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Office of Energy Infrastructure Safety
California Natural Resources Agency
715 P Street, 20th Floor
Sacramento, CA 95814

RE: MUSSEY GRADE ROAD ALLIANCE COMMENTS ON THE 2023 WILDFIRE MITIGATION PLAN GUIDELINES WORKSHOP

Dear Office of Energy Safety Infrastructure,

The Mussey Grade Road Alliance (MGRA or Alliance) files these comments pursuant to the instructions provided by the Office of Energy Infrastructure Safety (OEIS) via service list email on April 8, 2022,[1] inviting public comments on the April 22, 2022 WMP Guidelines Workshop by May 6, 2022.

The MGRA comments have been prepared by Joseph W. Mitchell, Ph.D.

1. OVERVIEW

The Mussey Grade Road Alliance has actively participated in utility wildfire plan development since MGRA's original proposal to the California Public Utilities Commission (CPUC or Commission) that the CPUC require utilities to prepare contingency plans for extreme fire weather.[2] The Commission adopted a modified version of the MGRA proposal requiring utilities to develop Fire Prevention Plans.[3] The original plans filed by utilities were limited in scope, complexity, and effectiveness. In the aftermath of the 2017 and 2018 fires, the legislature passed bills SB901, AB1054, and AB111 establishing the current framework of the Wildfire Mitigation

[1] Email, from efiling@ENERGYSAFETY.CA.GOV; 2023 Wildfire Mitigation Plans, 2023-WMPs, 2023 WMP Guidelines Workshop Announcement; April 8, 2022; 4:30 pm.
[2] CPUC; R.08-10-007; MUSSEY GRADE ROAD ALLIANCE PROPOSED PHASE 2 RULES; December 16, 2009; p. 16.
[3] CPUC; D.12-01-032; pp. 48-55.

Plans. MGRA has participated in the public process for the development of requirements for the 2019, 2020, 2021, and 2022 Wildfire Mitigation plans and in their subsequent review, making numerous contributions that have been accepted by the CPUC, Wildfire Safety Division (WSD), and OEIS. The size and complexity of the plans have increased as the utilities and regulators have come to terms with the magnitude of the utility wildfire problem and as their staffing dedicated to this critical issue has increased in size and technical expertise.

As the WMPs begin a new three year cycle, it is therefore appropriate that Energy Safety re-evaluate previous guidance and look for ways to both streamline the WMPs and to expand areas needing further technical detail. The proposal presented in the April 22, 2022 Workshop[4] is broad and ambitious, and represents a substantial step forward in the maturity of the WMPs. It calls for major changes to the current process which, while promising, need careful consideration to ensure that they will have the desired effect and can be efficiently implemented.

No MGRA representative was able to attend the April 22nd Workshop in person, and therefore the following comments are based on review of the slides and recording provided by OEIS. As Energy Safety indicates, this initial workshop is only the beginning of the guidelines development process and there will be additional opportunities for public input.[5] It is gratifying to see this process started early enough in the year to allow a thorough review, and that Energy Safety is actively seeking public engagement.

In the following comments, MGRA will offer **Suggestions** rather than the **Recommendations** it has used in other Energy Safety filings in recognition of the fact that this is merely the beginning of the development process, and so any ideas on subjects raised in the Workshop need to be reviewed by OEIS, utilities, and other stakeholders. I will also raise **Questions** in cases where the Workshop proposal is unclear and further explanation will be required in the final product.

[4] 2023-WMPs; Workshop Slides and Recording; Development of the 2023 Wildfire Mitigation Plan; Guidelines; April 22, 2022. TN10819_20220426T135112_2023_WMP_Guidelines_Workshop_Slides_and_Recording.pdf. (Workshop)
[5] Workshop; p.

2. HIGH LEVEL PROCESS ISSUES

The OEIS proposal opens discussion on a number of areas related to the overall process and structure of the WMPs. These will all have substantial impact on both utilities and stakeholders and need to be carefully considered.

2.1. WMP and WMP Update Process

The OEIS proposal suggests that "base" WMPs be submitted every three years and that the WMP updates be limited to progress reporting and "permissible revisions".[6] This proposal is designed to ease the burden on OEIS and stakeholders as they review what have become several thousands of pages of documents, supplemental filings, and data request responses in a period of less than two months. The fact that utilities are under loose constraints for what they put into their yearly updates leads to substantial year-to-year variation, and the OEIS proposal attempts to address this issue. Part of the problem, though, is that things in the utility wildfire prevention world really *are* changing extremely fast, and many of the changes in yearly updates are substantive and not arbitrary. OEIS would add a gatekeeping "petition" process to ensure that utilities stick to the 3-year plans they've submitted and make changes to those plans only when these changes can be justified.

In Energy Safety's Vision, the yearly update documents will have smaller scope, be shorter, and more focused on areas of active change. Ideally, reviewers might be able to review these changes only when reviewing the annual WMP update. However, that depends on the level and type of review being done.

If a reviewer needs to understand the entire scope of the utilities plan, or if they need to understand the reason for and scope of changes to the plan, they will need to familiarize themselves with the base plan document *and* the update. Likewise, comparison between utilities may require that reviewers familiarize themselves with multiple base WMPs and updates, which would be difficult if information were scattered over multiple documents.

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[6] Workshop; p. 28.

2.1.1. Petition process and "Acceptable" changes

Energy Safety, with input from stakeholders, will need to specify what would constitute "acceptable" and "unacceptable" changes for the yearly update.

Question:

- **What are defining characteristics and examples of "permissible" and "impermissible" revisions?**

It may be that substantial changes are being introduced on a regular basis. One example is the CPUC's RFD (Risk-based Decision-Making) process, which is adding new requirements at least annually regarding how utilities calculate their risk and RSE scores in their RAMP and GRC processes. Because it is essential that risk calculations in the RAMP/GRC filings and those in the WMP filings be identical, it may well be that new RDF requirements will first appear in a WMP filing – or an WMP update.

Suggestion:

- **When the CPUC or OEIS makes a determination leading to changes in requirements, calculations, reporting, or use of underlying data, in a binding decision or as a result of a WMP review, OEIS should add a "blanket" requirement equivalent to an "approved" petition to annual updates so that all affected utilities report on their implementation of the change using a common framework.**

Also, stakeholders may wish to suggest changes to the utility WMP. For example, stakeholder investigation during an update year may uncover issues or errors in the base WMP requiring some remediation on the part of the utility.

Suggestions:

- **Stakeholders should be permitted to submit petitions for utility plan updates. Utilities may reply to petitions and OEIS will determine whether the utility should make the suggested update.**
- **All petitions should be public and subject to a stakeholder comment process.**

2.1.2. Base WMP and Update structure

From the configuration and revision control standpoint, establishing a baseline and then allowing controlled updates to the baseline is sound practice. In the case of utility WMPs, the utility work product needs to be subject to a standardized review process, analyzed according to quality standards, approved by two organizations, and then compared against the results of inspections, audits, and reviews. Therefore a stable baseline is necessary. One problem with this approach is that it can stifle innovation, delay pivots based on new information, and slow implementation of new initiatives. Importantly, the WMPs are only *reporting* requirements, and represent only a snapshot in time as to what the utility's current status and plans are. Internal utility processes are not currently controlled by the WMP requirements and utilities are free to adopt whatever methodology for change management they want (such as PG&E's purported adoption of Lean[7] practices), so long as they can translate that methodology into the required WMP framework during the yearly update process. The one limitation under the new process proposed by OEIS would be that substantive changes would be reviewed *prior* to implementation, rather than implemented by fiat and then announced in the annual WMPs. So long as the review process is quick and efficient, this should not stifle innovation and will help to provide a safeguard against residents being arbitrarily subjected to utility changes that may not be in their interests.

From the stakeholder standpoint, it is not clear, however, that the new structure proposed by OEIS will actually reduce required work, depending on the type and scope of review being done. For example, a stakeholder comparing programs across three major utilities during the second update year would need to familiarize themselves with not only the base WMPs but two yearly updates as well, including three years of relevant documentation (additional data, data requests) regarding the program of interest. Potentially, this could lead to *expansion* of the stakeholder burden for reviews that need to go back to the base WMPs. Some suggestions to avoid this outcome are listed below.

[7] Eric Reis; The Lean Startup; Crown Business; New York; 2011.

Questions:

- **What is the baseline for the second year update? Are the second year updates to include the first year update? Or alternatively is the second year update to use the first year update as a baseline rather than the Base WMP?**
- **How are deletions/changes/corrections in text to be handled in the updates? Will the entire section be replaced?**
- **What is the definition of an "interim" mitigation strategy, and how is this differentiated from a "short" or "long" term strategy?**

As WMPs are documents, MGRA recommends that standard document control and sharing practices be put in place to aid stakeholders in identifying changes.

Suggestions:

- **The yearly update should take the following form:**
  - **A summary of all updates as a separate document**
  - **A red-lined version of the Base WMP showing changes from each year as easily identifiable mark-up**
  - **A clean version of the Updated WMP without markup**
- **Utilities should continue to be required to provide supporting documentation to OEIS, and not merely store it on their websites, so that this information is in the public record.**

Adoption of this method would allow straightforward comparison of utility WMPs with each other without requiring OEIS and stakeholders to manually compile and track changes, and will allow OEIS and stakeholders to see all changes in the same document.

2.1.3. Timing of Base WMPs and Updates

Energy Safety requests input on the best timeline for WMP submissions, specifically 1) whether the utility filings should be staggered within the filing year and 2) whether Base WMPs should be staggered yearly with only one utility filing a Base WMP during each calendar year.

Regarding the first question, as to how filings should be timed within a filing year, the answer is constrained by the limited time specified by statute for the WMP review. Increasing the stagger time reduces the amount of time that utility filings overlap so that they can be compared. Given these constraints, Energy Safety's 2022 schedule utilizing a 2 week staggering did a reasonable job of allowing for a fair amount of overlap so that stakeholders had approximately one month to compare utility filings. From MGRA's standpoint (with one person reviewing all three utilities), a 1 week staggering period or simultaneous filing would also be acceptable as long as the review period (in available person-hours per utility filing) is not reduced below the 2022 level.

Regarding the yearly staggering of Base WMPs, this would be acceptable only if the ability to do direct comparisons between utilities is maintained. This would be the case if MGRA's suggestion of requiring both red-line and clean versions of Update WMPs were adopted, since one utility's Base WMP could be directly compared against the clean version of other utilities' Update WMPs. A corollary of this arrangement would be that if Energy Safety were to adopt changes to yearly Guidance (which seems likely enough since it has always done so in the past), it would need to require that any changes apply to both the Base WMP and yearly updates in order to maintain a common baseline across utilities.

Suggestions:

- **Yearly updates to guidelines should be applied to both Base and Update WMPs.**
- **Under no circumstances should a utility go more than three years without a major plan update.**

3. RISK MODELLING AND ASSESSMENT

3.1. Ignition Likelihood

An error that appears in the Workshop presentation concerns Energy Safety's definition of "Equipment Ignition Likelihood", which it defines as "The likelihood that equipment will cause an ignition through normal operation or failure"[8] and "Vegetation Ignition Likelihood", defined as "The likelihood that vegetation will contact equipment and result in an ignition."[9] The issue with

[8] Workshop; p. 54.
[9] Id.

these definitions is that ***utility-caused catastrophic wildfires do not usually start under "normal" conditions***. Instead, most catastrophic wildfires are driven by wind-related damage to utility equipment or vegetation (or, in the case of "Object" ignition, damage to other infrastructure such as communications equipment near power lines). Contrast this to Energy Safety's definition of "Wildfire spread likelihood", defined as "The likelihood that a fire with an unknown ignition point will spread to a given location based on a set of weather profiles, vegetation, and topography," which clearly identifies weather conditions as a determinant of the *consequence* of wildfire.

MGRA's assessment of weather conditions as a determinant of the ignition *likelihood* is discussed in considerable detail in both its 2021[10] and 2022[11] WMP comments. To briefly summarize MGRA's 2022 findings:

- Operational risk models of the three major utilities incorporate a relationship between wind speed and increased ignition probability.
- Programmatic risk models for SCE and SDG&E do not correctly incorporate a relationship between weather conditions and ignition probability. The PG&E programmatic risk model incorporates a relationship between weather conditions and ignition probability.
- Prioritization risk models for PG&E (WDRM v.2), SCE and SDG&E do not correctly incorporate a relationship between weather conditions and ignition probability. PG&E claims that its next generation (WDRM v.3) prioritization risk model incorporates a relationship between weather conditions and ignition probability, though MGRA was not able to verify this claim.
- The primary problem with utility risk models is that their ignition likelihood models are averaged over all weather conditions while their consequence models use "worst case" weather days without any conditional probability linking the probability and consequence values.

Given the current implementation of utility consequence models (using worst-case weather days), it is not possible to correctly decouple probability and consequence. Complicating the matter

[10] MUSSEY GRADE ROAD ALLIANCE COMMENTS ON 2021 WILDFIRE MITIGATION PLANS OF PG&E, SCE, AND SDG&E; March 29, 2021; pp. 14-38.
[11] 2022-WMPs; MUSSEY GRADE ROAD ALLIANCE COMMENTS ON 2022 WILDFIRE MITIGATION PLANS OF PG&E, SCE, AND SDG&E; April 11, 2022; pp. 17-42.

further, there in fact are cases where a "normal" ignition "just so happens" to occur during a period of high wildfire potential, and causes a catastrophic fire. The Dixie and Butte fires are two cases in point. This scenario is less common than wind-driven ignitions, but should not be ignored.

Energy Safety's proposed model for decomposing risk into Risk Components needs to be modified to take all of these factors into account.

Suggestions:

- **Alternative 1 – Add an additional Fundamental Risk Component called "Common Drivers" linking to both the Ignition Likelihood and Ignition Consequence Intermediate Risk Components. Define Common Drivers as "Modeling of factors driving both ignition and consequence models". See MGRA 2022 WMP Comments, pp. 40-42.**
- **Alternative 2 – Break Fundamental Risk Components for equipment, vegetation, and object into "normal" (Poisson) likelihood and additionally include modeling of ignition probability parameterized as a function of weather variables. This would include a description of how this parameterization finds its way into operational, program, and prioritization risk modeling.**
- **Service area risk maps[12] in this case should include a map of estimated peak "fire wind" speeds.**
- **Guidelines should be sufficiently flexible to incorporate future findings from the current risk modeling workshops.**

3.2. PSPS Risks

As noted by MGRA and numerous other stakeholders and intervenors in both Energy Safety and CPUC filings, there are some classes of risk from power shutoff that influence ignition likelihood (fires from generators and outdoor cooking, loss of communication with emergency services), as well as consequences.[13] While the probability of this scenario is small, because ignitions are occurring during extreme fire weather they can have potentially catastrophic

[12] Workshop; p. 55.
[13] MGRA 2022 WMP Comments; p. 85.

consequences. Modeling the linkage mechanism could be quite complex.[14] Energy Safety should, at the least, determine whether these secondary risks are potentially significant and would merit development of a linkage between PSPS and increased ignition risks.

PG&E's introduction of its EPSS "fast trip" tactic to reduce ignition risk has had the effect of subjecting a large number of customers to power shutoff without prior warning. Risk and benefit from this program will be different than "normal" PSPS because of the lack of mitigation achieved by preparation. EPSS (and other utility fast-trip programs) should also be included in the PSPS components.

Suggestion:

- **Energy Safety should "triage" potential PSPS risks raised by stakeholders that are not currently incorporated into utility PSPS consequence estimates. Energy Safety should require utilities to include all potentially significant risks and mitigations of these risks in their WMPs.**
- **Energy Safety should validate current utility PSPS consequence models to ensure they are using a valid methodology.**
- **PG&E and other utilities should provide risk and benefit estimates for EPSS/fast-trip programs that clearly show differences from "normal" PSPS programs.**

4. CAPABILITY MATURITY MODEL

Formal review and revision of the Capability Maturity Model (CMM) is long overdue. While stakeholders were able to comment on the original CMM in 2019, due to the foreshortened time between release of the templates and the due date of the 2020 WMPs, utilities were allowed to issue their 2020 WMPs based on the original version of the templates, including the CMM. Because the CMMs require stability in order to track utility progress, the original CMMs were tied to a 3 year cycle, and therefore no stakeholder input has been incorporated into the CMM to date. The original comments on the CMM made by MGRA in 2019[15] therefore remain timely, and MGRA respectfully requests Energy Safety to review the relevant portions of that document. In brief, the

[14] MGRA 2021 WMP Comments; Appendix B-1; WILDFIRE STATISTICS AND THE USE OF POWER LAWS; pp. 21-29.
[15] CPUC; R.18-10-005; MUSSEY GRADE ROAD ALLIANCE COMMENTS ON WILDFIRE MITIGATION PLAN TEMPLATES; December 30, 2019; pp. 6-12.

original CMM was uneven, with some questions demonstrating a lack of domain knowledge. MGRA welcomes Energy Safety's efforts to review and revise the model.

Despite the shortcomings of the original CMM, it has provided a baseline that Energy Safety and stakeholders have been able to use to track self-reported utility progress, and to compare the utilities against each other. Stability over time does provide value, and so MGRA recommends that Energy Safety continue to collect CMM evaluations using both new and old formats for at least one year in parallel to provide a "calibration" between the new format and the old format. Otherwise, a "clean start" would lose any historical lessons or changes from the 2022 to 2023 timeframe.

An issue that arose in the course of the yearly WMP filings is that Energy Safety developed a tool that allowed utilities to directly submit answers to OIES. While convenient for utilities, the OEIS tool was not transparent. Stakeholders do not have access to this data, and therefore must request it via data requests from the utilities. The utilities provide this data in no unified format, making comparison between utilities onerous. MGRA went through this exercise in 2020,[16] but in 2022 determined it was not worth the effort given time constraints.

Suggestions:

- **Energy Safety should review stakeholder comments on the 2019 templates that may still contain valid suggestions for improvements in the CMM process.**
- **Energy Safety should require that utilities in 2023 file their CMM using both "old" and "new" formats in order to allow a clean continuation of utility maturity evaluation during 2022-2023 and to provide calibration between the old and new CMM formats.**
- **Energy safety should make its tool for collection of utility CMM data public and provide a user interface that allows users to easily download results and easily make comparisons between utilities.**
- **Energy Safety should ensure that all numerical targets are physically sensible and achievable values; i.e. it should ensure that a domain expert validates the targets.**
- **Public model technical documentation (p. 101) should be a Level 1 requirement**

[16] MGRA 2020 WMP Comments; pp 65-74.

5. CONCLUSION

MGRA is pleased that the Office of Energy Infrastructure Safety has opened a public process for the development of guidelines for the 2023 and future year Wildfire Mitigation Plans early enough to encourage a robust public dialogue. MGRA plans to participate and contribute to this process and looks forward to additional opportunities to provide input and to review and discuss Energy Safety's proposals.

Respectfully submitted this 6th day of May, 2022,

By: __*/S/*____***Joseph W. Mitchell, Ph.D.***_____

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