OFFICE OF ENERGY INFRASTRUCTURE SAFETY DATA REQUEST:
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Date Received: May 26, 2023
Date Submitted: June 1, 2023
Date Question 4a Submitted: June 15, 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

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

Regarding SDG&E's Landscape Fuel Modeling Program
Which vegetation, fire, and fuel characteristics landscape fuel modeling mapping program does SDG&E use (e.g., LANDFIRE) to perform its ignition and situational awareness modeling? Which version of this program does SDG&E use? Has SDG&E modified it or added any fuel models?

RESPONSE 1

SDG&E uses Wildfire Analyst with annual updates from Technosylva Fuels program service. The SDG&E fuels models, unlike Landfire and other products, are based on an Object Based Image Analysis (OBIA) that utilizes current orthoimagery, satellite imagery, lidar, MS buildings, Landfire 2019/2020, historical fire perimeters, severity models, and other ancillary data in combination with machine learn techniques to characterize the landscape. The Scott & Burgan (200%) family of fuel models are utilized, along with custom fuel models in urban, road, agriculture, water and timber areas. Also, based on a ML model, Lidar based crown fuel variables were computed for the whole State, a significant advance from actual Landfire canopy variables. It is important to understand that when using this methodology, the fuel model assignments in the territory are not based on pixels, but are based on objects (polygons). The characterization of the fuel models is based on the full fuel models behavior inside the polygon: the individual type of vegetation in one pixel is not considered relevant and the fuel model assignment to each polygon reflects the distribution of the vegetation inside each polygon and the expected fire behavior of that fuel distribution.

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QUESTION 2

Regarding SDG&E's Weather Station Standards

a. SDG&E states on page 302 (8.3.2.4.1) of the Base WMP "…the entire Weather Station Network is on a rotating calibration schedule…" and then goes to state on page 325 (8.3.5.5.4) "All weather stations are calibrated once per year."
   i. Provide the installation and equipment standard that all SDG&E weather stations are installed to, including height from ground, direction of cross-arm, and which side of the pole/tower they are installed on.

   ii. Provide the total number of stations that were serviced annually over the past 3 years, and the maintenance preformed on each station.

   iii. Provide the total number of stations not serviced annually over the past 3 years.

   iv. Provide the estimated life span of each sensor and the replacement cycle for each.

   v. Provide the total number of repair requests initiated, per year, over the past 3 years. Include the time duration from initiation to completion of repair.

RESPONSE 2

a.i. Please see attachments "Weather_Monitoring_System-Q02ai.pdf" and "Weather_Station_Calibration_Training-Q02ai.pdf."

a.ii 2020: 189 of 191 existing stations were calibrated. Two were removed from service due to undergrounding. A total of 31 new weather stations were installed and the calibration cycle for the new stations began in 2021.

2021: 220 weather stations calibrated (all except one newly-installed station).

2022: 221 weather stations calibrated (all except one station).

a.iii Occasionally crews cannot reach a station to calibrate due to access issues (i.e. road washed out). Last year, one station was not calibrated due to such issues.

a.iv. Estimated lifespan of five to ten years, which varies based on environmental conditions. Changes in communications technology or sunset of services can render devices obsolete.

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a.v. Attachment "WeeklyWX_PerformanceLog-Q02av.xlsx" provides basic overview of repair requests, however, more time would be needed to provide actual numbers. Average of one to three repair requests weekly, primarily either sensor or communications issues. Most are resolved within a week or so. Some issues may take months to resolve, such as communications issues due to the loss of a cell tower out of our control.

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QUESTION 3

Regarding SDG&E's Fuel Sampling Program

a. SDG&E states on page 302 (8.3.2.4.2) of the Base WMP that it "…has begun implementing its own fuel moisture network of sensors to augment the existing Remote Automated Weather Stations (RAWS) DFM sensors throughout the county" and then on page 331 (8.3.6.3) states, "In 2023, continue to install DFM sensors on existing weather stations where fuel moisture data is sparse."
   i. Provide a map of SDG&E's Live Fuel Moisture (LFM) and Dead Fuel Moisture (DFM) sampling sites, including the U.S. Forest Service sampling sites utilized.
   ii. Provide a listing of the vegetation types SDG&E samples at each location and number of times per month SDG&E takes vegetation samples.
   iii. Provide the number of DFM sensors that SDG&E will add in 2023, along with their locations.
   iv. Does SDG&E use the National Fuel Moisture Database (or any other publicly accessible location) to store/share its results or derive further information from?

RESPONSE 3

a.i. Please see attachment SDGE_Region_FM_Sites-Q03ai.PNG.

a.ii. SDG&E currently only samples dead fuel moistures, therefore vegetation types are limited to dead and downed small sticks, twigs, leaves, and other vegetative debris. New observations are recorded every 10 minutes, resulting in 144 observations per day and more than 4,000 observations per month at five sites.

a.iii. SDG&E will add three DFM sensors to the following weather station sites in 2023:
Del Dios Highway (lat/lon = 33.03718/-117.16545)
Elfin Forest (lat/lon = 33.07573/-117.19144)
Barona Mesa (lat/lon = 32.97770/-116.78030)

a.iv All SDG&E DFM data is available through MesoWest (https://mesowest.utah.edu/). SDG&E has leveraged the National Fuel Moisture Database to access historical and current LFM data.

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QUESTION 4

Regarding Sensitive Relay Profiles and Settings

a. In response to SDGE-22-24, SDG&E states that 450 protective devices are capable of sensitive relay profiles (SRPs) across 225 circuits. Please provide:
    i. The associated percentage of circuits by mileage covered by these 450 protective devices.
    ii. The associated percentage of circuits within Tier 2 HFTD by mileage covered by these 450 protective devices.
    iii. The associated percentage of circuits within Tier 3 HFTD by mileage covered by these 450 protective devices.
b. SDG&E states on page 233 of the Base WMP that "A study was completed to determine the impact of sensitive relay settings at reducing ignitions from risk events." SDG&E also provides the results from this study in Table 8-29, "Ignition Rate with SRP Enabled" (p. 233).
    i. Provide the internal report or memo that describes the findings from this study.
    ii. If not included in the report or memo, provide separately the steps taken to determine the new settings and an explanation why these settings were found to be the most optimal ones for wildfire protection and customer reliability

RESPONSE 4

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

4.a. Due to how SDG&E's data is structured, the focus and reporting structure is available at the circuit level and not by milage. SDG&E is unable to programmatically pull the requested data, and to provide mileage would require manual analysis for all 450 circuits, which is unduly burdensome given the similar data available below. Below SDG&E has captured similar data to the data requested.

a.i. There are 225 unique circuits covered by the 450 devices.

a.ii. There are 104 total circuits in the HFTD Tier 2 covered by the 450 devices.

a.iii. There are 56 total circuits in the HFTD Tier 3 covered by the 450 devices.

b.i. Please see excel spreadsheet "4b.i_OEIS-P-WMP_2023-SDGE-002.xlsx" in folder.

b.ii. The study provided in Item 4b (i) was not used for the purpose of determining optimal SRP settings but instead was used to quantify the impact that SRP settings have reducing ignition risks. SDG&E has a defined methodology for setting SRP that is used throughout our territory

regardless of device location. SDG&E notes that it has employed the use of SRP as a wildfire mitigation tool for over a decade with minimal complaints from customers, and SRP-caused outages represent a small fraction of overall unplanned outages.

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QUESTION 5

Regarding Covered Conductor Maintenance

Has SDG&E modified any of its inspection or maintenance practices to address covered conductor-related issues? If so, provide a description of these practices, including inspection checklists.

RESPONSE 5

SDG&E has not modified any of its inspection or maintenance practices to address covered conductor-related issues at this time.

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QUESTION 6

Regarding SDG&E's Asset Inspection Program

a. Provide the inspection checklists used for both SDG&E's patrols and detailed inspections.
b. Provide the QA/QC inspection checklists used for asset-related inspections.
c. What items within the inspections checklist, if any, has SDG&E tailored to address wildfire risk-specific concerns? Which of these items differ from the items in the checklist associated with the standard GO 95 inspections?
d. On average, how many detailed inspections are completed by inspectors per day?

RESPONSE 6

a. Inspection checklists and requirements are found in the Corrective Maintenance Program Manual for electric distribution overhead patrols and detailed inspections. (2018 CMP Manual is provided in response folder for additional documentation).
b. QA/QC inspections ended as of 2022 and were replaced with Risk-Informed Drone Inspections. Inspectors currently use the overhead detailed inspection checklists found in the 2018 Corrective Maintenance Program Manual.
c. The overhead condition code template found on pages 46-48 of the Corrective Maintenance Program Manual identify codes under QC cycle (far right hand column). These QC codes were identified as having fire risk potential versus other condition codes associated with standard GO95 inspections.
d. Depending on terrain and location, an average of 20 detailed inspections are completed per day per inspector.

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END OF REQUEST