offer parties the ability to test evidence in ratemaking proceedings. There may be safety impacts as well. If utilities are unsure as to certainty of recovery, they may hesitate to undertake expensive but possibly necessary improvements. This is an open and urgent problem without an obvious solution, but one that the Commission will need to address in its Decision. The Commission should not place the burden of this problem on ratepayers (which would likely be appealed), but instead expedite the rapid resolution of the revenue questions in one or more follow-on proceedings where a full reasonableness review for new spending can be conducted.

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[8] At the second prehearing conference held on February 26, 2019, MGRA expert Dr. Mitchell warned "that one or more provisions of the Public Utility Code may be violated as we go forward giving anybody aggrieved by the outcome of this proceeding grounds to appeal and potentially putting us back where we started at the end of it." (PHC-2, Reporter's Transcript, p. 106)

[9] D.04-03-009; ORDER MODIFYING DECISION (D.) 03-12-035 AND DENYING REHEARING OF THE DECISION, AS MODIFIED; March 16, 2004; p. 39:
"Due process requires that parties be given notice and opportunity to be heard. There must be due notice and an opportunity to be heard, and the procedure must be consistent with the essentials of a fair trial, and the Commission must act upon the evidence and not arbitrarily. (Railroad Commission of California v. Pacific Gas & Electric Co. (1938) 302 U.S. 388, 393.) Due process requires a meaningful opportunity to be heard. (Alaska Roughnecks & Drillers Ass'n v. N.L.R.B. (9th Cir. 1977) 555 F.2d 732, 735, citing Armstrong v. Manzo (1965) 380 U.S. 545, 552.) However, this does not mean that something less that [sic] a full evidentiary hearing is not sufficient; rather the amount of process due depends on the particular situation. (Mathews v. Eldridge (1976) 424 U.S. 319, 343.)"

1.3. Wildfire Mitigation Plans Do Not Define Prudent Management

In one sister proceedings, R.19-01-006, the IOUs have argued[10] that due to pressure from the financial markets, the Commission needs to remove the current "Prudent Manager Standard"[11] that it has in place to ensure that utilities demonstrate that they have operated their systems in a reasonable way before they can recover liability costs from ratepayers. The Alliance responded at some length to the IOU arguments in that proceeding.[12] The utilities have not yet made such a request in the record of this proceeding but argued strongly for it on the February 26, 2019 workshop panel, where they were strongly opposed by MGRA and TURN, the only non-utility organizations represented on the panel.[13] Additionally, the ALJ has requested that parties argue this proposal within these comments.[14] We request that the Commission review party filings in that proceeding, since page limit and time preclude full re-argument in this proceeding. This is particularly important since the utilities have as yet ***made no such request or proposal in the record of this proceeding***. Opposing parties will therefore have ***no right of reply*** in this proceeding according to the current schedule, and any argument we do here is only in anticipation of what utilities ***might*** say in their upcoming reply comments.

In summary, we maintain that the utility request to change the definition of the Prudent Manager Standard to mean acceptance of the Wildfire Mitigation Plans, and the additional requirement that any imprudence barring cost recovery be tied to a violation of Wildfire Mitigation Plan goals, to be unreasonable and antithetical to the interest of safety.

In summary, our arguments are that:

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[10] For instance, see R.19-01-006; INITIAL COMMENTS OF SAN DIEGO GAS & ELECTRIC COMPANY (U 902-E) ON ORDER INSTITUTING RULEMAKING TO IMPLEMENT PUBLIC UTILITIES CODE SECTION 451.2 REGARDING CRITERIA AND METHODOLOGY FOR WILDFIRE COST RECOVERY PURSUANT TO SENATE BILL 901 (2018) (SDG&E Comments); p.2., and:
A.19-01-006; SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) OPENING COMMENTS ON ORDER INSTITUTING RULEMAKING; February 11, 2019, p. 11. (SCE Comments)

[11] D.18-07-025; pp. 2-3

[12] R.19-01-006; MUSSEY GRADE ROAD ALLIANCE REPLY COMMENTS ON THE ORDER INSTITUTING RULEMAKING; February 25, 2019. (MGRA Stress Test OIR Reply)

[13] R.18-10-007; California Public Utilities Commission; Wildfire Mitigation Plans Technical Workshops; Agenda; Technical Workshop #1 February 26, 2019 and Workshop #2 February 27, 2019. Attached to this document as Appendix A. (Technical Workshop Agendas)

[14] PHC-2 Transcript; pp. 94-96.

- The provisions tying the Prudent Manager Standard to WMP approval were reviewed by the Legislature and *removed from the bill* that was passed into law. Re-inserting through IOU argument and Commission acceptance of such arguments it is in direct contradiction to legislative intent.[15]
- The current scope, intent and content of the WMPs under review by the Commission in the present proceeding have *no direct tie* to the enforceable provisions that are necessary to prevent wildfires. We state that: "Given the current WMPs submitted by the utilities, for instance, it would be nearly impossible to tie the cause of a specific fire to most provisions of the WMP, which are dedicated to describing utility programs to improve fire safety, not specific daily actions that utilities must take to prevent fires."[16] The current WMPs are wholly lacking in this regard, and any attempt to repurpose this proceeding to provide liability cost recoverability would necessarily include the development of alternate, far more detailed, and rigorously enforceable set of fire plans as well as provide for a full and thorough review of those plans.
- The IOU proposal[17] would substitute IOU aspirational goals for the Commission's existing and defined Prudent Manager Standard and in doing so would create ***moral hazard*** by eliminating the linkage between utility actions and behaviors and the financial consequences of these actions and behaviors.[18]
- The utility financial distress regarding the potential for cost recovery partially results from the utility talking point that even prudent utilities cannot recover costs, which is in direct contradiction to the position laid out by the Commission in D.17-11-033.[19] As stated in the Alliance OIR Reply: " The markets doubt prudent utilities can recover costs because that is what SDG&E and other utilities told them to think. And

[15] MGRA Stress Test OIR Reply; pp. 2-3.
[16] Id., p. 6.
[17] R.19-01-006; SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) OPENING COMMENTS ON ORDER INSTITUTING RULEMAKING; February 11, 2019; p. 3: "This worsening crisis, however, illustrates the immediate need to clearly link a finding of substantial compliance with those approved plans to an overall determination that the utility acted prudently and may timely recover wildfire-related costs and expenses. The Commission has the authority to take this important step by determining in this proceeding that substantial compliance with a utility's wildfire mitigation plan is per se evidence of prudent conduct by the utility for purposes of wildfire mitigation operations."
[18] Op. Cit., pp. 6-9.
[19] D.17-11-033; p. 65.

> now their credit ratings are downgraded. We would urge the Commission to be neither surprised by nor sympathetic to this self-inflicted wound."[20]

As far as addressing the utility proposal in the framework of ***this*** proceeding, intervenors are at a tremendous disadvantage because the utility proposal is not even in the record of this proceeding. We are fighting a phantom. Furthermore, intervenors will have no opportunity to respond to whatever nuanced proposal the utilities put forward in their reply comments. The IOUs will have the last and only word on the issue. Nevertheless, we attempt to address the issue as presented in R.19-01-006 and would ask the Commission to ignore any other proposals put forward outside of that framework because of the due process issues that would arise by denying all right of response to parties.

As MGRA expert Dr. Joseph Mitchell said as a panelist discussing the purpose of the Wildfire Mitigation Plans,[21] plans that would be adequate to enforce prudent management "are not the plans we have". He also said that no utility action, no matter how egregious, could ever be successfully tied back to the provisions of the current WMPs in order to hold the utility imprudent. None of the utility panelists responded. That was a bold claim, and not in the record for this proceeding, so MGRA posed the same question to SCE, SDG&E, and PG&E in a data request, asking them to define three scenarios in which a utility action would result in a finding of imprudent management that arose from violation of any of the commitments made in the current WMPs.[22] None of the three utilities were willing or able to provide any such scenarios and objected to the question.[23] Objections aside, no such scenario exists. The Commission must make no mistake on this issue. Substituting the current WMPs for the Prudent Manager Standard constitutes complete elimination of the Prudent Manager standard, and an acceptance that ratepayers will pay all liability claims for utilities regardless of the prudence of the utility in designing, constructing, maintaining, and operating its facilities. This would turn this safety proceeding on its head and revers measurable

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[20] MGRA Stress Test OIR Reply; p. 11.
[21] See Workshop 1 Schedule, attached as Appendix A.
[22] MGRA-SDGE-DR-ALL; MGRA-SCE-DR-ALL; MGRA-PGE-DR-ALL; DR-02-Q2. "Provide three realistic scenarios in which a utility might start a wildfire and then be held to be imprudent for purposes of cost recovery and in which that imprudence would be tied back to lack of compliance with the Wildfire Mitigation Plan. These scenarios would assume the absence of any other Prudent Manager Standard."
[23] Attachments MGRA-SDGE-DR-ALL; MGRA-SCE-DR-ALL; MGRA-PGE-DR-ALL; DR-02-Q02

progress to promote increased fire safety. It would also grossly violate ratepayer rights under PUC Code Sections 451 and 8386(g), and therefore the Commission must reject the utility proposal.

2. OVERALL OBJECTIVES AND STRATEGIES

2.1. Design and Operation for Known Local Conditions

In our comments on the utility template, we pointed out the importance of addressing the problem of known local conditions in a section called "Utilities Must Safely Design, Build, Operate, and Maintain their Systems Accounting for Local Conditions",[24] in which we asserted that a key component of WMPs should be that utilities need to specify how they comply with General Order 95, Rule 31.1 requirement that utilities design, construct and maintain their equipment to known local conditions. A key gap that we noted is that the Commission has never to date specified *how or whether* such local conditions were to be determined, and that safe operation of electrical infrastructure necessitates that these conditions actually be known. MGRA comments on the utility template reiterated this concern, noting that utility opposition to this position arises from the fact that "Once local conditions are known, then it is incumbent on the utility to address any gaps between the state of its system and local conditions."[25] The January 7 ruling by ALJ Thomas regarding WMP Templates referred to these known local conditions, instructing utilities to include "Description of planned wildfire mitigation that exceeds existing requirements, either because of "known local conditions" that exceed those standards or other reasons…"[26]

2.1.1. Known Local Conditions and Engineering Requirements

The application of known local conditions to engineering requirements and to operational requirements have very different implications. For engineering requirements, a utility needs to be able to not only know present conditions, but also ***reasonably foreseeable conditions***. As far as knowing local conditions in regard to engineering requirements, only SDG&E's WMP is wholly

[24] MGRA OIR Comments, pp. 6-8.
[25] R.18-10-007; MUSSEY GRADE ROAD ALLIANCE COMMENTS ON THE IOU WILFIRE MITIGATION PLAN TEMPLATE; January 10, 2019; pp. 5-8. (MGRA Template Comments)
[26] R.18-10-007; ADMINISTRATIVE LAW JUDGE'S RULING ON WILDFIRE MITIGATION PLAN TEMPLATE, AND ADDING ADDITIONAL PARTIES AS RESPONDENTS; January 17, 2019.

compliant, in that their meteorological work feeds into their hardening program.[27] PG&E has added Known Local Conditions to its Operational Awareness section,[28] and while laudable it doesn't address how the information it is gaining is feeding back into its hardening program. SCE's WMP mentions known local conditions in passing, and also solely in respect to the monitoring of weather conditions.[29]

As we stated in our comments on the WMP template: "This requires modelling of their wind conditions. Weather stations, in this context, provide data by which the models can be calibrated and optimized. The full extent to which the utilities have the capability to do this must be laid out in the WMP, gaps should be identified, long term goals should be specified, and the actions to be taken in the current year to move toward those goals should be clearly laid out."[30]

The Commission should require that the SCE and PG&E WMPs describe how foreseeable meteorological conditions are used to inform their hardening programs, and if they are not currently used in this way, to state how and when they will be in future WMPs.

2.1.2. Known Local Conditions and Operational Requirements

Utilities also need to know the exact present conditions in order to react to extreme fire weather, particularly in regard to proactive power shutoff (PSPS). The granularity with which they can know wind speeds near their lines, and ability to shut off power to segments most at risk, and the ability to sectionalize their networks to isolate areas where high winds are expected will reduce public impact of PSPS. SDG&E's program is the most advanced in this regard, and has been underway for approximately 10 years. MGRA has consistently supported SDG&E's work in this area. The key elements of SDG&E's program[31] are:

- Sectionalization of distribution segments into smaller segments, isolating segments with different weather characteristics

[27] SDG&E WMP; p. 34,A-14.
[28] PG&E WMP; p. 86.
[29] SCE WMP; p. 65.
[30] MGRA Template Comments; p. 8.
[31] SDG&E WMP; pp. 47-48.

- Individual SCADA control of distribution segments, including the ability to de-energize and re-energize remotely.
- A network of weather stations to provide finer grained weather data in the SDG&E territory.
- A team of meteorologists dedicated to weather measurement and prediction.
- Real time weather simulations applied to the service territory linked to weather station data.

One very positive development is that SCE and PG&E are now building out essentially identical programs, and these are described in detail in their respective WMPs.

MGRA requested data from PG&E, SCE and SDG&E so that the current state of implementation and near-term state of implementation (as of 2020) could be compared across the three utilities. We summarize the utility responses, filed and served as attachments to this filing,[32] in the table below.

[32] MGRA-SDGE-DR-ALL; MGRA-SCE-DR-ALL; MGRA-PGE-DR-ALL; DR-01-Q01 to DR-01-Q12.

Utility	SDGE	SCE	PGE
HFTD Distribution circuits	195	1111	800
HFTD Transmission circuits	103	401	530
Average length distribution (miles)	40.7	8.9	51.5
Average length transmission (miles)	13.3	13.7	19.0
Median length distribution	36.3	3.6	35.0
Median length transmission	10.5	6.5	14.4
Top 10% length distribution	108.5	153.4	152.8
Top 10% length transmission	40.7	51.6	51.5
Average section length (miles)	11.6	16	27.8
HFTD Distribution sections - 2020	TBD		2239
Average section length (miles) - 2020		11	18.4
SCADA controllable distribution	All	All	509
SCADA controllable transmission	All	380	All
SCADA controllable distribution - 2020			764
Dist with weather stations within 1/4 mile	94	91	140
Dist with weather stations within 1/4 mile	48%	8%	18%
Dist with weather stations within 1/4 mile - 2020	112	TBD	420
Dist with weather stations within 1/4 mile - 2020	57%	TBD	53%
Trans with weather stations within 1/4 mile	63	35	50
Trans with weather stations within 1/4 mile	61%	9%	9%
Trans with weather stations within 1/4 mile - 2020	68	TBD	150
Trans with weather stations within 1/4 mile - 2020	66%	TBD	28%

Table 1 - HFTD Circuit, Section, and Weather Station Data for SCE, PG&E, and SDG&E

The data in this table needs to be presented with a few caveats. The wording of the data request was ambiguous as to whether it was referring to distribution ***circuits*** or whether it was referring to the ***sections*** of those distribution circuits created by installation of sectionalizing devices on them. SDG&E and SCE kindly supplemented their responses by providing an average section length. PG&E metrics look at number of affected customers rather than length. However, they were able to provide the number of existing sectionalizing devices (679) and the number of additional sectionalizing devices planned for installation in the upcoming year (760). We then approximated the number of sections in the PG&E network by adding number of circuits plus number of sectionalizers to get average section length that is comparable to the SDG&E and SCE values. Unfortunately, due to lack of time we have not been able to validate this approach or the interpretation of the SCE or SDG&E section lengths. Nevertheless, we think that it is still valuable

to present the data as is, and any utility that believes that its data is misrepresented in the above table is invited to provide correction in its reply comments.

With those limitations in mind, our interpretation of the utility responses is as follows:

SDG&E, with its ten year head start on its weather monitoring and sectionalization program, has a definite lead in having the shortest section length (the most fine-grained individually controllable segment), at near 11 miles. SCE's is somewhat longer, at 16 miles, and it is planning to bring this value down to near SDG&E's 11 miles by 2020 by installing additional sectionalizing devices. If our method for determining PG&E's section length is correct, its current sections are 28 miles long, but it is attempting to bring this down to 18 miles by the end of 2020. Shorter section lengths mean that de-energization operations can be more localized and tied to local conditions. All three utilities plan to have almost all sections remotely controllable via SCADA within the 2019-2020 timeframe, if they are not already (as SDG&E's sections are).

As far as weather station monitoring, SDG&E's is much further ahead and 48% of its distribution circuits and 57% of its transmission circuits have a weather station within ¼ mile. It is planning additional installations within the 2019-2020 timeframe, which will bring these values to 61% and 66% respectively. SCE and PG&E have significant weather station roll-outs planned. Currently only 8% of SCE's distribution and 9% of its transmission circuits have a weather station within ¼ mile, and it is evaluating how many more weather stations to install in 2019-2020. Its long term goal is to install up to 850 weather stations. PG&E's roll out is underway and more aggressive, with percentage of distribution circuits within a ¼ mile of a weather station planned to increase from 18% to 53% by the end of 2020, and with percentage of transmission circuits planned to increase from 9% to 28% in the same timeframe.

PG&E and SCE appear to have put programs in place that will bring them on par with SDG&E, at least in terms of sectionalization, remote control capabilities, and deployed weather stations, within the next few years. However SCE's mid-term plans are vague, and it should provide more specific data on its roll out in the 2019-2020 time frame.

2.2. Comparison of Plan with Goals and Previous Work

As noted in our previous filings, the utility Fire Protection Plans (FPPs) filed under GO 166, particularly those filed by SCE and PG&E, were severely wanting in that they were cursory and rarely updated.[33] In its template comments MGRA requested that the new Wildfire Mitigation Plans be tied to work already undertaken in the FPPs. We see that the utilities have done so. SCE's treatment is extremely cursory[34] and should be rewritten to be more in line with PG&E's format.[35] SDG&E notes that it's WMP is very similar to its FPP, which has additional programs.[36] It would be beneficial to both the Commission and SDG&E if their plan would also indicate in a tabular format which programs already existed in its FPP in the same manner as the PG&E goal list. In this way the superiority of the original SDG&E FPP would be made evident.

It is perhaps not a coincidence that SDG&E, the one company that took its Fire Protection Plan seriously, is the one that avoided catastrophic power line fires in the last ten years. Granted, much of the SDG&E fire prevention program and FPPs themselves grew out of the trauma of the 2007 fires. However, this gives us hope that the current problems faced by California utilities can be addressed, and wildfire risks of utilities that have learned hard lessons can be substantially reduced.

Finally, SDG&E suggests that the FPP requirement itself be removed from GO 166 once the Wildfire Mitigation Plans are approved.[37] MGRA was the initiator and original proponent of what became the GO 166 requirement for Fire Protection Plans, and we agree with SDG&E on this point. All the key elements of the original FPPs are subsumed into the WMPs, and MGRA doesn't detect any gaps. That a representative from a grass roots neighborhood group found himself ten years ago in the surreal position of arguing for the prudence of fire planning in front of a room full of vehemently opposed utility lawyers gives some insight into how California has ended up in its current state. The original FPPs underwent only cursory review by the Energy Division, and there was no process for either Safety Division or intervenor review. Nevertheless, the Fire Protection Plans were not wholly in vain. They provided incentive for other actions that ultimately ended up in

[33] R.18-10-007; MUSSEY GRADE ROAD ALLIANCE COMMENTS ON THE IOU WILDFIRE MITIGATION PLAN TEMPLATE; January 10, 2019; p. 5 (MGRA Template Comments)
[34] SCE WMP; pp.94-95.
[35] PG&E WMP, pp. 39-42.
[36] SDG&E WMP; pp. 83-84
[37] SDG&E WMP; p. 84; footnote 82.

the present proceeding, and which hopefully will lead to more thoroughly vetted in comprehensive WMPs in future proceedings.

To compensate for the moribund nature of the FPPs produced under GO 166, State Senator Jerry Hill proposed Senate Bill 1028, which required Commission review of utility fire plans. While this bill was signed into law by Governor Brown in 2016, it was never enforced by the Commission or implemented by the utilities.[38] It took the tragedies of the 2017 fires to finally move this process forward again. One lesson is that plans in themselves are useless unless they are backed by ***intent***, ***action, accountability,*** and ***enforcement***. That applies equally well to the new plans as much as the old. It is the duty of the Commission to ensure that the provisions of the new WMPs are applied in a manner that protects all residents of California. This regulatory duty must ensure that the plans address major causes of wildfire risk and that utilities are held accountable for acting in accordance with them. And it is the duty of utilities to enforce their own plans and hold all employees accountable for upholding the promises made in them.

3. RISK ANALYSIS AND RISK DRIVERS

MGRA has no comments on this section.

4. WILDFIRE PREVENTION STRATEGY AND PROGRAMS

4.1. Vegetation Management

All three major IOUs are currently moving forward with a more aggressive vegetation management program. SDG&E plans to expand its trim radius from 12 to 25 feet, and will assess all trees within a fall-in hazard "strike zone" for potential risk.[39] PG&E will begin to address overhanging limbs and will trim or remove trees of identified high risk species that are tall enough to strike distribution lines also exhibit other risk factors.[40] SCE plans to extend its vegetation

[38] MGRA Template Comments; p. 2.
[39] SDG&E WMP p. 25.
[40] PG&E WMP; pp. 70-80.

management activities up to 200' away from its facilities to identify, trim, or remove trees classified as "reliability trees"[41]

For the purposes of historical perspective and full disclosure, the Mussey Grade Road Alliance opposed SDG&E's 2009 proposal to change GO 95 Appendix E Guidelines to Rule 35 to suggest trim out to 25 feet for most distribution conductors,[42] a proposal that was subsequently rejected by CPSD in its proposed revisions to this rule that were ultimately adopted by the Commission. Mussey Grade is an oak-lined canopy road, originally a stagecoach road connecting the gold mines of Julian with the coast,[43] and it was and is our concern that a significant expansion of trim and removal distance would fundamentally damage the road's cultural, environmental and aesthetic characteristics. It is important to note that Appendix E Guidelines are *recommendations*, and that utilities currently have and exercise discretion to apply expanded trim distances. The only guideline imposed by the Commission is that trimming be "reasonable": "…to the extent that we promulgate any guidelines that may later be claimed to be a standard for reasonableness, we must act with a restrained hand. We must also temper our determination with aesthetic and environmental considerations to discourage ham-handed trimming by utilities."[44] We should note that in the years subsequent to rulemaking R.08-11-005, the SDG&E arborists have worked annually with MGRA's spokesperson as they conduct their trimming operations both in the Mussey Grade corridor and on our personal property, and from our perspective the relationship has been excellent. We are deeply concerned that a significant expansion of trim and removal distances would pit residents against SDG&E, a risk that all the IOUs acknowledge in their WMPs, which would potentially undermine the risk mitigation that their core vegetation management programs provide.

The purpose of this proceeding is to enhance fire safety, and the Mussey Grade Road corridor has experienced first hand the impacts of catastrophic wildfire, and our purpose in intervening at the Commission has been and remains to reduce the risk of utility-caused catastrophic wildfires that destroy lives and property and damage the environment – including trees. The

[41] SCE WMP; p. 58. MGRA-SCE-DR-ALL; DR1Q15 - SCE uses a scoring software that takes into account a variety of risk factors to determine whether a tree is classified as a "reliability" tree.
[42] R.08-11-005; MUSSEY GRADE ROAD ALLIANCE OPENING BRIEF FOR ORDER INSTITUTING RULEMAKING R.08-11-005; May 22, 2009; p. 8-16.
[43] Mussey Grade Road was recognized in 2003 by the State Historic Preservation Commission as a Point of Historical Interest, a designation that was requested by MGRA.
[44] D. 97-01-044; p. 6.

question of "reasonableness" from this perspective comes down to the question of whether the more aggressive vegetation management tactics planned by the utilities will measurably reduce the risk of wildfire in the overall context of other fire prevention measures that they may take. Specifically, there is overlap between the protection provided by vegetation management, and the protection provided by covered conductor (tree wire) and by power shutoff (PSPS), which we discuss below.

4.1.1. Vegetation Management, Covered Conductor, and Shutoff

During the second technical workshop, in which Alliance expert Dr. Joseph W. Mitchell was a panel member, [45] he asked the utilities as to whether the simultaneous application of enhanced vegetation management programs, covered conductor programs, and proactive power shut-off were a "belt and suspenders" approach to the vegetation management problem, and whether these measures were redundant with each other. The answer given by all utilities on the panel was that no, each of these "tools in the toolbox" solve different problems. We probe this assertion more deeply in this section.

4.1.2. Vegetation Management and Ignition

It is important to understand that the utilities have characterized the vegetation ignition problem as arising from three distinct though related mechanisms: 1) "fall in", in which a tree that is tall enough to strike a power line topples into it 2) overhanging vegetation breaks and falls onto conductors 3) vegetation is detached by high winds and blown into utility infrastructure. All of these scenarios are more likely during high winds, and if these winds also occur during an extreme fire weather event, there is the potential for catastrophic fire ignition and spread. Vegetation-driven fires occurring under low wind conditions can also result from tree fall-in, such as the Butte fire, but these do not statistically represent the utility-related fires in California that have caused the most harm.

With regard to overhanging vegetation, PG&E has detailed a plan to trim all overhanging vegetation in HFTD areas as part of its current WMP implementation.[46] SCE noted in a data

[45] Technical Workshop Agenda; Workshop #2. Appendix A.
[46] PG&E WMP; pp. 71-74.

request response to MGRA tree-related circuit interruptions from blown vegetation represented approximately 87% of all circuit interruptions from 2016 to 2018, with overhanging vegetation representing 13%. SDG&E in its panel presentation at the second workshop asserted that it had trimmed away all overhangs many years ago, and these did not present a problem in its service area.

MGRA also requested data with regard to tree species that were likely to be "at risk" or "reliability" trees and inquired to the total fraction of outages caused by these species, especially as it relates to the total number of trees of that species along the conductor route.[47] While all utilities collect data on the tree species responsible for outages, only SDG&E keeps track of the total fraction of trees that pose potential conductor contact risk. Their result is noteworthy in that it indicates how short-sighted it is to gauge risk solely on number of outages or ignitions.

Species	Percentage of total outages	Percentage of ignitions	Percentage of inventory
Eucalyptus	15.5	.07	15.7
Palm	2.8	0	9.8
Pine	2.8	0	6.5
Oak	1.7	.03	17.8
Sycamore	1.0	0	1.3

Table 2 - SDG&E Top Five Outage Tree Species[48]

In this case, weighted for total number of trees, eucalyptus and sycamore are ten times more likely than oaks to cause outages. All utilities should keep a total inventory of trees in the vicinity of their equipment and use this kind of data when prioritizing vegetation management, and not just the raw number of outages.

4.1.3. Covered Conductor

Covered conductor was also discussed at the technical workshops,[49] and there was considerable interest among participants in their potential. Utilities stressed that covered conductors are not a panacea for vegetation management, in that there would still be potential vulnerabilities to

[47] MGRA-SDGE-DR-ALL; MGRA-SCE-DR-ALL; MGRA-PGE-DR-ALL; DR-01-Q14.
[48] Id; SDG&E.
[49] Appendix A; Discussion Topics.

tree fall-in.[50] However it was expected to considerably reduce the probability of ignition from vegetation blowing into a line or overhanging limbs falling onto conductors.[51] SDG&E is concerned that covered conductor has the potential to fall to the ground and create a high-impedance fault,[52] however it does not explain why this would present more of a fire hazard than a bare conductor contacting the ground, or how likely this scenario would be. Data regarding faults and fire ignitions relating to covered conductor were requested from SCE, PG&E, and SDG&E.[53] Of these, SCE and SDG&E currently have minimal deployments of covered conductor. PG&E has a much longer history of tree-wire deployment, and had 1,693 vegetation related outages and 11 ignitions related to "tree wire" between 2014 and 2018. However, it cautions the reader: "Unfortunately, PG&E used the term "tree wire" broadly for the purposes of classifying conductors in the outage and ignition databases, and this use is not consistent with PG&E's current definition of covered conductor… Therefore, PG&E is unable to calculate the rate of vegetation-cause[d]outages or ignitions per mile of covered conductor and how that compares against bare conductors."[54] So while data is so far unavailable the covered conductor approach seems to be promising to address blown-in vegetation.

Since covered conductor has a potential vulnerability to tree fall in, the question arises as to how likely tree fall-in is during periods of high fire danger, especially with regard to fire danger and high winds. To probe this question, utilities were asked to provide the number of tree fall-ins occurring during periods of winter or rain storms, dry periods of high wind, and dry periods with no wind.[55] Of the three major utilities, once again only SDG&E was able to provide a definitive answer:

Winter / Rain Storms	High-Wind / Dry	No Wind / Dry
42.6	6.0	31.8

Table 3 - SDG&E Tree Fall-ins and Weather Conditions

[50] PG&E Data Request No: TURN_003-Q13.
[51] PG&E WMP; p. 67.
[52] SDG&E WMP; p. 37.
[53] MGRA-SDGE-DR-ALL; MGRA-SCE-DR-ALL; MGRA-PGE-DR-ALL; DR-01-Q17.
[54] PG&E, id.
[55] MGRA-SDGE-DR-ALL; MGRA-SCE-DR-ALL; MGRA-PGE-DR-ALL; DR-01-Q16.

PG&E was only able to characterize based on season, and determined that 34% of its vegetation-caused outages occurred from June to November (approximation of "dry" season). SCE did not provide this analysis.

4.1.4. Proactive Power Shutoff

All utilities are actively pursuing an expanded de-energization program (public safety power shutoff or PSPS).[56] Details of and requirements for these programs are being discussed in R.18-12-005, though utilities have the right to engage in de-energization under extreme conditions under ESRB-8. When initially implemented by SDG&E, wind speed thresholds for shutoff were generally set to at least 56 mph, which corresponds to the wind loading to which the non-hardened portion of their system was built.[57] PG&E, on the other hand, is planning to trigger proactive power shutoff at speeds as low as 25 mph sustained wind and 45 mph gusts.[58] This is clearly not being driven by engineering requirements – tolerances this low would violate GO 95 – but instead are being driven by vegetation contact risks. PG&E's service area has considerably more trees that could potentially make line contact, so the IOUs' desire to push for a lower threshold standard is understandable. However, as the Alliance has pointed out in previous proceedings, power shutoff brings along with it a number of public safety risks, including fire risks.[59] The Alliance has always argued for an analytical approach to optimize public safety when setting power shut-off thresholds, and we will pursue that argument in R.18-12-005.

For the purposes of this proceeding, however we note that de-energization, whatever its other risks, eliminates the potential for powerline vegetation ignition during the period of de-energization for the equipment that has been de-energized. Conversely, elimination of all vegetation threats to power lines would eliminate the need for shutoff threshold below the engineering limits of the utility infrastructure. The key question to be asked is whether there are situations where power would be shut off and vegetation contact could still occur. Trees could potentially fall into lines under low wind conditions, and do, as one did in the Butte fire and as SDG&E's data show. However, it is important to remember that the reason we are in yet another slew of power line

[56] WMPs: PG&E pp. 94-109; SCE pp. 64-71; pp. 54-58.
[57] SED DATA REQUEST: SED-SDG&E-01; Response 4.3.8.
[58] Op. Cit.; p. 97.
[59] D.09-09-030; pp. 30-40.

wildfire related proceedings was not the Butte fire, but rather the power line firestorms of 2017, which occurred under conditions of high wind, and might have been prevented if the enhanced PSPS programs described in the WMPs were in place.

We therefore find the utility argument that de-energization, covered conductor, and enhanced vegetation management are unrelated and orthogonal approaches to enhancing fire safety unconvincing. There is overlap, and below we make argument for how the fire plans might play to the strengths of these programs and reduce some of their negative impacts.

4.1.5. EVM Conclusions and Recommendations

Utility data corroborate the risk from tree fall in. The risk to covered conductor from tree fall-in is essentially unknown due to lack of data – not enough covered conductor has been deployed in California utility service areas to give any firm numbers and reports from the Australian program are anecdotal. However, in lieu of data it is reasonable to take the most conservative approach in order to enhance safety, so enhanced vegetation management to reduce fall-in risk should be looked at as complimentary to covered conductor installation.

We are reassured that in all the enhanced vegetation programs put forward by the three major IOUs, a trained arborist will be making assessments and judgements regarding trees that are fall-in hazards to lines, and only trees that exhibit specified risk characteristics will be subject to heavy trim or removal. These do not sound like and should not be clear-cutting programs. The WMPs should make this clear. We are concerned, however, with the staffing problem that PG&E raised in its WMP,[60] in which it warns that its expanded vegetation management programs have the potential to exhaust the pool of qualified tree professionals. Adding to this risk is the fact that both SCE and SDG&E are planning to simultaneously conduct similar programs. There is a real risk of third party contractors being hired that do not share the skills or values of the utility arborists. Therefore, there should be formal, clear and, transparent communication to affected customers and communities detailing what rights they have and commitments the utility is willing to make to ensure that tree risk is being properly assessed, including right of appeal.

[60] PG&E WMP; pp. 80-84.

As far as enhanced trim, such as SDG&E's 25 foot trim proposal, since this is not primarily addressing fall-in risk, the specific risks it addresses, i.e. blown in vegetation, could also be addressed by covered conductor or PSPS. Both PSPS and enhanced vegetation management have community impacts and strong negative public perception. Because they can overlap, the utilities should reach out to communities to ascertain what approach best addresses the needs and wants of the community: for instance, lighter trim program but lower shutoff speed thresholds, or higher shutoff thresholds requiring heavier trim and more tree removal. Undergrounding of lines should also be considered where appropriate.

We would ask the Commission to add some of these proposals to the current WMPs, since the enhanced vegetation programs are already underway at the three large IOUs. Once trees are removed or heavily trimmed, this cannot be undone.

MGRA has the following recommendations with regard to vegetation management programs.

- Covered conductor hardening programs along circuits where tree-line contact is a risk should be accelerated once funding is approved.
- Utilities should track data on covered conductors as they are deployed so that their efficacy in preventing fires and their sensitivity to tree fall-in can be compared against bare conductors.
- Utilities should reach out to communities to discuss the potential to balance PSPS shutoff thresholds against tree trimming and removal guidelines.
- Utilities should correlate vegetation-caused outages and ignitions data with weather conditions and classify them as to type of vegetation contact: Tree fall-in or blown in vegetation debris.
- Utilities should collect data on all trees in potential contact distance with their lines with regard to tree species.
- Utilities need to collect "near miss" data on infrastructure damage from both vegetation and equipment failure that occur during PSPS events. This will help to justify PSPS thresholds and indicate opportunities for system hardening and improved vegetation management.

- SDG&E should restrict its 25 foot trim radius to fast-growing species and those at statistically higher risk of causing outages, such as eucalyptus and sycamores. It should also accelerate covered conductor programs in areas with particular environmental, cultural, or aesthetic sensitivity as a substitute for the expanded trim radius.
- Utility customers and communities affected by the vegetation management program should be given a "bill of rights" by the utility that clearly explains the standards by which their trees will be analyzed for trim or removal. Where risk-scoring is used, this mechanism and tree scores should be provided to the customer. The utility should also provide a right of appeal to a senior utility arborist if the customer believes the stated utility standards are not being followed.
- Undergrounding should also be opportunistically pursued where tree health and other factors such as population, aesthetic, and cultural factors favor it.

5. EMERGENCY PREPAREDNESS, OUTREACH AND RESPONSE

MGRA has no comments for this section.

6. PERFORMANCE METRICS AND MONITORING

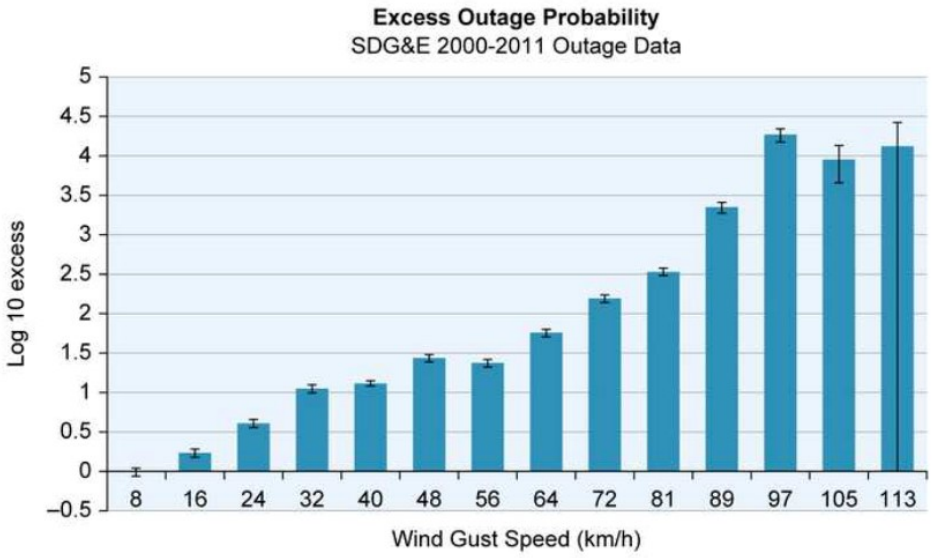
6.1. Data Collection

In order to track performance over time and provide input into future WMPs, utilities will need to collect historical and trend data. Some data is already tracked, such as the number of utility ignitions, but other data will need to be collected. Additionally, for this to be readily understandable by the Commission, it will need to be in a common format. While this is beyond the scope of the proceeding, it would be beneficial if utilities were to begin the process of collecting data that may be desirable to have for future WMP proceedings. We list some suggestions below, and these should not be considered exhaustive.

6.1.1. Outage Data

Outage data can be used as a proxy to identify the sensitivity of utility infrastructure to weather conditions, particularly when it is compared with fine-grained weather station data. This

can be seen in the following figure from Mitchell 2012,[61] showing outages in the SDG&E service area compared against nearest weather station wind data, showing a ten-fold increase for every 20 mph in wind speed:



Analysis of SDG&E outage data that MGRA performed as part of SDG&E's 2016 rate case used outage data compared with finer grained SDG&E circuit data to demonstrate that SDG&E's vegetation management program that targeted highest risk areas was had a noticeable effect on outages in those areas.[62]

Note that for longer circuits that span different geographic areas with different weather conditions the correlation of outages and wind speed is weakened. We assume, however, that in order to more effectively control circuits in high fire risk areas, especially to enable isolated shut-off, that utilities will redesign circuits to be more fine-grained and controllable over time. As this work progresses, outage metrics may become a useful tool to determine where the most urgent attention needs to be paid to utility infrastructure.

[61] Mitchell, Joseph W.; Power line failures and catastrophic wildfires under extreme weather conditions; Engineering Failure Analysis; Volume 35, 15 December 2013, Pages 726–735 (ICEFA V, The Hague, The Netherlands, July 3, 2012) http://www.sciencedirect.com/science/article/pii/S1350630713002343 (Mitchell, 2012)

[62] A.14-11-003-4; OPENING BRIEF OF THE MUSSEY GRADE ROAD ALLIANCE; SDG&E 2016 RATE CASE; October 12, 2015; pp. 35-36.

6.1.2. Vegetation Data

As we noted in our section on vegetation analysis, there are some vegetation data currently not collected by all utilities that may make vegetation management programs more efficient and effective. Specifically:

- Outage and fire data for covered conductors
- Classification of vegetation-caused outages and fires as resulting from fall-in or blown-in debris.
- Identification of all tree species and fraction of population within strike distance of the utility lines. This information is necessary to ascertain which species have a higher probability of causing an outage, correcting for their overall abundance.

6.1.3. Other Data

- "Near miss" data from PSPS events, in which utility infrastructure is damaged during a utility shut-off. This will help to determine the proper PSPS thresholds.
- Component age data. We note that OSA put in a data request regarding age of conductors and other components.[63] It would be important to determine whether component age has any statistical relation to either outages or fires.

7. RECOMMENDATIONS FOR FUTURE WMPS

7.1. Preparation Phase for Next and Future WMPs

It is important that future proceedings not be hobbled by the unreasonable time constraints placed upon the present proceeding. The fact that the Legislature placed a time constraint on the proceeding that has resulted in a rushed and cursory review of utility fire plans does not mean that future WMPs need to operate under the same restrictions. The Commission needs to ensure there is time for full and careful review of the fire plans, including lessons learned through analysis of the effectiveness of WMP components. It is also crucial that the IOUs undertake constant monitoring of work performed under the plans and provide metrics indicating their effectiveness. If the

[63] OSA DATA REQUEST: OSA-SDG&E-01; Question & Response 2.

Commission simply repeats the script for the present proceeding in future proceedings, it will obtain the same result, ad infinitum, and a full and careful review will never happen.

A more thorough WMP review can be insured by doing necessary preparatory work prior to the initiation of the next WMP. This could be a formal phase of the current proceeding, or simply follow on actions to the Decision in this proceeding. It could alternatively be conceived as an initial phase of the next WMP rulemaking. In any case, the essential elements of the preparatory phase would be as follows:

- Open discovery for a period of time, possibly two months.
- At the end of the discovery period, intervenors file suggested WMP changes for the following year.
- IOUs file responses to the intervenor suggestions.
- Suggestions for changes and utility responses are reviewed by the Commission, which incorporates approved suggested changes into the scoping memo for the development of the WMP.

Moving the more detailed and comprehensive review work into a timeframe that is not constrained by the legislative deadline will enhance safety by ensuring a thorough review of the WMPs. While we may offer additional "suggestions" in this section, these are all based on the most cursory review of the WMPs, and we know that many other intervenors are in a similar position. If the Commission truly intends to make this an iterative improvement process it will need to reform the process to ensure that adequate review is enabled occurs. It has been said that the definition of insanity is to do the same thing over and over again and expect a different result. The Commission must define a "sane" process moving forward to ensure the safety of all Californians.

8. OTHER ISSUES

8.1. Schedule, Scope, and Timing

As noted in our Opening Comments[64] and in the second prehearing conference,[65] MGRA believes that the schedule and pace of this proceeding has severely compromised the detailed review and analysis that would be required for truly effective and auditable wildfire mitigation plans to be put into place. Intervenors have had less than a month to review hundreds of pages of highly technical documents from all large and several smaller electric utilities, and the only workshop was narrowly focused on pre-selected topics. In addition, dozens of data requests, some highly technical, were processed and responded to by each utility. No delays were granted in any of the timelines, the period for discovery after plans were issued was very short, and a very limited number of topics were covered at workshops. Contrast this with rate cases where many months between the utility filing and evidentiary hearings typically are required. This has resulted in what is necessarily a cursory review by parties, without any real testing of the factual assertions made by the IOUs in the plans. Finally, intervenors will have no opportunity to file reply comments or any briefing in order to reply to either other intervenors (who might not all have the same perspective on the process) or utility assertions regarding their statements.

The Commission's justification for this extraordinarily incomplete process is that quick action is necessary and that this is to be an iterative process which may be expected to have an imperfect result.[66] That is fine, as long as the Commission takes appropriate steps to restrict the impacts of any "imperfections" in them. And that means very narrowly restricting the scope of application of the WMPs. Any interpretation by the Commission of the WMPs that harms either safety or imposes unreasonable costs on ratepayers would be unacceptable. This is not the time or proceeding to score political points or to facilitate utility bailouts. The Commission should use these plans for what they are good for, reject them for use outside their limited scope, and to develop a process that will make them better in future Wildfire Mitigation Plan proceedings.

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[64] R.18-10-007; OPENING COMMENTS OF THE MUSSEY GRADE ROAD ALLIANCE ON ORDER INSTITUTING RULEMAKING TO IMPLEMENT WILDFIRE MITIGATION PLANS; November 7, 2018; p. 4 (MGRA OIR Comments)
[65] R.18-10-007; PHC-2 Transcript; p. 106 l.12 – p. 107 l. 16.
[66] R.18-10-007; ORDER INSTITUTING RULEMAKING; October 25, 2018; p. 3. (OIR). Also Id.

Respectfully submitted this 13th day of March, 2019,

By: __*/S/*____***Diane Conklin***_____

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APPENDIX A –

FINAL AGENDA FOR WILDFIRE MITIGATION PLANS TECHNICAL WORKSHOPS

DISCUSSION TOPICS FOR FEBRUARY 26-27TH TECHNICAL WORKSHOPS

California Public Utilities Commission

Wildfire Mitigation Plans Technical Workshops
R.18-10-007: Technical Workshop #1
February 26, 2019 (09:00AM – 12:00PM)
CPUC Auditorium: 505 Van Ness Ave., San Francisco, CA
Tel: 1-877-820-7831; Passcode: 152822
Join remotely via WebEx: Join WebEx meeting
Meeting number: 717 300 387 Meeting password: SB_901

Time (9:00AM–12:00PM)	Agenda Item
9:00-9:10AM	**Introduction & Opening Remarks** **1.** Safety briefing **2.** Opening remarks
9:30AM-11:00AM	**Moderated Panel Discussion: Meaning of Commission Approval of WMPs & Role of Metrics** *Panelists include:* • *MGRA – Dr. Joseph Mitchell* • *TURN – Thomas Long, Legal Director* • *PG&E – Alyssa Koo, Chief Counsel-Electric & Gas Operations and Matthew Pender, Director-Enhanced Vegetation Management* • *Public Advocates Office – Charlyn Hook, Attorney* • *SCE – Shinjini Menon, Director of Energy Policy and Russell Archer, Senior Attorney* • *SDG&E – Katie Speirs, Vice President-Electric System Operations and Christopher Lyons, Senior Counsel-Regulatory*
11:00AM-12:00PM	**Open Discussion**
12:00PM	**Adjourn**

California Public Utilities Commission

Wildfire Mitigation Plans Technical Workshops
R.18-10-007: Technical Workshop #2
February 27, 2019 (09:00AM – 5:00PM)
CPUC Auditorium: 505 Van Ness Ave., San Francisco, CA
Tel: 1-877-820-7831; Passcode: 152822
Join remotely via WebEx: Join WebEx meeting;
Meeting #714 767 695; Meeting password: SB_901

Time (9:00AM–5:00PM)	Agenda Item
9:00-9:10AM	**Introduction & Opening Remarks** **1.** Safety briefing **2.** Opening remarks
9:10AM-12:00PM	**Moderated Panel Discussion: Vegetation Management** *Panelists include:* • *CAL FIRE – Eric Huff, Assistant Deputy Director-Resource Management* • *Liberty – Eliot Jones, Manager of Vegetation Management* • *MGRA – Dr. Joseph Mitchell* • *PacifiCorp – Lorelei Phillips, California Forester* • *PG&E – Matthew Pender, Director-Enhanced Vegetation Management* • *SCE – Mark Myers, Senior Compliance Advisor and David Guzman, Vegetation Management Manager* • *SDG&E – Tashonda Taylor, Director-Planning, Design, Construction, & Vegetation Management and Don Akau, Vegetation and Pole Integrity Manager*
12:00-1:00PM	**Lunch Break**
1:00-5:00PM	**Moderated Panel Discussion: Conductors & Related Issues** **1.** Covered Conductors **2.** Conductor Hardware and Splicing **3.** Inspection, Detection, and Protective Devices *Panelists include:* • *CAL FIRE – Shane Cunningham, Director-Law Enforcement and Investigation* • *MGRA – Dr. Joseph Mitchell* • *PacifiCorp – Heide Caswell, Director-Transmission and Distribution Asset Performance* • *PG&E – Nicholas Moran, Senior Manager-Grid Design & Automation and J.C. Matheison, Distribution Asset Strategy & Management* • *SCE – Dr. Brian Chen, Principal Manager-Engineering (Grid Resiliency and Public Safety PMO) and Thuan Tran, Principal Manager-Engineering (Apparatus and Engineering)* • *SDG&E – John Jenkins, Vice President-Electric Engineering & Construction and Will Speer, Director-Electric Engineering*
5:00PM	**Adjourn**

DISCUSSION TOPICS FOR FEBRUARY 26-27TH TECHNICAL WORKSHOPS

Day 1

What does Commission approval of WMPs mean?

- The WMP statute assigns the following roles to the Commission:
    - Public Utilities Code Section 8386(d) The commission shall accept comments on each plan from the public, other local and state agencies, and interested parties, and verify that the plan complies with all applicable rules, regulations, and standards, as appropriate.
    - Section 8386(e) The commission shall approve each plan within three months of its submission, unless the commission makes a written determination, including reasons supporting the determination, that the three-month deadline cannot be met and issues an order extending the deadline. Each electrical corporation's approved plan shall remain in effect until the commission approves the electrical corporation's subsequent plan. At the time it approves each plan, the commission shall authorize the utility to establish a memorandum account to track costs incurred to implement the plan.
    - Section 8386(f) The commission's approval of a plan does not establish a defense to any enforcement action for a violation of a commission decision, order, or rule.
    - Section 8386(g) The commission shall consider whether the cost of implementing each electrical corporation's plan is just and reasonable in its general rate case application.
- What is your interpretation of SB 901's intent with respect to the role that CPUC adoption of utility WMPs will have on: (a) compliance and (b) costs associated with WMPs?
- What open questions do you think currently exist with how SB 901 will be interpreted by the Commission that you believe need to be answered as WMPs are reviewed and adopted?
- What do parties advocate the Commission state in its decision addressing the WMPs?
    - Will Commission approval of WMPs result in new compliance requirements?
    - If so, to the extent these new compliance requirements result in programs not already funded and reviewed through GRCs, how should the Commission align approval of the WMPs with respect to the direction in §8386(g) that reasonableness reviews are to take place in GRCs?
    - Is there a way to isolate review/approval of WMP programs without pre-judging reasonableness and cost? How?
        - If not, should the scope of Commission review/approval of WMPs be limited in any way? How?
            - For example, should any reference to the scope of IOU programs be removed from WMPs (e.g. number of miles of conductor replacements or number of trees to be removed)? If not, should the Commission decision approving WMPs explicitly state that the reasonableness on scope and degree of IOU mitigation programs (to the extent they represent new costs not previously considered) is not considered in this proceeding?
- §8386(a) mandates that the objective of WMPs should be to "minimize the risk of ***catastrophic wildfire***" posed by electrical lines and equipment. Does the Commission need to define what a "catastrophic wildfire" is?

  - Should the initial WMPs be prioritized to focus on the prevention of catastrophic wildfires?
    - If so, should there be a limitation placed on the programs the Commission approves in the WMPs (i.e. programs that would help identify/mitigate the fire spread characteristics of a utility-caused ignition, but not programs aimed at preventing ignitions in general)?
- What role do performance metrics play in evaluating the various programs in IOU WMPs?
  - Can approval be provided without a baseline to compare performance metrics against?
  - Is there a common set of performance metrics that can be applied?
    - What are they? Do all IOUs collect the data/information necessary to populate and evaluate these metrics?
  - Should these metrics be refined through the S-MAP/RAMP proceedings?
    - Are there existing metrics used in RAMP that can help inform WMP program evaluation? If so, what are they and to what extent are they applicable?
    - Should WMP programs be evaluated as a wholesale operations test for S-MAP and RAMP?
    - How can/should the WMP programs and their evaluation be aligned with RAMP?
    - Should S-MAP and RAMP processes be refined to incorporate information from the WMP process? How would this be done?

Day 2 (Morning Session)

Vegetation Management Issues

- What is the point of diminishing return for increasing vegetation clearance requirements?
  - Have IOUs assessed this? How? What studies and information can they provide?
  - Is risk reduction analysis related to increasing veg. clearances an issue than can be studied through the RAMP process? If so, how?
    - Have the IOUs already studied this? If so, what have they learned?
- What information and databases are the IOUs currently using to inform and manage compliance and performance of veg. management programs?
  - Should there be a standardized database to inform future veg. management policy and decisions? If so, can existing IOU databases be leveraged?
    - To what extent would unique characteristics or permutations of data collection process be needed to effectively address unique challenges of differing IOU service territories?
- Enhanced veg. inspections.
  - What are utilities currently doing?
  - Are there appreciable differences between what's done on transmission versus distribution circuits?
  - What are the limitations?
  - How could databases and data collection methodologies be modified to better support enhanced inspections (e.g. LiDAR, spectral imaging, etc.)?
- Effects of utility veg. management activities:

    - How do IOUs currently assess and address the potential adverse impacts from their veg. management efforts?
        - Erosion
        - Wind-shear
        - Disturbance of local habitat
        - Watershed impacts
- Hazard trees:
    - How do the IOUs currently identify hazard trees?
    - What programs do IOUs currently have in place to abate hazard trees?
    - What data or studies have been conducted in this regard?
- Overhanging vegetation:
    - What impact does vegetation overhang (beyond mandated clearance requirements) have on hazards and utility ignition risk?
    - Should the Commission implement regulatory requirements to eliminate all overhang in the High Fire-Threat District (HFTD)?
- Vegetation-caused outages:
    - Do IOUs have programs in place to identify and study these occurrences? If so, what are they doing and what have they learned?
        - Databases?
        - Inspection tools and protocols?
        - Species- or region-specific knowledge gained? How is that knowledge operationalized through existing veg. management programs or enhancements?
    - Should there be requirements adopted to mandate these types of assessments? How would this be done?

Day 2 (Afternoon Session)

Conductor Issues

- Covered conductors:
    - What case studies and pilot programs have the IOUs conducted? What were the results?
    - Are there analyses, case studies or pilot programs from other entities or experts? if so, identify them.
    - What are the applicable uses (what conditions, situations, construction arrangements, voltages, etc.)?
        - Are there limitations or situations where covered conductors should **NOT** be used?
    - What wildfire risk drivers are mitigated by installing covered conductors?
        - How is that amount of risk reduction calculated? Is this consistent with S-MAP?
    - To what extent does the installation of covered conductor mitigate the need for and reduce the cost of veg. management activities?
    - What are the impacts on pole loading and design? How are IOUs accounting for this?
    - What are the different types of coatings utilities have explored for covered conductors?
    - Are all the coatings of covered conductors proposed in utility WMPs the same? If not, what are the differences?

  - What type of testing and studies have utilities performed to assess the fire resistance of covered conductor coatings?
  - How will utilities ensure that the coating on the covered conductors they propose to install doesn't propagate fires and increase utility wildfire risk?
  - Have utilities studied the effect of fault conditions on covered conductor coatings?
    - What have they learned and what control measures are in place to monitor and mitigate any potential adverse impacts?
  - What is the useful life of the covering? Life expectancy of the covered conductor?
    - How does this compare to bare conductors?
    - What are the lifecycle costs of covered versus bare conductors?
  - How do IOUs assess installation of covered conductors versus undergrounding?
- Conductor hardware/splicing:
  - Have IOUs conducted studies to determine issues associated with splices (i.e. automatic splices) or other conductor hardware that could lead to an ignition?
    - What are the results?
    - What design, construction, or maintenance changes have been implemented as a result?
    - What operational changes have been implemented as a result?
    - Have replacement programs been initiated? If so, how are replacement priorities determined? What's the status? How long until completion?
  - Should the Commission ban the installation of automatic splices?
  - Should the Commission require IOUs to implement conductor replacement programs that are focused on identifying and removing existing automatic splice installations?
    - Do IOUs currently have programs in place to do this? If so, what is the status?
  - Do IOUs have an inventory of their splices in the field (type, age, etc.)? When did they begin collecting this information? What data related to splices are collected? Where is the data kept and what business practices (construction, design, operations, instrumentation, etc.) has it influenced?
  - Should the CPUC consider standardized collection of this type of data? How?
- Inspection/Detection and protection devices:
  - What types of equipment or devices are IOUs currently using to inspect and detect issues with conductors?
    - What new technologies or devices are promising in this regard?
    - Tension monitoring devices?
    - Relay technologies and settings (e.g. fast-curve relays)?
  - How do IOUs assess post-installation condition of conductors?
    - Are there methods to improve these assessments? What are the IOUs doing in this regard?
    - What type of data collection/information would be useful in making these assessments?
- Wire-down study and prevention:
  - What are IOUs currently doing to study and prevent wire-down events?
    - What have they learned?
    - What works? What doesn't work?

- What are IOUs doing to mitigate the occurrence of wire-down events where the conductor remains energized?
  - Possibly discuss the SCE algorithm
- What type of fault detection technology are the IOUs currently employing?
  - What are the advancements in this field?
- Can the IOUs use fault record data to better understand in-service condition of existing conductors?
  - What are IOUs currently doing on this topic?
  - Should the detection, recording, and analysis of fault data be standardized?
    - If so, what is the essential data needed?
    - Is the infrastructure currently in place to do this statewide? If not, should programs focused on deployment of these devices and technology be prioritized in WMPs?