**PACIFIC GAS AND ELECTRIC COMPANY**
**Wildfire Mitigation Plans Discovery 2022**
**Data Response**

| | | | |
|---|---|---|---|
| PG&E Data Request No.: | CalAdvocates_003-Q01 | | |
| PG&E File Name: | WMP-Discovery2022_DR_CalAdvocates_003-Q01Supp01 | | |
| Request Date: | January 25, 2022 | Requester DR No.: | 003 |
| Date Sent: | February 10, 2022 (Original)<br>August 3, 2022 (Supp01) | Requesting Party: | Public Advocates Office |
| PG&E Witness: | | Requester: | Holly Wehrman |

The following questions relate to your 2022 WMP Update submission.

If a full response to a given question will be included in your WMP submission, your response to that question of this data request may consist of a citation to the specific page(s) or table(s) of the WMP where the information may be found, a written response to the question, or both.

**QUESTION 01**

Please note that the geographical regions are mutually exclusive (i.e., "Other HFTD" excludes areas that are in either Tier 2 or Tier 3). Therefore, for any given circuit, the following relationships should hold:

- Tier 2 miles + Tier 3 miles + Other HFTD miles = total HFTD miles.
- Tier 2 miles + Tier 3 miles + Other HFTD miles + non-HFTD miles = total circuit miles.

Provide an Excel table of all distribution circuits existing as of January 1, 2022 (as rows) that includes the following information in separate columns.

a. Circuit name
b. Circuit ID number
d. Total circuit miles
e. Circuit miles in Non-HFTD Areas
f. Circuit miles in Other HFTD
g. Circuit miles in HFTD Tier 2
h. Circuit miles in HFTD Tier 3
i. Circuit voltage
l. Circuit SAIDI (System Average Interruption Duration Index) for 2021
m. Circuit SAIFI (System Average Interruption Frequency Index) for 2021
n. Circuit MAIFI (Momentary Average Interruption Frequency Index) for 2021
s. Total customer-minutes of de-energization on the circuit due to PSPS events in 2020 (sum of customer-minutes across all PSPS events).
t. Total customer-minutes of de-energization on the circuit due to PSPS events in 2021 (sum of customer-minutes across all PSPS events).
w. Total customer-minutes of de-energization on the circuit due to EPSS fast-trip settings in 2021.
x. Number of trees that were worked on for EVM in Non-HFTD in 2020
y. Number of trees that were worked on for EVM in Non-HFTD in 2021

z. Number of trees that were worked on for EVM in Other HFTD in 2020

aa. Number of trees that were worked on for EVM in Other HFTD in 2021
bb. Number of trees that were worked on for EVM in HFTD Tier 2 in 2020
cc. Number of trees that were worked on for EVM in HFTD Tier 2 in 2021
dd. Number of trees that were worked on for EVM in HFTD Tier 3 in 2020
ee. Number of trees that were worked on for EVM in HFTD Tier 3 in 2021
ff. Miles of covered conductor installed in Non-HFTD in 2018
gg. Miles of covered conductor installed in Non-HFTD in 2019
hh. Miles of covered conductor installed in Non-HFTD in 2020
ii. Miles of covered conductor installed in Non-HFTD in 2021
jj. Miles of covered conductor installed in Other HFTD in 2018
kk. Miles of covered conductor installed in Other HFTD in 2019
ll. Miles of covered conductor installed in Other HFTD in 2020
mm. Miles of covered conductor installed in Other HFTD in 2021
nn. Miles of covered conductor installed in HFTD Tier 2 in 2018
oo. Miles of covered conductor installed in HFTD Tier 2 in 2019
pp. Miles of covered conductor installed in HFTD Tier 2 in 2020
qq. Miles of covered conductor installed in HFTD Tier 2 in 2021
rr. Miles of covered conductor installed in HFTD Tier 3 in 2018
ss. Miles of covered conductor installed in HFTD Tier 3 in 2019
tt. Miles of covered conductor installed in HFTD Tier 3 in 2020
uu. Miles of covered conductor installed in HFTD Tier 3 in 2021
vv. Number of poles replaced in Non-HFTD in 2018
ww. Number of poles replaced in Non-HFTD in 2019
xx. Number of poles replaced in Non-HFTD in 2020
yy. Number of poles replaced in Non-HFTD in 2021
zz. Number of poles replaced in Other HFTD in 2018
aaa. Number of poles replaced in Other HFTD in 2019
bbb. Number of poles replaced in Other HFTD in 2020
ccc. Number of poles replaced in Other HFTD in 2021
ddd. Number of poles replaced HFTD Tier 2 in 2018
eee. Number of poles replaced HFTD Tier 2 in 2019
fff. Number of poles replaced HFTD Tier 2 in 2020
ggg. Number of poles replaced HFTD Tier 2 in 2021
hhh. Number of poles replaced HFTD Tier 3 in 2018
iii. Number of poles replaced HFTD Tier 3 in 2019
jjj. Number of poles replaced HFTD Tier 3 in 2020
kkk. Number of poles replaced HFTD Tier 3 in 2021
lll. Miles of underground conductor installation in Non-HFTD in 2018
mmm. Miles of underground conductor installation in Non-HFTD in 2019
nnn. Miles of underground conductor installation in Non-HFTD in 2020
ooo. Miles of underground conductor installation in Non-HFTD in 2021
ppp. Miles of underground conductor installation in Other HFTD in 2018
qqq. Miles of underground conductor installation in Other HFTD in 2019
rrr. Miles of underground conductor installation in Other HFTD in 2020
sss. Miles of underground conductor installation in Other HFTD in 2021
ttt. Miles of underground conductor installation in HFTD Tier 2 in 2018
uuu. Miles of underground conductor installation in HFTD Tier 2 in 2019
vvv. Miles of underground conductor installation in HFTD Tier 2 in 2020
www. Miles of underground conductor installation in HFTD Tier 2 in 2021
xxx. Miles of underground conductor installation in HFTD Tier 3 in 2018

yyy. Miles of underground conductor installation in HFTD Tier 3 in 2019
zzz. Miles of underground conductor installation in HFTD Tier 3 in 2020
aaaa. Miles of underground conductor installation in HFTD Tier 3 in 2021
bbbb. Miles of LiDAR inspection in Non-HFTD in 2020
cccc. Miles of LiDAR inspection in Non-HFTD in 2021
dddd. Miles of LiDAR inspection Other HFTD in 2020
eeee. Miles of LiDAR inspection Other HFTD in 2021
ffff. Miles of LiDAR inspection HFTD Tier 2 in 2020
gggg. Miles of LiDAR inspection HFTD Tier 2 in 2021
hhhh. Miles of LiDAR inspection HFTD Tier 3 in 2020
iiii. Miles of LiDAR inspection HFTD Tier 3 in 2021
jjjj. Number of detailed overhead inspections in Non-HFTD in 2020
kkkk. Number of detailed overhead inspections in Non-HFTD in 2021
llll. Number of detailed overhead inspections in Other HFTD in 2020
mmmm. Number of detailed overhead inspections in Other HFTD in 2021
nnnn. Number of detailed overhead inspections in HFTD Tier 2 in 2020
oooo. Number of detailed overhead inspections in HFTD Tier 2 in 2021
pppp. Number of detailed overhead inspections in HFTD Tier 3 in 2020
qqqq. Number of detailed overhead inspections in HFTD Tier 3 in 2021
rrrr. Number of sectionalization devices installed in Non-HFTD in 2018
ssss. Number of sectionalization devices installed in Non-HFTD in 2019
tttt. Number of sectionalization devices installed in Non-HFTD in 2020
uuuu. Number of sectionalization devices installed in Non-HFTD in 2021
vvvv. Number of sectionalization devices installed in Other HFTD in 2018
wwww. Number of sectionalization devices installed in Other HFTD in 2019
xxxx. Number of sectionalization devices installed in Other HFTD in 2020
yyyy. Number of sectionalization devices installed in Other HFTD in 2021
zzzz. Number of sectionalization devices installed in HFTD Tier 2 in 2018
aaaaa. Number of sectionalization devices installed in HFTD Tier 2 in 2019
bbbbb. Number of sectionalization devices installed in HFTD Tier 2 in 2020
ccccc. Number of sectionalization devices installed in HFTD Tier 2 in 2021
ddddd. Number of sectionalization devices installed in HFTD Tier 3 in 2018
eeeee. Number of sectionalization devices installed in HFTD Tier 3 in 2019
fffff. Number of sectionalization devices installed in HFTD Tier 3 in 2020
ggggg. Number of sectionalization devices installed in HFTD Tier 3 in 2021

**ANSWER 01**

Pursuant to the Public Advocates Office's revised Data Request received on January 13, 2022, PG&E is providing the requested distribution information at the circuit level in the attachment named "*WMP-Discovery2022_DR_CalAdvocates_003-Q01Atch01CONF.xlsx*." Please note that this attachment contains confidential information. Included in the table below are notes that document assumptions in the methodology for data collection. Where we have not included any notes, the data provided did not require adaptations or assumptions in answering the request. For purposes of this request, "Other HFTD" refers to Zone 1 areas.

Asset data provided in response to this request was generated from PG&E's Geographic Information Systems (GIS) and presented in a spreadsheet format. PG&E's

Electric Transmission GIS and Electric Distribution GIS mapping systems represent assets associated with construction work when that work has been received and mapped by electric GIS mapping technicians. Construction jobs that are partially complete or fully complete may be mapped in the GIS systems once construction "as-built" information has been submitted and accepted by the GIS Mapping Department. Prior to being received by the GIS Mapping Department, completed job packages must undergo several processing steps including clerical review, processing, and paperwork scanning. Sometimes completed job packages require additional information from the field or post-estimating work. The processing steps take time to complete. Until a project is completed and mapped, detailed information remains in the design systems and paper job packages. Therefore, completed field work is not always reflected in the current GIS systems.

Once data is mapped in PG&E's GIS systems, it can be formatted to meet the requirements of the Office of Energy Infrastructure Safety File Geodatabase schema and included in our GIS Data Standard submissions.

| Data | Question | Notes |
|---|---|---|
| Circuit Information | a-i | Some circuits can have multiple voltages. Where this occurs, the Circuit Voltage in column g reflects the voltage of the majority of the circuit (based on circuit miles). |
| SAIDI/SAIFI/MAIFI | l-n | All transmission, substation, and distribution level outages as of February 3, 2022 were used to quantify the metric results as measured at the individual distribution circuit level and include Major Event Days (as defined in the IEEE 1366 Standard). The denominator used for each calculation is based on the number of customers served by each circuit (based on the system confirmation at the end of 2021 and may not represent the same circuit configuration at the time of each contributing outage event). |
| Public Safety Power Shut-off (PSPS) | s-t | As previously stated in our PSPS Post Event De-Energization reports submitted to the CPUC: "The information, times and figures referenced in this report are based on the best available information available at the time of this report's submission. The information, times and figures herein are subject to revision based on further analysis and validation." As such, we note |

| | | |
|---|---|---|
| | | that there are some minor updated revisions in the data included in this submission, as compared to the data that may have been previously reported in previous submissions immediately following the events, due to further data reconciliation and analysis having been performed in the time which has elapsed between this report and any other previous submissions.<br><br>Additionally, in certain circumstances where an ongoing fire or widespread damage may delay or prevent full restoration of all customers, PG&E may decide to “end” the PSPS event even though a small number of un-restorable customers have not been re-energized. For example, the January 18, 2021 event involved severely damaging wind that prevented PG&E from fully re-energizing our facilities. Our Post De-Energization reports typically will note where circuits have not been restored due to fire or other extenuating circumstances.<br><br>When we make the decision to “end” a PSPS event, we freeze our data to allow time to process it for production for our PSPS Post Event De-Energization Report. As a result, those customers who had not yet been de-energized when PG&E froze the data will not have restoration date and times, and thus their outage durations are not represented in Question 1s-t, and Question 12n-q.<br><br>This data request will reference all outages associated with a PSPS event, including those which are either indirect effects of the PSPS event and are not direct de-energizations, or brief outages occurring as a result of microgrid switching or temporary generation used as part of PSPS mitigation solution. Most switching in a PSPS event to re-energize customers takes place, typically, between five minutes and one hour, and that re- |

| | | |
|---|---|---|
| | | energization occurring within four hours of de-energization or outages less than four hours, typically, can likely be attributed to switching. |
| Enhanced Powerline Safety Settings (EPSS) | w | EPSS was implemented on July 28, 2021. EPSS-related outage data is subject to change based on ongoing quality reviews. |
| EVM | x-ee | |
| Covered Conductor | ff-uu | |
| Number of Poles Replaced | vv-kkk | Poles were matched to a circuit by GIS radius of 15 feet. |
| Underground Conductor Installation | lll-aaaa | The information for underground miles provided is based on the distribution underground cable recorded in PG&E's mapping system (EDGIS).<br>The total miles installed are based on the "year installed" as recorded in EDGIS for each individual circuit then added together to provide the cumulative total.<br>These underground miles are comprised primarily of new business, capacity, reliability, cable replacement, customer requested, Rule 20 Program, and fire hardening undergrounding work. |
| LiDAR inspection | bbbb-iiii | Vegetation Management (VM) LiDAR collections are currently captured by VM project, but obtaining a unique mileage breakdown requires specific geoprocessing product to be created by the data collection vendor. This product was not part of the original project scope and has been added to the future collection contract request with plans to back process for the 2021 collections. As a result, PG&E is working with our vendor to process and obtain mileage data for 2021 and expects to provide this data as a supplement to this request in Q2 2022. |
| Detailed Overhead Inspections | jjjj-qqqq | |
| Sectionalization Devices | rrrr-gggg | Sectionalization devices include, but are not limited to, devices such as fuses that |

| | | |
|---|---|---|
| | | are replaced / installed on a regular basis across all circuits and by multiple programs. These devices can serve as sectionalized devices during planned or unplanned outages (including PSPS). This data includes locations where an existing device was replaced with a newly upgraded device, for example where a non-exempt fuse was replaced with a new, exempt fuse for wildfire risk mitigation. This data counts all sectionalizing devices that were installed in the relevant year. Note that some devices are installed in tandem (a switch next to a fuse) for operational purposes and that on three phase circuits one "sectionalizing point" often includes three devices, one for each phase of the electric distribution circuit. |

**ANSWER 01 SUPPLEMENTAL 01**

Please see attachment "WMP-Discovery2022_DR_CalAdvocates_003-Q01Supp01Atch01.xlsx" which supplements PG&E's response to Data Request CalAdvocates-PGE-2022WMP-03, Question 1, submitted on February 10, 2022 and completes the data requested for Distribution circuits.

The response represents the number of circuit miles of each distribution circuit that have had LiDAR data collected in 2020-2021 by the Vegetation Management (VM), Electric Operations (EO), and Land Survey (LS) programs as of January 1, 2022. Please note that there may be Distribution circuit miles that did not have LiDAR available between 2020-2021. Please also note the attachment provides data at the circuit level as we do not track this information at the segment level.