

OSA DATA REQUEST: CALPA-SDG&E-02
R.18-10-007 – SB901 WILDFIRE MITIGATION PLAN OIR
SDG&E RESPONSE

Date Received: February 21, 2019
Date Submitted: February 26, 2019

Unless otherwise states, all page and section references refer to SDG&E's 2019 Wildfire Mitigation Plan.

QUESTION 1:

Section 4.1.3 Other Special Work Procedures states:

Extreme and [Red Flag Warning] Conditions: Most overhead work activities will cease, except where not performing the work creates a greater risk than doing so. In those cases where work needs to be performed, an SDG&E fire coordinator is consulted.

- a. Is such a determination an individual or group decision? Please describe.
- b. Which guidelines govern such a decision? How were these guidelines developed? Was a pilot part of the determination?
- c. Please explain the decision-making process the fire coordinator utilizes to make the decision.
- d. Please provide a detailed description of the measures that will be taken if work required is outside of periods where SDG&E has contracted private firefighting assets?

RESPONSE 1:

- a. During Extreme or Red Flag Warning conditions, the determination of whether or not to perform work can be either an individual or group decision. If SDG&E field personnel decide, based on their observations that a condition requires repair work or corrective action that cannot wait for less critical burning conditions, they are instructed to consult with the on-duty Fire Coordinator to gain concurrence and explore the safest corrective options.
- b. A decision on whether or not to perform work during Extreme or Red Flag Warning conditions is guided by Electric Standard Practice 113.1 (SDG&E Operations and Maintenance Wildfire Prevention Plan) (ESP 113.1), which was developed and is maintained by the SDG&E Fire Science and Coordination group. ESP 113.1 was developed over time in order to guide common fire prevention and work practice and it has grown in complexity and scope over time as new scenarios have been encountered.
- c. The Fire Coordinators utilize a dynamic decision-making process, which is explained in SDG&E's Wildfire Mitigation Plan (WMP or Plan) at Section 4.1.3 (at page 22-23). The Fire Coordinator considers whether not doing the work leaves more of a hazard than the actual doing of the work, then the work is carried out. If the work can be done safely and it mitigates a fire hazard, the work is completed. If the existing condition creates more of a fire hazard than that hazard created by the work itself, the work is done after consultation between SDG&E field personnel and Fire Coordination. Consideration is given to exploring alternatives to doing the work, how it might be made fire safe temporarily, how

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the area might be pre-treated with water, how a fire watch or patrol might be incorporated into the work plan, if de-energization is the safest course of action, etc.

- d. SDG&E will secure contract fire resources (CFRs) for work that must be performed during Red Flag Warnings and Extreme conditions.

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QUESTION 2:

Section 4.3.6 & 4.3.19, states that steel poles are being designed for instead of wood.

- a. Please describe SDG&E's philosophy, engineering assessment, and risk avoidance that justifies the steel pole installation.
- b. Please provide Risk Spend Efficiency calculations for the steel pole installation strategy.
- c. Please provide a GIS map overlaid on the fire threat zone map of where the pole replacement & reinforcement is/will be focused?

RESPONSE 2:

- a. As stated in Section 4.3.6, the fire hardening of SDG&E's transmission and distribution system within the High Fire Threat District (HFTD) is a multi-faceted approach that begins with enhanced design criteria. As further stated in Section 4.3.6, lines were previously designed to withstand wind loads of 56 miles per hour (mph) as prescribed by General Order (GO) 95. After lessons learned from the 2007 fires, the installation and subsequent data collection from a dense network of anemometers, and wind studies, SDG&E learned that the maximum wind speeds its electric system endures is much higher than 56 mph; it is much closer to 85 mph and even 111 mph in certain areas. It is important to note that wind force is not linear. For example, a 56 mph wind exerts 8 pounds per square foot of force while an 85 mph wind exerts 18 pounds per square foot, an increase of 125%. Designing the system to withstand wind loads that occur during red flag conditions in Tier 3 and Tier 2 of the HFTD reduces the risk of equipment failure and potential ignitions.

Additionally, SDG&E is replacing single aluminum and copper core conductors with high tensile strength steel core conductors to reduce the risk of wire down failures that could lead to ignitions. Where dense vegetation exists, covered conductor is being evaluated as a conductor solution to reduce the risk of vegetation contacts. SDG&E is also increasing the phase spacing beyond the requirements of GO 95, which results in a decrease in the likelihood of energized lines coming into contact with one another or arcing after being struck by flying debris.

SDG&E is also utilizing steel poles instead of wood poles. There are two significant benefits that steel poles provide. The first is they are a more reliable material being manufactured versus natural, meaning a steel pole of a specified strength is more likely to have that strength than a wood pole of the same value. This is evident in the GO 95 safety factor requirements. A grade A wood pole is required to have a safety factor of 4 while a grade A steel pole is required to have a safety factor of 1.5. This means a steel structure is required to be only 1.5 times the strength of the calculated loads versus 4 times the strength with a wood pole, as there is less variability in the nominal strength of the material. In

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addition, steel poles are more resilient to wildfires should a fire occur regardless of cause, which will result in shorter restoration times to the impacted communities.

- b. SDG&E has not completed risk spend efficiency calculations for its fire hardening strategy, which includes the use of steel poles. SDG&E's 2019 RAMP Report will include risk spend efficiency calculations consistent with D.18-12-.
- c. Please refer to the attached document: "CalPA-SDG&E-02 Q2c Attachment.pdf."

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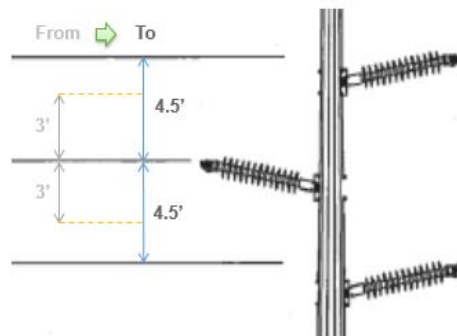
QUESTION 3:

Section 4.3.6 describes SDG&E's strategy of "increased spacing between lines beyond the requirements of GO 95, resulting in decrease in the likelihood of energized lines coming into contact with one another or arcing after being struck by flying debris."

- a. In how many instances did conductors come into contact with one another in 2017 and 2018?
- b. What modifications to the existing poles (if any) would have to be made to increase spacing between lines?
- c. Would structurally functional poles need to be taken down before their useful life-cycle ends?

RESPONSE 3:

- a. In 2017, there were 364 phase to phase contacts. In 2018, there were 279 phase to phase contacts.
- b. On transmission lines, 69kV lines have been designed with increased phase spacing. This increases horizontal clearance by using longer post insulators and utilizes increased vertical clearance (4.5' instead of 3').



On distribution lines, larger cross arms are being utilized for increased pin spacing leading to greater horizontal clearance. On some long spans, multiple cross arms are used and phases are split for increased vertical clearance. The utilization of increased vertical phase spacing does impact required pole heights.

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- c. Increased phase spacing is only being utilized when structures are being replaced due to a structural necessity caused by deterioration or increased wind loads. Structurally functional poles will remain in service.

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QUESTION 4:

In Section 4.4.3, SDG&E proposes the following:

SDG&E's tree trim scope will be increased to achieve a 25 feet clearance post-trim within the HFTD where feasible between the trees and electric facilities. This is a significant increase over the average 12 feet of clearance that SDG&E currently achieves post-trim. There may be some barriers to achieving this goal. Environmental agencies, land agencies, and customers may oppose the tree pruning at this new clearance level, however, SDG&E hopes to work through these issues to achieve the desired wildfire risk mitigation.

- a. Has SDG&E developed a work plan or criteria to achieve this goal? If so, please provide.
- b. Has SDG&E started any communication and/or partnership with stakeholders to determine what outcomes and/or concessions are acceptable while furthering wildfire mitigation goals? If so, please describe.

RESPONSE 4:

- a. SDG&E's current practice of achieving on average 12 feet post-trim clearance is in consideration of species, growth rate, and tree position relative to powerlines. To achieve even greater clearances, the strategy will be to implement more robust "directional pruning" techniques to roll the crown of trees further back, making final cuts to sufficient lateral branches growing away from the conductors. This technique will increase the clearance while also following industry standards that help preserve the health of the tree.
- b. SDG&E is developing a communication protocol to share with customers and other interested internal and external stakeholders in the implementation of increased clearances. Implementation considerations include the changes in customer expectation, increased customer refusals, limited legal authority, environmental issues, and agency concerns.

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QUESTION 5:

In Section 4.4.5, SDG&E states that a certified arborist performs a Quality Assurance (QA) audit on a representative sample of completed work to ensure compliance with scoping requirements.

- a. What percentage of all completed work is audited by the certified arborist?
- b. What percentage of SDG&E's service territory within CPUC Fire Threat Tiers are audited by the certified arborist?

RESPONSE 5:

- a. SDG&E contracts with a third-party quality assurance vendor to conduct an audit of approximately 10 percent of all work completed during the pre-inspection and tree trimming activities. In addition, SDG&E currently audits 100 percent of all "memo" work completed throughout the year. "Memo work" is that deemed to be a priority and is completed prior to the routinely-scheduled completion date.
- b. SDG&E audits on average 10 percent of all work completed during the pre-inspection and tree trimming activities within the HFTD. In addition, SDG&E audits 100 percent of all work completed during the incremental, off-cycle tree trimming activity within the HFTD.

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QUESTION 6:

Section 4.7.4 cites education and workshops as one of their focal points for community awareness of Public Safety Power Shutoff Protocols.

- a. What strategies is SDG&E going to employ to garner public attention and encourage public participation in the education campaigns?

RESPONSE 6:

SDG&E plans a 2019 education and awareness campaign in five languages (English, Spanish, Chinese, Filipino and Vietnamese). Communication channels include paid advertising, social media, web content, collateral, bill inserts, and videos to educate customers about how they can stay safe and be prepared for emergencies. The campaign will include information about Community Resource Centers and Public Safety Power Shutoffs. Messaging will also encourage customers to make sure SDG&E has their updated contact information and to sign up for outage notifications. SDG&E will also promote via its own social media channels and ask customers to follow SDG&E to receive the most up-to-date information during emergencies.

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QUESTION 7:

Section 4.7.5 describes the Generator Grant Program (GGP) as being in the conceptual phase.

- a. In this conceptual phase, has SDG&E included small business owners that depend on power to conduct business (i.e. small grocery stores)?
- b. Please provide any other alternatives SDG&E considered that would be available to small business owners during Public Safety Power Shut Off protocols.

RESPONSE 7:

- a. As described in Section 4.7.5, SDG&E is developing a Generator Grant Program focused on residential customers within SDG&E's Tier 3 of the HFTD, who are likely subject to a PSPS event, for example those customers currently under the medical baseline tariff or who are dependent on well water. Small business owners are not included.
- b. As noted in Section 4.7.5, the Generator Grant Program is still in the conceptual phase and SDG&E has not developed other alternatives for small business owners at this time.

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QUESTION 8:

Regarding SDG&E's PSPS program:

- a. How many customers does SDG&E have?
- b. Of these customers, how many are covered under SDG&E's PSPS program?
- c. How does SDG&E inform customers that they are or may be covered under its PSPS program or a specific PSPS event (respectively)?

RESPONSE 8:

- a. SDG&E has 3.6 million customers and 1.4 million electric accounts.
- b. The CPUC has designated SDG&E's service territory into High Fire Threat Districts (HFTD) consisting of Tiers 2 and 3. Customers residing within Tier 3 would be the most likely subject to a PSPS with customers in Tier 2 the next likely. Last year, SDG&E sent fire-preparedness information to about 19,000 customers in the HFTD. However, due to SDG&E's situational awareness system and its ability to sectionalize circuits, a PSPS event would be limited to those areas that are being subjected to extreme weather events. It is not likely that all of Tier 3 or Tier 2 would be shut off in their entirety.
- c. In 2018, SDG&E sent fire/emergency prep newsletters to customers in the HFTD, and included information about PSPS, Community Resource Centers, and how to stay safe during wildfires or other emergencies. SDG&E drove customers to the wildfire safety section of its website - <https://www.sdge.com/wildfire-safety> for additional information about PSPS, which included a video.

During Red Flag Warnings or other extreme weather conditions, SDG&E notifies customers who may be impacted by a PSPS event. Notifications are made via automated phone calls, email, and/or text, and generally start within 48 hours of an event. When possible, notifications are sent 48 hours, 24 hours, and one hour before a PSPS event as well as during the event.