

**PUBLIC ADVOCATES OFFICE DATA REQUEST:
CALADVOCATES-SDGE-2023WMP-12
SDG&E RESPONSE**

**Date Received: April 24, 2023
Date Submitted: April 27, 2023**

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

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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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QUESTION 1

SDG&E’s response to question 2(c) of data request CalAdvocates-SDGE-2023WMP-07 discusses a “Vegetation Tree Contact Risk Model with the San Diego Supercomputing Center.” SDG&E’s response to question 3 of data request CalAdvocates-SDGE-2023WMP-07 discusses “a predictive model to prioritize inspection schedules” that was developed by Logic 20/20.

- a) Are the two models discussed above the same model?

- b) If the answer to part (a) is “no”, please describe the differences between the two models.

RESPONSE 1

a) No. The two models discussed above are different.

b) Vegetation Tree Contact Risk Model with the San Diego Supercomputing Center:
The goal of this model is to predict the likelihood of tree-contact caused primary outages by leveraging tree variables collected during vegetation operational activities. This approach is meant to inform vegetation outage risk based on forecasted weather conditions. Thus, the positive observations used to train the predictive model are outage events caused by trees. The model is trained and tested to predict the likelihood of an inventory tree that might cause an outage given the tree related independent variables including location and weather conditions.

The vegetation priority condition model with Logic 20/20:
The goal of this model is to predict the likelihood a tree might be identified as a memo (priority) or reliability (hazard) tree by leveraging similar variables collected during vegetation operational activities including location and weather conditions. This approach is to provide data points that can assist operational activities, such as inspections and tree trim. Thus, the positive observations used to train the model are the inventory trees that had such conditions in the past. The model is trained and tested to predict the likelihood an inventory tree might have such conditions in the next cycle.

Both teams are currently exploring new variables and methods that can improve the performance of the first iteration of the model.

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QUESTION 2

SDG&E states in response to Question 11(a) of data request CalAdvocates-SDGE-2023WMP-07, “In 2023, SDG&E is evaluating the methods and efforts to process the remaining circuits in the HFTD so that LiDAR data can be integrated into risk modeling.”

- a) When does SDG&E expect to complete the abovementioned evaluation of methods and efforts?
- b) When does SDG&E expect to complete the abovementioned processing of remaining circuits in the HFTD?
- c) When does SDG&E expect to integrate LiDAR data into risk modeling per the above?

RESPONSE 2

SDG&E objects to the request on the grounds set forth in General Objection Nos. 2, 3, and 9. Subject to and without waiving the foregoing objections, SDG&E responds as follows:

- a) SDG&E’s partner, Sharper Shape, has completed the LiDAR flights in 2022. To identify the trees with strike potential, the imagery data points in HFTD were processed and completed in 2022, and SDG&E is working with another vendor, Logic20/20, to evaluate and validate codes of this output. Field validation is expected to occur in Q2, 2023.

One other user case of the LiDAR imagery data points identified in 2022 was to calculate the tree density data variable. This use case was conducted as a proof of concept, and the cloud data points from 10 HFTD circuits were processed in 2022. SDG&E is also working with Logic20/20 to evaluate the efforts and use cases for processing the rest of the HFTD circuits for generating the tree density data variable. This is expected to be completed by Q4, 2023.

- b) This timeframe is yet to be determined.
- c) Based on the first iteration of the tree-condition predictive model, after integrating the data variable of tree-strike potential, the preliminary results show that this data variable does not have a significant improvement on the performance of the model. More iterations are needed. However, this data variable is critical for situational awareness. Other use cases of this data output are under evaluation, and the final time frame is yet to be determined.

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QUESTION 3

SDG&E states in response to Question 11(b) of data request CalAdvocates-SDGE-2023WMP-07:

SDG&E is exploring the use of satellite imagery to assess the power of satellite data to inform near-real time risk, planning, monitoring, and operations across the entire service territory with preliminary use cases in vegetation encroachment, tree-strike, and change detection (e.g., per-pole and per-span risk). This proof of concept will explore the potential for a one-stop-shop for multiple Enterprise use cases with state-of-the-art, cost-effective, feasible, and scalable satellite data and workflows.

- a) When would SDG&E anticipate developing the abovementioned “one-stop-shop”?
- b) Please list and describe the “multiple Enterprise use cases” mentioned above.
- c) Please describe the “satellite data and workflows” mentioned above.

RESPONSE 3

SDG&E objects to the request on the grounds set forth in General Objection Nos. 2, 3, and 9. Subject to and without waiving the foregoing objections, SDG&E responds as follows:

a) SDG&E is currently conducting a proof of concept for the use cases of satellite imagery and features. The prototype is anticipated to be completed in Q2, 2022 and will ingest, store, visualize and analyze the satellite data. Compared to LiDAR data, current satellite data has some value limitations, such as radial clearance. The accuracy of the satellite data output, such as predicted tree height, is yet to be evaluated. Field validation is expected to occur in Q2, 2023. Thus, final implementation of these data points is yet to be determined. Decisions on investment & scaling into production will be determined post-prototype.

- b)
 - Vegetation Encroachment – ~35,000 high priority poles as per PRC 4292 that require 10ft radial clearance down to bare soil which can be identified with Satellite imagery & data.
 - Fuels Modification Program – 50ft+ from base of pole will be captured and analyzed to identify how much vegetation is growing in the surrounding areas. This will help the team and program understand regional vegetation and can further inform the Fuels Modification Program on prioritization & customer safety.
 - Tree-Strike Potential/Identification – Although Satellite can’t measure radial clearance within 4ft (as per PRC 4293), it can still be utilized to infer tree height through models,

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estimate Tree-Strikes, and provide a count of those trees to further inform and update data in the tree-strike inventory.

- Change Detection (NDVI) – Change detection will be run on the 3 use cases listed above.
- Pre & Post Wildfire Season near time captures for first 3 use cases. This can be utilized by the EOC during activations.
- Customer Electrification Attributes – Satellite can be leveraged to gain a better understanding of customer electrification (EVs, solar panels, etc.)

c) Satellite imagery/data is tasked (from Planet /AWS) and sent to Sempra's Cloud environment. In the AWS Cloud environment images/data are stored, machine learning models and insights are created (in SageMaker) and visualized through a User Interface. The data, both in raw form and data products, is then made available in the DataMesh to be consumed by other groups throughout the organization. This data can feed risk models, field applications, etc., and can be consumed to be utilized for further machine learning models and insights.

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QUESTION 4

SDG&E states in response to question 2(a) of data request CalAdvocates-SDGE-2023WMP-08 that “a compressed timeframe to complete the patrols in the entire HFTD before September 1 poses challenges. The new off-cycle patrol is an 8-month schedule based on the findings from the Logic 20/20 model and will require resource allocation adjustments.”

- a) What types of resources, referenced in the quote above, need adjusting (e.g., dollars, labor, etc.)?
- b) Please describe the nature of the abovementioned adjustments.
- c) When does SDG&E expect to complete the abovementioned adjustments?
- d) Will the abovementioned “resource allocation adjustments” lead SDG&E to shift resources away from other initiatives or activities?
- e) If the answer to the previous part is “yes,” please identify the initiatives/activities from which SDG&E will move resources and identify the resources involved.

RESPONSE 4

SDG&E objects to the request on the grounds set forth in General Objection Nos. 2, 3 and 9. Subject to and without waiving the foregoing objections, SDG&E responds as follows:

- a) Resources here refers to contractor labor; the number of inspectors needed to complete the off-cycle HFTD patrols on schedule.
- b) The adjustments include assigning contracted pre-inspectors from a routine-scheduled VMA activity to an off-cycle VMA patrol.
- c) The adjustments are made monthly when the off-cycle VMA patrols are scheduled.
- d) No, pre-inspection resources are sufficient to allow flexibility for these reassignments and do not negatively impact the ability to complete other initiatives and activities.
- e) N/A

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QUESTION 5

SDG&E states in response to question 3(e) of data request CalAdvocates-SDGE-2023WMP-08 that “SDG&E anticipates that these additional activities [pre-PSPS and adverse weather condition and event patrols] will remain ad hoc as conditions occur”.

- a) To clarify, does the above quote mean that there is no point at which inspection activities will become a formal program or initiative (e.g. with set criteria, a budget, targets, etc.)?
- b) If the answer to part (a) is “yes,” please explain why.
- c) If the answer to part (a) is “no,” please explain if or when any of the abovementioned “additional activities” are likely to become a formal program or initiative.

RESPONSE 5

SDG&E objects to the request on the grounds set forth in General Objections Nos. 2 and 3. Subject to the foregoing objections, SDG&E responds as follows:

- a) These activities are addressed in SDG&E’s WMP initiative 8.2.3.8; WMP.496, wherein the overview includes, “Vegetation Management’s static, annual Master Schedule provides a consistent method for planning and managing activities. The system also enables the flexibility for emergency response to unplanned or unscheduled work before, during, and after events such as PSPS, RFW, adverse weather, or a wildfire”.

Such inspections are in addition to detailed inspections and off-cycle patrols and would generally be performed by SDG&E internal Patrollers in Vegetation Management. These additional activities are contingent on situational conditions (i.e., storm, RFW, etc.) that could warrant a pre or post event patrol. Frequency of such events are unpredictable, and therefore not subject to specific plan or schedule. However, SDG&E would anticipate always having the resources to perform these ad-hoc events.

- b) N/A
- c) See a) above

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QUESTION 6

Please provide the following information regarding actual and projected costs for each WMP initiative under Chapter 8.2 (Vegetation Management and Inspections). Each initiative should be a row in the table below:

WMP Initiative Number	Initiative Name	2022 Capital Expenditure (Actual)	2023 Capital Expenditure (Forecast)	2024 Capital Expenditure (Forecast)	2022 Operating Expense (Actual)	2023 Operating Expense (Forecast)	2024 Operating Expense (Forecast)
WMP.494	Detailed Inspection	N/A	N/A	N/A	\$59.78M	\$44.56M	\$44.82M
WMP.497	Fuels Management	N/A	N/A	N/A	\$7.9M	\$7.00M	\$6.5M
WMP.512	Pole Clearing	N/A	N/A	N/A	\$6.1M	\$6.4M	\$7.3M
WMP.501	Clearance	N/A	N/A	N/A	within WMP.494	\$10.2M	\$10.2M

RESPONSE 6

SDG&E objects to the request on the grounds set forth in General Objection Nos. 5, 6 and 9. Subject to and without waiving the foregoing objections, SDG&E responds as follows:

Please see *SDG&E's 2023-2025 Wildfire Mitigation Plan, Table 11, WMP Non-Spatial QDR*. SDG&E provides forecast and actual costs for the four (4) initiatives above. With regard to WMP.494 (Detailed Inspection) this initiative includes the activities of detailed inspections, off-cycle patrol, quality assurance, and tree trimming. The 2023 & 2024 Operating Expense reflect the current forecasting capability of isolation costs specific to the initiatives in the WMP.

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END OF REQUEST