PUBLIC ADVOCATES OFFICE DATA REQUEST: CALPA-SDGE-03
2020 WILDFIRE MITIGATION PLAN
SDG&E RESPONSE

Date Received: March 6, 2020
Date Submitted: March 11, 2020

I. GENERAL OBJECTIONS

1. SDG&E objects generally to each request to the extent that it seeks information protected by the attorney-client privilege, the attorney work product doctrine, or any other applicable privilege or evidentiary doctrine. No information protected by such privileges will be knowingly disclosed.

2. SDG&E objects generally to each request that is overly broad and unduly burdensome. As part of this objection, SDG&E objects to discovery requests that seek "all documents" or "each and every document" and similarly worded requests on the grounds that such requests are unreasonably cumulative and duplicative, fail to identify with specificity the information or material sought, and create an unreasonable burden compared to the likelihood of such requests leading to the discovery of admissible evidence. Notwithstanding this objection, SDG&E will produce all relevant, non-privileged information not otherwise objected to that it is able to locate after reasonable inquiry.

3. SDG&E objects generally to each request to the extent that the request is vague, unintelligible, or fails to identify with sufficient particularity the information or documents requested and, thus, is not susceptible to response at this time.

4. SDG&E objects generally to each request that: (1) asks for a legal conclusion to be drawn or legal research to be conducted on the grounds that such requests are not designed to elicit facts and, thus, violate the principles underlying discovery; (2) requires SDG&E to do legal research or perform additional analyses to respond to the request; or (3) seeks access to counsel's legal research, analyses or theories.

5. SDG&E objects generally to each request to the extent it seeks information or documents that are not reasonably calculated to lead to the discovery of admissible evidence.

6. SDG&E objects generally to each request to the extent that it is unreasonably duplicative or cumulative of other requests.

7. SDG&E objects generally to each request to the extent that it would require SDG&E to search its files for matters of public record such as filings, testimony, transcripts, decisions, orders, reports or other information, whether available in the public domain or through FERC or CPUC sources.

8. SDG&E objects generally to each request to the extent that it seeks information or documents that are not in the possession, custody or control of SDG&E.

9. SDG&E objects generally to each request to the extent that the request would impose an undue burden on SDG&E by requiring it to perform studies, analyses or calculations or to create documents that do not currently exist.

10. SDG&E objects generally to each request that calls for information that contains trade secrets, is privileged or otherwise entitled to confidential protection by reference to statutory protection. SDG&E objects to providing such information absent an appropriate protective order.

II. EXPRESS RESERVATIONS

1. No response, objection, limitation or lack thereof, set forth in these responses and objections shall be deemed an admission or representation by SDG&E as to the existence or nonexistence of the requested information or that any such information is relevant or admissible.

2. SDG&E reserves the right to modify or supplement its responses and objections to each request, and the provision of any information pursuant to any request is not a waiver of that right.

3. SDG&E reserves the right to rely, at any time, upon subsequently discovered information.

4. These responses are made solely for the purpose of this proceeding and for no other purpose.

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III. RESPONSES

QUESTION 1:

SDG&E states on p. 89 of the 2020 WMP that "currently, there are gaps in coverage of third-party communication providers in the rural areas of eastern San Diego County that limit SDG&E's ability to communicate with field personnel during red flag crew deployments and Emergency Operations Center activations." Table 23a on p. 51 of Appendix A indicates that SDG&E plans to install between 140 and 210 LTE stations over the period between 2020 and 2022.

a) What is the estimated cost per station installed?
b) Please break out how many LTE stations are planned for installation in HTFD Tier 2 and HTFD Tier 3.
c) Provide an estimate for the percentage of SDG&E's HTFD Tier 2 and HTFD Tier 3 service territory where "gaps in coverage of third-party communication providers… limit SDG&E's ability to communicate with field personnel during red flag crew deployments and Emergency Operations Center activations." Provide percentage estimates for both total area and for miles of right of way.

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2 and 5. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 1:

a) The total estimated cost per base station is $320,000.

LTE radio coverage site design	$16,000
Civil Design	$55,000
Civil Construction	$85,000
LTE materials	$75,000
Microwave design, materials, installation, and commissioning	$45,000
LTE base station commissioning	$60,000

b) The coverage designs are not complete for all Tier 2 and Tier 3 areas of the HFTD. However, the projected numbers of base stations are as follows: Tier 2 – 26; Tier 3 – 279. Please note that these numbers will likely change as coverage designs are finalized.

c) To clarify the quoted statement, the commercial carrier LTE networks do not cover all of the HFTD area, especially in areas of rugged terrain where SDG&E assets are located. More importantly, use of commercial LTE networks inhibits or simply will not provide critical communications during EOC events, including wildfires. Also, commercial carrier LTE networks do not guarantee the performance and availability requirements demanded by SDG&E use cases. A specific example of this is the falling conductor protection (FCP) use case, which requires low latency (i.e., low throughput delay) wireless network connectivity. Tests of the SDG&E FCP system with multiple commercial carrier LTE networks yielded results that did not satisfy these demands. Further, commercial carrier networks are downlink biased, meaning data throughput is better for downloading data to endpoint devices as opposed to uploading data from those devices. SDG&E use cases are mainly uplink centric. Finally, SDG&E maintains a requirement for backup power at each of the base station sites. When communications are critical to power restoration activities, commercial carrier LTE base stations are not built to the same level of backup runtime. Communications systems are critical to operating a safe and reliable power system; commercial carrier LTE networks are not purposed to meet this need.

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QUESTION 2:

Table 23 on p. 40 of Appendix A indicates that SDG&E had estimated a cost per line mile of undergrounding to be $1 million/mile. SDG&E further indicates that the actual cost per line mile in 2019 was approximately $1.8 million/mile. Finally, SDGE forecasts the cost of undergrounding per line mile in 2020-2023 to be about $3.1 million/mile.

a) Please explain the difference between forecast and actual costs in 2019, including, but not limited to whether SDG&E's forecasts were inaccurate, whether SDG&E experienced unexpected cost overruns, and any other factors that contributed to the difference in actual and forecast costs of underground lines in 2019.
b) Provide 10 years of historical data on the total number of line/miles undergrounded in SDG&E's service territory, total cost per year, and cost per line mile. Please provide narrative explanation for any outlier1 years.
c) What is the basis of SDG&E's forecast of approximately $3.1 million/mile in 2020 through 2022 How is SDG&E validating these forecast costs?

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 5, and 9. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 2:

a) The cost per mile for undergrounding can vary significantly depending on the difficulty and time it takes to construct. Underground design utilizes all available underground utility information from city and internal sources to identify water lines, sewer pipes, gas lines, electric lines, telecom, and other underground assets. This is then confirmed with potholing at various locations to validate the maps and complete a mark out of other facilities. However, during construction unknown utilities can be found that increase the difficulty of the project adding time and cost. The largest impact, however, is when rock is encountered that can lead to difficult and time-consuming digging. SDG&E uses recent jobs as the basis to create underground estimates. For example, Circuit 1023, which had approximately one mile, was completed in 2018 for $1.02M, which was consistent with our $1M per mile estimate in the 2019 WMP. That said our more recent work on rural circuits came in higher mainly due to the amount of rock that was encountered.
b) The table below contains installed underground mileage for the past ten years based on installation dates captured in SDG&E's GIS system. Cost or associated Work Order is not tracked in this system.

Years	Miles
2010	207
2011	213
2012	236
2013	167
2014	151
2015	205
2016	177
2017	185
2018	244
2019	192

c) The $3.1M dollar forecast was developed based on recent project completion and is more in line with the cost of the CNF project actuals (see Appendix A page 43) that spent $27.7M in actuals to underground 8.7 miles, or roughly $3.2M per mile.

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QUESTION 3:

On p. 39 of SDG&E's 2020 WMP, SDG&E states that it is "refining the focus of its system hardening efforts to include reducing the customer impacts of PSPS events" and therefore focusing on "circuits prone to PSPS." Similarly, on p. 64, SDG&E states that its strategy for system hardening is changing "from asset-based scoping to circuit-based scoping."

a) How do circuit-based system hardening efforts mitigate the risk of a catastrophic wildfire?
b) How do "mitigation efforts that can reduce the impact of [public safety power] shutoffs" (p. 39) mitigate the risk of a catastrophic wildfire?
c) Are circuit-based system hardening strategies more effective at mitigating the risk of catastrophic wildfire than asset-based strategies?
d) Are circuit-based system hardening efforts more efficient from a risk spend perspective than an asset-based system hardening strategy with regard to the risk of catastrophic wildfire?

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 5, and 9. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 3:

SDG&E continues to utilize varying degrees of granularity to perform its assessment of its system and determine mitigation activities accordingly. Both macro-level analysis (segment/circuit level) and micro-level (asset level) analysis are necessary to achieve the objectives of continuing to reduce fires as well as reduce the impacts of PSPS. To that end, SDG&E offers the following explanations:

a) Circuit-based system hardening efforts mitigate the risk of a catastrophic wildfire by offering a more comprehensive view of the system risk at the circuit level. This circuit-level view is based on an aggregation of specific asset-level analyses and is complemented by adding other factors important to consider such as the connectivity of the system, the vegetation, customer density, ingress/egress issues and other factors that are important to consider when investing in wildfire mitigations.
b) Mitigation efforts that reduce the impact of PSPS also mitigate the risk of a catastrophic wildfires because they are an alternative to PSPS in some areas. While PSPS mitigates wildfire risk, it creates risks and impacts of its own. Other mitigations such as undergrounding or installing covered conductor mitigate wildfire risk while minimizing the use of PSPS and thereby reducing risks and impacts that arise from PSPS. SDG&E utilizes PSPS as a last resort mitigation to reduce the risk of catastrophic wildfires, so fire hardening circuits within the areas that have experienced PSPS are both reducing PSPS

impacts to customers but also addressing the areas that have historically experienced the highest wildfire risk in the entire electric system.

c) Both asset-based and circuit-based strategies are complimentary in mitigating the risk of catastrophic wildfire. Data from asset-based strategies can be thought of as inputs to circuit-based strategies, and the two methodologies work hand-in-hand to either target specific assets or prioritize various activities based on a circuit view.

d) Asset based hardening strategies are more risk spend efficient according to SDG&E's current models. However, current models do not account for all the customer impacts of PSPS events, other than at a basic electric reliability level, which is not material relative to the risk of catastrophic wildfires. The feedback SDG&E has heard at both the customer and regulatory levels is that the customer impacts are significant when considering loss of commerce and the economic strain these events have on communities. SDG&E's adjustment to the circuit-based approach will still rank and prioritize reducing wildfire risk first but will do so in a way that attempts to mitigate impacts to customers.

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QUESTION 4:

In the format used for table 2 on p. 3 of Appendix A of SDG&E's 2020 WMP, please provide customer hours of PSPS outages, total and normalized.

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 5, and 9. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 4:

Please refer to Table 12 on page 20 of Appendix A of SDG&E's 2020 WMP (revised on March 2, 2020), which is available here:
https://www.sdge.com/sites/default/files/regulatory/SDG%26E%202020%20Wildfire%20Mitigation%20Plan%20Revised%2003-02-2020.pdf