WILDFIRE SAFETY DIVISION DATA REQUEST: WSD-SDGE-05
2021 WILDFIRE MITIGATION PLAN UPDATE
SDG&E RESPONSE

Date Received: March 19, 2021
Date Submitted: March 24, 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

QUESTION 1:

Provide responses to WSD-SDGE-03 Question 10 regarding SDG&E's Wildfire Risk Reduction Model (WRRM), as follows:

10(a). Please confirm that SDG&E utilized outage data as a proxy for ignition data to train its models (as stated at the 2/22/21 Workshop). If this is not correct, please explain what data sets were utilized.

10(b). How many years of outage data did SDG&E utilize to train its models?

10(c). How many years of outage data did SDG&E utilize to test its models?

10(d). How many events did SDG&E utilize to train its models?

10(e). How many events did SDG&E utilize to test its models?

10(f). Regarding the outage data that SDG&E utilized:

i. Was it possible for SDG&E to determine the exact location of the issue leading to an outage for each outage event?

ii. If it was not possible for SDG&E to determine the exact location of the issue leading

OBJECTION:

SDG&E objects to this request on the grounds set forth in General Objection Nos. 6 and 9. Subject to the foregoing objections, SDG&E responds as follows.

RESPONSE 1:

As discussed on a recent call with the CPUC's WSD team, SDG&E does not recall making a statement at the workshop regarding using outage data to train a model. The early development of the WRRM model was not based on using machine learning approaches so there was no training vs. testing dataset. In 2021, SDG&E will be developing machine learning models for different ignition types, after which SDG&E may have more information to provide regarding training vs testing datasets. SDG&E discussed the use of outage data in its recent efficacy studies during the 2/22/2021 workshops but did not discuss using outage data to train the risk models presented (WRRM and WiNGS).

On 3/22/2021, SDG&E met with the WSD to clarify this request and understood that this question can be rephrased to capture general information about the data that was utilized in WRRM.

The Wildfire Risk Reduction Model (WRRM) was SDG&E's first attempt to quantify the risk associated with equipment related ignitions that could cause a significant wildfire. The effort included collecting any available electric distribution overhead asset data (GIS), failure reports, corrective maintenance data and ignition events. Six distribution overhead asset classes (Dynamic Protection Devices, Fuses, Capacitors, Transformers, Poles and Primary Conductors) were identified that could contribute to wildfire risk and included in the original WRRM development. The associated equipment failure data was comprised of failure reports, outage history and corrective maintenance data. Furthermore, SDG&E also tracked annual counts of ignitions by ignition source which included electric distribution equipment categories. These reported statistics, like the reliability data, provided a baseline of typical counts of ignitions by asset class used to develop the ignition ratios in the WRRM.

The mentioned datasets available did not allow for precise estimation of failure or ignition rates per asset, so a relative likelihood model was formulated. SDG&E subject matter experts provided ranked relative likelihoods of the all the asset types that could produce a fire-capable failure (i.e., 50ft Class 3 cedar pine pole, #6-3 bare stranded conductor, 50 kVA transformer). Each of the asset types within an asset class (i.e., poles, conductor, transformer) was assigned a fraction, scaled from 0 to 1, that relates to the relative likelihood that an asset of that type will fail. This relative failure likelihood was incorporated with the ignition ratio to reach the total expected annual number of fires by asset class. This calculation of the ignition ratio, together with the expert-based relative failure rates, provided a reasonable estimate of the annual ignition rate for each asset class.

In response to questions regarding the amount of data that was used, it's important to note that SDG&E is working on updating the WRRM model this year, so this information will change based on those updates. The initial WRRM model included ~600 incidents from SDG&E's fire history dataset spanning ~9 years. In addition to this ignition data and as described above, the number of asset-related data used varied depending on the assets but overall ~4,000 data points were used across the different assets that were evaluated in the model. The years of data available was also variable but all failure rates in the model were estimated on an annual basis.