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Transmittal via OEIS e-filing and R.18-10-007 service list

RE: MUSSEY GRADE ROAD ALLIANCE COMMENTS ON PROPOSED RESOLUTION WSD-021

Office of Energy Infrastructure Safety:

The Mussey Grade Road Alliance (MGRA or Alliance) serves these comments on Proposed Resolution WSD-021 (PR)[1] pursuant to Public Utilities Code Section 311(g)(1) permitting public comment on proposed resolutions before the California Public Utilities Commission. As per instructions in the PR-WSD-021, MGRA serves these comments on the service list for proceeding R.18-10-007.[2]

The Alliance generally supports the Office of Energy Infrastructure Safety's (OEIS's or Energy Safety's) Proposed Resolution, finding it comprehensive and incorporating significant feedback from MGRA and other intervenors. Detailed review of the PR, though, identified errors of fact that MGRA would like to bring to the Energy Safety's and the Commission's attention in these comments.

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[1] 2021-WMPs; WSD-021 Resolution Ratifying Action of the Office of Energy Infrastructure Safety on Pacific Gas and Electric Corporation's 2021 Wildfire Mitigation Plan Update Pursuant to Public Utilities Code Section 8386; August 9, 2021; by email:
From: Lezcano, Margarita. Subject: PUBLIC [Agenda ID 19767] Draft Resolution WSD-021 for September 9, 2021 Commission Meeting
[2] Id.; page 42.

The Alliance comments were prepared by MGRA's expert witness, Joseph W. Mitchell, Ph.D.

1. **PG&E'S ANNOUNCEMENT OF A LARGE-SCALE UNDERGROUNDING INITIATIVE AND IMPACTS ON OTHER INITIATIVES**

PG&E recently announced that it is planning to underground 10,000 miles of conductor in high fire threat areas.[3] PG&E announced this as a "moonshot" type of program, apparently moving its announcement of this program forward several months in response to its equipment being associated with the Dixie fire.[4] Even though this proposal had supposedly been in preparation for some time, it was not mentioned during PG&E's RAMP application proceeding, its 2021 Wildfire Mitigation Plan, or its general rate case, which was filed in June.

Energy Safety appropriately identifies this lack of transparency as Deficiency PG&E-21-14, titled "Inadequate transparency of system hardening plan",[5] in which it directs PG&E to "provide additional detail on its short-term system hardening plans; provide its long-term system hardening plan; explain how, if at all, PG&E's recently announced undergrounding plan changes its decision-making framework for initiative selection; and provide an update on its system hardening efforts."[6]

Given the scale of this purported undertaking, it must inevitably impact PG&E's initiative-making framework. In fact, MGRA titled one of the section titles in its comments on the utility Q2 reports "PG&E's Undergrounding Announcement Threatens to Render All Technology Programs Moot,"[7] meaning that investment in technology for ignition reduction makes no sense if conductors are to be placed underground in the long run. Likewise, this program would also render moot any program including extensive deployment of covered conductor.

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[3] "PG&E Announces Major New Electric Infrastructure Safety Initiative to Protect Communities From Wildfire Threat," July 21, 2021: https://investor.pgecorp.com/news-events/press-releases/press-release-details/2021/PGE-Announces-Major-New-Electric-Infrastructure-Safety-Initiative-to-Protect-Communities-From-Wildfire-Threat/default.aspx.

[4] PG&E Aims to Curb Wildfire Risk by Burying Many Power Lines; Ivan Penn; New York Times; July 21, 2021. (NYT) https://www.nytimes.com/2021/07/21/business/energy-environment/pge-undergroundpowerlineswildfires.html

[5] PR; pp. 27-28.

[6] Id.

[7] 2021-WMPs; MUSSEY GRADE ROAD ALLIANCE COMMENTS ON THE 2021 WILDFIRE MITIGATION PLAN Q2 QUARTERLY REPORTS OF SDG&E, PG&E, AND SCE; August 16, 2021.

1.1. Impact on Long Term Planning

OEIS found that PG&E's long-term planning for wildfire mitigation strategies is inadequate and has directed them to address this issue:

"*ISSUE: PG&E does not have a sufficient methodology for establishing and committing to long-term plans in wildfire mitigation despite being able to in all other areas of planning and operations within their business.*

REMEDY: PG&E must develop a robust methodology for planning out 10 years (or longer) within its Wildfire Mitigation Plan to reduce long-term risk and buy down the costs of mitigation efforts."[8]

PG&E's surprise announcement is yet another indication of this problem of a lack of long-term wildfire mitigation strategy. The fact that the undergrounding program conflicts with other mitigation measures creates even more confusion regarding PG&E's strategy and plans.

1.2. Impact on REFCL

As noted in the PR, MGRA had supported more dedicated investigation of REFCL: "PG&E and SCE's pilots on Rapid Earth Fault Current Limiters (REFCLs) have shown promise as a potential low-cost alternative to address ignition risks such as vegetation contact and wire downs. (MGRA, TURN)."[9] As MGRA stated in its reply comments:

"*One common thread that MGRA has identified in its review of quarterly reports is that utilities do not have plans for rapidly implementing "game changing" technologies. Elimination of customer and resident risk from wildfire and power shutoff in mid-range timeframes might be feasible with some of the technologies currently under evaluation, but only with a visionary commitment to the goal of ending the utility wildfire problem and the planning of ambitious programs...*

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[8] PR; App. A; p. 34.
[9] PR; App A; p. 25.

WSD should require PG&E to develop a proposal for a 'moon shot' program that could mitigate areas exposed to expanded shutoff with REFCL within the next few years and potentially reduce the need for environmentally damaging expanded EVM. If feasible and sound, the same approach could be adopted by other IOUs."[10]

This "moon shot" language and the vision of a long-term strategy to eliminate wildfire risk was, ironically, also used by PG&E CEO Patricia Poppe when describing the proposed underground program:

"*This year the company is putting 70 miles of lines underground, so increasing the work to 1,000 miles a year would be a leap. 'That's the moonshot,' Ms. Poppe said on a call with reporters. 'It should be a shocking number because it's a big goal.*"[11]

1.3. Impact on Covered Conductor Deployment

MGRA and other stakeholders recommended that the OEIS require a common approach across utilities regarding covered conductor deployment,[12] particularly since SCE is relying heavily on this mitigation and claims to be able to deploy covered conductor at a significantly lower cost per unit mile than PG&E or SDG&E.[13] Proposed Resolution raises Issue PG&E-21-09:

"*The utilities must coordinate to develop a consistent approach to evaluating the long-term risk reduction and cost-effectiveness of covered conductor deployment, including:*

1. The effectiveness of covered conductor in the field in comparison to alternative initiatives.

2. How covered conductor installation compares to other initiatives in its potential to reduce PSPS risk."[14]

PG&E fails to differentiate between covered conductor, undergrounding, and other hardening programs when it performed its risk and RSE calculations.[15] While SDG&E finds RSE for undergrounding and covered conductor to be roughly equivalent, SCE claims that the RSE for

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[10] 2021-WMPs; RE: MUSSEY GRADE ROAD ALLIANCE REPLY TO STAKEHOLDER COMMENTS ON 2021 WILDFIRE MITIGATION PLANS OF PG&E, SCE, AND SDG&E; April 13, 2021; p. 11.
[11] NYT.
[12] PR; App. A; pp. 23-24.
[13] PR; App. A; p. 96.
[14] PR; App. A; p. 56.
[15] PG&E 2021 WMP; Supplemental data filing; Table 12.

undergrounding is 10 times lower than that for covered conductor.[16] PG&E's proposal therefore may be require spending considerably more in ratepayer funds for an equivalent reduction in wildfire risk. While Issue PG&E-21-14 requires PG&E to provide details regarding both short-term and long-term plans for hardening, including covered conductor, and it calls for more details regarding PG&E's newly announced undergrounding program, it does not adequately take into account the extent to which PG&E's undergrounding program (if implemented) would displace spending from other hardening programs. Nor does it account for how this program, even while still under consideration, has the potential to displace spending from other hardening programs.

1.4. Summary and Recommendations

As it stands, the PR errs in not giving appropriate weight to the potential impacts of PG&E's announced undergrounding program and its impacts on all other mitigation programs in its wildfire prevention portfolio. While controlling PG&E spending on wildfire mitigation is not directly under OEIS's oversight, OEIS should use its position to make it clear to the California Public Utilities Commission and public that it supports effective use of ratepayer funds for wildfire risk reduction.

MGRA therefore recommends the following changes:

Issue PG&E-21-14:

Current:

3. Explain how, if at all, PG&E's recently announced undergrounding plan changes its decision-making framework for initiative selection for individual circuit segments.

Redlined:

3. ~~Explain how, if at all,~~ **Provide alternative short-term and long-term plans that incorporate** PG&E's recently announced undergrounding plan ~~changes~~ **into** its decision-making framework for initiative selection for individual circuit segments. **Include:**

a. Change in balance of covered conductor, undergrounding and other hardening in short and long term plans;

b. Changes to scope for short-term hardening (2021-2023) due to undergrounding program

c. Risk spend efficiencies for hardening program with and without the expanded

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[16] MGRA 2021 WMP Comments; p. 66.

undergrounding project.

d. Delays, deferrals, or cancellation of advanced technology mitigations research and deployment due to displacement by the undergrounding project.

Final:

3. Provide alternative short-term and long-term plans that incorporate PG&E's recently announced undergrounding plan into its decision-making framework for initiative selection for individual circuit segments. Include:

a. Change in balance of covered conductor, undergrounding and other hardening in short and long term plans;

b. Changes to scope for short-term hardening (2021-2023) due to undergrounding program

c. Risk spend efficiencies for hardening program with and without the expanded undergrounding project.

d. Delays, deferrals, or cancellation of advanced technology mitigations research and deployment due to displacement by the undergrounding project.

2. OTHER TECHNICAL ISSUES

A variety of other minor technical errors were identified in the PR.

2.1. Incorporation of Wind into Ignition Model

The PR correctly notes in Issue PG&E-21-04 that "PG&E does not adequately justify the wind speed inputs it uses in its Probability of Ignition Models."[17]

However, the PR then makes an inconsistent statement regarding PG&E's use of wind speed inputs:

"*PG&E estimated the fire season ignition probabilities using MaxEnt. The models are trained on ignition (or outage) locations and gridded spatial (raster) environmental and asset attribute data. This is an improvement by inputting more accurate data sets (tree type, wind scores, and ground cover) and includes machine learning.*"[18]

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[17] PR; p. 21.
[18] PR; App. A; p. 96.

The PR should not cite PG&E's usage of wind data as an improvement in one section and as a detriment in another. MGRA's 2021 WMP comments and revision comments demonstrated how the assumptions made in PG&E's MaxEnt machine learning analysis with regard to wind were inadequate and ignore the long-understood causal relationship between high winds and power line wildfire ignitions by failing to incorporate peak hourly speeds for fire weather. We therefore have no current means to judge whether the ignition probability scores are an "improvement" over the previous model.

Recommendation:

Original:

PG&E estimated the fire season ignition probabilities using MaxEnt. The models are trained on ignition (or outage) locations and gridded spatial (raster) environmental and asset attribute data. This is an improvement by inputting more accurate data sets (tree type, wind scores, and ground cover) and includes machine learning.

Redlined:

PG&E estimated the fire season ignition probabilities using **a machine learning model with a** MaxEnt **(Maximum Entropy) classifier**. The models are trained on ignition (or outage) locations and gridded spatial (raster) environmental and asset attribute data. This ~~is an improvement by inputting~~ **analysis incorporated larger and** more accurate data sets (**for example** tree type~~,~~ ~~wind scores,~~ and ground cover) ~~and includes machine learning~~.

Final:

PG&E estimated the fire season ignition probabilities using a machine learning model with a MaxEnt (Maximum Entropy) classifier. The models are trained on ignition (or outage) locations and gridded spatial (raster) environmental and asset attribute data. This analysis incorporated larger and more accurate data sets (for example tree type and ground cover).

2.2. Stakeholder Participation

The Proposed Resolution states that "PG&E reports it has also modeled PSPS consequences to customers at a program level and is currently developing a more granular, circuit level model, to

assess the impacts of PSPS de-energizations. PG&E indicates it currently plans to complete this analysis in collaboration with Energy Safety and the other California utilities by September 30, 2021."[19]

While the PR is simply noting PG&E's claim, it is concerning that a major new risk estimation effort is being developed by OEIS and PG&E without stakeholder input. Stakeholders have been deeply involved in the question of power shutoff, not only through involvement in the 2021 WMP reviews, but also through Commission rulemaking 18-12-005, investigation 19-11-013, and the PG&E RAMP proceeding A.20-06-012. The development of PSPS consequence models is complex and utility assumptions need to be fully vetted by stakeholders and OEIS. The Commission should require that PG&E submit its plan for public review in a forum with opportunity for data requests and public comment.

3. CONCLUSION

The Alliance appreciates the opportunity to provide feedback to the Wildfire Safety Division and IOUs.

Respectfully submitted this 30th day of August, 2021,

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

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[19] PR; p. 31.