PUBLIC ADVOCATES OFFICE DATA REQUEST: CALPA-SDGE-04
2021 WILDFIRE MITIGATION PLAN
SDG&E RESPONSE

Date Received: March 1, 2021
Date Submitted: March 4, 2021

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

The following questions relate to SDG&E's 2021 Wildfire Mitigation Plan (WMP).

QUESTION 1:

On page (p.) 260 of SDG&E's 2021 WMP, SDG&E states:

> Upon completion of prescribed actions necessitated by the CMP [Corrective Maintenance Program] inspections, SDG&E conducts an audit to ascertain the effectiveness of the inspections. This audit is managed by SDG&E's Operational and Engineering managers, who are the ones responsible in each of the districts. This process also allows field supervisors to evaluate the inspectors and ensure they are all aligned with the Company's protocols and procedures.

Regarding these audits:

a) Please clarify whether SDG&E's reported 1.5% audit rate means sampling 1.5% of inspections within each inspection program, or is applied by sampling the entirety of the CMP.

b) How does SDG&E address any issues or problems with prior inspections identified through its audit program?

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 4, 5, and 7. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 1:

a. The audit rate is applied to all inspections related to General Order (GO) 165.

b. Once an issue is identified, SDG&E enters the issue accordingly into its inspection and maintenance database for follow-up.

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QUESTION 2:

Regarding the audits of CMP inspections noted in the previous question, please provide the following information for each program included within the CMP separately:

a) State the actual number of audits performed in 2020,

b) State the number of issues identified through audits performed in 2020,

c) Describe the types of issues identified through audits performed in 2020, and

d) State the number of outstanding issues that were identified through audits performed in 2020.

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 4, 5, and 7. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 2:

a. 981

b. 41

c. Additional conditions were found during the audits that ranged from vegetation and CIP conditions, as well as conditions related to the pole itself.

d. 24

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QUESTION 3:

In Table 12 included in SDG&E's 2021 WMP filing, SDG&E reports that actual spend in 2020 capex for strategic undergrounding was $38.85 million for 15.58 line-miles installed in 2020, and forecasts $120.26 million for 25 line-miles in 2021 and $197.2 million for 80 line-miles in 2022. This results in a unit cost per line-mile of $2.49 million in 2020, $4.81 million in 2021, and $2.46 million in 2022.

a) Please provide any available workpapers substantiating the actual and forecast spend from SDG&E's 2021 WMP for the strategic undergrounding program discussed above.

b) Please explain the significant variance in unit cost between 2020, 2021, and 2022, discussed above.

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 4, 5, and 7. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 3:

a. Please see attached workpaper, "CalPA-SDGE DR4 Q3." In preparing the response to this data request, SDG&E discovered inadvertent errors in the values for the Strategic Undergrounding initiative provided in Appendix B, Table 12 of SDG&E's 2021 WMP Update. Please see "Attachment B – WMP Tables 1-12_Revised 03-04-2021.xlsx," which shows the corrected actual mileage for 2020 and forecast for 2021 and 2022.

b. The variance in unit cost between 2020, 2021, and 2022 is due to the variation in the volume of construction and engineering and design costs. The engineering and design required for the underground jobs occurs months before construction and may be reflected in the costs of the year prior to when it is energized. In addition, to the extent pre-construction activities begin in a year prior to the year it is forecasted to be energized, those costs would also show up in the year prior to when it is energized. For example, in 2021, SDG&E forecasts 25 miles of energized lines, however, the forecasted costs of $120.26M in 2021 reflects the design and engineering for the increase in scope for 2022.

   For 2020, the $38.83M value is based on actual spend. This value is more refined compared to the rough estimates considered for 2021 and 2022 because it is based on actual design, engineering, and project specific conditions and requirements.

   For 2021 and 2022, the estimates are based on unit cost value and fixed mileage target rather than actual project specific conditions and requirements. In addition, the overall

forecast budget value is not solely related to the target miles to be energized for the year. Rather it also includes remaining mileage design, mileage to be energized, mileage design for next year, and early construction for next year's mileage goal.

Other factors that resulted in cost variation from the 2020 actual values versus the 2021 and 2022 estimates are due to scopes being high level and still subject to change depending on field conditions encountered during surveys, field walks, as-builts verifications, potholing and Geotech explorations, and actual construction.

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QUESTION 4:

In Table 12 included in SDG&E's 2021 WMP filing, SDG&E reports that actual capex spend for covered conductor installation was $1.798 million for 1.9 line-miles installed in 2020, and forecasts $55 million for 20 line-miles in 2021 and $96 million for 60 line-miles in 2022. This results in a unit cost per line-mile of $0.95 million in 2020, $2.75 million in 2021, and $1.6 million in 2022.

a) Please provide any available workpapers substantiating the actual and forecast spend from SDG&E's 2021 WMP for the covered conductor installation program discussed above.

b) Please explain the significant variance in unit cost between 2020, 2021 and 2022, discussed above.

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 4, 5, and 7. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 4:

a. The actual and forecast spend from the 2021 WMP for covered conductor installations are shown in workpaper titled "CalPA-SDGE DR4 Q4 and Q5.xlsx."

b. The variance in unit cost between 2020, 2021, and 2022 is due to the fact that costs were split into two components – construction and design. The construction component includes labor, material, equipment, and other support services (e.g., traffic control, dedicated fire watch, helicopter, and vegetation management) that are necessary to support a project while in construction. These construction costs are accumulated and directly relate to the miles of line being hardened each year. The design cost component includes the engineering, design, project management, and various other resources necessary to complete a project from inception to close-out. Most of these design costs (approximately 90%) are expended prior to a project going into construction.

   To ensure a sufficient number of projects are "construction ready" for the following year, SDG&E designs sufficient work to meet its construction target and typically includes approximately 30% contingency. The per unit costs shown are averages and can fluctuate significantly from project-to-project depending on the location of the work, land rights, environmental constraints, and work methods used to build the project. The time of year work is performed can also significantly affect construction costs. For example, in 2020 SDG&E installed approximately 2 miles of covered conductor on a line with

good bucket truck access and only required about half of the poles to be replaced as half of them were already steel. When developing its forecasted spend, SDG&E typically assumes most poles will need to be replaced. On this same project, SDG&E is still in the close-out process of the project and all costs have not yet been realized. The per unit construction costs were relatively low compared to SDG&E's traditional hardening efforts, but these costs are expected to increase as SDG&E expands the use of covered conductor, as can be seen in the higher per unit construction and design costs in the estimates for 2021 and 2022.

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QUESTION 5:

In Table 23 of Appendix A of SDG&E's 2020 WMP, SDG&E forecast a total 2020-2022 spend for Distribution Overhead Fire Hardening of between $84.96 million and $127.44 million.

In Table 12 included in SDG&E's 2021 WMP, SDG&E states that actual spend in 2020 on capex for the distribution overhead system hardening (Bare Conductor Hardening) program was $138.38 million, and forecasts spending $92 million in 2021 and $5 million in 2022, for a total of $235.38 million.

a) Do these two line items refer to the same program?

b) If the answer to part (a) is no, please explain how the programs represented by the two line items above, differ.

c) If the answer to part (a) is yes, please explain why SDG&E's 2021 WMP forecast for Distribution Overhead Fire Hardening is nearly double the high scenario for total spend for the same in SDG&E's 2020 WMP.

d) Please provide any available workpapers substantiating the actual and forecast spend from SDG&E's 2021 WMP for the Distribution Overhead Fire Hardening program.

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 4, 5, and 7. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 5:

a. Yes.

b. n/a

c. The 2021 WMP forecast for the Distribution Overhead Fire Hardening is more because of the significant increase in mileage from the 2020 WMP filing. In the 2020 WMP, SDG&E estimated hardening approximately 99.5-149.3 miles between the years of 2020-2022. In the 2021 WMP, the hardening estimate has increased to approximately 204.5 miles from 2020-2022.

d. The actual and forecast spend from the 2021 WMP for Distribution Overhead Fire Hardening Program are shown in workpaper titled "CalPA-SDGE DR4 Q4 and Q5.xlsx."

For the 2021 WMP for Distribution Overhead Fire Hardening program, SDG&E's actual and estimated costs were split into two components – construction and design. The construction component includes labor, material, equipment, and other support services (e.g., traffic control, dedicated fire watch, helicopter, and vegetation management) that are necessary to support a project while in construction. These construction costs are accumulated and directly relate to the miles of line being hardened each year. The design cost component includes the engineering, design, project management, and various other resources necessary to complete a project from inception to close-out. Most of these design costs are expended prior to a project going into construction (approximately 90%).

To ensure a sufficient number of projects are "construction ready" for the following year, SDG&E designs sufficient work to meet its construction target and typically includes approximately 30% contingency. The per unit costs shown are averages and can fluctuate significantly from project-to-project depending on the location of the work, land rights, environmental constraints, and work methods used to build the project. The time of year work is performed can also significantly affect construction costs. In 2020 for example, a large portion of the costs are related to design because of the 100 miles being constructed in 2021. However, in 2021, SDG&E expects a significant reduction in costs related to design because it is planning to harden only 5 miles in 2022.

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QUESTION 6:

On p. 249 of SDG&E's 2021 WMP, SDG&E states that in order to improve the efficiency of assessing drone inspection imagery, it is developing "intelligent image processing models now [including] 25 models detecting 15 asset variations and 12 damage conditions within a range of 65-97% accuracy."

a) How does SDG&E validate the accuracy of these models in detecting the asset variations or damage that they are designed to detect?

b) Does SDG&E intend to audit model outputs on an ongoing basis in order to ensure that the models remain effective? If so, please explain how and how frequently.

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 4, 5, and 7. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 6:

a. First, SDG&E utilizes the knowledge and experience of its Qualified Electrical Workers (QEW) to help build the model; teaching the machine how to identify different types of equipment and assets on the pole. SDG&E then runs the models against imagery collected through our drone program and a Qualified Electrical Worker/Journeyman Lineman reviews the "findings" from the models to validate whether it accurately detected the asset type and potential damage. That information is then used to continue to refine and improve the models.

b. Once the model is within an acceptable range of accuracy, it would be ready to deploy against any new imagery. Any potential damage to a facility identified by the model(s) would be sent to a QEW for further evaluation and/or repair. If the model inaccurately identified an issue, then the QEW would provide that information back to SDG&E's technical team. And since repairs nearly always require field work, the intent would be that the models would constantly be validated in this manner to confirm their effectiveness.

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QUESTION 7:

Regarding SDG&E's pilot program using drone assessment of distribution and transmission infrastructure, on p. 249 of SDG&E's 2021 WMP, SDG&E states:

> SDG&E completed flights and assessments of 37,310 distribution poles in Tier 3 of the HFTD. As SDG&E gained experience through the pilot program, efficiencies in flight planning, customer outreach, and image collection and review were gained over the approximate 15-month schedule for completion of flights. Costs were reduced by 50% from an average of $1,000/pole to $500/pole. With further modifications to the program, SDG&E is working to decrease cost impacts as it expands the program to Tier 2 of the HFTD. There are approximately 44,000 distribution facilities in Tier 2 of the HFTD and SDG&E plans to perform flights and assessments on half of those facilities in 2021 and the remainder in 2022 based on the prioritization discussed above.

In Table 12 of SDG&E's 2021 WMP, SDG&E reports actual spend in 2020 of $15.9 million in capex and $52 million in opex. For the years 2021 and 2022 SDG&E has forecast $13.6 million in capex and $35.36 million in opex, and $11.21 million in capex and $28.66 million in opex respectively.

a) Please provide any available workpapers substantiating the actual and forecast spend from SDG&E's 2021 WMP for the drone inspection program discussed above.

b) Please provide any available workpapers substantiating the cited reduction in average cost from $1,000/pole to $500/pole.

c) Table 12 indicates SDG&E inspected 37,310 poles by drone in 2020, and forecasts inspecting 22,000 poles in 2021 and 22,000 poles in 2022. Using these figures to calculate a unit cost per inspection results in $1,392 for 2020, $1,607 in 2021, and $1,303 for 2022, including *only* opex costs. Please explain the variance between these unit cost figures and the estimated unit cost of $1,000/pole and $500/pole cited above.

d) On page 249 of the WMP, SDG&E indicates the same scope of work for its drone inspection program in 2021 and 2022, inspecting 22,000 distribution poles in HFTD Tier 2. Please explain the variance in opex forecasts for 2021 and 2022 in Table 12.

e) Explain and provide any available workpapers substantiating what is included in the $15.9 million of actual capital expenditures in 2020 indicated in Table 12.

f) Explain and provide any available workpapers substantiating what is included in the $24.8 million of forecast capital expenditures in 2021 and2022 indicated in Table 12.

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 4, 5, and 7. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 7:

a. First, the costs identified include the cost for follow-up repair work, not only the cost of flights and assessments. For 2020, the actual costs for flights and assessments of the approximately 30,000 poles completed in 2020 was $24.2M. However, this also included a substantial effort to fly additional poles on United States Forest Service and State Parks land, along with several customer properties, that SDG&E was unable to complete due to landowner authorizations, constraints associated with environmentally sensitive areas, or safety/security issues. The actual engineering and repair costs for opex were $27.7M. This yielded a total opex cost for flights, assessments and repairs of $52M in 2020. For capex, costs included approximately $3M of investments in technology needed to upload and assess imagery as well as build intelligent image processing models discussed in the response to Question 6 above. Capex costs also included 385 pole replacements at a cost of approximately $12.9M, for a total capex cost of $15.9M.

   Note that SDG&E is still in the process of completing repairs identified in 2020 in the Tier 3 HFTD. The issues remaining to be repaired in 2021 as part of the Tier 3 HFTD pilot program are shown below.

Total Issues	Total # Issues To Be repaired in 2021	Approximate Cost to Complete
Total Emergency Issues	*0*	*0*
Total Veg Issues	*373*	*$56,000*
Total CIP / Customer Issues	*110*	*$33,000*
Total Issues with Engineering Required (non-pole replacement)	*499*	*$2.5M*
Total Issues - No Engineering Required	*1705*	*$4.2M*
Total Pole Replacements	*356*	*$7.1M*

Below is a high-level overview of the annual direct costs included for our 2021 and 2022 drone work in the Tier 2 HFTD only.

Description	Number of units per year	Estimated Cost Per unit	Total Estimated Direct Cost
Flights/Assessments	22,000 distribution poles	$450	~$10 M
Infraction rate	20%		
Total Issues	4400		
Total Emergency Issues	44	$1,000	$44,000
Total Veg Issues	572	$150	$85,800
Total CIP / Customer Issues	308	$300	$46,200
Total Issues with Engineering Required (non-pole replacement)	508	$7,500	$4.3 M
Total Issues - No Engineering Required	2,420	$4,000	$9.7 M
*Total Pole Replacements**	475	$20,000	$9.5 M

*Costs for pole replacements are tied to capex cost estimates

As shown, the costs are dependent on the actual costs from our flight/assessment vendors, the number of infractions identified and the costs for repair. These costs are not always predictable and are contingent on production rates of the field teams, the number of repairs needed, and the complexity of the repair.

b. This information was derived by reviewing invoice information from the vendors that provided drone, project management and QEW support for the flights and assessments during the 2019-2020 drone pilot program period. For operations completed in 2019, crews collected an average of approximately 7 poles/crew/day at an average cost of $858/pole. Of the vendors that provided drone operations in 2019, one of the vendors that provided the majority of the drone teams, had a cost per pole at approximately $1030/pole while the combined average for the other vendors was $673/pole. SDG&E eliminated the highest cost vendor at the end of 2019 and, for 2020, production rates increased to approximately 11 poles/crew/day at an average cost of $503/pole. Please note that this cost per pole does not include additional costs for program management, safety support, environmental, customer outreach and technology costs that were necessary to complete and track the flights and assessments safely and in compliance with all requirements. Those costs added an average of $125/per pole.

The lower production rate and resulting higher cost per pole in 2019 appear to be a result of several factors: the complexity of distribution poles, such as limited clearance for operations (due to vegetation, roadways, and proximity to residences), additional coordination for property access, and the time it took to understand the process of

collecting imagery that met SDG&E requirements. As the drone vendors and SDG&E gained more experience and processes and procedures in place, the production rates increased and so did the cost per pole.

c. Please refer to our response in item (a) above. The opex forecast includes costs to repair any infractions identified during the flights and assessments.

d. Please refer to our response in item (a) above. The opex forecast includes costs to repair any infractions identified during the flights and assessments.

e. Please refer to our response in item (a) above. The capex forecast includes costs of pole replacements and technology investments associated with intelligent image processing and systems to manage program processes.

f. Please refer to our response in item (a) above. The capex forecast for 2021 and 2022 includes an estimated 475 pole replacements per year, along with continued investment in technology of approximately $3M per year.

QUESTION 8:

a) Does SDG&E perform climbing inspections of transmission structures in HFTD areas?

b) Has SDG&E performed climbing inspections of transmission structures in HFTD areas at any time since the beginning of 2015?

c) If the answer to part (a) is yes, please identify where these inspections are included within SDG&E's 2021 WMP.

d) If the answer to part (a) is yes, describe the inspection schedule for climbing inspections, disaggregated by voltage class and HFTD tier.

e) If the answer to part (a) is no, please indicate which alternative inspection methods SDG&E employs for transmission structures and why SDG&E has determined that the deployed alternatives are more effective than climbing inspections.

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 4, 5, and 7. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 8:

a. Yes.

b. Yes.

c. SDG&E transmission climbing inspections are not a separate inspection or patrol program but instead are used to supplement existing inspection programs. These inspections were noted as one of the types performed on an as-needed basis in the table provided within the Transmission System Inspection section of the 2020 WMP (Section 5.3.4.2). In the 2021 WMP Update, SDG&E provided further detail on the transmission inspection and patrol programs discussed in its 2020 submission, however, there is not a separate section for climbing inspections due to their as-needed, supplemental nature.

d. Climbing inspections are performed on a routine basis only for the Sunrise Powerlink after its energization in 2012; they are performed on an as-needed basis for the rest of the system. For the as-needed basis, there is no set cycle but rather these inspections are used to supplement inspections when further investigation or inspection may be required. For the Sunrise Powerlink, a minimum of 10% of the lattice towers on the tielines (42 towers) have climbing inspections completed on an annual basis. These inspections fall both inside and outside of the HFTD with variations to the structure counts in each region

completed each year. Below is a summary table for voltage class and HFTD tier for the Sunrise Powerlink's lattice towers.

	Non HFTD	Tier 2 HFTD	Tier 3 HFTD
230kV	0	23	61
500kV	110	70	159

e. n/a

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QUESTION 9:

a) Does SDG&E perform climbing inspections of distribution structures in HFTD areas?

b) Has SDG&E performed climbing inspections of distribution structures in HFTD areas at any time since the beginning of 2015?

c) If the answer to part (a) is yes, please identify where these inspections are included within SDG&E's 2021 WMP.

d) If the answer to part (a) is yes, describe the inspection schedule for climbing inspections, disaggregated by voltage class and HFTD tier.

e) If the answer to part (a) is no, please indicate which alternative inspection methods SDG&E employs for distribution structures and why SDG&E has determined that the deployed alternatives are more effective than climbing inspections.

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 4, 5, and 7. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 9:

a. No.

b. No.

c. n/a

d. n/a

e. Drone inspections are utilized as a safer and more efficient alternative to climbing distribution structures. The drone photos are able to capture views of the equipment that would not be possible with climbing inspections, such as a top-down view of the pole.

QUESTION 10:

How often does SDG&E measure and collect satellite data on greenness of vegetation?

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 4, 5, and 7. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 10:

SDG&E collects satellite data on greenness of vegetation (grasses) daily.

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QUESTION 11:

In late 2020 PSPS post-event reports,[1] SDG&E reported that several SCADA switches were non-communicative, leading to customers being de-energized without notification.

a) How does SDG&E intend to address this issue so that non-communicative SCADA switches do not lead to future instances of customers being de-energized without notification?

b) Does SDG&E's 2021 WMP include any plans for inspection or testing to ensure that SCADA switches that are currently installed are functional? If so, please identify where this is addressed in SDG&E's 2021 WMP.

c) SDG&E's 2021 WMP, pp. 189-191, describes the SCADA capacitors program, which is intended to replace existing non-SCADA capacitors with a more modern SCADA switchable capacitor. What steps is SDG&E taking to ensure that newly installed SCADA capacitors are fully functional?

d) Does SDG&E intend to take other actions in 2021 or 2022 to validate that existing SCADA capacitors are functioning as intended?

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 4, 5, and 7. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 11:

a) In the referenced tables in SDG&E's PSPS post-event reports, devices 450-88R, 728-690, and 920-735AE were not operated remotely, leading to customers being de-energized without notification. The rest of the listed devices from the events on 12/2, 12/3, and 12/24 were operated due to unexpected impacts from weather. Overall, SDG&E has maintained a very reliable 98% communication rate in its fleet of SCADA enabled devices. During the 2020 PSPS season and moving forward, SDG&E has instituted a process to minimize customer impacts of devices being inoperable. The process includes identifying devices out of communication and identifying bypassed SCADA switches prior to the start of an event. Any devices that may impact SDG&E's ability to PSPS will have mitigation measures applied, which include stationing someone to manually switch the device or adjusting the forecasted customer notification lists.

[1] SDG&E's November 26 – December 9, 2020 post-event report, p. 38; and SDG&E's December 23-24, 2020 post-event report, p. 12.

b) While SDG&E's 2021 WMP does not explicitly mention SDG&E's plans for testing SCADA switches, internal operating procedures call for testing SCADA switches in the fire area annually. The full process for inspection and testing of SCADA switches is described in SDG&E's maintenance procedures. This procedure provides the guidelines for uniform inspection and maintenance performed at least every six years, and battery replacements every three years on all line SCADA devices.

c) Newly installed SCADA capacitors will follow SDG&E's current standard practice for new installations of SCADA equipment. SCADA capacitors upon installation follow a standardized operational test procedure involving tests of local and remote operations, fault indications, and alarm systems. Once in service, SDG&E will follow maintenance procedures to ensure that uniform inspection and maintenance are performed on a routine basis.

d) SDG&E plans to follow the existing maintenance procedures to ensure SCADA capacitors are functioning as intended. Currently there are no plans to alter the existing practices set in place.

QUESTION 12:

In the WMP workshops on February 22-23, 2021, SDG&E stated that it is developing a PSPS risk model to quantify the risks of PSPS events. Regarding this risk model:

a) What is the current name of the risk model, if existing?

b) What data sources is SDG&E using to develop this risk model?

c) What safety risks to the public will this risk model include?

d) Will this risk model include economic costs to customers caused by PSPS events? If so, please describe which costs will be addressed.

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 4, 5, and 7. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 12:

a) The name of the risk model is Wildfire Next Generation System (WiNGS).

b) Data sources used are outlined in 2021 WMP Update, Section 4.5.1.4 and include:

   a. Historic ignitions
   b. Wind speeds
   c. Tree strike
   d. Hardening status
   e. Vegetation density
   f. Circuit Health Index
   g. Conductor age
   h. Conditional impacts from the Wildfire Risk Reduction Model (WRRM)
   i. Annual Red Flag Warning (RFW) days
   j. Historic wind speed patterns
   k. Number of customers
   l. Types of customers

c) This model considers safety risks that can arise from outages such as carbon monoxide poisoning as a result of misuse of generators, potential fires that could start from candles, potential injuries related to vandalism/theft, and potential injuries/fatalities due to medical conditions that can be impacted by outages. The assessment does not quantify each one of these examples of safety incidents but rather uses them to come up with a general assessment of the potential safety impacts of PSPS. At this point, subject matter

expert (SME) input is used to estimate safety impacts in terms of serious injuries or fatalities which is the natural unit used to quantify safety risks in the Risk Quantification Framework. It is important to note that this assessment is at the early stages of development and will continue to evolve with input from stakeholders.

d) Yes, the model includes SME estimates of financial impacts to customers per event which includes potential lost business and inconvenience resulting from loss of power (e.g., having to buy meals instead of cook at home; missed appointments, etc.). As mentioned above, these estimates are preliminary and will continue to evolve with inputs from stakeholders. Details about the PSPS assessment can be found in Section 4.2.b and 4.2.c of the 2021 WMP Update.

QUESTION 13:

How do your criteria for determining whether to implement a PSPS event differ for circuit-segments where covered conductor has been installed, compared to circuit-segments with bare overhead conductor?

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 4, 5, and 7. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 13:

SDG&E has not yet accumulated sufficient data to determine exactly how PSPS criteria will differ on circuit segments that consist entirely of covered conductor versus bare conductor, though SDG&E does anticipate higher wind speed tolerances in these areas.

PUBLIC ADVOCATES OFFICE DATA REQUEST: CALPA-SDGE-04
2021 WILDFIRE MITIGATION PLAN
SDG&E RESPONSE

Date Received: March 1, 2021
Date Submitted: March 4, 2021

QUESTION 14:

a) Are you aware of any plans to change or replace your current criteria for implementing PSPS events on covered conductor circuit-segments, in the future? If so, to your knowledge, when will SDG&E implement its modified or new criteria?

b) If the answer to (a) is yes, what evidence or considerations are you using to develop new criteria or modify existing criteria?

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 2, 4, 5, and 7. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 14:

SDG&E's experience with covered conductor is still in its early stages. In 2020, the first installation of covered conductor was completed, but only 1.9 miles. In 2021 and 2022, SDG&E will ramp up with 80 miles of covered conductor. These next two years may provide some experience with covered conductor performance in high wind events. But it really depends on how much of the weather events coincide with where the covered conductor is installed.

Based on the lessons learned from weather events and PSPS events, SDG&E will gain more understanding about the resiliency of covered conductor in high wind conditions. Though the specific details have not yet been determined or finalized, it is anticipated that the implementation of PSPS will be impacted by the installation of covered conductor and other hardening efforts.