BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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Order Instituting Rulemaking to Examine Electric Utility De-Energization of Power Lines in Dangerous Conditions.

Rulemaking R.18-12-005
(Filed December 13, 2018)

MUSSEY GRADE ROAD ALLIANCE PHASE 2

TRACK 1 DE-ENERGIZATION PROPOSALS

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1. INTRODUCTION

On December 19, 2019, the Commission opened an Order Instituting Rulemaking (OIR) to Examine Electric Utility De-Energization of Power Lines in Dangerous Conditions.[1] The Mussey Grade Road Alliance (Alliance or MGRA) filed Comments on the Rulemaking on February 8, 2019 in accordance with instructions in the OIR,[2] thus fulfilling requirements for obtaining party status as per the OIR[3] and Rule 1.4(a)(2) of the CPUC Rules of Practice and Procedure. MGRA hereby complies with instructions in ALJ Semcer's March 12 Party Status Ruling,[4] parties that must specify method and date by which they obtained party status.

MGRA contributed to the Phase 1 proceeding, filing its Phase 1 Comments on March 25, 2019,[5] its Phase 2 Replies on April 2, 2019,[6] Comments on the Phase 1 PD on May 16, 2019,[7] and Replies on the Phase 1 PD on May 21, 2019.[8]

The Phase 2 Scoping Memo specifies that Phase 2 will be divided into Track 1 and Track 2, with Track 1 concerned with issues that can be resolved within the 2019 calendar year,[9] and directing parties to file proposals for Track 1 by September 17.[10] MGRA files these proposals pursuant to the Phase 2 Scoping Memo instructions.

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[1] R.18-12-005; ORDER INSTITUTING RULEMAKING; December 19, 2018. (OIR).
[2] R.18-12-005; MUSSEY GRADE ROAD ALLIANCE COMMENTS ON THE DE-ENERGIZATION ORDER INSTITUTING RULEMAKING (OIR); February 8, 2019. (MGRA OIR Comments)
[3] OIR; p. 15.
[4] R.18-12-005; Email Ruling Adopting Protocol for Noting Party Status in Filings; March 12, 2019. (Party Status Ruling)
[5] R.18-12-005; MUSSEY GRADE ROAD ALLIANCE PHASE 1 DE-ENERGIZATION COMMENTS; March 25, 2019. (MGRA Phase 1 Comments)
[6] R.18-12-005; MUSSEY GRADE ROAD ALLIANCE PHASE 1 DE-ENERGIZATION REPLY COMMENTS; April 2, 2019. (MGRA Phase 1 Reply)
[7] R.18-12-005; MUSSEY GRADE ROAD ALLIANCE COMMENTS ON PROPOSED DECISION ADOPTING DE-ENERGIZATION GUIDELINES; May 16, 2019. (MGRA Phase 1 PD Comments)
[8] R.18-12-005; MUSSEY GRADE ROAD ALLIANCE REPLY COMMENTS ON PROPOSED DECISION ADOPTING DE-ENERGIZATION GUIDELINES; May 21, 2019. (MGRA Phase 1 PD Reply)
[9] R.18-12-005; ASSIGNED COMMISSIONER'S PHASE 2 SCOPING MEMO AND RULING; August 14, 2019; p. 3. (Phase 2 Scoping Memo)
[10] Id.; p.11.

2. TRACK 1 ISSUES

The Phase 2 Scoping Memo lays out six topics to be addressed within Track 1. We use the numbering scheme specified in the Scoping Memo to number topics and subtopics, albeit with a 2.* in the section header. Hence, Item 2 of the Scoping Memo would be in Section 2.2 below. MGRA does not have proposals for all items specified in the Scoping Memo but reserves the right to comment on the proposals of other parties in our upcoming October 3rd filing.

2.1. Definitions/Standard Nomenclature

MGRA has no proposals at this time.

2.2. Access and Functional Needs (AFN) Populations

MGRA has no proposals at this time.

2.3. PSPS Strategy and Decision-Making

2.3.1. a. Last Resort Criteria

"*What criteria should the Commission evaluate when assessing whether PSPS is being used as a measure of last resort*?"

In Phase 1, MGRA made the assertion that there is a perverse incentive introduced by PSPS, wherein utilities can shield themselves from potential liability by shutting off power, regardless of whether the benefits are outweighed by other risks introduced by the power shut-off.[11] The Commission concurred in D.19-05-042, stating that: "Under no circumstances may the utilities employ de-energization solely as a means of reducing their own liability risk from utility-infrastructure wildfire ignitions, and the utilities must be able to justify why de-energization was deployed over other possible measures or actions."[12]

[11] MGRA Phase 1 Comments; p. 3.
[12] p. 68.

It has also been MGRA's long-standing positions that 1) shutoff thresholds should be optimized through a risk/benefit or cost/benefit analysis, and 2) in the case where utility infrastructure is insufficiently robust against high wind events that a remediation plan be put into place to strengthen and protect the infrastructure and thereby enable the shutoff threshold to be raised. To some extent, the phrase "last-resort" does not exactly capture the MGRA position. It could be that given all risks and potential costs of remediating them, shut-off may be the best option for certain areas, for instance very sparsely populated areas. Achieving optimization requires a knowledge of risks arising both from shutoff and from leaving the power on. While the risk of power-line ignited wildfire has, very unfortunately, become better known over time, it is our concern that the knowledge of potential shutoff impacts has not been sufficiently quantified, and without this knowledge it is easy to minimize or ignore these risks. Hence, in order for a utility to assert that it has used shut-off as a "last resort", it needs to demonstrate that it has clearly quantified the risks introduced by shutoff and showed them to be lesser than those of leaving lines energized.

Data that would help to quantify the actual risk and impact of shutoff would include:

- Risk of loss of communication
    - Risk that fires are not reported.
    - Risk that people are not informed regarding approaching fires
- Risk of improper resident mitigations causing house fires that turn into interface fires
    - Risk of candle ignited fires
    - Risk of improperly maintained generators causing fires
    - Risk of barbeque or fire-pit ignited fires
    - Risk that a house fire in a WUI area progresses to an interface fire
- Delays in evacuation putting residents at risk
    - Nighttime evacuation hampered by lack of home power
    - Failure of traffic signals causing traffic backups
- Danger to vulnerable residents
    - Medical baseline customers requiring power
    - Financial harm to marginal residents living paycheck to paycheck

There are a number of other issues related to critical facilities that will be specifically addressed in this proceeding, and these are not mentioned here. Nor will we bring up the economic impacts of shutoff on residents, since this relates more to optimization of shutoff threshold rather than the critical tactical decision of whether a fire weather event satisfies the criteria for PSPS.

It would be desirable if the Commission, parties, and utilities could agree on a common methodology to gauge the above risks quantitatively. It is important to keep in mind that most of those risks scale with the size of the population involved, and the population's exposure to the Wildland Urban Interface (WUI), since many risks are directly related to people's exposure to fire risk and to the level of fire risk they and their households present.

SED will be evaluating whether shutoff events were conducted in accordance with Commission requirements. Criteria that may be used to judge whether a particular PSPS was a "last resort" should include:

- Whether the event initiating the shut-off had ***forecasted*** wind speeds approaching or exceeding the design requirements used in the design, construction, and maintenance of the de-energized circuit(s). A positive finding would be evidence for reasonableness.
- Whether the event initiating the shut-off had ***measured*** wind speeds approaching or exceeding the design requirements used in the design, construction, and maintenance of the de-energized circuit(s). A positive finding would be evidence for reasonableness.
- Whether the post-event report contained evidence of damage to utility infrastructure or vegetation contact with utility infrastructure on a particular circuit or on circuits experiencing similar weather conditions. A positive finding would be evidence for reasonableness.
- Whether previous post-event reports or other outage or vegetation contact histories maintained by the utilities showed damage to utility infrastructure or vegetation contact with utility infrastructure for weather events of similar or lesser intensity, for the de-energized circuit or for circuits experiencing similar weather conditions. A positive finding would be evidence for reasonableness.

- Whether the population affected by the circuit de-energization was very small. A PSPS event is more likely to be reasonable if the number of affected customers is small.
- Whether the population in close proximity to the wildland urban interface (using accepted CAL FIRE definitions) affected by the circuit de-energization was very small. The safety risks posed by a PSPS event are smaller (relatively) for customers not likely to be affected by fires and less apt to start a residence fire that escalates into a wildfire.
- If the utility has special knowledge of risks on a circuit, such as old equipment or at-risk trees, it may be in the public interest to shut-off power. In such cases, SED may withhold a determination of reasonableness and request remediation of the risks after PSPS. Since a determination of reasonableness is also a liability shield, it may not be appropriate to make a reasonableness determination if the risk are determined to have been under the utility's control.

As we've stated in previous filings, utilities should design, build, maintain, and operate their infrastructure so that it is safe under known local conditions. From this perspective, PSPS should, ***ideally***, be reserved for extraordinary events. However, much of the current utility infrastructure may not be up to this standard. The fact that a PSPS event may be reasonable given the limitations of current infrastructure does not imply that PSPS is an optimal long-term approach for safety. A remediation program should be put into place to lessen the need for PSPS, and this can be developed out of the reports that the utilities will submit to SED. But this is a longer-term project and outside of the scope of Track 1.

2.3.2. Standardized PSPS Criteria

"*Would adopting standardized wildfire risk criteria (e.g. wind speeds, weather conditions, vegetation dryness conditions, etc.) across utilities promote the public safety, and if so, what criteria should be adopted?*"

Generally, standardized wildfire risk criteria for power shutoff are required in order to ensure that all California residents have equal access to electricity and equal protection from power line fires. These criteria should be based upon scientific evidence and utility experience. Despite arguments made by individual IOUs, there is nothing specific to any given utility service area that grants that IOU the authority to have a different methodology to determine shutoff for its own service area. SCE presents a typical argument: "SCE does not use rigid 'thresholds' to decide when to begin planning for de-energization; instead, it considers several potential risk indicators such as wind speed, fuel build up, field conditions, etc., that can vary by individual circuit and change over a matter of hours (if not minutes) in real time… Determining when and where to de-energize SCE's electrical facilities is complex and subject to change depending on real-time conditions in the field and on particular circuits. SCE relies on an experienced team of meteorologists and other key IMT staff to constantly monitor and assess risk indicators associated with meteorological conditions and conditions regarding the local terrain and its facilities to determine if a de-energization event may be warranted."[13]

Even if one were to accept the IOU argument that there are dynamically changing inputs into the decision whether to initiate a PSPS, that doesn't mean there cannot be guidelines and standards as to what those inputs are and how they are to be weighted.

Determining what criteria would be appropriate for PSPS threshold standards will require analysis of existing utility data and thorough vetting by the Commission, parties, and electric utilities. Therefore, MGRA doesn't think it is possible to come up with applicable standards in Track 1. However, we believe that one output of Track 1 would be to require discussions of common criteria for shutoff as a workshops topic, with a view of identifying potential criteria which would then be technically analyzed as part of Phase 2 Track 2 or a subsequent phase of this proceeding. In Phase 1, MGRA also suggested that Artificial Intelligence and Machine Learning could potentially have role in informing PSPS decisions.[14]

[13] R.18-12-005; SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) OPENING COMMENTS ON PHASE 1 SCOPING MEMO AND RULING; March 25, 2019; p. 2, 4-5. (SCE Phase 1 Comments)
[14] MGRA Phase 1 Reply Comments; pp. 3-4.

2.4. Notification and Communication

MGRA has no proposals at this time.

2.5. PSPS and Transmission Lines

MGRA has no proposals at this time.

2.6. Lessons Learned

a. Based upon recent PSPS events since adoption of D.19-05-042, what changes or updates to the guidelines adopted in that decision and Resolution ESRB-8 should the Commission consider?

D.19-05-042 was adopted in June, 2019, and it is now September 2019. We have as yet to pass through a full fire season. One would expect that given this circumstance the data on PSPS events subsequent to D.19-05-042 would be therefore scanty. That is surprisingly not the case.

In this period of time, SCE has issued 6 de-energization reports, PG&E has issued 1 de-energization report, and SDG&E and the small IOUs have issued none. The disparity between these numbers indicates that there may be a major difference in approach to shutoff criteria between the major utilities. It is impossible to say, however, because SCE does not anywhere define what its criteria are for beginning to engage customers, public safety providers, and critical infrastructure providers, nor does it specify what its actual de-energization criteria are.

As stated in our comments regarding uniform criteria, it is the Commission's duty to ensure that all California residents are provided with safe and reliable electricity, and it follows that reliability or safety varies substantially from IOU to IOU then the Commission and at least one of the IOUs are not meeting their commitments.

In order to ensure common and safe practice and to reduce the harm and cost due to shutoff and shutoff warnings, utility PSPS reports should be additionally provide:

- Weather predictions and or maps upon which the shutoff decision is based.
- Estimated maximum wind speeds for the circuit that is at warning for shutoff or involved in a PSPS event.
- Measured actual wind speeds for the circuit during the potential shutoff event window, whether or not the circuit is actually de-energized.
- For photographic evidence of damage, circuit number and nearest weather station data should be provided.

2.6.1. SCE Reports

The reports filed by Edison covered the following time periods:

- June 17 to June 22
- June 28 to July 8
- July 9 to July 21
- July 22 to July 28
- July 29 to August 2
- August 3 to August 10

A quick review of the historical weather maps available in the NOAA "Daily Weather Map Weekly PDF Files"[15] does not indicate any major identifiable fire weather events (i.e. Santa Ana), with high pressure over the Great Basin and offshore lows, with a possible exception on July 9.[16] Granted, the NOAA maps are generated on, and not in advance of, the specified dates and therefore were not the forecasts used by SCE to predict conditions requiring PSPS. In any case, in Southern

[15] Daily Weather Map Weekly PDF Files; NOAA; https://www.wpc.ncep.noaa.gov/dailywxmap/pdffiles.html; Downloaded 9/14/2019.
[16] Schroeder, M, et. al. . 1964. Synoptic weather types associated with critical fire weather. Berkeley, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Forest and Range Experiment Station. 492 p; 1964.
and https://en.wikipedia.org/wiki/Santa_Ana_winds

California typical wind-driven fires (including all major power line fires except the Butte fire) generally occur in autumn through spring.

Regardless, in all SCE reports the SCE meteorologists "notified SCE personnel of forecasts predicting local winds with high gusts, hot temperatures, and very dry conditions. In conjunction with SCE's FPI, these conditions created an elevated fire weather threat as declared by the SCE Incident Commander."[17] Details of these forecasts and why and how they caused SCE to activate its alert system are not shown in the report. Clearly the SCE meteorologists are basing their warnings on *something*, but given the paucity of information included in the report it is difficult to say exactly what their criteria were or whether meteorologists at other utilities would have issued a similar warning under the same conditions.

The Commission should find it of concern that SCE is on the verge of shutoff so often, even during a season in which catastrophic power line fires typically do not occur. This stance has negative consequences, even if a PSPS was not initiated for these events:

- Customers are constantly in a state of anxiety, particularly vulnerable and medical baseline customers, because they are being warned about potential power loss.
- Public safety personnel and critical infrastructure providers have a due diligence requirement to respond and prepare for shutoff, potentially diverting resources and incurring costs.
- Too many "False alarms" create the danger of a "Boy Who Cried Wolf" scenario in which customers, emergency workers, and infrastructure providers will stop taking SCE's warnings seriously and then subsequently are unprepared for a real PSPS event.
- If a utility was to be engaged in PSPS for a primary purpose of "liability shielding", in contravention of Commission instructions,[18] one of the signatures of that stance would be to adopt an extremely aggressive PSPS policy with low thresholds, which would also result in many additional warnings of potential PSPS.

[17] Southern California Edison Public Safety Power Shutoff Protocol (PSPS) Post-Event Reporting in Compliance With Resolution ESRB-8 and Decision 19-05-042 June 17 to June 22, 2019 Event.
[18] D.19-05-042; p. 48.

- SED needs to analyze the shutoff reports, so these reports use Commission resources. The Commission needs to ensure these resources are being used optimally.

SED and the Commission should closely evaluate the current SCE criteria in order to determine whether they are consistent with the intent of ESRB-8 and D.19-05-042.

2.6.2. PG&E June 21 Report

According to PG&E, "PG&E's Meteorology team was also forecasting an offshore (Diablo) wind event to unfold over Northern California from June 7 through June 9 that would escalate fire danger and increase the probability of wind-related outages and damage. PG&E's Fire Potential Index (FPI), which combines weather (wind, temperature, and relative humidity) and fuels (10hr dead fuel moisture, live fuel moisture, and fuel type) indicated increasing fire danger from June 7 to June 9 due to increased wind, lowering relative humidity, and further drying of 10hr dead fuel moisture."[19]

TURN, AT&T, and Napa County filed comments in response to PG&E's report. Both AT&T and Napa County noted that PG&E triggered the PSPS at a low threshold (35-40 mph gusts). All respondents claimed that PG&E did little to justify how the benefits of PSPS outweighed the safety risk. MGRA agrees that this low threshold should be of concern.

We also propose some other data that might be captured in the report that would help to provide clarity into the utility decision to de-energize.

- In addition to Max Speed (mph) recorded during the course of the event, utilities should include the Max ***Predicted*** Speed, since this is the value used for planning and for alerts, and would provide insight into the utility decision to de-energize.
- The report divides shut-off areas into "Fire Index Areas" (FIAs), a concept that is PG&E-specific and provides no real insight to outsiders. Additionally, many individual circuits are associated with each FIA. According to the report, it appears

[19] PG&E Public Safety Power Shutoff (PSPS) Report to the CPUC; Event from: 06/07/2019 to 06/09/2019; p. 2.

that all circuits within an FIA may be de-energized as a block (the report does not make this clear). In any case, a look at the weather station data associated with each FIA shows substantial wind speed variation from station to station:

  - FIA 175 – 15 mph to 63 mph
  - FIA 177 – 31 mph to 43 mph
  - FIA 280 – 5 mph to 51 mph

- It would be beneficial for the table to include a list of circuits expected to be represented by each weather station. This would allow a determination whether a more surgical approach (finer grained than FIA) to de-energization would be possible.
- While photographs of infrastructure damage[20] can be evidence of PSPS reasonableness, it may be that this damage is localized to more extreme conditions in specific areas. Therefore, utilities should provide nearest weather station and circuit number data for each photo.

3. CONCLUSION

The Alliance appreciates the opportunity to provide this input into Phase 2 of the de-energization proceeding.

Respectfully submitted this 16th day of September, 2019,

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[20] PG&E Report; pp. 10-11.