

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



January 8, 2021

Wildfire Safety Division Evaluation of San Diego Gas & Electric Company's First Quarterly Report

The Wildfire Safety Division (WSD) finds that San Diego Gas & Electric's (SDG&E) First Quarterly Report (QR) is Insufficient. WSD reviewed SDG&E's QR in accordance with guidance set out in Resolution WSD-002, Resolution WSD-005, and the WSD letter titled "Guidance on the Remedial Compliance Plan & Quarterly Report Process Set Forth in Resolution WSD-002," provided to electrical corporations on July 17, 2020.¹

1. Introduction

These findings act on the First Quarterly Report (QR) submitted by SDG&E on September 9, 2020. QR submittals were required in the Wildfire Safety Division's (WSD) "Conditional Approval" of SDG&E's 2020 Wildfire Mitigation Plan (WMP). QRs were required to address all Class B deficiencies identified by the WSD in its review of SDG&E's 2020 WMP. In this document, the WSD issues its determination of whether SDG&E's QR is "Sufficient" or "Insufficient." In accordance with the letter titled "Guidance on the Remedial Compliance Plan & Quarterly Report Process Set Forth in Resolution WSD-002" (RCP & QR Guidance Letter) issued by the WSD on July 17, 2020, if a QR is deemed "Sufficient" no further action related to the QR is required; however, in the event that a QR is found "Insufficient," the WSD may provide further direction on the actions SDG&E must take to deliver a sufficient QR. The WSD may also recommend potential enforcement action.

The WSD finds that SDG&E's QR is Insufficient. SDG&E was required to satisfy the Class B deficiencies shown in Table 1 and set forth in Resolution WSD-002 and Resolution WSD-005.

¹ https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Divisions/WSD/WSD%20Guidance%20Statement%20on%20RCP%20QP%2020200717.pdf

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Table 1: Class B Deficiencies from SDG&E's 2020 WMP

| Deficiency/Condition No. | Class | Deficiency Title | Sufficiency Finding |
|--------------------------|-------|---|-----------------------|
| Guidance-1 | B | Lack of risk spend efficiency (RSE) information | Insufficient |
| Guidance-2 | B | Lack of alternatives analysis for chosen initiatives | Insufficient |
| Guidance-4 | B | Lack of discussion on PSPS impacts | Insufficient |
| Guidance-5 | B | Aggregation of initiatives into programs | Insufficient |
| Guidance-6 | B | Failure to disaggregate WMP initiatives from standard operations | Sufficient |
| Guidance-7 | B | Lack of detail on effectiveness of "enhanced" inspection programs | Insufficient |
| Guidance-9 | B | Insufficient discussion of pilot programs | Insufficient |
| Guidance-10 | B | Data issues - general | Deferred ² |
| Guidance-11 | B | Lack of detail on plans to address personnel shortages | Sufficient |
| Guidance-12 | B | Lack of detail on long-term planning | Sufficient |
| SDGE-1 | B | SDG&E reports a high number of ignitions related to balloon contact. | Sufficient |
| SDGE-2 | B | SDG&E reports a high number of ignitions related to vehicle contact. | Sufficient |
| SDGE-3 | B | SDG&E fails to explain how it plans to incorporate lessons learned into updates of its risk models. | Insufficient |
| SDGE-4 | B | SDG&E does not provide sufficient detail on strategic undergrounding pilots. | Insufficient |
| SDGE-5 | B | SDG&E does not provide sufficient detail on need for regulatory assistance. | Sufficient |
| SDGE-6 | B | SDG&E does not provide sufficient detail on plans for reinforcing transmission lines. | Insufficient |

² The WSD is separately assessing the quality of geographic spatial information (GIS) data submissions required by Guidance-10, which will be addressed in GIS data quality control (QC) reports for each respondent electrical corporation.

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| Deficiency/Condition No. | Class | Deficiency Title | Sufficiency Finding |
|--------------------------|-------|--|---------------------|
| SDGE-7 | B | Potential redundancies in vegetation management activities. | Insufficient |
| SDGE-8 | B | Consideration of environmental impacts, local community input. | Insufficient |
| SDGE-9 | B | SDG&E does not explain how investments in undergrounding reduce planned vegetation management spend. | Insufficient |
| SDGE-11 | B | Lack of detail on vegetation management around substations. | Sufficient |
| SDGE-12 | B | Details of quality assurance, quality control. | Insufficient |
| SDGE-14 | B | Granularity of "at-risk species." | Insufficient |
| SDGE-15 | B | Details of centralized data repository. | Insufficient |
| SDGE-16 | B | Details of cooperative fuel reduction work. | Sufficient |

Due to the WSD's determination that SDG&E's QR is Insufficient, PG&E is required to address all Actions identified in Section 5.1 of this document either in its 2021 WMP Update or, if not possible to meet this deadline, in a supplemental filing to its 2021 WMP Update submitted no later than February 26, 2021.

2. Background

On February 7, 2020, electrical corporations submitted their 2020 WMPs in accordance with the 2020 WMP Guidelines issued through an Administrative Law Judge (ALJ) Ruling on December 16, 2019. Pursuant to its statutory mandate, the WSD reviewed and issued its disposition of electrical corporation's 2020 WMPs via the 2020 WMP Resolutions.³ Upon review of electrical corporations' 2020 WMPs, the WSD identified several elements that were missing or inadequate in the filings. Each of these issues was identified as a "Deficiency." A corresponding "Condition," intended to remedy the identified deficiency, was imposed on the electrical corporation as part of the WSD's "Conditional Approval" of 2020 WMPs. Each deficiency and associated condition were categorized into one of the following classifications, with Class A being the most serious:

³ These included Resolutions WSD-002, WSD-003, WSD-004, WSD-005, WSD-007, WSD-008, WSD-009, and WSD-010.

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- **Class A** - Aspects of the WMP are lacking or flawed;
- **Class B** - Insufficient detail or justification provided in WMP; and,
- **Class C** - Gaps in baseline or historical data, as required in 2020 WMP Guidelines.

Consequently, upon review of SDG&E's 2020 WMP, the WSD issued a "Conditional Approval." The Conditional Approval is predicated on SDG&E satisfying the set of conditions set forth in Resolution WSD-002 and Resolution WSD-005. Table 2 below presents a summary of the number of conditions, grouped by classification.

Class B conditions are intended to address aspects of moderate concern within the electrical corporations' 2020 WMPs for which the WSD found the utilities did not provide sufficient detail or justification. Class B conditions require each electrical corporation to file a QR, which is broadly defined in Resolution WSD-002 as follows:

Class B deficiencies are of moderate concern and require reporting on a quarterly basis by the electrical corporation to provide missing data or update its progress in a quarterly report. Such information shall be submitted either one time in the first quarterly report or on an ongoing basis as specified by each condition.

Pursuant to Ordering Paragraph (OP) 7 of Resolution WSD-002, SDG&E was required to submit a QR within 90 days of the California Public Utilities Commission's (CPUC or Commission) ratification of SDG&E's 2020 WMP Resolution, WSD-005. The Commission ratified the 2020 WMP Resolutions⁴ on Thursday, June 11, 2020; therefore, SDG&E was required to file a QR by September 9, 2020. SDG&E timely submitted its QR on Friday, September 9, 2020. Public comments on electrical corporations' QRs were submitted on September 30, 2020, by the Commission's Public Advocates Office (Cal Advocates), Green Power Institute (GPI), Mussey Grade Road Alliance (MGRA), and Small Business Utility Advocates (SBUA). SDG&E submitted reply comments on October 14, 2020.

Table 2: 2020 WMP Resolutions - Conditions Summary for SDG&E

| Condition Class | WSD-002 | WSD-005 | Total |
|------------------------|----------------|----------------|--------------|
| Class A | 1 | 1 | 2 |
| Class B ⁵ | 10 (1) | 14 | 24(1) |
| Class C | 1 | 1 | 2 |
| Total | 12 | 29 | 41 |

3. Summary of WSD's Assessment of QRs

A QR's intent is for electrical corporations to provide updated information or additional detail to resolve WMP deficiencies with the level of specificity, detail, and scope outlined in the

⁴ These included Resolutions WSD-002, WSD-003, WSD-004, WSD-005, WSD-007, WSD-008, WSD-009, and WSD-010.

⁵ Values in parenthesis indicate the number of Class B deficiency and condition pairs that require ongoing reporting. All other Class B deficiency and condition pairs will be addressed in the electrical corporations' first quarterly report submission.

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respective condition. Accordingly, the WSD has determined whether an electrical corporation's QR filing sufficiently resolves the deficiency and meets the intent of the condition. To make this determination, the WSD looked to Resolution WSD-002 and the factors used to evaluate 2020 WMPs. While all four factors used in evaluating WMP approval were not applicable,⁶ the WSD evaluated the sufficiency for each Class B deficiency and QR filing in accordance with the following factors:

- Completeness – The QR is complete and comprehensively responds to the condition;
- Effectiveness – The plans and remedies outlined in the QR will reasonably resolve the deficiency.

Outlined in Table 3: QR Evaluation Criteria below are the approval criteria the WSD used to evaluate whether a QR filing is sufficient. In this document, the WSD issues one of the following determinations:

- Sufficient - The QR is sufficient, and no further action is required;
- Insufficient - The QR is insufficient.

If the WSD finds that a QR is Insufficient, the WSD will require the electrical corporation to address the insufficiencies in its 2021 WMP Update or a supplemental filing,⁷ in accordance with the specific actions outlined in Section 5.1 of this document. The WSD will assess the responses and will factor noncompliance into its review and, in the case of noncompliance, may also recommend that the CPUC take enforcement action.

Table 3: QR Evaluation Criteria

| Category | Criteria |
|-----------------|---|
| Completeness | Does the QR provide all the information identified in the condition? |
| | If not, does the utility provide an explanation of why the QR is incomplete and a timeline for when the completed information will be provided? |
| | Does the QR include a timeline for implementation and completion of remedial actions? |
| Effectiveness | Does the QR identify reasonably effective plans and remedies to resolve the identified deficiencies? |
| | Is the timeline identified in the QR sufficient, given the importance of the deficiency and its potential impact on wildfire risk? |

⁶ Feasibility and forward-looking growth are not applicable to assessing sufficiency of QRs because the QR is simply intended to provide additional information on existing efforts detailed in the 2020 WMP.

⁷ The supplemental filing is discussed in further detail in Section 6 of this document.

4. Public and Stakeholder Comments

On September 30, 2020, Cal Advocates, GPI, MGRA, and SBUA submitted comments on SDG&E's QR. Provided below is a non-exhaustive summary of the major issues raised in stakeholder comments.

Public Advocates Office (Cal Advocates)

- SDG&E should propose a plan to collect recruiting metrics per Condition Guidance-11. (Guidance-11)
- SDG&E's plan to measure the efficacy of enhanced tree trim clearances should evaluate whether there is a causal relationship between increased tree trim clearances and fewer ignitions. (SDGE-13)

Green Power Institute (GPI)

- SDG&E should clarify whether the risk reduction percentages in Table 3 are normalized to the utility's service territory. (Guidance-1)
- SDG&E should explain why it does not include a calculated reduction in wildfire consequence for initiative E.5, "Fuel management and reduction of 'slash' from vegetation management activities." (Guidance-1)
- SDG&E should provide an assessment of wildfire risk reduction for vegetation management activities and any other activities that affect wildfire consequence. (Guidance-1)
- SDG&E should address its shortcoming in its ability to quantitatively weigh, prioritize, and select alternatives. (Guidance-2)
- SDG&E should develop a quantitative assessment for evaluating the effectiveness of inspection programs. (Guidance-7)
- SDG&E should consider framing the break-down of ignition drivers by HFRA and HFTD tiers, including normalizing those data to HFRA/HFTDs. (SDGE-1, SDGE-2)
 - Note that in its Oct. 14, 2020, response to these comments, SDG&E agreed with this: "breaking down ignition drivers by HFTD tiers may provide additional guidance for wildfire mitigation initiative prioritization in areas most susceptible to wildfires and high wildfire consequence." (p. 2)
- SDG&E should map the locations of vehicle contact events and ignitions beyond the specified high-risk locations (e.g., high speed corners) to inform its ignition mitigation policy. (SDGE-2)
- SDGE&E should describe how it incorporates stakeholder input into its work, not just how it engages with stakeholders. (SDGE-8 [ii])
- SDG&E should clarify what it means by "Utility line clearance operations are a unique niche within the green industry and, therefore, its scope needs to be addressed and incorporated within easement language, city tree ordinances, permits, local codes, etc." (SDGE-8 [ii])

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- SDG&E should provide quantitative metrics to substantiate and quantify savings on vegetation management from undergrounding. (SDGE-9)
- SDG&E should provide a statistical analysis of the tree trim data it provided in order to establish statistical significance between the different tree trimming clearances based on the data provided. (SDGE-13)

Mussey Grade Road Alliance (MGRA)

- SDG&E should, together with the other utilities, measure the resistance of covered conductor to severe vegetation contact or line breakage events and determine a method of measuring the risk reduction provided by a covered conductor. (Guidance-2)
- SDG&E should state which consequences of PSPS events it will take into account in future WMP updates. (Guidance-4, Guidance-12)
- MGRA questions whether aggressive additional trimming is justified for native species such as oak and sycamore. SDG&E should justify its additional trim requirements based on both species and trim data: it should provide a combined analysis showing the effect of both trim distance and tree species on outage rates. (SDGE-13, SDGE-14)
 - o Note that in its Oct. 14, 2020, response to these comments, SDG&E agrees with MGRA's analysis on the assessment of species risk on a per tree basis.
- SDG&E should provide data showing to what extent its QA/QC defects are environmentally driven (i.e., correlated with wind storms— both wet storms and fire weather). (Guidance-7)
- SDG&E should provide an evaluation with pass/fail criteria (preferably quantitative) for its pilot programs. (Guidance-9)

Small Business Utility Advocates (SBUA)

- SBUA joins with GPI in noting that SDG&E describes how it engages with stakeholders, but not how it incorporates their input into its work. SDG&E should, instead of just informing stakeholders of its plans, do outreach soliciting input on how and when it should do its work from the local community, including from local business owners, particularly when their business operations might be interrupted due to vegetation management work. (SDGE-8 [ii]).

5. Discussion of the WSD's QR Assessment

In accordance with guidance set out in Resolution WSD-002 and the RCP & QR Guidance Letter, in Table 4 below the WSD presents its findings of sufficiency for SDG&E's QR in totality.

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Table 4: Review of SDG&E’s QR by Evaluation Criterion

| Category | Criteria | Yes | No |
|---------------|---|-----|----|
| Completeness | Does the QR provide all the information identified in the condition? | | X |
| | If not, does the utility provide an explanation of why the remedy is incomplete and a timeline for when the completed information will be provided? | | X |
| | Does the QR include a timeline for implementation and completion of remedial actions? | X | |
| Effectiveness | Does the QR identify reasonably effective plans and remedies to resolve the identified deficiencies? | | X |
| | Is the timeline identified in the QR sufficient, given the importance of the deficiency and its potential impact on wildfire risk? | X | |

Accordingly, the WSD finds SDG&E’s QR to be Insufficient.

WSD requests clarification or additional information to remediate its finding of Insufficient QR elements. In its 2021 WMP Update, SDG&E is required to address all Actions identified in Section 5.1.

5.1. Discussion of the WSD’s Condition Assessment

Pursuant to WSD-002, these findings and the subsequent discussion comprise the WSD’s review of SDG&E’s QR, which includes input from the public and other stakeholders. The following is an assessment of SDG&E’s response to each Class B condition as presented in its RCP. Provided in the discussion are the detailed elements pertaining to the requirements for each SDG&E Class B condition, with a corresponding required “action” to sufficiently address the scope, purpose, and intent of the specific element in each applicable condition. Each action identified in the subsequent sections is individually numbered and must be completely addressed in SDG&E’s 2021 WMP Update to meet the WSD’s expectation of a sufficient QR.

5.1.1. Condition (Guidance-1, Class B): Lack of risk spend efficiency (RSE) information

WSD finding for SDG&E’s Condition Guidance-1 response: Insufficient

Below is an analysis of the itemized requirements within Condition Guidance-1, corresponding discussions of specific insufficiencies in SDG&E’s response to Guidance-1, and the actions required to make SDG&E’s QR Sufficient:

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In its first quarterly report, each electrical corporation shall provide the following:

i. its calculated reduction in ignition risk for each initiative in its 2020 WMP

ii. its calculated reduction in wildfire consequence risk for each initiative in its 2020 WMP

SDG&E presents its initiatives aimed at wildfire risk mitigation in three tables, followed by a fourth table addressing PSPS risk mitigation. For the initiatives where it is possible, the percent reduction in risk (ignition/wildfire consequence) with associated timeline per initiative is presented in Table 3. The other tables present qualitative information.

SDG&E does not calculate separate ignition or wildfire consequence risk values, instead providing a percentage reduction for either one or the other, as seen in Guidance-1 Table 3, and leaving "N/A" respectively for the other category, with only one initiative reducing wildfire consequence risk. SDG&E also states that some initiatives are still grouped together "because they cannot be performed or viewed independently of one another,"⁸ but does not provide an explanation for each instance in which this occurs.

When discussing PSPS, SDG&E states that "SDG&E plans to take into account consequences of PSPS in which case a calculated risk reduction for PSPS mitigation activities would be provided," although the actual consequences SDG&E is planning to take into account are not provided.

Action SDGE-1: In its 2021 WMP Update, SDG&E shall a) provide an explanation for the "Timeline of Ignition Reduction Calculations (Years)," b) explain why some risk reductions will take SDG&E 40 years to complete, and c) explain why a central data repository is grouped with PSPS and service restoration personnel.

Action SDGE-2: In its 2021 WMP Update, SDG&E shall: 1) further describe why either ignition risk or wildfire consequence risk are calculated instead of both, and 2) provide an explanation for each initiative as to why it either reduces ignition risk or wildfire consequence risk, but not both.

Action SDGE-3: In its 2021 WMP Update, SDG&E shall: 1) provide a list of all initiatives grouped together within Guidance-1 Table 3, and 2) explain why such initiatives cannot be broken apart when determining risk reduction.

Action SDGE-4: In its 2021 WMP Update, SDG&E shall: 1) provide a list and explanation of the main PSPS consequences being accounted for within risk calculations, and 2) explain how such consequences have influenced its 2021 WMP.

iii. the risk models used to calculate (i) and (ii) above

SDG&E references the 2019 RAMP report (chapters RAMP-C, RAMP-D and SDG&E-1) for details about the risk model used for its estimated risk calculations.

⁸ SDG&E's QR at p. 13.

**5.1.2. Condition (Guidance-2, Class B):
Lack of alternatives analysis for chosen initiatives**

WSD finding for SDG&E's Condition Guidance-2 response: Insufficient

Below is an analysis of the itemized requirements within Condition Guidance-2, corresponding discussions of specific insufficiencies for SDG&E's response to Guidance-2, and the actions required to make SDG&E's QR Sufficient:

In its first quarterly report, each electrical corporation shall provide the following:

i. all alternatives considered for each grid hardening or vegetation management initiative in its 2020 WMP

SDG&E addresses grid hardening and vegetation management alternatives and presents information on alternatives evaluated for backup power as well as equipment replacement/installation.

SDG&E states it did not consider alternatives for "pole replacement and reinforcement," shown in Table 5. SDG&E fails to consider alternatives within that category, such as alternative pole material and use of fire retardant around poles, which are alternatives considered by its peer utilities.

For "Backup Power," shown in Table 6, the presented initiatives could all be considered alternatives to each other, yet SDG&E chose to implement all of them without quantifying risk reduction or RSEs. In addition, SDG&E does not consider a "no action" alternative, nor does SDG&E evaluate whether increased grid hardening and resiliency efforts reduce the scope, frequency, or duration of PSPS events.

For fuels management, shown in Table 8, SDG&E states that the alternative to fuels management is "[w]orking closely with fire agencies and other stakeholder to consider multiple possible projects and partnerships."⁹ This seems to imply that this alternative was not selected, and that SDG&E prioritizes and selects fuel management projects alone without coordination with other entities, land managers, or the community. This is further shown in SDG&E's response to SDGE-16, which indicates SDG&E's lack of a current partnership with the USFS.

Regarding "Enhanced Inspections Patrols and Trimming," SDG&E provides the use of LiDAR as an alternative but does not select this alternative due to cost and long turnaround times.¹⁰ This decision is contrary to what SDG&E states later in response to Guidance-9:

⁹ SDG&E's QR at p. 26.

¹⁰ SDG&E's QR Table 8 at p. 25.

“Based on the current progress of this pilot, SDG&E is seeing potential use cases as a QA/QC tool for vegetation management inspections. Depending on the results of the foresters checking the LiDAR analysis clearances that were identified, this pilot could be expanded for use as a QA/QC tool on vegetation management inspections.”¹¹

SDG&E seems to indicate in Guidance- 2, Table 8 that it has already decided not to use LiDAR or satellite inspections as an alternative to its “Enhanced Inspections Patrol and Trimming,” despite its ongoing LiDAR pilot. SDG&E stated in its 2020 WMP that it “expects to use LiDAR technology to some degree across multiple company initiatives and throughout a larger portion of the service territory before 2021.”¹² SDG&E needs to provide further clarity on the extent to which LiDAR is or will be utilized.

Action SDGE-5: In its 2021 WMP Update, SDG&E shall: 1) clarify where it prioritizes pole replacement and with what type of pole, and 2) explain whether it considered adding fire resistant materials to existing poles (e.g., by painting or spraying poles, or wrapping them with fire resistant materials).

Action SDGE-6: In its 2021 WMP Update, SDG&E shall: 1) disaggregate the backup power alternatives discussed in Table 6 and compare them to one another as alternatives, 2) explain why backup power initiatives were not evaluated as alternatives to one another, 3) evaluate “no action” as an alternative for backup power to the extent CPUC rules do not require such backup power, and 4) evaluate how decreases in scope to PSPS events due to grid hardening acts as an alternative to backup power initiatives.

Action SDGE-7: In its 2021 WMP Update, SDG&E shall: 1) provide the analysis demonstrating that partnerships with fire agencies and other stakeholders proved to not be a viable alternative to fuels management, as shown in Table 8 of SDG&E's QR, and 2) provide details on all such partnerships SDG&E is pursuing, including the status of such partnerships from the 2020 WMP.

Action SDGE-8: In its 2021 WMP Update, SDG&E shall explain 1) the extent to which LiDAR is being utilized currently, and 2) if it intends to incorporate LiDAR into its “enhanced inspections patrol and trimming” in the future.

ii. all tools, models, and other resources used to compare alternative initiatives

SDG&E uses two tools to support its evaluation of alternatives: its older Wildfire Risk Reduction Model (WRRM) and its in-development Wildfire Next Generation System (WiNGS) model.

¹¹ SDG&E's 2020 WMP at p. 121.

¹² SDG&E's 2020 WMP at p. 121.

iii. how it quantified and determined the risk reduction benefits of each initiative

Table 5 and Table 8 in SDG&E's QR provide the risk reduction quantification method and reason for selection of each initiative for grid hardening and vegetation management, respectively. At this time, SDG&E seems to heavily rely on SMEs for the analysis of risk and initiative selection, instead of providing explanations on the quantitative analysis performed.

Action SDGE-9: In its 2021 WMP Update, SDG&E shall provide explanations of the quantitative methods performed when determining the risk reduction of initiatives.

iv. why it chose to implement each initiative over alternative options

SDG&E provides explanations for its chosen initiatives both in text and succinctly in Tables 5 through 8 in the column labeled "reason for selection."

**5.1.3. Condition (Guidance-4, Class B):
Lack of discussion on PSPS impacts**

WSD finding for SDG&E's Condition Guidance-4 response: Insufficient

Below is an analysis of the itemized requirements within Condition Guidance-4, corresponding discussions of specific insufficiencies for SDG&E's response to Guidance-4, and the actions required to make SDG&E's QR Sufficient:

In its first quarterly report, each electrical corporation shall detail whether and how each initiative in its WMP:

- i. affects its threshold values for initiating PSPS events*
- ii. is expected to reduce the frequency (i.e. number of events) of PSPS events*
- iii. is expected to reduce the scope (i.e. number of customers impacted) of PSPS events*
- iv. is expected to reduce the duration of PSPS events*
- v. supports its directional vision for necessity of PSPS, as outlined in Section 4.4 of its WMP*

SDG&E presents information on initiatives that directly reduce the need for PSPS events (Table 9), initiatives that support PSPS mitigation (Table 10), and initiatives that support asset health and affect PSPS decisions but are not directly related to PSPS mitigation (Table 11). Whether threshold values for initiating PSPS events are affected by the mitigation initiative is only addressed in Table 9.

While SDG&E identifies which initiatives could affect thresholds and reduce frequency, scope, and duration of PSPS events within Table 9, no quantitative estimates for these changes are provided.

Action SDGE-10: In its 2021 WMP Update, SDG&E shall provide quantitative values for all initiatives for the subparts included in Guidance-4.

**5.1.4. Condition (Guidance-5, Class B):
Aggregation of initiatives into programs**

WSD finding for SDG&E's Condition Guidance-5 response: Insufficient

Below is an analysis of the itemized requirements within Condition Guidance-5, corresponding discussions of specific insufficiencies for SDG&E's response to Guidance-5, and the actions required to make SDG&E's QR Sufficient:

In its first quarterly report, each electrical corporation shall:

i. break out its programs outlined in section 5.3 into individual initiatives

SDG&E points to Appendix A, where it adequately breaks out its 2020 WMP Section 5.3 programs into individual initiatives.

ii. report its spend on each individual initiative

SDG&E reports its spend on each individual initiative as "YTD Capital" and "YTD O&M" in the table provided in Appendix A.

iii. describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence

SDG&E addresses the question of each initiative's "effectiveness of mitigation at reducing ignition probability or wildfire consequence" in the table provided as Appendix A. SDG&E also included initiatives intended to reduce PSPS impacts on customers, which it notes do not reduce wildfire risk. Effectiveness information is mostly not provided, with the utility noting that the effectiveness is under evaluation, or "[t]he effectiveness was a result of reducing consequences of wildfires and as estimated by subject matter experts."¹³ For the "substation inspections" item (Row D.15 in Appendix A), under the "Effectiveness of mitigation at reducing ignition probability or wildfire consequence" column, SDG&E states that it has had no recorded substation ignition history in the last five years, and that "there is no ignition history to reduce."

Action SDGE-11: In its 2021 WMP Update, SDG&E shall: 1) provide an update of Appendix A of SDG&E's QR regarding the effectiveness calculations for reducing ignition probability and wildfire consequence, and 2) explain any "NA" values present for effectiveness calculations.

¹³ SDG&E's QR Appendix A Column "Effectiveness of mitigation at reducing ignition probability or wildfire consequence".

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iv. list all data and metrics used to evaluate effectiveness described in (iii), including the threshold values used to differentiate between effective and ineffective initiatives

SDG&E provides descriptions of the data and metrics used to evaluate the effectiveness of each initiative's effectiveness in the table in Appendix A.

v. provide the information required for each initiative in section 5.3 of the Guidelines

SDG&E fails to provide this information for all its initiatives, as required by the 2020 WMP Guidelines.

Action SDGE-12: In its 2021 WMP Update, SDGE shall provide the information required in Section 5.3 of the WMP Guidelines for all initiatives.

5.1.5. Condition (Guidance-6, Class B):

Failure to disaggregate WMP initiatives from standard operations

WSD finding for SDG&E's Condition Guidance-6 response: Sufficient

Below is an analysis of the itemized requirements within Condition Guidance-6, corresponding discussions of specific insufficiencies for SDG&E's response to Guidance-6, and the actions required to make SDG&E's QR Sufficient:

In its first quarterly report, each electrical corporation shall:

i. clearly identify each initiative in Section 5.3 of its WMP as "Standard Operations" or "Augmented Wildfire Operations"

SDG&E presents information about its mitigation initiatives in a table in Appendix B of its QR, including the following column headings: "Number"; "Category"; "Initiative"; "Tracked Separately?" (all "yes"); "Mitigation Category" (sic); "Standard or Augmented"; "ii. Report required data" (all rows are "Required data was reported in the WMP and in general guidance 1-7"); "iii. Confirm that there is budgeting and accounting for the activity" (all "yes"); "iv. Include a ledger of all subaccounts that show a breakdown by initiative." All cells in the table in Appendix B are filled in, with the "Standard or Augmented" column identifying each initiative adequately as one or the other.

ii. report WMP required data for all Standard Operations and Augmented Wildfire Operations

iii. confirm that it is budgeting and accounting for WMP activity of each initiative

iv. include a "ledger" of all subaccounts that show a breakdown by initiative.

Subparts (ii), (iii), and (iv) are adequately addressed in the table provided in Appendix B.

5.1.6. Condition (Guidance-7, Class B):

Lack of detail on effectiveness of “enhanced” inspection programs

WSD finding for SDG&E's Condition Guidance-7 response: Insufficient

Below is an analysis of the itemized requirements within Condition Guidance-7, corresponding discussions of specific insufficiencies for SDG&E's response to Guidance-7, and the actions required to make SDG&E's QR Sufficient:

In its first quarterly report, each electrical corporation shall detail:

i. the incremental quantifiable risk identified by such ‘enhanced’ inspection programs

Regarding the calculation of effectiveness of inspections in averting wildfires, SDG&E points out the difficulty of quantifying a counterfactual that “avoided failures cannot be identified.”¹⁴ However, SDG&E calculates an “estimated fault rate”¹⁵ based on an estimated percentage of findings that would lead to a fault if not addressed within the set correction timeframe. SDG&E does not explain how it came about determining these percentages apart from the basis being 25 percent for emergency repairs.

SDG&E prioritizes detailed, “enhanced” inspections for Tier 3 HFTD areas, but does not provide a risk analysis with finer granularity (e.g., on a circuit or asset level) that may increase the effectiveness of these detailed inspections. SDG&E indicates that it does not conduct any “enhanced” inspections in Tier 2 HFTD areas. In addition, it appears that drone inspections are more effective than annual QA/QC patrols, as demonstrated in Table 14 of SDG&E's QR,¹⁶ which shows a greater number of ignitions avoided as a result of conducting drone inspections, yet SDG&E proposes three-to-five year cycle for drones and a three year cycle for its “Annual QA/QC.”

Action SDGE-13: In its 2021 WMP Update, SDG&E shall: 1) provide detailed explanations, including supporting calculations, as to how estimated fault rates of 25 percent for emergency repairs, 2.5 percent for priority repairs, and 0.21 percent for non-critical repairs were calculated, 2) provide the titles and qualifications of the SMEs used to determine such failure rates, and 3) describe how it has implemented industry standards and best practices in determining such failure rates.

ii. whether it addresses the findings uncovered by ‘enhanced’ programs differently than findings discovered through existing inspections

SDG&E points to Guidance-5, where the utility describes its approach to risk quantification. In that description it explains how the issues found through the inspection programs are prioritized

¹⁴ SDG&E's QR at p. 42.

¹⁵ SDG&E's QR at p. 42.

¹⁶ SDG&E's QR, Guidance-7 Table 12, at p. 43 & Guidance-7 Table 14, at p. 44, which shows an Annual QA/QC faults avoided and ignitions avoided as 7 and 0.151 respectively, while Drone faults avoided and ignitions avoided were 18 and 0.376 respectively.

and resolved. The issues found through the “enhanced” inspection programs are handled in the same manner as issues identified through other means.

iii. a detailed cost-benefit analysis of combining elements of such ‘enhanced’ inspections into existing inspection programs

SDG&E does not provide a detailed cost-benefit analysis of combining elements of “enhanced” and regular inspection programs, but does provide an explanation for the absence of this analysis, as SDG&E is unsure how the “enhanced” programs could be combined with other inspection programs and “still retain the value and risk reduction they were meant to have.”¹⁷ SDG&E notes that technology-based enhanced inspections (e.g., infrared and drones) cannot be combined into existing inspection programs.

In its response to Condition SDGE-7, SDG&E states that “SDG&E also performs an additional, off-cycle patrol each year within the HFTD. This patrol is conducted approximately six months following the routine inspection activity and effectively serves as a “mid-cycle” patrol.”¹⁸

In response to this condition, SDG&E states it performs an additional, detailed, “enhanced” inspection in HFTD Tier 3 overhead assets on a three-year cycle, which augments GO 165's mandated detailed inspection occurring a minimum of every five years. SDG&E claims that this means overhead assets have detailed inspections “on average a little more than every two years (1.88).”¹⁹ Considering SDG&E performs both a five-year and three-year cycle for detailed inspections of overhead assets, there is not a consistent interval between detailed inspections. Without coordination, these inspections will happen in the same year, potentially leaving some assets in HFTD Tier 3 without detailed inspections for three years. SDG&E states that it combines the separately cycled detailed inspections into one if both are scheduled to occur in the same year. SDG&E should consider combining these two, cycled, detailed inspection programs into one, completing a detailed inspection in HFTD Tier 3 every two years.

Action SDGE-14: In its 2021 WMP Update, SDG&E shall: 1) evaluate combining its various detailed inspections (i.e., the five-year and three-year cycled inspections) into a single, regularly occurring (e.g., every 2 years), detailed inspection, 2) explain why additional, “enhanced” detailed inspections are not completed in HFTD Tier 2, and whether SDG&E is considering such inspections in HFTD Tier 2 areas moving forward, and 3) explain why an inspector carrying an infrared gun or handheld camera could not obtain a usable thermal image similar to one obtained from an infrared camera mounted on a vehicle or drone.²⁰

¹⁷ SDG&E's QR at p. 45.

¹⁸ SDG&E's QR at p. 119.

¹⁹ SDG&E's QR at p. 45.

²⁰ SDG&E's QR at p. 45.

**5.1.7. Condition (Guidance-9, Class B):
Insufficient discussion of pilot programs**

WSD finding for SDG&E's Condition Guidance-9 response: Insufficient

Below is an analysis of the itemized requirements within Condition Guidance-9, corresponding discussions of specific insufficiencies for SDG&E's response to Guidance-9, and the actions required to make SDG&E's QR Sufficient:

In its quarterly report, each electrical corporation shall detail:

i. all pilot programs or demonstrations identified in its WMP

SDG&E provides a description of each of its 11 pilot programs and demonstrations.

ii. status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption

In each of SDG&E's descriptions of its 11 pilot programs and demonstrations it provides an update on the status of the activity.

iii. results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits

Where results are available, SDG&E provides information on the results of each of its 11 pilot programs and demonstrations. However, SDG&E does not fully explain what constitutes a successful program, and the criteria being used to determine whether a pilot will be implemented as a broader mitigation. Additionally, SDG&E does not provide quantitative risk reduction benefits for its pilot programs. Because these various technologies are piloted, in part, under the WMP, quantitative risk reduction measurements should be part of the initial scoping of the pilot, offering SDG&E insight as to how and how much the pilot, if fully and operationally implemented, would provide risk reduction benefits.

Action SDGE-15: In its 2021 WMP Update, SDG&E shall provide the quantitative pass/fail criteria used to determine the success and potential to increase implementation for each of its pilot programs.

Action SDGE-16: In its 2021 WMP Update, SDG&E shall provide quantitative risk reduction estimates for its pilot programs, under the assumption that the technology would be adopted and implemented at a broader scale.

iv. how the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices

Where it is relevant (in six cases), SDG&E provides information on the remedy of ignitions and faults revealed during the pilot for each of the 11 pilot programs and demonstrations.

v. a proposal for how to expand use of the technology if it reduces ignition risk materially.

Where it is relevant (in nine cases) SDG&E provides a brief description of how the technology might be expanded to improve mitigation efforts.

5.1.8. Condition (Guidance-10, Class B):

Data issues – general

The assessment of SDG&E's GIS data submission is contained within the GIS data quality control (QC) report issued separately by the WSD. Analysis of the quality and thoroughness of the data submission is deferred to the aforementioned GIS data QC report.

5.1.9. Condition (Guidance-11, Class B):

Lack of detail on plans to address personnel shortages

WSD finding for SDG&E's Condition Guidance-11 response: Sufficient

In its first quarterly report, each electrical corporation shall detail:

i. a listing and description of its programs for recruitment and training of personnel, including for vegetation management

SDG&E gives a detailed description of its recruitment and training programs. Noteworthy is SDG&E's report that it is participating in a statewide initiative with its tree contactors, multiple utility contractors, and academia "to develop an accredited training program and college-level courses to educate and train individuals about utility line clearance operations."²¹

ii. a description of its strategy for direct recruiting and indirect recruiting via contractors and subcontractors

SDG&E adequately describes its strategies regarding recruitment via different kinds of contractors.

iii. its metrics to track the effectiveness of its recruiting programs, including metrics to track the percentage of recruits that are newly trained, percentage from out of state, and the percentage that were working for another California utility immediately prior to being hired.

SDG&E notes that it does not currently track the metrics related to the effectiveness of its recruiting programs.

Action SDGE-17: In its 2021 WMP Update, SDG&E shall either a) explain how it plans to start tracking metrics related to the effectiveness of its recruiting programs, or b) explain why it finds it unnecessary to track such metrics.

²¹ SDG&E's QR at p. 59.

**5.1.10. Condition (Guidance-12, Class B):
Lack of detail on long-term planning**

WSD finding for SDG&E's Condition Guidance-12 response: Sufficient

In their first quarterly report, each electrical corporations shall detail:

i. its expected state of wildfire mitigation in 10 years, including 1) a description of wildfire mitigation capabilities in 10 years, 2) a description of its grid architecture, lines, and equipment

SDG&E describes its ten-year projection of its state of capabilities for ten areas of wildfire mitigation activities. For each it provides a graphic timeline, a list of relevant activities, and the particular initiatives in the 2020 WMP that contribute to building its capabilities in each area.

ii. a year-by-year timeline for reaching these goals

SDG&E presents an annual timeline for each of the ten activity areas. SDG&E provides some measurable goals, particularly for "Grid Design and System Hardening," and heavily relies on qualitative terms to describe goals throughout its response: "continue," "increase," "expand," "upgrade," and "enhance."

Action SDGE-18: In its 2021 WMP Update, SDG&E shall: 1) define what "continue," "increase," "expand," "upgrade," and/or "enhance" means for each instance it is used, and 2) either a) implement quantitative benchmarks that are reasonable and achievable for each such instance, or b) explain how it intends to track progress of each instance if a quantitative benchmark is not provided.

iii. a list of activities that will be required to achieve this end goal

A list of activities is presented for each of the ten activity areas.

iv. a description of how the electrical corporation's three-year WMP is a step on the way to this 10-year goal

A list of initiatives from SDG&E's 2020 WMP is presented for each of the ten activity areas.

**5.1.11. Condition (SDGE-1, Class B):
SDG&E reports a high number of ignitions related to balloon contact.**

WSD finding for SDG&E's Condition SDGE-1 response: Sufficient

In its first quarterly report, SDG&E shall:

i. list and describe the actions it is taking to study the occurrence and potential consequence of metallic balloon caused ignitions in its service territory;

SDG&E performed an analysis of metallic balloon contacts and presented a summary of results.

ii. efforts it is taking to mitigate the occurrence of such ignitions in the future;

SDG&E is undertaking a multifaceted public awareness campaign, including developing and testing a “non-conductive foil balloon prototype,”²² and participating in an industry working group developing an “industry standard for testing the dielectric performance of celebratory balloons in contact with overhead distribution lines.”²³ SDG&E also suggests that the following traditional ongoing mitigation measures will help reduce balloon-related ignitions: covered conductors, strategic undergrounding, and profile 3 recloser (protection) settings.

Action SDGE-19: in its 2021 WMP Update, SDG&E shall define what the “draft trial standard”²⁴ consists of, as being developed by the working group within IEEE.

iii. the status of the action and efforts identified in (i) and (ii) above, including timelines for completion;

SDG&E provided a list of specific components of the above-mentioned metallic balloon mitigations with completion dates and the frequency of updates it expects to give in the future.

iv. the specific initiatives in its 2020 WMP that aim to reduce the risk of balloon caused ignitions; and

SDG&E asserts that the following measures from the 2020 WMP will likely reduce balloon-related ignitions: covered conductors, strategic undergrounding, and profile 3 recloser (protection) settings.

v. its goals, targets and quantitative measures for evaluating effectiveness of the initiatives identified in (iv) at reducing the risk of balloon caused ignitions.

SDG&E describes its plan for measuring the effectiveness of the traditional hardening measures mentioned above (post-facto ignition data analysis, which will take a few years of operation to accrue a significant sample size of data), and the industry working group's plan with regard to the new industry standard for metallic balloons (ultimately its success will be measured by whether balloon-related ignitions are eliminated).

²² SDG&E's QR at p. 100.

²³ SDG&E's QR at p. 101.

²⁴ SDG&E's QR at p. 102.

5.1.12. Condition (SDGE-2, Class B):

SDG&E reports a high number of ignitions related to vehicle contact.

WSD finding for SDG&E's Condition SDGE-2 response: Sufficient

In its first quarterly report, SDG&E shall:

i. list and describe the actions it is taking to study the occurrence and potential consequence of vehicle contact caused ignitions in its service territory;

SDG&E performed an analysis of vehicle contact ignitions. Based on its analysis, SDG&E asserts that vehicle contact ignitions should not be of particular concern. It compares its vehicle contact ignitions favorably to those of SCE and PG&E. Based on those data, SDG&E asserts that it does not have the highest rate of vehicle contact ignitions.

ii. efforts it is taking to mitigate the occurrence of such ignitions in the future;

SDG&E describes three initiatives to mitigate vehicle contact ignitions (in addition to analyzing ignition data for patterns): strategic undergrounding, profile 3 recloser (protection) settings, and steel poles on the transmission and distribution system. It is unclear, however, whether the reduction of vehicle contact ignitions is the primary factor for implementation of these initiatives or simply an ancillary benefit of doing so. SDG&E also does not discuss any measures related to increased visibility in order to reduce vehicular contacts.

Action SDGE-20: In its 2021 WMP Update, SDG&E shall: 1) explain whether the reduction of vehicle contact related ignitions is the primary factor for implementation of any initiatives in its 2020 WMP and 2) if so, describe how SDG&E prioritized these locations.

Action SDGE-21: In its 2021 WMP Update, SDG&E shall: 1) provide its procedures, standards, and requirements related to increasing infrastructure visibility for the public (i.e., standards on visibility strips, signage, colorization), and 2) discuss how and whether such standards differ for areas of higher fire risk.

iii. the status of the action and efforts identified in (i) and (ii) above, including timelines for completion;

SDG&E notes that its strategic undergrounding and installation of steel poles are ongoing, and updates about its progress will be available quarterly as part of its safety certification and WMP Update quarterly advice letters. SDG&E also notes that the profile 3 recloser (protection) settings are already fully operational.

iv. the specific initiatives in its 2020 WMP that aim to reduce the risk of vehicle contact caused ignitions; and

SDG&E asserts that the following measures from the 2020 WMP will likely reduce vehicle contact ignitions: strategic undergrounding, profile 3 recloser (protection) settings, and steel poles on the transmission and distribution system.

v. its goals, targets and quantitative measures for evaluating effectiveness of the initiatives identified in (iv) at reducing the risk of vehicle contact caused ignitions.

SDG&E will evaluate the effectiveness of various hardening measures with post-facto ignition data analysis. Similar to the balloon-related ignition study, it notes that it will take a few years to accrue a sufficient sample size of data for meaningful analysis.

5.1.13. Condition (SDGE-3, Class B):

SDG&E fails to explain how it plans to incorporate lessons learned into updates of its risk models.

WSD finding for SDG&E's Condition SDGE-3 response: Insufficient

Below is an analysis of the itemized requirements within Condition SDGE-3, corresponding discussions of specific insufficiencies for SDG&E's response to SDGE-3, and the actions required to make SDG&E's QR Sufficient:

In its first quarterly report, SDG&E shall describe:

i. how it plans to incorporate learnings into its risk models, including a specific timeline for implementation;

SDG&E developed a new model to gauge both wildfire and PSPS risks: the Wildfire Next Generation System (WiNGS). This model incorporates lessons-learned from the 2019 PSPS events, but SDG&E fails to provide details on what such lessons entailed. SDG&E points to its response to Guidance-12 regarding long-term planning details.

Action SDGE-22: In its 2021 WMP Update, SDG&E shall: 1) list and explain the 2019 and 2020 PSPS lessons-learned that were incorporated into the development of its WiNGS model, and 2) provide the “near-term scope”²⁵ changes for PSPS events based on insights provided by the WiNGS model.

ii. changes or updates to its risk models identified after 2020 WMP submission; and

This is not stated explicitly, but it is implied that the development of WiNGS occurred after the 2020 WMP submission. SDG&E fails to provide adequate description of initiatives that are being integrated into the analysis for WiNGS in 2021, as depicted in Figure 15, and how such initiative integration differs from 2020.

Action SDGE-23: In its 2021 WMP Update, SDG&E shall: 1) provide a list of initiatives incorporated²⁶ into the WiNGS model in 2020 and planned to be integrated in 2021, and 2) the status of each initiative's integration.

²⁵ As mentioned in SDG&E's QR Figure 15 at p. 109.

²⁶ As mentioned in SDG&E's QR Figure 15 at p. 109.

iii. the status of implementing the changes and updates identified in (ii) above, including the expected timeframe for completion.

Figure 15 provides a timeline for development and implementation of WiNGS. SDG&E should include a status update for each action item within the timeline, as well as a more comprehensive explanation of what each item entails, some of which are handled in Actions SDGE-22 in subpart (i) and SDGE-23 in subpart (ii) above.

Action SDGE-24: In its 2021 WMP Update, SDG&E shall: 1) describe how it intends to pilot the WiNGS-Ops for PSPS decision-making, including the scope of the pilot, 2) explain how SDG&E will analyze the results of the pilot to determine appropriate usage and necessary changes to WiNGS-Ops, and 3) include a detailed timeline of the pilot.

5.1.14. Condition (SDGE-4, Class B):

SDG&E does not provide sufficient detail on strategic undergrounding pilots.

WSD finding for SDG&E's Condition SDGE-4 response: Insufficient

Below is an analysis of the itemized requirements within Condition SDGE-4, corresponding discussions of specific insufficiencies for SDG&E's response to SDGE-4, and the actions required to make SDG&E's QR Sufficient:

In its first quarterly report, SDG&E shall:

i. detail its plans to report and share the findings of its undergrounding pilot initiatives;

SDG&E reports on some of the findings from its strategic undergrounding pilot, and some of the challenges. SDG&E plans to give annual updates on its findings. This response is also referenced in SDG&E's response to Guidance-9.

ii. outline what data it plans to collect and report for project scope, cost and schedule of these projects, and

SDG&E plans to report on the following data for its pilot undergrounding projects: cost, schedule, underground mileage, total number of customers (including critical facilities and community area) at locations benefitting from the projects, and the estimated overhead facilities exposure reductions to wildfire risk. Since the projects are not yet completed, SDG&E states that it is unable to provide cost and scheduling, particularly since COVID-19 has created unexpected circumstances, stating that "there are currently uncertainties regarding project cost and schedule"²⁷ without giving any actual values. SDG&E also does not provide details regarding the impact of COVID-19 on its projects.

Action SDGE-25: In its 2021 WMP Update, SDG&E shall provide the projected cost and schedule of projects, even if the project is not yet completed.

²⁷ SDG&E's QR at p. 110.

Action SDGE-26: In its 2021 WMP Update, SDG&E shall: 1) provide the number and percentage of miles affected by delays exclusively due to COVID-19 impacts, 2) a list of the project(s) affected, and 3) the increase in project completion time due to COVID-19.

Action SDGE-27: In its 2021 WMP Update, SDG&E shall provide a table similar to Table 19 of its QR for all 70 miles scoped for underground projects, as mentioned on p. 111.

iii. explain how it intends to track and measure the effectiveness of these projects in comparison to other WMP initiatives.

SDG&E asserts that it does not need to compare the effectiveness of undergrounding with other WMP initiatives, implying that it is an extremely effective or the most effective initiative, stating that “the effectiveness of undergrounding overhead power lines as a wildfire mitigation has never been in question.”²⁸ SDG&E fails to provide its own internal analysis to support the extended use of undergrounding.

Action SDGE-28: In the 2021 WMP Update, SDG&E shall: 1) provide a list of all system hardening alternatives being evaluated as alternatives to undergrounding, if those system hardening alternatives differ from SDG&E's response to Guidance-2, 2) explain how SDG&E determines alternatives to not be sufficient over undergrounding, and 3) explain how SDG&E is prioritizing undergrounding projects in comparison to other system hardening alternatives.

5.1.15. Condition (SDGE-5, Class B):

SDG&E does not provide sufficient detail on need for regulatory assistance.

WSD finding for SDG&E's Condition SDGE-5 response: Sufficient

In its first quarterly report, SDG&E shall:

i. list and describe all regulatory barriers to implementation of its undergrounding initiatives,

SDG&E requested regulatory assistance to alleviate barriers to undergrounding efforts previously, but now, after a review of its electric tariffs, it has found a way to reimburse customers for expenses associated with undergrounding. SDG&E is no longer seeking assistance with undergrounding barriers.

ii. detail its proposals for specific regulatory changes needed to eliminate the barriers identified in (i) above; and

iii. describe its efforts and actions over the past 3 years to collaborate with regulators and other entities responsible for implementing the regulatory changes identified in (ii) above, including status and expected timeline for implementation.

For sections (ii) and (iii), SDG&E determined that regulatory changes were no longer needed.

²⁸ SDG&E's QR at p. 114.

5.1.16. Condition (SDGE-6, Class B):

SDG&E does not provide sufficient detail on plans for reinforcing transmission lines.

WSD finding for SDG&E's Condition SDGE-6 response: Insufficient

Below is an analysis of the itemized requirements within Condition SDGE-6, corresponding discussions of specific insufficiencies for SDG&E's response to SDGE-6, and the actions required to make SDG&E's QR Sufficient:

In its first quarterly report, SDG&E shall:

i. detail how it plans to measure and report the efficacy of its plans to reinforce transmission lines and, specifically, to have at least one hardened line into every transmission substation in the HFTD by 2020 and to harden 66 miles within the three-year plan period;

SDG&E provides Table 20 in its QR, which lists the transmission lines it plans to harden (detailing the "transmission line, mileage, stage gate status, and anticipated energize date for all transmission lines located within the HFTD with planned energization dates within the WMP plan period"). The table does not provide a cumulative miles calculation, but a WSD staff calculation reveals that SDG&E expects to complete 119.6 miles by November 2022, presuming "ISD" means "in-service date." SDG&E's 2020 WMP indicated 66 miles for system hardening, while the response here indicates 119.6 miles, which is almost double the size in scope.²⁹ Regarding substations, in its QR SDG&E points to a map in Confidential Appendix F showing that "all HFTD Tier 3 substations will have at least one hardened transmission line."³⁰

Action SDGE-29: In the 2021 WMP Update, SDG&E shall: 1) explain the reason for the increase in scope from 66 miles to 119.6 miles for system hardening, if in fact there is an increase, and 2) if there is an increase, explain any change in the plans to nearly double the number of line miles hardened, including prioritization of which lines to harden first.

ii. list and describe the specific actions and initiatives it plans to implement to achieve this plan for its transmission lines; and

Table 20 lists the 15 projects pertaining to the transmission line hardening goals.

iii. the status and timeline for completion of all actions and initiatives identified in (ii) above.

Table 20 gives completion dates for the 15 transmission line hardening projects.

²⁹ SDG&E's 2020 WMP at p. 87, "Over the three-year period of this Plan, SDG&E plans to harden approximately 66 miles of transmission lines and 41 miles of associated distribution underbuilt on transmission lines within the HFTD."

³⁰ SDG&E's QR at p. 116.

5.1.17. Condition (SDGE-7, Class B):

Potential redundancies in vegetation management activities.

WSD finding for SDG&E's Condition SDGE-7 response: Insufficient

Below is an analysis of the itemized requirements within Condition SDGE-7, corresponding discussions of specific insufficiencies for SDG&E's response to SDGE-7, and the actions required to make SDG&E's QR Sufficient:

In its first quarterly report, SDG&E shall:

i. describe how it assesses its vegetation management processes to determine effectiveness; and

SDG&E gives an overview of its QA/QC audit process for vegetation management. Its evaluation includes the number of tree-related outages, in which SDG&E notes that tree-related outages comprise "a very small percentage"³¹ of its overall outages. SDG&E describes how it measures the effectiveness of the VM work completed (i.e. trimming), but not how it measures or assesses the effectiveness of pre-trimming, administrative, and inspection-related VM processes. For example, in SDG&E's WMP, it is unclear why SDG&E chooses to schedule its "enhanced tree inspections" within the HFTD to coincide with the post-trim QA/QC activity, instead of combining the enhanced tree inspections with the pre-inspection.

Action SDGE-30: In its 2021 WMP Update, SDG&E shall describe how it measures VM processes outside of completed VM work.

ii. provide additional evaluation on how inspections overlap with one another both in timing and scope, including evaluation of effectiveness in terms of number and quality of findings per inspection. For example, if not many findings are being made, then SDG&E should provide an assessment of whether additional efforts are necessary.

SDG&E indicates that there are not many areas of overlap in the timing of tree inspections ("[t]he only potential redundancy in activities occur during the pre-inspection and post-trim audit"³²). The WSD was concerned about the redundancy of inspections in terms of completion and scope, not necessarily the overlap in scheduling of the inspections. SDG&E fails to include any details about the evaluation of effectiveness regarding the "number and quality of findings per inspection," as required by subpart (ii). For example, SDG&E needs to include what happens if a type of inspection has very few or mostly low-risk findings.

Action SDGE-31: In its 2021 WMP Update, SDG&E shall: 1) provide a comparison between the number of General Order 95, Rule 18 Priority Level 1, 2, and 3 findings found in each vegetation management inspection, including pre-inspection, enhanced inspections, and any audits conducted by SDG&E or its third-party evaluator, for each of SDG&E's Vegetation Management Areas (VMA) and 2) describe whether and how SDG&E has consolidated or considered consolidating standard and augmented inspection

³¹ SDG&E's QR at p. 118.

³² SDG&E's QR at p. 118.

and tree-trimming programs (identified in Guidance-6) (e.g., combining pre-inspection with enhanced inspections, instead of performing enhanced inspections six month post-trim to avoid a second deployment of vegetation crews).

5.1.18. Condition (SDGE-8, Class B):

Consideration of environmental impacts, local community input.

WSD finding for SDG&E's Condition SDGE-3 response: Insufficient

Below is an analysis of the itemized requirements within Condition SDGE-8, corresponding discussions of specific insufficiencies for SDG&E's response to SDGE-8, and the actions required to make SDG&E's QR Sufficient:

In its first quarterly report, SDG&E shall describe:

i. how it measures and accounts for the potential environmental impacts related to its vegetation management work; and

SDG&E points to its Natural Community Conservation Plan (NCCP), approved in 1995, in its response to this condition. The NCCP details environmental mitigations for SDG&E's service territory and the NCCP enabling legislation and code³³ includes various environmental monitoring and reporting requirements. Vegetation control, line clearance, and fire control are all discussed in SDG&E's NCCP; however, SDG&E does not discuss how or if implementation of the plan has changed because of increased wildfire mitigation activities.

Action SDGE-32: In its 2021 WMP Update, SDG&E shall: 1) indicate where on its public website SDG&E makes the monitoring program documents related to the implementation of its NCCP available, and 2) discuss how or if implementation of the plan has changed because of increased wildfire mitigation activities.

ii. how it incorporates input from local stakeholders in planning and executing its vegetation management work.

SDG&E briefly summarizes its outreach and engagement activities. However, the condition asks for how it incorporates input from stakeholders. SDG&E does not describe the pathway from outreach to implementation, nor does it clarify when in the process local stakeholders are informed of impending vegetation management work and how stakeholders can best comment on or participate in developing the scope of work and implementation.

Action SDGE-33: In its 2021 WMP Update, SDG&E shall: 1) detail how community outreach efforts and stakeholder input, such as the ones described in its response, affect the scope of work of VM, 2) how and when stakeholders are engaged about the pending VM work in their community or on/adjacent to their property, 3) how stakeholder comments are documented and analyzed, and 4) how SDG&E ensures stakeholder input is relayed to and implemented by vegetation crews, both internal and contracted.

³³ Natural Community Conservation Planning Act, Fish and Game Code Sections 2800 – 2835.

Action SDGE-34: In its 2021 WMP Update, SDG&E shall: 1) explain what is meant by “Utility line clearance operations are a unique niche within the green industry and, therefore, its scope needs to be addressed and incorporated within easement language, city tree ordinances, permits, local codes, etc.”³⁴ and 2) explain whether and how SDG&E has changed incorporation of this language into its permitting as a result of its enhanced vegetation management work.

5.1.19. Condition (SDGE-9, Class B):

SDG&E does not explain how investments in undergrounding reduce planned vegetation management spend.

WSD finding for SDG&E's Condition SDGE-9 response: Insufficient

Below is an analysis of the itemized requirements within Condition SDGE-9, corresponding discussions of specific insufficiencies for SDG&E's response to SDGE-9, and the actions required to make SDG&E's QR Sufficient:

In its first quarterly report, SDG&E shall describe:

i. whether and how it takes ancillary cost savings into account when evaluating the effectiveness of undergrounding initiatives; and

The utility briefly explains that it incorporates the vegetation management costs that were avoided into calculating undergrounding costs, but it is not clear whether SDG&E also takes the savings into account when evaluating the effectiveness of undergrounding, as the actual cost calculation is not provided.

Action SDGE-35: In its 2021 WMP Update, SDG&E shall provide the calculation of cost-effectiveness for undergrounding, broken down by line items showing both costs of undergrounding and costs avoided by undergrounding (e.g., vegetation management – inspections and trims).

ii. how SDG&E plans to account for realized cost savings through a reduced need for certain vegetation management activities, resulting from its undergrounding investments.

SDG&E briefly explains its reasoning on this matter. SDG&E states that new underground alignments are not typically installed in roadways (e.g., they do not follow the overhead alignment of the line being replaced). SDG&E states that “a determination can be made whether any vegetation management cost savings can be realized,”³⁵ implying that because the cost savings can be calculated, SDG&E will calculate it, but actual calculations are not provided. This insufficiency should be addressed by Action SDGE-35 in subpart (i).

³⁴ SDG&E's QR at p. 120.

³⁵ SDG&E's QR at p. 121.

5.1.20. Condition (SDGE-11, Class B):

Lack of detail on vegetation management around substations.

WSD finding for SDG&E's Condition SDGE-11 response: Sufficient

In its first quarterly report, SDG&E shall:

i. describe how it plans fuels reduction work around its substations; and

SDG&E references Appendix G, which presents the parameters of its substation landscaping in a "Substation Engineering Standard." The document states, "[t]he purpose of this Substation Engineering Standard (SES) is list guidelines for physical placement and/or installation of landscaping surrounding a San Diego Gas & Electric (SDG&E) electrical substation" (sic).³⁶ The standard for landscaping at the utility's substations is ostensibly geared toward safety regarding ignitions, though the term "fuel reduction" does not explicitly appear in the document.

ii. whether and how it maintains defensible space around its substations.

While the term "defensible space" does not appear in Appendix G, the standard addresses the need to maintain distance around the perimeter of the substation. For example, in point 4.2.2, it states "[n]o tree trunks should be closer than 15 ft to the wall."

5.1.21. Condition (SDGE-12, Class B):

Details of quality assurance, quality control.

WSD's finding for SDG&E's Condition SDGE-3 response: Insufficient

Below is an analysis of the itemized requirements within Condition SDGE-12, corresponding discussions of specific insufficiencies for SDG&E's response to SDGE-12 and the actions required to make SDG&E's QR Sufficient:

In its first quarterly report, SDG&E shall:

i. describe the process and measures for how its quality assurance and quality control (QA/QC) efforts evaluate the effectiveness of vegetation management and inspection activities,

SDG&E briefly describes its QA/QC process, completed by a contractor on a "representative sample population," although values of sample size are not provided, instead described as differing "based on the population size, crews and voltage types."³⁷ Additionally, SDG&E states that audit criteria vary based on the practice being audited, and does not provide the actual measures or pass/fail thresholds for each practice, instead only providing a general list of criteria being evaluated. SDG&E also briefly mentions "internal audit activities,"³⁸ but does not detail what that constitutes.

³⁶ SDG&E's QR Appendix G, p. 1.

³⁷ SDG&E's QR at p. 123.

³⁸ SDG&E's QR at p. 123.

Action SDGE-36: In its 2021 WMP Update, SDG&E shall provide the percentage of vegetation management work that undergoes a QA/QC audit and constitutes a “representative sample population,” and include the associated qualities for the respective percentage (i.e., population size, crews, and voltage type).

Action SDGE-37: In its 2021 WMP Update, SDG&E shall provide the quantitative values and thresholds utilized during the QA/QC audits for “trim clearance, cleanup, correct pruning practices, tree data, and compliance.”³⁹ If quantitative data are not used, provide a description of what constitutes as a “pass” for each criteria.

Action SDGE-38: In its 2021 WMP Update, SDG&E shall: 1) explain all internal audit activities it performs regarding VM practices, and 2) explain how internal audit activities differ from the third-party auditing.

ii. list and describe all QA/QC audits performed, the timing of the audits, and the quantitative results of such audits, and

The WSD asked for a list of the different types of QA/QC audits performed by the utility on its vegetation management. Instead, SDG&E provides a paragraph that describes three types of audits that are performed: pre-inspection, tree trim and pole brush activities, with the associated typical schedule of these audits (referencing the Master Schedule). SDG&E mentions that vegetation management is also subjected to an annual internal audit to assess compliance with regulations and internal procedures. SDG&E provides the average quantitative results for the three types of audits, but not the internal audit results.

Action SDGE-39: In its 2021 WMP Update, SDG&E shall provide a table depicting the following for all VM QA/QC activities: a) type of audit, b) whether executed by internal or third-party resources, c) quantitative results from the audit for 2019 and 2020, and d) criteria for audit “pass”.

Action SDGE-40: In its 2021 WMP Update, SDG&E shall provide the average annual audit results for 2020 broken down by audit type (pre-inspection, tree trim, and pole brush).

iii. list and describe all changes implemented as a result of QA/QC audit findings.

SDG&E provides three examples of changes made in response to audit findings. The changes are presented in a paragraph, not a list, and it is unclear if the three examples comprise all changes implemented or just a sample. The details on the changes based on lessons learned are also vague and lacking.

Action SDGE-41: In its 2021 WMP Update, SDG&E shall: 1) explain whether the three examples provided here are only examples of changes intended to illustrate the types of changes that are made based on audit findings, or if there are any other changes made

³⁹ SDG&E's QR at p. 123.

through lessons learned from audit findings, and 2) provide an exhaustive and updated list of any changes made as a result of QA/QC audit findings.

Action SDGE-42: In its 2021 WMP Update, SDG&E shall: 1) provide the pass rate for sufficient clearances of fast-growing species before implementing site specific criteria, and 2) provide the site-specific criteria used to determine the time-of-trim clearances.

Action SDGE-43: In its 2021 WMP Update, SDG&E shall define what “more frequent and robust internal auditing and refresher training”⁴⁰ consists of, with frequency and details comparing before and after changes were made for both pre-inspection and pole brushing.

**5.1.22. Condition (SDGE-14, Class B):
Granularity of “at-risk species”.**

WSD finding for SDG&E's Condition SDGE-14 response: Insufficient

Below is an analysis of the itemized requirements within Condition SDGE-14, corresponding discussions of specific insufficiencies for SDG&E's response to SDGE-14, and the actions required to make SDG&E's QR Sufficient:

In its first quarterly report, SDG&E shall detail the following:

i. all tree species within the genera identified in its list of "at-risk" trees,

SDG&E provides a list of the species within its “at-risk” tree genera (hazardous types of trees). SDG&E then presents species outage history (Table 24) in which it, again, groups species into tree “types:” eucalyptus, palm, pine, oak, and sycamore. It is unclear whether these groupings consist solely of the “at-risk” species identified by SDG&E or whether the groupings encompass all species matching the “type.”

Action SDGE-44: In its 2021 WMP Update, SDG&E shall: 1) present a table, similar to Table 24 in its QR, of vegetation-caused outage history broken down by species (i.e., not by type, grouping, or genus), 2) include normalized outage data when determining “at-risk” species based on total vegetation inventory, and 3) include outage data based on species in comparison to the time-of-trim clearance used prior to the event, both before and after extended clearances were implemented.

ii. the measures, properties and characteristics it considers in identifying "at-risk" trees, and

SDG&E lists the eight criteria by which it determines whether a tree is “at-risk” (hazardous). SDG&E neglects to consider other attributes that affect a species' success, such as vulnerability to water stress (drought) or climate change. In addition, SDG&E does not consider whether a species being non-native or invasive is an “at-risk” attribute.

⁴⁰ SDG&E's QR at p. 124.

Action SDGE-45: In its 2021 WMP Update, SDG&E shall: 1) explain why it does not incorporate information from long-term species vulnerability assessments (i.e., climate change, water stress/drought) into its evaluation of a tree species' risk status, and 2) explain why it does not include a species' non-native or invasive status as an "at-risk" attribute.

iii. the threshold values of the measures, properties and characteristics identified in (ii) above that result in a species being defined as "at-risk."

Instead of giving threshold values for the abovementioned criteria for definition of an "at-risk" tree, SDG&E restates or adds detail to some of the criteria, and adds criteria. For example, the criterion "[t]ree height" becomes "[t]ree height above and horizontal, distance from lines"⁴¹ in the threshold list, with no discrete values, while "soil condition" is added as a criterion, also with no discrete values.

Action SDGE-46: In its 2021 WMP Update, SDG&E shall define quantitative threshold values (whether a standard value, a range of values, or an example of a typical value) for the criteria used to define a tree as "at-risk."⁴²

5.1.23. Condition (SDGE-15, Class B): Details of centralized data repository.

WSD finding for SDG&E's Condition SDGE-15 response: Insufficient

Below is an analysis of the itemized requirements within Condition SDGE-15, corresponding discussions of specific insufficiencies for SDG&E's response to SDGE-15, and the actions required to make SDG&E's QR Sufficient:

In its first quarterly report, SDG&E shall:

i. list and describe all data it plans to provide in its centralized repository;

SDG&E gives a broad overview of what kind of data it will include in its repository, including "detailed asset, project, and event data along with taxonomy and metrics."⁴³

⁴¹ SDG&E's QR at p. 132.

⁴² For example, discrete threshold values for "tree height" criteria for "at-risk" trees hypothetically could be that a tree's expected growth and/or mature height would either i) encroach, radially, within 8 feet of overhead assets, ii) produce branches that will overhang overhead distribution assets, iii) be within horizontal striking distance of overhead distribution assets (i.e., horizontal distance to overhead assets < tree height), or iv) a combination of i, ii, and iii. For soil condition, SDG&E might specify what specific properties of the soil its VM inspectors and foresters are assessing (e.g., soil texture, soil structure, soil consistence, bulk density, etc.) and corresponding discrete threshold values (e.g., for soil texture, a certain proportion of sand, silt, and clay that is deemed "at risk.").

⁴³ SDG&E's QR at p. 133.

ii. list and describe the sources and treatment of all data identified in (i) above; and

SDG&E states that its repository data will come from “multiple systems”⁴⁴ without specifying what those systems consist of, therefore failing to provide the sources of data.

Action SDGE-47: In its 2021 WMP Update, SDG&E shall provide a list of the systems that will produce the data for the repository.

iii. describe the frequency it plans to update all data identified in (i) above.

SDG&E briefly describes the frequency with which it plans to update the data in its repository. SDG&E states that it will update the data “depending on the requirements”⁴⁵ of the metric, but does not provide the breakdown of frequency by metric.

Action SDGE-48: In its 2021 WMP Update, SDG&E shall provide a list of update frequency for all defined metrics within the centralized repository data.

5.1.24. Condition (SDGE-16, Class B):

Details of cooperative fuel reduction work.

WSD finding for SDG&E's Condition SDGE-14 response: Sufficient

In its first quarterly report, SDG&E shall describe:

i. whether it plans to collaborate with the USFS on fuel reduction programs in its service territory;

SDG&E indicates that it does not have any existing agreements with the USFS, but states that it planned to begin discussions about long-term fuels management activities on USFS lands in “the third or fourth quarter of 2020.”

Action SDGE-49: In its 2021 WMP Update, SDG&E shall: 1) provide a status update on its discussion(s) with the USFS related to establishing collaborative fuel reduction programs and/or agreements, including a timeline, and 2) any resulting goals, targets, or plans related to fuel reduction.

ii. what programs or agreements, if any, it has in place with the USFS for fuel reduction programs;

SDG&E does not have any existing agreements with the USFS.

iii. the timeline for implementing initiatives identified in (i) and (ii);

SDG&E anticipates that it will take two to three years to reach an agreement with USFS for implementation of a long-term fuels management program.

⁴⁴ SDG&E's QR at p. 133.

⁴⁵ SDG&E's QR at p. 134.

iv. how it plans to identify the resources needed to collaborate with the USFS on fuel reduction; and

The resources needed for this collaboration will depend on the scope of agreed-upon activities, which are not yet known.

v. the status of reaching any formal agreements on fuel reduction efforts.

SDG&E does not have any formal agreements with the USFS on fuel reduction efforts at this time.

6. QR Response Timeline

While it is the WSD's goal to receive responses to the Actions identified in Section 5.1 of this document in the 2021 WMP Update, the WSD recognizes the limited time between the issuance of this evaluation and the February 5, 2021 due date for the 2021 WMP Update. Accordingly, the WSD urges SDG&E to respond to as many of the Actions in Section 5.1 as reasonably possible in its 2021 WMP Update but will permit a single supplemental filing to address all insufficient elements of its QR not previously addressed in its 2021 WMP Update. This supplemental filing shall be submitted as soon as it is available but no later than February 26, 2021.

7. Conclusion

Catastrophic wildfires remain a serious threat to the health and safety of Californians. Electric utilities must continue to make progress toward reducing utility-related wildfire risk. With the finding of "Insufficient" for SDG&E's QR, the WSD intends to send a clear message to SDG&E that its WMP, RCP, and QRs must be of the highest quality and include sufficient detail and plans to facilitate transparency, allow for efficient review, and effectively implement potentially lifesaving wildfire risk mitigation initiatives. The WSD will continue to ensure SDG&E is held accountable for successfully executing the wildfire risk reduction initiatives presented in its 2020 WMP, RCP, and other required updates through the WSD's continued audit and compliance work. As indicated in Section 5.1 above, SDG&E shall remedy the insufficient elements of its QR submission by taking the actions identified by the WSD and presenting the required information and detail in its 2021 WMP Update.

WSD Evaluation of SDG&E's First QR

Finally, along with the issuance of this action statement, the WSD concurrently issues a Notice of Noncompliance document summarizing the findings and noncompliance issues detailed herein. The WSD notes that nothing in this action statement or the concurrent Notice of Noncompliance precludes the Commission from exercising its enforcement authority related to any findings or matters addressed in the present document.

Sincerely,

A handwritten signature in blue ink, appearing to read 'C. Thomas Jacobs', with a stylized flourish at the end.

Caroline Thomas Jacobs
Director, Wildfire Safety Division
California Public Utilities Commission